

12

1891.

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NEW · SOUTH WALES.

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VOTES

AND

PROCEEDINGS

OF THE

LEGISLATIVE ASSEMBLY

DURING THE SESSION

OF

1891,

WITH THE VARIOUS DOCUMENTS CONNECTED THEREWITH.

---

IN TWO VOLUMES.  
VOL. II.

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LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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NEW SOUTH WALES.

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OF  
1891.

Opened 19 May—Prorogued 2 June, 1891.

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1891.

NEW SOUTH WALES.

THE BRUNEI ORDER IN COUNCIL, 1890. (DESPATCH RESPECTING.)

Presented to Parliament by Command.

Department of Justice, Sydney, 24th March, 1891.

His Excellency the Governor directs the publication, for general information, of the following Despatch, dated the 10th December, 1890, from the Principal Secretary of State for the Colonies.

ALBERT J. GOULD.

[Circular.]

Downing-street, 10th December, 1890.

Sir,

In continuation of my Circular Despatch of 9th January last, I have the honor to enclose, for the information of the Government of the Colony under your administration, a copy of an order of the Queen-in-Council, issued under "The Foreign Jurisdiction Act, 1890," entitled "The Brunei Order in Council, 1890."

I have, &c., KNUTSFORD.

The Officer Administering the Government of New South Wales.

ORDER IN COUNCIL RESPECTING BRUNEI.

Windsor, 22nd November, 1890.

At the Court at Windsor, the 22nd day of November, 1890.

Present :

THE QUEEN'S MOST EXCELLENT MAJESTY.

Lord President. | Earl of Yarborough.
Marquess of Salisbury. | Mr. Ritchie.
Lord Justice Kay.

WHEREAS, by Treaty, grant, usage, sufferance, and other lawful means, Her Majesty the Queen has power and jurisdiction within the dominions and territories of the Sultan of Brunei :

Now, therefore, Her Majesty, by virtue and in exercise of the powers in this behalf by "The Foreign Jurisdiction Act, 1890," and otherwise in Her vested, is pleased, by and with the advice of Her Privy Council, to order, and it is hereby ordered, as follows :-

1. This Order may be cited as "The Brunei Order in Council, 1890."

2. This Order is divided into parts as follows :-

Table with 3 columns: Parts, Articles, and descriptions of legal sections like Interpretation and Application, General Law, etc.

PART I.—INTERPRETATION AND APPLICATION.

3. In this Order, unless the subject or context otherwise requires—

"The Secretary of State" means one of Her Majesty's Principal Secretaries of State;

"Prescribed" means prescribed by any Consular Instructions, or by any order of notification signed or authorised by the Secretary of State;

The expression "Brunei," or "the limits of this Order," mean the dominions for the time being of the Sultan of Brunei and the islands and territorial waters belonging to the said dominions: Provided that expressions referring to the District Court "at Brunei" shall be construed as referring to the District Court held at the town or Settlement called Brunei.

"Consular officer" includes any person for the time being acting in Brunei by virtue of Her Majesty's Commission, or with the authority or approval of the Secretary of State as Deputy Commissioner, or Consul-General, Consul, or Vice-Consul, or Consular Agent;

"Consul" means any person for the time being acting as Deputy Commissioner and Consul for Brunei, or as Consul-General or other principal Consular officer for the time being for Brunei;

"Treaty" includes any Convention, Agreement, or Arrangement made by or on behalf of Her Majesty with any State or Government, King, Chief, people, or tribe, and any Regulation appended thereto;

"Court" means any Court or person exercising jurisdiction under this Order;

"Supreme Court" means the Supreme Court of the Straits Settlements;

"British subject" includes a person enjoying Her Majesty's protection in Brunei, and includes subjects of the several Princes and States in India residing and being in Brunei;

"Foreigner" means a person, whether a native or subject of Brunei or not, who is not a British subject, as above defined;

"Native" means a native or subject of Brunei;

"Person" includes a corporation or association of persons;

"Oath" or "Affidavit" includes affirmation and declaration;

"Month" means calendar month.

The plural includes the singular, and the singular the plural, and the masculine the feminine.

Expressions referring to print or to writing include either print or writing, or a combination of both.

"Crime" includes offence.

4. The powers conferred by this Order shall extend to the persons and matters following, in so far as by Treaty, grant, usage, sufferance, or other lawful means Her Majesty has power or authority in Brunei in relation to such persons and matters, that is to say:—

(1.) British subjects as herein defined.

(2.) The property and personal and proprietary rights and obligations of British subjects in Brunei (whether such subjects are or are not within Brunei), including British ships, with their boats and the persons and property on board thereof, or belonging thereto.

(3.) Foreigners as herein defined who submit themselves to a Court in accordance with the provisions of this Order.

(4.) Foreigners as herein defined with respect to whom any State, King, Chief, or Government whose subjects or under whose protection they are has by any Treaty as herein defined or otherwise agreed with Her Majesty for or consented to the exercise of power or authority by Her Majesty.

#### PART II.—GENERAL LAW.

5. All Her Majesty's jurisdiction exercisable in Brunei for the judicial hearing and determination of matters in difference between British subjects, or between foreigners and British subjects, or for the administration or control of the property or persons of British subjects, or for the repression or punishment of crimes committed by British subjects, or for the maintenance of order among British subjects, shall be exercised under and according to the provisions of this Order, and not otherwise.

6.—(1.) Subject to the other provisions of this Order, the civil and criminal jurisdiction aforesaid shall, so far as circumstances admit, be exercised upon the principles of and in conformity with the substance of the law for the time being in force in and for England, and with the powers vested in and according to the course of procedure and practice observed by and before Courts of Justice and Justices of the Peace in England, according to their respective jurisdictions and authorities.

(2.) Except as to offences made or declared such by this Order, or by any regulation or rule made under it, any act other than an act that would by a Court of Justice having criminal jurisdiction in England be deemed a crime, making the person doing such an act liable to punishment in England, shall not, in the exercise of criminal jurisdiction under this Order, be deemed a crime making the person doing such act liable to punishment.

7. Crimes, wrongs, and breaches of contract against or affecting the person, property, or rights of natives of Brunei or other foreigners as herein defined, committed by persons subject to this Order, are punishable or otherwise cognizable under the provisions of this Order, with the consent of such natives or foreigners, in the same manner as if they were committed against or affected the person, property, or rights of British subjects.

#### PART III.—CONSTITUTION OF COURTS.

8. A District Court shall be held at Brunei by the Consul or such other Consular officer as he directs, and other District Courts shall be held at such other places as may from time to time be appointed under this Order.

A District Court is held by a Consular officer, and may be styled the Consular Court at Brunei or elsewhere, as the case may be.

9. It shall be lawful for the Consul from time to time, by order in writing, with the previous or subsequent authority or approval of the Secretary of State, to appoint places at which District Courts shall be held, and to assign the district in and for which each such Court shall act, and to designate the Consular officer who is to hold each such Court, and to deter-

mine the description and number of the officers to be attached to any such Court, and the mode of their appointment and removal, and their duties and remuneration, and any matters incident to any of the abovementioned purposes.

A printed copy of any such order purporting to bear the seal of the Consul or of a District Court shall, in all causes and matters, be admitted as evidence of the contents and due making and publication thereof.

Each District Court shall have such seal as may be prescribed by any such order as aforesaid.

10. The Consul shall have, in all matters, civil and criminal, an extraordinary original jurisdiction throughout Brunei concurrent with the jurisdiction of the several District Courts, such extraordinary jurisdiction to be exercised by him as a District Court subject and according to the provisions of this Order, and subject to appeal to the Supreme Court in the same manner as from an ordinary District Court.

The Consul shall also have jurisdiction to try in Brunei crimes which cannot under this Order be tried by a District Court, and for that purpose shall have the power of the Supreme Court.

The Consul may, from time to time, visit in a magisterial or judicial capacity any District Court, and there inquire of, or hear and determine, any case, civil or criminal, pending in that Court, or arising within its district.

A District Court may, of its own motion, or on the application of any person concerned, report to the Consul the pendency of any case, civil or criminal, which appears to the District Court fit to be heard and determined by the Consul.

The Consul shall thereupon direct in what mode and where the case shall be heard and determined, and (notwithstanding anything in this Order) the same shall be so heard and determined accordingly.

11.—(1.) The Supreme Court shall have appellate jurisdiction under this Order.

The appellate jurisdiction of the Supreme Court shall be exercised by the full Supreme Court sitting in the Straits Settlements in such manner and according to such procedure as, subject to the provisions of this Order, and of any rules made under this Order, the Supreme Court from time to time determines.

Judgments or orders of the Supreme Court in the exercise of its appellate jurisdiction shall be certified by the Supreme Court to the Court in Brunei from which the appeal is brought, or, when the appeal is from the judgment or order of a Judge of the Supreme Court acting in Brunei or in the Straits Settlements, then to such District Court in Brunei as the Supreme Court thinks fit, and (subject to any appeal to Her Majesty in Council) that District Court may and shall execute and give effect to the same in like manner as to its own judgments or orders.

(2.) The Supreme Court, on Petition presented to it in accordance with any rules to be made under this Order, or in such manner as the Supreme Court directs, and alleging that any order of a District Court or of the Consul has the effect of a refusal of justice to any suitor or complainant, may, after such inquiry (if any) as it thinks fit to direct, issue an order directing the proper Court to take cognizance of the matter, and may, if satisfied that such an order has not been properly coupled with, entertain and determine the matter of the suit or complaint, and shall certify its determination to the proper Court, which shall give effect thereto.

(3.) Except as provided by this Order, the Supreme Court shall not exercise any control over a District Court or the Consul, whether by way of mandamus, prohibition, certiorari, writ of habeas corpus, or otherwise.

12. The Supreme Court shall, for the purposes of this Order, have original jurisdiction as follows:—

(1.) When, under this Order, a person accused of crime is sent for trial to the Straits Settlements, the Supreme Court shall have the like jurisdiction, and may proceed in the same manner as if the crime had been committed in the Straits Settlements, except that the criminality of the act charged and the punishment to be inflicted must be determined according to the Law applicable under this Order in Brunei.

(2.) On the request of the Consul, made with the consent of the Government of the Sultan of Brunei, the Supreme Court may exercise in Brunei in relation to any civil or criminal matter any original jurisdiction which can be exercised by the Consul, and all the provisions of this Order shall apply accordingly (*mutatis mutandis*), and any appeal shall be to the full Supreme Court.

(3.) On the like request made with the like consent, the Supreme Court may hear and determine at any place within the limits of this Order any criminal case which could under this Order be sent for trial to the Straits Settlements, and for that purpose shall have the like jurisdiction and may proceed in the same manner as nearly as may be as if it were trying the same case in the Straits Settlements, or as if it were the Consul trying in Brunei a criminal case within the jurisdiction of a District Court.

(4.) The Supreme Court may hear and determine within the Straits Settlements any civil case arising in Brunei, with the consent of the parties and of the Consul, and for that purpose may adopt any procedure proper either in the Straits Settlements or in Brunei. In such case any appeal shall be to the full Supreme Court.

(5.) For the purposes of the exercise of original jurisdiction under this Article, such Judge or Judges of the Supreme Court, as the Chief Justice of the Straits Settlements from time to time nominates, shall exercise the powers of the Supreme Court.

(6.) Every District Court in Brunei may and shall, according to its powers, execute, enforce, and give effect to any judgment or order of the Supreme Court in the exercise of its original jurisdiction, and may and shall, for the purposes of anything to be done preliminary to a sitting of the Supreme Court—as, for instance, the summoning of a jury, or of Assessors, or of witnesses—exercise (*mutatis mutandis*) all the powers which such District Court has for any purpose under this Order in a case or matter pending before itself.

#### PART IV.—GENERAL POWERS OF COURTS AND GENERAL PROCEDURE.

13.—(1.) All Her Majesty's jurisdiction, civil and criminal, exercisable in Brunei, shall, except as otherwise provided by this Order, be exercisable by the District Courts each for and within its own district.

(2.) Every District Court in Brunei and the Supreme Court shall be auxiliary each to the other in all particulars relative to the administration of justice, civil or criminal, under this Order.

(3.) Every Court shall, in the exercise of every part of its respective jurisdiction under this Order, be a Court of Record and a Court of Law and of Equity.

(4.) In any matter, civil or criminal, a District Court within whose district (in civil matters) the matter of complaint wholly or in part arose or happened, or the subject in dispute is wholly or partly situate, or the contract in question was wholly or partly made, or the breach thereof wholly or partly occurred, or the defendant resides or carries on business, or (in criminal matters) the crime was wholly or partly committed, or the accused person happens to be, shall have jurisdiction, and may deal with the case, as if every material fact or thing had happened or was situate within its district; but any such Court, if, in its opinion, justice or convenience so requires, may decline or suspend the exercise of jurisdiction, and may, if it thinks necessary or just, require security from the defendant or accused person for his appearance before some other Court having jurisdiction in the matter, and for obedience to any judgment or order of such other Court, and further, in a criminal case, if necessary, may arrest and commit the accused person, and cause him to be removed under warrant and in custody, to be dealt with by such other Court.

(5.) Every Court acting under this Order shall have power to rehear any civil matter, and to review its judgments or orders in any civil case in which, in the opinion of the Court, justice so requires, on such terms as to costs and otherwise as the Court thinks just.

14. In every case, civil or criminal, heard in a District Court, proper minutes of the proceedings shall be drawn up, and shall be signed by the Judge or officer before whom the proceedings are taken, and sealed with the seal of the Court, and shall, where Assessors are present, be open for their inspection, and for their signature if concurred in by them.

The minutes, with depositions of witnesses and notes of evidence taken at the trial by the Judge or officer, shall be preserved in the public office of the Court.

15. Each District Court held by any Consular officer other than the Consul shall, every six months, furnish to the Consul a report respecting every case, civil and criminal, brought before it, in such form as the Consul from time to time directs.

16. Any Registrar of a Court, or person acting as Registrar, and any other officer of the Court designated in this behalf by the Consul, may administer oaths, and take affidavits, declarations, and affirmations.

The Judge of any Court shall be, and act as, the Registrar of the Court, if there is no other person appointed to be Registrar there.

17.—(1.) In a civil case, any Court may order such costs, charges, and expenses as to the Court seem reasonable, to be paid by any party to the proceedings, or out of any fund to which the proceeding relates.

(2.) All costs, and all charges and expenses of witnesses, prosecutions, punishments, and deportations, and other charges and expenses, and all fees, fines, forfeitures, and pecuniary penalties payable under this Order, and all judgments, may be levied or enforced by distress and seizure and sale of ships, goods, and lands, and in default of sufficient distress by imprisonment; and no bill of sale, or mortgage, or transfer of property made with a view to security in regard to crimes committed, or to be committed, shall be of any avail to defeat any provision of this Order.

(3.) Imprisonment in default of distress shall not, except as may be provided by rules of procedure made under this Order, operate as a discharge or satisfaction.

(4.) Where money ordered by the Court to be paid is due for seamen's wages, or is other money recoverable under the Merchant Shipping Acts or other Law relating to ships, and the person ordered to pay has not paid as ordered, the Court, in addition to other powers for compelling payment, shall have power to direct that the amount unpaid be levied by seizure and sale of the ship.

18.—(1.) The Consul shall have all the powers and authorities of the Sheriff of a county in England, with all the privileges and immunities of the office, and as such Sheriff shall be charged with the execution of all decrees, orders, and sentences made and passed by a Court, on the requisition in that behalf of the Court, he shall not be liable to any action or proceeding for anything done, or purporting to be done, or anything omitted by him as such Sheriff.

(2.) A District Court shall execute any writ, order, or warrant directed by a Consul to a District Court; and may take security from any person named therein for his appearance personally or by attorney, according to the writ, order, or warrant; or may cause such person to be taken in custody or otherwise to a Court, or elsewhere, in Brunei, according to the writ, order, or warrant.

19. A District Court may promote reconciliation, and encourage and facilitate the settlement in an amicable way of any suit or proceeding pending before it.

A District Court may, with the consent of the parties, refer to arbitration the final determination of any suit or proceeding pending before it, or of all or any matters in difference between the parties on such terms, and with such directions as to appointment of an Arbitrator and other things, as may seem fit, and may, if it thinks fit, take from the parties, or any of them, security to abide by the result of the reference.

In any such case, the award shall be final and conclusive.

On the application of any party, a decree of the Court may be entered in conformity with the award, and such decree shall not be open to any appeal or rehearing whatever, except on the ground that it is not in conformity with the award.

Every agreement for reference to arbitration or submission to arbitration by consent may, on the application of any party, be made a rule of a Court having jurisdiction in the matter of the reference or submission, which Court shall thereupon have power and authority to enforce the agreement or submission and the award made thereunder, and to control and regulate the proceedings before and after the award in such manner and on such terms as may be just.

20. No proceeding under this Order shall be invalidated by any informality, mistake, or omission, so long as, in the opinion of the Court before which any question arises, the essential requisites of law and justice have been complied with, or may be met by amendment.

#### PART V.—SPECIAL POWERS (BANKRUPTCY, PROBATE, &c.).

21. A District Court shall be a Court of Bankruptcy, and as such shall, as far as circumstances admit, have for and within its own district, with respect to British subjects and to their debtors and creditors, being either British subjects or foreigners submitting to the jurisdiction of the Court, all such jurisdiction as for the time being belongs to any judicial authority having for the time being jurisdiction in bankruptcy in England.

22. A District Court shall have, and may exercise, for and within its own district, with respect to British subjects, all the powers, rights, and duties appertaining to the office of Coroner in England, but it shall not be necessary to summon a jury in holding any inquest.

23. The District Court at Brunei shall be a Vice-Admiralty Court, and as such shall, for and within the limits of this Order, and for vessels and persons coming to and within those limits, have all such jurisdiction as for the time being ordinarily belongs to Vice-Admiralty Courts in Her Majesty's possessions abroad.

The said Court shall have all powers and jurisdiction which can be exercised by Justices or a Vice-Admiralty Court under or for the purposes of the Acts relating to merchant shipping or the passenger Acts, or relating to quarantine.

24. The District Court at Brunei shall, so far as circumstances admit, have for and within the limits of this Order, with respect to British subjects, all such jurisdiction relative to the custody and management of the persons and estates of persons of unsound mind as for the time being belong to the Lord Chancellor or other person or persons in England intrusted with the care and commitment of the custody of the persons and estates of persons found, by inquisition in England, idiot, lunatic, or of unsound mind.

25.—(1.) The District Court at Brunei shall be a Court of Probate, and as such shall, as far as circumstances admit, have for and within the limits of this Order with respect to the property of British subjects having at the time of death their fixed places of abode in those limits, all such jurisdiction as for the time being belongs to the Probate Division of Her Majesty's High Court of Justice in England.

(2.) Every District Court shall also have power to grant probate or administration where this is no contention respecting the right to the grant, and it is proved on oath that the deceased had at the time of his death his fixed place of abode within the jurisdiction of the District Court.

26. Probate or administration granted by a Court shall have effect over all the property of the deceased within the limits of this Order, and shall effectually discharge persons dealing with an executor or administrator thereunder, and that notwithstanding any defect afterwards appears in the grant.

Such a grant shall not be impeachable by reason only that the deceased had not at the time of his death his fixed place of abode within the particular jurisdiction.

27. Any person having in his possession or under his control any paper or writing of a deceased British subject, being or purporting to be testamentary, shall forthwith deliver the original to the District Court within the district whereof such person is at the time of his first knowledge of the death of the deceased, and deposit it there.

Any person neglecting to do so for fourteen days after having knowledge of the death of the deceased shall be liable to such penalty, not exceeding fifty pounds, as the Court thinks fit to impose.

28. From the death of a British subject, having at the time of death his fixed place of abode in Brunei, intestate, until administration granted, his personal property in Brunei shall be vested in the Consul.

29. If any person, other than one of Her Majesty's Consular officers takes possession of or in any manner administers any part of the personal property of any person deceased without obtaining probate or administration within three months after the death of the deceased, or within one month after the determination of any suit or dispute respecting probate or administration (if there is any such which is not ended within two months after the death of the deceased), he shall be liable to such penalty, not exceeding £100, as the Court having jurisdiction in the matter of the property of the deceased thinks fit to impose; and in every such case the same fees shall be payable by the person so administering as would have been payable by him if he had obtained probate or administration.

30. Where a British subject, not having at the time of death his fixed place of abode in Brunei, dies there, the District Court within whose district he dies shall, where the circumstances of the case appear to the Court so to require, forthwith on the death of the deceased, or as soon after as may be, take possession of his personal property within the particular jurisdiction, or put it under the seal of the Court (in either case, if the nature of the property or other circumstances so require, making an inventory), and so keep the property until it can be dealt with according to law.

31. (1.) In a case of apparent intestacy, where the circumstances of the case appear to the Court so to require, for reasons recorded in the Minutes, the Court having probate jurisdiction may, if it thinks fit, of its own motion, or otherwise, grant administration to an officer of the Court.

(2.) Any officer so appointed shall act under the direction of the Court, and shall be indemnified thereby.

(3.) A commission of 2½ per cent. may be charged on an estate administered under this Article.

(4.) All expenses incurred on behalf of the Court in the execution of this Article, and the said commission, shall be the first charge on the personal property of the deceased in Brunei; and the Court shall, by sale of part of that property or otherwise, provide for the discharge of those expenses and the payment of the said commission.

32. Where it appears to the Court having probate jurisdiction that the value of the property or estate of a deceased person does not exceed £100, the Court may, without any probate or letters of administration, or other formal proceedings, pay thereout any debts or charges, and pay, remit, or deliver any surplus to such persons in such manner as a Secretary of State from time to time directs, and shall not be liable to any action, suit or proceedings in respect of anything done, or purporting to be done, under this Article.

#### PART VI.—CRIMINAL LAW AND PROCEDURE.

33. The crimes punishable under this Order are:—

(1.) Any acts or omissions which are for the time being punishable in England, on indictment, by death, penal servitude, or imprisonment, as treasons, felonies, or misdemeanours.

(2.) Acts or omissions by this Order, or by any regulations made by virtue of this Order, declared to be punishable as offences against this Order.

In case an act or omission is punishable both as a crime under the law in force in England and as an offence against this Order, the accused person may be tried and punished for such act or omission either as a crime, as aforesaid, or as an offence against this Order, but he shall not be liable to be tried or punished in both ways.

34. Any British subject being in Brunei may be proceeded against, tried, and punished under this Order for the crime of piracy, wherever committed.

If the Court before which a British subject charged with the crime of piracy is brought is a District Court held by a Consular officer other than the Consul, the Court shall report to the Consul the pendency of the case.

The Consul shall thereupon direct in what mode and where the case shall be heard and determined, and (notwithstanding anything in this Order) the case shall be so heard and determined accordingly.

35.—(1.) If any British subject does any of the following things without Her Majesty's authority, that is to say:—

Levies war, or takes any part in any operation of war, against, or aids or abets any person in carrying on war, insurrection, or rebellion against the Sultan of Brunei;

Every person so offending shall be deemed guilty of an offence against this Order, and on conviction thereof shall be liable (in the discretion of the Court before which he is convicted) to be punished by imprisonment for any term not exceeding one year, with or without hard labour, and with or without a fine not exceeding £1,000, or by a fine not exceeding £1,000, without imprisonment.

In addition to such punishments, every such conviction shall of itself, and without further proceedings, make the person convicted liable to deportation; and the Court before which he is convicted may order that he be deported from Brunei to such place as the Court directs.

(2.) If any British subject, without the authority of Her Majesty (proof whereof shall lie on the party accused), takes part in any operation of war in the service of the Sultan of Brunei against any persons engaged in carrying on war, insurrection, or rebellion against the Sultan of Brunei, he shall be deemed guilty of an offence against this Order, and on conviction thereof shall be liable (in the discretion of the Court before which he is convicted) to be punished by imprisonment for any term not exceeding one year, with or without hard labour, and with or without a fine not exceeding £1,000, or by a fine not exceeding £1,000, without imprisonment.

(3.) If the Court before which any person charged with having committed such a misdemeanour as in this Article mentioned is brought is a District Court, held before a Consular officer other than the Consul, the Court shall report to the Consul the pendency of the case.

The Consul shall thereupon direct in what mode and where the case shall be heard and determined, and (notwithstanding anything in this Order) the case shall be so heard and determined accordingly.

36. If any British subject is guilty of publicly deriding, mocking, or insulting any religion established or observed in Brunei, or of publicly offering any insult to any religious service, feast, or ceremony established or kept in any part of Brunei, or to any place of worship, tomb, or sanctuary belonging to any such religion, or to the ministers or professors thereof, or of wilfully committing any act tending to bring any such religion, or its ceremonies, mode of worship, or observances into hatred, ridicule, or contempt, and thereby to provoke a breach of the public peace, he shall be deemed guilty of an offence against this Order, and shall be liable (in the discretion of the Court before which he is convicted) to imprisonment for any term not exceeding six months, with or without hard labour, and with or without a fine not exceeding £100, or to a fine not exceeding £100, without imprisonment.

Notwithstanding anything in this Order, every charge against a British subject of having committed any such offence shall be heard and determined in a summary way, and any District Court shall have power to impose the punishment aforesaid.

Her Majesty's Consular officers shall take such precautionary measures as seem to them proper and expedient for the prevention of such offences.

37. If any person subject to the criminal jurisdiction of any Court exercising jurisdiction in Brunei under this Order does any of the following things, namely:—

(i.) Wilfully by act or threat obstructs any officer of or person executing any process of the Court in the performance of his duty; or

(ii.) Within or close to the room or place where the Court is sitting, wilfully misbehaves in a violent, threatening, or disrespectful manner to the disturbance of the Court, or to the intimidation of suitors or others resorting thereto; or

(iii.) Wilfully insults any member of the Court, or any juror or assessor, or any person acting as a clerk or officer of the Court during his sitting or attendance in Court, or in his going to or returning from Court; or

(iv.) Does any act in relation to the Court, or a Judge thereof, or a matter pending therein, which if done in relation to a Superior Court in England would be punishable as a contempt of such Court, or as a libel on such Court, or the judges thereof, or the administration of justice therein;

Such person shall be liable to be apprehended by order of the Court, with or without warrant, and on inquiry and consideration, and after the hearing of any defence which such person may offer, without further process or trial, to be punished with a fine not exceeding £10, or with imprisonment not exceeding twenty-four hours.

A Minute shall be made and kept of every such case of punishment, recording the facts of the offence and the extent of the punishment, and a copy of the Minute shall be forthwith sent to the Consul in the case of punishment so inflicted by a District Court held by any Consular officer other than the Consul, or to the Secretary of State in the case of punishment so inflicted by the Consul.

Provided that, if the Court thinks fit, instead of proceeding under the preceding provisions, it may direct or cause the offender to be tried in a separate criminal prosecution or proceeding, in which the offender shall be liable to be tried and punished for his offence as an offence against this Order.

Nothing herein shall interfere with the power of the Court to remove or exclude persons who interrupt or obstruct the proceedings of the Court.

38. If any person in Brunei does any act or makes any publication of such kind, and under such circumstances, that, in the opinion of the Consul, grave danger to public order is thereby occasioned, the Consul shall have the same powers as under this Order a District Court has in relation to apprehended breaches of the peace.

39. If any clerk or officer of any Court acting under this Order in Brunei, acting under pretence of the process or authority of the Court, is charged with extortion, or with not duly paying any money levied, or with other misconduct, the Court may (without prejudice to any other liability or punishment to which the clerk or officer would in the absence of the present provision be liable) inquire into the charge in a summary way, and for that purpose summon and enforce the attendance of all necessary persons in like manner as the attendance of witnesses and others may be enforced in a suit, and may make such order thereupon for the repayment of any money extorted, or for the due payment of any money levied, and for the payment of such damages and costs as the Court thinks just; and the Court may also, if it thinks fit, impose such fine upon the clerk or officer, not exceeding £100 for each offence, as seems just.

40. Any act which, if done in the United Kingdom or in a British possession, would be an offence against any of the following Statutes of the Imperial Parliament or Orders in Council, that is to say—

“The Merchandise Marks Act, 1887”;

“The Patents, Designs, and Trade Marks Acts, 1883 to 1885”;

Any Act, Statute, or Order in Council for the time being in force relating to copyright, or to inventions, designs, or trade marks;

Any Statute amending or substituted for any of the above-mentioned Statutes—

Shall, if done by a British subject in Brunei, be punishable as an offence against this Order, whether such act is done in relation to any property or right of a British subject, or of a foreigner, or otherwise:

Provided—

(1.) That a copy of any such Statute or Order in Council shall be published by the Consul in his public office, and shall be there open for inspection by any person at all reasonable times; and a person shall not be punished under this Article for anything done before the expiration of one month after such publication, unless the person offending is proved to have had express notice of the Statute or Order:

(2.) That a prosecution by or on behalf of a prosecutor who is not a British subject shall not be entertained without the consent in writing of the Consul who may withhold such consent, unless he is satisfied that effectual provision exists for the punishment in Consular or other Courts in Brunei of similar acts committed by the subjects of the State or Power of which such prosecutor is a subject, in relation to or affecting the interests of British subjects.

41. A District Court shall have jurisdiction to make an order requiring a person to contribute, in such manner as the Court directs, to the support of his wife or child, whether legitimate or not, being in the opinion of the Court under the age of sixteen years. Any such order may be made in a summary way, as if the neglect to provide for the support of such wife or child were an offence against this Order, and a failure to comply with any such order shall be deemed to be an offence against this Order, and shall be punishable accordingly, and the Court may direct any penalty imposed for such offence to be applied for the support of such wife or child in such manner as the Court thinks fit.

42. Where any act or remission is, by virtue of this Order, or of any regulation made under this Order, an offence against this Order, and no penalty or punishment is specified in respect thereof, such offence shall be punishable with imprisonment for not exceeding three months, or fine not exceeding £100, or both.

43. A District Court may cause to be apprehended and brought before it any British subject being within the district of the Court, and charged with having committed a crime in Brunei, and may deal with the accused according to the jurisdiction of the Court and in conformity with the provisions of this Order, or where the crime is triable and is to be tried, in Her Majesty's dominions, may take the preliminary examination, and commit the accused for trial, and cause or allow him to be taken to the place of intended trial.

44.—(1.) Where a person is charged with an offence on a summons or warrant issuing out of a Court, he shall be brought before the Court within forty-eight hours after service of the summons or execution of the warrant, unless, in any case, circumstances unavoidably prevent his being brought before the Court within that time which circumstances shall be recorded in the Minutes.

(2.) In every case he shall be brought before the Court as soon as circumstances reasonably admit, and the time and circumstances shall be recorded in the Minutes.

45.—(1.) Where an accused person is in custody he shall not be remanded at any time for more than seven days, unless circumstances appear to the Court to make it necessary or proper that he should be remanded for a longer time, which circumstances, and the time of remand, shall be recorded in the Minutes.

(2.) In no case shall a remand be for more than fourteen days at one time, unless in case of illness of the accused person or other case of necessity.

46.—(1.) Except in cases of murder, an accused person may be admitted to bail at any stage of the proceedings.

(2.) Where the offence charged is one of the following, it shall be in the discretion of the Court before whom such person appears or is tried to admit the accused to bail or not, according to the circumstances, namely:—

Felony (not being murder);

Riot;

Assault on an officer of a Court in the execution of his duty, or on any person acting in his aid;

Neglect or breach of duty by an officer of a Court.

(3.) In all other cases except murder the Court shall admit the accused to bail, unless, in any instance the Court having regard to the circumstances, see good reason to the contrary which reason shall be recorded in the Minutes.

(4.) The Consul may, if he thinks fit, admit to bail a person charged with any offence, except murder, although any other Court, in the exercise of its discretion, has not thought fit to admit the accused to bail.

47. Crimes punishable under this Order are to be tried as follows (subject to the provisions of this Order as to the powers of the Consul, and of the Supreme Court, or a Judge thereof):—

(1.) Crimes by this Order directed to be tried in a summary way are to be tried by a District Court without a jury or assessors.

(2.) Crimes which are not punishable with a longer term of imprisonment than three months, nor punishable with fine exceeding £50, shall be tried in a summary way by a District Court without a jury or Assessors.

(3.) Crimes other than as aforesaid, and except crimes punishable with death or with penal servitude for seven years or upwards, shall be tried on indictment by a District Court with Assessors or a jury. Provided that if the accused person desires to be tried in a summary way, and the Court is of opinion that the case is such that, if proved, it can be adequately punished under the powers of a District Court the Court may hear and determine the case in a summary way.

(4.) In every case of crime punishable with death, or with penal servitude for seven years or upwards, the Consul shall direct to what Court the accused person shall be committed for trial. Such Court shall be either the Supreme Court acting in the Straits Settlements, or acting in Brunei, or the Consul acting in Brunei with the powers of the Supreme Court; and the trial shall be by such Court with a jury if the trial takes place in the Straits Settlements, or if the accused person at the time of his being committed for trial in Brunei so requires: Provided that, in case of inability to obtain a jury, or if the accused person does not require a jury, the Court may try the case with Assessors.

(5.) Whenever a District Court commits a person for trial, it shall take all proper steps by commitment, bail, or otherwise for securing the attendance of the accused person to take his trial, and by recognizance or otherwise for securing the attendance at the trial of the prosecutor and of the witnesses for the prosecution and for the defence respectively, and shall transmit to the proper Court the depositions and any documents, recognizances, or things necessary for the purpose of the trial, with a certificate under the seal of the District Court specifying the depositions, documents, and things so transmitted. Such certificate shall be *prima facie* evidence of all the matters stated therein to have been done by or before the District Court, and that the depositions transmitted therewith were duly taken.

48. A District Court may impose the punishment of imprisonment for any term not exceeding six months, with or without hard labour, and with or without a fine not exceeding £200, or the punishment of a fine not exceeding £200, without imprisonment.

49. Every Court and authority in imposing and inflicting punishments under this Order shall have regard, so far as circumstances admit, and subject to the other provisions of this Order, to the punishments imposed by the Law of England in like cases, and to the mode in which the same are inflicted in England.

50. Any Court acting under this Order (but, in the case of a District Court, held by a Consular officer other than the Consul, subject to the approval of the Consul) may order any person convicted before it of any crime or offence to pay all or any part of the expenses of or preliminary to his trial and of his imprisonment or other punishment.

Where it appears to any Court that any charge made before it is malicious, or is frivolous and vexatious, the Court may order all or any part of the expenses of the prosecution to be paid by the person making the charge.

In either of the two last-mentioned cases the amount ordered to be paid shall be deemed a debt due to the Crown, and may, by virtue of the order, without further proceedings be levied on the property of the person convicted or making the charge, as the case may be, or may be enforced by imprisonment for not exceeding one month, or until payment.

51.—(1.) A Court may, if it thinks fit, order a person convicted of an assault to pay to the person assaulted, by way of damages, any sum not exceeding £20.

(2.) Damages so ordered to be paid may be either in addition to or in lieu of a fine, and shall be recoverable in like manner as a fine.

(3.) Payment of such damages shall be a defence to an action for the assault.

52.—(1.) If, on a trial, a Court is of opinion that the accused attempted to commit the offence with which he is charged, but did not complete it, he shall not be therefore acquitted, but the Court may find him guilty of the attempt, and may adjudge him to be punished as if he had been charged with the attempt.

He shall not be liable to be afterwards prosecuted for the offence.

(2.) If, on the trial of a person charged with robbery, a Court is of opinion that the accused committed an assault with intent to rob, but did not commit robbery, he shall not be therefore acquitted, but the Court may find him guilty of the assault, and may adjudge him to be punished as if he had been charged with the assault.

He shall not be liable to be afterwards prosecuted for the assault.

(3.) If, on a trial for any of the following offences, namely, burglary, or stealing in a dwelling-house, or breaking and entering and stealing in a shop, warehouse, or counting-house, or a building within the curtilage of a dwelling-house, or larceny, or feloniously receiving property stolen, embezzled, or otherwise feloniously taken, obtained, or disposed of, the facts proved authorise a conviction for one of those offences, not being the offence charged, the Court may find the accused guilty of that other offence, and may adjudge him to be punished as if he had been charged with that other offence.

He shall not be liable to be afterwards prosecuted for that other offence.

(4.) If any person procures, or endeavours to procure, or incites any other person to commit a crime or offence, he shall be punishable on conviction in the same manner as if he were convicted of an attempt to commit that crime or offence. If the crime or offence is actually committed in pursuance of the procurement or incitement, both persons may be tried and punished for that crime or offence as principal offenders.

53. Where a person charged with having committed a crime or offence in the district of one Court escapes or removes from that district and is found within the district of another Court, the Court within the district of which he is found may proceed in the case to examination, indictment, trial, and punishment, or in a summary way (as the case may require), in the same manner as if the crime or offence had been committed in its own district; or may, on the requisition or with the consent of the Court of the district in which the crime or offence is charged to have been committed, send him in custody to that Court, or require him to give security for his surrender to that Court, there to answer the charge and be dealt with according to law.

Where any person is to be so sent in custody a warrant shall be issued by the Court within the district of which he is found, and such warrant shall be sufficient authority to any person to whom it is directed, to receive and detain the person therein named, and to carry him to, and deliver him up to, the Court of the district within which the crime or offence was committed, according to the warrant.

54. Where any person is charged with the commission of a crime or offence the cognizance whereof appertains to any of Her Majesty's Courts in Brunei, and it is expedient that the crime or offence be inquired of, tried, determined, and punished within Her Majesty's dominions, the accused may, in accordance with "The Foreign Jurisdiction Act, 1890," be sent for trial to a British possession to which, under the next following Article, he could be sent for execution of a sentence of imprisonment.

The Consul may, where it appears expedient, by warrant under his hand and seal, cause the accused to be taken for trial accordingly.

55.—(1.) Sentences of imprisonment shall ordinarily be carried into effect in such prisons within Brunei as the Consul directs, either by any general directions or in any particular case. A warrant of the Consul, or of a Court before which a person is convicted, shall be sufficient authority for the removal of the person to the prison named in the warrant, and for his detention there.

(2.) Where any offender convicted before a Court in Brunei is sentenced to imprisonment in respect of the crime or offence of which he is convicted, and it appears to the Consul to be expedient that the sentence be carried into effect within Her Majesty's dominions, the offender may, in accordance with "The Foreign Jurisdiction Act, 1890," be sent for execution of his sentence as follows:—

(a.) In the case of a prisoner who is, or who appears to be, a native of Burmah or of any other part of British India, and not of European descent, to Her Majesty's possession of Burmah, or some other part of British India.

(b.) In the case of any other prisoner, to the Colony of the Straits Settlements, or to some other part of Her Majesty's dominions out of the United Kingdom the Government whereof consents that offenders may be sent thither under this Article.

And the Consul shall have authority for the purposes of the said section,

56.—(1.) In cases of murder or manslaughter, if either the death or the criminal act which wholly or partly caused the death happened within the jurisdiction of a Court acting under this Order, such Court shall have the like jurisdiction over any person being a British subject, who is charged either as the principal offender, or as accessory before the fact to murder, or as accessory after the fact to murder or manslaughter, as if both such criminal act and the death had happened within such jurisdiction.

(2.) In the case of any crime committed on the high seas, or within the Admiralty jurisdiction, by any British subject on board a British ship, or on board a foreign ship to which he did not belong, a Court acting under this Order shall have jurisdiction as if the crime had been committed within the district of such Court. In cases tried under this provision, no different sentence can be passed from the sentence which could be passed in England if the crime were tried there.

(3.) The foregoing provisions of this Article shall be deemed to be adaptations for the purposes of this Order, and of "The Foreign Jurisdiction Act, 1890," of the following enactments described in the first Schedule to that Act (that is to say):—

"The Admiralty Offences (Colonial) Act, 1849."

"The Admiralty Offences (Colonial) Act, 1860."

"The Merchant Shipping Act, 1867," section 11.

And the said enactments shall, so far as they are repeated and adapted by this Article (but not further or otherwise) extend to Brunei.

57. "The Fugitive Offenders Act, 1881," shall apply to Brunei as if Brunei were a British possession, subject to the conditions, exceptions, and qualifications following:—

(i.) The said Act shall apply only in the case of British subjects.

(ii.) The Consul is, for the purposes of the said Act, substituted for the Governor of a British possession, and for a Superior Court, or a Judge thereof, in a British possession, and for a Magistrate or Justice of the Peace in a British possession.

(iii.) So much of the fourth and fifth sections of the said Act as relates to the sending a Report of the issue of a warrant, together with the information, or a copy thereof, or to the sending of a certificate of committal and Report of a case, or to the information to be given by a Magistrate to a fugitive, shall be excepted.

(iv.) So much of the sixth section of the said Act as relates to *habeas corpus*, and as requires the expiration of fifteen days before issue of a warrant, shall be excepted.

(v.) The said Consul shall not be bound to return a fugitive offender to a British possession unless satisfied that the proceedings to obtain his return are taken with the consent of the Governor of that possession.

(vi.) For the purposes of Part II of the said Act, Brunei and the Colony of the Straits Settlements shall be deemed to be one group of British possessions.

58. "The Colonial Prisoners Removal Act, 1884," shall apply to Brunei as if Brunei were a British possession, and part of Her Majesty's dominions, subject as follows:—

The Consul shall, in relation to Brunei, be substituted for the Governor of a British possession.

59. The Consul shall, when required by the Secretary of State, send to the Secretary of State a Report of the sentence passed in every case heard and determined by him, with a copy of the Minutes of proceedings and notes of evidence, and may send with such Report any observations he thinks fit.

Every Court (other than the Consul) shall forthwith send to the Consul a Report of the sentence passed by it in Brunei in every case not heard and determined in a summary way, with a copy of the Minutes of proceedings and notes of evidence, and with any observations the Court thinks fit. The Consul shall, when required by the Secretary of State, transmit the same to the Secretary of State, and may send therewith any observations he thinks fit.

60.—(1.) Where any person is sentenced in Brunei to suffer the punishment of death, the Court pronouncing the sentence shall forthwith send a Report of the sentence, with a copy of the Minutes of the proceedings and notes of the evidence in the case, and with any observations the Court thinks fit to make, to the Governor in Council of the Straits Settlements.

(2.) The sentence shall not be carried into execution without the order of the Governor of the Straits Settlements in Council.

(3.) In any such case, if the said Governor in Council does not order that the sentence of death be carried into execution, he shall direct what punishment in lieu of the punishment of death is to be inflicted on the person convicted, and the person convicted shall be punished accordingly.

61. The Governor in Council of the Straits Settlements shall have power, in the name of Her Majesty, to remit or commute in whole or in part any sentence passed by a Court exercising criminal jurisdiction under this Order, and every such Court shall give effect to any such remission.

62. Nothing in this Order shall be deemed to affect Her Majesty's prerogative of pardon.

PART VII.—APPEALS.

63.—(1.) Where any decision of a District Court, sitting with or without Assessors, or a decision of a Judge of the Supreme Court acting under this Order, with or without Assessors, either in Brunei or in the Straits Settlements, is given in a civil case in respect of a sum or matter at issue of the amount or value of £50 or upwards, or determines, directly or indirectly, any claim or question respecting property of the amount or value of £50 or upwards, any party aggrieved by the decision may apply to the Court for leave to appeal to the Supreme Court, and shall be entitled to leave on the terms prescribed by Rules made under this Order, and subject to any restrictions and exceptions therein contained.

In any other case the Court or Judge may, if it seems just and expedient, give leave to appeal on like terms.

In any case the Supreme Court may give leave to appeal on such terms as seem just.

(2.) In any matter in which an appeal lies, as of right or otherwise, to the Supreme Court, it shall be lawful for the Supreme Court, by special leave, to enlarge the time for appealing, or to permit an appeal to be brought on such terms as to costs or otherwise as it thinks fit, although the time limited for appeal has elapsed, or any other former requisite for an appeal has not been complied with.

(3.) The said Supreme Court, on the hearing of any appeal, may admit fresh evidence in such cases and on such terms as he or they think just, subject to any Rules to be made under this Order.

64.—(1.) Where any final decree or order of the Supreme Court on appeal under this Order is made in a civil case in respect of a sum or matter at issue of the amount or value of £500 or upwards, or determines, directly or indirectly, any claim or question respecting property of the amount or value of £500 or upwards, any party aggrieved by the decree or order may, within fifteen days after the same is made, apply by motion to the Supreme Court for leave to appeal to Her Majesty in Council.

(2.) If leave to appeal is applied for by a party adjudged to pay money or perform a duty, the Supreme Court shall direct either that the decree or order appealed from be carried into execution, or that the execution thereof be suspended, pending the appeal, as the said Court considers to be in accordance with substantial justice.

(3.) If the said Court directs the decree or order to be carried into execution, the party in whose favour it is made shall, before the execution of it, give security to the satisfaction of the said Court for the due performance of such Order as Her Majesty in Council may think fit to make.

(4.) If the said Court directs the execution of the decree or order to be suspended pending the appeal, the party against whom the decree is made shall, before any order for suspension of execution, give security to the satisfaction of the said Court for the due performance of such Order as Her Majesty in Council may think fit to make.

(5.) In all cases security shall also be given by the appellant to the satisfaction of the said Court, to an amount not exceeding £500, for the prosecution of the appeal, and for payment of all such costs as may be awarded to any respondent on appeal to Her Majesty in Council.

(6.) If the last-mentioned security is given within one month from the filing of the motion paper for leave to appeal, then, and not otherwise, the said Court shall give leave to appeal.

(7.) In any case other than the cases hereinbefore described, the Supreme Court may give leave to appeal on the terms and in the manner aforesaid, if it considers it just or expedient to do so.

(8.) In every case where leave to appeal is given as aforesaid, the appellant shall be at liberty to prefer and prosecute his appeal to Her Majesty in Council according to the Rules for the time being in force respecting appeals to Her Majesty in Council from Her Colonies, or such other Rules as Her Majesty in Council from time to time thinks fit to make concerning appeals from the Supreme Court.

(9.) Nothing in this Order shall affect the right of Her Majesty at any time, on the humble Petition of a party aggrieved by any decision of the Supreme Court, to admit his appeal thereon on such terms and in such manner as Her Majesty in Council may think fit, and to deal with the decision appealed from in such manner as may be just.

65. In any case in which an appeal lies under this Order from a District Court to the Supreme Court as of right, or leave to appeal is given by the District Court, the parties may agree that the appeal shall be to the Consul, and upon any such agreement in writing being filed in the District Court, or upon such agreement being made in open Court and embodied in any order of the District Court, the appeal shall be to the Consul, who shall hear and dispose of the appeal in a summary way in such manner as he thinks fit, and may make any order which could have been made by the District Court, and shall certify his order to the District Court, and that Court shall give effect thereto.

Any such order shall be final, and shall not be subject to any further appeal, either to the Supreme Court or to Her Majesty in Council.

This Article does not apply to cases which are in the first instance heard by the Consul in the exercise of any jurisdiction under this Order.

66.—(1.) Where any person is convicted otherwise than in a summary way of a crime or offence, the Court trying the case may, if it seems fit, upon or without written application by the prosecutor or defendant, reserve for the consideration of the full Supreme Court any question of law arising on the trial.

The Court shall then state a special case, setting out the question reserved, with the facts and circumstances on which it arose, and shall send the case to the Supreme Court.

(2.) Where any person is convicted in a summary way of a crime or offence, and is dissatisfied with the conviction as being erroneous in point of law, the Court trying the case may, on his application in writing, and on compliance by him with any terms prescribed by the Rules made under this order, state a special case, setting out the facts and the grounds of the conviction, for the opinion of the Supreme Court.

(3.) Where a special case is stated, the Court stating it shall, as seems fit, either postpone Judgment on the conviction, or respite execution of the Judgment, and either commit the person convicted to prison, or take proper security for him to appear and receive Judgment, or to render himself in execution (as the case may require) at an appointed time and place.

(4.) The Supreme Court shall hear and determine the matter, and thereupon shall reverse, affirm, or amend the Judgment, conviction, or sentence in question; or set aside the same, and order an entry to be made in the Minutes of proceedings to the effect that in the judgment of the Supreme Court the person convicted ought not to have been convicted, or arrest the Judgment, or order Judgment to be given at a subsequent sitting of the Court stating the case, or order a new trial, or make such other order as justice requires, and shall also give the necessary and proper consequential directions.

(5.) The Judgment of the Supreme Court shall be delivered in open Court after the public hearing of any argument offered on behalf of the prosecution or of the person convicted.

(6.) Before delivering Judgment the Supreme Court may, if necessary, cause the special case to be amended by the Court stating it.

(7.) If on an application for a special case the Court refuses to state a case, the Court so refusing shall forthwith send to the Supreme Court a Report of the sentence, with a copy of the Minutes of proceedings and notes of evidence, and any observations the Court thinks fit, and with the copy of the application for a special case.

(8.) The Supreme Court shall examine the Report and documents so sent, and may, on the application in that behalf of the appellant, if made within one month after the refusal of a special case, proceed to hear and determine the matter according to the foregoing provisions, as nearly as may be, as if a special case had been stated.

(9.) In this Article expressions referring to the Court which tries a case include a District Court or a Judge or Judges of the Supreme Court acting under this Order either in Brunei or in the Straits Settlements, or the Consul acting with the power of the Supreme Court.

PART VIII.—EVIDENCE.

67.—(1.) In any case, criminal or civil, and at any stage thereof, a District Court either of its own motion, or on the application of any party, may summon a British subject to attend to give evidence, or to produce documents, or to be examined.

(2.) If the person summoned, having reasonable notice of the time and place at which he is required to attend, fails to attend and be sworn, and give evidence or produce documents, or submit to examination accordingly, and does not excuse his failure to the satisfaction of the Court, he shall be guilty of an offence against this Order.

(3.) A person punished under this article shall not be liable to an action in respect of the same matter; and any such action, if begun, shall be stayed by the Court in such manner and on such terms as the Court thinks fit.

(4.) In a criminal case, where it is proved that a British subject is likely to give material evidence, either for the prosecution or for the defence, and that he will not voluntarily attend to give evidence, the Court may issue a summons for his attendance.

(5.) If he does not obey the summons, and does not excuse his failure to the satisfaction of the Court, then, after proof of service of the summons, the Court may issue a warrant to compel his attendance.

(6.) Where it is proved that he will not attend to give evidence unless compelled to do so, the Court may issue a warrant in the first instance.

(7.) In civil cases any Court may, where the circumstances appear to justify it, order that the expenses of a witness, on his appearing to give evidence, shall be defrayed by the parties, or any of them.

68.—(1.) Any person appearing before a District Court to give evidence in any case, civil or criminal, may be examined or give evidence on oath in the form or with the ceremony that he declares to be binding on his conscience.

(2.) Any British subject wilfully giving false evidence in any suit or proceeding, civil or criminal, or on any arbitration, or in any affidavit, shall be deemed guilty of wilful and corrupt perjury.

69.—(1.) Judicial notice shall be taken of this Order, and of the commencement thereof, and of the appointment of Consular or other officers, and of the constitution and limits of any jurisdiction, Court, or district, and of Consular seals and signatures, and of any rules or regulations made or in force under this order, and no proof shall be required of any of such matters.

(2.) Every signature or seal affixed to any instrument purporting to be the signature of any Consular officer or person acting under this Order, or to be the seal of any Court, shall, for all purposes under this Order, without any proof thereof, be presumed to be genuine, and shall be taken as genuine until the contrary is proved.

70. A person attending to give evidence before a District Court shall not be compelled or allowed to give any evidence, or produce any document, if, in the opinion of the Consul signified by him personally or in writing to the Court, the giving or production thereof would be injurious to Her Majesty's service.

71.—(1.) The provisions of "The Evidence Act, 1851" (14 and 15 Vict., cap. 99), sections 7 and 11, relating to the proof of judicial and other documents, shall extend and be applied for all purposes as if the district were in a British Colony.

(2.) The following Acts, namely:—

"The Foreign Tribunals Evidence Act, 1856."

"The Evidence by Commission Act, 1859,"

"The Evidence by Commission Act, 1887,"

or so much thereof as is for the time being in force, and any enactment for the time being in force amending or substituted for the same, are hereby extended to all places and Courts to which this Order applies, with the adaptations following, namely:—

In the said Acts, the Consul is hereby substituted for a Supreme Court, or the Judge of a Court in a Colony.

(3.) The following Acts, namely:—

"The British Law Ascertainment Act, 1859,"

"The Foreign Law Ascertainment Act, 1861," or so much thereof as is for the time being in force, and any enactment for the time being in force amending or substituted for the same, are hereby extended to all places and Courts to which this Order applies, with the adaptations following, namely:—

In the said Acts the Consul is hereby substituted for a Superior Court in a Colony.

#### PART IX.—JURIES AND ASSESSORS.

##### *Juries.*

72.—(1.) Every male British subject resident in Brunei, being of the age of twenty-one years or upwards, being able to speak and read English, having, or earning a gross income at the rate of not less than £50 a-year, not having been attainted of treason or felony, or convicted of any crime that is infamous (unless he has obtained a free pardon), and not being under outlawry, shall be qualified to serve on a jury.

(2.) All persons so qualified shall be liable so to serve, except the following:—

Persons in Her Majesty's Diplomatic, Consular, or other Civil Service in actual employment;

Officers, clerks, keepers of prisons, messengers, and other persons attached to, or in the service of, any of Her Majesty's Courts;

Officers and others on full pay in Her Majesty's navy or army, or in actual employment in the service of any Department connected therewith;

Clergymen and ministers in the actual discharge of professional duties;

Advocates and attorneys in actual practice;

Physicians, surgeons, and apothecaries in actual practice;

And except persons disabled by mental or bodily infirmity.

73. On or before the fourteenth day of January in every year each District Court shall make out a list of the persons so qualified and liable resident within its district.

The list shall, on or before the twenty-first day of the same respective month, be affixed in some conspicuous place in the Court, and shall be there exhibited until the end of that month with a Notice annexed that on a day specified, not being sooner than the seventh or later than the fourteenth day of the then next month, the Court will hold a special sitting for the revision of the list.

The Court shall hold such special sitting accordingly, and at such sitting, or at some adjournment thereof (of which public notice shall be given), shall revise the list by striking out the name of any person appearing to be not qualified or not liable to serve, and by inserting the name of any person omitted, and appearing to be so qualified and liable, either on the application of the person omitted, or on such notice to him as the Court thinks fit.

The list shall be finally revised and settled not later than the twenty-first day of February in every year, and when settled shall be affixed in some conspicuous place in the Court, and be there exhibited during not less than two months.

Such list, as settled, shall be brought into use on the first day of March, and shall be used as the Jury List of the Court until the first day of March next after the time of its being brought into use.

74. Where, in pursuance of this Order, a jury is ordered, the Court before which the trial is to be had shall summon so many of the persons comprised in the Jury List, not fewer than seven, as seems requisite.

Any person failing to attend according to such summons shall be liable to such fine, not exceeding £10, as the Court thinks fit to impose.

Any such fine shall not be levied until after the expiration of fourteen days. The proper officer of the Court shall forthwith give to the person fined notice in writing of the imposition of the fine, and require him within six days after receipt of the notice to file an affidavit excusing his non-attendance if he desire to do so. The Court shall consider the affidavit, and may, if it seems proper, remit the fine.

75. Where a suit relates to money, goods, or other property, or any matter at issue appearing to the Court to be of the amount or value of £300 or upwards, or is brought for recovery of damages of the amount of £300 or upwards, the suit shall on the demand of either party, be, under order of the Court before which the trial is to be had, tried with a jury.

In any case a suit may be tried with a jury, if the Court, of its own motion or on the application of either party, thinks fit so to order.

76.—(1.) The foregoing provisions relating to the preparation of Jury Lists and the summoning of juries shall not, as regards any District Court, come into operation until the Consul so directs by order in writing, published in such manner as he thinks fit.

He may from time to time by any such order, as regards any district, alter the number of jurors to be summoned, or the quorum of a jury.

He may suspend the operation of any such order from time to time, or revoke any order.

(2.) If, in any civil or criminal case where a jury is ordered, or is required by this Order or by any Rules of Procedure, a sufficient jury cannot be obtained, the Court before which the trial is to be had may either hear the case without a jury, or with a jury of less than the proper number, or postpone it in order to obtain a jury or Assessors, as the Court thinks just.

77.—(1.) Subject to the other provisions of this Order, the number of the jury shall be five.

(2.) In criminal cases tried with a jury, the verdict of the jury must be unanimous. In civil cases the verdict must be unanimous, unless the parties otherwise agree.

(3.) No challenge shall be allowed except for cause shown to the satisfaction of the Court.

(4.) No grand jury shall be summoned.

78. Where a District Court proceeds, in pursuance of this Order, to hear and determine any case, civil or criminal, with Assessors, the Court shall nominate and summon as Assessors not less than two and not more than four indifferent British subjects of good repute, resident in the district of the Court, or belonging to a British ship.

Where, by reason of local circumstances, the Court is able to obtain the presence of one fit person only as Assessor, the Court may sit with him alone as Assessor; and where, for like reasons, the Court is not able to obtain the presence of any fit person as Assessor, the Court may (notwithstanding anything in this Order) sit without an Assessor; but in every such case the Court shall record in the Minutes of proceedings its reasons for sitting with one Assessor only, or without an Assessor.

An Assessor shall not have voice or vote in the decision of the Court in any case, civil or criminal; but an Assessor dissenting in a civil case from any decision of the Court, or in a criminal case from any decision of the Court, or the conviction, or the amount of punishment awarded, may record in the Minutes of proceedings his dissent and the grounds thereof; and an Assessor dissenting shall be entitled to receive gratis a certified copy of the Minutes.

79. In civil cases any party who has a right to demand a trial with a jury may, in lieu thereof, demand a trial with Assessors, unless a trial with a jury is ordered, and can be had. If no party demands a jury or Assessors, the Court before whom the trial is to be had may, if it thinks fit, summon Assessors.

80. If any person summoned to act as Assessor fails, without lawful excuse, to attend at the trial, or at any adjournment thereof, or to continue to serve throughout the trial, he shall be liable under a summary order of the Court to a fine not exceeding £10, to be levied by attachment and sale of his goods within the district, and in default of recovery thereof of the fine, to be imprisoned for any time not exceeding six days, if the fine is not sooner paid.

#### PART X.—RULES OF PROCEDURE.

81.—(1.) The Consul, with the approval of the Chief Justice of the Straits Settlements, may from time to time frame Rules for any purpose for which it is in this Order expressed or implied, that Rules of Procedure or practice are to be made for the execution of Judgments or orders, and for the regulation of appeals in civil and in criminal cases, and of rehearings, and generally for the purpose of making any provision proper or

necessary for the proper or effectual exercise of the jurisdiction of Courts under this Order, and may thereby impose reasonable penalties, and may provide for the enforcement of any Judgment or order by imprisonment for not exceeding one month.

(2.) Rules affecting the conduct of civil suits shall be so framed as to secure, as far as may be, that cases shall be decided on their merits according to substantial justice, without excessive regard to technicalities of pleading or procedure, and without unnecessary delay.

(3.) Rules framed under this Article shall not have effect unless and until they are approved by the Secretary of State, save that in case of urgency declared in any Rules framed by the Consul, the same shall have effect unless and until they are disapproved by the Secretary of State, and notification of such disapproval is received and published by the Consul.

(4.) Provision may, amongst other things, be made by Rules under this Article, authorising any Court to grant and enforce search warrants, and to enforce awards, and to enforce by distress or by attachment or commitment, Judgments or orders of any Court, or payment of any damages, costs, penalties, fines, or forfeitures, and for the sale of things forfeited, and for garnishee process, and for attachments of property in order to compel appearance or submission to the jurisdiction or process of any Court, and authorising any Court to compel by fine, distress, or recognizance, or in default of security by commitment, the attendance of witnesses before any Court, or before a Colonial Court to which a case is sent for trial, and to fix and enforce the fees to be taken in respect of any proceedings under this Order, not exceeding, as regards any matters provided for by the Act of 6 Geo. IV. cap. 87, fees fixed and allowed from time by any Order in Council made under that Act, and to take and transmit depositions of witnesses for use at trials in a Colony or in England, and to appoint forms of indictment or charge in criminal proceedings, and for regulating the conditions on which persons may be admitted to practice as barristers, advocates, or solicitors in proceedings in any Court, and for suspending or excluding such persons from practice in case of misconduct: Provided that the scales of all fees fixed under the provisions of this Order shall have been sanctioned by the Commissioners of Her Majesty's Treasury.

82. A copy of the Rules for the time being in force shall be exhibited conspicuously in each District Court and Consulate.

Printed copies shall be provided and sold at such reasonable price as the Consul from time to time directs.

No penalty shall be enforced in any District Court for the breach of any Rule until the Rule has been so exhibited in the Court for one month, unless the person offending is proved to have had express notice of the Rule.

A printed copy of any Rule purporting to be certified under the hand of the Consul shall be for all purposes conclusive evidence of the due framing, approval, and publication of the contents thereof.

From and after the commencement of any Rules made under this Order, all Rules and Regulations theretofore in force in the district in respect of any matter in respect whereof Rules are made under this Order shall cease to operate.

PART XI.—TREATISE AND QUEEN'S REGULATIONS.

83. If any British subject violates or fails to observe any stipulation of any Treaty made with, or by, or on behalf of Her Majesty, for the time being in force, in respect of the violation whereof any penalty is stipulated for in the Treaty, he shall be deemed guilty of an offence against the Treaty, and on conviction thereof under this Order shall be liable to a penalty not exceeding the penalty stipulated for in the Treaty.

84.—(1) The Consul may, from time to time, subject and according to the provisions of this Order, make, on behalf of Her Majesty, such Regulations as to him seem fit for the peace, order, and good government of British subjects resident in, or resorting to, Brunei.

(2.) The power aforesaid extends to the making of Regulations for securing observance of the stipulations of Treaties between Her Majesty, Her heirs and successors, and the Sultan of Brunei, and for enforcing any local law or customs, whether relating to trade, commerce, revenue, or any other matter, and for maintaining friendly relations between British subjects and native subjects and authorities, and for requiring Returns to be made of the nature, quantity, and value of articles exported from or imported into Brunei, by or on account of any British subject or in any British ship, and for prescribing the times and manner at or in which, and the persons by whom, such Returns are to be made.

(3.) The Consul may, as he thinks fit, make any Regulation under this Order extend either throughout Brunei or to some one or more only of the Consular districts in Brunei.

(4.) The Consul, in the exercise of the powers aforesaid, may, if he thinks fit, join with the Ministers or representatives of any foreign Powers in amity with Her Majesty, in making or adopting Regulations for the municipal government of any foreign Concession or Settlement in Brunei; and, as regards British subjects, joint Regulations so made shall be as valid and binding as if they related to British subjects only.

(5.) The Consul may, by any Regulation made under this Order, repeal or alter any Regulation made under any Order in Council relating to Brunei.

(6.) Regulations made under this Order shall not have effect unless and until they are approved by Her Majesty, that approval being signified through the Secretary of State, save that, in case of urgency declared in any such Regulations, the same shall take effect before that approval, and shall continue to have effect, unless and until they are disapproved by Her Majesty the Queen, that disapproval being signified through the Secretary of State, and until notification of that disapproval has been received and published by the Consul.

That approval, where given, shall be conclusive, and the validity or regularity of any Regulations so approved shall not be called in question in any legal proceeding whatever.

85. Any Regulations made under this Order may, if the Consul thinks fit, impose penalties for offences against the same.

Penalties so imposed shall not exceed the following, namely: for any offence, imprisonment for three months, with or without hard labour, and with or without a fine of £10, or a fine of £100 without imprisonment; with or without a further fine, for a continuing offence of £10 for each day during which the offence continues after the original fine is incurred.

Regulations imposing penalties shall be so framed as to allow in every case of part only of the highest penalty being inflicted.

In addition to or in lieu of penalties, such Regulation may provide for forfeiture of any goods, receptacles, or things in relation to which, or to the contents of which, any breach is committed of such Regulations, of any Treaty, or any native Law or Ordinance the observance of which is provided for by such Regulations.

86. All Regulations made under this Order, whether imposing penalties or not, shall be printed, and a printed copy thereof shall be affixed, and be at all times kept exhibited conspicuously in the public offices of each Consulate in Brunei.

Printed copies of the Regulations shall be kept on sale at such reasonable price as the Consul from time to time directs.

Where a Regulation imposes a penalty or forfeiture, the same shall not be enforceable in any Consular district until a printed copy of the Regulation has been affixed in the public office of the Consulate for that district, and has been kept exhibited conspicuously there during one month, unless the person offending is proved to have had express notice of the Regulation.

A printed copy of a Regulation purporting to be made under this Order, and to be certified under the hand of the Consul, shall be conclusive evidence of the due making of the Regulation and of its contents.

87. A charge of an offence against a Regulation made under this Order imposing a penalty or forfeiture shall be inquired of, heard, and determined as an ordinary criminal charge under this Order, except that where the Regulation is one for securing observance of the stipulations of a Treaty, the charge shall be heard and determined in a summary way, and (where the proceeding is before a District Court) without Assessors.

88. The respective powers aforesaid extend to the making of Regulations for the governance, visitation, care, and superintendence of prisons in Brunei, and for the infliction of corporal or other punishment on prisoners committing offences against the rules or discipline of a prison; but the provisions of this Order respecting penalties, and respecting the printing, affixing, exhibiting, and sale of Regulations, and the mode of trial of charges of offences against Regulations, do not apply to Regulations respecting prisons and offences of prisoners.

PART XII.—FOREIGNERS AND NATIVES.

89.—(a.) Where a foreigner desires to institute or take a suit or proceeding of a civil nature against a British subject, or a British subject desires to institute or take a suit or proceeding of a civil nature against a foreigner, a District Court may entertain the suit or proceeding, and hear and determine it (and if all parties desire, or the Court directs a trial with a jury or Assessors, then with a jury or Assessors) at a place where such a trial might be had if all parties were British subjects, and in all other respects according to the ordinary course of the Court.

(b.) Provided that the foreigner (i) first files in the Court his consent to the jurisdiction of the Court; and (ii) also, if required by the Court, obtains and files a certificate in writing from a competent authority of his own Government, to the effect that no objection is made by that Government to the foreigner submitting in the particular cause or matter to the jurisdiction of the Court; and (iii) also, if required by the Court, gives security to the satisfaction of the Court, to such reasonable amount as the Court directs, by deposit money or otherwise, to pay fees, costs, damages, and expenses, and to abide by and perform the decision to be given by the Court or on appeal.

(c.) A counter claim or cross suit cannot be brought or instituted in the Court against a plaintiff, being a foreigner who has submitted to the jurisdiction, by a defendant, except by leave of the Court first obtained.

(d.) The Court, before giving leave, shall require proof from the defendant that his claim arises out of the matter in dispute, and that there is reasonable ground for it, and that it is not made for vexation or delay.

(e.) Nothing in this Article prevents the defendant from instituting or taking in the Court against the foreigner, after the termination of the suit or proceeding in which the foreigner is plaintiff, any suit or proceeding that the defendant might have instituted or taken in the Court against the foreigner if no provision restraining counter claims or cross suits had been inserted in this Order.

(f.) Where a foreigner obtains in the Court an order against a defendant being a British subject, and in another suit that defendant is plaintiff and the foreigner is defendant, the Court may, if it thinks fit, on the application of the British subject, stay the enforcement of the order pending that other suit, and may set off any amount ordered to be paid by one party in one suit against any amount ordered to be paid by the other party in the other suit.

(g.) Where a plaintiff, being a foreigner, obtains in the Court an order against two or more defendants, being British subjects, jointly and in another suit one of them is plaintiff and the foreigner is defendant, the Court may, if it thinks fit, on the application of the British subject, stay the enforcement of the order pending that other suit, and may set off any amount ordered to be paid by one party in one suit against any amount ordered to be paid by the other party in the other suit, without prejudice to the right of the British subject to require contribution from his co-defendants under the joint liability.

(h.) Where a foreigner is co-plaintiff in a suit with a British subject who is within the particular jurisdiction, it is not necessary for the foreigner to make deposit or give security for costs unless the Court so directs; but the co-plaintiff British subject is responsible for all fees and costs.

90.—(a.) Where it is shown to a District Court that the attendance of a British subject to give evidence, or for any other purpose connected with the administration of justice, is required in a native Court, or before a judicial officer in Brunei of any State in amity with Her Majesty, the Court may, in cases and under circumstances which would require the attendance of that British subject before one of Her Majesty's Courts in Brunei, and if it seems to the Court just and expedient so to do, make an order for the attendance of the British subject in such Court or before such judicial officer, and for such purpose as aforesaid, but so that a District Court shall not have power to make an order for such attendance of a British subject at any place beyond the particular jurisdiction of the Court.

The order may be made subject to conditions as to payment or tender of expenses or otherwise.

(b.) If the person ordered to attend, having reasonable notice of the time and place at which he is required to attend, fails to attend accordingly, and does not excuse his failure to the satisfaction of the Court, or if he refuses to give evidence, or wilfully gives false evidence, or fails to produce documents which he is properly required to produce, he is, independently of any other liability, guilty of an offence against this Order, and for every such offence, on conviction thereof, by summary trial, is liable to a fine not exceeding £100, or to imprisonment for not exceeding one month, in the discretion of the Court.

91. When, pursuant to the Agreement dated the seventeenth September, one thousand eight hundred and eighty-eight, between Her Majesty and the Sultan of Brunei, a civil proceeding is brought by a native against a British subject, an officer appointed by the Government of the Sultan shall be entitled to be present at, and to take part in the proceedings, but shall have no voice in the decision.

#### PART XIII.—DEPORTATION AND REMOVAL.

92.—(1.) Where it is shown on oath to the satisfaction of a District Court that there is reasonable ground to apprehend that any British subject within the district of such Court is about to commit a breach of the public peace, or that the acts or conduct of any British subject are or is likely to produce or excite to a breach of the public peace, the Court may cause him to be brought before it and require him to give security to the satisfaction of the Court to keep the peace, or for his future good behaviour, as the case may require.

(2.) Where any British subject is convicted under this Order of any crime or offence, a District Court within the jurisdiction whereof he happens to be may require him to give security to the satisfaction of the Court for his future good behaviour.

(3.) In either of these cases, if the person required to give security fails to do so, the Court may order that he be deported from Brunei to such place as the Court directs.

(4.) The place shall be a place in some part of Her Majesty's dominions prescribed by the Secretary of State, or a place the Government whereof consents to the reception therein of persons deported under this Order. The order for deportation may, in any case with reference to which the Secretary of State by any general or special directions so directs, provide for the deportation of the person to whom it refers in the first instance to any place, as above mentioned, and also for his further deportation from that place to any other place to which he could lawfully have been deported in the first instance.

(5.) A District Court shall forthwith report to the Consul any order of deportation made by it, and the grounds thereof. The Consul may reverse the order, or may confirm it with or without variation, and in case of confirmation shall direct it to be carried into effect.

(6.) The person to be deported shall be detained in custody until a fit time and opportunity for his deportation arrives.

(7.) The Consul shall (and in the case of a person convicted, either after execution of the sentence, or while it is in course of execution), by warrant, cause the person to be taken to the place of deportation.

(8.) The Consul may order that the person to be deported do pay all or any part of the expenses of, or preliminary to, his deportation.

(9.) The Consul shall forthwith report to the Secretary of State any order of deportation made or confirmed by him, and the grounds thereof.

(10.) Where any person is deported to Singapore, he shall, on his arrival there, be delivered, with the warrant under which he is deported, into the custody of the Superintendent of Prisons of Singapore, or other officer of Her Majesty there lawfully acting as such, who, on receipt of the person deported, with the warrant, shall detain him, and shall forthwith report the case to the Governor or person administering the Government of the Straits Settlements, who shall either, by warrant if the person is a native of the United Kingdom and if the circumstances of the case appear to make it expedient, cause the person so deported to be taken to England, and in the meantime to be detained in custody (so that the period of such detention do not exceed three months), or else shall discharge him from custody.

(11.) If any person deported returns to Brunei without the permission of the Secretary of State or of the Consul, in writing under his hand, he shall be guilty of an offence against this Order, and shall be liable, on conviction thereof, to punishment (in the discretion of the Court before which he is convicted) by imprisonment for any term not exceeding one month, with or without hard labour, and with or without a fine not exceeding £40, or by a fine not exceeding £40, without imprisonment, and also to be forthwith again deported in manner hereinbefore provided.

93.—(1.) Whenever under this order any person is to be taken into custody or otherwise, for trial or imprisonment, or by way of deportation, or for any other purpose, any place in or out of Brunei, the Court or other authority by this Order authorised to cause him to be so taken may for that purpose (if necessary) cause him to be embarked on board one of Her Majesty's vessels of war, or if there is no such vessel available, then on board any British or other fit vessel, at any port or place whether within or beyond the particular jurisdiction or district of that Court or authority, and in order to such embarkment may (if necessary) cause him to be taken, in custody or otherwise, by land or by water, from any place to the port or place of embarkment.

(2.) The writ, order, or warrant of the Consul, or of a District Court in Brunei, or of the Supreme Court, or the warrant of the Governor or person administering the Government of the Straits Settlements (as the case may be), by virtue whereof any person is to be so taken, shall be sufficient authority to every constable, officer, or other person acting thereunder, and to the commander or master of any vessel of war, or other vessel (whether the constable, officer, or other person, or the vessel or the commander or master thereof, is named therein or not), to receive, detain, take, and deliver up such person, according to the writ, order, or warrant.

(3.) Where the writ, order, or warrant is executed under the immediate direction of the Court or authority issuing it, the writ, order, or warrant shall be delivered to the constable, officer, or other person acting thereunder, and a duplicate thereof shall be delivered to the commander or master of any vessel in which the person to whom the writ, order, or warrant relates is embarked.

(4.) Where the writ, order, or warrant is made or issued by the Consul, and is executed by a District Court in Brunei, and where the writ, order, or warrant issues from the Supreme Court of the Straits Settlements, and is executed by any of Her Majesty's Courts in Brunei, a copy thereof certified under the seal of the Court executing the same shall be delivered to the constable, officer, or other person acting thereunder, and to the commander or master of any vessel in which the person taken is embarked; and any such copy shall be for all purposes conclusive evidence of the order of which it purports to be a copy.

#### PART XIV.—REGISTRATION.

94.—(1.) Every British subject resident in Brunei, being of the age of twenty-one years or upwards, or being married, or a widower or widow, though under that age, shall, in the month of January, in the year one thousand eight hundred and ninety-one, and every subsequent year, register himself in a register to be kept at the Consulate of the Consular district within which he resides, subject to this qualification, that the registration of a man shall be deemed to include the registration of his wife (unless she is living apart from him), and that the registration of the head of a family, whether male or female, shall be deemed to include the registration of all females,

being relatives of the head of the family (in whatever degree of relationship), living under the same roof with the head of the family at the time of his registration.

(2.) Every British subject not so resident arriving after the commencement of this Order at any place in Brunei where a Consular officer is maintained, unless borne on the muster-roll of a British vessel there arriving, shall, within one month after his arrival, register himself in a register to be kept at the Consular office but so that no such person shall be required to register himself more than once in any year, reckoned from the first day of January.

(3.) Any person failing so to register himself, and not excusing his failure to the satisfaction of the Consular officer, shall not be entitled to be recognized or protected as a British subject in Brunei, and shall be liable to a fine not exceeding two pounds for each instance of such failure; but he shall nevertheless be subject to the jurisdiction of the Courts for all purposes.

(4.) Every person shall, on every registration of himself, pay a fee of 2s. 6d.

(5.) The Consular officers shall issue to every person so registered a certificate of registration under his hand and Consular seal; and the name of a wife (unless living apart from her husband) shall be indorsed on her husband's certificate; and the names and descriptions of females whose registration is included in that of the head of the family shall be indorsed on the certificate of the head of the family.

#### PART XV.—MORTGAGES AND BILLS OF SALE.

95.—(1.) A deed or other instrument of mortgage, legal or equitable, of lands or houses in Brunei, executed by a British subject, may be registered at any time after its execution at the District Court of the district wherein the property mortgaged is situate.

(2.) Registration is made as follows: The original and a copy of the deed or other instrument of mortgage, and an affidavit verifying the execution and place of execution thereof, and verifying the copy, are brought into the Court; and the copy and affidavit are left there.

(3.) If a deed or other instrument of mortgage is not registered at the Court within the respective time following (namely):—

(i.) Within fourteen days after its execution, where it is executed in the district wherein the property mortgaged is situate;

(ii.) Within two months after its execution, where it is executed in Brunei, elsewhere than in that district;

(iii.) Within six months after its execution, where it is executed elsewhere than in Brunei; then, and in every such case, the mortgage debt secured by the deed or other instrument, and the interest thereon, shall not have priority over judgment or simple contract debts contracted before the registration of that deed or other instrument.

(4.) Registered deeds or other instruments of mortgage, legal or equitable, of the same lands or houses, have, as among themselves, priority in order of registration.

(5.) The provisions of this order do not apply to a deed or other instrument of mortgage executed before the commencement of this Order.

96. The power given by this Order for framing Rules from time to time is hereby extended to the framing of Rules for prescribing and regulating the making and keeping of indexes, and of a general index to the register of mortgages, and searches in those indexes, and other particulars connected with the making, keeping, and using of those registers and indexes and for authorising and regulating the removal from the register of any deed or other instrument of mortgage, or the registering of any lease or satisfaction in respect thereof.

97. The provisions of this Order relating to bills of sale—

(i.) Apply only to such bills of sale executed by British subjects as are intended to affect chattels in Brunei;

(ii.) Do not apply to bills of sale given by Sheriffs or others under or in execution of process authorising seizure of chattels.

98.—(a.) Every bill of sale must conform with the following Rules (namely):—

(1.) It must state truly the name, description, and address of the grantor.

(2.) It must state truly the consideration for which it is granted.

(3.) It must have annexed thereto or written thereunder an inventory of the chattels intended to be comprised therein.

(4.) Any defeasance, condition, or declaration of trust affecting the bill not contained in the body of the bill must be written on the same paper as the bill.

(5.) The execution of the bill must be attested by a credible witness, with his address and description.

(b.) Otherwise the bill is void to the extent following, but not further (that is to say):—

(i.) In the case of failure to conform with the Rule respecting an inventory, as far as regards chattels omitted from the inventory; and

(ii.) In any other case wholly.

(c.) The inventory, and any defeasance, condition, or declaration as aforesaid, respectively, is for all purposes deemed part of the bill.

99. A bill of sale conforming, or appearing to conform, with the foregoing Rules may be registered at the Court of the district wherein the chattels are, within the respective time following, and not afterwards (namely):—

(i.) Within fourteen days after its execution, where it is executed in the district wherein the chattels are;

(ii.) Within two months after its execution, where it is executed in Brunei, elsewhere than in that district;

(iii.) Within six months after its execution, where it is executed elsewhere than in Brunei.

100.—(1.) Registration is made as follows: The original and a copy of the bill of sale, and an affidavit verifying the execution, and the time and place of execution, and the attestation thereof, and verifying the copy, are brought into the proper office of the Court; and the copy and affidavit are left there.

(2.) If a bill of sale is not registered at a place and within the time by this Order appointed and allowed for registration thereof, it is, from and after the expiration of that time, void to the extent following, but not further (that is to say):—

(i.) As against trustees or assignees of the estate of the grantor, in or under bankruptcy, liquidation, or assignment for benefit of creditors; and

(ii.) As against all Sheriffs and others seizing chattels under process of any Court, and any person on whose behalf the seizure is made; but only

(iii.) As regards the property in, or right to, the possession of such chattels comprised in the bill as, at or after the filing of the petition for bankruptcy or liquidation, or the execution of the assignment, or the seizure, are in the grantor's possession, or apparent possession.

101. Registered bills of sale affecting the same chattels have as among themselves priority in order of registration.

Chattels comprised in a registered bill of sale are not in the possession, order, or disposition of the grantor within the law of bankruptcy.

102. If in any case there is an unregistered bill of sale, and within or on the expiration of the time by this Order allowed for registration thereof, a subsequent bill of sale is granted affecting the same or some of the same chattels, for the same or part of the same debt, then the subsequent bill is to the extent to which it comprises the same chattels and is for the same debt, absolutely void, unless the Court is satisfied that the subsequent bill is granted in good faith for the purpose of correcting some material error in the prior bill and not for the purpose of unlawfully evading the operation of this Order.

The registration of a bill of sale must be renewed once at least every twelve months.

103. Renewal of registration is made as follows: An affidavit stating the date of and parties to the bill of sale, and the date of the original registration, and of the last renewal, and that the bill is still a subsisting security, is brought into the proper office of the Court of original registration, and is left there.

If the registration of a bill of sale is not so renewed in any period of five years, then on and from the expiration of that period the bill cannot be again registered.

104. A transfer or assignment of a registered bill of sale need not be registered; and renewal of registration is not necessary by reason only of such a transfer or assignment.

105.—(1.) Where the time for registration or renewal of registration of a bill of sale expires on a Sunday, or other day on which the office for registration is closed, the registration or renewal is valid if made on the first subsequent day on which the office is open.

(2.) If in any case the Court is satisfied that failure to register or to renew the registration of a bill of sale in due time, or any omission or misstatement connected with registration or renewal, was accidental or inadvertent, the Court may, if it thinks fit, order the failure, omission, or misstatement to be rectified in such manner and on such terms, if any, respecting security, notice by advertisement, or otherwise, or any other matter, as the Court thinks fit.

(3.) The provisions of this Order do not apply to a bill of sale executed before the commencement of this Order.

106. The power conferred by this Order for framing Rules from time to time is hereby extended to the framing of Rules for prescribing and regulating the making and keeping of indexes, and of a general index, to the registers of bills of sale, and searches in those indexes, and other particulars connected with the making, keeping, and using of those registers and indexes, and for authorising and regulating the removal from the register of any bill of sale, or the registering of any release or satisfaction in respect thereof.

#### PART XVI.—PARTNERS.

107.—(1.) Persons claiming or being liable as partners may sue or be sued in the firm name, if any.

(2.) Where partners sue in the firm name, they must, on demand in writing on behalf of any defendant, forthwith declare the names and addresses of the partners.

(3.) Otherwise, all proceedings in the suit may, on application, be stayed on such terms as the Court thinks fit.

(4.) When the names of the partners are so declared, the suit proceeds in the same manner, and the same consequences in all respects follow as if they had been named as the plaintiffs in the Petition.

(5.) All subsequent proceedings, nevertheless, continue in the firm name.

(6.) Where partners are sued in the firm name, the Petition must be served either on one or more of the partners within the jurisdiction, or at the principal place of the partnership business within the jurisdiction, on some person having then and there control or management of the partnership business.

(7.) Where one person, carrying on business in the name of a firm apparently representing more persons than one, is sued in the firm name, the Petition may be served at the principal place of the business within the jurisdiction on some person having then and there control or management of the business.

(8.) Where partners are sued in the firm name they must appear individually in their own names.

(9.) All subsequent proceedings, nevertheless, continue in the firm name.

(10.) Where a person, carrying on business in the name of a firm apparently representing more persons than one, is sued in the firm name, he must appear in his own name.

(11.) All subsequent proceedings, nevertheless, continue in the firm name.

(12.) In any case not hereinbefore provided for, where persons claiming or being liable as partners sue or are sued in the firm name, any party to the suit may, on application to the Court, obtain a statement of the names of the persons who are partners in the firm, to be furnished and verified on oath or otherwise, as the Court thinks fit.

(13.) Where a Judgment is against partners in the firm name, execution may issue—

(i.) Against any property of the partners as such; and

(ii.) Against any person who has admitted in the suit that he is a partner, or who has been adjudged to be a partner; and

(iii.) Against any person who has been served in the suit as a partner, and has failed to appear.

(14.) If the party who has obtained Judgment claims to be entitled to issue execution against any other person, as being a partner, he may apply to the Court for leave so to do; and the Court, if the liability is not disputed, may give such leave, or if it is disputed may order that the question of the liability be tried and determined as a question in the suit, in such manner as the Court thinks fit.

(15.) The provisions of Part XVI may be from time to time varied by Rules made under this Order.

#### PART XVII.—OFFICIAL.

108. Notwithstanding anything in this Order a District Court shall not exercise any jurisdiction in any proceeding whatsoever over the Consul, or his official or other residences, or his official or other property.

109. Except as in this Order expressly provided nothing in this Order shall preclude any of Her Majesty's Consular officers from performing any act, not of a judicial character, which Her Majesty's Consular officers might by law, or by virtue of usage or sufferance, or otherwise, have performed if this Order had not been made.

110. Whenever an Acting Consular officer has commenced the hearing of any cause or matter, civil or criminal, he may, unless the Consul otherwise directs, continue and complete the hearing and determination thereof, notwithstanding that his authority to act as such Consular officer has otherwise ceased by reason of the expiration of the time for which he was appointed to act, or by reason of the happening of any event by which his authority is determined.

111. Any suit or proceeding shall not be commenced in any Court in Brunei or the Straits Settlements against any person for anything done, or purporting to be done, or anything omitted in pursuance, or execution or intended execution of this Order, or of any Regulation or Rule made under it, unless notice in writing is given by the intended plaintiff or prosecutor to the intended defendant one clear month before the commencement of the suit or proceeding, nor unless it is commenced within three months next after the act or omission complained of, or in case of a continuation of damage within three months next after the doing of such damage has ceased.

The plaintiff in any such suit shall not succeed if tender of sufficient amends is made by the defendant before the commencement thereof; and if no tender is made the defendant may, by leave of the Court, at any time pay into Court such sum of money as he thinks fit, whereupon such proceedings and order shall be had and made in and by the Court as may be had and made on the payment of money into Court in an ordinary suit.

#### PART XVIII.—FEES AND EXPENSES.

112. All fees, fines, forfeitures, confiscations, and pecuniary penalties, and all commissions, levied or received under this Order, shall be accounted for, paid, and applied as the Secretary of State, with the concurrence of the Commissioners of Her Majesty's Treasury, from time to time directs.

113. Subject to the other provisions of this Order, all expenses of removal of prisoners and others, and the expenses of deportation and of the sending of any person to England, or to the Straits Settlements, or India, or British Burmah, including expenses of maintenance, shall be defrayed in such manner as the Secretary of State, with the concurrence of the Commissioners of Her Majesty's Treasury, from time to time directs.

#### PART XIX.—SUPPLEMENTAL.

114. Where by virtue of any Imperial Act or of this Order, or otherwise, any provisions of any Imperial Acts, or of any Law or of any Orders in Council other than this Order are applicable in Brunei, or any Form, Regulation, or Procedure prescribed or established by or under any such Act or Law or Order, are made applicable for any purpose of this Order, such Act, Law, Order, Form, Regulation, or Procedure shall be deemed applicable, so far only as the constitution and jurisdiction of the Courts and the local circumstances permit; and for the purpose of facilitating application, may be construed or used with such alterations and adaptations as may be necessary, and anything required to be done by or to any Court, Judge, officer, or authority may be done by or to a Court, Judge, officer, or authority having the like or analogous functions, or by any officer designated by the Secretary of State or by the Court (as the case may require) for that purpose; and the seal of the Court may be substituted for any other seal; and in case any difficulty occurs in the application, it shall be lawful for the Secretary of State to direct by and to whom and in what manner anything is to be done, and such Act, Law, Order, Form, Regulation, or Procedure shall be construed accordingly.

115. Sums of money, fines, forfeitures, penalties, or fees payable under this Order, shall be calculated and paid in English money, or, with the consent of the Court, in its equivalent in local currency or produce, or bills of exchange approved by the Court.

#### PART XX.—TEMPORARY PROVISIONS.

116. This Order shall commence and have effect as follows:—

(1.) As to the making of any warrant or appointment under this Order immediately from and after the date of this Order.

(2.) As to the framing of Rules of Procedure or Regulations, and the approval thereof by the Secretary of State, immediately from and after the date of this Order.

(3.) As to all other matters and provisions comprised and contained in this Order, immediately from and after the expiration of one month after this Order is first exhibited in the public office of the Consul; for which purpose he is hereby required forthwith, on receipt by him of a copy of this Order, to affix and exhibit the same conspicuously in his public office, and he is also hereby required to keep the same so affixed and exhibited during one month from the first exhibition thereof; and notice of the time of such first exhibition shall, as soon thereafter as practicable, be published in every Consular district in Brunei, in such manner as the Consul directs; and, notwithstanding anything in this Order, the time of the expiration of the said month shall be deemed to be the time of the commencement of this Order.

(4.) Proof shall not in any proceeding or matter be required that the provisions of this Article have been complied with, nor shall any act or proceeding be invalidated by any failure to comply with any of such provisions.

117. A copy of this Order shall be kept exhibited conspicuously in each Court and Consulate in Brunei.

Printed copies shall be provided and sold at such reasonable price as the Consul directs.

And the Most Honourable the Marquess of Salisbury, the Right Honourable Lord Knutsford, and the Right Honourable Viscount Cross, three of Her Majesty's Principal Secretaries of State, and the Lords Commissioners of the Admiralty, are to give the necessary directions herein as to them may respectively appertain,

C. L. PEEL.

1891.

NEW SOUTH WALES.

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**RULES OF THE SUPREME COURT.**

(IN DIVORCE AND MATRIMONIAL CAUSES JURISDICTION.)

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 Presented to Parliament, pursuant to Act 36 Vic. No. 9, sec. 48.
 

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In the Supreme Court of New South Wales.

DIVORCE AND MATRIMONIAL CAUSES JURISDICTION.

*Tuesday, the thirty-first day of March, A.D. 1891.*

1. I, WILLIAM CHARLES WINDEYER, being the Judge duly appointed under the Divorce and Matrimonial Causes Act of 1873, do hereby, in pursuance of the several powers vested in me by the said Act, order and direct that in all cases of appeal to the Full Court for a new trial under the provisions of the above-mentioned Act, the moving party, unless the Judge appointed under the said Act otherwise order or allow further time, shall, within fourteen days after the filing of the notice of appeal, file with the Registrar in Divorce four printed copies of the issues and evidence other than the exhibits, and shall within the like time also serve a like number of such printed copies on each opposing party or upon each solicitor on the record.

2. All documents of which printed copies are, by the preceding rule ordered to be printed, shall be printed upon cream-wove white foolscap folio paper in pica type, leaded, with an inner margin an inch wide, and an outer margin two inches and a half wide.

W. C. WINDEYER, J.

In the Supreme Court of New South Wales.

DIVORCE AND MATRIMONIAL CAUSES JURISDICTION.

*The twenty-sixth day of March, in the year of our Lord one thousand eight hundred and ninety-one.*

I, WILLIAM CHARLES WINDEYER, being the Judge duly appointed under the Divorce and Matrimonial Causes Act of 1873, do hereby, in pursuance of the several powers vested in me by the said Act, order that from and after the date hereof all decrees absolute be engrossed on parchment in duplicate, and that one of such decrees be filed in the Registrar's Office as of record.

WILLIAM C. WINDEYER, J.



1891.

NEW SOUTH WALES.

# RULES OF THE SUPREME COURT.

(IN BANKRUPTCY.)

Presented to Parliament, pursuant to Act 51 Vic. No. 19, sec. 119.

In the Supreme Court of New South Wales.

IN BANKRUPTCY.

GENERAL RULES MADE PURSUANT TO SECTION 119 OF THE "BANKRUPTCY ACT."

Wednesday, the 25th day of March, 1891.

It is ordered that these Rules come into force on the 1st day of April, 1891.

*Proof of Debt.*

1. The Registrar may refer any proof of debt to the Official Assignee, who shall inquire into the matter and state in writing either that he has no objections to the proof, or, if he has objections, his objections specifically. He shall also state what vouchers, if any, should in his opinion be produced. The Official Assignee shall cause a copy of his objections to be served on the alleged creditor, and the Registrar may then appoint a time for the hearing of the proof before him when the Official Assignee and any proved creditor shall have audience. At the hearing the Registrar may examine such persons and receive such evidence as he may think fit.

*Appeal from the Registrar.*

2. Whenever any person affected by any order or decision of the Registrar desires to appeal therefrom, he shall within fourteen days after the making or pronouncing thereof file in the office a notice of such appeal, signed by the party appealing or his solicitor; which notice, after specifying the order or decision in substance, shall state shortly the particular matter complained of therein, and the grounds of such complaint. No evidence shall be used on the hearing of an appeal other than such as was used before the Registrar, except with the special leave of the Judge. Whenever any question shall arise as to what evidence was used before the Registrar it shall be determined exclusively by his certificate.

*Rehearing.*

3. If it shall appear to the Judge that any material evidence can be offered by the person appealing, which could not have been tendered on the original hearing, then the Judge may on such terms as he may deem reasonable, direct a rehearing before the Registrar.

*Time for filing Affidavits.*

4. All affidavits to be used on the hearing of any application in which the time for filing affidavits is not already fixed by rule of Court shall be filed on or before the day previous to such hearing.

*Certificate of discharge—Notice of Opposition.*

5. Any creditor intending to oppose the granting of a bankrupt's certificate of discharge shall file in the office a notice in writing of his intention to do so two days before the hearing of the bankrupt's application, which notice shall state specifically the grounds of the intended opposition with reasonable certainty as to the particular transaction or matter referred to: Provided any such specification may be amended at any time by leave of the Judge or Registrar on such terms as he shall think fit.

*Report of Official Assignee.*

6. The Official Assignee in every report on a certificate application shall state either that the bankrupt did keep proper books in the business or occupation carried on by him and the name and character of such books, or if he did not keep proper books shall specify the books which in his opinion should have been kept by the bankrupt, and shall state clearly the names and character of those which the bankrupt has omitted to keep.

*Supplementary statement of Bankrupts affairs.*

7. The bankrupt shall if required by the Official Assignee within ten days after being so required by (or within such extended time as the Judge or Registrar may allow) make out and file in the office a verified statement containing the following particulars for the period of six months preceding the sequestration (or if the Judge or Registrar shall so order for any longer period), that is to say: First, an account of all sums received by the bankrupt or any one for his use, and when in particular and from whom and for what purpose and consideration; and an account of all sums paid by him or by his order, and when in particular and to whom and for what purpose and consideration. Secondly, an account of all property of any kind parted with by the bankrupt, and when in particular, and how and to whom and for what consideration.

8. The Official Assignee shall give a receipt for all books lodged with him by the bankrupt specifying the same; such receipt shall be in duplicate, and such duplicate shall be signed by the bankrupt as correct and then lodged in the office by the Official Assignee.

9. The accounts required by rule 136 shall be filed by the bankrupt in the Bankruptcy Office.

FREDK. M. DARLEY, C.J.  
W. C. WINDEYER, J.  
J. GEO. LONG INNES, J.  
M. H. STEPHEN, J.  
WM. OWEN, J.  
W. J. FOSTER, J.  
C. J. MANNING, J.

1891.

## NEW SOUTH WALES.

# RULES OF THE SUPREME COURT.

(IN EQUITY.)

Presented to Parliament, pursuant to Act 44 Vic. No. 18, sec. 81.

In the Supreme Court of  
New South Wales. }  
In Equity.

## REGULÆ GENERALES.

THURSDAY, THE 7TH MAY, 1891.

In pursuance of the several powers vested in us in that behalf, We do order and direct in manner following:—

### PRELIMINARY.

I. From and after the 25th day of May, 1891, all the Rules and Orders which have been heretofore made and established in the Equity jurisdiction of this Court shall be rescinded; and in lieu thereof the following shall constitute the Standing Rules of the Court in its Equitable jurisdiction, except that this rescinding shall not extend to or affect any General Rules and Orders now in force, where embodied in General Rules and Orders distributively or collectively applicable to the general administration and business of the several jurisdictions of the Supreme Court, nor any of the following Rules and Orders:—

The General Rules of Court of 1st March, 1856, as to the officers and offices of the Court, or any General Rules as to proceedings in vacation.

II. Notwithstanding anything herein expressed, the rescinding hereinbefore made shall not affect any practice of the Court in its Equitable jurisdiction, or any practice or usage of, in, or connected with, the offices of the said Court, or the officers thereof, which originated in or was sanctioned by any of the Rules and Orders hereby rescinded, or by prior usage of the Court, except so far as the same may be inconsistent with anything hereinafter contained.

III. Where any of the Rules and Orders hereby rescinded were intended to abolish any writ, practice, matter, or thing, such rescinding shall not have the effect of reviving the same.

IV. Every Rule or part of a Rule herein contained, which is a repetition, without variation, of a Rule or Order, or part of a Rule or Order, hereby rescinded, shall have the same construction as was put on such rescinded Rule or Order, or part of a Rule or Order, and shall operate not as a new Rule, but in the same manner as such rescinded Rule or Order, or part of a Rule or Order, would have operated if these Rules had not been made.

V. Every Rule or part of a Rule herein contained, which is a repetition, with variation, of a Rule or Order or part of a Rule or Order hereby rescinded, shall receive the same construction as was put on such rescinded Rule or Order, or part of a Rule or Order, and shall operate, not as a new Rule, but in the same manner as such rescinded Rule or Order, or part of a Rule or Order, would have operated if these Rules had not been made, except so far as such variation indicates a contrary intention.

VI. Where there is no established practice or usage of the Court, as hereinbefore mentioned, and where none of the Rules now made shall be applicable, then the practice of the Supreme Court of Judicature in England, exercising its equity jurisdiction, shall be followed so far as applicable.

VII. In these Rules the following words have the several meanings hereby assigned to them, unless there be something in the subject or context repugnant to such construction, viz.:—

- (1.) Words importing the singular number include the plural number, and words importing the plural include the singular number.
- (2.) Words importing the masculine gender include females.
- (3.) The word "person" or "party" includes a body politic or corporate.
- (4.) The word "statement of claim" include information.
- (5.) The word "plaintiff" includes informant.
- (6.) The word "affidavit" or "oath" includes affirmation, statutory declaration, and the promise in lieu of oath under the Act 40 Vic., No. 8; and the word "sworn" includes affirmed, declared, and promised.

(7.)

- (7.) The word "receiver" includes consignee and manager.
- (8.) The words "the Court" mean the Primary Judge in Equity, or any Judge sitting in Equity, in Court, or in chambers, unless the subject be a matter before the Court of Appeal.
- (9.) The words "the present practice of the Court" mean the practice of this Court at the time of the coming into force of these Rules.
- (10.) The title "Deputy Registrar" includes that of "Assistant Taxing Officer."
- (11.) The word "Master" means the "Master in Equity."

#### PROCEEDINGS GENERALLY.

1. All proceedings shall be commenced and continued in the Equity Office, and each suit or matter shall be there kept in a distinct and separate form, entitled  
 "In the Supreme Court  
 of New South Wales.  
 In Equity."

2. A book shall be kept in the Equity Office, to be called the Suit Book, which shall contain a chronological entry of every proceeding in every suit or matter.

3. All pleadings and proceedings shall be written in a clear legible hand, or in type, and the same shall not be received unless so written.

4. All statements of claim, statements of defence, and subsequent pleadings, interrogatories, answers, and exceptions, and copies thereof respectively, and all petitions, reports, decrees, and decretal and other orders, shall be on foolscap paper, written briefwise, on one side only, with a quarter margin, and having not less than five folios nor more than seven folios of seventy-two words on each page, and divided into convenient paragraphs, with the numbers of the paragraphs severally written on the inner edge of the margin.

5. All affidavits and all examinations, cross-examinations, and re-examinations on references shall be on foolscap paper, in the form now ordinarily used, divided into convenient paragraphs, with a quarter margin, but written on one side only of the paper, and folded lengthwise, with the name of each deponent or examinant indorsed thereon. And there shall not be less than three folios nor more than four folios of seventy-two words on each page.

6. All orders, except Chamber Orders, and all decrees shall be signed and passed by the Master, and then sealed with the seal of the Court and entered in the entry-book.

7. All Chamber Orders shall be entered in the same manner and in the same office as orders made in open Court are entered. Save as aforesaid, the practice as to orders made in Chambers shall be the same as at Common Law.

8. All writs shall be sealed with the office seal of the Court or Master, and tested in the name of the Primary Judge in Equity.

9. Every summons, writ, and ordinary certificate shall be signed by the Master, Deputy Registrar, or the Chief Clerk.

10. Certificates by the Master, Deputy Registrar, or Chief Clerk of the filing of any pleading or documents shall not be required when such pleading or document is produced in Court.

11. All statements of defence, sworn pleas, and answers to interrogatories shall be taken before the Master, Deputy Registrar, or Chief Clerk and filed forthwith: Provided that statements of defence, sworn pleas, and answers of any party residing more than five miles from the Equity Office may be taken before a Commissioner of Affidavits or a Justice of the Peace, and the same shall be immediately sealed up and endorsed by such Commissioner or Justice of the Peace as aforesaid, as the case may be, with his signature, and transmitted to the Equity Office with the least possible delay, and filed on receipt thereof; and the signature of the party swearing the same shall be affixed or acknowledged by such party in the presence of the person before whom the same are sworn.

12. The practice respecting erasures or interlineations in affidavits shall extend and apply to statements of defence, answers, and pleas.

13. On the filing of any statement of defence, or any subsequent pleading, plea, demurrer, interrogatory, or answer, an attested copy thereof shall be forthwith served on the opposite party.

#### ABATEMENT AND COMPROMISE.

14. Where any suit becomes abated, or is compromised after the same is set down to be heard, the solicitor for either party shall certify the fact to the Master, and thereupon an entry thereof shall be made in the Suit Book opposite to the title of such suit.

15. Where any suit shall have been standing for one year in the Suit Book marked as "abated," or "compromised," or shall have been standing over generally, such suit shall at the expiration of the year be struck out of the Suit Book.

#### AFFIDAVITS.

16. Any solicitor or person filing an affidavit not in accordance with the form prescribed in the General Rules of the Supreme Court applicable to affidavits, shall not be allowed the costs of preparing or filing such affidavit in any taxation of costs.

17. All affidavits shall state distinctly what facts or circumstances deposed to are within the deponent's own knowledge; and, where any fact or circumstance is stated upon information derived from other sources than his own knowledge, he shall distinctly state what such sources are.

18. The costs of affidavits not in conformity with the preceding Rule shall be disallowed on taxation, unless the Court shall otherwise direct.

19. Before any affidavit is used in Court or before the Master, such affidavit shall be first filed in the Equity Office; and no order grounded upon an affidavit shall be drawn up, unless such affidavit be first so filed: Provided that no copy need hereafter be served for the purpose of any motion or petition, or of any proceeding in the Equity Office, and that every affidavit so filed may be read without any office copy having been taken.

#### ATTACHMENT.

## ATTACHMENT.

20. The Sheriff shall bring to the bar of the Court every person arrested upon any writ of attachment on the first day on which the Court shall sit in Equity next after such arrest, or as soon afterwards as practicable: Provided that the Sheriff may take bail for the appearance of the person arrested

21. If the person arrested be not so brought before the Court, or if, being so brought, no motion be made for his committal, he shall be discharged out of custody by the Sheriff, without payment by him of the costs of his contempt, which in such case shall be paid by the party obtaining the attachment. But, in case of continued disobedience of the rule, decree, or order of the Court for a period of eight days after such discharge, the Court may order a fresh attachment to issue.

22. Where a party is in prison under an attachment, or being already in prison is detained under an attachment, and is not brought to the bar of the Court within thirty days from the time of his being actually in custody or detained under such attachment, he shall be discharged in respect of such attachment by the Sheriff, or keeper of the gaol in whose custody he is, without payment of the costs of his contempt, which in such case shall be paid by the party obtaining the attachment. But, in case of continued disobedience of the rule, decree, or order of the Court for a period of eight days after such discharge, the Court may order a fresh attachment to issue.

## DEPUTY REGISTRAR AND CHIEF CLERK.

23. The Deputy Registrar or Chief Clerk may sign for the Master any process issuing out of this Court which now requires the signature of the Master.

24. The Deputy Registrar, when directed by the Court or Master, may discharge the duties of Registrar and the duties of Taxing Officer, and he may take accounts and prosecute inquiries as directed by the Court or Master, and for the purposes aforesaid shall have all the powers hereby given to the Master.

25. Certificates of taxation and of funds in Court may, in the absence of the Master, be signed by the Deputy Registrar.

## ELECTION OF JURISDICTION.

26. In all cases in which it is alleged that the plaintiff is prosecuting the defendant in this Court and also at Law for the same matter, the defendant may at any time after appearance, or in case the plaintiff shall have filed interrogatories seven days after filing a sufficient answer thereto, apply to the Court as of course in chambers, for an order that the plaintiff make his election in which Court he will proceed, with the usual directions in that behalf.

## INTERLOCUTORY APPLICATIONS.

27. Interlocutory applications in a suit may be made by motion or petition and supported by affidavit or otherwise, according to the present practice of the Court, save only that applications for orders of course may be by summons in Chambers, and that a petition shall be used in applications for special orders where so provided by Act of Parliament, or where, from the circumstances of the case or the position of the parties sought to be affected by the order applied for, the notice of motion would not sufficiently convey information of the facts and circumstances upon which the application is based.

28. Any party to a suit may at any stage thereof apply by motion on notice to the Court for such order as he may, upon any admission of fact in the pleading, or under the 108th of these Rules, be entitled to, without waiting for the determination of any other question between the parties (provided that where the execution of a document is admitted, such document may be put in evidence), and the Court may, on such application, give such relief, subject to such terms, if any, as the Court may think fit.

29. Every petition shall, upon being presented and before any copy thereof is served upon any person intended to be served therewith, be filed in the Equity Office, and every person intended to be served with a copy of such petition shall be served with a written copy thereof according to the practice in reference to the service of statements of claim, together with an indorsement thereon, in the form or to the effect set out in Schedule J to these Rules, with such variations as circumstances may require, stamped with the proper stamp by one of the clerks of the Equity Office.

## MOTIONS AND PETITIONS.

30. Every notice of motion shall express the day on which it is intended to be made.

31. All petitions shall be addressed to the Primary Judge in Equity; and the Master, Deputy Registrar, or Chief Clerk shall endorse thereon the usual directions.

32. At the foot of every petition preferred to the Court, and of every copy thereof, a statement shall be made of the persons (if any) intended to be served therewith; and, if no person is intended to be served with such petition, a statement to that effect shall be made at the foot of the petition, and of every copy thereof.

33. Unless the Court gives special leave to the contrary, there must be at least two clear days between the service of a notice of motion or petition and the day appointed for hearing the notice of motion or petition; and in the computation of such two clear days Sundays and Holidays shall not be reckoned.

## NE EXECAT.

34. In all cases where the Supreme Court of Judicature in England would grant or direct a writ of *Ne execat Regno* to issue, a writ of *Ne execat Colonia* may be directed to issue under the seal of this Court, and tested in the name of the Primary Judge in Equity, and signed by the Master, Deputy Registrar, or Chief Clerk; and such writ shall have the same effect in this Colony, and shall be applied for and served in the like manner, and under the same circumstances, and subject to the same rules of practice, as the writ of *Ne execat Regno* in England.

## NOTICE TO ADMIT.

35. Notice to admit documents under section 43 of the "Equity Act of 1880" may be in the form set forth in Schedule C to these Rules.

SHERIFF.

## SHERIFF.

36. All duties formerly discharged in the High Court of Chancery in England in respect of process issued out of that Court or otherwise by a Sergeant-at-Arms shall be discharged in respect of process issued out of this Court by the Sheriff; and all such process shall be directed to the Sheriff.

## SERVICE.

37. In every case where a party shall institute or defend any suit or proceeding, or appear in any matter, by a solicitor, service by or upon such solicitor shall (except for the purpose of bringing the party into contempt) be equivalent to service by or upon the party himself.

38. Where any party shall proceed or appear in person, he shall, except in the case of statements of claim and appearance thereto, hereinafter provided for, leave a memorandum in writing in the Equity Office, at the time of his taking the first step in the matter, setting forth his full name and address; and also if his address shall be at some place more than one mile from the Equity Office another proper place to be called his address for service which shall not be more than one mile from the said Equity Office; and service at the address for service set forth in the said memorandum shall be good service on him.

## SOLICITOR.

39. A solicitor shall not (except by leave of the Court) act in any suit or matter for more than one party, unless the parties represented by him are in the same interest; and all the members of a firm may, for the purposes of this rule, be deemed one person.

40. Where upon the hearing of any suit or matter it appears that the same cannot conveniently proceed by reason of the solicitor for any party having neglected to attend personally or by some proper person on his behalf, or having omitted to procure the production of or to deliver any necessary document or paper which ought to have been produced or delivered, such solicitor shall personally pay to all or any of the parties such costs (if any) as the Court shall think fit to award.

## SUBPÆNAS.

41. Where it is intended to sue out a *subpœna*, a *prœcipe* for that purpose in the usual form, and containing the name or firm and the place of business or residence of the solicitor intending to sue out the same, and, where such solicitor is an agent only, then also the name or firm and place of business or residence of the principal shall in all cases be filed in the Equity Office.

42. Writs of *subpœna* shall be in the forms used at Common Law, with such alterations and variations as circumstances may require.

43. No more than four persons shall be included in one *subpœna*: Provided that the party suing out the same shall be at liberty to sue out a *subpœna* for each person, if it shall be requisite.

44. In the interval between suing out and service of any *subpœna*, the party suing out the same may correct any error in the names of parties or witnesses, and may have the writ resealed upon leaving a corrected *prœcipe* of such *subpœna* marked with the words "altered and resealed," and signed with the name and address of the solicitor suing out the same.

45. The service of *subpœnas* shall be effected by delivering a copy of the writ, and at the same time producing the original writ.

46. Affidavits filed for the purpose of proving the service of a *subpœna* must state where, when, and how such *subpœna* was served, and by whom such service was effected.

47. The service of any *subpœna* shall be of no validity if not made within twelve weeks after the teste of the writ.

## PARTIES.

## I.—PERSONS UNDER DISABILITY. II.—PAUPERS.

## I.—PERSONS UNDER DISABILITY.

48. Married women and infants may respectively sue as plaintiffs by their next friends, according to the present practice of this Court, and infants may, in like manner, defend any suit by their guardians appointed for that purpose. Married women may also, by the leave of the Court, sue or defend without their husbands and without a next friend, on giving such security (if any) for costs as the Court may require.

49. Any person who shall for the time being be of unsound mind, and whether or not so found by inquisition or declared under the Lunacy Act of 1878, may sue as plaintiff in any suit by his committee or guardian, if any such shall have been appointed, or if not, by his next friend; and may, in like manner, defend any suit by his committee or guardian appointed under the said Act, or by his guardian *ad litem*.

50. Where any person required to be served with notice of a decree or order pursuant to the 6th Rule of sec. 7 of the Equity Act of 1880 is an infant or a person of unsound mind not so found by inquisition or declared under the Lunacy Act of 1878, the notice shall be served upon such person or persons and in such manner as the Court or Master may direct.

51. Guardians *ad litem* appointed for infants, or for persons of unsound mind not so found by inquisition or declared under the Lunacy Act of 1878, who shall be served with notice of any decree or order, shall be appointed in like manner as guardians *ad litem* to defend are appointed in suits.

52. At any time during the proceedings in any suit or matter, the Court may require a guardian *ad litem* to be appointed for any infant, or person of unsound mind not so found by inquisition or declared under the Lunacy Act of 1878, who has been served with notice of such decree or order, or who shall be required to be served with notice in any suit or matter; and the Master shall have like power under references to him.

## II.—PAUPERS.

53. Any person may be admitted to prosecute or defend a suit *in forma pauperis* according to the present practice of the Court, provided that he obtain a certificate of counsel to the effect that the case is proper for relief in this Court.

54. After a person has been admitted to sue or defend *in forma pauperis*, no fee, profit, or reward shall be taken of him by any counsel or solicitor for the despatch of his business during the time it shall depend in Court and he shall continue a pauper; nor shall any agreement be made for any recompense or reward afterwards; and any person offending herein shall be deemed guilty of a contempt of Court; and the pauper who shall give any such fee or reward, or make any such agreement, shall be thenceforth dispaupered.

55. The counsel or solicitor assigned by the Court to assist a pauper may not refuse to do so, unless such counsel or solicitor satisfy the Court with some good reason for his unwillingness to be so assigned or to continue to act under the assignment.

56. No process of contempt shall be issued at the instance of a pauper until signed by his solicitor in the suit; and no notice of motion served or petition presented on behalf of a pauper (except for the discharge of his solicitor) shall be of any effect, nor shall any person served with such notice or petition be bound to appear thereon, unless such notice or petition be signed by the solicitor of the pauper; and such solicitor shall take care that no such process be taken out, and that no such notice or petition be served, needlessly or for vexation, but upon just and good grounds.

#### PLEADINGS GENERALLY.

57. Statements of claim, statements of defence, and all subsequent pleadings, demurrers, and pleas shall, except by leave of the Court, be signed by counsel.

58. All pleadings in a suit shall be as brief as the nature of the case will admit, and shall not contain any scandalous or irrelevant matter. Deeds, writings, or records shall not be unnecessarily set out *verbatim*, but only so much of them or the substance and effect thereof as may be pertinent; and in adjusting the costs of the suit the Court or Master may inquire, at the instance of any party thereto, into any unnecessary prolixity, and may order the costs thereby occasioned to be borne by the party chargeable with the same.

59. No pleading shall be of record or be used in Court until the same has been filed in the Equity Office.

#### PROCEEDINGS IN SUIT BEFORE DEFENCE.

I.—STATEMENTS OF CLAIM. II.—INDORSEMENT ON STATEMENT OF CLAIM. III.—SERVICE OF STATEMENT OF CLAIM. IV.—APPEARANCE. V.—DEFENDANTS SUBMITTING OR ADMITTING. VI.—NOTICE OF PROCEEDINGS, WHEN UNNECESSARY. VII.—DEFAULT OF APPEARANCE. VIII.—SECURITY FOR COSTS.

##### I.—STATEMENTS OF CLAIM.

60. Statements of claim shall be in the form set out in Schedule A to these Rules, with such variations as the nature and circumstances of each case may require.

61. Any person or persons trading under the name of a firm may be sued in the name of a firm, and any party to a suit may in such case apply by summons to the Court for a statement of the person or persons who are trading under the name of such firm, to be furnished in such manner and verified on oath or otherwise as the Court may direct.

##### II.—INDORSEMENT ON STATEMENT OF CLAIM.

62. The indorsement on a statement of claim shall be varied from the form set out in the Schedule of the Equity Act of 1880, and shall be as follows—

VICTORIA R.

To the within-named defendant A.B. [*or where there is more than one defendant, defendants A.B. and C.D.*] greeting: We command you [*and every of you where there is more than one defendant*] that within \_\_\_\_\_ days after the service hereof on you, exclusive of the day of such service, you cause an appearance to be entered for you in the Equity Office of our Supreme Court to the within statement of claim. And that you do, at the same time of entering your appearance, file in the Equity Office a memorandum stating in effect that you dispute or admit in whole or in part the plaintiff's claim, or submit to such decree or order as the Court may think fit to make, or disclaim all right, title, or interest in the subject matter of the within statement of claim. And if you admit the plaintiff's claim, you may, on the Tuesday following the eighth day after such appearance, or so soon after as you can be heard, attend either personally or by counsel or solicitor before the Judge sitting in Chambers at Chancery-square, in the City of Sydney, at ten of the clock in the forenoon, and submit to such decree as is within prayed or shall be just.

Witness the Honourable A.B., the Primary Judge in Equity, at Sydney, the \_\_\_\_\_ day of \_\_\_\_\_, in the year of our Lord one thousand eight hundred and ninety-\_\_\_\_\_, and in the \_\_\_\_\_ year of our reign.

NOTE.—Appearances are to be entered in the Equity Office of the Supreme Court, at Chancery-square aforesaid, and if you neglect to enter your appearance, or to file a memorandum as above mentioned, or personally, or by counsel or solicitor to attend at the place and time above mentioned, you will be subject to such order as the Court may think fit to make in your absence.

63. The solicitor of a plaintiff suing by a solicitor shall indorse upon every statement of claim the address of the plaintiff, and also his own name or firm and place of business, and also, if his place of business shall be more than one mile from the Equity Office, another proper place to be called his address for service, which shall not be more than one mile from the Equity Office, where writs, notices, petitions, orders, summonses, warrants, and other documents, proceedings, and written communications may be left for him. And when any such solicitor is only agent of another solicitor, he shall add to his own name or firm and place of business, the name or firm and place of business of the principal solicitor.

64. A plaintiff suing in person shall indorse upon every statement of claim, his place of residence and occupation, and also, if his place of business shall be more than one mile from the Equity Office, another proper place to be called his address for service, which shall not be more than one mile from the Equity Office, where writs, notices, petitions, orders, summons, warrants, and other documents, proceedings, and written communications may be left for him.

III.

## III.—SERVICE OF STATEMENT OF CLAIM.

65. Service of a statement of claim shall be effected by serving a copy personally, or by leaving the same with a servant of the defendant, or some member of his family, at his dwelling-house or usual or last known place of abode. But such service shall not be required when the defendant by his solicitor agrees to accept service: And if it be made to appear to the Court that from the defendant being absent from the Colony, or from any other cause, the plaintiff is unable to effect prompt service as hereinbefore directed, the Court may make such order for substituted or other service, or for the substitution of notice for service, as may be just.

## IV.—APPEARANCE.

66. When a defendant within the jurisdiction of the Court is duly served with a statement of claim, he shall, if he reside within 100 miles from Sydney, appear thereto within eight days; and, if he reside above 100 miles and less than 200 miles, within twelve days; and, if he reside above 200 miles, within sixteen days, after service.

## V.—DEFENDANTS SUBMITTING OR ADMITTING.

67. When a defendant enters his appearance he shall file a memorandum to the effect either that he disputes or admits the plaintiff's claim, or some part thereof, specifying what part, or that he desires to submit to such decree or order as the Court may think fit to make, or that he disclaims all right, title, or interest in the subject matter of the statement of claim.

68. The solicitor of a defendant appearing by a solicitor shall state in such memorandum his place of business, and a place to be called his address for service, which shall not be more than one mile from the Equity Office.

69. A defendant appearing in person shall state in such memorandum his address, and a place to be called his address for service, which shall not be more than one mile from the Equity Office.

70. If the memorandum does not contain such address, it shall not be received; and if any such address shall be illusory or fictitious, the appearance may be set aside by the Court, on the application of the plaintiff.

## VI.—NOTICE OF PROCEEDINGS—WHEN UNNECESSARY.

71. When a defendant, being one of a number of defendants, some of whom dispute that the plaintiff is entitled to the relief prayed by the statement of claim, shall enter his appearance and shall file a memorandum to the effect either that he admits that the plaintiff is entitled to the relief prayed, or that he desires to submit to such decree or order as the Court may think fit to make, or that he disclaims all right, title, and interest in the subject matter of the statement of claim, it shall not be necessary that such defendant be served with notice of any proceedings in the suit, except of or until the hearing of the suit or of any application for the dismissal of such suit.

## VII.—DEFAULT OF APPEARANCE.

72. Where any defendant, not being an infant or person of weak or unsound mind, unable of himself to defend the suit, is duly served with the statement of claim, and does not enter an appearance thereto within the time limited by the indorsement, the plaintiff may, after seven days from the time so limited for appearing thereto, apply to the Court on affidavit of service of the claim for a decree or order against such defendant in his absence, and thereupon the Court may, if satisfied of the due service of the claim, make such decree or order, or give such directions as to the taking of evidence and otherwise, for the further prosecution of the suit, as may seem just.

73. A defendant, notwithstanding his default of appearance, may at any time apply to the Court for leave to appear and defend upon such terms as to costs and otherwise as the Court may direct.

74. Where, upon default made by defendant in not appearing to a statement of claim, it appears to the Court that such defendant is an infant, or a person of unsound mind not so found by inquisition or declared under the Lunacy Act of 1878, so that he is unable of himself to defend the suit, the Court may, upon the application of the plaintiff, order that one of the solicitors of the Court be assigned guardian of such defendant, by whom he may appear to and defend the suit: But no such order shall be made unless it appear to the Court, on the hearing of such application, that a copy of the statement of claim was duly served; and that notice of such application was, after the expiration of the time allowed for appearing to the statement of claim, and at least six clear days before the day in such notice named for hearing the application, served upon, or left at the dwelling-house of, the person with whom, or under whose care, such defendant was at the time of serving such copy of the statement of claim; and also, in the case of such defendant being an infant, not residing with or under the care of his father or guardian, served upon or left at the dwelling-house of the father or guardian of such infant, unless the Court, at the time of hearing such application, shall dispense with such last-mentioned service.

## VIII.—SECURITY FOR COSTS.

75. If it appears upon the statement of claim or otherwise, at any time during the prosecution of the suit, that the sole plaintiff, if only one, is, or if more than one, all the plaintiffs are, residing out of the jurisdiction of the Court, the defendant shall be entitled as of course to an order for the plaintiff or plaintiffs to give security to the Master for costs. And the Court may order such security, if it shall think fit, in respect of any one or more of several plaintiffs who shall be out of the jurisdiction; and no further proceedings shall be taken in the suit except by leave of the Court until after such security shall have been given.

76. Security for costs may be given by bond to the Master according to the custom of the Court in the penalty of £100: Provided that the Court may, if it shall think fit, direct a greater or less amount of security to be given; and that in any case the amount of security may be paid into Court in place of giving a bond.

77. The day on which an order that a plaintiff do give security for costs is served, and the time thenceforward until and including the day on which such security is given, shall not be reckoned in the computation of time allowed to a defendant to plead, file his statement of defence, or demur, or otherwise make his defence to the suit.

## DEFENCES—INTERROGATORIES, &amp;c.

I.—DEMURRER. II.—PLEA. III.—STATEMENT OF DEFENCE. IV.—REPLY AND SUBSEQUENT PLEADINGS. V.—ADMISSIONS. VI.—INTERROGATORIES. VII.—EXCEPTIONS. VIII.—CONSEQUENCES OF DEFAULT.

## I.—DEMURRER.

78. No demurrer shall be filed without a memorandum at the foot, stating shortly in substance the ground or grounds thereof, or the point or points intended to be relied on; of which memorandum a copy shall be served, as part of such demurrer.

79. A defendant, demurring alone, may file a demurrer to a statement of claim within eight days after his appearance thereto, but not afterwards. And either party may set down the demurrer for argument immediately.

80. Where a demurrer is overruled, the defendant shall pay to the plaintiff the taxed costs occasioned thereby, unless the Court shall otherwise direct.

81. Where a demurrer to the whole or part of a statement of claim is allowed upon argument, the plaintiff, unless the Court shall otherwise direct, shall pay to the demurring party the costs of the demurrer, and, where the demurrer is to the whole statement of claim, the costs of the suit also.

82. Where a demurrer to the whole or part of a statement of claim is not set down for argument within twelve days after the filing thereof, and the plaintiff does not within such twelve days serve an order for leave to amend the statement of claim, the demurrer shall be held sufficient to the same extent and for the same purposes, and the plaintiff shall pay to the demurring party the same costs, as in the case of a demurrer to the whole or part of a statement of claim allowed upon argument.

83. Where any grounds of demurrer are urged in arguing a demurrer beyond the grounds therein expressed, and the grounds which are so expressed are disallowed, the defendant shall pay the same costs as if the demurrer were overruled, although on the grounds so newly urged the demurrer may be allowed, unless the Court shall otherwise direct.

84. Any party may demur to any pleading of the opposite party, or to any part of a pleading setting up a distinct cause of action, ground of defence, set-off, counter claim, reply, or as the case may be, on the ground that the facts alleged therein do not show any cause of action, or ground of defence to a claim or any part thereof, or set-off, or counter claim, or reply, or, as the case may be, to which effect can be given by the Court, as against the party demurring.

85. A demurrer shall state specifically whether it is to the whole or to a part, and if so, to what part of the pleading of the opposite party. It shall state some ground in law for the demurrer, but the party demurring shall not, on the argument of the demurrer, be limited to the ground so stated.

86. A defendant desiring to demur to part of a statement of claim, and to put in a defence to the other part, shall combine such demurrer and defence in one pleading. And so, in every case where a party entitled to put in a further pleading desires to demur to part of the last pleading of the opposite party, he shall combine such demurrer and other pleading.

87. If the party demurring desires to be at liberty to plead as well as demur to the matter demurred to, he may, before demurring, apply to the Court for an order giving him leave to do so; and the Court, if satisfied that there is reasonable ground for the demurrer, may make an order accordingly, or may reserve leave for him to plead after the demurrer is overruled, or may make such other order and upon such terms as may be just.

88. While a demurrer to the whole or any part of a pleading is pending, such pleading shall not be amended, unless by order of the Court; and no such order shall be made except on payment of the costs of the demurrer.

89. When a demurrer is overruled, the Court may make such order, and upon such terms as to the Court shall seem right, for allowing the demurring party to raise by pleading any case he may be desirous to set up in opposition to the matter demurred to.

## II.—PLEA.

90. A defendant may file a plea to a statement of claim within fourteen days after his appearance thereto, but not afterwards except by leave of the Court. And either party may set down the plea for argument immediately.

91. A plea may be put in without oath, where the matter of plea appears upon record, but, where the matter of plea does not appear upon record, the plea must be put in upon oath.

92. The dependency of a former suit for the same matter is a good plea, but, where the plaintiff disputes the truth of the plea, he may obtain an order of course for inquiry as to the truth thereof: And such order, and the report in pursuance thereof, shall be obtained within twenty-one days after the filing and service of such plea, otherwise the defendant may obtain as of course an order to dismiss the suit with costs.

93. Where a plea is overruled, the defendant shall pay to the plaintiff the taxed costs occasioned thereby, unless the Court shall otherwise direct.

94. Where a plea to the whole or part of a statement of claim is allowed upon argument, the plaintiff, unless he undertakes to reply to the plea, or unless the Court otherwise directs, shall pay to the party by whom the plea is filed the costs of the plea; and, where the plea is to the whole statement of claim, the costs of the suit also; and in such last-mentioned case the order allowing the plea shall direct the dismissal of the suit.

95. Where a plea to the whole or part of a statement of claim is not set down for argument within fourteen days after the filing thereof, and the plaintiff does not within such time either serve an order for leave to amend the statement of claim, or by notice in writing undertake to reply to the plea, the plea shall be held good to the same extent and for the same purposes, and the same costs shall be paid by the plaintiff, as in the case of a plea to the whole or part of a statement of claim allowed upon argument; and, where the plea is to the whole statement of claim, the defendant by whom such plea was filed may at any time after the expiration of such fourteen days obtain as of course an order to dismiss the suit with costs.

96. Where the plaintiff undertakes to reply to a plea to the whole statement of claim, he shall not, without special leave of the Court, take any proceedings against the defendant by whom the plea was filed till after replication.

## III.—STATEMENT OF DEFENCE.

97. A defendant who has not filed a demurrer or plea shall file a statement of defence within three weeks after the time limited for the appearance of such defendant, or within such extended time as may be consented to by the plaintiff, or as the Court may, on application for that purpose, allow. And a statement of defence shall, except in the cases of corporations aggregate, be on oath. And corporations aggregate may put in a statement of defence under their common seal: Provided that in such case the Court may nevertheless order that a statement of defence be put in on oath by such member or officer of the corporation as it shall think fit.

98. Where a defendant disputes the validity of a patent, he shall deliver to the plaintiff at the time of delivering his statement of defence, or within such further time as the Court may direct, particulars stating on what grounds he disputes it, and where one of the grounds is want of novelty, must, unless the Court shall otherwise direct, state the time and place of the previous publication or user alleged by him; and at the hearing no evidence shall, except by leave of the Court, be admitted in proof of any alleged infringement or objection of which particulars are not so delivered.

99. Statements of defence shall be in the form set out in Schedule B to these Rules, with such variations as the nature and circumstances of each case may require.

100. A defendant, in his statement of defence, shall set forth all matters not appearing in the statement of claim, and all grounds of defence, upon which he intends to rely.

101. Where any defendant sets off or sets up any right or claim by way of counter claim, he shall in his statement of defence state specifically that he does so by way of set off or counter claim, and shall pray specifically for the relief that he may consider himself entitled to.

102. When a defendant does not know, and is not in a position either to admit or deny a fact alleged in the plaintiff's statement of claim, he may state that he does not know, and that he is not able to admit that fact.

103. It shall not be sufficient for a defendant in his defence to deny generally the facts alleged in the statement of claim, or for a plaintiff in his reply to deny generally the facts alleged in a defence by way of counter claim; but each party must deal specifically with each allegation of fact of which he does not admit the truth.

## IV.—REPLY AND SUBSEQUENT PLEADINGS.

104. Subject to the last preceding Rule, the plaintiff by his reply may join issue upon the defence, and each party in his pleading, if any, subsequent to reply, may join issue upon the previous pleading. Such joinder of issue shall operate as a denial of every material allegation of fact in the pleading upon which issue is joined; but it may except any facts which the party may be willing to admit, and shall then operate as a denial of the facts not so admitted.

105. A plaintiff shall deliver his reply, if any, within two weeks after the defence or the last of the defences shall have been delivered, unless the time shall be extended by the Court.

106. No pleading subsequent to reply, other than a joinder of issue, shall be pleaded without leave of the Court, and then upon such terms as the Court shall think fit.

107. Subject to the last preceding rule, every pleading subsequent to reply shall be delivered within one week after the delivery of the previous pleading, unless the time shall be extended by the Court.

## V.—ADMISSIONS.

108. Any party to a suit may give notice, by his own statement or otherwise, that he admits the truth of the whole or any part of the case stated or referred to in the statement of claim, defence, or reply of any other party.

## VI.—INTERROGATORIES.

109. A plaintiff may, by leave of the Court, at any time before the expiration of fourteen days after the suit is at issue, file interrogatories for the examination of a defendant; and the defendant shall, on oath, answer such interrogatories and file such answers within fourteen days after the service of the interrogatories on him: And the answer shall be deemed sufficient, unless exceptions are filed thereto within seven days after the filing of such answer.

110. A defendant may, by leave of the Court, and either at the time of filing his statement of defence or subsequently, before the expiration of fourteen days after the suit is at issue, file interrogatories for the examination of the plaintiff, to which interrogatories shall be prefixed a concise statement of the subject on which a discovery is sought. And the plaintiff shall, on oath, answer such interrogatories and file such answer within fourteen days after service on him of the said interrogatories; and the answer shall be deemed sufficient, unless exceptions are filed thereto within seven days after the filing of such answer: Provided always that it shall not be competent to any defendant to file interrogatories until he has answered any interrogatories previously filed by the plaintiff for his examination.

111. If any party to a cause or matter be a body corporate or a joint stock company, whether incorporated or not, or any other body of persons, empowered by law to sue or be sued, whether in its own name or in the name of any officer or other person, any opposite party may apply at Chambers for an order allowing him to deliver interrogatories to any member or officer of such corporation, company, or body, and an order may be made accordingly.

112. Under special circumstances the Court may allow either party to file interrogatories at a later period in the suit.

## VII.—EXCEPTIONS FOR INSUFFICIENCY.

113. Exceptions for insufficiency may be filed to any answer or further answer to interrogatories within seven days after the filing of such answer or further answer. And such exceptions shall describe the passages which are alleged to be insufficient.

114. Where exceptions are allowed, the Court may direct that a further answer be filed, or that the party in default be examined *vidé voce*.

## VIII.—CONSEQUENCES OF DEFAULT.

115. If any party fail to comply with an order to answer interrogatories, or for discovery or inspection of documents, he shall be liable to attachment: And he shall also, if a plaintiff, be liable to have proceedings in the suit stayed until compliance; and, if a defendant, to have his defence (if any) struck out, and to be placed in the same position as if he had not filed a memorandum of dispute or statement of defence; and the Court may order accordingly.

116. Where a party has filed interrogatories, and has just reason to believe that the party interrogated means to abscond before answering, the Court may, on the *ex parte* application of the party interrogating, order an attachment to issue against him, returnable at such time as the Court shall direct.

117. Where a party is brought up in custody for want of an answer to interrogatories, and makes oath in Court that he is unable, by reason of poverty, to employ a solicitor to put in such answer, the Court, if satisfied as to the truth of that allegation, may assign a solicitor and counsel for such party to enable him to put in an answer.

118. Where a party, in contempt for want of answer or discovery, obtains upon filing an answer or affidavit of discovery the common order to be discharged as to his contempt, on payment or tender of the costs thereof; or where the party obtaining the attachment accepts the costs without order, it shall not be necessary, in case the answer or affidavit is insufficient, to recommence the process of contempt, but the party obtaining the attachment may take up the process at the point to which he had before proceeded.

PROCEEDINGS BETWEEN DEFENCE AND HEARING.

I.—DISMISSING SUIT FOR WANT OF PROSECUTION. II.—PRODUCTION OF DOCUMENTS. III.—PRELIMINARY ACCOUNTS AND INQUIRIES. IV.—MOTION FOR DECREE. V.—CLOSE OF PLEADINGS. VI.—DEFAULT OF PLEADING. VII.—SETTLING ISSUES OF FACT. VIII.—SETTING DOWN SUIT FOR HEARING.

I.—DISMISSING SUIT FOR WANT OF PROSECUTION.

119. Any party may move to dismiss a suit or counter claim for want of prosecution when the opposite party has not, within the time fixed by the Rules in that behalf, or by an order of the Court, taken such step as may be then necessary in the suit or counter claim.

120. Upon any application to dismiss a suit or counter claim for want of prosecution, the Court may make an order to that effect, or such other order, or may impose such terms as may appear just and reasonable.

II.—PRODUCTION OF DOCUMENTS.

121. Any party may, without filing any affidavit, apply to the Court for an order directing any other party to the suit to make discovery on oath of all the documents which are, or have been, in his possession or power relating to any matter in question in the suit.

122. The party against whom such an order has been made shall make an affidavit specifying the documents which he has, or has had, in his possession or power, and also which, if any, of such documents he objects to produce; and it shall be in the form set out in Schedule D to these Rules, with such variations as circumstances may require.

III.—INQUIRIES AND ACCOUNTS.

123. The Court may at any stage of the proceedings in a suit or matter direct any necessary inquiries or accounts to be made or taken, notwithstanding that there is some special or further relief sought for, or some special issue to be tried, as to which it may be proper that the suit or matter should proceed in the ordinary manner.

IV.—MOTION FOR DECREE.

124. Sixteen days' notice shall be given to the defendant of any motion for a decree or decretal order under section 28 of the Equity Act of 1880.

125. All affidavits to be used in support of such motion shall be filed before the service of such notice, and a list of such affidavits shall be set forth at the foot of such notice.

126. The defendant, within ten days after service of such notice, shall file his affidavits in answer, and deliver to the plaintiff a list thereof.

127. Within four days after the expiration of such ten days, or other period to which the time for filing the defendant's affidavits has been enlarged, the plaintiff shall file his affidavits in reply, and he shall deliver to the defendant a list thereof.

128. No further evidence on either side shall be used upon such motion for a decree or decretal order without leave or direction of the Court.

129. Every notice of motion for a decree or decretal order shall be set down for hearing on such day as the Court may, by any order or general rule, direct.

V.—CLOSE OF PLEADINGS.

130. As soon as either party has joined issue upon any pleading of the opposite party simply without adding any further or other pleading thereto, the pleadings as between such parties shall be deemed to be closed.

VI.—DEFAULT OF PLEADING.

131. If the plaintiff does not file a reply or demurrer, or any party does not file any subsequent pleading or a demurrer, within the period allowed for that purpose, the pleadings shall be deemed to be closed at the expiration of that period, and the statements of fact in the pleading last filed shall be deemed to be admitted.

132. Any decree or order by default may be set aside by the Court, upon such terms as to costs or otherwise as such Court may think fit.

VII.—SETTLING ISSUES OF FACT.

133. Where in any suit it appears that the pleadings do not sufficiently define the issues of fact in dispute between the parties, and it shall be deemed desirable that they should be so defined, the Court may on the application of any party or of its own motion after replication settle such issues.

VIII.—SETTING DOWN SUITS FOR HEARING.

134. Within seven days after a joinder of issue, the plaintiff shall set down the suit for hearing on some day, except by leave of the Court not earlier than the fourteenth nor later than the twenty-eighth day after so setting down the suit; and the plaintiff shall forthwith serve notice of the suit being so set down for hearing upon all the defendants thereto.

135. If the plaintiff does not set down the suit for hearing within seven days after a joinder of issue, any defendant may set down the suit for hearing, within like periods as hereinbefore provided for setting down by the plaintiff, and shall forthwith serve on the plaintiff and the other defendants notice thereof.

HEARING

HEARING—EVIDENCE.

I.—GENERALLY. II.—EVIDENCE BY COMMISSION

III.—TRIAL BY JURY.

I.—GENERALLY.

136. Suits which are to be treated as Consent Matters or as Short Matters, or in which the defendant ought to attend in Court in pursuance of the endorsement on the statement of claim, shall be set down for hearing on such days as the Court may specially appoint for the hearing of such matters and suits.

137. If the parties to any suit have agreed upon the terms of the decree to be asked from the Court, the suit may come on to be heard on any day after it has been set down that may be appointed for hearing Consent Matters.

138. Any suit may, by the consent of the parties thereto, or by order made with notice in chambers on summons, come on to be heard as a Short Matter upon any day after it has been set down that may be appointed for hearing such matters, or that the parties may agree upon and the Court may order.

139. If the plaintiff refers to the statement of defence or any part of it as evidence in support of his case, the Judge shall take a note of such reference; and the plaintiff shall not enter into evidence as to such matters as are established by such reference; and, if he enters into evidence as to them, he will render himself liable to pay the costs thereof.

140. The Court or any party may, before, or at any time during, the hearing of a suit, require the evidence or judgment to be taken down by a shorthand writer, who shall be duly sworn; but it shall not be necessary for the witnesses to sign the notes of their evidence; and the Court may make such order as it shall think fit for the costs of employing such shorthand writer. The Judge's notes, or the notes of such shorthand writer, shall for all the purposes of the suit be *prima facie* proof of the evidence of the deposition of witnesses.

II.—EVIDENCE BY COMMISSION.

141. Where any party has obtained a commission for the examination of witnesses, he shall, unless the Court otherwise direct, cause notice of the time and place of such examination to be served on the parties entitled to notice seven days at least before the day of examination; and every such commission shall be returnable on some day to be fixed in each case by the Court, and shall, with the examination of witnesses under the same, be returned to the Equity Office in like manner as statements of defence taken in the country are returnable.

III.—TRIAL BY JURY.

142. Any question of fact, or any question of the amount of damages, directed to be tried by a jury, shall be reduced into writing in the form set forth in Schedule E to these Rules, and shall be called the "Record for Trial," and shall be filed in the Equity Office within two days after such order shall have been made, and within seven days after such filing shall be entered for trial at such time and place and in such manner as the Court shall direct.

143. When the Court shall order any question of fact, or any question of the amount of damages, to be tried by a jury, the course of proceedings shall be in all respects in accordance with the law and practice as to trial of issue and assessments of damages at Common Law.

144. The notice of any application for a new trial shall be given within eight days after the verdict or finding of the jury shall have been filed, or within such other time as the Court may direct.

145. Where the Court shall decree damages to any person, and shall order the amount of such damages to be assessed by a jury before any Judge of the Supreme Court, or in any Circuit Court, the person to whom such damages shall be decreed shall be at liberty to sue out from the Equity Office a writ of inquiry of damages.

146. The Rules now in force in the Courts of Common Law relative to writs of inquiry and trials shall be applicable to writs of inquiry to be issued by virtue of the last preceding Rule.

147. The writ of inquiry, together with the return thereto of the verdict or inquisition, shall within seven days after such return be filed at the Equity Office, or within such other time as the Court shall allow.

148. Any application to set aside the verdict or inquisition on any such writ of inquiry, and to direct a new inquiry, shall be made within eight days after the finding thereof, or within such other time as the Court shall allow.

149. On the day appointed for any trial, and previously to the commencement thereof, a copy of the Record for Trial, together with a copy of the statement of claim, statement of defence, and other pleadings, shall be left with the Judge before whom such trial is appointed to be had by the person at whose instance the same may have been entered for trial.

150. The verdict or finding of the jury, together with the names of the jurors who were sworn, shall be endorsed by the associate of the Judge before whom the trial has taken place on the Record for Trial, and shall be signed by him and then returned to the Equity Office to be filed. And the Judge may certify whether he is satisfied or otherwise with such verdict or finding of the jury.

AMENDMENT OF PLEADINGS.

151. The Court may, at any stage of the proceedings, allow either party to alter his statement of claim, or defence, or reply, or may order to be struck out or amended any matter in such pleadings respectively as may be scandalous, or which may tend to prejudice, embarrass, or delay the fair trial of the cause; and all such amendments shall be made as may be necessary for the purpose of determining the real questions or question in controversy between the parties.

152. The plaintiff may, without any leave, amend his statement of claim once at any time before the expiration of the time limited for reply and before replying, or, where no defence is filed, at any time before the expiration of four weeks from the appearance of the defendant who shall have last appeared.

153. A defendant who has set up in his defence any set-off or counter claim may, without any leave, amend such set-off or counter claim at any time before the expiration of the time allowed him for pleading to the reply, and before pleading thereto, or, in case there be no reply, then at any time before the expiration of twenty-one days from the filing of his defence.



length; except in the case of residues or shares of residues remaining after a portion directed to be applied for particular purposes, the amount of which cannot be ascertained at the time of making the decree or order; in which cases the amount of such residues or shares of residues shall be verified by affidavit, without any direction for that purpose in the decree or order, unless such residues or shares shall be certified by the Master, who shall be at liberty to certify the same without a direction for that purpose in such decree or order.

172. Where a residue of stock, funds, shares, or securities or moneys, is directed by any decree or order to be operated upon by the Master, the exact amount of such residue, where the same can be done, shall, on settlement of the minutes, be verified by affidavit or otherwise, and shall be expressed and specified in the decree or order in words at length, so that the amount of such residue may appear on the face of the decree or order.

173. All persons, whether representatives or others, who are directed to pay into or deposit in Court any sum of money, securities, or other effects with the privity of the Master, or to transfer any stock, funds, shares, or moneys, into his name and with his privity; and all persons, whether representatives or others, to whom any sums of money, stock, funds, shares, securities, or other effects are directed to be paid out, transferred, carried over, or delivered out, shall, except in the case of bodies corporate, companies, or societies, be described by name in the decree or order, and not merely as plaintiffs or petitioners or the like, unless such payments, transfers, carryings over, or deliveries, are directed to be made to or by representatives, and no probate or letters of administration shall have been taken out at the time of making such decree or order; and the Christian names and surnames or titles of honor of all such persons, and the titles of all such bodies corporate, companies, and societies shall be written at length and without abbreviation in such decrees or order.

174. In all decrees or orders directing the payment of interest, dividends, annuities, or other periodical payments, the time when the first of such payments, and when all subsequent periodical payments, whether quarterly, half-yearly, yearly, or otherwise, shall be made, shall be specified and expressed in words at length; and, where the same has not been so specified and expressed, then the respective payments shall be made yearly.

175. Where any stock, funds, shares, or securities standing in the name of the Master in trust in, or to the credit of, any suit, matter, or account, or any part thereof, are or is directed to be divided and transferred or delivered out of Court to or among several persons, or to be carried over to several separate accounts, and where any money is directed to be paid out to or among several persons, or carried over to several separate accounts, the Master shall be at liberty, where it shall appear to him to be more convenient so to do, to state the respective amounts of such stock, funds, shares, securities, or money to be so transferred, paid, or carried over, in a schedule at the foot of the decree or order, and it shall be sufficient to refer to such schedule in the mandatory part of the decree or order; but in every such case the total amount of the stock, funds, shares, securities, or money respectively to be dealt with in such schedule, shall be stated in words at length in the mandatory part of the decree or order.

176. Where upon or after the death of any person to whom the interest or dividends of any stock, funds, shares, securities, or money standing in the name of the Master in trust in, or to the credit of, any suit, matter, or account, or any part of such interest or dividends were or was payable for life, an order is made for the sale, transfer, or delivery or payment, of such stock, funds, shares, securities, or moneys, or for the payment of the interest or dividends to accrue due thereon subsequently to the death of such person, the same order shall also provide for the payment to the legal personal representative of such person of such proportion of the interest or dividends on such stock, funds, shares, securities, or moneys, as shall have accrued between the last period of payment and the day of his death, unless the Court shall be of opinion that such legal personal representatives are not entitled thereto, or shall for any other reason otherwise direct.

177. Every decree or order made in any suit or matter requiring any person to do an act thereby ordered shall state the time or the time after service of the decree or order within which the act is to be done; and upon the copy of the decree or order, which shall be served upon the person required to obey the same, there shall be indorsed a memorandum in the words or to the effect following, viz.:—"If you the within-named A.B. neglect to obey this Decree (or Order) by the time therein limited, you will be liable to be arrested under a Writ of Attachment issued out of the Supreme Court, and also be liable to have your estate sequestrated for the purpose of compelling you to obey the same Decree (or Order)." And in any case where money only has to be paid to any person, then the memorandum shall be to the effect following:—"If you the within-named A.B. neglect to obey this Decree (or Order) by the time therein limited, a Writ of *steri facias* may be issued against you to levy upon your goods and chattels and lands and tenements and also you will be liable to have your estate sequestrated for the purpose of compelling you to obey the same Decree (or Order)."

178. Where a defendant, at the hearing, objects that a suit is defective for want of parties, and has not, by plea or statement of defence, taken the objection, and therein specified by name or description the parties to whom the objection applies, the Court, if it shall think fit, may add the parties upon such terms as to costs or otherwise as may be deemed just, or may make a decree saving the rights of such parties.

179. If the plaintiff, after the suit is set down to be heard, causes the statement of claim to be dismissed on his own application, or if the suit is called on to be tried or heard in Court and the plaintiff makes default, and by reason thereof the statement of claim is dismissed, such dismissal, unless the Court shall otherwise direct, shall be equivalent to a dismissal on the merits, and may be pleaded in bar to another suit for the same matter.

180. Every decree or order for an account of the estate of a testator or intestate shall, unless the Court shall otherwise direct, contain a direction for an inquiry as to what parts (if any) of such estate are outstanding or undisposed of.

181. Notice of a decree or order served pursuant to the 6th rule of the 7th section of the Equity Act of 1880 shall be entitled in the suit, and there shall be indorsed a memorandum in the form or to the effect following, that is to say:—"Take notice, that from the time of the service of this notice, you [*or, as the case may be, the infant, or person of unsound mind*] will be bound by the proceedings in the above Suit in the same manner as if you [*or the said infant or person of unsound mind*] had been originally made a party to the suit; and that you [*or the said infant or person of unsound mind*] are

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at liberty to attend the proceedings under the within mentioned Decree [or Order]; and that you [or the said infant or person of unsound mind] may, within one month after the service of this notice, apply to the Court to add to the Decree [or Order]."

182. A memorandum of the service upon any person of notice of the decree in any suit under the 6th Rule of the same section shall be entered in the Equity Office, upon due proof by affidavit of such service.

183. The time within which a party served with notice of a decree under the 6th Rule of the same section may apply to the Court to add to the decree shall be one month after such service, unless the Court shall extend the time or shall otherwise direct.

184. Clerical mistakes in decrees or orders, or errors arising, from any accidental slip or omission, may at any time be corrected upon summons in chambers.

185. Where any person who has obtained any decree or order upon condition does not perform or comply with such condition, he shall be considered to have waived or abandoned such decree or order, so far as the same is beneficial to himself; and any other person interested in the matter may, on breach or non-performance of the condition, take either such proceedings as the decree or order may in such case warrant, or such proceedings as might have been taken, if no such decree or order had been made, unless the Court shall otherwise direct.

#### ORDERS ON FURTHER DIRECTIONS.

186. When any suit shall, at the original or any subsequent hearing thereof, have been adjourned for further consideration, the plaintiff or party having the conduct of the suit shall, after the expiration of eight days and within fourteen days from the filing of the certificate of the Master, set down the suit for hearing on further directions on some day (except by leave of the Court) not earlier than the eighth and not later than the fourteenth day after setting down the same, and the plaintiff or party having conduct of the suit shall forthwith serve notice of the suit being so set down upon the defendants or parties thereto other than the party having the conduct of the suit.

187. If the plaintiff or other party having the conduct of the suit does not set down the suit for hearing on further directions within fourteen days from the filing of the Master's certificate as aforesaid, any defendant or party having the conduct of the suit may set down the same for such hearing within the periods as hereinbefore provided for setting down by the plaintiff, and shall forthwith serve on the plaintiff or party having the conduct of the suit notice thereof.

188. When any suit is so set down for hearing on further directions as aforesaid, the party so setting down the same shall at the same time lodge in the Master's Office short minutes (omitting formal parts) of the decree or order he deems himself entitled to.

#### PROCESS TO ENFORCE DECREES AND ORDERS.

189. No writ of attachment, sequestration, or assistance, shall be issued without special order, to be obtained on motion with affidavit of the circumstances of the case; but it shall not be necessary to serve the person against whom such writ is sought to be issued with notice of the motion.

190. If any party directed by an order or decree to pay money (whether money only, or costs only, or money with costs) shall, after due service of such order or decree, neglect to pay the same as thereby directed, the party prosecuting such order or decree shall, at the expiration of the time limited for the performance thereof, be entitled to proceed by writ of *fiari facias* for the recovery of the money thereby payable in the manner directed by the Act of 5 Victoria, No. 9, section 43. Provided nevertheless, that an attachment may issue when the decree or order directs the payment of any money into Court.

191. In respect to the payment of costs, when the amount of such costs shall have been duly taxed and certified, and payment thereof demanded from the party by whom payable or his solicitor, execution shall be issued under a writ of *fiari facias* upon an affidavit of due demand from the party by whom the same is payable or his solicitor.

192. Every person, not being a party to the suit, who shall have obtained an order, or in whose favour any order shall have been made, shall be entitled to enforce obedience to such order by the same process as if he were a party to the suit; and every person not being a party to the suit, against whom obedience to any order may be enforced, shall be liable to the same process for disobedience to such order as if he were a party to the suit.

193. When any party who by any order or decree is ordered to deliver possession of any lands, tenements, or hereditaments, within a limited time shall, after due service of such decree or order, refuse or neglect to obey the same, the party prosecuting such order or decree shall (on proof made of demand and refusal to obey the same) be entitled to a writ of assistance or of *habere facias*.

194. Where any party who by any order or decree is ordered within a limited time to do some act other than to pay money or deliver possession of lands, tenements, and hereditaments shall, after due service of such order or decree, refuse or neglect to obey the same, according to the exigency thereof, the party prosecuting such order or decree shall, at the expiration of the time so limited, be entitled to a writ of attachment or to a writ for the delivery of any property other than money, lands, tenements, and hereditaments, which shall have been decreed or ordered to be delivered or a writ of sequestration, as the Court may in each case deem to be just.

195. Upon the Sheriff's return of *non est inventus* to an attachment, the party suing out the same, upon affidavit that due diligence has been used in endeavouring to apprehend the person, and stating the facts of such endeavour, shall be entitled to a writ of sequestration.

#### APPEALS.

196. Any person intending to appeal to the Full Court from any decree or order under section 70 of the Equity Act of 1880, shall, within fourteen days next after the pronouncing of the same, or within such extended time as the Court below may have allowed, enter and file in the Equity Office a notice of appeal, signed by one counsel, and setting forth therein the grounds and reasons of and for such appeal; which notice shall be in a form similar to the form in Schedule F to these rules; and a copy of such

such notice of appeal shall, within ten days next after filing the same, or within such extended time as the Court below shall allow, be delivered to each of the Judges of the Supreme Court, and shall within like time be served upon all parties intended to be served therewith, or their solicitors.

197. The time within which a respondent shall give notice that he intends upon the hearing of the appeal to contend that the decision of the Court below should be varied or altered shall be fourteen days from service of the appellant's notice of appeal; and such notice shall be signed by one counsel, and shall specially set forth the grounds and reasons for contending that the decision should be varied or altered.

198. Every appeal shall hereafter be set down for the first day for the hearing of appeals in Equity which shall happen next after the making of the deposit or giving the security required, unless the Court shall otherwise order; and every appeal not so entered shall be deemed to have been abandoned.

199. In appeals to the full Court, the moving party, unless a Judge otherwise order or allow further time, shall, within twenty-eight days after the filing of the notice of appeal, lodge in the Equity Office seven printed copies of the pleadings (including petition, notice of motion, and summons), the evidence (other than the exhibits), the decree or order appealed from, and the judgment of the Judge on making such decree or order approved by him, and shall, within the like time, also serve a like number of such printed copies on each opposing party, or upon each solicitor, on the record.

200. All documents of which printed copies are, by the preceding rules, ordered to be lodged, shall be printed upon cream-wove white foolscap folio paper, in pica type, leaded, with an inner margin an inch wide, and an outer margin two inches and a half wide.

#### REFERENCES, INQUIRIES, AND ACCOUNTS.

201. The Court may for the purpose of obtaining the assistance of conveyancing counsel, accountants, merchants, engineers, actuaries, or other scientific persons, under section 46 of the Equity Act of 1880, refer to any such persons any matter at issue, or arising in the suit, for a report thereon, and may at the time of such reference and from time to time give such directions with relation thereto, as to the Court may seem necessary.

202. In case of reference to the Master, he shall enter in a book the names and title of every suit or matter referred to him, and the date and description of every step taken before him, and the attendance or non-attendance of the several parties on each of such steps, so that such book may exhibit the whole course of proceedings which is had before him in each particular suit or matter; and in case of reference to the Deputy Registrar, a similar book shall be kept and entered up by him.

203. Proceedings on reference to the Master shall be by summons or appointment. Such summons may be in the form set forth in Schedule G, and such appointment may be in the form set forth in Schedule H to these Rules.

204. At the time when any summons or appointment is obtained, an entry thereof shall be made in a book called the Summons and Appointment Book, stating the date on which the summons is issued or appointment made, the name of the suit or matter, and by what party, and, shortly, for what purpose such summons or appointment is obtained.

205. A list of all matters to be heard, and business to be transacted, before the Master, in pursuance of such summons or appointment, shall be made out and kept exhibited in the Office.

206. When a reference has been made by the Court to settle any decree or order, the Master shall direct what proceedings shall be taken thereunder, and the decree or order so settled shall be submitted to the Court for approval.

207. In directing what proceedings shall be taken under any decree or order the Master may direct what parties are entitled to attend future proceedings, the necessary advertisements, and which of the several proceedings may be properly going on *pari passu*, and the manner in which inquiries and accounts are to be prosecuted, and the evidence to be adduced in support thereof; and if the Master shall think it expedient so to do, a certain time or certain times shall be fixed within which the parties are to take any proceedings, and all such directions may afterwards be added to or varied from time to time.

208. Where the party entitled to prosecute a decree or order does not proceed therein within the time fixed or limited for that purpose by the Court or Master, or by any Rule for the time being in force in that behalf, then the Court or Master may, upon the production by any other party, interested either as a party to the suit or as one who has come in and established his claim under the decree or order of the certificate of the Clerk of the Records in the Equity Office, that the party entitled to prosecute such decree or order has not proceeded therein within such time as aforesaid, commit to such other party the further prosecution of the said decree or order, and from thenceforth the party making default shall not be at liberty to attend as prosecutor of the said decree or order, and the certificate shall be indorsed accordingly, and such indorsement shall be signed by the Master.

209. Where by any decree or order of the Court books, papers, or writings are directed to be produced before the Master for the purposes of such decree or order, it shall be in the discretion of the Master to determine what books, papers, or writings are to be produced, and when and for how long they are to be left in the office; or, in case he shall not deem it necessary that such books, papers, or writings should be left in the office, then he may give directions for the inspection thereof by the parties requiring the same, at such time and in such manner as he shall deem expedient.

210. The Master may of his own motion part with the custody of any exhibits put in evidence in the course of taking any accounts or making any inquiry before him.

211. No more than one summons or appointment shall be taken out for the time during which the Master, shall continue or adjourn the proceedings under such summons or appointment.

212. Every summons or appointment before the Master, shall be considered peremptory, and in case the Master shall not be attended by the solicitor or a competent person on behalf of the solicitor of any party, the Master, shall in such case disallow the usual fee for the solicitor's attendance, and he shall mark such determination in his book.

213. Where some or one, but not all the parties, shall attend the Master at an appointed time, whether the same be fixed by the Master personally or upon summons or appointment, then the Master shall be at liberty to proceed *ex parte* if he thinks proper considering the nature of the case, so to do.

214. When the Master has proceeded *ex parte*, such proceeding shall not be reviewed by him unless he shall, upon special application made to him for that purpose by the party who was absent, be satisfied that the party was not guilty of wilful delay or negligence.

215. Upon any application made by any person to the Court in the course of a reference, the Master, if required by the person making the application, shall, in as short a manner as he conveniently can, certify to the Court the several proceedings which shall have been had in the office in the same suit or matter, and the dates thereof.

216. Unless ordered by the Court, no summons to review before the Master any proceedings taken before him shall be allowed, except by his permission upon special grounds.

217. All affidavits and evidence which have been previously made or taken and read in Court upon any proceeding in a suit or matter may be used before the Master in all references to and proceedings before him; and, where any other or further evidence may be required, it shall be lawful for the Master to take such evidence as he shall think fit: Provided that, if it shall be thought necessary to examine a witness who has given evidence at the hearing as to matters upon which he shall have been examined before, then, in case of objection, an order of the Court shall be obtained for that purpose.

218. Every summons or appointment to proceed upon any matter before the Master shall be issued and served two clear days before the time fixed, and, upon any proceeding whereon evidence is to be given, the Master shall be at liberty to direct, from time to time, that evidence shall be taken separately upon any selected point or points, and the evidence shall be taken accordingly.

219. All proceedings on which the Master's decision shall have to be indorsed shall be left in the office before taking evidence thereon; but they shall not be filed until his decision shall have been indorsed thereon, and no such matters shall be withdrawn, added to, or altered without his authority, or under an order of Court, or by consent.

220. The Master shall be at liberty to direct that service of any summons, document, or other matter formerly used to be served on any person, shall be dispensed with.

221. No affidavit shall ordinarily be made of any summons, appointment, document, or other matter requiring service thereof, to be shown to the Master; but the Master may take proof thereof when requisite *vidé voce* or by affidavit; and, where such proof shall have been required, the Master shall make and file, with the proceedings, a note stating that the party has given or failed to give such proof, as the case may be.

222. In cases where it shall be necessary for any party to go into evidence subsequently to the hearing, or on any inquiry, account, or reference before the Court or Master, such evidence shall be taken, proceeded with, and closed under the direction of the Court or Master, in the same manner (as nearly as may be) as upon an issue of fact at Common Law, or in such other manner as the Court may in any case specially direct.

223. If any party wishes to complain of any matter introduced into any state of facts, affidavit, or other proceeding before the Master, on the ground that it is scandalous or irrelevant, or that any examination is insufficient, he shall be at liberty, without any order of reference by the Court, to apply to the Master to examine such matter, and the Master shall have authority to expunge any scandalous or irrelevant matter, and to direct any further examination as he shall see fit.

224. After the evidence shall have been closed, the Master shall indorse on the state of facts, account, or other matter whereon evidence shall have been given, his decision thereon; and after such indorsement, no further evidence shall be taken without an order of Court, or by consent; but he shall be at liberty, nevertheless, to alter his decision, and the indorsement thereof, at any time before signing his certificate or report.

225. Whenever, in any proceeding before the Master, the same solicitor is employed for two or more parties, the Master may at his discretion require that any of the said parties shall be represented before him by a distinct solicitor, and may refuse to proceed until such party is so represented.

226. All references to the Master to appoint guardians, new trustees, or receivers shall be for appointment by the Master in the first instance, unless the Court shall otherwise order; and a certificate by him of such appointment shall be filed in the Equity Office.

227. In order to prevent inconvenient delays, the Master may allow any decree, order, certificate, report, or other document to be engrossed or copied by the solicitor requiring the same, and in such cases the solicitor shall be allowed sixpence per folio for such engrossment or copy, and no office fee shall be payable except, in case of office copies being obtained, the fee payable for certifying the same.

#### ACCOUNT.

228. All accounting parties shall bring in their accounts, verified by affidavit, in the form of debtor and creditor, and the items on each side are to be numbered consecutively; and any party not satisfied with the account so brought in shall be at liberty to examine the accounting party *vidé voce*, or upon interrogatories, as the Master shall direct: Provided that, in taking any account directed by any decree or order, all just allowances shall be made, without any direction for that purpose in such decree or order.

229. It shall not be necessary in any charge upon the debtor and creditor account to set forth all the items of receipt, but only the further items with which the accounting party is sought to be charged. No formal discharge by the accounting party shall be required, but the payments set forth in his debtor and creditor account shall be treated as his discharge, and he shall be bound to vouch his payments and establish their propriety, if disputed, in the same manner in all respects as if they had been included in a discharge.

#### ADMINISTRATION.

230. In suits wherein creditors are permitted or required to come in and prove their debts before the Master no creditor (other than a party to the suit) shall be entitled to attend on any matter not connected with the proof of his own debt, except by direction of the Master or order of the Court. Any creditor so proving shall be entitled to the costs of establishing his debt, and the sum to be allowed for such costs shall be fixed by the Master, without taxation, at the time the Master allows the debt of such creditor, unless the Master shall think that such costs ought to be taxed in the regular mode. And  
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in all such suits the Master may (if he shall think fit), where the proof is not opposed, or for a sum under £10, allow the debt on the affidavit of the claimant alone, and also, if he shall think fit, without any claim in writing having been brought in: Provided that in such last-mentioned case the allowance or disallowance of the debt shall be indorsed on such affidavit.

231. Where a decree or order is made directing an account of debts, claims, or liabilities, or an inquiry for next of kin or other unascertained persons, the Master shall cause advertisements for the same to be inserted in the *Government Gazette* and other newspapers, as he may think fit, and fix a peremptory day for that purpose; and, unless otherwise ordered, all persons who do not come in and prove their claims within the time which may be fixed for that purpose by advertisement shall be excluded from the benefit of the decree or order.

232. Where a decree or order is made directing an account of the debts of a deceased person, interest shall, unless otherwise ordered, be computed on such debts, as to such of them as carry interest, after the rate they respectively carry, and, as to all others, after the rate of 5 per cent. per annum, unless the Court shall otherwise order, from the date of the decree or order.

233. A creditor whose debt does not carry interest, who comes in and establishes the same under a decree or order, shall be entitled to interest upon his debt after the rate aforesaid from the date of the decree or order out of any assets which may remain after satisfying the costs of the suit, the debts established, and the interest on such debts as by law carry interest.

234. Where a decree or order is made directing an account of legacies, interest shall be computed on such legacies after the rate of 4 per cent. per annum from the end of one year after the testator's death, unless the Court shall otherwise order, or unless any other time of payment or rate of interest is directed by the will, and in that case according to the will.

#### CERTIFICATE OR REPORT.

235. The certificate or report of the Master upon or in relation to any matter referred to him may be in the form set forth in Schedule I to these Rules, with such variations as the circumstances of the case may require; and, when prepared and settled, it shall be transcribed by the solicitor prosecuting the proceedings, in such form and within such time as the Master shall require, and shall then be signed by the Master at an adjournment to be made for that purpose. But where, from the nature of the case, the certificate or report can be drawn and copied in the Master's office whilst the parties are present before the Master, the same shall be then completed and signed by him without any adjournment.

236. No certificate or report to be made by the Master shall, unless the special circumstances of the case so require, set out the decree or order, or any documents or evidence or reasons; but shall refer to the decree or order, documents, and evidence, or particular paragraphs thereof, so that it may appear thereby to the Court upon what the result stated in such report or certificate is founded.

237. The Master shall be at liberty in all cases to state special circumstances in his certificate or report.

238. In all matters referred to him the Master shall be at liberty, upon the application of any party interested, or without such application, to make a separate certificate or report from time to time as to him shall seem expedient, the costs of such separate certificate or report to be in the discretion of the Court.

239. Where the Master shall make a separate certificate or report of debts or legacies, he shall be at liberty to certify, as he thinks fit, with respect to the state of the assets; and every person interested shall thereupon be at liberty to apply to the Court, as he shall be advised.

240. The time within which any party is to be at liberty to take the opinion of the Court upon any proceedings which shall have been concluded, but as to which the certificate or report of the Master shall not have been adopted by the Court, shall be four clear days after the same shall have been signed by the Master.

241. Any party desiring to take the opinion of the Court as mentioned in the last preceding Rule, shall within four clear days after the certificate or report shall have been signed by the Master obtain a summons for such purpose.

242. At the expiration of four clear days after the certificate or report shall have been signed by the Master, if no party has in the meantime obtained a summons to take the opinion of the Court thereon, the Master shall submit the certificate to the Court for approval; and the Judge may thereupon, if he approve the same, testify his adoption thereof as follows:—"Approved this        day of       "; and thereupon the certificate or report shall be filed.

243. The time within which an application may be made, by summons or motion, to discharge or vary any certificate which has been signed and adopted by the Judge in chambers, shall be eight clear days after the filing of such certificate.

244. In cases where any computation of interest, or the apportionment of any ascertained fund, is directed by the Court to be made and acted upon, it may be acted upon after four clear days from the filing of the report or certificate thereof.

#### CONVEYANCE—SETTLING OF.

245. When the Master is ordered to settle any conveyance, in case the parties differ about the same, a statement in writing of the required alterations shall be served by the party objecting to the draft on the party by whom the same was prepared within eight days after the service of notice of leaving such draft with the Master.

#### COSTS.

246. Whenever it shall appear to the Master that the costs, or part of the costs, of any attendance, or of any proof before him, or costs incurred through any non-attendance or review, ought not to abide the general event of the reference to him, but that it is just and reasonable that the same should be paid specially by any party or claimant, it shall be lawful for him, in his discretion, to award the payment of such costs, or part thereof, or a fixed sum in lieu of such costs, as, and by whom, he shall in that behalf direct.

## SALE BY COURT.

247. Where an order is made directing any property to be sold, the same shall, unless otherwise ordered, be sold with the approbation of the Master to the best purchaser that can be got for the same, to be allowed by him; and all proper parties are to join therein, as the Master shall direct.

248. When any property is ordered to be sold by or by the direction of the Master, he shall by memorandum in writing without any proposal being laid before him, appoint an auctioneer to sell such property, who shall proceed to the sale in the usual manner, and be paid a percentage or stated sum, to be fixed by the Master at the time of such appointment; and such auctioneer shall immediately after he shall have received any deposit pay over the same to the Master to the credit of the suit in which the order was made, and shall state what he has done in respect of the sale, upon affidavit to be filed in the Office.

249. No order shall be necessary for allowing any party to the record to bid at such sale, if he would be allowed by law to bid at the same sale in case it had not been under an order of Court.

## RECEIVERS.

250. Unless otherwise ordered, where an order is made appointing a receiver, the person to be appointed shall first give security, to be allowed by the Master, and to be taken before himself, or, if necessary, before a commissioner in the country, duly to account for the rents and profits for the receipt of which he is appointed, at such periods as the Court or Master shall appoint, and to pay the same as the Court shall direct, or, as the case may be, to be answerable for what he shall receive in respect of the personal estate for the getting in and collection of which he is to be appointed, and to account for and pay the same as the Court shall direct. And the person so to be appointed shall be allowed by the Court a proper salary or commission for his care and pains in receiving such rents and profits, or, as the case may be, shall have an allowance made to him in respect of his managing and collecting such estate.

251. Unless otherwise ordered, when a receiver or guardian shall have been appointed, the Master shall fix the days upon which the receiver or guardian shall (annually or at longer or shorter periods) leave and pass his accounts, and shall also afterwards be at liberty to extend or diminish the same, and on the passing of such accounts the Master shall fix the days upon which such receiver or guardian shall pay such sums as shall be found due and shall be directed to be paid. And with respect to such receivers or guardians as shall neglect to leave and pass their accounts, and pay the balances thereof at the time so to be fixed for that purpose as aforesaid, the Master shall from time to time, when their subsequent accounts are produced to be examined and passed, not only disallow the salaries or commissions therein claimed by such receivers or guardians, but also charge them with interest after the rate of £8 per cent. per annum upon the balances so neglected to be paid by them during the time the same shall appear to have remained in the hands of such receivers or guardians.

252. Whenever the accounts of any guardian or receiver are not brought in to the Master's office, or are not proceeded with and completed, in the manner and within the time respectively prescribed in that behalf,—or whenever any party or solicitor has omitted duly to prosecute and enforce the matter, or to bring the case before the Court, within a time limited by the Master, for that purpose,—the Master may commit to the Crown Solicitor the conduct of such matter, and direct him to bring the case before the Court, or may certify the above facts to the Court.

253. Receivers of rents and profits of lands, now or hereafter appointed, shall, when the yearly value of any such land shall not exceed one hundred pounds, have power to let the land, with the approval of the Master: Provided that any such letting shall be void if the Court shall make an order to that effect at any time before the expiration of one month.

254. When the value shall not exceed the rate of fifty pounds yearly, receivers shall have power to let the land from year to year, or for a less period, without the approbation of the Master previously signified: Provided that every such case shall be subject to the Master's control as to future lettings, in case of any complaint made to him.

255. In no case within either of the two last preceding Rules shall any certificate or report to the Court be made of any letting: Provided that the Master may in all cases direct such notices to be given of any proceeding under these Rules as he may think fit.

256. Receivers may, without the previous direction of the Master, lay out in repairing the property, when necessary, any sum not exceeding fifty pounds in one year, and the Master in passing their accounts shall allow the same, if he shall be of opinion that it has been expended for the benefit of the persons interested in the property.

## STOP ORDERS.

257. Where any stock, funds, shares, securities, or moneys are standing in Court in trust in, or to the general credit of, any suit or matter, or to the account of any class of persons, and an order is made to prevent the transfer or payment of such stock, funds, shares, securities, or moneys, or any part thereof, without notice to the assignee of any person entitled in expectancy, or otherwise, to any share or portion of such stock, funds, shares, securities, or moneys, the person by whom any such order shall be obtained, or the said share or portion of the stock, funds, shares, securities, or moneys affected by such order shall be liable, at the discretion of the Court, to pay any costs, charges, and expenses which, by reason of any such order having been obtained, shall be occasioned to any party to the suit or matter, or any person interested in any such stock, funds, shares, securities, or moneys.

258. Any person making a motion or presenting a petition for any such order as aforesaid shall not be required to serve notice of such motion or petition upon the parties to the suit, or upon the persons interested in such part of the stock, funds, shares, securities, or moneys, as are not sought to be affected by any such order.

## MONEY IN COURT AND SECURITIES.

259. All moneys paid into Court, in any estate, cause, or matter in Equity, shall be forthwith deposited in such bank as may for the time being be named by the Government of the Colony, in that behalf, to the credit of the Colonial Treasurer, at the rate of interest as arranged between the Court and the Colonial Treasurer: Provided that the Court may in its discretion invest any of the aforesaid moneys in Government debentures or stock of this or any other of the Australasian Colonies, or on real security in this Colony, or by deposit at interest in any incorporated bank carrying on the business of banking in Sydney which shall have been approved by the said Court: Provided that no such deposit shall be made in any bank in which the liability of the shareholders thereof is limited to the amount of their shares in the subscribed capital, or wherein there shall not exist a further liability to not less than the like amount.

260. Separate accounts shall be kept by the Master of all the estates, causes, or matters in respect of which any moneys shall have been paid to the credit of the Treasury, and of all payments thereout, whether for principal or interest.

261. The Master shall, in the months of January, April, July, and October, exhibit to the Primary Judge, and file in the Equity Office of this Court, accounts of all payments received by him, and by him paid into the said Bank to the credit of the Treasury, and of all payments made thereout by him within the preceding period of three months; and every such account shall also show the balance to the credit of each account and the balance in the Treasury or Bank to the credit of the Court at the commencement and termination respectively at such period. A certified copy of such account shall be forwarded to the Colonial Treasury for safe custody.

262. For every sum so deposited duplicate receipts shall be required of and given by the Colonial Treasurer, or by some Officer of the Treasury or Bank duly authorised by him on that behalf, of which one receipt shall be kept by the Officer making the payment, and the other shall be forthwith lodged in the Equity Office and entered in a book to be kept for that purpose.

263. No money so deposited shall be withdrawn or paid from the Treasury or the said Bank on its account otherwise than under the authority of a decree or order of the Court. Provided that the said Bank or the Colonial Treasurer shall not be bound to inquire whether any such decree or order has been made, or whether it sufficiently authorises such withdrawal or payment, but shall make payments under orders signed as hereinafter next mentioned.

264. No such withdrawal or payment shall be made by the said Bank or the Colonial Treasurer without an order signed by the Master or in his absence or illness by the Deputy-Registrar, or Chief Clerk respectively, and countersigned by the Accountant in Equity or in his absence by the Assistant Accountant.

265. Every such order shall be payable to order, but shall mention thereon the name of the cause, matter, or estate, in which or in respect of which the same is drawn: Provided that the said Bank or Colonial Treasurer shall not be bound to inquire into the correctness of such particulars.

266. Where the party to whom money exceeding £10 is ordered to be paid out of Court does not request payment thereof through the post, as in rule 273, hereafter mentioned, or attend the Equity Office in person, the power of attorney to receive the same must be in accordance with the provisions of the Act 17 Vict. No. 22. Provided that a common power of attorney without any declaration shall suffice where the money is paid on the day of the execution of such common power of attorney.

267. When any person is entitled under a decree or order to receive a dividend or any other periodical payments from the Master's office, and the Master requires evidence of life or of the fulfilment of any conditions affecting such payments, such evidence may be furnished by statutory declaration or affidavit to be filed in the Master's office.

268. Any order or other document by which payment of money is effected, when indorsed or signed by the payee or his lawful attorney, shall be a good discharge to the Master for the amount therein expressed. Provided that nothing herein contained shall prevent the Master from demanding a receipt for any payment made by him.

269. When money, debentures, or other securities in Court are by any decree (*or order*) directed to be paid, transferred, or delivered to any person (except he be entitled thereto as a trustee, executor, or administrator, or otherwise than in his own right or for his own use), such money, debentures, or other security, or any portion thereof, for the time being, remaining unpaid, or untransferred, or undelivered, may unless the decree (*or order*) otherwise directs, on proof of the death of such person, whether on or after, or in the case of payment directed to be made to creditors as such before the date of such decree (*or order*), be paid, or transferred, or delivered to the legal representatives of such deceased person, or to the survivors of them. If the Master is satisfied that no administration has been taken out to any such deceased person who has died intestate, and whose assets do not exceed the value of £100, including the amount of the money, debentures, or other securities directed to be so paid, transferred, or delivered to him, such money, debentures, or other securities may be paid, transferred, or delivered to the Curator of Intestate Estates to be administered by him.

270. When money in Court is by any decree (*or order*) directed to be paid to any persons described in the decree (*or order*), or in any certificate of the Master as co-partners, such money may be paid to any one or more of such co-partners, or to the survivor of them.

271. When money, debentures, or other securities in Court are by any decree (*or order*) directed to be paid, transferred, or delivered to any persons as legal representatives, such money, debentures, or other securities, or any portion thereof for the time being remaining unpaid, untransferred, or undelivered, may, upon proof to the satisfaction of the Master of the death of any of such representative, whether on or after the date of the decree (*or order*) directing such payment, transfer, or delivery, be paid, transferred, or delivered to the survivors or survivor of them.

272. No money, debentures, or other securities shall under the last two rules be paid, transferred, or delivered out of Court to the legal personal representatives of any person under any probate or letters of administration purporting to be granted at any time subsequent to the expiration of six years from the date of the decree (*or order*) directing such payment, transfer, or delivery, or in case such money, debentures, or other securities consist of interest or dividends from the date of the last receipt of such interest or dividends under such decree (*or order*).

## PAYMENTS TO BE MADE BY POST.

273. (a) When money (other than a periodical payment as in part (c) of this rule mentioned) is by a decree (or order) directed to be paid to a person who has an account at a Bank in this Colony, the Master shall remit the same by post by registered letter, upon receiving a request to that effect, together with a receipt for such payment in the proscribed form, and signed by such person and attested by a Justice of the Peace, a Commissioner for Affidavits, or a Notary Public. The order for such payment will be sent to the address stated in the request, and will be specially crossed to his account at the named Bank, and will not be negotiable.
- (b) When money not exceeding £500 (other than a periodical payment in part (c) of this rule mentioned) is by a decree (or order) directed to be paid to a person residing in this Colony who has not an account at a Bank in this Colony, the Master shall remit the same by post by registered letter to such person upon receiving a request to that effect, together with a receipt for such payment, both in the proscribed form, and signed by such person and attested in the same manner required in the preceding part of this rule (a). The order for payment will be sent to the address stated in the request, and will be crossed so as to be payable only through a Bank.
- (c) Any person residing within this Colony entitled under a decree (or order) to any interest, dividend, annuity, or other periodical payment may send to the Master a request in the proscribed form for the remittance of the same by post, from time to time, as it accrues due. Such request to be signed by such person and attested in the manner prescribed in the preceding parts of this rule (a and b), and the Master may then afterwards, as such periodical payment falls due (and upon receiving a receipt for each such payment together with evidence of life or of the fulfilments of any conditions of payment as referred to in rule 267) remit the same by post to the address stated in the request. The order for payment will be crossed so as to be payable only through a Bank.

Provided that the Master may refuse to make a remittance under this rule in any case in which he sees reason for so doing. And provided also that the transmission by post, upon a request, of any crossed order for payment shall be at the sole risk of the person at whose request it is sent.

Requests and receipts for payment under this rule, and notification of changes of addresses of persons entitled to periodical payments shall be in such form as may from time to time be prescribed by the Master with the approval of the Colonial Treasurer. The forms in Schedules L. M. N. have been duly settled by the Master and approved by the Colonial Treasurer.

## PROCEEDINGS UNDER THE STATUTORY JURISDICTION.

I.—*Trustee Relief and Security Act, 21 Vict. No. 7.*

274. Any Trustee desiring to pay money to the account of the Master, or transfer or deposit stock or securities, into or in the Master's name, under the Statute 21 Vict. No. 7, shall file an affidavit entitled in the matter of the trust and in the matter of the Act, and setting forth—

- (1) His own name and address.
- (2) The place where he is to be served with any petition or any notice of any proceeding or order of the Court relating to the trust fund.
- (3) The amount of money, stock, or securities which he proposes to pay, or transfer into, or deposit in Court to the credit of the trust.
- (4) A short description of the trust and of the instrument creating it.
- (5) The names of the persons interested in or entitled to the fund, to the best of the knowledge and belief of the trustee.
- (6) The submission of the trustee to answer all such inquiries relating to the application of the money, stock, or securities paid in, transferred, or deposited under the Act, as the Court may think proper to direct.

275. The Master, on production of the affidavit, shall give the necessary directions for payment, transfer, or deposit, and place the money, stock, or securities to the account of the particular trust; and such payment, transfer, or deposit shall be certified in the usual manner.

276. The Trustee having made the payment, transfer or deposit, shall forthwith give notice thereof to the several persons named in his affidavit as interested in or entitled to the fund.

277. Such persons, or any of them, or the Trustee, may apply by petition or motion, as occasion may require, respecting the investment, payment out, or distribution of the fund, or of the dividends, or interest thereof.

278. The Trustees shall be served with notice of any application made to the Court respecting the fund, or the dividends or interest thereof, by any person interested therein or entitled thereto.

279. The persons interested in or entitled to the fund shall be served with notice of any application made by the Trustee to the Court, respecting the fund in Court, or the interest or dividends thereof.

280. No petition shall be set down to be heard, and no motion made, until the petitioner or applicant has first named in his petition, or notice of motion, a place where he may be served with any petition or notice of any proceeding or order of the Court, relating to the trust fund.

281. Petitions presented, and notices of motions served and affidavits filed, and all proceedings had under the said Act, shall be entitled in the matter of the particular trust, and in the matter of the Act 21 Victoria No. 7.

282. Any order made, or direction given, by the Master in such matters may be discharged or varied by the Court; and the costs in every such matter shall be in the discretion of the Court, and shall be paid by such person or out of such fund as the Court shall direct.

II.—*Act 26 Vict. No. 12.*

283. All petitions, summonses, statements, affidavits, and other proceedings under the 30th section of the last-mentioned Act, shall be intitled in the matter of the particular trust, will, or administration, and in the matter of the Act 26 Victoria No. 12; and every such petition or statement shall state the facts concisely, and shall be divided into paragraphs numbered consecutively; and every summons shall, as nearly as may be, and except as to its title, be similar to the form set out in Schedule K. 284.

284. At the time when any such summons is issued, the statement upon which the same is grounded shall be filed in the Master's office.

285. Every such petition or summons shall be served eight clear days before the hearing thereof, unless the person served shall consent to a shorter time.

286. The opinion, advice, or direction of the Judge shall be passed and entered, and remain of record in the same manner as any order made by the Court or Judge; and the same shall be termed "a judicial opinion," or "judicial advice," or "judicial direction," as the case may be.

III.—*Charter of Justice, s. 18 and 11 Vict. No. 27.*

287. Upon every application for the appointment of a guardian to an infant, or for an allowance for his maintenance, the evidence to support the same must show the following particulars:—

1. The age of the infant.
2. The nature and amount of his property and income.
3. Where and under whose charge the infant generally resides, and at whose expense he is maintained.
4. What relations he has.
5. The position in life of such infant and of his parents.
6. The residence, age, and position in life of the proposed guardian.
7. Any other circumstances showing his fitness for that office.
8. The written consent of such proposed guardian to act.

288. Unless special circumstances require a reference for such appointment and allowance, the costs of an application to the Court for a direct appointment only will be allowed.

IV.—*Act 20 Vict. No. 2.*

289. Upon any application to obtain the sanction of the Court to an infant's making a settlement on marriage under the Act 20 Vict. No. 2, evidence must be produced in support of the same, showing the following particulars:—

1. The age of the infant.
2. Whether he has any parent or guardian.
3. With whom and under whose care he is living; and if no parent or guardian, what near relations such infant has.
4. The position in life of the infant and of his parents.
5. What his property consists of.
6. The age and position in life of the person whom such infant proposes to marry.
7. What property and income such person has.
8. The fitness of the proposed trustees under the settlement.
9. Their written consent to act.

290. The heads also of the proposed settlement must be specified in the petition, or in some affidavit in support of such application.

291. These regulations apply severally to all infants, female as well as male.

V.—*Acts 16 Vict. No. 19, 17 Vict. No. 4.*

292. Upon any application by petition, for the appointment of new trustees under the Trustee Acts of 1852 and 1853, the evidence to support the same must show the following particulars:—

1. The nature of the trusts still subsisting.
2. The nature and value of the property subject to such trusts.
3. The persons beneficially entitled.
4. The fitness of the proposed new trustees.
5. Their written consent to act.

293. Unless special circumstances require a reference for such appointment, the costs of an application to the Court for a direct appointment only will be allowed.

RULES AS TO TIME.

294. Where time is prescribed by these rules to any party to a suit for doing any act, he shall be allowed half as many more days if he resides above 100 miles from Sydney, and twice the stated number of days if he resides above 200 miles from Sydney: Provided that the Court may enlarge or abridge such time on sufficient cause shown.

295. Service of all writs, notices, summonses, orders, documents, and other proceedings not requiring personal service shall, unless otherwise ordered, be made before half-past 4 o'clock in the afternoon, except on Saturday, when it shall be made before 1 o'clock in the afternoon.

296. Where the Master is authorised to fix the time for doing any act, he may enlarge or abridge the time so fixed on sufficient cause shown.

297. Where any time from or after any date or event is appointed or allowed for doing any act or taking any proceeding and such time is not limited by hours, the computations of such time shall not include the day of such date or of the happening of such event, but shall commence at the beginning of the next following day, and the act or proceeding shall be done or taken at the latest on the last day of such time according to such computation.

298. Where the time for doing any act or taking any proceeding is limited by months, such time shall be taken to be calendar months.

299. Where any limited time less than eight days from or after any date or event is appointed or allowed for doing any act or taking any proceeding, Sundays and other days on which the offices are closed shall not be reckoned in the computation of such limited time.

300. Where the time for doing any act or taking any proceeding expires on a Sunday, or other day on which the office in which the act is required to be done or the proceeding to be taken is closed, and by reason thereof such act or proceeding cannot be done or taken on that day, such act or proceeding shall, so far as regards the time of doing or taking the same, be held to be duly done or taken, if done or taken on the day on which such office shall next open.

COSTS,

## COSTS, CHARGES, AND EXPENSES GENERALLY.

301. Where the Court appoints one of the solicitors of the Court to be guardian *ad litem* of an infant or person of unsound mind, the Court may direct that the costs to be incurred in the performance of the duties of such office, shall be borne and paid either by the parties or some one or more of the parties to the suit in which such appointment is made, or out of any fund in Court in which such infant or person of unsound mind may be interested; and may give directions for the repayment or allowance of such costs, as the justice and circumstances of the case may require.

302. Where costs are ordered to be paid to a party suing or defending *in forma pauperis*, such costs shall be taxed as ordinary costs, unless the Court shall otherwise direct.

303. Where the plaintiff is directed to pay to the defendant the costs of the suit, the costs occasioned to a defendant by any amendment of the statement of claim shall be deemed to be part of such defendant's costs in the suit, except as to any amendment which may have been made by special leave of the Court or which shall appear to have been rendered necessary by the default of such defendant, but there shall be deducted from such costs any sum which may have been paid by the plaintiff, according to the course of the Court, at the time of any amendment.

304. Where upon taxation a plaintiff, who has obtained a decree with costs, is not allowed the costs of any amendment of the statement of claim upon the ground of its having been unnecessarily made, the defendant's costs occasioned by such amendment shall be taxed, and the amount thereof deducted from the costs to be paid by the defendant to the plaintiff.

305. Where the Court is of opinion that any petition or affidavit, or any part thereof, is improper or of unnecessary length, the Court may direct the Master to ascertain the costs occasioned to any party thereby, and may make such order as is just for the payment or allowance of such costs.

306. Where the same solicitor is employed for two or more defendants, and separate statements of defence are filed, or other proceedings had, by or for two or more of such defendants separately, the Master shall consider in the taxation of such solicitor's bill of costs, either between party and party or between solicitor and client, whether such separate defence or other proceedings were necessary or proper; and, if he is of opinion that any part of the costs occasioned thereby has been unnecessarily or improperly incurred, the same shall be disallowed.

307. Where any party submits to exceptions for insufficiency, he shall pay to the excepting party twenty shillings costs if before the order of reference, and thirty shillings if before the report, unless other costs are specially certified by the Master. And, where the costs of suit are ordered to be paid to any party, the costs occasioned to him by the insufficiency of any answer to interrogatories shall be deemed to be part of such costs; any sum being deducted therefrom which shall have been paid to him upon the exceptions being submitted to, or the answer certified to be insufficient.

308. The plaintiff, having duly caused an appearance to be entered for any defendant, shall be entitled as against the same defendant to the costs of and incident to entering such appearance, whatever may be the event of the suit; and such costs shall be added to any costs which the plaintiff may be entitled to receive from such defendant, or be set off against any cost which he may be ordered to pay to such defendant; but payment thereof shall not be otherwise enforced without the leave of the Court.

309. Where no account, payment, conveyance, or other relief is sought against a party, but the plaintiff (or the defendant under a counter-claim) requires such party to appear to the statement of claim or counter-claim, the costs occasioned by such party having been required so to appear, and the costs of all proceedings consequent thereon, shall be paid by the party requiring such appearance, unless the Court shall otherwise direct.

310. Expenses incurred in consequence of affidavits being prepared or settled by Counsel shall be allowed only when the Master shall in his discretion, and on consideration of the special circumstances in each case, think such expenses properly incurred; and in such case he shall be at liberty to allow the same, or such parts thereof as he may consider just and reasonable, whether the taxation be between solicitor and client, or between party and party.

311. Where a suit which stands for hearing is called on to be heard, but cannot be decided by reason of a want of parties, or other defect on the part of the plaintiff, and is therefore struck out of the paper, and the same suit is again set down, the defendant shall be allowed the taxed costs occasioned by the first setting down, although he does not obtain the costs of the suit.

312. Where a suit, being in the paper for hearing, is ordered to be adjourned upon payment of the costs of the day, the party to pay the same shall pay the sum of ten pounds, unless the Court shall otherwise direct.

313. Where a party gives a notice of motion, and does not move accordingly, he shall pay to the other side costs to be taxed by the Master, unless the Court itself shall direct what sum shall be paid for costs.

314. Where two or more Counsel appear for the same party, upon the hearing of any suit or matter, and it appears to the Master to have been proper for the party to retain such Counsel to appear, the costs occasioned thereby shall be allowed.

315. Where costs are to be taxed as between party and party the Master may allow to the party entitled to receive such costs all such just and reasonable expenses as appear to have been incurred in

Advising with Counsel as to the institution or defence of the suit;

The service and execution of writs, and the service of orders, notices, petitions, and summonses;

Advising with Counsel on the pleadings, evidence, and other proceedings in the suit;

Procuring Counsel to settle and sign pleadings and such petitions and affidavits as may appear to be proper to have been settled by Counsel;

Procuring consultations of Counsel, and procuring the attendance of Counsel in the Master's Office where the Master may consider the case proper for Counsel to attend;

Procuring evidence by deposition or affidavit, and the attendance of witnesses, and supplying Counsel with copies of or extracts from necessary documents.

316. But, in allowing such costs, the Master shall not allow to such party any costs which do not appear to have been necessary or proper for the attainment of justice, or for defending his rights, or which appear to have been incurred through over-caution, negligence, or mistake, or merely at the desire of the party.

317. Any party who may be dissatisfied with the allowance or disallowance by the Master of the whole or any part of any item or items in any bill of costs may, at any time before the certificate is signed, deliver to the other party interested therein, and carry in before the Master, an objection in writing to such allowance, or disallowance, specifying in a short and concise form the matter objected to, and may thereupon apply to the Master for a summons to review the taxation in respect of the same.

318. Upon the application for such summons, or upon the return thereof, the Master shall reconsider and review his taxation upon such objection; and he may, if he shall think fit, receive further evidence in respect thereof; and, if so required by either party, he shall state either in his certificate of taxation, or by reference to such objection, the grounds and reasons of his decision thereon, and any special facts or circumstances relating thereto.

319. Any party who may be dissatisfied with the certificate of the Master, or with his allocatur, if the costs form a sum to be afterwards inserted in a report or certificate, may, as to any item or part of an item which may have been objected to, apply to the Court for an order to review the taxation as to the same, and the Court may thereupon make such order as to the Court shall seem just. But the certificate or allocatur of the Master shall be final and conclusive as to all matters which shall not have been so objected to.

320. Such applications shall be heard and determined upon the evidence which shall have been brought in before the Master; and no further evidence shall be received upon the hearing thereof, unless the Court shall otherwise direct.

321. Upon interlocutory applications, where the Court deems it proper to award costs to either party, the Court may order payment of a sum in gross, in lieu of taxed costs, and direct by and to whom such sum in gross shall be paid.

322. Where a suit or petition or a counter claim is dismissed with costs, or a motion is refused with costs, or any costs are by any general or special order or decree directed to be paid, the Master may tax such costs without any order referring the same for taxation; unless the Court, upon the application of the party alleging himself to be aggrieved, prohibits the taxation of such costs.

323. Where it is directed that costs shall be taxed in case the parties differ about the same, the party claiming the costs shall bring the bill of costs into the Equity Office, and give notice of his having so done to the other party; and at any time within eight days of such notice, such other party shall have liberty to inspect the same, if he thinks fit. And at or before the expiration of the eight days, or such further time as the Master shall in his discretion allow, such other party shall either agree to pay the costs, or signify his dissent therefrom, and shall thereupon be at liberty to offer payment of a sum of money for the costs. But, when he makes no such offer, or when the party claiming the costs refuses to accept such offer, the Master shall proceed to tax the costs; and when the taxed costs shall not exceed the sum offered, the costs of the taxation shall be borne by the party claiming the costs.

324. Where any costs are by any decree or order directed to be taxed, and to be paid out of any money in Court, the Master, in his certificate of taxation, shall state the total amount of all such costs as taxed.

325. There shall be no more than one Certificate of Costs under any decree or order unless the Master shall otherwise direct.

FEES, &c.

326. The amount of fees and allowances to Solicitors in reference to proceedings in Equity shall be those mentioned in the annexed scale.

TIME OF OPERATION, &c.

327. These rules shall come into operation on the 25th day of May, 1891, and may be cited as the "Consolidated Equity Rules of 1891."

SCALE REFERRED TO.

INSTRUCTIONS.

	£	s.	d.	£	s.	d.		
To sue or defend .....	From	0	7	6	to	1	0	0
For statement of claim, statement of defence, special case on petition.....	From	1	0	0	to	3	0	0
For replication or interrogatories .....	From	0	5	0	to	0	10	0
For documents to be brought into Master's Office, such as charges, discharges, or statement of facts .....	From	0	7	6	to	1	0	0
To amend any pleading.....	From	0	10	0	to	1	0	0
For affidavit .....	From	0	5	0	to	1	0	0
To appeal .....	From	0	10	0	to	1	0	0
For or in opposition to any motion to be made in Court .....	From	0	10	0	to	1	0	0
For or in opposition to any application in Chambers .....	From	0	5	0	to	0	10	0
For brief on hearing of suit, such fee may be allowed as the taxing officer shall think fit, having regard to the number of witnesses whose proofs shall have been taken, the time occupied in making searches and in procuring evidence, and to all the circumstances of the case.....	.....	.....	.....	.....	.....	.....	.....	.....
For brief on motion, or on further consideration, or on appeal, or on examination of witnesses <i>de bene esse</i> .....	From	0	10	0	to	2	0	0
For brief on application in Chambers.....	From	0	7	6	to	1	0	0

DRAWING PLEADINGS AND OTHER DOCUMENTS.

Statement of claim or statement of defence .....	1	0	0					
Or per folio .....	0	1	6					
Replication, interrogatories, demurrer, plea, special case, statement of facts, charge, discharge, petition, minutes, affidavit, order, accounts, statements, advertisement, summons in Chambers, or pleadings of any kind.....	0	5	0					
Or per folio .....	0	1	6					
Will, conveyance, or other deed, per folio .....	From	0	1	6	to	0	2	0
Briefs per sheet (including copy) .....	0	10	0					
Or per folio .....	0	2	0					
Bills of costs for taxation including copy for the taxing officer, per folio ..	0	1	6					
Indorsement on statement of claim under 13th section of Equity Act of 1880 .....	0	5	0					
Indorsement of fiat on petition .....	0	3	0					
Marking each exhibit to affidavit .....	0	1	0					

COPIES.		£ s. d.
Of statement of claim and all other documents where no other provision is made .....		0 1 0
Or per folio .....		0 0 6
If attested, per folio .....		0 0 8
Of briefs, per sheet of 6 folios .....		0 3 6
Engrossment on parchment of any will or deed, per folio .....		0 0 8
Of any documents for printer, per folio .....		0 0 6
For printing, the amount actually and properly paid to the printer .....		.....

## PERUSALS.

Of statement of claim, statement of defence, and other pleading by the Solicitors of the party to whom the same are delivered .....		0 7 6
Or per folio .....		0 0 6
Of special affidavits by the Solicitor of the party against whom the same can be read—each affidavit, per folio...		0 0 6
Of printed proof and revise, per folio .....		0 0 2

## WRITS AND SUMMONSES.

Writ of subpoena <i>ad testificandum</i> or <i>duces tecum</i> , including præcipe and attending to issue, but not including fees paid .....		0 12 6
Writ of execution, including affidavit of demand, præcipe, attending to issue and attending lodging with Sheriff, and fees paid on issuing and lodging with Sheriff .....		2 5 0
All other writs, drawing, and engrossing, at per folio .....		0 2 0

## SERVICES AND NOTICES.

Service of statement of claim, petition, order, or other document on a party personally .....	From 0 7 6 to	0 15 0
If served at a distance of more than two miles from the place of business of the Solicitor serving the same, for each mile beyond such two miles therefrom .....		0 1 0
Where, in consequence of the distance of the party to be served, it is proper to effect such service through a bailiff or agent, for correspondence in addition .....		0 7 6
Where more than one attendance is necessary to effect service such further allowance may be made as the taxing officer shall think fit .....		.....
Service of any statement of claim, statement of defence, replication, petition, or other similar document on the Solicitor of the opposite party .....		0 5 0
For preparing and serving on Solicitor of opposite party notice of appearance, of trial, or of hearing .....		0 5 0
For preparing and serving notice to produce or notice to admit .....		0 7 6
If special, or necessarily long, such allowance as the taxing officer shall think proper, not exceeding (including copy and service) per folio .....		0 2 0
For preparing notice of motion .....		0 5 0
Or per folio .....		0 1 6
Copy for service .....		0 2 0
Or per folio .....		0 0 6
For service of notice of motion, summons in Chambers, or appointment on Solicitor of other party .....		0 2 6
For preparing any necessary or proper notice not otherwise provided for, including copy and service on Solicitor of other party .....		0 5 0
Or at per folio .....		0 2 0

## ATTENDANCES.

		£ s. d.
To file statement of claim and have summons indorsed stamped .....		0 5 0
To file petition, including obtaining signature to fiat indorsed .....		0 5 0
To swear and file statement of defence .....		0 7 6
To enter appearance, file affidavit, notice of motion, copy chamber summons, Judge's order, or other similar document .....		0 2 6
To obtain consent of next friend to sue in his name or of a guardian <i>ad litem</i> .....		0 10 0
At Master's Office to obtain decree or order after being passed or entered .....		0 5 0
To inspect or produce for inspection documents pursuant to a notice to admit, .....	From 0 5 0 to	10 0 0
To serve notice of appearance, notice of motion, copy Chamber summons, Chamber order, or other similar document .....		0 2 6
For every hour after the first .....		0 10 0
To obtain or give any necessary or proper consent .....	From 0 5 0 to	0 10 0
To obtain an appointment to examine witnesses <i>de bene esse</i> .....	From 0 5 0 to	0 10 0
On examination of witnesses before Master in Equity, Commissioner, or other person with counsel .....		1 0 0
For every hour after the first .....		0 10 0
On examination of witnesses <i>de bene esse</i> with out counsel .....	From 2 2 0 to	3 3 0
Every hour after the first .....		0 15 0
If examination more than two miles from place of business of Solicitor, then such additional allowance as the taxing officer may deem reasonable .....		.....
On deponent to read over and with him to be sworn to affidavit .....	From 0 5 0 to	0 10 0
By a Solicitor or his clerk to be sworn to an affidavit .....		0 5 0
On a summons in Chambers with counsel .....	From 0 10 0 to	1 0 0
If without counsel .....	From 1 0 0 to	3 0 0
To file Chief Clerk's and Taxing Master's certificates, or to get copy marked as an office copy .....	From 0 5 0 to	0 7 6
On counsel, with brief or other papers—		
If counsel's fee one guinea .....		0 5 0
If more and under five guineas .....		0 7 6
If five guineas and under twenty guineas .....		0 10 0
If twenty guineas and under thirty guineas .....		1 0 0
If more than thirty guineas .....		2 0 0
Attendance on counsel to mark refresher, or to appoint consultation .....		0 5 0
On consultation or conference with counsel .....	From 0 7 6 to	2 0 0
To enter or set down suit, special case, or appeal for hearing or trial .....		0 5 0
In Court on hearing of motion, special case, petition, appeal, or any other hearing where no witnesses examined .....	From 1 0 0 to	3 0 0
To present petition for order of course and for order .....		0 7 6
In court on every suit or special motion when same in list and not heard .....		0 15 0
On hearing of any suit per day where witnesses examined .....	From 5 0 0 to	7 0 0
To hear judgment .....		1 0 0
Before Master or Chief Clerk on any appointment, settlement of minutes, or inquiry, or for any purpose whatsoever necessary in the progress of the suit or proceeding .....	From 0 7 6 to	2 0 0
On taxation of bill of costs .....	From 0 10 0 to	3 0 0
Unless the same shall necessarily occupy so much time that the taxing officer shall consider such amount inadequate, in which case he may allow such further fee as he shall think proper .....		.....
To obtain or give undertaking to appear .....		0 5 0
At <i>Gazette</i> Office or other newspaper with notice for insertion .....		0 5 0
On counsel to procure certificate that cause proper to be heard as a short cause .....		0 10 0
To procure signature of judge to any order in chambers .....		0 7 6

	£ s. d.	£ s. d.
To examine an abstract of title with deeds, per hour, in a cause or matter .....		0 10 0
To produce deeds for such purpose, per hour .....		0 5 0
To obtain appointment to tax or other appointment necessarily signed by the Chief Clerk or other clerk in the office of the Master in Equity, and including drawing, copy, and service of any such appointment (but not including fees paid) .....		0 7 6
If served on more than one party, for every additional party .....		0 5 0
On printer, and instructing him .....		0 10 0
For examining the proof print at per folio .....		0 0 2
Attending to return proof .....		0 5 0
Examining revise .....	From 0 5 0 to	1 0 0
Attending to search cause list during each Term.....	From 0 10 0 to	2 0 0

TERM FEES, LETTERS, &c.

Term Fee, for every Term during which any proceeding shall be taken in the suit .....		0 15 0
And further, in country agency, suits for letters .....		0 6 0
Where no proceeding in the cause or matter is taken which carries a Term fee, a charge for letters may be allowed if the circumstances require it .....		.....
For letter before suit, and every necessary letter during the course of a suit .....	From 0 3 6 to	0 7 6
For circular letters, after the first letter, for each letter .....		0 1 6
In addition to the above, an allowance is to be made for special letters, and for the necessary expense of postages, carriage, and transmission of documents.....		.....

ALLOWANCES TO TOWN WITNESSES.

Merchants, bankers, master mariners, and professional men, per diem.....	From 0 15 0 to	1 0 0
Tradesmen, auctioneers, accountants, and clerks, per diem .....	From 0 7 6 to	0 15 0
Artizans, journeymen, sailors, labourers, and the like, per diem.....	From 0 6 0 to	0 7 6

ALLOWANCE TO COUNTRY WITNESSES.

From four shillings to eight shillings per day, in addition to the above-mentioned allowances, and in addition to the sum reasonably paid for travelling expenses.

SCHEDULES.

A.

(Referred to in Rule 60.)

FORM OF STATEMENT OF CLAIM.

In the Supreme Court }  
of New South Wales. }  
In Equity. }

Between John Lee Plaintiff and James Styles and Henry Jones Defendants.

Statement of claim :

1. The defendant James Styles being seized in fee simple of a farm called Blackacre in the parish of A in the County of B and Colony of New South Wales with the appurtenances did by an indenture dated the 1st of May 1870 and made between the defendant James Styles of the one part and the plaintiff of the other part grant and convey the said farm with the appurtenances unto and to the use of the plaintiff his heirs and assigns subject to a proviso for redemption thereof in case the defendant James Styles his heirs executors administrators or assigns should on the 1st of May 1871 pay to the plaintiff his executors administrators or assigns the sum of £5,000 with interest thereon at the rate of £5 per centum per annum as by the said Indenture will appear.

2. The whole of the said sum of £5,000 together with interest thereon at the rate aforesaid is now due to the plaintiff.

3. The defendant Henry Jones claims to have some charge upon the farm and premises comprised in the said indenture of mortgage which charge is subsequent to the plaintiff's said mortgage.

4. The plaintiff has frequently applied to the defendants James Styles and Henry Jones and required them either to pay the said mortgage debt and interest or else to release the equity of redemption of the premises but they have refused so to do.

5. The defendants James Styles and Henry Jones allege that there are some other mortgages charges or incumbrances affecting the premises but they refuse to discover the particulars thereof.

6. There are divers valuable timber and timber-like trees growing and standing on the farms and lands comprised in the indenture of mortgage of the 1st May 1870 which trees and timber are a material part of the plaintiff's said security and if the same or any of them were felled or taken away the said mortgaged premises would be an insufficient security to the plaintiff for the money due thereon.

7. The defendant James Styles who is in possession of the said farm has marked for felling a large quantity of the said trees and he has by hand-bills published on the 2nd December instant announced the same for sale and he threatens and intends forthwith to cut down and dispose of a considerable quantity of the said trees on the said farm.

The plaintiff prays as follows :—

1. That an account may be taken of what is due for principal and interest on the said mortgage.
2. That the defendants James Styles and Henry Jones may be decreed to pay to the plaintiff the amount which shall be so found due together with his costs of this suit by a short day to be appointed for that purpose or in default thereof that the defendants James Styles and Henry Jones and all persons claiming under them may be absolutely foreclosed of all right and Equity of Redemption in or to the said mortgaged premises.
3. That the defendant James Styles may be restrained by the injunction of this Honorable Court from felling cutting or disposing of any of the timber or timber-like trees now standing or growing in or upon the said farm and premises comprised in the said Indenture of Mortgage or any part thereof.
4. That the plaintiff may have such further or other relief as the nature of the case may require.

M.M.

Counsel for the plaintiff.

NOTE.—This statement of claim is filed by Messrs. B. & Co. 281 George-street Sydney solicitors for John Lee George-street aforesaid Esquire the above-named plaintiff.

B.

(Referred to in Rule 99.)

FORM OF STATEMENT OF DEFENCE.

In the Supreme Court }  
of New South Wales. }  
In Equity. }

Between John Lee Plaintiff and James Styles and Henry Jones Defendants.

Statement of defence of James Styles one of the above-named defendants.

I James Styles do on my oath say as follows :—

1. I do not know and am not able to admit that the contents of the indenture of the 1st day of May 1870 in the first paragraph of the plaintiff's statement of claim are correctly stated thereon and I crave leave to refer to the said indenture when produced.

2. I believe that the defendant Henry Jones does claim to have a charge upon the farm and premises comprised in the indenture of mortgage of the 1st day of May 1870 in the plaintiff's statement of claim mentioned.

3. Such charge was created by an indenture dated the 1st day of November 1870 between myself of the one part and the said defendant Henry Jones of the other part whereby I granted and conveyed the said farm and premises (subject to the mortgage made by the said indenture of the 1st of May 1870) unto the defendant Henry Jones for securing the sum of £2,000 and interest at the rate of £5 per centum per annum and the amount due thereon is the said sum of £2,000 with interest thereon from the date of such mortgage.

4. To the best of my knowledge remembrance and belief there is not any other mortgage charge or encumbrance affecting the aforesaid premises.

(Signed) JAMES STYLES.

By way of counter-claim the defendant James Styles states as follows:—

1. On the 1st day of August 1880 the defendant James Styles entered into a contract in writing with the plaintiff for the sale to him of a farm called Whiteacre in the county of C. and Colony of New South Wales containing 3,000 acres or thereabouts for the price of £5,000 and it was mutually agreed by and between the plaintiff and the said defendant that the said purchase money should be set off against the debt secured by the said indenture of mortgage of the 1st day of May 1870 and that the plaintiff should forthwith reconvey to the said defendant the said farm of Blackacre freed and discharged from the said mortgage debt.

The defendant James Styles prays as follows:—

1. That the plaintiff may be decreed specifically to perform his said contract and to reconvey to the defendant James Styles the said farm of Blackacre freed and discharged from the said debt secured by the said indenture of mortgage of the 1st day of May 1870 the said defendant being ready and willing to perform the said contract on his part.
2. That for the purpose aforesaid all proper directions may be given declarations made and accounts taken.
3. That the said defendant may have such further or other relief as the nature of the case may require.

S.W.,  
Counsel for the defendant,  
JAMES STYLES.

NOTE.—This statement of defence and counter-claim is filed by Messrs. E. and F. 500 Pitt-street Sydney solicitors or James Styles of Parramatta in the Colony of New South Wales one of the above-named defendants.

The above statement of defence was sworn by the above-named James Styles at Sydney this 1st day of August 1880 before me.

Master in Equity (or Chief Clerk or Commissioner, or Deputy Registrar).

C.

(Referred to in Rule 35.)

FORM OF NOTICE TO ADMIT AND INSPECT DOCUMENTS.

*Title of cause or matter.*

TAKE notice that the plaintiff [or defendant or petitioner or respondent] proposes to adduce in evidence on the trial in this cause [or matter] the several documents hereunder specified and the same may be inspected by the defendant [or plaintiff or respondent or petitioner] his solicitor or agent at \_\_\_\_\_ on \_\_\_\_\_ between the hours of \_\_\_\_\_ and the defendant [or plaintiff or respondent or petitioner] is hereby required within forty-eight hours from the last-mentioned hour to admit that such of the said documents as are specified to be originals were respectively written signed or executed as they purport respectively to have been that such as are specified as copies are true copies and that such documents as are stated to have been served sent or delivered were so served sent or delivered respectively saving all just exceptions to the admissibility of all such documents as evidence on such trial.

Dated &c.

To E. F. solicitor

G. H. solicitor

[or agent] for { defendant  
respondent  
or  
petitioner } [or agent] for { plaintiff  
defendant  
petitioner  
or  
respondent }

Here describe the documents. The description may be as follows

Originals.

Description of the Documents.	Date.
Deed of covenant between A. B. and C. D. 1st part and E. F. of the 2nd part .....	1st Jan. 1878
Indenture of lease from A. B. to C. D. ....	1st Feb. 1878
Indenture of release between A. B. C. D. 1st part &c. ....	2nd Feb. 1878
Letter from defendant to plaintiff .....	1st Mar. 1878
Policy of insurance on goods .....	3rd Dec. 1878
Bill of exchange for £100 at 3 months drawn by A. B. on and accepted by C. D. indorsed by E. F. and G. H.	1st May 1870

Copies.

Descriptions of Documents.	Dates.	Original or duplicate served sent or delivered. When how and by whom.
Register of baptism of A. B. in parish of X. ....	1st Jan. 1858	
Letter from plaintiff to defendant .....	1st Feb. 1878	Sent by General Post 2nd Feb. 1878.
Notice to produce papers .....	1st Mar. 1878	Served 2nd March 1878 on defendants' attorney by E. F. of—

D.

(Referred to in Rule 122.)

AFFIDAVIT AS TO PRODUCTION OF DOCUMENTS PURSUANT TO AN ORDER.

*Title of suit or matter.*

On this \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_ the plaintiff [or defendant] being duly sworn maketh oath and saith as follows:—

1. I say I have in my possession or power the documents relating to the matters in question in this suit set forth in the first and second part of the First Schedule hereto annexed.

2. I further say that I object to produce the said documents set forth in the second part of the said First Schedule hereto.

3. I further say [state upon what grounds the objection is made and verify the facts as far as may be].

4. I further say that I have had but have not now in my possession or power the documents relating to the matters in question in this suit set forth in the Second Schedule hereto annexed.

5. I further say that the last-mentioned documents were last in my power or possession on [state when].

6. I further say [state what has become of the last-mentioned documents and in whose possession they now are].

7. I further say according to the best of my knowledge remembrance information and belief that I have not now and never have had in my own possession custody or power or in the possession custody or power of my solicitors or agents or solicitor or agent or in the possession custody or power of any other persons or person on my behalf any deed account book of account voucher receipt letter memorandum paper or writing or any copy of or extract from any such document or any other document whatsoever relating to the matters in question in this suit or any of them or wherein any entry has been made relative to such matters or any of them other than and except the documents set forth in the said First and Second Schedules hereto.

NOTE.—If the party denies having any document, he is to make an affidavit in form of the 7th paragraph, omitting the exception.

E.

(Referred to in Rule 142.)

1. FORM OF RECORD OF A QUESTION OR QUESTIONS OF FACT.

*Title of cause or matter.*

By an order made in this cause [or matter] dated &c. the Court hath directed that the following question [or questions] of fact be tried by a jury before the Court itself [or before the Court itself without a jury] (that is to say):

Whether, &c.

N.B.—If more questions than one, number them consecutively—1, 2, 3, &c.

2. FORM OF RECORD FOR TRIAL AS TO AMOUNT OF DAMAGES.

*Title of cause or matter.*

WHEREAS by an order made in this cause [or matter] dated &c. the Court hath awarded damages to \_\_\_\_\_ in respect of the matters in the said order mentioned and hath directed that the amount of such damages shall be assessed by a jury before the Court itself [or before the Court itself without a jury].

The question is what amount of damages the plaintiff hath sustained by reason of the matters in the said order mentioned.

F.

(Referred to in Rule 196.)

FORM OF NOTICE OF APPEAL.

In the Supreme Court  
of New South Wales.  
In Equity.

Between A.B. Plaintiff and C.D. Defendant.

TAKE notice that the plaintiff [or defendant] appeals against the Decree [or Order] of His Honor the Primary Judge in Equity dated the \_\_\_\_\_ day of \_\_\_\_\_ 18 \_\_\_\_\_ [or against so much of the Decree (or Order) of His Honor, dated the \_\_\_\_\_ day of \_\_\_\_\_ 18 \_\_\_\_\_ as declares &c. or directs &c.] for the following among other grounds and reasons that is to say:—

N.B.—If more than one ground, number them consecutively—1, 2, 3, &c.

I certify that this suit [or matter] is proper to be reheard before the Full Court.

A.B.  
Counsel for Appellants.

G.

(Referred to in Rule 203.)

FORM OF SUMMONS BY MASTER IN EQUITY.

In the Supreme Court  
of New South Wales.  
In Equity.

In the matter of  
Colony deceased [or

the estate of \_\_\_\_\_ late of \_\_\_\_\_ in the said  
].

Between A. B. Plaintiff and C. D. Defendant.

E.F. of &c. [or] the Defendant C.D. is hereby summoned to attend at the Equity Office of the Supreme Court, at Chancery Square, Sydney, on the \_\_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_ of the clock in the \_\_\_\_\_ noon to be examined on the part of \_\_\_\_\_ [or the Plaintiff] for the purpose of the proceedings directed by the Court to be taken before me.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 18 \_\_\_\_\_.

A.T.H.  
Master in Equity.

This summons was taken out by Messrs. B. & Co. 281 George Street Sydney solicitors for [or the Plaintiff].

H.

(Referred to in Rule 203.)

In the Supreme Court of New South Wales.

IN EQUITY.

(Short title of cause or matter.)

I APPOINT the \_\_\_\_\_ day of \_\_\_\_\_, at my chambers, Equity Office, Chancery Square, to [settle minutes of order of, &c., or as the case may be].

Dated the \_\_\_\_\_ day of \_\_\_\_\_ 18 \_\_\_\_\_

Master in Equity.

## 27

I.

(Referred to in Rule 235.)

## FORM OF REPORT OF CERTIFICATE OF MASTER IN EQUITY.

In the Supreme Court  
of New South Wales.  
In Equity.

Between A.B. Plaintiff and C.D. Defendant.

In pursuance of the Decree [or Order] made on the hearing of this Suit [or as the case may be] on the day of 18 I have been attended by the Solicitors [or by the Solicitors and Counsel as the case may be] for both sides and I have proceeded to take the accounts and make the enquiries ordered by the said Decree [or Order] and I find and certify as follows :—

1. The Defendant the Executor of the Testator has received personal estate to the amount of £ and he has paid or is entitled to be allowed on account thereof sums to the amount of £ leaving a balance due from [or to] him of £ on that account.  
The particulars of the above receipts and payments appear in the account marked verified by the affidavit of filed on the day of and which account is to be filed with this report [or certificate] except that in addition to the sums appearing on such account to have been received the said defendant is charged with the following sums [state the same here or in a Schedule] and except that I have disallowed the items of disbursement in the said account numbered and [or in cases where a transcript has been made] The defendant has brought in an account verified by the affidavit of filed on the day of and which account is marked and is to be filed with this report [or certificate] The account has been altered and the account marked which is also to be filed with this report [or certificate] is a transcript of the account as altered and passed.
2. The debts of the testator which have been allowed are set forth in the Schedule hereto and with the interest thereon and costs mentioned in the Schedule are due to the persons therein named and amount together to £ . . .
3. The funeral expenses of the testator amount to the sum of £ which I have allowed the said executor in the said account of personal estate.
4. The legacies given by the testator are set forth in the Schedule hereto and with the interest therein mentioned remain due to the persons therein named and amount altogether to £ . . .
5. The outstanding personal estate of the testator consists in the particulars set forth in the Schedule hereto.
6. The real estate to which the testator was entitled consists of the particulars set forth in the Schedule hereto.
7. The defendant has received rents and profits of the testator's real estate (in a form similar to that provided with respect to the personal estate).
8. The incumbrances affecting the testator's real estate are specified in the Schedule hereto.
9. The real estates of the testator directed to be sold have been sold and the purchase moneys amounting altogether to £ have been paid into Court.

[N.B.—Above numbers are to correspond with numbers in the decree.]

After each statement the evidence produced is to be stated as follows :—

The evidence produced on this account [or inquiry] consists of the probate of the testator's will the affidavit of A.B. filed and paragraph number of the affidavit of C.D. filed

J.

(Referred to in Rule 29.)

In the Supreme Court of New South Wales.

IN EQUITY.

The day of in the year of our Lord one thousand eight hundred and  
LET all parties concerned in the matter of the within Petition attend before the Primary Judge in Equity at this Court on the day of at o'clock in the forenoon and hereof let all parties have due notice.

Chief Clerk in Equity.

K.

(Referred to in Rule 283.)

In the Supreme Court  
of New South Wales.  
In Equity.

(In the matter of the Trust Will or Administration and in the matter of the Act 26 Vict. No. 12.)

Let all parties concerned attend at my Chambers Supreme Court Chancery Square Sydney on the day of next at 10 o'clock in the forenoon on the hearing of an application on the part of [here state on whose behalf the application is made and the precise object of the application].

Dated this day of 189

Primary Judge in Equity.

NOTE :—If you do not attend either in person or by solicitor at the time and place above-mentioned such Order will be made and proceedings taken in your absence as the Judge may think just,

Master in Equity.

This summons was taken out by Mr. of Pitt Street Sydney solicitor for the above-named applicant.

L.

(Referred to in Rule 273.)

In the Supreme Court  
of New South Wales.  
In Equity.

Postal address  
Date

(Title of cause or Matter.)

I the undersigned declare that I am the person to whom the sum of £ is payable pursuant to the Decree [or Order] dated the day of and made in the above Cause [or matter]. And I further declare that I have an Account at the Bank of and I request the Master in Equity to transmit to me by post to the above address the necessary Cheque payable to my order and specially crossed to my Account at the said Bank and marked not negotiable such transmission to be at my sole risk.

Signed

Subscribed in my presence at

this

day of

189

Signature of a Justice of the Peace a Commissioner for Affidavits or Notary Public.

\* Received from the Master in Equity this day of 189 the sum of  
by Cheque No. being the sum payable to me pursuant to the above-mentioned Order.

Witness

Signed

+ Fill in name of Bank.

\* The date of this Receipt should be left blank to be filled in on the date of posting Cheque.

M.

## 28

M.

(Referred to in Rule 273.)

In the Supreme Court  
of New South Wales. }  
In Equity.

Postal address  
Date

*Title of Cause (or Matter).*

I the undersigned declare that I am the person to whom the sum of £ (under £500) is payable pursuant to the Decree (or Order) dated the day of 189 and made in the above Cause (or Matter). And I further declare that I have no Account at any Bank in this Colony and I request the Master in Equity to transmit to me by Post to the above address the necessary Cheque payable to my order and crossed so as to be payable only through a Bank such transmission to be at my sole risk.

Subscribed in my presence at

this

Signed  
day of

189

Signature of a Justice of the Peace a Commissioner for Affidavits or a Notary Public.

\*Received from the Master in Equity this day of 189 being the sum payable to me pursuant to the above-mentioned Order.  
by Cheque No. Witness Signed

Witness

\* The date of this Receipt should be left blank to be filled in on date of posting Cheque.

N.

(Referred to in Rule 273.)

In the Supreme Court  
of New South Wales. }  
In Equity.

Postal address  
Date

*Title of Cause (or Matter).*

I the undersigned, declare that I am the person to whom Interest on the sum of £ now in Court is payable half-yearly (or as the case may be) during my lifetime (or as the case may be) pursuant to the Decree (or Order) dated the day of 189 and made in the above Cause (or matter) and I request The Master in Equity from time to time as each payment accrues due upon receiving a proper Receipt for the same together with evidence to his satisfaction of my being alive at the date of each payment to transmit by post to the above address from time to time a cheque therefor payable to my order and crossed so as to be payable only through a Bank such periodical transmissions to be at my sole risk.

FREDK. M. DARLEY, C.J.  
W. C. WINDEYER, J.  
J. GEO. LONG INNES, J.  
M. H. STEPHEN, J.  
WM. OWEN, J.  
W. J. FOSTER, J.  
C. J. MANNING, J.

1891.

## NEW SOUTH WALES.

## RULES OF THE SUPREME COURT.

(PROBATE JURISDICTION.)

Presented to Parliament, pursuant to Act 54 Vic. No. 25, sec. 112.

In the Supreme Court of New South Wales, }  
 PROBATE JURISDICTION. }

## REGULÆ GENERALES.

Tuesday, the 10th day of February, A.D., 1891.

In pursuance of the powers vested in us, we do order and direct as follows:—

## I. PRELIMINARY.

1. From and after the 14th day of February, 1891, all the Rules and Orders which have heretofore been made and established in the Ecclesiastical Jurisdiction of this Court shall be rescinded, and in lieu thereof the following shall constitute the Standing Rules of the Court.

2. Where none of the Rules now made shall be applicable, and in so far as they may be insufficient for carrying into effect the objects of the Probate Act of 1890, then the Rules and Practice of the Supreme Court in Equity in this Colony, in force at the date of the passing of these rules, shall be followed, as far as circumstances will admit, and in so far as such last-mentioned Rules and Practice are not opposed to anything contained in the Act or in these Rules.

3. In these Rules the following words have the several meanings hereby assigned to them, unless there be something in the subject or context repugnant to such construction, viz.:—

- (1) Words importing the singular number include the plural number, and *vice versa*, and words importing the masculine gender include females.
- (2) The words "Statement of Claim," includes information; and the word "Plaintiff," includes Informant.

186—A

- (3) The words "the Court" or "the Judge," mean the Probate Judge or any other Judge acting in that behalf sitting in Court or Chambers, unless the subject be a matter before the Court of Appeal.
- (4) The words "the Act," mean the Probate Act of 1890.
- (5) The words "the Registry," mean the Office of the Registrar of Probates.

## NON-CONTENTIOUS BUSINESS.

4. Notice of an intended application for Probate or Administration shall be in the forms numbered 1 and 2 in the Appendix hereto, and shall in all cases be inserted in one Sydney daily newspaper, and if the deceased was resident at the time of his death more than thirty miles from Sydney, then also in a newspaper circulating in the district where he so resided, and when such application is by petition, in the *Government Gazette* in addition.

5. The Registrar (or Master in Equity, on the direction of the Judge), may exercise the powers of the Court in and about the granting of probates and administration of estates not exceeding one thousand pounds in value, where no contentions have arisen: Provided that the Registrar shall, where any party interested may so desire, and in cases where any doubt or difficulty may arise, refer the matter to the Probate Judge sitting in open Court.

*Probate.*

6. Application for probates and administration may be made either on motion or by petition, but in the latter case the petition must be signed by the party applying, or his lawfully constituted attorney, and all papers in support thereof, shall be filed in the Registry.

7. Such applications may be made through a proctor, solicitor, or attorney, or in person by executors and parties entitled to grants of administration; but personal applications will not be received by letter, nor through the medium of any agent.

8. All applications for probate shall be supported by the following affidavits:—

- (1.) Of the death of the Testator.
- (2.) That the testator has left a will and the date thereof, the names of the executors or executor, the subscribing witness thereto, and that he left goods, chattels, credits, and effects and real estate (or real estate only) within the jurisdiction of the Court, and that the executors will well and truly administer the same.
- (3.) Of due attestation by one of the attesting witnesses to the said will.
- (4.) Of the publication of the notice of the intention to apply, of the search for a later will at the office of the Registrar-General, and that no caveat has been filed.
- (5.) Duplicate affidavits under Stamp Duties Act.

9. Application for administration of the estate of any deceased person shall be supported by a bond in the form, numbered 3 in the Appendix hereto, and by the following affidavits:—

- (1.) Of the death of the intestate.
- (2.) That he or she died intestate.
- (3.) That the intestate left either real or personal property (or both) within the jurisdiction, that the applicant is the husband, widow, or next of kin (or as the case may be), and the names and ages of the persons entitled in distribution to the estate of the deceased, and that the applicant will well and truly administer.
- (4.) Affidavit of justification by sureties.
- (5.) Duplicate affidavit under Stamp Duties Act.

10. In all cases where a creditor shall intend to apply for administration, he shall, previous to such application, issue a citation calling upon the husband or widow and next of kin of the deceased to appear and show cause why administration should not be granted to him, and shall before the return day of such citation prove his debt before the Registrar, and enter into a bond with two sureties or a Guarantee Company, approved by the Court, to well and truly administer the estate and to pay the debts *pro rata*, such bond to be in the form numbered 4 in the Appendix hereto.

11. Applicants for probate or administration in matters where the curator has obtained an order to collect shall give seven days' notice in writing to the curator of the intended application and shall at the same time lodge with the curator for inspection all documents in support of such application.

12. All applications by motion for probate or administration shall be set down for hearing before the Judge upon the day set apart for that purpose, but may, with the leave of the Judge, be heard on any motion day.

I.—As to Probate of Wills and Codicils, and Letters of Administration, with the Will (or Will and Codicils) annexed.

#### *Execution of a Will.*

13. If, on the affidavit or affidavits filed, it appears doubtful whether the will or codicil has been duly executed, the applicant may be required to bring the matter before the Judge in open Court.

14. If both the subscribing witnesses are dead, or if from other circumstances no affidavit can be obtained from either of them, resort must be had to

other persons (if any), who may have been present at the execution of the will or codicil; but if no affidavit of any such other person can be obtained, evidence on affidavit must be procured of that fact and of the handwriting of the deceased and of the subscribing witnesses, and also of any circumstances which may raise a presumption in favour of the due execution.

#### *Interlineations and Alterations.*

15. When interlineations, erasures, alterations, or obliterations appear in the will (unless duly executed, or recited in, or otherwise identified by the attestation clause), an affidavit or affidavits in proof of their having existed in the will before its execution must be filed, except when the alterations are merely verbal, and are evidenced by the initials of the attesting witnesses.

#### *Deeds, &c., referred to in a Will or Codicil.*

16. If a will contain a reference to any deed, paper, memorandum, or other document of such a nature as to raise a question whether it ought or ought not to form a constituent part of the will, the production of such deed, paper, memorandum, or other document will be required, with a view to ascertain whether it be entitled to probate; and, if not produced, its non-production must be accounted for.

#### *Appearance of the Paper.*

17. If there are any vestiges of sealing wax, or wafers, or other marks upon the testamentary papers, leading to the inference that a paper, memorandum, or other document has been annexed or attached to the same, they must be satisfactorily accounted for, or the production of such paper, memorandum, or other document must be required; and, if not produced, its non-production must be accounted for.

#### *Married Woman's Will.*

18. In applications for probate of a married woman's will, or for administration with such will annexed, evidence must be adduced of the power under which the will purports to have been made.

#### *Codicils.*

19. The above rules and orders respecting wills apply equally to codicils.

### II.—AS TO LETTERS OF ADMINISTRATION.

#### *Notice to other next of Kin.*

20. Where administration is applied for by one or some of the persons entitled to administration only, there being another or other next of kin equally entitled thereto, or a husband or wife of the deceased within the jurisdiction, their consent duly verified must be filed or evidence must be adduced of their having been served with notice of the application, or that they cannot be found.

#### *Grants of Administration to Guardians.*

21. Grants of administration *durante minore etate* may be made to guardians of infants for their use and benefit, subject to such limitations or conditions as the Court may order.

22. Infants above the age of seven years may elect a guardian, but in other cases a guardian must be assigned by the Court, and upon any application for administration by such guardian evidence of his election or assignment must be produced.

23. In a family where there are infants both above and under the age of seven years, an elected guardian may act for all the infants without special assignment.

#### *Administrator's Oath.*

24. Any person other than a creditor applying for administration, or for administration with the will annexed, shall state on oath his relationship to

the deceased person, and also the names of any person or persons having a right to the administration prior to or equal with himself.

#### *Administration Bonds.*

25. Administration bonds shall be attested by the Registrar or by a Commissioner or other person now or hereafter to be authorised to administer oaths; but in no case by the proctor, solicitor, attorney, or agent of the party who executes them. The signature of the administrator or administratrix to such bonds, if not attested by the Registrar, must be attested by the same person who administers the oath to such administrator or administratrix. Such administration bonds shall be in the forms numbered 3 and 4 in the Appendix hereto unless otherwise ordered by the Judge.

26. In all cases of administration, except in the case of a Guarantee Company, approved by the Court, or unless otherwise ordered, two sureties shall be required to the administration bond, and the bond given in the amount of the property to be placed in the possession of or dealt with by the administrator by means of the grant. And in every case the sureties to the bond must justify by affidavit, to the satisfaction of the Registrar.

27. All applications for the reduction of the amount of the bond, or for the modification of the last rule, must be made by motion in open Court, supported by affidavits of the facts relied on.

### III.—GENERAL RULES AND ORDERS.

#### *Time of issuing Grant.*

28. In every case where probate or administration is, for the first time, applied for after the lapse of six months from the death of the deceased, the reason of the delay is to be explained by affidavit when the application is made.

#### *Testamentary Papers to be Marked.*

29. Every will, copy of a will, or other testamentary paper, to which an executor or administrator with the will annexed is sworn, must be marked by such executor or administrator, and by the person before whom he is sworn.

#### *Renunciations.*

30. No person who renounces probate of a will or letters of administration of the estate and effects of a deceased person in one character, will be allowed to take a representation to the same deceased in another character.

#### *Citations.*

31. No citation shall issue under the seal of the Court until an affidavit, in verification of the averments it contains, has been filed in the registry.

32. Citations must be served personally when that can be done. Personal service shall be effected by leaving a true copy of the citation with the party cited, and showing him the original, if required by him so to do.

#### *Substituted Service.*

33. If personal service of citations or other proceedings cannot be effected by reason of the absence from the Colony of the person to be served, or if the Judge is satisfied by affidavit or other evidence on oath that such person is keeping out of the way to avoid such service, or that for any other cause prompt personal service cannot be effected, he may order substituted service to be made by the delivery of the proceedings to some adult inmate at his usual or last known residence or place of business, or by registered letter, or in such other manner as the Judge may direct.

#### *Notices to Crown Solicitor.*

34. In all cases where application is made for administration, either with or without a will annexed, of the goods of a bastard dying a bachelor, or a spinster, or a widower, or widow, without issue, notice of such application shall be given to the Crown Solicitor.

#### *Citation to bring in Testamentary Papers.*

35. Any person bringing in a will or testamentary paper, in obedience to a citation, shall deposit it at the registry, and may require a receipt therefor.

36. Any person served with a citation to bring in a testamentary paper may enter an appearance, on payment of the usual fees, if he thinks fit to do so.

#### *Time allowed for appearing to a Citation.*

37. The time fixed by a citation for entering an appearance to bring in a testamentary paper shall, in all cases, be exclusive of Sundays, Christmas Day, and Good Friday, or any public holiday.

#### *Petitions under the 36th Section.*

38. Notice of the petition of an administrator under the 36th section of the Act, or a case of partial intestacy, of an executor or an administrator with the will annexed, or of any person beneficially interested, shall be served personally on all parties beneficially interested, unless such service shall, upon application to the Court, be dispensed with; but in case any such person is an infant or is of unsound mind, and no committee of his person or estate has been appointed, or is out of the jurisdiction of the Court, or it is desired to serve notice on any such person within the jurisdiction of the Court in any other manner than above provided, or to dispense with service altogether, an application shall be made to the Judge in Chambers *ex parte* by the petitioner for directions as to the manner and mode of such service or otherwise, as to the Judge may seem fit.

39. All such petitions must be supported by affidavits setting out fully the circumstances of the case and the grounds upon which the order is applied for.

#### *Taxing Bills of Costs.*

40. Any bill of costs may be referred to the Registrar for taxation and no special order shall hereafter be required for the purpose.

#### *Filing and Passing Accounts.*

41. Every executor and administrator must, within twelve months after the grant of probate or administration, file in the Registry his accounts relating to the estate of the deceased, together with a plan of distribution where there is any balance available therefor, unless he shall obtain a special order from the Court extending the time for filing such accounts, and shall at the time of filing the said accounts take out an appointment for passing the same.

42. Notice of the filing of the accounts of any executor or administrator (in the form numbered 5 in the Appendix hereto), and of the day fixed for passing the same, shall be inserted in one Sydney daily newspaper, and if the person resided more than thirty miles from Sydney, in one local newspaper circulating in the district where the deceased was residing at the time of his death, fourteen days at least before the day fixed for passing the same, and if the said executor or administrator intend to apply for Commission, notice shall also be given of such intention.

43. In the case of an administrator, notice of the filing and the application to pass his accounts shall also be served on the sureties to the administration bond.

44. Any person wishing to object to the passing of the accounts of any executor or administrator, or the granting of Commission, shall file with the Registrar on or before the day fixed for the passing of such accounts, a notice of his intention to object, and also an affidavit stating his interest, and the nature and grounds of his objection.

45. Upon the taking of such accounts, the Registrar may make such order as to service upon any of the parties interested, as he may think fit.

46. Any person interested may attend before the Registrar upon the taking of such accounts.

47. Within fourteen days after the passing of the accounts by the Registrar, the accounting party shall enter such accounts for allowance by the Court, and for confirmation of the plan of distribution and allowance of commission, and in all cases where any objection shall have been taken before the Registrar, four days' notice of such application must be given to the objecting parties.

48. If an executor or administrator, or any other person interested, desires to appeal from the finding of the Registrar, on the passing of the accounts, he shall, four days before the day fixed for allowance by the Court, file a notice in the Registry, setting forth the nature and grounds of his appeal.

#### *Affidavits.*

49. Every application to the Court under the provisions of the Act must be supported by affidavit, which must be filed in the Registry at least two days before the application comes on to be heard, except where otherwise provided by these rules.

#### CONTENTIOUS BUSINESS.

##### *Caveat.*

1. Any person having any interest in an estate for which application is being made for probate or administration, and intending to oppose the same, must either personally or by his solicitor enter a caveat in the Registry; such caveat must be in the form numbered 6 in the appendix hereto and must state fully the nature of the interest of the caveator, and an address in Sydney where documents or notices may be served.

2. A caveat shall bear date on the day it is entered and shall remain in force for the space of six months only, and then expire and be of no effect, unless otherwise ordered.

##### *Statement of Claim.*

3. If the applicant for probate or administration does not see fit to obtain an *order nisi* under section 104 of the Act he shall within one month after notice of the filing of the caveat commence contentious proceedings by filing in the Registry a statement of claim in the form prescribed by the Consolidated Standing Equity Rules of the 29th June, 1883, and the 6th September, 1889, against the caveator as the defendant, and endorsed according to the form marked.

##### *Appearance.*

4. Appearance shall be entered by a defendant within eight days after service of the statement of claim at the address set out on his caveat.

When a defendant enters his appearance he shall file a memorandum to the effect either that he disputes the plaintiff's claim or that he merely intends to cross-examine the witnesses produced in support of the due attestation of the will.

##### *Default of Appearance.*

5. Where any defendant duly served with the Statement of Claim does not enter an appearance thereto within the time limited, the plaintiff may,

after seven days from the time so limited for appearing thereto, apply to the Court, on affidavit of service of the Statement of Claim, for a decree or order against the defendant in his absence.

#### *Statement of Defence.*

6. Every Statement of Defence must be filed within eight days after the time limited for appearance.

7. In a suit for probate, the statement of defence shall consist of the following defences alone, unless by leave of the Court, obtained on summons:—

i. That the paper writing, bearing date, &c., and alleged by the plaintiff (or defendant) to be the last will and testament (or codicil to the last will and testament) of A.B., late of, &c., deceased, was not duly executed according to the provisions of the Statute 1 Vic. c. 26, in manner and form as alleged.

ii. That A.B., the deceased in this cause, at the time his alleged will (or codicil) bears date, to wit, on the, &c., was not of sound mind, memory, and understanding.

iii. That the deceased at the time of the execution of the said alleged will (or codicil) did not know and approve of the contents thereof.

iv. That the execution of the said alleged will (or codicil) was obtained by the fraud of C.D., and others acting with him (setting out the fraud alleged).

v. That the execution of the said alleged will (or codicil) was obtained by the undue influence of C.D., and others acting with him.

And if the defendant desires to propound another will, he may, by leave of the Judge, do so by way of counter claim.

8. Upon the filing of the Statement of Defence, issue shall be deemed joined between the parties.

9. Copies of all pleadings shall be delivered at the address entered by both parties in the Registrar's office, which delivery shall be sufficient service, except where personal service is required; and all such copies shall be endorsed with the name and address so entered at the Registry.

#### *Orders.*

10. Minutes of all orders must be settled by the Registrar.

#### *Suits for the Revocation of Probate and Administration.*

11. In a suit for the revocation of probate or administration, proceedings shall be commenced by the issue of a citation in the form set forth in the appendix hereto against the party to whom the grant was made, requiring him to bring in and deposit the grant in the Registry; and within fourteen days after notice of such deposit the party issuing the citation shall file his statement of claim against the party cited, who shall be the defendant in the suit, and all subsequent proceedings shall be had and taken as in a contested suit for probate.

#### *Forms.*

12. The forms in the appendix hereto shall be followed in all proceedings under the Act, with such variations as the nature and circumstances of each particular case may require.

#### *Costs.*

13. The following scale shall be taken as the standing scale of costs to be allowed to Proctors for work done in connection with the obtaining grants of probates and letters of administration, and no further costs shall be allowed as a charge against an estate, provided that, in all cases where the Proctor



## No. 4.

*Administration Bond by Creditor.*

Insert after the word "him" in line 18 of the ordinary Bond the following clause:—

"And do out of the estate and effects of the said deceased which shall so come to and remain in his hands and possession, or in the hands or possession of any other person or persons for him, and, so far as the said estate and effects shall thereto extend, pay and satisfy all and singular the just debts of the said deceased in a due course of administration, ratably and proportionably, and according to the priority required by law, and not unduly preferring his own debt or the debts of any other of the creditors the of said deceased by reason of his being administrator as aforesaid."

## No. 5.

*Notice of filing Accounts.*

In the Supreme Court of New South Wales, }  
Probate Jurisdiction. }

In the estate of

NOTICE is hereby given that the accounts and plan of distribution in the above estate have this day been filed in my office, Supreme Court-house, King-street, Sydney, and all persons having any claim on the said estate, or being otherwise interested therein, are hereby required to come in before me at my said office on or before the day of at o'clock in the noon and inspect the same, and if they shall think fit object thereto; otherwise, if the said accounts be not objected to, the same will be examined by me and passed according to law. *And notice is also hereby given that on the allowance of the said accounts by the Court, commission will be applied for on behalf of the said executor (or administrator).\**

Dated this day of in the year one thousand eight hundred and ninety.

Registrar.

\* In italics to be added if commission applied for.

## No. 6.

## FORM NO.

*Caveat.*

TAKE notice that I [name of caveator in full] of [address and description in full] claiming interest [state relationship or particulars of interest] in the estate of [or under the will of— set out full description] do hereby demand that nothing be done therein without notice to me.

Dated this day of 189

(Signature of caveator or his proctor.)

Witness.

FREDK. M. DARLEY, C.J.

WM. OWEN, J.

C. J. MANNING, J.

In the Supreme Court of New South Wales. }  
PROBATE JURISDICTION. }

## REGULÆ GENERALES.

The 4th day of May, A.D. 1891.

IN pursuance of the powers vested in us by the Act 54 Victoria No. 25, and of all other powers in that behalf enabling us, we do order and direct as follows:—

From and after the 8th day of May, 1891, all the Rules and Orders which have heretofore been made and established, relating to the collection and administration of estates of deceased persons by the Curator of Intestate Estates, shall be rescinded, and in lieu thereof the following shall constitute the Standing Rules of the Court:—

1. The present Curator of Intestate Estates, or any person who may hereafter be appointed Curator of Intestate Estates, shall, before entering upon the duties of his office, give security to Her Majesty and her successors, to the satisfaction of the Colonial Treasurer, in a bond in the Form No. 1 set forth in Schedule hereto to these Rules.

2. The Curator may appoint any person or persons he may think fit to act as his agent or agents in the

collection of estates, and such appointment shall be in the Form No. 2 Schedule hereto, and such agent not being a Clerk of Petty Sessions shall give security to the satisfaction of the Curator for the performance of his duties.

3. An application by the Curator to collect the estate of any deceased person shall be made upon petition, and shall be supported by an affidavit setting forth—(1) the death of the party; (2) the time and place thereof; (3) whether testate or intestate, leaving real or personal estate within the Colony of New South Wales, and that search has been made for a will of deceased in the office of the Registrar-General in Form No. 6, and whether any widow or next of kin, and any other particulars which may be deemed necessary.

(Forms of Petition Nos. 3, 4, 5, 6, and 7, and Affidavits Nos. 8, 9, and 10 Schedule hereto.)

4. Where the executors named in the will of a deceased person have renounced probate: Such renunciation shall be in Form No. 12 set forth in Schedule hereto and supported by affidavits in Forms Nos. 10 and 13, to which shall be annexed inventory of deceased's assets in form No. 5.

5. Where all the persons primarily entitled to administration have, by writing filed in the office of the Registrar, declined to apply for administration, such writing shall be in Form No. 12a in Schedule hereto, and a copy thereof shall be forthwith filed in the office of the said Curator.

6. Every applicant for probate of the will or administration of the estate of a deceased person of whose estate the Curator has obtained an order to collect, shall give seven days notice in writing to the Curator of his intended application in the Form No. 15 in Schedule hereto, and shall at the same time lodge with the Curator for inspection the documents in support of such application.

7. Whenever it shall be necessary to take any steps in connection with any estate being administered by the Curator, and whether the Curator shall be a party thereto or not, every petition, affidavit, summons, or other process shall be filed as of record in the office of the Curator; and any *ex parte* order calling upon the Curator to show cause obtained under section 81, shall state whether proof of the matter in relation to the complaint shall be heard orally or upon affidavit.

8. Upon the filing of the said order and affidavits it shall not be necessary for the Curator to serve copies of any affidavits made by him in reply, but he shall notify to the person obtaining such order the fact of such affidavits having been filed, and that copies thereof may be obtained upon payment of the fees set out in the Schedule to this Act.

9. Applications under sections 61, 86, and 95, for establishing the right or title of the husband, widow, or next of kin shall be by petition setting forth specifically the grounds on which such husband, widow, or next of kin claim to be entitled in distribution, which petition shall be verified by affidavit: Such petition and affidavit shall be filed in the office of the Curator at least seven days before the day appointed for hearing thereof.

10. Upon the receipt of every such petition and affidavit in support thereof, the Curator shall examine the same, and if he considers the evidence adduced in support of the claim in such petition sufficient he shall report thereon and forward same to the Probate Judge for his consideration and determination; but if the Curator consider the evidence insufficient, he shall call for such further or additional evidence as he may deem sufficient, subject to the right of any party to except to the ruling of the Curator and to take the decision of the Judge thereon.

11. Where the Curator shall have been authorised to sell or mortgage real estate it shall not be necessary for him to enter into any bond in respect of the moneys to be received by him.

12. Every order made by the Judge in any estate (except orders to collect) shall be settled by the Curator, and the party having the carriage of such order shall take out a summons in the Form No. 16, Schedule to these Rules, to settle the same within ten days after the making thereof.

13. The practice as to settling orders and carriage thereof shall be as far as practicable the same as at Equity.

14. All writs of subpoena shall be in the forms used at Common Law, with such alterations and variations as circumstances may require, and shall be sealed with the official seal of the Court or Curator, and tested in the name of the Probate Judge.

15. Every summons and writ shall be signed by the Curator or the Chief Clerk.

16. The practice as to the issue and service of subpoenas shall be as far as practicable the same as at Equity.

17. The Curator shall tax the costs of any proceedings taken in any estate being administered by him, but where he shall be a party to such proceedings he shall refer any bill of costs for taxation to the Master or Deputy Registrar in Equity, and the certificate of the Master or Deputy Registrar of such taxation shall be conclusive, and the practice as to taxation of costs and remedies therefor shall be as far as practicable the same as at Equity.

18. The Curator shall on the first and fifteenth days in each month (or on the next day if either of such days be a Sunday or holiday) pay into the Treasury all fees and commission on all moneys collected by him or his agents, after deducting therefrom all expenses and an allowance not exceeding £3 per centum by way of commission to his agents in respect of all moneys collected by them.

19. Every order for the payment of money upon the bank approved of by the Court and Colonial Treasurer shall mention therein the name of the estate in respect of which the same is drawn, and shall bear the endorsement of the person receiving same.

20. The Curator shall, after the expiration of six months from the date of the order for collection of any estate, apply by petition to the Court for an order empowering him to invest the moneys standing to the credit of such estate at that date, and until or in the event of no such order being obtained, the Curator shall invest all moneys belonging to such estates in Government Debentures of New South Wales, or deposit same at interest in any incorporated bank carrying on the business of banking in Sydney, which shall have been approved of by the said Court.

21. When any order for investment of moneys standing to credit of an estate shall have been made, or where such moneys shall have been invested or deposited at interest by the Curator as aforesaid, such interest shall be ratably credited against each sum or distributive share, and added thereto on the 31st day of December in each and every year.

22. When any balance at credit of an estate or any distributive share shall be paid, interest (if allowable) shall be added thereto up to the end of the quarter next preceding such payment.

23. In all matters not herein provided for the rules of practice and procedure in Equity for the time being in force shall so far as practicable apply.

#### SCHEDULE A.

##### No. 1.

KNOW all men by these presents that we and \_\_\_\_\_, gentlemen, are severally held and firmly bound unto The Honorable the Colonial Treasurer, his successors and assigns in and for the Colony of New South Wales, in the several sums next mentioned, that is to say, the said \_\_\_\_\_ in the sum of two thousand pounds, the said \_\_\_\_\_ in the sum of one thousand pounds, and the said \_\_\_\_\_ in the sum of one thousand pounds each, the said several sums to be paid to the said

Colonial Treasurer, his successors and assigns, for which payment to be made by us severally and respectively we do severally bind ourselves (each of us by himself) and our respective heirs, executors, and administrators, firmly by these presents. Sealed with our respective seals.

Dated at Sydney, in New South Wales, this \_\_\_\_\_ day of \_\_\_\_\_, in the year of our Lord one thousand eight hundred and \_\_\_\_\_

Whereas the said \_\_\_\_\_ has, in pursuance of the Act 54 Victoria No. 25, been appointed Curator of Intestate Estates, subject to the giving of this security by him for the performance of the duties of that office: Now the condition of this obligation is such that if the said \_\_\_\_\_ do, and shall in all things and at all times hereafter well and faithfully perform the duties of the said office and appointment of Curator of Intestate Estates, and do and shall duly and faithfully account for and pay over all such sums of money as he shall from time to time receive, and do and shall account for and distribute and dispose of all such goods and property as may at any time come into his hands as such Curator according to the duty of such office, or as he shall from time to time receive and do, and shall account for and distribute and dispose of all such goods and property as may at any time come into his hands as such Curator, according to the duty of such office, or as he shall be from time to time required by the Supreme Court of New South Wales, and shall not at any time retain or appropriate to his own use or for the benefit of any other person not by law entitled thereto, any such moneys, goods, or property, then this obligation shall be void, but otherwise it is to remain in full force.

Signed, sealed, and delivered by the said \_\_\_\_\_, in the presence of,—

(Signed)

Signed, sealed, and delivered by the said \_\_\_\_\_, in the presence of,—

(Signed)

Signed, sealed, and delivered by the said \_\_\_\_\_, in the presence of,—

(Signed)

No. 2.

Chancery-square,  
Curator's Department,  
Supreme Court Branch Offices,  
Sydney, 189 .

Sir,—

I have this day appointed you my Agent to collect the assets of any deceased person within your district of whose estate I shall have been appointed administrator under the provision of the Act 54 Vic. No. 25. By referring to the printed instructions, a copy of which is enclosed, you will readily understand the duties required.

I have the honor to be,

Sir,

Your obedient servant,

Curator of Intestate Estates.

\_\_\_\_\_, Esquire,  
Clerk of Petty Sessions.

No. 3.

in the Supreme Court of New South Wales, }  
Probate Jurisdiction. }

In the matter of the will of \_\_\_\_\_, late of \_\_\_\_\_, deceased.

To their Honors the Chief Justice and Puisne Judges of the Supreme Court of New South Wales.

The humble petition of \_\_\_\_\_, Curator of Intestate Estates,—

SHOWETH:—

THAT the abovenamed deceased died on or about the day of \_\_\_\_\_, intestate, leaving \_\_\_\_\_ estate within the Colony liable to waste, but without leaving any widow or next of kin resident within the jurisdiction of the said Court, as appears by the affidavit of \_\_\_\_\_ hereunto annexed.

Your petitioner therefore prays that he may be empowered by the order of this Court to collect, manage, and administer the estate of the said deceased.

Date this \_\_\_\_\_ day of \_\_\_\_\_ 189 .

\_\_\_\_\_, Curator of Intestate Estates.

The \_\_\_\_\_ day of \_\_\_\_\_ 189 .

Upon reading this petition, and the affidavit therein referred to, it is ordered that \_\_\_\_\_, Curator of Intestate Estates, be, and he is hereby authorized and empowered collect, manage, and administer the estate of the deceased.

No. 3A.  
 In the Supreme Court of New South Wales. }  
 Probate Jurisdiction. }  
 In the matter of the Intestate Estate of , late of ,  
 deceased.  
 To their Honors the Chief Justice and Puisne Judges of the  
 Supreme Court of New South Wales.

The humble petition of , Curator of Intestate  
 Estates,—  
 SHOWETH :—  
 THAT the abovenamed deceased died on or about the day  
 of , intestate, leaving estate within the Colony  
 liable to waste, and leaving , his next of kin him sur-  
 viving, resident within the jurisdiction of the said Court as  
 appears by the affidavit herunto annexed.  
 That the said of the said deceased has, by a writing  
 filed in the Office of the Registrar, declined to apply for  
 administration.  
 Dated this day of , 189 .

Curator of Intestate Estates.  
 The day of , 189 .  
 Upon reading this petition, and the affidavit therein referred  
 to, it is ordered that , Curator of Intestate  
 Estates, be, and he is hereby authorised and empowered to  
 collect, manage, and administer the estate of the deceased.

No. 4.  
 In the Supreme Court of New South Wales. }  
 Probate Jurisdiction. }  
 In the matter of the will of , late of ,  
 deceased.  
 To their Honors the Chief Justice and Puisne Judges of the  
 Supreme Court of New South Wales.

The humble petition of , Curator of Intestate  
 Estates,—  
 SHOWETH :—  
 THAT the abovenamed deceased died on or about the day  
 of , 189 , having previously made and signed his last  
 will and testament bearing date the day of , 189 ,  
 but without having appointed any executor thereof, leaving  
 estate within the Colony, as appears by the affidavit  
 hereunto annexed.  
 Your petitioner therefore prays that he may be empowered  
 by the order of this Court to collect, manage, and administer  
 the estate of the said deceased, with the will of the said deceased  
 annexed.  
 Dated this day of , 189 .

Curator of Intestate Estates.  
 The day of , 189 .  
 Upon reading this petition, and the affidavit therein referred  
 to, it is ordered that , Curator of Intestate  
 Estates, be, and he is hereby authorised and empowered to  
 collect, manage, and administer the estate with the will of the  
 said deceased annexed.

No. 5.  
 In the Supreme Court of New South Wales. }  
 Probate Jurisdiction. }  
 In the matter of the will of , late of ,  
 deceased.  
 To their Honors the Chief Justice and Puisne Judges of the  
 Supreme Court of New South Wales.

The humble petition of , Curator of Intestate  
 Estates,—  
 SHOWETH :—  
 THAT the abovenamed deceased died on or about the day  
 of , 189 , leaving estate in the Colony of  
 having first duly made and signed his last will and testament  
 bearing date the day of , 189 , as appears by the  
 affidavits hereunto annexed, whereby he appointed your  
 petitioner executor thereof.  
 Your petitioner therefore prays that he may be empowered  
 by the order of this Court to collect, manage, and administer  
 the estate of the said deceased as such executor as aforesaid.  
 Dated this day of , 189 .

Curator of Intestate Estates.

The day of , 189 .  
 Upon reading this petition, the affidavits therein referred  
 to, and the last will and testament of , deceased, a  
 copy of which is hereunto annexed, it is ordered that adminis-  
 tration of all and singular the estate of ,  
 deceased be, and is hereby granted to , Curator  
 of Intestate Estates, the executor named in the said will of the  
 said deceased.

No. 6.  
 In the Supreme Court of New South Wales. }  
 Probate Jurisdiction. }  
 In the matter of the will of , late of ,  
 deceased.  
 To their Honors the Chief Justice and Puisne Judges of the  
 Supreme Court of New South Wales.

The humble petition of , Curator of Intestate  
 Estates,—  
 SHOWETH :—  
 THAT the abovenamed deceased died on or about the  
 day of , 189 , having previously made and signed his  
 last will and testament, bearing date the day of  
 189 , whereby he appointed executor thereof and  
 leaving estate within the Colony, as appears by the  
 affidavits hereunto annexed.  
 That the said has, by deed of renunciation bearing  
 date the day of 189 , renounced his right to  
 probate, and requested your petitioner to apply for an order of  
 Court to collect the estate of the said deceased.  
 Your petitioner therefore prays that he may be empowered,  
 by the order of this Court, to collect, manage, and administer  
 the estate of deceased with the will of the  
 said deceased annexed.

Dated this day of 189 .  
 Curator of Intestate Estates.

The day of 189 .  
 Upon reading this petition, and the affidavit therein referred  
 to, it is ordered that , Curator of Intestate  
 Estates, be, and he is hereby authorised and empowered to  
 collect, manage, and administer the estate of ,  
 deceased, with the will of the said , deceased annexed.

No. 7.  
 In the Supreme Court of New South Wales. }  
 Probate Jurisdiction. }  
 In the matter of the will of , late of ,  
 deceased.  
 To their Honors the Chief Justice and Puisne Judges of the  
 Supreme Court of New South Wales.

The humble petition of , Curator of Intestate  
 Estates,—  
 SHOWETH :—  
 THAT the abovenamed deceased died on or about the  
 day of 189 , having previously made and signed his  
 last will and testament and appointed executor thereof,  
 and leaving real and personal estate within the Colony, as  
 appears by the affidavit hereunto annexed. That more than  
 three months have elapsed since the death of the said deceased,  
 and no probate or administration with the will annexed  
 applied for.  
 Your petitioner therefore prays that he may be empowered,  
 by the order of this Court, to collect, the estate of the said  
 deceased with the will of the said deceased annexed.  
 Dated this day of 189 .

Curator of Intestate Estates.  
 The day of 189 .  
 Upon reading this petition, and the affidavit therein referred  
 to, it is ordered that , Curator of Intestate  
 Estates, be, and he is hereby authorised and empowered to  
 collect the estate of the deceased with the will of the said  
 deceased annexed.

No. 8.  
 In the Supreme Court of New South Wales. }  
 Probate Jurisdiction. }  
 In the matter of the intestate estate of , late of  
 , deceased.

On this day of in the year one thousand eight  
 hundred and ninety- , of in the Colony of New  
 South Wales, being duly sworn, maketh oath, and  
 saith as follows :—

1. The said departed this life at , on or about the day of , one thousand eight hundred and ninety- death estate in the said Colony liable to waste.

(2.) \*The said deceased died without leaving any widow or next of kin resident within the said Colony.

Sworn by the deponent, on the day first above mentioned, at before me,—

N.B.—To be sworn before a Commissioner for Affidavits, or J.P.

\* If deceased left a widow or next of kin resident out of the jurisdiction of the Colony, insert particulars of the same.

No. 9.

In the Supreme Court of New South Wales. } Probate Jurisdiction.

In the matter of the will of , late of , deceased.

ON this day of , 189 , of Sydney, in the Colony of New South Wales, Curator of Intestate Estates, being duly sworn, maketh oath and saith as follows:—

1. I am informed, and verily believe, that the said deceased died at , on or about the day of , 189 , as appears by the of death hereto attached, marked A.

2. I verily believe the paper writing hereto annexed, bearing date the day of , 189 , and marked B, to be the last will and testament of the said deceased, and that by the said will appointed executors thereof.

3. The said executor ha renounced the trusts of the said will as appears by the deed of renunciation marked , attached to the affidavit of , sworn herein, this day of , 189 , and filed in support of this application.

Sworn by the deponent, on the day first above mentioned, at before me,—

No. 10.

In the Supreme Court of New South Wales. } Probate Jurisdiction.

In the matter of the will of , late of , deceased.

ON this day of , 189 , in the Colony of New South Wales, being duly sworn, maketh oath and saith as follows:—

1. The said deceased died as verily believe at on or about the day of , 189 .

2. The paper writing hereto annexed marked A, bearing date the day of , 189 , is the last will and testament of the said deceased.

3. , the executor therein named.

4. The paper writing hereunto annexed marked C contains, to the best of knowledge and belief, a true Schedule of assets of the said deceased.

Sworn by the deponent, on the day first above mentioned, at before me,—

A Commissioner for Affidavits.

No. 11.

In the Supreme Court of New South Wales. } Probate Jurisdiction.

In the matter of the intestate estate of , late of , deceased,

ON this day of , in the year one thousand, eight hundred and ninety- , of Sydney, in the Colony of New South Wales, being duly sworn, maketh oath, and saith as follows:—

1. I have searched in the proper office of this Honorable Court and cannot find that any will of the abovenamed deceased remains deposited therein.

Sworn by the deponent, on the day first above mentioned, at Sydney, before me,—

A Commissioner for Affidavits.

No. 12.

In the Supreme Court of New South Wales. } Probate Jurisdiction.

In the matter of the will of , late of , deceased.

WHEREAS , late of , deceased, died on the day of , at , and whereas he duly made and executed his last will and testament, bearing date the day of , 189 , and thereof appointed , executor: Now the said do hereby declare that have not intermeddled in the real or personal estate of the said deceased, and will not hereafter

intermeddle therein with intent to defraud creditors, and do hereby expressly renounce all right and title to probate and execution of the said will and to the trusts, powers, and authorities whatsoever by the said will expressed to be made or given to the said , and hereby request the Curator of Intestate Estates to apply for an order to collect the estate of the said , deceased, with the will of said annexed.

In witness whereof have hereunto set hand and seal this day of , 189 .

Signed, sealed, and delivered by the said , in the presence of,—

No. 12A.

In the Supreme Court of New South Wales. } Probate Jurisdiction.

In the matter of the estate of , late of , deceased, intestate.

WHEREAS , late of , deceased, died on the day of , 189 , at , intestate, a widower, leaving his only , him surviving : Now, the said , do hereby renounce all right and title to letters of administration of the real and personal estate of the said deceased, and request the Curator of Intestate Estates to administer the said estate.

Signed by the said , on this day of , 189 , in the presence of,—

No. 13.

In the Supreme Court of New South Wales. } Probate Jurisdiction.

In the matter of the will of , late of , deceased.

ON this day of , in the year one thousand eight hundred and ninety- , of , in the Colony of New South Wales, being duly sworn, maketh oath and saith as follows:—

1. I am one of the subscribing witnesses to the last will and testament of the said , late of , deceased, bearing date the day of , 189 , and hereunto annexed, marked "A."

2. The said testator executed the said will on the day of the date thereof, by signing his name at the foot or end thereof, as the same now appears thereon, in the presence of me and of , the other subscribed witness thereto, both of us being present at the same time, and we thereupon attested and subscribed the said will in the presence of the said testator.

Sworn by the deponent, on the day first above mentioned, at before me,—

No. 14.

Inventory of Assets to be furnished Curator by Executor.

No. .

From the Curator's agent at 189 .

Application to transfer to the Curator of Intestate Estates the estate of , late of , who died at , on the day of 189 , and whose estate is sworn as under the value of £

To the Curator of Intestate Estates.

THE execut under the will of the abovenamed deceased decline to act; therefore enclose original will, affidavit of death, and value and deed of renunciation and written request of the execut to be relieved of the executorship. The property proposed to be administered by you is undernoted.

PROPERTY. £ s. d.

- Cash on body .....
Cash in house .....
Cash on current account at Bank of .....
P.O. Savings Bank.
Book No. ....
Savings Bank .....
Fixed deposit receipts, as per list at back .....
Bills receivable, as per list attached .....
Book debts due to deceased, as per list attached ...
Other debts .....
Stock in trade (estimated value) .....
Furniture and effects (estimated value) .....
Horses, carriages, farming stock and implements, &c.
Scrip, stock shares, &c, as per list at back.....
Mortgages, &c., as per list at back .....
Life policy .....
All other personal property not comprised herein, as per list attached.....
Incenseholds, as per list at back .....
Freeholds, as per list at back .....

Executor.

## No. 15.

Form of Notice of Application for Probate or Administration  
to be given to Curator.

In the Supreme Court of New South Wales. }  
Probate Jurisdiction. }

To the Curator of Intestate Estates, Sydney.

You are hereby requested to take notice that application will  
be made to the Supreme Court of New South Wales, in its  
Probate Jurisdiction, on the day of , or so soon  
thereafter as the same can be heard, for probate of the will (or  
letters of administration, as the case may be) of the estate of  
A.B., late of , deceased, who died on or about the  
day of , 18 , at (intestate).

G. H.,

Proctor for C. D.,

a (brother) of said deceased.

Sydney, day of , 189 .

## No. 16.

In the Supreme Court of New South Wales. }  
Probate Jurisdiction. }

In the matter of , late of , deceased,  
intestate.

E.F., of , is hereby summoned to attend at the  
Curator's Office, Chancery-square, King-street, Sydney, on the  
day of , in the -noon, to settle  
minutes of order dated , 189 .

Dated this day of , A.D. 189 .

Curator.

This summons was taken out by A. and B., of street,  
Sydney, solicitors, for

FREDK. M. DARLEY, C.J.  
WM. OWEN, J.  
C. J. MANNING, J.

1891.

## NEW SOUTH WALES.

## SALE AND USE OF POISONS ACT, 1876.

(BOARD OF PHARMACY—REGULATIONS.)

Presented to Parliament, pursuant to Act 40 Vic. No. 9, sec. 21.

Colonial Secretary's Office, Sydney, 28 January, 1891.

## BOARD OF PHARMACY—REGULATIONS.

THE following Regulations, made by the Board of Pharmacy under the "Sale and Use of Poisons Act, 1876," having been confirmed by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

## RULES AND REGULATIONS OF THE PHARMACY BOARD OF NEW SOUTH WALES.

## REGISTRATION OF CHEMISTS AND DRUGGISTS.

EVERY Chemist and Druggist being a bona fide member of the Pharmaceutical Society of New South Wales shall, on payment of the usual fee of £1, be entitled to registration as a Chemist and Druggist under the Sale and Use of Poisons Act.

*Dealers in poisons other than Chemists and Druggists.*

All persons dealing in poisons other than chemists and druggists shall renew their licenses on the 1st day of February in each year, subject to the approval of the Board of Pharmacy, which Board consists of the Medical Adviser to the Government, the President of the Medical Board of New South Wales, and the members of the Council of the Pharmaceutical Society of New South Wales.

The Board shall meet on the first Tuesday in each month, or oftener if requisite,—four members of the Board to form a quorum.

The Board shall from time to time recommend to the Government, as occasion may require, any competent person to the position of Registrar.

The names of all members of the Board shall be forwarded to the Government by the Registrar on or before the 30th December in each year, for publication in the *Government Gazette*.

All vacancies on the Board through death, or resignation, or any other cause, shall, as soon as possible after, be forwarded to the Government for publication in the *Gazette*.

The name of any person appointed to fill any vacancy on the Board shall, as soon as possible thereafter, be forwarded to the Government for publication in the *Government Gazette*.

*Examination Fees.*

Apprentices, £2 2s.; assistants, £3 3s.

*Mode of conducting Examination.*

Examinations shall be conducted in the months of June and December in each year, or more frequently if the Board shall so direct. These examinations shall take place before, and be conducted by examiners to be appointed from time to time by the Pharmacy Board, and the subjects for examination shall be as follows:—Apprentices as per Synopsis No. 1; assistants No. 2.

## SYNOPSIS OF EXAMINATION No. 1.

Every person, must, before entering into articles of agreement to be an apprentice, pass a preliminary examination in the following three subjects. The examination is a written one, and comprises:—

LATIN.—Grammar. Translation of simple sentences from English into Latin. Translation into English of a paragraph from De Bello Gallico, Book I, or Virgil—Æneid, Book I.

ENGLISH.—Grammar and Composition.

ARITHMETIC.—Including first four Rules, Simple and Compound Vulgar and Decimal Fractions, and Simple and Compound Proportion. Thorough knowledge of the British and Metrical System of Weights and Measures.

These subjects may be varied or added to from time to time as the Board directs.

Every person who shall have obtained a certificate of having passed the preliminary examination, and who shall also have entered into articles of agreement as an apprentice, shall, on production of such certificate and of such articles of agreement, and upon payment of the fee of one guinea, be entitled upon application to the Registrar, within three months of the date of such articles, to have his name placed upon the Register of Apprentices.

If the candidate lodges a certificate that he has at a Matriculation Examination passed in the above or corresponding subjects, he shall not be required to pass this examination, provided the university, school, or college at which he has passed the examination is approved of by this Board.

## SYNOPSIS OF EXAMINATION No. 2.

This examination shall include Prescriptions, Practical Dispensing, Materia Medica, Botany, Pharmacy, and Chemistry.

The candidate must give to the Registrar notice of his intention to present himself for examination, and pay the fee of three guineas ten days prior to the day of examination.

Candidates for this examination must have passed the preliminary examination (or its equivalent).

In the case of a rejected candidate he may present himself for re-examination after a period of three months.

Each candidate must make a statutory declaration that for at least three years he has been registered and employed as an apprentice to a qualified chemist, keeping open shop for the compounding and dispensing of physicians' prescriptions.

The candidates will be examined in the following subjects:—

*Prescriptions.*

The candidate is required to read, without abbreviation, autograph prescriptions; translate them into English; and render a literal as well as an appropriate translation of the directions for use. To detect errors, discover unusual doses, and have a general knowledge of Posology; also, to render in good Latin ordinary prescriptions written in English.

*Practical Dispensing.*

To weigh, measure, and compound medicines; write the directions, in concise language, in a neat and distinct hand; to finish and properly direct each package. (In awarding marks in this subject the time taken by the candidate in doing the work is taken into account.)

*Pharmacy.*

To recognise the preparations of the Pharmacopœia which are not of a definite chemical nature, and have well-marked physical characters—such as extracts, tinctures, powders, &c.; to give the proportions of the active ingredients; and possess a *practical* knowledge of the processes, and the principles of the processes, by which they are made, and of the best excipients and methods of manipulation for forming emulsions, pills, &c.

*Materia Medica.*

To recognise specimens of roots, barks, leaves, fruits, resins, gums, animal substances, &c., used in medicine; give the botanical and zoological names of the plants, &c., yielding them, and the natural families to which they belong; name the countries and sources from which they are obtained, the official preparation into which they enter, and judge the quality and freedom from adulteration or otherwise of the specimens. It will also comprise a *practical* knowledge of the methods of estimating the value of important drugs, of obtaining their active proximate constituents in a separate state, of identifying them and ascertaining their purity or impurity by tests.

*Botany.*

This comprises an intimate acquaintance with the parts of the flower, fruit, and seed; the functions and mode of arrangement of the different organs of plants; a knowledge of the general principles of classification, and of the Linnæan and De Candolle's systems. The candidate must be able to distinguish, practically, between each of the following natural orders: Ranunculaceæ, Papaveraceæ, Cruciferae, Malvaceæ, Leguminosæ, Rosaceæ, Cucurbitaceæ, Umbelliferae, Compositæ, Geraniaceæ, Convolvulaceæ, Solanaceæ, Atropaceæ, Labiatae, Scrophulariaceæ, Polygonaceæ, Euphorbiaceæ, Orchidaceæ, Iridaceæ, Liliaceæ, Melanthaceæ, Graminaceæ; and refer to their respective orders such specimens as may be shown to him.

*Chemistry.*

This comprehends an intimate knowledge of the laws of chemical philosophy; a *practical* knowledge of the nature and properties of the elements and their compounds, both organic and inorganic, especially those used in medicine or the arts. The different combinations and decompositions must be explained by equations. Also, the *qualitative* analysis of the more important chemicals—*e.g.*, Nitrates, Chlorides, Carbonates, Sulphates, Phosphates, Oxalates, Tartrates, &c., and the detection of impurities in them; and the *volumetric* estimation of the strength of all pharmacopœia preparations in which standard solutions are ordered to be used. An elementary knowledge of the properties of light, heat, electricity, and magnetism is also required.

These subjects may be varied or added to from time to time as the Board directs.

*Text Books.*

The following are the Text Books prescribed by the Board:—

“The British Pharmacopœia.”

Pereira's “Materia Medica,” edited by Professors Bently and Redwood.

Bentley's “Manual of Botany.”

Squire's “Companion to British Pharmacopœia.”

Attfield's “Chemistry—General, Medical, and Pharmaceutical.”

Fownes' “Manual of Chemistry.”

Proctor's “Pharmacy.”

CHARLES M'KAY, M.D., President.

F. NORTON MANNING, M.D., Medical Adviser to the Govt.

T. B. MELHUSH, President, Pharm. Society.

RICHARD THOS. BELLEMEY.

WILL. H. M'CARTHY.

LE. P. WILLIAMS.

H. S. BROTHWOOD.

CHAS. BUTCHER.

14th March, 1890.

W. T. PINHEY, Secretary and Registrar.

1891.

## NEW SOUTH WALES.

## PRISONS.

(ADDITIONAL REGULATIONS FOR GIVING EFFECT TO PROVISIONS OF 4 VICTORIA NO. 29, 37 VICTORIA NO. 14, AND THE "CRIMINAL LAW AMENDMENT ACT OF 1883," 45 VICTORIA NO. 17.)

Presented to Parliament, pursuant to Act 37 Vic. No. 14, sec. 9.

Department of Justice,  
Sydney, 26th February, 1891.

His Excellency the Governor, with the advice of the Executive Council, has been pleased to approve of the following Additional Regulations for giving effect to the provisions of 4 Victoria No. 29, 37 Victoria No. 14, and the "Criminal Law Amendment Act of 1883," 46 Vic. No. 17.

ALBERT J. GOULD.

ADDITIONAL REGULATIONS for giving effect to provisions of 4 Victoria No. 29, 37 Victoria No. 14, and the "Criminal Law Amendment Act of 1883," 46 Vic. No. 17.

1. Prisoners under sentences to penal servitude, or to hard labour on the roads and public works, or to imprisonment with hard labour, will become eligible for employment upon the public works at Trial Bay Prison under the following conditions, viz.:—Prisoners under sentences from three to five years, who have not been punished for misconduct within the previous six months, and who are favourably recommended by the Gaolers, at a period twelve months before they would become eligible for discharge under the ordinary remission regulations, and in anticipation of such discharge; in sentences of five to ten years similarly at a period of eighteen months anterior to discharge; in sentences of ten years and upwards at a period of two years anterior to discharge.

2. The Governor may, under exceptional circumstances, direct the employment at the Prison of any offender at any period of his sentence, and for such period as the Governor may fix.

3. The authority for the granting of the privilege of the modified servitude at the Prison will be issued by the Governor, and the privilege may be withdrawn by the Governor at discretion. Any prisoner who through misconduct may have rendered it desirable that he be returned to an ordinary Gaol, shall have the cost of his transfer deducted from the monetary reward which he may have earned during his servitude at the Prison.

4. The prisoners shall occupy such quarters as may be assigned to them, and shall be liable to ordinary prison punishment for any offences or disorder in like manner as in other prisons, and shall be subject to all the rules laid down for their treatment by the Comptroller-General of Prisons, authorised by the Minister of Justice.

5. The prisoners shall be supplied with rations according to the scale subjoined, and with clothing other than the Prison pattern.

6. They will further be allowed reward in money on accomplishment of specified tasks, or on the recommendation of officers directing their work, according to the authorised scale. The money so allowed will be credited to them from time to time until their discharge; but they will be allowed, at the

discretion of the Superintendent, a certain proportion, not to exceed one-third, for the purchase of extra articles of consumption. Those who may wish to do so may also remit money, subject to the approval of the Superintendent, to any immediate relatives who are in destitute circumstances; but such remittances must not exceed one-third of the total amount earned. Those who may avail themselves of this concession will still be permitted to expend the proportion allowed for extra articles of consumption.

7. All prisoners to be eligible for the prison will have to be passed as physically fit for quarrying, or other such labour, by the Surgeons of the prisons, and the favourable recommendation of the Gaolers must express a belief that the prisoner will conduct himself properly, and not abuse the privilege.

8. In case of prisoners who may not be eligible, either from physical or other causes, and therefore have to serve their sentence in ordinary prisons, the consideration will be allowed of an additional remission period beyond that specified in the Prison Regulations, on the following scale:—

In sentences of from 3 to 5 years—2 months.  
" " 5 to 10 years—4 months.  
" " 10 years and upwards—6 months.

9. Prisoners serving sentences under convictions for unnatural offences shall not be eligible for the privileges of the Prison, unless under very exceptional circumstances; but they shall be entitled to receive the additional remission provided for under condition 8.

Daily Scale of Rations for Prisoners at Trial Bay, referred to in condition No. 5:—

1 lb. bread, of fine wheat and maize flour, in the proportion of  $\frac{1}{3}$  of the latter.  
1  $\frac{1}{2}$  lb. fresh meat.  
1 lb. vegetables.  
 $\frac{1}{2}$  oz. salt.  
 $\frac{1}{2}$  oz. soap.  
1 oz. rice.  
1 oz. sugar.  
 $\frac{1}{2}$  oz. tea.  
2 oz. tobacco, weekly.



1891.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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## CROWN LANDS ACT OF 1889.

(REGULATION No. 133, SUBSTITUTED FOR SAME NUMBER NOW IN FORCE.)

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*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

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Department of Lands, Sydney, 17 February, 1891.

Hrs Excellency the Governor, with the advice of the Executive Council, has been pleased to substitute the following Regulation, No. 133, under the "Crown Lands Act of 1889," for the Regulation bearing the same number at present in force under the said Act.

[Ms. Ls. 91-748.]

JAMES N. BRUNKER.

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### REGULATION NO. 133—ANNUAL LEASES.

Applications for annual leases of vacant Crown Lands not reserved from lease or license shall be made on Form 43, and shall be lodged with the Land Agent during office hours on any business day not being a Thursday or public holiday. The application shall be accompanied by a deposit which, in the case of annual leases offered for sale at auction and not bid for, shall be the amount of the upset rent, and in any other case shall be at the rate of £2 for every 640 acres or less area. If the application be withdrawn or refused the Minister may deduct from such deposit any costs incurred in dealing with the application, and the balance shall be refunded. When two or more complete applications for annual leases tendered at the same time to the Land Agent appear to him to be conflicting, or afterwards prove to be so, the priority of such applications shall be determined by ballot, as provided by Regulations 61 and 62 in the case of conflicting conditional purchase or conditional lease applications. Immediately after the ballot any applicant other than the applicant first in priority may withdraw his application, and obtain from the Land Agent a refund of all moneys paid in connection therewith.

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1891.

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LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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**CROWN LANDS ACT OF 1889.**

(REGULATION No. 161, SUBSTITUTED FOR SAME NUMBER NOW IN FORCE.)

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*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

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Department of Lands, Sydney, 28 January, 1891.

His Excellency the Lieutenant-Governor, with the advice of the Executive Council, has been pleased to substitute the following Regulation, No. 161, under the Crown Lands Act of 1889, for the Regulation bearing the same number at present in force under the said Act.

[ML. 91-1,060.]

JAMES N. BRUNKER.

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161. Any holder of a miner's right or mineral license may make application for a residential lease of Crown Lands within a gold or mineral field on Form 48 to the Land Agent of the Land District in which the lands applied for are situated, during office hours upon any business day, not being a Thursday or public holiday. Every such application shall be signed and tendered by the applicant in person, or by his agent duly authorised, for either or both purposes, in writing, and shall be accompanied by a deposit of £1, a survey fee according to the scale set forth in regulation 56, and a provisional rental, calculated at the rate of 1s. per acre or anything less than one acre of the land applied for. Measured portions shall be taken in portions as measured, and shall be so described, but measured portions and unmeasured lands may be applied for together: Provided that in every case, whether the land applied for is measured or unmeasured or both, the Board shall have power to modify or vary the boundaries, area, or confirmation thereof.

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1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**CROWN LANDS ACT OF 1889.**  
(REGULATIONS NOS. 273 AND 274, SUBSTITUTED FOR SAME NUMBER NOW IN FORCE.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

Department of Lands,  
Sydney, 21st April, 1891.

His Excellency the Governor, with the advice of the Executive Council, has been pleased to approve of the following Regulations, viz., Nos. 273 and 274 under the Crown Lands Acts, being substituted for those at present in force bearing the same numbers; and of an Additional Form in connection therewith, viz., No. 73, hereunder set out.  
[Ml. 91-4,652 Dep.]

JAMES N. BRUNKER.

REGULATION No. 273.

Where a homestead lease is, before the expiration of the prescribed term of residence, transferred by way of mortgage or security, a statutory declaration in Form 73 as to the existence of the mortgage shall be made by the transferee, and be lodged with the transfer.

REGULATION No. 274.

Every holder of a pastoral lease who proposes to be registered as the holder of a homestead lease, and every holder of a homestead lease who proposes to be registered as the holder of another homestead lease, and every holder of a homestead lease who proposes to be registered as the holder of a pastoral lease shall, with his transfer, lodge a statutory declaration in Form 73, showing whether such transfer is by way of mortgage or not; and if it be by way of mortgage, what and whose moneys are intended to be secured thereby, and what portion of such moneys has already been advanced. The Minister may in any case require full particulars to be furnished and verified by statutory declaration as to all other pastoral and homestead leases held by the intending transferee, and as to all mortgages affecting such leases. It shall be in the discretion of the Minister whether he will allow any such transfer to be registered, and any registration obtained by fraud may be cancelled after notice has been given to the parties concerned.

FORM 73.

Crown Lands Acts. Regulations 273 and 274.

*Declaration to accompany a Transfer by way of Mortgage of a Lease.*

I [*Mortgagee's name in full*] of [*Residence and occupation*] do hereby solemnly declare and affirm that the transfer of [*Lease or license*] known as [*Description of Holding transferred*] No.        in the District of        by        to me is by way of bona fide mortgage only, and is taken for the purpose of securing the repayment of the sum of        pounds        shillings and        pence, of which        pounds        shillings and        pence have already been advanced to the said        and for no other purpose whatever; and I also hereby solemnly declare and affirm that I [*If no other leases or licenses are held insert the words "do not." If otherwise, leave blank*] hold [*If no other leases or licenses are held insert the word "any." If otherwise, state the number*] other [*State class of lease or license held. If not held insert "lease" or "license"*] by way of mortgage or security. And I make this solemn declaration as to the several matters aforesaid according to the law in this behalf made, and subject to the punishment by law provided for any wilfully false statement in any such declaration.

(Signature of Declarant).....

Made before me at        this        day  
of        189 .

[*Must be attested by a Magistrate, Commissioner of the Supreme Court for taking Affidavits, Notary Public, or Land Agent.*]



1891.

## NEW SOUTH WALES.

## CROWN LANDS.

(ALTERATIONS OF DESIGNS OF CITIES, TOWNS, AND VILLAGES, UNDER THE 107TH SECTION OF THE ACT 48 VIC. No. 18.)

Presented to Parliament, pursuant to Acts 48 Vic. No. 18, and 53 Vic. No. 21.

ABSTRACT of Alterations of Designs of Cities, Towns, and Villages, under the 107th section of the Act 48 Victoria No. 18.

Town or Village.	Government Gazette in which alteration is notified.
Bective (Village) .....	7 February, 1891, folio 1109.
Menindee (Town) .....	7 March, 1891, folio 1862.
Southgate (Village) .....	7 March, 1891, folio 1863.
Armidale (Suburban Lands) .....	14 March, 1891, folio 2042.
Murwillumbah (Village).....	14 March, 1891, folio 2042.
Hay South (Town) .....	4 April, 1891, folio 2530.
Temora (Town).....	16 May, 1891, folio 3687.
Gundagai North (Town).....	19 May, 1891.



1891.

## NEW SOUTH WALES.

## CROWN LANDS.

ALTERATIONS OF DESIGNS OF CITIES, TOWNS, AND VILLAGES, UNDER THE ACT 48 VIC. NO. 18.

Presented to Parliament, pursuant to Act 48 Vic. No. 18, sec. 107.

ABSTRACT of Alterations of Designs of Cities, Towns, and Villages, under the 107th section of the Act 48 Victoria No. 18.

Town or Village.	<i>Government Gazette</i> in which alteration is notified.
Gundagai North (Town) .....	22 May, 1891, folio 3881.



1891.

## NEW SOUTH WALES.

## CROWN LANDS.

(SITES FOR CITIES, TOWNS, AND VILLAGES.)

Presented to Parliament, pursuant to Act 48 Vic. No. 18, secs. 4 and 101.

ABSTRACT of all Sites for Cities, Towns, and Villages, declared under the 4th and 101st sections of the Act 48 Victoria No. 18.

City, Town, or Village.	Area for City, Town, or Village.	Area for Suburbs.	Locality.	Government Gazette in which published.
Tumut (Town) .....	acres. Nil	acres. 1,260	County of Wynyard, parish of Tumut.	10 Jan., 1891, folio 292.
Noonthorungie (Village) .....	800	Nil	County of Yungnulga, parish of Worara.	14 Jan., 1891, folio 345.
Swamp Oak (Town) .....	85	Nil	County of Parry, parish of Loftus.	24 Jan., 1891, folio 665.
Bective (Village) .....	850	170	County of Parry, parish of Bective.	7 Feb., 1891, folio 1109.
Torrowangee (Village) .....	97	Nil	County of Farnell, parish of Torrowangee.	23 Feb., 1891, folio 1504.
Krambach (Village) .....	110	30	County of Gloucester, parish of Kundibakh.	28 Feb., 1891, folio 1673.
Menindee (Town) .....	400	1,100	County of Menindee, parish of Perry.	7 Mar., 1891, folio 1863.
Hay South (Town) .....	360	Nil	County of Waradgery, parish of Hay South.	4 April, 1891, folio 2531.
Baan Baa (Village) .....	43	Nil	County of Pottinger, parish of Baan Baa.	16 May, 1891, folio 3679.



1891.

## NEW SOUTH WALES.

## CROWN LANDS.

(RESERVED FROM SALE FOR THE PRESERVATION OF WATER SUPPLY OR OTHER PUBLIC PURPOSES IN ACCORDANCE WITH THE 101ST, 103RD, 109TH, AND 112TH SECTIONS OF THE ACT 48 VICTORIA No. 18).

Presented to Parliament, pursuant to Act 48 Vic. No. 18.

ABSTRACT of Crown Lands reserved from sale for the preservation of Water Supply or other Public Purposes, in accordance with the 101st, 103rd, 109th, and 112th sections of the Act 48 Victoria No. 18.

No. of Papers.	No. of Reserve.	Section.	County.	Parish.	Area.			Government Gazette in which the description is published.	Folio.
					a.	r.	p.		
Ms. 90-17268	13162	101	Clarence	Tyndale	280	0	0	20 Dec., 1890	9753
17269	13163	"	do	Coldstream	250	0	0	" "	" "
16689	13166	"	Yancowinna	Picton	10	0	0	" "	" "
16264	13195	"	Gordon	Wandawandong	5	2	0	" "	9756
14935	13176	"	Parry	Nundle	225	0	0	" "	9757
8650	13181	"	Ashburnham	Forbes	65	0	0	" "	" "
"	13182	"	do	do	78	0	0	" "	" "
"	13183	"	do	do	170	0	0	" "	" "
"	13184	"	do	do	370	0	0	" "	" "
"	13185	"	do	do	1,450	0	0	" "	" "
16264	13196	"	Gordon	Wandawandong	0	2	0	" "	9758
"	13197	"	do	do	0	3	0	" "	" "
"	13198	"	do	do	6	0	0	" "	" "
Aln. 90-8869	13202	"	Bland	Narraburra	40	0	0	" "	" "
Ms. 90-17649	13199	112	Inglis	Congi	640	0	0	" "	" "
16531	13200	109	Goulburn	Vautier	460	0	0	" "	" "
15065	13093	101	do	Murray	38	0	0	" "	9759
16434	13161	"	Camden	Bulho	460	0	0	" "	" "
8650	13186	"	Ashburnham	Forbes	28	3	0	" "	" "
"	13187	"	do	do	39	3	38	" "	" "
"	13188	"	do	do	59	2	25	" "	" "
"	13189	"	do	do	250	0	0	" "	" "
17280	13164	"	Benarba	Umbri	205	0	0	" "	" "
12489	13153	"	Darling	Barraba	1	0	0	" "	" "
17178	13192	"	Townsend	Harold	221	2	0	" "	" "
"	13193	"	do	do	266	1	0	" "	" "
16706	12753	"	Pottinger	Gulligal	118	0	0	" "	" "
15269	13171	"	Waradgery	Maude	640	0	0	" "	9760
18297	13235	"	Auckland	Yowaka, &c.	6,500	0	0	" "	" "
16264	13194	"	Gordon	Wandawandong	2	0	8	" "	" "
16181	13165	"	King	Cullarin	106	0	0	" "	" "
15269	13172	"	Waradgery	Maude	680	0	0	" "	" "
17457	13173	"	Argyle	Goulburn	4	2	0	" "	9761
17618	13201	"	Cowen	Orandelbinia, &c.	860	0	0	" "	" "
17303	13211	112	Wakool	Miranda	320	0	0	3 Jan., 1891	99
15061	13101	"	Bourke	Berrembed	1,840	0	0	" "	" "
17930	13222	101	Richmond	Bungawalbin, &c.	1,400	0	0	" "	" "
17986	13207	"	Sturt	Mills	25	3	21	" "	" "
Cs. 86-2286 Cor.	13205	"	Benarba	Gocalla	640	0	0	" "	" "
Ms. 90-16947	13169	"	Ashburnham	Brolgan	157	0	0	" "	" "
15061	13100	"	Bourke	Berrembed	400	0	0	" "	" "
17878	13216	"	Bligh	Wargundy	8	0	0	" "	100
17013	13218	"	Fitzroy	Woogoolga	21	0	0	" "	" "
16947	13170	"	Ashburnham	Martin	479	2	0	" "	" "
18000	13223	"	Murray	Larbert	21	3	35	" "	" "
17527	13209	"	do	Majura	42	0	0	" "	" "
17750	13221	"	Macquarie	Caunden Haven	149	0	0	" "	" "
Cs. 90-6268 Cor.	13278	"	Denison	Narrow Plains	858	1	0	7 "	160
Ms. 91-3 Ind.	13346	"	Urana	Cumbermere	142	0	0	" "	" "
90-16527	13283	109	Hume	Comer	640	0	0	10 "	282

No. of Papers.	No. of Reserve.	Section.	County.	Parish.	Area.	Government Gazette in which the description is published.	Folio.
Ms. 90-16528	13284	109	Hume	Creighton	a. r. p. 200 0 0	10 Jan., 1891	282
17932	13247	"	Benarba	Boomi, &c.	2,240 0 0	" "	"
"	13248	"	do	Boonangar, &c.	2,680 0 0	" "	"
"	13249	"	do	Boroo, &c.	3,900 0 0	" "	"
"	13250	"	do	Boonangar, &c.	4,000 0 0	" "	"
8090	12068	"	Blaxland	Hyandra, &c.	3,860 0 0	" "	"
18338	18305	"	Finch	Mogil Mogul, &c.	4,320 0 0	" "	"
15358	13126	103	Cook	Jamison	2 1 0	" "	267
"	13127	"	do	do	7 2 0	" "	"
18338	13306	109	Finch	Collarindabri, &c.	11,500 0 0	" "	283
16132	13215	101	Clive	Tenterfield	43 0 0	" "	"
18331	13242	"	Macquarie	Stewart	30 0 0	" "	"
18527	13297	"	Georgiana	Kangaloolah	0 1 0	" "	284
"	13298	"	do	do	2 0 0	" "	"
"	13299	"	do	do	6 0 0	" "	"
"	13303	"	do	do	41 0 0	" "	"
18333	13237	"	Bligh	Cunna	50 0 0	" "	"
18006	13122	"	Clarence	Gulmarrad	180 0 0	" "	"
17658	13267	"	Camden	Kiama	1 1 1	" "	"
18118	13124	"	Gordon	Dilga, &c.	410 0 0	" "	"
18459	13263	"	Leichhardt	Moorambilla	63 0 0	" "	"
"	13264	"	Oxley	Nyngau	200 2 9	" "	"
18527	13285	"	Georgiana	Kangaloolah	1 8 0	" "	"
17177	13255	"	Townsend	Devon	246 0 0	" "	285
"	13256	"	Wakool	Tchelry	400 0 0	" "	"
"	13257	"	do	Cootnite	320 0 0	" "	"
"	13258	"	do	Murga	84 3 0	" "	"
"	13259	"	do	Gerrabit	230 2 0	" "	"
"	13260	"	do	Woorooma	91 3 0	" "	"
18527	13296	"	Georgiana	Kangaloolah	5 1 20	" "	"
17656	13265	"	Camden	Kiama	40 0 0	" "	"
16827	13275	"	Wynyard	Tumut	2 2 0	" "	"
"	13276	"	do	do	14 2 0	" "	"
"	13277	"	do	do	18 2 0	" "	"
17782	13268	"	Cook	Kurrajong	220 0 0	" "	"
"	13269	"	do	do	670 0 0	" "	"
15275	12943	109	Franklin	Gonowlia	600 0 0	" "	286
"	13241	"	do	do	620 0 0	" "	"
18463	13271	"	Gowen	Mundar	640 0 0	" "	"
17932	13251	"	Benarba	Boomi	300 0 0	" "	"
"	13252	"	do	Tycawna	450 0 0	" "	"
"	13253	"	do	Boonangar, &c.	400 0 0	" "	"
"	13254	"	do	Boomi	520 0 0	" "	"
18527	13287	101	Georgiana	Kangaloolah	5 0 0	" "	"
"	13288	"	do	do	13 0 0	" "	"
12013	13262	"	Wynyard	Tumut	9 2 0	" "	287
18527	13289	"	Georgiana	Kangaloolah	0 0 32	" "	"
"	13290	"	do	do	1 1 11	" "	"
"	13291	"	do	do	2 0 0	" "	"
"	13292	"	do	do	2 0 0	" "	"
"	13293	"	do	do	3 2 16	" "	"
"	13294	"	do	do	6 1 17	" "	"
17657	13266	"	Camden	Kiama	3 2 0	" "	"
17932	13244	"	Benarba	Werrina	4,180 0 0	" "	"
"	13245	"	do	Boonangar, &c.	2,340 0 0	" "	"
18337	13239	"	do	Boonercy	900 0 0	" "	288
13061	13121	"	Sandon	Uralla	25 0 0	" "	"
13435	13282	"	Rous	Ballina	0 2 0	" "	"
18336	13238	"	Benarba	Kamilaroi	590 0 0	" "	"
18338	13304	"	Finch	Euminbah	1,100 0 0	" "	"
18469	13273	"	Gloucester	Tinonee	31 0 0	" "	"
17881	13309	"	Arrawatta	Mandoc	15 0 0	" "	289
18527	13301	"	Georgiana	Kangaloolah	1 0 30	" "	"
"	13302	"	do	do	1 1 17	" "	"
18465	13272	109 &	Leichhardt	Ulundry, &c.	260 0 0	" "	"
2968	13240	101	Bland	Thanowring	91 3 0	" "	"
17932	13246	109 &	Benarba	Umbri	130 0 0	" "	"
18105	13123	112	Sandon, &c.	Sandon, &c.	260 0 0	" "	"
18527	13295	101	Georgiana	Kangaloolah	0 2 32	" "	290
"	13300	"	do	do	20 0 0	" "	"
18230	13236	"	Buller	Clarence, &c.	1,440 0 0	" "	"
18463	13270	"	Gowen	Nundar	2,200 0 0	" "	"
16827	13274	"	Wynyard	Tumut	0 2 0	" "	"
18527	13286	"	Georgiana	Kangaloolah	0 0 24	" "	"
11804	13261	"	Harden	Murrumboola	0 1 1	" "	"
19223	12234	109	Conrallic	Moree	180 0 0	14	346
19224	13233	101	Rous	Tuckurimba	3 3 0½	" "	347
16782	13228	109	Harden	Illalong	472 0 0	17	460
18115	13231	101	Durham	Barford	1,030 0 0	" "	"
"	13232	"	do	do	5 0 0	" "	"
91-529 Dep.	13404	"	Ewenmar	Bobarah	130 0 0	21	547
90-18866	13344	"	Cumberland	South Colah	8,500 0 0	24	663
18909	13319	"	Roxburgh	Sofala	2 0 0	" "	"
16323	13343	"	Clarence	Great Marlow	2 1 0	" "	"
17983	13322	109	Wynyard, &c.	Kyeamba, &c.	640 0 0	" "	669

No. of Papers.	No. of Reserve.	Section	County.	Parish.	Area.	Government Gazette in which the description is published.	Folio.
Ms. 90-17982	13329	109	Wynyard, &c .....	Oberne .....	a. r. p. 16 0 0	24 Jan., 1891	669
18908	13345	101	Gordon .....	Hyandra .....	320 0 0	" "	"
18902	13318	"	Dampier .....	Moruya .....	152 0 0	" "	"
18710	13341	"	Gloucester .....	Tinonee .....	1 0 32	" "	"
"	13342	"	do .....	do .....	10 2 10	" "	"
18864	13316	"	Cumberland .....	South Colah .....	3 0 0	" "	"
18865	13317	"	do .....	do .....	3 2 18	" "	"
18679	13315	"	Cook .....	Meehan .....	1 2 0	" "	"
16287	13320	"	Macquarie .....	Arakoon .....	20 0 0	" "	"
19087	13389	112	Cowley .....	Congwarra .....	3,470 0 0	" "	670
19879	13321	101	Bligh .....	Durrigerie .....	76 0 0	" "	"
18708	13332	"	Canbelego .....	Glenariff .....	1 0 0	" "	"
"	13333	"	do .....	do .....	243 2 0	" "	665
18233	13323	"	Argyle .....	Baw Baw, &c. ....	680 0 0	" "	670
18870	13311	"	Camden .....	Couridjah .....	21 0 33	28 "	751
91-276 Dep.	13422	"	Gresham .....	Kaloe .....	2,000 0 0	" "	"
562 "	13427	"	Rous .....	Dumbible .....	20 0 0	" "	"
90-19137	13362	112	Gloucester .....	Nerong .....	3,730 0 0	31 "	942
19131	13369	"	Townsend .....	Banangalite .....	12 0 0	" "	"
"	13370	"	do .....	do .....	56 0 0	" "	"
18667	13351	101	Northumberland .....	Kalibah .....	12 3 22	" "	"
19132	13366	"	Nicholson .....	Bowerabine .....	3,663 0 0	" "	943
19083	13368	"	Clarke .....	Stanton .....	220 0 0	" "	"
12498	13367	"	St. Vincent .....	Mogendoura .....	25 0 0	" "	"
18399	13336	"	Hume .....	Brocklesby .....	57 0 0	" "	"
17984	13330	101 & 109	Bourke .....	Kindra .....	200 0 0	" "	"
18058	13226	101	Brisbane .....	Murrurundi .....	1 2 0	" "	"
19077	13356	"	Clarke .....	Avondale .....	20 0 0	" "	944
17613	13335	"	Nicholson .....	Redbank .....	5 0 0	" "	"
18090	13358	"	Waljeers .....	Tooraboug .....	5 2 17 $\frac{1}{2}$	" "	"
13764	13360	"	Burnett .....	Warialda .....	10 0 0	" "	"
18058	13327	"	Brisbane .....	Murrurundi .....	20 0 0	" "	"
19183	13365	"	Wellington .....	Ironbarks .....	7 0 18	" "	"
14965	13347	"	Urana .....	Munyabla .....	8 0 0	" "	"
19181	13364	"	Wellington .....	Ironbarks .....	0 1 0	" "	945
18399	13337	"	Hume .....	Brocklesby .....	40 0 0	" "	"
"	13338	"	do .....	do .....	67 0 0	" "	"
18977	13355	"	Robinson .....	Mopone .....	4 2 39	" "	"
19181	13363	"	Wellington .....	Ironbarks .....	0 1 0	" "	"
18951	13361	"	do .....	Tannabutta .....	40 0 0	" "	"
91-590 Dep.	13457	112	Vernon .....	Enfield .....	7,800 0 0	4 Feb.,	1018
90-15512	13444	101	Denison .....	Narrow Plains .....	320 0 0	" "	"
19299	13378	"	Argyle .....	Quialigo .....	2 0 0	7 "	1104
16894	13372	109	Ashburnham .....	Martin .....	52 0 0	" "	1106
18983	13383	"	Fitzroy .....	Chambigne .....	40 0 0	" "	"
91-30 Dep.	13384	"	Burnett .....	Burnett .....	185 0 0	" "	"
90-13404	13381	"	Ashburnham .....	Warregal .....	326 0 0	" "	"
16324	13377	101	Northumberland .....	Newcastle .....	0 0 25 $\frac{1}{2}$	" "	"
16955	13382	109	Bland .....	Woodallion .....	96 0 0	" "	1107
91-141 Dep.	13385	101	St. Vincent .....	Wandrawandian .....	15 0 0	" "	"
90-18904	13350	"	Ashburnham .....	Forbes .....	76 0 0	" "	"
91-298 Dep.	13388	"	Beresford .....	Cooma .....	37 0 0	" "	"
90-13404	13380	"	Ashburnham .....	Warregal .....	640 0 0	" "	"
16894	13371	"	do .....	Parkes .....	850 0 0	" "	"
91-189 Dep.	13387	"	Northumberland .....	Newcastle .....	0 0 28	" "	1108
186 "	13386	"	Argyle .....	Marulan .....	690 0 0	" "	"
Aln. 90-11489	13379	"	Mouramba .....	Roset .....	105 3 0	14 "	"
Ms. 91-499 Dep.	13426	"	Inghs .....	Tamworth .....	11 0 0	" "	1306
31 "	13390	109	Arrawatta .....	Champagne .....	105 0 0	" "	1308
90-19309	11051	"	Cooper .....	Bingar .....	160 0 0	" "	"
91-206 D.	13398	"	Wellesley .....	Glenbog .....	131 0 0	" "	1309
"	13399	"	Beresford .....	Big Badja .....	250 0 0	" "	"
"	13400	"	do .....	do .....	640 0 0	" "	"
"	13401	"	do .....	Winifred .....	320 0 0	" "	"
"	13402	"	do .....	Undoo .....	330 0 0	" "	"
90-19311	13417	"	Cooper .....	Dallas .....	320 0 0	" "	"
91-319 D.	13410	"	Manara .....	Bonuna .....	550 3 0	" "	"
"	13411	"	do .....	do .....	640 0 0	" "	"
1084 Dep.	13486	101	Hardinge .....	Honeysuckle .....	160 0 0	" "	"
368 "	13393	"	Rous .....	Tuckombil .....	2 3 0	" "	"
206 "	13394	"	Beresford .....	Holland .....	210 0 0	" "	1310
"	13395	"	do .....	Kydra .....	105 0 0	" "	"
"	13396	"	do .....	do .....	275 0 0	" "	"
"	13397	"	Murray .....	Jingera .....	400 0 0	" "	"
90-12990	13414	"	Northumberland .....	Branxton .....	0 1 1 $\frac{1}{2}$	" "	"
91-143 Dep.	13391	"	Harden .....	Bookham .....	175 0 0	" "	"
156 "	13418	"	Gordon .....	Loombah .....	130 0 0	" "	"
268 "	13392	"	Leichhardt .....	Winnaba .....	212 2 0	" "	"
206 "	13403	101 and 109	Beresford .....	Hill, &c. ....	640 0 0	" "	1311
90-19178	13415	101	Georgiana .....	Gulong, &c. ....	280 0 0	" "	"
"	13416	"	do .....	Gillendich, &c. ....	960 0 0	" "	"
91-285 Dep.	13405	"	Goulburn .....	Mungabarina .....	5 0 0	" "	"
362 "	13419	"	Wellesley .....	Peters .....	0 2 16	" "	"
360 "	13420	"	Parry .....	Walcha, &c. ....	1,900 0 0	" "	"

No. of Papers.	No. of Reserve.	Section.	County.	Parish.	Area.	Government Gazette in which the description is published.	Folio.
91-1260 Dep.	13546	101	Courailie .....	Berrygill.....	169 2 0	18 Feb., 1891	1413
987 "	13542	"	Buller .....	Coutts.....	40 0 0	" "	"
981 "	13541	"	Cowley .....	Cuppacumbalong .....	10 0 0	" "	"
979 "	13540	"	Fitzroy .....	Ernani .....	160 0 0	" "	"
90-16081	13433	112	Forbes.....	Eualdrie .....	209 0 0	21 "	1500
19312	13428	109	Boyd .....	Uri .....	628 0 0	" "	"
19313	13429	"	do .....	Cararbury .....	460 0 0	" "	"
19314	13430	"	do .....	Tubbo .....	420 0 0	" "	"
	13431	"	do .....	do .....	460 0 0	" "	"
91-645 Dep.	13441	101	St. Vincent .....	Bettowind.....	9 1 20	" "	"
647 "	13442	"	do .....	Mongarlowe .....	10 0 0	" "	"
642 "	13440	"	Sandou .....	Merrigalah .....	0 1 0	" "	1501
286 "	13408	"	Goulburn .....	Coppabella.....	372 0 0	" "	"
559 "	13438	"	Gloucester .....	Forster .....	2 1 30	" "	"
	13439	"	do .....	do .....	5 1 0	" "	"
	13434	"	Cumberland .....	Field of Mars .....	0 0 14½	" "	"
311 "	13436	"	Wellesley .....	Tivy .....	39 3 0	" "	"
554 "	13437	"	do .....	do .....	52 2 20½	" "	"
	13445	"	Bland .....	Moonbuca .....	80 0 0	" "	"
858 "	13435	"	Brisbane .....	Melbourne .....	109 0 0	" "	1502
526 "	13435	"	Gloucester .....	Kundebakh .....	8 0 0	28 "	1676
90-19175	13446	109	Denham .....	Pokataroo, &c. ....	1,750 0 0	" "	1677
91-790 Dep.	13490	101	Macquarie .....	John's River .....	72 0 0	" "	"
493 "	13464	"	Benarba .....	Coonalgra .....	750 0 0	" "	"
1572 "	13569	"	Auckland .....	Buckle .....	195 0 0	" "	1678
667 "	13470	"	do .....	Nungatta .....	80 0 0	" "	"
	13471	"	do .....	Sturt .....	80 0 0	" "	"
	13472	"	do .....	do .....	80 0 0	" "	"
	13473	"	do .....	Waahmma.....	80 0 0	" "	"
	13474	"	do .....	do .....	80 0 0	" "	"
	13475	"	do .....	do .....	80 0 0	" "	"
	13476	"	do .....	Yambulla .....	80 0 0	" "	"
	13477	"	do .....	do .....	80 0 0	" "	"
	13478	"	do .....	do .....	80 0 0	" "	"
90-19175	13456	"	Gloucester .....	Kundibakh .....	7 1 0	" "	"
91-663 Dep.	13480	"	Livingstone .....	Teryawinya, &c. ....	57,540 0 0	" "	"
90-19175	13451	"	Gloucester .....	Kundibakh .....	1 0 0	" "	1679
	13452	"	do .....	do .....	1 0 0	" "	"
13453	13453	"	do .....	do .....	1 0 15	" "	"
91-816 Dep.	13465	"	Clarence.....	Southampton.....	0 2 0	" "	"
90-19175	13449	"	Gloucester .....	Kundibakh .....	1 0 0	" "	"
	13450	"	do .....	do .....	3 0 0	" "	"
442 Ind.	13561	"	Clive .....	Strathearn .....	150 0 0	" "	"
	13562	"	Buller.....	Gilgurry, &c. ....	40 0 0	" "	"
1391 Dep.	13560	"	Buccleuch .....	Yarrangobilly .....	6,000 0 0	" "	"
19175	13454	"	Gloucester .....	Kundibakh.....	4 1 0	" "	"
	13455	"	do .....	do .....	9 0 0	" "	"
91-815 D.	13458	"	Clarence .....	Taloumbi .....	301 0 0	" "	1680
817 "	13484	"	Rous .....	Dunoon .....	8 0 0	" "	"
32 Dep.	13489	109	Arrawatta .....	Burgundy, &c. ....	134 0 0	" "	"
90-19316	13463	"	Cooper .....	Cudgel .....	480 0 0	" "	"
19175	13447	101	Gloucester .....	Kundibakh .....	0 1 20	" "	"
	13448	"	do .....	do .....	1 3 12	" "	"
14904	13488	"	Ashburnham .....	Collett .....	12 0 0	" "	"
748 Dep.	13543	"	St. Vincent .....	Uhadulla .....	2 3 25	7 Mar.,	1856
1126 "	13514	"	Gipps .....	Brolga .....	1,600 0 0	" "	"
192 "	13491	112	Boyd .....	Burt .....	384 0 0	" "	1857
193 "	13492	"	do .....	Tubbo .....	4,600 0 0	" "	"
194 "	13493	"	do .....	Jurambula .....	327 2 0	" "	"
195 "	13494	"	do .....	Tubbo .....	517 0 0	" "	"
	13495	"	do .....	do .....	846 0 0	" "	"
	13496	"	do .....	Uroly .....	484 0 0	" "	"
	13511	"	Cooper .....	Bolaro .....	973 0 0	" "	"
	13512	"	do .....	do .....	2,935 0 0	" "	"
90-15515	13538	101	Menindee .....	Perry .....	4 1 0	" "	"
	13539	"	do .....	do .....	8 1 33	" "	"
91-946 Dep.	13504	"	Gloucester .....	Tomaree .....	66 0 0	" "	1858
90-15515	13520	"	Menindee .....	Perry .....	0 2 0	" "	"
	13521	"	do .....	do .....	0 2 0	" "	"
	13522	"	do .....	do .....	1 0 0	" "	"
	13523	"	do .....	do .....	4 1 0	" "	"
	13524	"	do .....	do .....	5 1 8	" "	"
	13525	"	do .....	do .....	5 1 8	" "	"
	13526	"	do .....	do .....	5 1 8	" "	"
	13518	"	do .....	do .....	0 3 0	" "	"
91-1076 Dep.	13505	"	Gough .....	Glen Innes.....	0 1 13	" "	"
90-15515	13527	"	Menindee .....	Perry .....	0 3 21	" "	"
15515	13528	"	do .....	do .....	0 1 10	7 "	1859
	13529	"	do .....	do .....	2 2 0	" "	"
	13530	"	do .....	do .....	12 0 17	" "	"
	13531	"	do .....	do .....	13 2 27	" "	"
	13532	"	do .....	do .....	17 1 33	" "	"
	13533	"	do .....	do .....	43 0 0	" "	"
	13534	"	do .....	do .....	100 0 0	" "	"
	13535	"	do .....	do .....	120 0 0	" "	"
91-1198 Dep.	13545	109	Dudley .....	Wolseley, &c. ....	320 0 0	" "	"
90-15515	13519	101	Menindee .....	Perry .....	144 2 0	" "	1860
91-1010 Dep.	13547	"	Fitzroy .....	Hyland .....	160 0 0	" "	"
1019 "	13548	"	Cook .....	Megalong .....	300 0 0	" "	"

No. of Papers.	No. of Reserve.	Section.	County	Parish.	Area.	Government Gazette in which the description is published.	Folio.
91-191 Dep.	13460	101	Inglis	Attunga	a. 15 0 0	7 Mar., 1891	1860
90-15515	13536	"	Menindee	Perry	4 0 0	" "	"
"	13537	"	do	do	4 0 0	" "	"
91-1185 D.	13549	"	Gloucester	Bindera	0 2 0	" "	"
1146 "	13515	"	Durham	Glendon	165 3 0	" "	"
791 "	13487	"	Wynyard	South Wagga Wagga	0 2 7	" "	1861
1137 "	13506	"	Cowley	Urayarra	20 0 0	" "	"
1006 "	13544	"	Cook	Currency	11 0 0	" "	"
33 "	13497	"	Sandon	Armidale	0 3 24	" "	"
1099 "	13513	"	Cooper	Narrandera	4 0 38	" "	"
1914	13612	"	Hardinge	Tenterden	240 0 0	11 "	1937
1085	10886	109	Cowley	Umburra	400 0 0	14 "	2039
"	10887	"	do	do	450 0 0	" "	"
"	10888	"	do	Urayarra	265 0 0	" "	"
"	10890	"	do	Booroomba	400 0 0	" "	"
"	10889	"	do	Cavan	280 0 0	" "	"
1846	13510	"	Bland	Bribaree	60 2 0	" "	"
90-17938	13354	101	Murray	Wamboin	100 0 0	" "	2040
17723	13553	"	Brisbane	Oxley	115 0 0	" "	"
11927	13550	"	Hunter	Lemington	2,000 0 0	" "	"
91-787 Dep.	13563	"	Macquarie	John's Rivers	14 0 0	" "	"
"	13564	"	do	do	200 0 0	" "	"
1013	13565	"	Harden	Murrumboola	0 1 0	" "	"
90-17084	13551	"	Nandewar	Narrabri	41 1 0	" "	2041
13850	13517	"	Rous	Murwillumbah	10 0 0	" "	"
91-1303 Dep.	13566	"	Auckland	Werrri Berri	700 0 0	" "	"
339	13503	"	Bacclench	Wyangle	1,200 0 0	" "	"
90-17084	13552	"	Nandewar	Narrabri	20 0 0	" "	"
91-2286 Dep.	13643	"	Cumberland	Saint Mathew	6,006 0 0	17 "	2103
"	13644	"	do	Pitt Town	8,875 0 0	" "	2104
"	13645	"	Cook	Wilberforce	7,970 0 0	" "	"
2273	13637	"	Phillip	Wilbertree	500 0 0	" "	"
1366	13604	"	Denham	Walmar	216 0 0	" "	"
1295	13589	"	Camden	Broughton	1 0 0	21 "	2180
1654	13586	"	Hume	Buraja	2 0 0	" "	"
1525	13590	"	Bligh	Nanima	204 0 0	" "	2181
771	13588	"	Sandon	Merrigalah	160 0 0	" "	"
1406	13591	"	Roxburgh	Sofala	40 0 0	" "	"
"	13592	"	do	Stewart	40 0 0	" "	"
2343	13668	"	Pottinger	Curlewis	80 0 0	25 "	2201
2336	13667	"	Nicholson	Eurella	40 0 0	" "	"
2350	13669	"	Gordon	Newree	538 0 0	" "	"
"	13670	"	do	Cardington	1,700 0 0	" "	"
1340	13570	"	Georgiana	Mulgunnia	2 0 0	4 April,	2525
1190	13579	"	Rous	Jiggi	500 0 0	" "	2526
1967	13610	"	Monteagle	Young	11 0 0	" "	"
1967	13611	"	do	do	72 0 0	" "	"
1190	13578	"	Rous	Jiggi	207 1 0	" "	"
90-18991	13593	"	Waradgery	Mau	5 2 16	" "	"
91-1190 Dep.	13580	"	Rous	Jiggi	200 0 0	" "	"
"	13581	"	do	do	230 0 0	" "	2527
"	13582	"	do	do	280 0 0	" "	"
1275A	13585	"	Narromine	Gundong, &c.	6,520 0 0	" "	"
1190	13576	"	Rous	Jiggi	30 0 0	" "	"
"	13577	"	do	do	64 1 0	" "	"
2830	13706	"	Gordon	Cardington	15 0 0	7 "	2592
1449	13701	"	Denham	Walmar	216 0 0	" "	"
90-17120	13646	"	Raleigh, &c.	Neury, &c.	40 sq. miles.	11 "	2683
91-259 Dep.	13628	109	Hardinge	Honeysuckle	160 0 0	" "	2686
1658	13658	"	Monteagle	Rossi	250 0 0	" "	"
1583	13657	"	Gough	Gordon	64 0 0	" "	"
2124	13659	"	Arrawatta	Nullamana	580 0 0	" "	"
1330	13640	"	Chve	Ballandean	380 0 0	" "	"
2023	13641	112	Vernon	Emu	385 0 0	" "	"
2039	13647	"	Cooper, &c.	Narriah	2,940 0 0	" "	"
1330	13659	101 and 109	Clive	Ballandean	370 0 0	" "	2687
C.S. 91-3606	13638	101	Baradine	Pilliga	160 0 0	" "	"
Ms. 91-1304	13606	109	Dudley	Warne	300 0 0	" "	"
1713	13631	101	Westmoreland	Thurat, &c.	3,840 0 0	" "	"
1964	13630	"	Cumberland	Concord	0 0 39½	" "	"
2155	13649	"	Durham	Russell	0 1 0	" "	"
2492	13671	"	Courallie	Nepickallina	258 2 0	" "	"
2131	13650	"	Murray	Wamboin	13 0 10	" "	2688
2246	13654	"	Mitchell	Leitch	2 0 0	" "	"
2115	13648	"	Northumberland	St. Albans	1 2 30	" "	"
2493	13672	"	Gowen	Cuttabulla	62 0 0	" "	"
2204	13666	"	Pottinger	Goragilla	300 0 0	" "	"
1888	13629	"	Benarba	Coonalgra	762 0 0	" "	"
1706	13607	"	Sandon	Metz	0 1 0	" "	"
2089	13642	"	Brisbane	Merriwa	1 0 0	" "	"
2043	13632	"	Westmoreland	Wingecaribee	10 0 0	" "	"
1193	13605	"	King	Jerrara	54 0 0	" "	2869
1887	13660	"	Burnett	Myalla	106 0 0	" "	"
2319	13680	"	Gloucester	Talawah	2 2 0	18 "	2864
2339	13681	"	Brisbane	Denman	160 0 0	" "	"
2244	13687	112	Ashburnham	Nangar	3,000 0 0	" "	"
90-18435	13686	"	Cunmugham	Derriwong, &c.	1,577 0 0	" "	"
91-1892 Dep.	13676	"	Hume	Quat Quatta	135 0 0	" "	"

No. of Papers.	No. of Reserve.	Section.	County.	Parish.	Area.	Government Gazette in which the description is published.	Folio.
Ms. 91-1660 Dep.	13633	109	Harden .....	Illalong, &c. ....	a. r. p. 183 0 0	18 April, 1891	2864
1581 "	12123	101	Urana .....	Brookong .....	108 0 0	" "	2865
1337 "	13673	"	Northumberland .....	Newcastle .....	2 3 19	" "	"
2340 "	13678	"	Cook .....	Blackheath .....	0 1 13	" "	"
2238 "	13677	"	Wallace .....	Coonhoonbula .....	12 3 0	" "	"
2317 "	13679	"	Cook .....	Megalong .....	85 0 0	" "	"
C.S. 91-4486 "	13675	"	Wellesley .....	Jettiba .....	63 3 0	" "	"
Ms. 91-2325 "	13688	"	Northumberland .....	Newcastle .....	2 1 27	" "	2866
2327 "	13674	"	Roxburgh .....	Waltham .....	13 0 0	" "	"
3416 "	13785	"	Northumberland .....	Wollombi .....	120 0 0	22 "	3106
3214 "	13771	"	Gough .....	Wellington Vale .....	1,700 0 0	" "	"
2342 "	13694	"	Georgiana .....	Rockley .....	2 0 0	25 "	3190
2589 "	13702	"	Clarence .....	Taloumbi .....	1 0 0	" "	3192
2466 "	13696	"	Irrara .....	Willyero .....	230 0 0	" "	3190
2363 "	13699	109	Gough .....	Ben Lomond .....	97 0 0	" "	3192
C.S. 91-860 Cor.	13698	101	Clarendon .....	Eurongilly .....	640 0 0	" "	"
Ms. 91-144 Dep.	13691	"	Fitzroy .....	Bardsley, &c. ....	640 0 0	" "	3193
" "	13692	"	Clarence .....	Elland .....	700 0 0	" "	"
1665 "	13693	"	Durham .....	Savoy .....	65 2 0	" "	"
3296 "	13803	"	Ashburnham .....	Forbes .....	7 0 0	29 "	3286
3661 Dep.	13804	"	Courallie .....	Binigay .....	188 1 0	" "	"
1318 "	13743	101 and 109	Inglis .....	Bendemeer .....	500 0 0	2 May, "	3367
" "	13744	"	do .....	do .....	640 0 0	" "	"
" "	13745	"	do .....	do .....	600 0 0	" "	"
2800 "	13737	101	Macquarie .....	Arakoon .....	75 0 0	" "	3368
2559 "	13705	"	Forbes .....	Boyd .....	129 0 0	" "	"
2797 "	13736	112	Raleigh .....	Warrell .....	4,000 0 0	" "	"
405 "	13721	"	Gordon .....	Benya, &c. ....	19,000 0 0	" "	"
2811 "	13740	"	Blaxland .....	West Uabba .....	2,000 0 0	" "	"
2559 "	13704	101	Forbes .....	Boyd .....	90 0 0	" "	"
2586 "	13735	"	Rous .....	Kyogle .....	11 0 0	" "	"
2154 "	13724	"	Durham .....	Russell .....	2 2 0	" "	3369
2295 "	13735	"	Monteagle .....	Brundah .....	5 0 0	" "	"
2151 "	13725	"	Durham .....	Russell .....	1 0 0	" "	"
2418 "	13742	"	Napier .....	Allison .....	637 2 0	" "	"
773 "	13722	"	Wellesley .....	Hayden .....	4 0 0	" "	"
2570 "	13716	"	Yancowinna .....	Pieton .....	45 0 0	" "	"
2520 "	13734	"	St. Vincent .....	Araluen .....	14 0 0	" "	"
2790 "	13739	"	King, &c. ....	Merrill, &c. ....	15 0 0	" "	"
784 "	13723	"	Durham .....	Mirannie .....	53 3 0	" "	3370
3058 "	13767	"	St. Vincent .....	Tomboye .....	3 2 0	9 "	3510
3059 "	13768	"	Rous .....	Boorabee .....	40 0 0	" "	3511
2421 "	13715	109	Vernon .....	Waterloo .....	152 0 0	" "	"
2931 "	13746	101	Forbes .....	Eualdrie .....	40 0 0	" "	"
" "	13747	"	Bland .....	Bolungerai .....	40 0 0	" "	"
" "	13748	"	do .....	Yulac .....	75 0 0	" "	"
2959 "	13766	"	Wentworth .....	Gol Gol .....	160 0 0	" "	"
541 "	13765	"	Northumberland .....	Newcastle .....	0 1 31½	" "	"
2245 "	13707	"	Goulburn .....	Carabobola .....	87 2 0	" "	3512
1585 "	13792	109	Gough .....	Fladbury .....	95 0 0	16 "	3684
3273 "	13788	112	Farnell .....	Torrowangee .....	60 0 0	" "	"
" "	13789	"	do .....	Torrowangee, &c. ....	220 0 0	" "	"
" "	13790	"	do .....	Torrowangee .....	800 0 0	" "	"
3291 "	13800	"	Yancowinna .....	Purnamoota .....	65 0 0	" "	"
" "	13801	"	do .....	Robe, &c. ....	250 0 0	" "	"
3327 "	13802	"	do .....	Mundi Mundi, &c. ....	500 0 0	" "	"
3284 "	13796	109	Burnett .....	Strathmore .....	640 0 0	" "	"
3283 "	13797	"	do .....	Strathmore, &c. ....	640 0 0	" "	"
1804 "	13753	101	Northumberland .....	Patonga .....	14 0 0	" "	3685
2150 "	13772	"	Gloucester .....	Beryan .....	35 0 0	" "	"
" "	13773	"	do .....	do .....	22 3 0	" "	"
2629 "	13769	"	Pottinger .....	Baan Baa .....	0 2 0	" "	"
" "	13770	"	do .....	do .....	0 1 30	" "	"
2975 "	13774	"	Ashburnham .....	Bowan .....	600 0 0	" "	"
2751 "	13791	"	Durham .....	Darlington .....	1 0 0	" "	"
3216 "	13799	"	Murray .....	Ballallaha .....	1 0 0	" "	3686
3319 "	13795	"	Cook .....	Jamison .....	0 1 6	" "	"
3026 "	13775	"	Buckland .....	Quirindi .....	5 0 0	" "	"

1891.

## NEW SOUTH WALES.

## CROWN LANDS.

(AUTHORIZED TO BE DEDICATED TO PUBLIC PURPOSES, IN ACCORDANCE WITH THE 104TH SECTION OF THE ACT 48 VICTORIA No. 18.)

Presented to Parliament, pursuant to Act 48 Vic. No. 18.

ABSTRACT of Crown Lands authorized to be dedicated to Public Purposes, in accordance with the 104th section of the Act 48 Victoria No. 18.

Place.	County.	Portion.	Allotment.	Section.	Locality.	Area.	To what purpose dedicated.	No. of Papers.	Catalogue No. of Plan.
Alectown .....	Kennedy .....	..	..	..	Parish of Houston .....	a. r. p. 5 3 37	General cemetery .....	Mis. 90-14,118	Ms. 63 F.
Bald Nob .....	Gough .....	50	..	..	Parish of Bixsome .....	2 0 0	Public school site .....	90-0,891	G. 4,424-1,761
Bankstown .....	Cumberland .....	..	..	..	Parish of Liberty .....	21 0 0	Public recreation .....	91-1,352 Ind.	C. 1,454-2,030
Blonaway .....	Napier .....	75	..	..	Parish of Binnaway .....	2 0 0	Public school site .....	91-1,081 Dep.	N. 599-1833
Birriwa .....	Bligh .....	102	..	..	Parish of Wargundy .....	2 0 0	Public school site .....	90-18,514	B. 2,709-1,570
Blowering West .....	Selwyn .....	111	..	..	Parish of Yellowin .....	2 0 0	Public school site .....	90-10,771	S. 1,302-1,522
Bowning .....	Harden .....	..	..	..	Village of Bowning .....	8 3 0	General cemetery .....	91-437 Dep.	Ms. 242 Gbn.
Bownal .....	Camden .....	..	..	..	Parish of Mittagong .....	10 0 0	General cemetery .....	91-024 Ind.	Ms. 183 Gbn.
Brelsford .....	Fitzroy .....	..	11	6	Village of Brelsford .....	0 1 0	Site for mechanics institute.	91-1,007 Dep.	E. 2-2,453
Charlestown .....	Northumberl'd .....	..	..	..	Parish of Kahibah .....	13 2 18	General cemetery .....	91-682 Dep.	Ms. 296 Md.
Cheviot .....	Clarence .....	39	..	..	Parish of Lawrence .....	2 0 0	Public school site .....	90-17,302	C. 1,641-1,577
Cionaltou .....	King .....	98	..	..	Parish of Graham .....	3 0 0	Public school site .....	90-18,507	K. 5,016-1,995
Coopersook .....	Macquarie .....	151	..	..	Parish of Lansdowne .....	2 0 0	Public school site (addition).	90-17,261	M. 3,083-068
Copeland .....	Gloucester .....	..	10	27	Village of Copeland .....	0 2 0	Site for mechanics institute.	91-1,073 Ind.	C. 24-2,219
Glencoe .....	Gough .....	..	..	..	Parish of Fletcher .....	16 2 0	General cemetery .....	90-12,891	Ms. 188 Ae.
Graman .....	Arrawatta .....	64	..	..	Parish of Graman .....	1 0 0	Public school site .....	91-1,935 Dep.	A. 1,520-1,847
Gulgong .....	Phillip .....	..	5	23	Village of Gulgong .....	0 1 19	Site for town hall .....	91-4,073 Dep.	G. 140-2,089
Gullen West .....	King .....	363	..	..	Ph. of Grabben Gullen .....	2 0 0	Public school site .....	90-12,439	K. 4,935-1,995
Hay .....	Waradgery .....	..	..	..	Town of Hay .....	0 0 24	Addition to site for municipal buildings.	90-13,353	Ms. 64 Hay.
Humula .....	Wynyard .....	..	..	..	Parish of Umbango .....	7 3 30	General cemetery .....	90-10,820	Ms. 141 Wga.
Krambach .....	Gloucester .....	..	..	..	Parish of Kundibakh .....	13 2 6	General cemetery .....	90-14,126	Ms. 294 Md.
Little Gundary .....	Argyle .....	112	..	..	Parish of Gundary .....	2 0 0	Public school site .....	91-3,671 Dep.	A. 2,717-2,121
Mathoura .....	Castell .....	..	..	part of 99	Town of Mathoura .....	0 0 18	Public school site (addition).	88-1,944	P. 487-1,978
Morangarell .....	Bland .....	..	..	..	Parish of Morangarell .....	11 0 0	General cemetery .....	90-1,942	C. 1,049-1,934
Munyabla .....	Urana .....	111	..	..	Parish of Munyabla .....	2 0 0	Public school site .....	91-038 Dep.	U. 2,392-1,831
Nimbin .....	Rous .....	..	..	..	Parish of Terania .....	13 1 20	General cemetery .....	90-15,127	Ms. 176 Gfn.
Oxley .....	Waigcers .....	..	..	..	Parish of Tooralboug .....	14 1 24	General cemetery .....	91-681 Dep.	Ms. 62 Hay.
Parramatta .....	Cumberland .....	..	..	..	Town of Parramatta .....	0 2 33½	Public school site (addition).	91-809 Dep.	Ms. 369 Sy.
Round Mount .....	Hardinge .....	65	..	..	Parish of Mayo .....	2 0 0	Public school site .....	91-659 Dep.	H. 2,566-1,702
St. Peters .....	Cumberland .....	..	..	..	Parish of Petersham .....	10 0 0	Public recreation .....	91-2,853 Dep.	Ms. 403 Sy.
Tuncurry .....	Gloucester .....	..	..	..	Parish of Tuncurry .....	12 2 9	General cemetery .....	91-3,570 Dep.	Ms. 322 Md.
Waratah .....	Northumberl'd .....	..	..	..	Parish of Newcastle .....	3 0 11½	Site for gas works .....	91-2,152 Dep.	N. 2,633-2,111
Webb's Creek .....	Hunter .....	..	..	..	Parish of Wonga .....	0 3 24½	Public school site .....	91-3,744 Dep.	Ms. 398 Sy.
Willyama .....	Yaucowinna .....	..	..	..	Town of Willyama .....	0 1 8	Site for mechanics institute, museum, hall, or other institution for public amusement.	91-3,402 Dep.	
Young Wallsend .....	Northumberl'd .....	106	..	..	Parish of Tembu .....	1 3 35	Public school site .....	90-13,367	N. 2,077-2,111



1891.

## NEW SOUTH WALES.

## CROWN LANDS.

(AUTHORISED TO BE RESERVED FOR PUBLIC PURPOSES, IN ACCORDANCE WITH THE 104TH SECTION OF THE ACT 48 VIC. No. 18.)

Presented to Parliament, pursuant to Act 48 Vic. No. 18 sec. 104.

ABSTRACT of Crown Lands authorised to be reserved for Public Purposes, in accordance with the 104th section of the Act 48 Victoria No. 18.

Place.	County.	Portion.	Allotment.	Section.	Locality.	Area.	To what purpose dedicated.	No. of Papers. Misc.	Cat. No. of Plan.
Adamstown ....	Northumber-land.	2824	.....	.....	Parish of Newcastle...	a. r. p. 69 0 0	Racocourse.....	91- 147	N. 2,947-2,111
Do .....	do ..	1654	.....	.....	do .....	0 1 20	Post and Telegraph Office Site.	Ind. 90-18,353	Newcastle Pasturage Res. Plan. B. 15-1,498.
Barraba .....	Darling .....	.....	13, 14, 15, 16	14	Town of Barraba .....	1 3 20	Public School Site .....	90-17,601	B. 15-1,498.
Hamilton .....	Northumber-land.	.....	.....	.....	Parish of Newcastle....	25 1 10	Public Recreation.....	91- 2,596 Dep.	Ms. 43 Md., Roll.



1891.

## NEW SOUTH WALES.

## CROWN LANDS.

(DEDICATION OF CERTAIN LANDS UNDER THE ACT 48 VIC. NO. 18, SEC. 105.

Presented to Parliament, pursuant to Act 48 Vic. No. 18, sec. 105

Department of Lands,  
Sydney, 15th May, 1891.**PROPOSED RESUMPTION OF ROMAN CATHOLIC CHURCH AND PRESBYTERY SITES AT MURWILLUMBAH, AND DEDICATION FOR GENERAL CEMETERY EXTENSION AND ROMAN CATHOLIC CHURCH PURPOSES IN LIEU.**

It is hereby notified, for public information, that, in accordance with the provisions of the 105th section of the Crown Lands Act of 1884, it is proposed to revoke the dedication of the Roman Catholic Church and Presbytery sites at Murwillumbah, area 1 acre 2 roods, viz., allotments Nos. 2 and 3 of section 14, dedicated 23rd September, 1881, and hereunder described, with a view to dedication of an area of 3 acres and 30 perches, to include the above, for extension to General Cemetery, and an area of 1 acre 1 rood 22 perches, also hereunder described, for Roman Catholic Church purposes in lieu.

[Ms. 90-19,252] JAMES N. BRUNKER.

## DESCRIPTIONS.

Roman Catholic Church and Presbytery sites proposed to be resumed.

County of Rous, parish of Murwillumbah, village of Murwillumbah, 1 acre 2 roods, allotments 2 and 3 of section 14: Commencing at the south-eastern corner of the section; and bounded thence on the south by Murwillumbah-street bearing west 6 chains; on the west by the eastern boundary of allotment 1 bearing north 2 chains and 50 links to a lane; on the north by that lane bearing east 6 chains to Polding-street; and on the east by that street bearing south 2 chains and 50 links, to the point of commencement,—shown on plan catalogued C. 861-1,984.

General Cemetery Extension proposed to be dedicated.

County of Rous, parish of Murwillumbah, village of Murwillumbah, containing an area of 3 acres 0 roods and 30 perches. The Crown Lands within the following boundaries: Commencing at the intersection of the north side of Murwillumbah-street with the west side of Polding-street; thence by the west side of the latter street bearing north 5 chains 31 links to the south-east corner of show ground, portion 49; thence by part of the south boundary of that portion west 6 chains to the north-east corner of General Cemetery, dedicated 14th October, 1881; thence by the east boundary of the General Cemetery south 5 chains 31 links to the north side of Murwillumbah-street; and thence by part of that side of that street east 6 chains, to the point of commencement,—being allotments 2, 3, 5, 6, 7, 8 of section 14 and intervening lanes,—as shown on plan catalogued Ms. 169 Grafton.

Area proposed to be dedicated for Roman Catholic Church purposes.

County of Rous, parish of Murwillumbah, village of Murwillumbah, containing an area of 1 acre 1 rood 22 perches: Commencing at the intersection of the north side of Murwillumbah-street with the eastern side of Waterloo-street; thence by the eastern side of the latter street north 44 degrees 35 minutes east 7 chains 45 links; thence south 5 chains 31 links to the north side of Murwillumbah-street aforesaid; thence by that side of that street west 5 chains 23 links, to the point of commencement,—as shown on plan catalogued M. 11-2,112.

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Department of Lands,  
Sydney, 22nd May, 1891.**PROPOSED RESUMPTION OF RECREATION RESERVE AT GUNDAGAI NORTH, AND DEDICATION FOR RACECOURSE IN LIEU.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedication of the land at Gundagai North, area 123 acres, dedicated on the 12th March, 1869, for public recreation, and hereunder described, with a view to the dedication in lieu of 268 acres in the same locality, to include the above, for racecourse.

[Ms. 91-2,594 Dep.]

JAMES N. BRUNKER.

## DESCRIPTIONS.

Recreation Reserve proposed to be resumed.

County of Clarendon, parish of Gundagai, 123 acrs., at Gundagai: Commencing on the left bank of a lagoon, at a point bearing south 79 degrees 20 minutes east and distant 10 chains 86 links from the southern corner of allotment 2 of section 31, in the town of Gundagai; and bounded thence on the south-west by Sheridan-street bearing east 16 degrees 17 minutes south 9 chains 14 links; thence by Johnson-street bearing south 16 degrees 17 minutes west 11 chains and 50 links to Landon-street; again on the south-west by that street bearing east 16 degrees 17 minutes south 33 chains to Thackeray-street; on the south-east by that street bearing north 16 degrees 17 minutes east 33 chains to Hanley-street; on the north-east by Hanley-street bearing west 16 degrees 17 minutes north 37 chains and 77 links to the aforesaid lagoon; and on the north-west by that lagoon downwards, to the point of commencement,—as shown on plan G. 27-1,028.

Racecourse proposed to be dedicated.

County of Clarendon, parish of North Gundagai, containing an area of 268 acres. The Crown Lands within the following boundaries: Commencing on the right bank of the Murrumbidgee River, at a point where the eastern extremity of the south side of Neptune-street intersects it; and bounded thence by part of the south side of Neptune-street bearing west 14 chains and 41 links; thence by a line bearing south 25 degrees 19 minutes west 22 chains 64 links; thence by a line bearing south 46 degrees 22 minutes west 5 chains 4 links to the north-eastern side of Sheridan-street; thence by part of the north-eastern side of that street bearing south 73 degrees east 7 chains 52 links to the south-eastern side of Johnson-street; thence by part of the south-eastern side of that street bearing south 17 degrees west 11 chains 50 links to the north-eastern side of Landon-street; thence by part of the north-eastern side of that street bearing south 73 degrees east 11 chains 50 links to the south-eastern side of Maturin-street; thence by the south-eastern side of that street bearing south 17 degrees west 13 chains to the right bank of the Murrumbidgee River; thence by the right bank of that river upwards, to the point of commencement,—being portion 253, as shown on plan catalogued C. 2,944 1,578 Roll.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION OF GENERAL CEMETERY  
AT ARAKOOK AND DEDICATION FOR THE  
SAME PURPOSE IN LIEU.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884, it is proposed to revoke the dedication of the General Cemetery at Arakook, area 8 acres 1 rood 8 perches, dedicated 11th March, 1881, and hereunder described, with a view to reservation for preservation of graves or other appropriations under the Crown Lands Acts, and to the dedication in lieu of 13 acres 1 rood 32 perches in the same locality, also hereunder described, for General Cemetery.

[Ms. 90-19,251]

JAMES N. BRUNKER.

**DESCRIPTIONS.**

General Cemetery proposed to be resumed.

County of Macquarie, parish of Arakook, area 8 acres 1 rood 8 perches: Commencing at a point bearing about south 7 degrees 6 minutes 30 seconds west 62 chains 21 links from the south-west corner of section 2, village of Arakook; and bounded thence on the north by a line bearing east 8 chains; on the east by a line bearing south 10 chains 33 links; on the south by a line bearing west 8 chains; and on the west by a line bearing north 10 chains 38 links, to the point of commencement,—shown on plan O. 850-1,981.

General Cemetery proposed to be dedicated.

County of Macquarie, parish of Arakook, at Arakook, containing an area of 13 acres 1 rood 32 perches. The Crown Lands within the following boundaries: Commencing at a point bearing south 23 degrees 24 minutes west 36 chains 9 links from the northernmost south-east corner of reserve 217, notified 5th November, 1883; and bounded thence by a line east 11 chains; thence a line south 12 chains; thence a line west 11 chains; and thence a line north 12 chains, to the point of commencement,—as shown on plan catalogued Ms. 182, Gfn.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION OF SCHOOL OF ARTS  
SITE AT SAVERNAKE AND DEDICATION FOR  
MECHANICS' INSTITUTE IN LIEU.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884, it is proposed to revoke the dedication of the School of Arts site at Savernake, area 2 roods, viz., allotment 10 of section 19, dedicated 24th June, 1890, and hereunder described (the land having been alienated prior to dedication), with a view to the dedication in lieu thereof of allotment 2 of section 22, area 2 roods, also hereunder described, for site for Mechanics' Institute.

[Ms. 91-2,427 Dep.]

JAMES N. BRUNKER.

**DESCRIPTIONS.**

Site for School of Arts proposed to be resumed.

County of Denison, parish of Savernake: Commencing at the intersection of the south-eastern side of Hay-street with the north-eastern side of Corowa-street, town of Savernake; and bounded thence on the south-west by a line bearing south 50 degrees 6 minutes east 2 chains to the western corner of allotment 9 of 2 roods, section 19; bounded thence on the south east by the north-western boundary of that allotment, being a line bearing north 39 degrees 54 minutes east 2 chains 50 links to the south-western side of a lane 31 links wide; thence on the north-east by part of that side of that lane, being a line bearing north 50 degrees 6 minutes west 2 chains, to the south-eastern side of Hay-street first mentioned; and thence on the north-west by part of that side of that street bearing south 39 degrees 54 minutes west 2 chains 50 links, to the point of commencement,—being allotment 10 of section 19, and containing an area of 2 roods, shown on plan catalogued Savernake 1.

Site for Mechanics' Institute proposed to be dedicated.

County of Denison, parish of Savernake: Commencing at the most eastern corner of allotment 1 of section 22, sold to Thomas Joseph and Edmund Daniel O'Dwyer; and bounded thence by the south-eastern boundary of that allotment, being a line bearing south 39 degrees 54 minutes west 2 chains 50 links, to a lane 31 links wide; thence by part of the north-eastern side of that lane bearing south 50 degrees 6 minutes east 2 chains to the most western corner of allotment 3 of section 22; thence by the north-western boundary of that allotment bearing north 39 degrees 54 minutes east 2 chains 50 links to the south-western side of Corowa-street; and by that side of that street bearing north 50 degrees 6 minutes west 2 chains, to the point of commencement,—being allotment 2 of section 22, containing an area of 2 roods, shown on plan catalogued Savernake 1.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION OF SITES FOR BENEVO-  
LENT ASYLUM AND MECHANICS' INSTITUTE  
AT SCONE.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedications of the site for Benevolent Asylum at Scone, area 2½ acres, and the site for Mechanics' Institute, area 1 rood 19½ perches, both hereunder described, with a view to sale by auction or other appropriations under the Crown Lands Acts.

[Ms. 90-19,248]

JAMES N. BRUNKER.

**DESCRIPTIONS.**

Benevolent Asylum Site.

County of Brisbane, parish of Scone, village of Scone, allotments 16, 17, 18, 19, and 20 of section 3, 2 acres 2 roods: Commencing at the north-west corner of the section; and bounded thence on the north by Liverpool-street easterly 5 chains; on the east by the western boundary-line of allotment 15 southerly, at right angles to Liverpool-street, 5 chains and ¼ link; on the south by the northern boundary lines of allotments 5, 4, 3, 2, and 1 westerly, parallel with Liverpool-street, 5 chains to Aberdeen-street; and on the west by that street northerly 5 chains and ¼ link, to the point of commencement. Plan S. 45-999.

Mechanics' Institute Site.

County of Brisbane, parish of Scone, village of Scone, allotment 3 of section 14, 1 rood 19½ perches: Commencing on the eastern side of Kelly-street, at south-western corner of allotment 2 of section 14, T. French's 3 roods; and bounded thence on the north by the southern boundary of that allotment bearing north 89 degrees 58½ minutes east 3 chains; on the east by part of the western boundary of portion 13, W. Dumaresq's 620 acres bearing south 1½ minutes east 2 chains 50 links; and on the south-west by part of a north-eastern side of the Great Northern Road, 1 chain 50 links wide, bearing north 50 degrees 13½ minutes west 3 chains 90½ links, to the point of commencement. Plan S. 47-999.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION AND REDEDICATION OF  
GENERAL CEMETERY AT FREDERICKTON.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to resume and rededicate the General Cemetery at Frederickton, dedicated 12th March, 1869, and hereunder described, an amended plan of the land in question having been furnished.

[Ms. 91-2,431 Dep.]

JAMES N. BRUNKER.

**DESCRIPTIONS.**

General Cemetery proposed to be resumed.

County of Dudley, parish of Yarrabandini, area 7 acres 2 roods 1 perch: Commencing on the north side of a road 150 links wide, at the south-eastern corner of allotment 2 of section 2, 7 acres, within the suburban limits to the village of Frederickton; and bounded thence on the west by part of the eastern boundary of that allotment, being a line bearing north 8 chains, to the south-western corner of allotment 3; on the north by the south boundary of that allotment and that of allotment 4 of section 1, being a line bearing east 10 chains 38 links, to the western boundary of allotment 1, section 1; on the east by part of that western boundary, being a line bearing south 8 chains, to the north side of a road 150 links wide first mentioned; and thence by part of that side of that road, being a line bearing west 10 chains 38 links, to the point of commencement,—but exclusive of intervening road 100 links wide, as shown on plan catalogued C. 51-1,981.

General Cemetery proposed to be dedicated.

County of Dudley, parish of Yarrabandini, area 7 acres 2 roods: Commencing on the north side of a road 150 links wide, at the south-eastern corner of allotment 2 of section 2, 7 acres, within the suburban limits to the village of Frederickton; and bounded thence on the west by part of the eastern boundary of that allotment, being a line bearing north 8 chains, to the south-western corner of allotment 3; on the north by the south boundary of that allotment and that of allotment 4 of section 1, being a line bearing east 10 chains 38 links, to the western boundary of allotment 1, section 1; on the east by part of that western boundary, being a line bearing south 8 chains, to the north side of a road 150 links wide first mentioned; and thence by part of that side of that road, being a line bearing west 10 chains 38 links, to the point of commencement,—but exclusive of intervening road 100 links wide, as shown on plans catalogued C. 51-1,984 and Ms. 193 Gfn.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION OF SCHOOL OF ARTS SITE  
AT CARGELLIGO.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedication of the School of Arts site at Cargelligo, area 2 roods, viz., allotment 3 of section 3, dedicated 6th October, 1882, and hereunder described, with a view to the reservation of that area for site for Post and Telegraph Office.

[Ms. 91-2,449 Dep.]

JAMES N. BRUNKER.

**DESCRIPTION.**

County of Dowling, parish of Gurangully, village of Cargelligo, allotment 3 of section 3, 2 roods: Commencing on the south-western side of Canada-street, at the eastern corner of allotment 1; and bounded thence on the north-east by that street south-easterly 2 chains; on the south-east by the north-western boundary line of allotment 4 south-westerly, at right angles to Canada-street, 2 chains and 50 links to a lane; on the south-west by that lane north-westerly, parallel with Canada-street, 2 chains; and on the north-west by the south-eastern boundaries of allotments 2 and aforesaid 1, in all north-easterly at right angles to Canada-street 2 chains and 50 links, to the point of commencement.  
[Plan C. 9-2,209 Roll.]

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION OF RECREATION RESERVE AT RAYMOND TERRACE, AND DEDICATION FOR TOWN HALL SITE AND PUBLIC RECREATION.**

It is hereby notified, for public information, that, in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedication of the land at Raymond Terrace, area 62 acres, dedicated 15th August, 1871, for public recreation, and hereunder described, with a view to the dedication of 1 acre 2 roods 16 perches thereof for Town Hall site, and the rededication of the remainder, 60 acres 0 roods 26 perches, for public recreation.

[Ms. 91-3,055 Dep.]

JAMES N. BRUNKER.

**DESCRIPTIONS.**

**Recreation reserve proposed to be resumed.**

County of Gloucester, parish of Eldon, town of Raymond Terrace, area 62 acres: Commencing on a northern boundary of R. Windeyer's 664 acres, at the south-western corner of the reserve for a general cemetery; and bounded thence on the north-east by the south-western boundary of that reserve and its extension bearing north 50 degrees west in all 10 chains; on the south-east by a line bearing north 40 degrees east 8 chains 50 links; on the south-west by a line bearing south 50 degrees east 9 chains 80 links to the north-east corner of the aforesaid reserve; on the east by a line dividing it from R. Windeyer's 664 acres aforesaid bearing north 1 degree 6 minutes west 7 chains 20 links to Kangaroo-street; again on the north-east by that street bearing north 60 degrees west 23 chains 30 links to Irrawang-street; on the north-west by that street bearing south 40 degrees west 38 chains 28 links; and on the south by a line dividing it from G. T. Graham's 640 acres and R. Windeyer's 664 acres aforesaid bearing north 89 degrees 54 minutes east 37 chains and 54 links, to the point of commencement,—exclusively of a road or street 1 chain 50 links wide from Kangaroo-street to Tod-street passing through this land along the north-west boundary of the cemetery reserve in a south-westerly direction, the area of which has been deducted from the total area.

**Town Hall site proposed to be dedicated.**

County of Gloucester, parish of Eldon, town of Raymond Terrace, area 1 acre 2 roods 16 perches: Commencing on the south-eastern side of Urawanga-street, at its intersection with the south-easterly prolongation of the north-eastern side of Glenelg-street, being a point bearing south 50 degrees east and 1 chain 50 links distant from the southern corner of John Coyle's allotment 10 of section 16; bounded thence on the north-east by a line bearing south 50 degrees east 6 chains 7 links to the north boundary of G. T. Graham's portion of 640 acres; thence on the south by part of the north boundary of that portion, being a line bearing south 88 degrees 54 minutes west 8 chains 6 links, to the south-eastern side of Urawanga-street aforesaid; and thence on the north-west by the south-eastern side of that street bearing north 40 degrees east 5 chains 31 links, to the point of commencement,—to include portion 6, as shown on plan catalogued G. 2,398 1,497.

**Recreation reserve proposed to be dedicated.**

County of Gloucester, parish of Eldon, town of Raymond Terrace, area 60 acres 0 roods 26 perches: Commencing at the intersection of the south-eastern side of Urawanga-street with the south-western side of Kangaroo-street, being a point bearing south 49 degrees 57 minutes east, and distant 150 links from the north-eastern corner of allotment 20 of section 14; bounded thence on part of the north-west by part of the south-eastern side of Urawanga-street aforesaid, being a line bearing south 39 degrees 54 minutes west 33 chains, to the northern corner of the site appropriated for Town Hall; thence on part of the south-west by the north-eastern boundary of that appropriation, being a line bearing south 50 degrees east and distant 6 chains 7 links, to the north boundary of G. T. Graham's 640 acres; thence on the south by part of that north boundary and that of R. Windeyer's 664 acres, in all a line bearing north 88 degrees 42 minutes east and distant 29 chains 64 links, to the western extremity of the southernmost boundary of the General Cemetery at Raymond Terrace, dedicated 16th July, 1863; thence on part of the north-east by the south-western boundary of that cemetery, being a line bearing north 53 degrees west and distant 10 chains 10 links, to its westernmost corner; thence on the south-east by the north-western boundary of that cemetery, being a line bearing north 40 degrees 4 minutes east and distant 8 chains 50 links, to its northernmost corner; thence on the remainder of the south-west by the north-eastern boundary of the cemetery referred to, being a line bearing south 52 degrees 14 minutes east 9 chains 74 links, to the western boundary of J. Windeyer's 1,208 acres; thence on the east by part of that west boundary, being a line bearing north 1 degree 42 minutes west 6 chains 77 links, to the south-western side of Kangaroo-street first mentioned; and thence on the remainder of the north-east by part of that side of that street, being a line bearing north 49 degrees 57 minutes west and distant 23 chains 54 links, to the point of commencement,—but exclusive of a road 1 chain 50 links wide from Kangaroo-street to Tod-street, passing through this land along in a south-westerly direction, the area of which has been deducted from the total area, shown on plan catalogued G. 16-2,066.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION OF PART OF PUBLIC  
SCHOOL RESERVE AT CUNNINGAR.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedication of that part of the land at Cunningar, dedicated 18th February, 1870, for Public School purposes, within the boundaries of measured portion 170 of 8 acres 3 roods 39 perches, parish of Cunningar, county of Harden, with a view to the reservation of that area for camping.

[Ms. 91-2,426 Dep.]

JAMES N. BRUNKER.

**DESCRIPTION.**

**EASTERN DIVISION.**

**LAND DISTRICT OF YOUNG.**

County of Harden, parish of Cunningar, containing an area of 8 acres 3 roods 39 perches. That part of Public School site, dedicated 18th February, 1870, within the boundaries of measured portion 170,—as shown on plan catalogued H. 5,340-1,716.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION OF PART OF PERMANENT  
COMMON AT WEST KEMPSEY.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedication of that part of the permanent common at West Kempsey, area 70½ acres, hereunder described, with a view to that area being included in a reserve for Racecourse.

[Ms. 91-3,050 Dep.]

JAMES N. BRUNKER.

**DESCRIPTION.**

**EASTERN DIVISION.**

**LAND DISTRICT OF KEMPSEY.**

County of Dudley, parish of Yarravel, area about 70½ acres. That part of the Kempsey Permanent Common, dedicated 1st June, 1866, included within the following boundaries: Commencing at a point 15 chains east from the north-east corner of camping reserve 12,996, notified 22nd November, 1890; and bounded thence on the south by a line east 80 chains; thence north to Warwick Creek; thence by that creek upwards to a point due north from point of commencement; thence south to that point,—being that part of portion 168 of 90 acres within permanent common, shown on plan catalogued D. 1,243-1,505.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED REVOCATION OF PUBLIC SCHOOL RESERVE AT QUIRINDI AND DEDICATION FOR PUBLIC SCHOOL SITE IN LLEU.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884, it is proposed to revoke Public School reserve 5,836, at Quirindi, area 1 rood 35 perches, viz, allotment 15 of section 19, proclaimed 24th March, 1888, and hereunder described, with a view to the dedication of that allotment and allotments 13, 14, and 16 of the same section, area 1 acre 3 roods 3 perches, for Public School site.

[Ms. 91-3,713 Dep.]

JAMES N. BRUNKER.

**DESCRIPTIONS.**

Public School Reserve proposed to be revoked.

**EASTERN DIVISION.**

**LAND DISTRICT OF MURRURUNDI.**

No. 5,936 for Public School purposes. County of Buckland, parish of Quirindi, town of Quirindi, containing an area of 1 rood 35 perches. The Crown Lands within the following boundaries: Commencing on the east side of Hill-street, at the south-west corner of allotment 14; and bounded thence on the west by that side of Hill-street bearing south to the north-west corner of allotment 16; thence on the south by the north boundary of that allotment bearing east 4 chains 71½ links to the west side of a lane 30 links wide; thence on the east by part of that side of the lane bearing north to the south-east corner of allotment 14 aforesaid; and thence on the north by the south boundary of that allotment bearing west 4 chains 71½ links, to the point of commencement,—to include allotment 15 of section 19.

Public School Site proposed to be dedicated.

County of Buckland, parish of Quirindi, town of Quirindi, area 1 acre 3 roods 3 perches: Commencing at a point on the eastern side of Hill-street, town of Quirindi, being the south-western corner of allotment 12, section 19, dedicated for Church of England parsonage on 15th April, 1879; and bounded thence on the north by the south boundary of that allotment, being a line bearing east 4 chains 71 links, to the western side of a lane 30 links wide; bounded thence on the east by part of that side of that lane, being a line bearing south 3 chains 78 links to the north-east corner of allotment 17, same section, appropriated for Roman Catholic Church purposes; thence on the south by the north boundary of that appropriation, being a line bearing west 4 chains 71 links, to the eastern side of Hill-street first mentioned; and thence on the west by part of that side of that street, being a line north 3 chains 78 links, to the point of commencement,—to include allotments 13, 14, 15, and 16 of section 19, as shown on plans catalogued Q. 9 and Q. 19-1,613.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION AND REDEDICATION OF COOK'S SQUARE AND PARK, EAST MAITLAND.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884, it is proposed to revoke the dedication of Cook's Square and Park, East Maitland, area 42 acres and 22 perches, dedicated 2nd April, 1887, for public recreation, and hereunder described, with a view to the reservation of 3 acres thereof for public pound, and the re-dedication of the remainder (39 acres and 22 perches) for public recreation.

[Ms. 91-3,907 Dep.]

JAMES N. BRUNKER.

**DESCRIPTIONS.**

Area proposed to be resumed.

County of Northumberland, parish of Maitland, town of East Maitland, area 42 acres 0 roods 22 perches: Commencing at the intersection of the north-western side of George-street with the north-eastern side of Flinder's-street; and bounded thence by part of that side of Flinder's-street, being a line bearing north 44 degrees 53 minutes west 7 chains 87.3 links; thence by a line bearing north 45 degrees 7 minutes east 5 chains 1.1 link, being the south-eastern side of a street 1 chain 25 links wide; thence by a line bearing north 44 degrees 53 minutes west 7 chains 25.3 links; thence by a line bearing south 45 degrees 7 minutes west 1 chain 42.8 links; thence by a line bearing north 44 degrees 38 minutes west 22 chains 86 links, being the north-eastern side of Adams-street; thence by a line bearing south 88 degrees 46 minutes east 8 chains 27.3 links; thence by a line bearing north 1 degree 20 minutes east 1 chain 2.4 links; thence by a line bearing south 44 degrees 33 minutes east 5 chains 35 links to the north-western side of Banks-street; thence by part of that side of that street, being a line bearing north 45 degrees 27 minutes east 5 chains, to the south-western

side of Rous-street; thence by part of that side of that street, being a line bearing south 45 degrees 19 minutes east 8 chains 77.5 links, to the south-eastern side of William-street; thence by part of that side of William-street, being a line bearing north 45 degrees 32 minutes east 9 chains 1.8 link, to the south-western side of Park-street; thence by that side of that street, being a line bearing south 44 degrees 50 minutes east 12 chains 62.5 links; thence by a line bearing south 45 degrees 42 minutes west 14 chains 39 links, and forming the north-western side of Park-street; thence by a line bearing south 44 degrees 20 minutes east 6 chains 25 links to the north-western side of George-street first mentioned; and thence by part of that side of that street, being a line bearing south 45 degrees 34 minutes west 10 chains 29.3 links, to the point of commencement,—but exclusive of school site and intervening streets, as shown on plan catalogued N. 52-2,071 Roll.

Area proposed to be dedicated.

County of Northumberland, parish of Maitland, town of East Maitland, area 39 acres 0 roods 22 perches: Commencing at the intersection of the south-eastern side of Glebe-street with the north-eastern side of Adams-street; and bounded thence by that side of Adams-street, being a line bearing north 44 degrees 38 minutes west 22 chains 86 links; thence by a line bearing south 58 degrees 46 minutes east 8 chains 27.5 links; thence by a line bearing north 1 degree 20 minutes east 1 chain 2.4 links; thence by a line bearing south 44 degrees 33 minutes east 5 chains 35 links to the north-western side of Banks-street; thence by part of that side of that street, being a line bearing north 45 degrees 27 minutes east 5 chains, to the south-western side of Rous-street; thence by part of that side of that street, being a line bearing south 45 degrees 19 minutes east 8 chains 77.5 links, to the south-eastern side of William-street; thence by part of that side of that street, being a line bearing north 45 degrees 32 minutes east 9 chains 1.8 link, to the south-western side of Park-street; thence by that side of that street, being a line bearing south 44 degrees 50 minutes east 12 chains 62.5 links; thence by a line bearing south 45 degrees 42 minutes west 14 chains 39 links, and forming the north-western side of George-street; thence by part of that side of that street, being a line bearing south 45 degrees 34 minutes west 10 chains 29.3 links, to the eastern corner of an area of 3 acres appropriated for public pound; thence by the north-eastern boundary of that appropriation, being a line bearing north 13 degrees 55 minutes west 6 chains 8 links, to its north corner; thence by a line bearing south 45 degrees 7 minutes west 7 chains 3.4 links to the north-eastern side of Flinder's-street; thence by part of that side of that street, being a line bearing north 44 degrees 53 minutes west 2 chains 69.3 links; thence by a line bearing north 45 degrees 7 minutes east 5 chains 1.1 link, and forming the south-eastern side of a street 1 chain 25 links wide; thence by a line and the north-eastern boundaries of lots 1 and 6, section 6, bearing north 44 degrees 53 minutes west 7 chains 25.3 links; and thence by a line bearing south 45 degrees 7 minutes west 1 chain 42.8 links, and forming part of the north-west boundary of lot 1, section 6, to the point of commencement; but exclusive of school site and intervening streets,—as shown on plan catalogued N. 52-2,071 Roll.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION OF PART OF RECREATION RESERVE AT WEST KEMPSEY.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedication of that part of the recreation reserve at West Kempsey, area 90 acres, hereunder described, with a view to the reservation of that area for Temporary Common.

[Ms. 91-3,049 Dep.]

JAMES N. BRUNKER.

**DESCRIPTION.**

90 acres. County of Dudley, parish of Yarravel, near West Kempsey: Commencing on the north-western side of North-street, town of West Kempsey, on the southern corner of allotment 6 of section 29a, in the town of West Kempsey; and bounded thence on the south-east by that street bearing south 55 degrees west 21 chains; on the south by a line bearing westerly 15 chains 68 links; on the west by the eastern boundary of portion 145 of 90 acres 2 roods bearing north 37 chains 44 links; on the north by a line bearing easterly 15 chains 88 links; and on the east and north-east by lines dividing it from allotment 6 aforesaid bearing southerly 1 chain 29 links; and thence south 85 degrees 12 minutes east 29 chains 50 links, to the point of commencement. Plan catalogued D. 938-1,505.

NOTE.—The above is in lieu of the notice in the Government Gazette of the 10th November, 1886.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION OF PUBLIC LIBRARY  
SITE AT SCONE.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedication of the Public Library site at Scone, viz., allotment 1 of section 14, area 2½ perches, dedicated 16th July, 1863, and hereunder described, with a view to the reservation of the area in question for trigonometrical purposes.

[Ms. 90-19,246]

**JAMES N. BRUNKER.**

**DESCRIPTION.**

County of Brisbane, parish of Scone, village of Scone, allotment 1 of section 14, 2½ perches: Commencing on the northern boundary of portion 15, R. Kelly's 1,920 acres, at the southern extremity of the eastern side of Kelly-street; and bounded thence on the south by part of the northern boundary of portion 15 aforesaid bearing south 89 degrees 57½ minutes east 65½ links; on the north-east by part of a south-western side of the Great Northern Road, 1 chain 50 links wide, bearing north 50 degrees 13½ minutes west 85½ links; and on the west by part of the eastern side of Kelly-street aforesaid, bearing south 1½ minutes east 54½ links, to the point of commencement. Plan S. 46-999.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION AND REDEDICATION OF  
GENERAL CEMETERY AT NUNDLE.**

It is hereby notified, for public information, that, in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedication of the General Cemetery at Nundle, area 7½ acres, dedicated 16th July, 1863, and hereunder described, with a view to rededication with an area of 8 acres.

[Ms. 91-3,711 Dep.]

**JAMES N. BRUNKER.**

**DESCRIPTIONS.**

General Cemetery proposed to be resumed.

County of Parry, parish of Nundle, area 7 acres 2 roods, dedicated 16th July, 1863: Commencing on the west side of a road 1 chain wide at the north-east corner of portion 22 of 71 acres 3 roods 24 perches, in the parish of Nundle; and bounded thence on the east by that road bearing north 10 chains to another road 1 chain wide; on the north by that road bearing west 8 chains to the eastern side of a road 1 chain wide; on the west by that side of that road, being a line bearing south 10 chains; and on the south by part of the north boundary of portion 22 above mentioned, being a line bearing east 8 chains, to the point of commencement; but exclusive of a road 50 links wide passing through this Cemetery, as shown on plan catalogued C. 814-730.

General Cemetery proposed to be dedicated.

County of Parry, parish of Nundle, area 8 acres: Commencing on the west side of a road 1 chain wide at the north-east corner of portion 22 of 71 acres 3 roods 24 perches, in the parish of Nundle; and bounded thence on the east by part of that side of that road, being a line bearing north 10 chains, to the south side of another road 1 chain wide; on the north by part of that side of that road, being a line bearing west 8 chains, to the east side of a road 1 chain wide; on the west by that side of that road, being a line bearing south 10 chains, to the north side of portion 22 of 71 acres 3 roods 24 perches above mentioned; and thence on the south by part of that side of that portion, being a line bearing east 8 chains, to the point of commencement,—shown on plan catalogued C. 814-730.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION OF GENERAL CEMETERY  
AT WEST BALLINA, AND DEDICATION OF PART  
THEREOF FOR SHOW GROUND.**

It is hereby notified, for public information, that, in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedication of the land at West Ballina, area 7 acres 2 roods 23 perches, dedicated 4th February, 1876, for general cemetery, and hereunder described, with a view to the dedication of 5 acres 3 roods 9 perches thereof for show ground, and to the appropriation or sale of the remainder as provided in the Crown Lands Acts.

[Ms. 91-3,905 Dep.]

**JAMES N. BRUNKER.**

**DESCRIPTIONS.**

General Cemetery proposed to be resumed.

County of Rous, parish of Ballina, area 7 acres 2 roods 23 perches: Commencing at the intersection of the north-western side of Cherry-street with north-eastern side of Skinner-street, town of West Ballina; and bounded thence on the south-west by part of that side of Skinner-street first mentioned, being a line bearing north 71 degrees 45 minutes west 8 chains; on the north-west by a line bearing north 18 degrees 15 minutes east 5 chains; on part of the north-east by a line bearing south 71 degrees 45 minutes east 4 chains 12½ links; on part of the south-east by a line bearing south 18 degrees 15 minutes west 3 chains 87 links; on the remainder of the north-east by a line bearing south 71 degrees 45 minutes east 3 chains 87½ links to the north-west side of Cherry-street first mentioned; and thence by part of that side of that street, being a line bearing south 18 degrees 15 minutes west 1 chain 13 links, to the point of commencement.

Again commencing at the intersection of the north-western side of Cherry-street with the south-western side of Skinner-street, town of West Ballina; and bounded thence by part of that side of Cherry-street, being a line bearing south 18 degrees 15 minutes west 5 chains; on the south-west by a line bearing north 71 degrees 45 minutes west 13 chains 43 links; on the north-west by a line bearing north 18 degrees 15 minutes east 5 chains to the south-west side of Skinner-street first mentioned; and thence by part of that side of that street, being a line bearing south 71 degrees 45 minutes east 10 chains 42 links, to the point of commencement,—shown on plan catalogued C. 431-1,984.

Show Ground proposed to be dedicated.

County of Rous, parish of Ballina, town of West Ballina, containing an area of 5 acres 3 roods 9 perches. The Crown Lands within the following boundaries: Commencing at the intersection of the eastern side of Moon-street with the northern side of Fox-street, being a point bearing north 16 degrees 15 minutes east, and distant 1 chain 50 links from the north-western corner of portion 199 (site for hospital); thence by Moon-street north 16 degrees 15 minutes east 10 chains to the southern side of Skinner-street; thence by that street south 73 degrees 26 minutes east 1 chain 63 links to the road from Tintenbar to Ballina; thence by that road south 23 degrees 30 minutes east 13 chains and 7 links to the northern side of Fox-street; thence by that street bearing north 73 degrees 26 minutes west 9 chains 99 links, to the point of commencement,—being portion 203, as shown on plan catalogued R. 4,613-1,759.

Department of Lands,  
Sydney, 15th May, 1891.

**PROPOSED RESUMPTION AND REDEDICATION OF  
GENERAL CEMETERY AT HANGING ROCK.**

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedication of the General Cemetery at Hanging Rock, area 3 acres 3 roods, dedicated 14th February, 1873, and hereunder described, with a view to rededication with an area of 4 acres and 5 perches.

[Ms. 91-3,712 Dep.]

**JAMES N. BRUNKER.**

**DESCRIPTIONS.**

General Cemetery proposed to be resumed.

County of Parry, parish of Nundle, area 3 acres 3 roods, dedicated 14th February, 1873: Commencing at a point bearing north 61 degrees 4 minutes west and distant 3 chains 77 links from the south-western corner of R. L. Jenkins' 14 acres 1 rood; and bounded thence on the north-east by a line bearing north 40 degrees west 5 chains 66 links; on the north-west by a line bearing south 50 degrees west 7 chains 14 links; on the south-west by a line bearing south 40 degrees east 5 chains 66 links; and on the south-east by a line bearing north 50 degrees east 7 chains 14 links, to the point of commencement; exclusive of a road 50 links wide running through this cemetery,—as shown on plan catalogued C. 145-1,984.

General Cemetery proposed to be dedicated.

County of Parry, parish of Nundle, area about 4 acres 0 roods 5 perches: Commencing at a point bearing north 61 degrees 4 minutes west, and distant 3 chains 77 links from the south-western corner of R. L. Jenkins' 14 acres 1 rood; and bounded thence on the north-east by a line bearing north 40 degrees west 5 chains 66 links; on the north-west by a line bearing south 50 degrees west 7 chains 14 links; on the south-west by a line bearing south 40 degrees east 5 chains 66 links; and on the south-east by a line bearing north 50 degrees east 7 chains 14 links, to the point of commencement,—as shown on plan catalogued C. 145-1,984.



1891.

## NEW SOUTH WALES.

## CROWN LANDS.

(PROPOSED DEDICATION OF CERTAIN LANDS UNDER THE ACT 48 VIC. No. 18, AND ACT 53 VIC. No. 21.)

Presented to Parliament pursuant to Act 84 Vic. No. 18, and Act 53 Vic. No. 21.

Department of Lands,  
Sydney, 22nd May, 1891.PROPOSED RESUMPTION OF RECREATION RESERVE  
AT GUNDAGAI NORTH, AND DEDICATION FOR  
RACECOURSE IN LIEU.

It is hereby notified, for public information, that in accordance with the provisions of the 105th section of the Crown Lands Act of 1884 and the 41st section of the Crown Lands Act of 1889, it is proposed to revoke the dedication of the land at Gundagai North, area 123 acres, dedicated on the 12th March, 1869, for public recreation, and hereunder described, with a view to the dedication in lieu of 268 acres in the same locality, to include the above, for racecourse.

[Ms. 91-2,594 Dep.]

JAMES N. BRUNKER.

## DESCRIPTIONS.

Recreation Reserve proposed to be resumed.

County of Clarendon, parish of Gundagai, 123 acres, at Gundagai: Commencing on the left bank of a lagoon, at a point bearing south 79 degrees 20 minutes east and distant 10 chains 86 links from the southern corner of allotment 2 of section 31, in the town of Gundagai; and bounded thence on the south-west by Sheridan-street bearing east 16 degrees 17 minutes south 9 chains 14 links; thence by Johnson-street bearing south 16 degrees 17 minutes west 11 chains and 50 links to Landon-street; again on the south-west by that street bearing east 16 degrees 17 minutes south 33 chains to Thackeray-street; on the south-east by that street bearing north 16 degrees 17 minutes east 33 chains to Hanley-street; on the north-east by

Hanley-street bearing west 16 degrees 17 minutes north 37 chains and 77 links to the aforesaid lagoon; and on the north-west by that lagoon downwards, to the point of commencement,—as shown on plan G. 27-1,028.

Racecourse proposed to be dedicated.

County of Clarendon, parish of North Gundagai, containing an area of 268 acres. The Crown Lands within the following boundaries: Commencing on the right bank of the Murrumbidgee River, at a point where the eastern extremity of the south side of Neptune-street intersects it; and bounded thence by part of the south side of Neptune-street bearing west 14 chains and 41 links; thence by a line bearing south 25 degrees 19 minutes west 22 chains 64 links; thence by a line bearing south 46 degrees 22 minutes west 5 chains 4 links to the north-eastern side of Sheridan-street; thence by part of the north-eastern side of that street bearing south 73 degrees east 7 chains 52 links to the south-eastern side of Johnson-street; thence by part of the south-eastern side of that street bearing south 17 degrees west 11 chains 50 links to the north-eastern side of Landon-street; thence by part of the north-eastern side of that street bearing south 73 degrees east 11 chains 50 links to the south-eastern side of Maturin-street; thence by the south-eastern side of that street bearing south 17 degrees west 13 chains to the right bank of the Murrumbidgee River; thence by the right bank of that river upwards, to the point of commencement,—being portion 253, as shown on plan catalogued C. 2,944-1,578 Roll.

NOTE.—The above is in lieu of the notice in the Government Gazette of the 19th instant.



1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

CONDITIONAL PURCHASES MADE UPON BARRATTA RUN.

(PETITION FROM ROBERT BARBOUR TO HIS EXCELLENCY THE GOVERNOR AND THE EXECUTIVE COUNCIL.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

RETURN to an *Address* adopted by the Honorable the Legislative Assembly of New South Wales, on 2 July, 1890, That there be laid upon the Table of this House,—

“ A copy of a petition presented about February last to His Excellency the Governor and the Executive Council by Robert Barbour, with reference to the Report of the Select Committee on the Barratta forfeited Conditional Purchases, adopted by this House on the 3rd December, 1889; together with all documents, letters, memoranda, or minutes in reference thereto, made or received since the adoption of the Report.”

(Mr. Barbour.)

SCHEDULE.

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No. 1.

The Principal Under Secretary to The Under Secretary for Lands.

From whom received, R. Barbour; date of communication, 10 February, 1890.

*Subject* :—Forwarding Petition requesting that an investigation may be made respecting issue of Crown Grants to Henry Ricketson.

The Under Secretary for Lands.—C.W., B.C., 18/2/90. Principal Under Secretary. The Minister for Lands.—H.P., 18/2/90. Submitted.—W. H., 22/2/90.

Having carefully reviewed the report of the Select Committee, I am of opinion that it does not disclose any facts necessitating an opinion from my honorable colleague the Attorney-General, but Mr. Barbour, M.P., having approached His Excellency by Petition, I deem it my duty to submit the prayer of the Petition for the consideration of the Honorable the Attorney-General.—J.N.B., 5/6/90.

Mr. Barbour, M.P., 6/6/90.

178—A

[870 copies—Approximate Cost of Printing (labour and material), £55 13s. 6d.]

[Enclosures.]

Unto His Excellency the Governor and Honorable Gentlemen of the Executive Council.  
The Petition of Robert Barbour, a Member of the Legislative Assembly of New South Wales for the Electoral District of the Murray.

HUMBLY SHEWETH:—

1. That your Petitioner was elected a member of a Select Committee to inquire into and report upon all conditional purchases made upon the Run of Barratta (Henry Ricketson, lessee), from January, 1872, till December, 1882; how many were lapsed or forfeited; what became of the improvements; how many were converted into improvement purchases.

2. That your Petitioner was elected Chairman of such Committee, and, along with the other members of the Committee, made a searching investigation. We examined witnesses, and gave the said Henry Ricketson, who was present, and also his Attorney, every opportunity of examining witnesses, and the Committee were engaged with this matter from 2nd April, 1889, till the 4th September, 1889, when we brought up the Report, and on the 3rd December, 1889, the Report (a copy is attached hereto) was adopted by the Legislative Assembly, which is as follows:—

1. The conditional purchases made upon Barratta Run from January, 1872, till December, 1882, numbered 89 (eighty-nine), and contained an area of about 20,000 (twenty thousand) acres.
2. How many were forfeited.—Seventy-five out of the eighty-nine conditional purchases were forfeited. One only obtained a certificate of conformity by Henry Ricketson, the owner of the run, the remaining thirteen being treated as null and void, as it does not appear that any improvements were effected upon them.
3. Improvements.—The improvements made upon the seventy-five forfeited conditional purchases, according to the valuation of the Inspectors, averaged nearly 20s. per acre, or a total of upwards of £18,000 (eighteen thousand pounds), and consisted of tanks or dams, fencing, and buildings.
4. What became of the Improvements.—Twenty-six of the forfeited conditional purchases were, sometime after, sold by auction to Henry Ricketson, and the value of the improvements was added to nine of them, and there is no evidence before the Committee to show that there were any improvements upon the other seventeen at the time they were sold by auction. Twelve of the forfeited conditional purchases are still Crown lands, and, so far as your Committee were able to ascertain, the improvements are still upon the land; and the land and improvements are in possession of H. Ricketson.
5. How many were converted into Improvement Purchases.—Thirty-seven of the forfeited conditional purchases have been purchased by Henry Ricketson as improvement purchases. Application was made by him to purchase each of these immediately after forfeiture had appeared in the *Gazette*. In twelve cases he made application only two days after forfeiture, viz., they were gazetted forfeited on the 7th of August, 1876, and his application is dated 9th August, 1876. In three other cases, three days elapsed; in others, seven days, fourteen days, twenty-one days, and so on. So far as your Committee could ascertain, the most of the improvements claimed in the applications appear to be those that are described as being upon the forfeited conditional purchases at the time of forfeiture. The area so dealt with is between 9,000 and 10,000 acres, and Crown grants have been obtained for the whole at prices varying from 20s. to 25s. per acre.

2. In the evidence given by the Under Secretary for Lands (questions 278 to 283) it appears that the Supreme Court has decided that when conditional purchases become forfeited the improvements thereon belong to the Crown. No evidence was adduced before your Committee showing that the improvements upon lands which Mr. Ricketson had been allowed to purchase as improvement purchases had not been erected by him either partly before and partly after, or wholly after the time the said lands had been conditionally purchased.

ROBERT BARBOUR,  
Chairman.

No. 3 Committee Room, Sydney, 4th September, 1889.

3. That your Petitioner, after investigating the several important matters in connection with this case, became fully convinced that the practices adopted to acquire land in fees were highly objectionable, and that the forfeited improvements, which were the property of Crown, were taken possession of and used by this lessee as if they were his own, and by this means he has acquired from 9,000 to 10,000 acres in fee simple, and also secured the improvements which belonged to the Crown.

4. That your Petitioner feels it to be incumbent upon him to inform you of the *modus operandi* adopted by this lessee. In the year 1872 and following years (par. 1 of Report) conditional purchases were made upon Barratta Run to the number of eighty-nine, comprising an area of 20,000 acres. These were improved by the erection of fences, tanks, and dwellings, but when the time came for the declaration by the various selectors at the end of three years, the declarations were not forthcoming, consequently all such were forfeited, and paragraph 2 of the Report says—that seventy-five out of the eighty-nine selections were forfeited, one only was in conformity with the law, the remaining thirteen were null and void, that is, blanks. Immediately after the selections were forfeited, by notice in the *Gazette*, they were applied for by Henry Ricketson in virtue of the forfeited improvements belonging to the Crown, in twelve cases only two days after forfeiture, in three after three days, &c. Now, it is self-evident that tanks of thousands of yards, and many miles of fencing, and dwelling-houses could not be erected in two days, and if possible for such legerdemain to be practised, what became of the tanks, the miles of fencing, and dwelling-houses that were on the land at the time of forfeiture of the conditional purchases? Paragraph 5 of the Report says that Mr. Ricketson has secured “thirty-seven of the forfeited conditional purchases, containing from 9,000 to 10,000 acres, as improvement purchases in virtue of improvements which belonged to the Crown.”

5. Your Petitioner is thoroughly convinced that the whole of the permanent improvements that had been made upon the seventy-five forfeited conditional purchases of the value of £18,000 (see paragraph 3), which undoubtedly were the property of the Crown, has been taken possession of by Henry Ricketson (as no one was ever permitted to rest his foot within his boundary gates) since the selections were forfeited, and the Crown has not received one shilling of the whole of this £18,000 worth of improvements.

6. Your Petitioner feels deeply that this case is a great moral teacher for good or for evil, and one that should be thoroughly sifted, and if any persons are found to have been guilty of malpractices they should be made an example of. Remarks are common all through my electorate, where Henry Ricketson resides, to this effect, “Surely the Government will not allow Ricketson to stick to all these forfeited improvements,” and the electors seem dissatisfied to think that he should be allowed to hold so much land obtained by misrepresentation.

Your Petitioner, therefore, humbly prays that your Excellency, and the Honorable Gentlemen of the Executive Council, will direct your Honorable Attorney-General to cause this case to be investigated, with a view to the withdrawal and cancellation of every Crown Grant that may have issued to the said Henry Ricketson upon misrepresentation, and take such steps as may be deemed necessary to vindicate the law in its highest prerogative—that of “being a terror of evil-doers, and a praise and protection to those that do well.”

And your Petitioner as in duty bound will ever pray.  
Sydney, 10th February, 1890.

ROBT. BARBOUR.

The Colonial Secretary.—CARRINGTON, 14/2/90.

REPORT from the Select Committee on Conditional Purchases made upon Barratta Run; together with the Proceedings of the Committee, Minutes of Evidence, and Appendices.

Ordered by the Legislative Assembly to be printed, 4 September, 1889.

EXTRACTS FROM THE VOTES AND PROCEEDINGS OF THE LEGISLATIVE ASSEMBLY.

Votes No. 8. Tuesday, 2 April, 1889.

8. Conditional Purchases made upon Barratta Run:—Mr. Barbour moved, pursuant to amended Notice,—

(1.) That a Select Committee be appointed, with power to send for persons and papers, to inquire into and report upon all conditional purchases made upon the run of Barratta (Henry Ricketson, lessee), from January, 1872, till December, 1882; how many were lapsed or forfeited; what became of the improvements; how many were converted into improvement purchases.

(2.) That such Committee consist of Mr. Lyne, Mr. J. P. Abbott, Mr. Alison, Mr. Copeland, Mr. Chapman, Mr. T. G. Dangar, Mr. Brunker, Mr. Hugh Taylor, Mr. Woodward, and the Mover.

Question put and passed.

Votes

Votes No. 14. Tuesday, 16 April, 1889.

- 2. Conditional Purchases made upon Barratta Run:—Mr. Lamb presented a Petition from Henry Ricketson, of Barratta Station, referring to the Select Committee now sitting upon this subject; and praying that he might be heard by Counsel, Attorney, or Agent before such Committee, with liberty to adduce such evidence as may be within his power. Petition received.  
Mr. Lamb (*by consent*) moved, without Notice, That the prayer of the Petitioner be granted.  
Question put and passed.

Votes No. 87. Wednesday, 4 September, 1889.

- 4. Conditional Purchases made upon Barratta Run :—Mr. Barbour, 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 2nd April, 1889, together with Appendices.  
Ordered to be printed.

CONDITIONAL PURCHASES MADE UPON BARRATTA RUN.

REPORT.

THE Select Committee of the Legislative Assembly, appointed on the 2nd April, 1889, "with power to send for persons and papers to inquire into and report upon all Conditional Purchases made upon the Run of Barratta (Henry Ricketson, lessee), from January, 1872, till December, 1882; how many were lapsed or forfeited; what became of the improvements; how many were converted into improvement purchases,"—have agreed to the following Report:—

1. Your Committee having examined the witnesses, whose evidence is appended hereto, find as follows:—
  - (1.) The conditional purchases made upon Barratta Run from January, 1872, till December, 1882, numbered 89 (eighty nine), and contained an area of about 20,000 (twenty thousand) acres.
  - (2.) *How many were forfeited.*—Seventy-five out of the eighty-nine conditional purchases were forfeited; one only obtained a certificate of conformity by Henry Ricketson, the owner of the run; the remaining thirteen being treated as null and void, as it does not appear that any improvements were effected upon them.
  - (3.) *Improvements.*—The improvements made upon the seventy-five forfeited conditional purchases, according to the valuation of the Inspectors, averaged nearly twenty shillings per acre, or a total of upwards of £18,000 (eighteen thousand pounds), and consisted of tanks or dams, fencing, and buildings.
  - (4.) *What became of the Improvements.*—Twenty-six of the forfeited conditional purchases were, sometime after, sold by auction to Henry Ricketson, and the value of the improvements were added to nine of them, and there is no evidence before the Committee to show that there were any improvements upon the other seventeen at the time they were sold by auction. Twelve of the forfeited conditional purchases are still Crown Lands, and so far as your Committee were able to ascertain the improvements are still upon the land, and the land and improvements are in possession of Henry Ricketson.
  - (5.) *How many were converted into Improvement Purchases.*—Thirty-seven of the forfeited conditional purchases have been purchased by Henry Ricketson as improvement purchases. Application was made by him to purchase each of these immediately after forfeiture had appeared in the *Gazette*; in twelve cases he made application only two days after forfeiture, viz., they were gazetted forfeited on the 7th of August, 1876, and his application is dated 9th August, 1876. In three other cases, three days elapsed; in others, seven days, fourteen days, twenty-one days, and so on; and, so far as your Committee could ascertain, the most of the improvements claimed in the applications appear to be those that are described as being upon the forfeited conditional purchases at the time of forfeiture. The area so dealt with is between 9,000 and 10,000 acres, and Crown grants have been obtained for the whole at prices varying from 20s. to 25s. per acre.

2. In the evidence given by the Under Secretary for Lands (questions 278 to 283) it appears that the Supreme Court has decided that when conditional purchases become forfeited the improvements thereon belong to the Crown. No evidence was adduced before your Committee showing that the improvements upon lands which Mr. Ricketson had been permitted to purchase as improvement purchases had not been erected by him either partly before and partly after, or wholly after the time the said lands had been conditionally purchased.

ROBT. BARBOUR,  
Chairman.

No. 3 Committee Room, Sydney, 4 September, 1889.

PROCEEDINGS OF THE COMMITTEE.

Wednesday, 10 April, 1889.

Members Present:—

Mr. Barbour, | Mr. Alison,  
Mr. Hugh Taylor.

Mr. Barbour called to the Chair.

Entry from Votes and Proceedings appointing the Committee read by the Clerk.

Committee deliberated.

Ordered,—That an intimation be sent to Mr. Henry Ricketson (lessee of the Barratta Run) that the Committee intended to proceed with the inquiry, and that it was open to him to petition the House for leave to be represented before the Committee should he so desire.

[Adjourned.]

Re-assembling of the Committee to be arranged by the Chairman.

Tuesday, 14 May, 1889.

Member Present:—

Mr. Barbour.

In the absence of a quorum the meeting called for this day lapsed.

Wednesday, 15 May, 1889.

Members Present:—

Mr. Barbour, | Mr. Chapman.

In the absence of a quorum the meeting called for this day lapsed.

Thursday, 16 May, 1889.

Members Present:—

Mr. Barbour in the Chair.

Mr. T. G. Dangar, | Mr. Woodward.

Entry from Votes and Proceedings, granting leave to Henry Ricketson to appear by Counsel before the Committee, read by the Clerk.

Committee deliberated.

[Adjourned till Tuesday, 23 May, at Two o'clock.]

Tuesday,

Tuesday, 28 May, 1889.

Member Present :—

Mr. Barbour.

In the absence of a quorum the meeting called for this day lapsed.

Wednesday, 29 May, 1889.

Member Present :—

Mr. Barbour.

In the absence of a quorum the meeting called for this day lapsed.

Thursday, 30 May, 1889.

Members Present :—

Mr. Barbour in the Chair.

Mr. Alison, | Mr. T. G. Dangar,  
Mr. Hugh Taylor.

Present :—Thomas Robertson, Esquire (*Solicitor for Mr. Henry Ricketson*).

Frank Griffin (*Clerk, Conditional Sales Branch, Department of Lands*), called in, sworn, and examined.

Witness handed in schedule showing particulars of all conditional purchases made upon Barratta Run, from January, 1872, till December, 1882. Ordered to be appended. (*See Appendix A1.*)

Witness withdrew.

[Adjourned till Wednesday next, at a quarter past Two o'clock.]

Wednesday, 5 June, 1889.

Member Present :—

Mr. Barbour.

In the absence of a quorum the meeting called for this day lapsed.

Wednesday, 3 July, 1889.

Member Present :—

Mr. Barbour.

In the absence of a quorum the meeting called for this day lapsed.

Thursday, 4 July, 1889.

Members Present :—

Mr. Barbour in the Chair.

Mr. T. G. Dangar, | Mr. Hugh Taylor,  
Mr. Alison.

Present :—Thomas Robertson, Esq. (*Solicitor for Mr. Henry Ricketson*).

Stephen Freeman (*Under Secretary for Lands*) called in, sworn, and examined.

Witness withdrew.

[Adjourned till to-morrow at half-past Eleven o'clock.]

Friday, 5 July, 1889.

Members Present :—

Mr. Barbour in the Chair.

Mr. Alison, | Mr. Hugh Taylor.

Present :—Thomas Robertson, Esq. (*Solicitor for Mr. Henry Ricketson*).

Henry Ricketson called in, sworn, and examined.

Witness handed in copy of a letter dated 23rd December, 1888, from Robert Barbour, M.P., to witness in reference to improvements on Barratta Run. Ordered to be appended. (*See Appendix B1.*)

Witness withdrew.

[Adjourned.]

Friday, 2 August, 1889.

Members Present :—

Mr. Barbour, | Mr. Chapman.

In the absence of a quorum the meeting called for this day lapsed.

Wednesday, 14 August, 1889.

Members Present :—

Mr. Barbour in the Chair.

Mr. T. G. Dangar, | Mr. Hugh Taylor.

Committee deliberated.

Chairman submitted Draft Report.

On motion of Mr. Hugh Taylor, in consequence of the absence of Mr. Alison, a member of the Committee, who desired to be present when the Report was dealt with, the consideration thereof was postponed.

[Adjourned till Wednesday, 28 August, at Three o'clock.]

Wednesday, 28 August, 1889.

Member Present :—

Mr. Barbour.

In the absence of a quorum the meeting called for this day lapsed.

Wednesday,

Wednesday, 4 September, 1889.

Members Present :—

Mr. Barbour in the Chair.

Mr. Alison, | Mr. Brunker.  
Mr. Hugh Taylor.

Chairman submitted Draft Report, as follows :—

“ THE Select Committee of the Legislative Assembly, appointed on the 2nd April, 1889, ‘with power to send for persons and papers to inquire into and report upon all Conditional Purchases made upon the Run of Barratta (Henry Ricketson, lessee), from January, 1872, till December, 1882; how many were lapsed or forfeited; what became of the improvements; how many were converted into improvement purchases;’—have agreed to the following Report :—

“ 1. Your Committee having examined the witnesses, whose evidence is appended hereto, find as follows :—

- “(1.) The conditional purchases made upon Barratta Run from January, 1872, till December, 1882, numbered 89 (eighty-nine), and contained an area of about 20,000 (twenty thousand) acres.
- “(2.) How many were forfeited.—Seventy-five out of the eighty-nine conditional purchases were forfeited; one only obtained a certificate of conformity by Henry Ricketson, the owner of the run; the remaining thirteen being treated as null and void, as it does not appear that any improvements were effected upon them.
- “(3.) Improvements.—The improvements made upon the seventy-five forfeited conditional purchases, according to the valuation of the Inspectors, averaged nearly twenty shillings per acre, or a total of upwards of £18,000 (eighteen thousand pounds), and consisted of tanks or dams, fencing, and buildings.
- “(4.) What became of the Improvements.—Twenty-six of the forfeited conditional purchases were, sometime after, sold by auction to Henry Ricketson, but although all of these were improved, only upon nine of them was anything added to the upset price for the improvements, consequently seventeen of such cases, averaging nearly £300 each, of improvements, became the property of Henry Ricketson without anything having been paid for such improvements. Twelve of the forfeited conditional purchases are still Crown lands, and, so far as your Committee were able to ascertain, the improvements are still upon the land, and the land and improvements are in possession of Henry Ricketson.
- “(5.) How many were converted into Improvement Purchases.—Thirty-seven of the forfeited conditional purchases have been purchased by Henry Ricketson as improvement purchases. Application was made by him to purchase each of these immediately after forfeiture had appeared in the *Gazette*; in twelve cases he made application only two days after forfeiture, viz., they were gazetted forfeited on the 7th of August, 1876, and his application is dated 9th August, 1876. In three other cases, three days elapsed; in others, seven days, fourteen days, twenty-one days, and so on; and, so far as your Committee could ascertain, the most of the improvements claimed in the applications appear to be those that are described as being upon the forfeited conditional purchases at the time of forfeiture. The area so dealt with is between 9,000 and 10,000 acres, and Crown grants have been obtained for the whole at prices varying from 20s. to 25s. per acre.

“ 2. In the evidence given by the Under Secretary for Lands (questions 278 to 283) it appears that the Supreme Court has decided that when conditional purchases become forfeited the improvements thereon belong to the Crown. Your Committee are of opinion that the greater part, if not the whole, of the described improvements were upon the land at the time that the selections were forfeited, and were therefore the property of the Crown, and that Henry Ricketson wrongfully claimed the said improvements to be his own property, and, in consequence, he was allowed to purchase the land as improvement purchases, and he has thereby obtained thirty-seven Crown grants which should not have issued in the circumstances.”

Same read paragraph by paragraph.

Paragraph 1 read and agreed to.

Sub-paragraphs (1) to (3) read and agreed to.

Sub-paragraphs (4) read, amended on motion of Mr. Brunker, by *omitting*, from lines 2 to 7,—“but although all of these were improved, only upon nine of them was anything added to the upset price for the improvements, consequently seventeen of such cases, averaging nearly £300 each, of improvements, became the property of Henry Ricketson without anything having been paid for such improvements,” and *inserting*, “and the value of the improvements was added to nine of them, and there is no evidence before the Committee to show that there were any improvements upon the other seventeen at the time they were sold by auction,”—and agreed to.

Sub-paragraph (5) read and agreed to.

Paragraph 2 read amended, on motion of Mr. Brunker, by *omitting* from lines 3 to end of paragraph, the words “your” to “circumstances,” and *inserting* “No evidence was adduced before your Committee showing that the improvements upon lands which Mr. Ricketson had been permitted to purchase as improvement purchases had not been erected by him either partly before and partly after or wholly after the time the said lands had been conditionally purchased,”—and agreed to.

Chairman to report to the House.

MINUTES of Evidence taken before the Select Committee on Conditional Purchases made upon Barratta Run.

Thursday, 30 May, 1889.

Present :—

Mr. T. G. DANGAR. | Mr. BARBOUR.  
Mr. ALISON. | Mr. HUGH TAYLOR.

R. BARBOUR, Esq., in the Chair.

Thomas Robertson, Esq., Solicitor, appeared on behalf of Mr. Henry Ricketson.

Frank Griffin called in and examined :—

1. *Chairman.*] You are a clerk in the Lands Office? Yes; in the Conditional Sales Branch.
2. We want to know what conditional purchases were made on the Barratta Run from 1872 to 1882. What was the first one that was taken up after 1872? The first one I have any trace of is dated the 7th August, 1873.
3. What is the name? H. J. Ricketson.
4. What was the area? 320 acres.
5. What is the parish? Parish of Banangalite.
6. Have you any reports from Conditional Inspectors as to the improvements that were made upon that conditional purchase? Yes, a report by Mr. Keele; that is dated 1876.
7. What do you say about the date of lapsing? It was declared lapsed on the 7th May, 1877.
8. What does he report as to the improvements that were on that conditional purchase? Fencing, £140.
9. And what next? That is all that he reports.
10. Have you any other reports? Not on that conditional purchase.
11. What is the date of the inspection? The 2nd July, 1876, by Mr. Keele.
12. And the improvements were fencing? Yes.
13. Was that conditional purchase lapsed or forfeited? It was lapsed on the 7th May, 1877.
14. When was it gazetted? That was the date of the gazetted.
15. Was it gazetted as lapsed or forfeited? As lapsed.
16. The two words mean the same thing, don't they? No. Forfeiture would be for non-compliance with conditions of residence and improvements. A conditional purchase lapses when no declaration is sent in or no instalments are paid.
17. Both are for non-fulfilment of conditions? Yes. But one might be after inquiry in open Court.
18. Can you tell us anything more about that conditional purchase? Yes; that same land was applied for by R. Barbour, on the 20th November, 1873.
19. That was a long time before? Yes.
20. And whilst it was a conditional purchase? Yes.

21. And what was done with that? That was declared void, because it was the same land already applied for by H. J. Ricketson.
22. What was done with it after it lapsed? On the 28th May, 1877, Henry Ricketson applied for it as an improvement purchase.
23. What were the improvements described as in the Inspector's report? The report was dated the 5th September, 1883.
24. Is that the report upon the application for the improvement purchase? Yes.
25. What is the report on the improvements? Wool-scouring establishment, £180; fencing, £172; a tank, £90.
26. Do you know if that fencing is the same fencing as was described in the conditional purchase? No; I could not say.
27. How long was the date of it after the lapsing? Three weeks.
28. What was the number of acres applied for as the improvement purchase? 320.
29. Was it granted? Yes.
30. And have the deeds issued? Yes.
31. When did they issue? On the 6th November, 1884.
32. Can you tell us anything more about that improvement purchase? The price was £1 5s. per acre.
33. That is the whole, is it? Yes.
34. What is the next conditional purchase? The next is on the same date, by F. W. Ricketson.
35. What is the area of that? 240 acres.
36. Was there any inspection of that? Yes; on the 26th June, 1876, Mr. Keele inspected it.
37. And what were the improvements then? A bridge and a house valued at £240.
38. Was that subsequently lapsed or forfeited? That lapsed on the 7th May, 1877.
39. Was that applied for as an improvement purchase? Yes; on the 23th May, 1877.
40. And what were the improvements in connection with the improvement purchase on the date of the surveyor's valuation? Fencing, £109 17s.; a tank, £94 10s.; a bridge, £50.
41. No house? No house.
42. Was that improvement purchase sold? Yes; in November, 1884.
43. As an improvement purchase? Yes.
44. At £1 5s. an acre? Yes.
45. Can you tell us anything more about that purchase? No.
46. What is the date of the next conditional purchase? The 14th August, 1873.
47. What is the name of the purchaser? F. W. Ricketson.
48. What is the area? 320 acres.
49. Was there any inspection of that? Yes; Inspector Carne inspected it.
50. What is the date? 17th June, 1878. That is after it lapsed.
51. What were the improvements? Stable for Cobb & Co., £175; fencing, £160; and tank, £132 6s. 8d.; total, £468 6s. 8d.
52. Was that subsequently lapsed or forfeited? It was lapsed before that inspection, on the 7th May, 1877.
53. Was it afterwards applied for as an improvement purchase? Yes; on the 21st May.
54. In what year? 1877.
55. What improvements were reported? The improvements were the same. It was the same inspection connected with the improvement purchase, the inspection being after the lapsing.
56. What was the time between the lapsing and the application for it as an improvement purchase? About three weeks, and from the date of application to the date of inspection about twelve months.
57. What did the improvement purchase claim as an improvement? A house, tank, fencing, &c.
58. Is there any difference between the improvements mentioned in the application for the improvement purchase and the improvements reported? The only difference is that the house is called a stable in the report.
59. Can you tell us any more about that purchase? The deed was issued, and the price was £1 2s. 6d. an acre.
60. What is the next conditional purchase? The next was on the same date, by W. F. Ricketson, 14th August, 1873.
61. Can you give the area of that conditional purchase? Yes; 320 acres.
62. Was that inspected? Not till after it was lapsed.
63. When was it inspected? On the 17th June, 1878. It was lapsed on the 7th May, 1877.
64. What were the improvements on it? An iron house, £160; fencing, £160; and an old hut, £5; total, £325.
65. Was that applied for as an improvement purchase? Yes; on the 21st May, 1877.
66. What were the improvements mentioned in that application? A house, fencing, &c.
67. Do these correspond with what was reported as on the conditional purchase? Yes; but the improvement purchase was refused.
68. Has it been applied for again? No; it was sold at auction at the upset price of £1 12s. 6d. an acre.
69. Is there anything said in the papers about the improvements being included? I do not think so.
70. What is the next case? The next is on the same date, by C. M. Ricketson.
71. What is the area? 320 acres, in the parish of Ricketson.
72. Was that inspected? Yes; by Mr. Smith.
73. What was the date? 14th August, 1873.
74. What were the improvements reported by Mr. Smith on the 12th April, 1876? There was a hut, £15; fencing, £180; and a tank, £100. There was an inquiry by Commissioner Johnson, on the 8th May, in connection with that purchase, and it was declared forfeited on the 7th August, 1876.
75. Was it subsequently applied for as an improvement purchase? Yes; on the 9th August, 1876, by Henry Ricketson.
76. And what improvements were claimed for? I have not got the papers of that particular improvement purchase.
77. Have you any report upon it? Yes; Mr. Licensed Surveyor Finlay reported upon it.
78. What did he say the improvements were? Fencing, £160; tank, £150; hut, £15; £325 altogether.
79. Are these the same improvements that were on the forfeited conditional purchase? The same class—hut, fencing, and tank.
80. The total amount of the one corresponds with the total amount of the other? No; there was £295 worth on the conditional purchase, and £325 was the value for the improvement purchase.
81. They were the same items? Yes.
82. Can you tell us anything more about it? Yes; the deed issued for that purchase at £1 an acre.
83. On what date? The 20th August, 1879.
84. What is the next conditional purchase? On the same date, by Amy G. Ricketson.
85. What is the area? 320 acres.
86. In what parish? Ricketson.
87. Any improvements reported upon it? Yes; Mr. Smith, on the 12th April, 1876, reported a hut, £15; fencing, £180; a tank, £150; total value, £345. Commissioner Johnson held an inquiry on the 8th May. It was forfeited on the 7th August, 1876.
88. Was it subsequently applied for as an improvement purchase? Yes.
89. What was the date of the application? 9th August, 1876.
90. And what are the improvements claimed for? A house, a tank, post and wire fencing.
91. And the value? £350.
92. Is that for the same improvements that are on the conditional purchase? Yes, the same items—a hut, fencing, and a tank. Mr. Carne inspected that on the 7th September, 1879. He found a hut, value £30; a dam, £20; fence, £160; tank, £120; iron hut, £60; total, £390. It was again inspected by Mr. Loudon on the 15th June, 1881.
93. Do the improvements differ in any way? No; there were two tanks, fencing, and a hut, valued at £300.
94. Do they seem to be all the same improvements, but differently valued? The same class of improvements. Only 240 acres of that was granted out of the 320 acres applied for.
95. Have the deeds been issued for that? Yes; on the 30th July, 1883, at £1 1s. an acre; the balance of that portion is now an auction purchase.
96. What is the next case? The next is on the 20th November, 1873—George Boyd, selector, of 320 acres, in the parish of Billabong.
97. Was that inspected? No; that was declared lapsed on the 16th May, 1877.
98. Were there any improvements reported? No; it was sold by auction.

99. What was the next case after that? The next is on the same date, 20th November, 1873, by J. M. C. Orton.
100. Did anything come of that? That lapsed on the 16th May, 1877.
101. Were there any improvements reported? Yes; on the 12th October, 1878, by Inspector Carne.
102. What are the improvements? A house, £160; fencing, £180—£340 altogether. That was applied for as an improvement purchase on the 14th June, 1877, but it was refused.
103. Was it applied for again? No.
104. What was subsequently done with it? It was sold at auction.
105. What was the upset price? I have not got that.
106. What is the next case? The next is on the 20th November, 1873, by Frederick Geo, 320 acres, in the parish of Ricketson.
107. Was that reported upon? Yes; on the 24th December, 1874. Inspector Street reported upon it.
108. Was there a subsequent inspection? Yes, on the 7th September, 1879, by Inspector Carne.
109. What were the improvements reported on by Street? A hut with an iron roof.
110. And by Mr. Carne, in September, 1879? Fencing, £75; a tank, £20 9s. 4d.; and fencing again, £70.
111. Was there any subsequent inspection of that? Yes, in 1886.
112. And what were the improvements reported then? Fencing, £90; tank, £300.
113. Was that subsequently applied for as an improvement purchase? Yes, in 1877.
114. On what date? I cannot give the date; the application was refused.
115. Was there a subsequent application? I do not think so. It is now an auction purchase. I have no particulars as to the price.
116. What is the next case? The next one is on the 20th November, 1873, by Samuel Tucker, area, 160 acres.
117. Was that inspected? Yes, by Mr. Keele, on 7th July, 1876.
118. What did he report? A hut, value £5.
119. Was that all? That was all.
120. Was there any other inspection? Yes, on the 17th August, 1878, by Mr. Carne. He found a tank, £111 6s. 8d., and a hut, £10. Then Mr. Landon, on the 14th June, 1881, reported a hut, £20; a tank, £93 15s.; and 93½ acres were granted for the improvement purchase.
121. What was the date of the application for that improvement purchase? 13th June, 1877.
122. Did you say whether that was lapsed or forfeited? It was declared lapsed on the 16th May, 1877.
123. What is the next conditional purchase? On the 20th November, 1873, Fanny Barbour.
124. Was that reported on? That was an application for 320 acres, but only 158 acres were allowed. That is in the parish of Banangalite.
125. Was that inspected? It does not appear to have been inspected until after it was forfeited on the 19th March, 1878; it was inspected on the 10th July, 1880, by Mr. Carne.
126. What were the improvements? Cottage, £40; another, £25; shed, &c., £24; fencing, £134; total, £223.
127. Was that applied for as an improvement purchase? Yes, on the 26th March, 1878, by Henry Ricketson.
128. Was it allowed to be purchased? No; it was refused.
129. Do you know if anything was done with it subsequently? Yes; it was notified as reserved from sale and lease on the 26th March, 1878. That is the day on which it was applied for as an improvement purchase.
130. Do you know if anything has since been done with it? No; I think that case is proceeding now.
131. Is there anything to show whether it is gone from the Crown? It is still in the hands of the Crown.
132. What is the next case? The next case is that of Margaret Barbour, 20th November, 1873.
133. What is the area? 288½ acres.
134. Was that inspected? Not till after it was declared forfeited.
135. When was it declared forfeited? On the 7th August, 1876.
136. On what date was it inspected? On the 8th August, 1880, by Inspector Carne.
137. What were the improvements? Fencing, £180; tank, £140; house, £160; total, £480.
138. Was that applied for as an improvement purchase? That was applied for as an improvement purchase by Henry Ricketson.
139. On what date? On the 27th November, 1876, the application being allowed for 144½ acres.
140. What were the improvements claimed? It was originally applied for in connection with another conditional purchase, portions 3, 4, and 23, comprising 468½ acres, and that was afterwards split into three. That was claimed in virtue of three tanks, valued at £495, and fencing, valued at £169 10s.
141. Then what was the other conditional purchase that was joined on to that one? That was the purchase of Josiah Pitty, 180½ acres.
142. Have you Pitty's improvements? Yes. Pitty's improvements on the 12th April, 1876, were a hut, £20; fence, £90; another fence, £180; making a total of £290.
143. When was that forfeited? On the 7th August, 1876.
144. When was it applied for as an improvement purchase? On the 22nd November, 1876; but only 144½ acres were granted at that time.
145. Was some other land granted subsequently? Yes; it was granted in three lots.
146. And what were the improvements on the three lots? The improvements on the 144½ acres were valued by Surveyor Broughton on the 16th July, 1886—a tank, £62 10s.; fence, £85 10s.; total, £148; that is on portion 3. On portion 4 of the same area, he found a tank, value £117 10s.; a fence, £28 10s.; total, £146. On portion 23 of Pitty's selection, a tank, £162 10s.; a dam, £10; and fence, £11 5s.; total, £183 15s.
147. Do these improvements correspond with the improvements reported on the conditional purchase? They reported a tank and a fence, but I do not know whether they are the same.
148. Does the next correspond with them? No. The deeds were issued on this third portion on the 3rd February, 1888; £1 5s. an acre was the price.
149. Have you given us the improvements that were inspected on all those conditional purchases? Yes; there were only two conditional purchases, but three portions.
150. Then what is the next conditional purchase on the Barratta Run? The next is George P. Barbour's.
151. What is the area? 320 acres.
152. And the date? The 20th November, 1873.
153. Were the improvements inspected? Yes. On the 12th April, 1876, Inspector Smith found a hut, value £20; fence, £90; tank, £60; total, £170.
154. Has there been any further inspection? Yes; it was inspected by Mr. Carne on the 9th August, 1880.
155. What did he report? He found a tank made by the selector valued at £26 15s. 4d.; improvements made by the lessee of the run, tank and fencing, valued at £324 3s. 4d. That was forfeited on the 7th August, 1876; that is portion 14, in the parish of Ricketson.
156. When was it applied for as an improvement purchase? On the 31st December, 1877.
157. And was it sold as an improvement purchase? No; it was refused.
158. Is it still Crown land? It appears to be still Crown land.
159. What is the next conditional purchase? The next is George Pitty's, 20th November, 1873, 144½ acres; this is portion 5.
160. What improvements are reported? Inspector Smith, on the 12th April, 1876, found a hut, valued at £20, and a fence, £160. That was forfeited on the 7th August, 1876, and applied for as an improvement purchase on the 2nd May, 1878.
161. What improvements were claimed? A house and a tank.
162. Are those the same improvements that were on the conditional purchase? No; not according to the Inspector. He said there were a hut and a fence.
163. And the improvement purchase application is for a house and a tank? Yes.
164. What is the amount? On the 17th June, 1878, Inspector Carne found that there was a hut, £85, and a tank, £100.
165. Was that selection forfeited? It was forfeited on the 7th August, 1876.
166. When was it applied for as an improvement purchase? On the 2nd May, 1878.
167. Are the improvements different from the first one? The improvements made by the selector are valued at £76, and those of the lessee at £130 13s. 4d.

168. Was that sold as an improvement purchase? Yes, the deed was issued on the 24th October, 1881; the price was £1 an acre.
169. What is the next one? The next one is Thomas Kerr, 20th November, 1873, 320 acres. That was declared forfeited on the 1st October, 1878.
170. What were the improvements on it? They were not given till afterwards—the 7th September, 1879; there was a hut, tank, and fence, valued at £209 1s.
171. When was it applied for as an improvement purchase? On the 8th October, 1878.
172. What improvements were claimed? That was a conditional improvement purchase.
173. Have you any improvements reported? Yes; by Mr. Surveyor Orr, on the 6th July, 1881.
174. Was that inspection in consequence of the improvement purchase application? Yes.
175. What improvements did he report? A tank, £156 5s.; fencing, £125; a house, £110; total, £391 5s.
176. Do any of these correspond with the improvements on the conditional purchase? The same class of improvements—a hut, tank, and fence.
177. Was that sold as an improvement purchase? Yes; the deed was issued on the 2nd January, 1882, and the price was £1 5s. an acre.
178. What is the next conditional purchase? Mary K. Barbour, 20th September, 1873, area 320 acres, in the parish of Ricketson.
179. Was there any inspection of that conditional purchase? Yes; on the 24th December, 1874, Inspector Street reported that there were a hut and fencing, but no value was stated.
180. Was there any subsequent inspection? Yes; by Inspector Carne, on the 9th August, 1880.
181. What are the improvements? He found that the improvements made by the selector amounted in value to £105 16s. 8d., and those made by the lessee to £508 6s. 8d.
182. Was that applied for as an improvement purchase? Yes; on the 9th August, 1876. First of all it was applied for on that date as portions 10 and 11, 640 acres.
183. Was the conditional purchase of M. K. Barbour allowed to be purchased? Not at first; subsequently, on the application of 5th February, 1877, it was.
184. By whom? By Henry Ricketson, 640 acres.
185. That included Catherine Barbour's conditional purchase? Yes.
186. What is the area of the two portions? 640 acres.
187. What improvements are reported on the last conditional purchase? Inspector Carne, on the 9th August, 1880, valued the improvements by the selector at £145, and those by the lessee at £331 13s. 4d.
188. What was the date of the application for that improvement purchase? The one granted was dated 5th February, 1877.
189. And were those the improvements that the improvement purchase was sold for? Licensed Surveyor Rigaut, on the 29th March, 1887, found on the block of 640 acres a tank valued at £450 7s. 6d.; a dam at £20; another tank, £166 14s. 6d.; a cottage, £70—total, £707 1s. 6d.; and the deed issued for that block on the 1st June, 1880, at £1 an acre.
190. Inspector Carne's inspection was in 1880? Yes.
191. When was the conditional purchase forfeited? It was forfeited on the 27th August, 1876.
192. And when was the application for the improvement purchase dated? There were two applications. First, 9th August, 1876; that was refused. And the second on 5th February, 1877.
193. And the second time the two conditional purchases were joined? On both occasions they were.
194. Is there any reason given for the first improvement purchase being refused? Yes—for not being within a block 5 miles square. That was a conditional improvement purchase.
195. And that was altered? Yes, on the 5th February, 1877, it was applied for as an improvement purchase.
196. At first it was applied for as a conditional improvement purchase, and that was refused? Yes.
197. And subsequently it was applied for as an improvement purchase, and that was granted? Yes.
198. Are the same improvements stated in both? The improvements in the conditional improvement purchase would not be on it.
199. Have you any improvements reported on about the date of the conditional improvement purchase? No; not about that date, but about four years afterwards. The improvements intended to be erected on the conditional improvement purchase were a house, tank, and post and wire fencing.
200. Were they put on? I do not know; that application was refused.
201. Are the improvements that were on the conditional purchase traceable in the purchase that was afterwards granted as an improvement purchase? They may be. There was a cottage valued at £70 on the improvement purchase, and two huts on the selection; that would be all. There is no mention of the two tanks or the dams being on the selection.
202. I think you said Mr. Carne's report was that a certain value of improvements were effected by the selectors? On Catherine Barbour's conditional purchase to the value of £145.
203. What was the value of the improvements reported to have been made upon the other conditional purchase? £105 16s. 8d.
204. These sums should amount to what? £250 16s. 8d.
205. And these are the two conditional purchases that were subsequently amalgamated in the improvement purchase of 640 acres? Yes.
206. What is the next conditional purchase? The next is Leighton Barbour, 20th November, 1873, 320 acres.
207. What are the improvements reported? The improvements reported on 10th August, 1880, by Inspector Carne, are a tank, £500; fence, £40—made by the lessee.
208. Was that applied for as an improvement purchase? Yes, that in conjunction with Robert Barbour, junr.'s, conditional purchase.
209. Was it an improvement purchase or a conditional improvement purchase? Both; that case is not settled yet.
210. What is the next conditional purchase? The next is J. Dougharty, in the parish of Banangalite, 238½ acres.
211. What improvements are reported there? Inspector Smith, on 12th April, 1876, reported a hut, £15; tank £200; a fence, £78; total, £293. That was declared forfeited on the 7th August, 1876.
212. Was it applied for as an improvement purchase? Yes; on 9th August, 1876.
213. And what were the improvements claimed? A house, post and wire fencing, and a tank.
214. Are those the improvements that were on the conditional purchase? They are of the same class.
215. Do they differ in price or in the description? The valuation given by Mr. Finlay was only £263 6s. 3d.
216. And that was the valuation in consequence of the improvement purchase. Yes.
217. Does that differ from the first valuation? The first was £293.
218. Would a similar amount cover the necessary expenditure to enable the improvement purchase to be made? Yes; it is only 238 acres.
219. And the difference in price may be accounted for in that way? Yes.
220. Mr. Finlay finds the smaller amounts sufficient to cover the improvement purchase? Yes.
221. Was it sold? Yes; the deeds were issued on the 1st November, 1878, to Mr. Ricketson, for £1 per acre.
222. What is the next case? The next was J. Dougharty again, of 27th November, 1873, for 81½ acres, in the parish of Ricketson.
223. That would be an additional conditional purchase? Yes; to make up the area of 320 acres.
224. What improvements were reported in that case? The improvements were nil. It is now an auction purchase. It was forfeited on the 7th August, 1876.
225. What is the next case? J. Kelly, for 238½ acres, and also for 81½ acres.
226. That is an additional conditional purchase? Yes, the 81½ acres.
227. What are the improvements reported on it? On 12th April, 1876, Inspector Smith found a hut £15, and line of posts only for fence valued at £78.
228. Was there a subsequent inspection? No; that was forfeited on the 7th August, 1876.
229. Was either of these applied for as an improvement purchase? No; they were sold at auction.
230. At what price? I do not know the price.
231. What was the date of the grant? I do not know.
232. You cannot tell the upset price? No.
233. Can you say of your own knowledge that the document before you is a true and correct abstract of the papers bearing upon the several matters set forth in it? Yes; I drew it up myself.

234. Do you hand that in as an abstract of all the particulars contained in those papers? Yes; as regards the headings given in accordance with the Chairman's memo.
235. And you say that that is a true abstract statement of the particulars therein contained? Yes, as far as it goes. Of course it does not show what became of the improvements. [See Appendix A 1.]
236. *Mr. T. G. Dangar.*] Have Crown grants been issued in all the cases? No.
237. *Chairman.*] Does that paper show in what cases the Crown grants have been issued? Yes.
238. And whether they have or have not? Yes.
239. *Mr. T. G. Dangar.*] Do I understand that all these improvement purchases were originally conditional purchases, and that they were afterwards sold as improvement purchases? Some of them, not all.
240. *Chairman.*] What you have given were original conditional purchases, were they not? They were all conditional purchases.
241. Were they all subsequently sold as improvement purchases? Not all of them.
242. And that paper sets forth which were sold as improvement purchases? Yes.
243. *Mr. Robertson.*] The Chairman has asked about several improvements made during the currency of the conditional purchases—that is, if the improvements were mentioned in the improvement-purchase applications were not identically those mentioned in the conditional-purchase applications? There would be no way of showing.
244. Are you familiar with the Land Act? Yes.
245. When an application is made for the purchase of an improvement purchase the Department requires improvements to the amount of £1 an acre, and that the applicant shall himself be the owner of those improvements at the time he makes the application? Yes, and they are to be necessary for the working of the run.
246. All these essentials being there, the Department is satisfied? Yes.
247. Must not the Department have been satisfied, before granting leave to Mr. Ricketson to make improvement purchases that he had improved the land to the value of £1 an acre? Yes.
248. Do you know that all lapsed or forfeited conditional purchases revert to the run? Yes.
249. And that all improvements on these lapsed or forfeited conditional purchases then become the property of the lessee of the run? No. I did not know that.

Thursday, 4 July, 1889.

Present:—

Mr. HUGH TAYLOR, | Mr. ALISON,  
Mr. T. G. DANGAR.

R. BARBOUR, Esq., in the Chair.

Thomas Robertson, Esq., Solicitor, appeared on behalf of Mr. Henry Ricketson.

Mr. Stephen Freeman called in, sworn and examined:—

250. *Chairman.*] You are the Under Secretary for Lands? Yes.
251. We have taken evidence before in this case, and an abstract was handed in by one of your clerks, Mr. Griffin;—is he a reliable officer? Yes.
252. And, as far as you know, the evidence that he gave is correct? I have no knowledge of his evidence.
253. Do you know the Barratta Run? Yes, on the map.
254. Who is the lessee? Henry Ricketson, I believe.
255. He has been for some years? Yes, for a good many years.
256. Have you got a copy of the evidence given by Mr. Griffin? Yes, I have, and also a schedule handed in by him.
257. In addition to what is supplied there, are there some conditional purchases which were afterwards bought as improvement purchases? Yes.
258. And some were made as auction purchases? Yes, I believe they were.
259. Have you a list of the improvements, if any, that were on the selections at the time they were sold by auction? Yes. I should like to qualify that. I should mention that it is not possible for the Department to know exactly what improvements are on any portion of land that may be forfeited, because the inspection leading up to the forfeiture takes place some time before then, and delays occur, so that the forfeiture is not carried out until long after the inspection. It is impossible therefore for the Department to say what was the actual value of the improvements at the date of the forfeiture.
260. You have no personal knowledge of the matter? No.
261. And the evidence you give us will be from the records in your office? Yes.
262. There is a great number of them, and the Committee, on the last occasion, asked Mr. Griffin to tabulate them;—have you done the same thing? I have particulars of the forfeited conditional purchases sold at auction, showing the area, the parish, the portion number, date of auction sale, value of the improvements, if any, added to the upset price, and for whose benefit.
263. And the upset price? No, I have not the upset price. The upset price in those days was almost invariably £1 an acre, irrespective of any question of improvements.
264. Will you hand in the list? Yes. The list contains a few other notes for my information, which will enable me to say when the inspector visited the land in some cases, and what he found on the land.
265. To save time would you hand in the list to the Committee? Yes.
266. And do you say it is correct? I believe it is correct. I have not myself obtained the information, but it has been obtained in the office by reliable officers.
267. And you believe it is correct? I have no doubt about it.
268. *Chairman.*] Will you state to the Committee the full particulars of the statement contained in that list? Yes. The first is conditional purchase 73-8,450, portion 48, parish of Barratta, 320 acres; £321 18s. 6d. added to the upset price for Mr. Ricketson's protection, he being understood to be the owner of the improvements. The sale took place on the 2nd November, 1888. The next is conditional purchase 73-12,282, portion 10, parish of Billabong, 320 acres; nothing added to the upset price. Mr. Carne inspected the land in October, 1878, and found £340 worth of improvements on it. The sale took place in December, 1881, the land being sold by auction. Conditional purchase 73-12,289, portion 6, parish of Ricketson, 320 acres; nothing was added for improvements. Mr. Carne inspected the land in September, 1879, and found improvements on it to the value of £12 9s. 4d. The land was sold in May, 1879. Conditional purchase 73-12,526, portion 7, Banangalite, 238½ acres; nothing was added for the value of improvements. Inspector Smith saw the land in April, 1886, and found improvements on it to the value of £93. The sale took place on the 29th May, 1879. Conditional purchase 73-12,528, portion 11; Banangalite, 320 acres; nothing added to the value for improvements. Inspector Smith, in April, 1876, found improvements on the land to the value of £315. The sale took place on the 29th November, 1876. Conditional purchase 73-12,529, portion 28, parish of Ricketson, 320 acres, £160 added for the protection of the Crown; and conditional purchase 73-12,532, portion 27, the same parish, 320 acres, £212 added for the protection of the Crown. Conditional purchase 73-12,851, portion 3, parish of Staniforth, 320 acres, had nothing added. Inspector Keele, in January, 1876, found that there were £5 worth of improvements. The sale took place on the 26th September, 1877. Conditional purchase 73-12,855, portion 21, parish of Ricketson, 320 acres; value of improvements, £327, added for the protection of the Crown. Conditional purchase 73-12,856, portion 10, Banangalite, 320 acres, nothing added. Inspector Smith, in April, 1876, found £205 worth of improvements. The sale took place on the 29th November, 1876. Conditional purchase 73-12,859, portion 19, parish of Ricketson, 320 acres; nothing added for value of improvements. Inspector Keele, in June, 1876, found £180 worth of improvements. The land was sold in September, 1872. Conditional purchase 73-12,862, portion 22, parish of Ricketson, 320 acres; nothing added for improvements. Inspector Rigaut, in April, 1877, found improvements to the value of £337 10s. Sale took place on the 5th January, 1882. Conditional purchase 75-12, portion 30, Banangalite, 40 acres; nothing added for improvements. Inspector Carne, in September, 1877, found improvements on the land to the value of £50. The sale took place in December, 1878. Conditional purchase 75-100, portion 15, parish of Carribbarri, 320 acres, had £14 10s. added for improvements for the protection of the Crown. Conditional purchase 75-101, portion 72, same parish, 320 acres, had £109 added for the protection of the Crown.
269. In one case you said that the improvements were added to the upset price for Mr. Ricketson's protection? Yes.

270.

270. Did that mean that he did not pay anything for improvements, but paid only the price of the land? Yes, the price of the land irrespective of improvements.
271. Because the improvements were recognised as belonging to him? Yes.
272. In two of the cases £212 and £327 were added for the protection of the Crown;—does that mean that the Crown received those amounts in addition to the upset price of the land? Yes. There are five cases like that.
273. In those cases, where you say that the improvements belonged to the Crown, the Crown received payment in the purchase? Yes.
274. Was any application made for improvement purchases for any of those pieces which were subsequently sold by auction? I cannot say.
275. The Committee want you to furnish a list of what improvements were applied for under certain improvement-purchase applications; have you a list of those? Yes.
276. Can you hand that list in? Yes.
277. That list shows the applications for improvement purchases with the particulars of the improvements? Yes, the nature and value of the improvements in virtue of which the purchases were applied for.
278. Can you tell us whether any steps were taken to put those forfeited conditional purchases back into the leasehold? No step was necessary, the law in 1875 declaring that they fell back into the lease—section 19 of the Act of 1875.
279. Were any steps taken by the Department to value those lands and the improvements that were put on them in order to assess the rent to be paid? I cannot say that, but there is a Supreme Court decision which seems to bear on the point as to what should be charged for those lands.
280. Were any steps taken by the Department to ascertain? Not that I know of.
281. *Mr. Robertson.*] What case did you refer to? It is the case of *Peterson v. Prowse*, vol. 2, page 292, "Reports of Supreme Court Decisions." I will quote the part of the decision referring to this matter. Mr. Justice Fawcett in giving his decision said:—
- "The 90th section of the Act of 1875 says that when lands conditionally purchased are forfeited they revert to the lessee. It follows that the improvements go to the lessee for the term of his lease, and subject to such lease they are vested as well as the land in the Crown."
- That decision bears on the point, and definitely states that the improvements go to the lessee with the land.
282. *Chairman.*] That is the use of them? Yes, I suppose so.
283. Then comes the question again, were any steps taken by the Department to assess the rent. Of course those forfeited conditional purchases going back into the run would not go back for nothing;—would not the Department expect rent for them? The Department should expect rent for them, and I have not the slightest doubt that when the succeeding term of five years was under appraisalment it was the duty of the appraiser to consider the land that fell in to the lease prior to the appraisalment.
284. Can you tell us of your own knowledge whether they did carry out their duty and ascertain the rent? I cannot say that, because the records of these appraisements were destroyed in the Garden Palace fire.
285. Can you give the rents charged for the Barratta Run for the years 1876, 1878, 1879, and 1880? Yes. In 1876, 1877, and 1878 the rent was £65 a year; in 1879 it was £127, and in 1880 it was the same.
286. I saw by the schedule that was handed in by Mr. Griffin that in 1876 there were upwards of 7,000 acres forfeited or lapsed? I don't know whether that is so. No doubt it is so, but I have not inquired into that.
287. That was in 1876, and if the rent for 1877 was the same as in 1876 there was nothing added for that year for those lands that went back into the run? I cannot say that, because an area might have been selected in 1877 equivalent to that which fell in.
- 287½. But as far as is shown by the figures the rent was the same in 1877 as it was in 1876? Yes.
288. In 1877 then the area that reverted or lapsed was 8,000 acres, and as the rent for 1878 was the same as it was in 1877 the presumption is that nothing was added that year for the additional area? I cannot say that, because an equivalent area may have been selected.
289. *Mr. Robertson.*] With reference to the auction sale of land, with improvements valued at £318 19s. 6d., for the protection of Mr. Ricketson, I presume that that was bought by Mr. Ricketson? The whole of those lands were bought by Mr. Ricketson.
290. Had it been purchased by a stranger, would he not have had to pay the price with that amount added to it? Yes.
291. And the improvement money would not have been added in the case of Mr. Ricketson? Yes, that is so.
292. In the other cases the additional money would have gone into the Treasury? Yes.
293. But where you say it is for the protection of the Crown? Yes; anybody buying had to pay that to the Crown.
294. You mentioned a third class of cases where Inspector Carne reported certain improvements up to £50 in value, which were not taken notice of at the time of the sale? Yes.
295. If those improvements which Mr. Carne referred to had been made by Mr. Ricketson, and he became the purchaser at auction at the upset price, then I presume that no injustice was done? Not if those improvements were made by Mr. Ricketson during his tenure of the land; but if they were made by Mr. Ricketson during somebody else's tenure it would have been improper to add anything for Mr. Ricketson's protection.
296. Take one of the auction blocks advertised for sale without mentioning the improvements upon which Mr. Carne subsequently reported. That land having been sold without any additional price having been put upon it, the purchaser paid the upset price without any charge for improvements, but if the improvements had been made by Mr. Ricketson, no injustice was done either to the country or to Mr. Ricketson? No, certainly not, if Mr. Ricketson made those improvements whilst the land was under tenure to him.
297. *Chairman.*] But when it was under tenure to others? If the others forfeited their rights the improvements belonged to the Crown, and the Department should have seen that they were paid for.
298. *Mr. Robertson.*] But that would not have been the fault of Mr. Ricketson? Certainly not.
299. About the forfeited selections with improvements on them, you have read the judgment of Mr. Justice Fawcett that makes the improvements go to the lessee for the period of his lease? Yes.
300. Has a lessee any different ownership of improvements on other parts of his run? Yes.
301. In what respect? He has if he effects the improvements himself.
302. Assuming that the squatter makes improvements on his run, I want to know in what different position he stands in regard to those improvements from his position with regard to the improvements on the forfeited selections which may have reverted to his run? The distinction is rather marked. In the one case, where a pastoral tenant improves the run at his own expense, that fact is taken into account by the Crown when considering the sale of the land, if it should be sold.
303. We will assume that a squatter having improved a block of his own run to the amount of £320 comes to the end of his lease, what relationship does he hold in regard to those improvements? Under the existing law he has no claim for compensation in virtue of the improvements.
304. Therefore, inasmuch as Mr. Justice Fawcett said that the lessee would have the other improvements during the rest of his term, virtually both classes of improvements are on the same footing? At the end of the term they would be if his tenure expired.
305. Then they are no more and no less than the other improvements? I would again repeat that if the Crown is considering the sale of the land the fact of the pastoral tenant being the owner of the improvements is taken into account, and he is protected to the extent of his improvements if the ground is sold to some one else.
306. *Chairman.*] If the Crown owns the improvements, what then? Then the Crown gets the benefit under the existing law.
307. Does the Crown discriminate between the improvements that are the lessee's and improvements that are the Crown's? I cannot say, because the leases have not ended so far. There has been invariably a renewal of the leases where they have paid their rents.
308. But suppose that at the end of December in one year there are certain lands improved which are forfeited conditional purchases, and certain other improved lands which are leased to the pastoral tenant;—is there any distinction in those two cases? I don't quite follow you.
309. To whom do the improvements on forfeited conditional purchases belong? To the Crown.
310. *Mr. Robertson.*] Of course you have a form of application for purchases; a lessee of a run desiring to purchase has to apply in a particular form, and to state that he applies in virtue of the improvements, the words being, "which have been erected by me," or "of which I have become the proprietor"? Yes.

311. I think you have plainly demonstrated that a squatter is only in a limited sense the proprietor of the improvements made by himself,—that is, that at the end of his term they cease to be his, unless something happens which has not happened yet? Yes.

312. Therefore, the other improvements made on forfeited selections being in the same position in each case, the proprietorship for the time being appears to be the same? I am not sure about it, and I will tell you why. In the one case, under the law that was repealed in 1884, he might have been permitted to purchase in virtue of his own improvements. He certainly would not have been permitted to purchase in virtue of the other improvements, and there is the distinction.

313. We are speaking now of the time antecedent to that of 1884. We are speaking of the law under the Acts of 1861 and 1875. I want to see if it can be demonstrated that there is any distinction as to the ownership of the improvements during the currency of the lease? Yes; and I would define the distinction this way,—that where the Crown would recognise ownership to improvements effected by the pastoral tenant it would not recognise the ownership of improvements if application were made for the purchase of forfeited conditional purchases that had reverted to the lessee during the term of his lease.

314. If the return shows that, as a matter of fact, they have done so, what you mean is that in your opinion they ought not to have done so? I do not follow that.

315. If this return before us shows that in some instances selections were forfeited on a given day, and applied for within a week as improvement purchases, and the improvements reported to have been on those selections at the time of the forfeiture are the same as described in the application, and the purchases were allowed? I do not know that any of those purchases were allowed in virtue of improvements which were on the conditional purchases when they were forfeited.

316. That answer is equally satisfactory to me, because if it had happened, and I could show that it was legal, that would have been a complete answer. Can you say that it has not happened? I do not know that it has. I may have my own opinion, but my opinion is worth nothing. Mr. Ricketson may have been wonderfully quick in the way that he effected improvements. There is strong presumptive evidence in one or two cases that he did apply to purchase in virtue of improvements that were effected prior to forfeiture of the conditional purchase.

317. The words in the form do not say "having erected and become the proprietor," but it says, "having erected becomes the proprietor of" the improvements? Yes.

318. Under the Act of 1861 it was decided by the Privy Council that vicarious selection was lawful;—I am referring to the case of *Barton v Muir*? You are referring to selection before the Act of 1875 came into force.

319. But all these selections were taken up during the currency of the Act of 1861, at a time when vicarious selection or dummyism was lawful? Yes.

320. In the case of *Barton v. Muir*, I was solicitor for Mr. Barton, and sent the case Home. Muir was a shepherd in Mr. D. Barton's employ. Mr. Barton paid for his selection, and made all the improvements, Muir fulfilling the condition of residence. After the expiry of three years Barton called upon Muir to transfer the land to him, but Muir refused to do so, and set up the defence that nobody could be recognised in law but himself. The case came before the Supreme Court, and the Court decided that vicarious selection was illegal. Mr. Barton sent the case Home to the Privy Council, who decided that vicarious selection was perfectly lawful, and that the selection and all the improvements were the property of Mr. Barton. When that decision was made a judgment of our Supreme Court, Muir's selection was transferred to Barton. You will admit that if Mr. Barton had failed to make improvements on the selection it would have been forfeited? Yes; it should have been.

321. Consequently, when the property was made over to Barton, it was not only because he paid for the land, but because he was owner of the improvements? Yes.

322. Ergo, Barton had erected those improvements. Supposing, instead of all this litigation, Muir had failed to observe the terms of residence, and consequently that that selection had been forfeited, would not that selection under the Act of 1875 have gone back into Barton's run? Yes.

323. Could not Barton then with perfect truthfulness have sent in this application under form A, having erected the improvements therein detailed? He could have sent in the application.

324. And could he not have said, with the history of the Privy Council's decision behind him, that he erected those improvements? Yes.

325. Where the two things coincided, this was a portion of his run containing improvements to the value of about a pound an acre, and those improvements having been erected by himself, were not the requisites there to entitle the Government, if they chose—because it is only optional after all—to sell him the land by appraisalment? No; because the improvements were forfeited when the conditional purchase was forfeited.

326. But the forfeited conditional purchase reverts back to the run, and becomes part of the run. It has improvements on it, and those improvements were erected by the lessee. I am not speaking about the spirit of the law, but the letter of the application. According to that application, would not three incidents have happened—that is, first, a portion of a run under lease; second, improvements made upon the run; and third, that they were rented by the applicant;—would not those three incidents have arisen? They would have arisen, but if you mean to ask whether they would have entitled him to make the purchase, I must say no.

327. Is that not a matter of opinion? No; I do not think so. I had better explain why the form was drawn up in that manner. The form refers not only to improvement purchases made by a pastoral tenant on his leasehold, but to purchases under gold-field tenure (miners' rights owners). It frequently happens that a person who erects a house in a proper way, having a miner's right, sells his right to the house and clears out, and the buyer by the term is the person contemplated "having become the proprietor of" when that form was drawn up.

328. Suppose that I was acquainted with a gold-field licensee, and he says you put up a house for me, and I do so. By-and-by he wants to leave the diggings, and he transfers his right to me in order that I may be recouped my outlay. Can I not then apply for an improvement purchase, the improvements having been erected by me? Yes; but the Act itself goes further. The clause allowing improvement purchases says that the land shall be sold to the owner of the improvements.

329. I have shown that during the currency of the lease the squatter has a limited ownership of the improvements during the term of his lease, and has he not precisely the same with reference to improvements on forfeited selections according to Judge Faucett's dictum in this case? No; it is not precisely the same. The Judge said that improvements go to the lessee "for the term of his lease." That is not ownership.

330. You cannot draw any distinction between one class of improvements and the other. Both are the squatter's during the term of his lease. It appears that no squatter could apply under this form, as he cannot say that he is the owner, because at the end of his lease the improvements will go to the Crown, but, notwithstanding that, is he not allowed to say that he is the proprietor? No; it says that the improvements on forfeited conditional purchases will go to the lessee for the term of his lease. Interpreted by an average mind, that means that the improvements are held by him.

331. But his own improvements are just the same? No; they may have given him a right to purchase.

332. Suppose a lessee has a stockyard upon his run, he has the use of that during the term of his lease, and he applies for permission to buy? Yes.

333. In that case you do not say that he is not the proprietor, because at the end of the term he may lose the land? No. We recognise him as the owner in such a case, but we do not recognise him as the owner of improvements on a forfeited conditional purchase, but he is entitled to the use of them during the term of his lease.

334. *Mr. Alison.*] Is that your opinion, or has it been decided? I am quoting the decision of the Supreme Court.

335. *Mr. Robertson.*] That decision says that the improvements go to the lessee for the term of his lease—you have stated that the other improvements go a little further, and on the expiry of the lease the whole of the improvements remain behind him according to law? Yes.

336. We all know that under the law anything attached to the freehold by the tenant is supposed to become the property of the landlord, but I do not think that there has ever been any objection raised to squatters removing their fences, or their stockyards, or their woolsheds. I have never heard of a case? No, nor I. I do not know what right we have to object to it. The improvements are there during the term of the lease for the pastoral tenants to do what they like with.

337. During the term of the lease the squatter would have as much dominion over the improvements on the forfeited selection as he would have over improvements erected by himself? I do not think so. I should say that he could remove his own improvements—that he could alter, reduce, or increase them, but I question whether he could do that with the improvements on a forfeited selection.

338. *Mr. Alison.*] That is your opinion? It seems perfectly clear. The improvements are his during the term of his lease.

339. *Mr. Robertson.*] Suppose that a 40-acre selection was forfeited and falls back into a run, and that 40 acres is surrounded

- surrounded by a three-rail fence, and has upon it a hut and other improvements of that kind, do you contend that in that case the squatter must allow that 40 acres to remain fenced in for the rest of his term? I should contend that, undoubtedly. I should say that he has no right to remove that fence or that hut without the permission of the Crown.
340. The law says it forms part of his leasehold for the term of his lease. Is there anything in the lease that prevents a squatter from removing improvements? Nothing that I know of.
341. Then, when selections are forfeited and revert to the leasehold, by what law could you prevent the squatter from removing the improvements? I am aware of no law beyond this definition, that the improvements are his for the term of his lease. It seems to me a clear straining of the law to say that he should be allowed to remove the improvements on forfeited selections, as they are not his property.
342. You admit that there is nothing in the lease to prevent the squatter from removing his own improvements, and I want to know where you find a law that says that he shall not remove them? I do not know of any law to prevent him from removing his own improvements, or altering, adding to, or reducing them.
343. We are told that during the term of his lease the improvements are his, and the Judge would say exactly the same about his own improvements? The Judge said something more. He said that, subject to such lease, they are vested in the Crown.
344. The improvements on all runs when the lease is up belong to the Crown; but up to that time the squatter has a legal ownership—he is owner of those improvements subject to his tenure expiring? Whilst the Judge said the improvements go to the lessee, he said that they are vested, as well as the land, in the Crown, and the vesting defines the ownership.
345. My argument is that it is impossible to draw a distinction between the two classes of improvements—when the lease terminates they all become the property of the Crown? When the lease terminates there is no difference.
346. *Mr. Alison.*] It seems to me that if the opinion you have expressed is correct we have got a perfect *reductio ad absurdum*. Suppose that a 40-acre selection has been completely fenced all round without a gateway, has the lessee no right to touch that? I cannot say that he has any right to reduce the improvements in value, or to destroy or remove them.
347. Suppose that the land is completely fenced so that he could not get any stock on to it? It is impossible to suppose that. I never knew of such a case.
348. Suppose it were so? I cannot imagine it.
349. He would not be able to use the land at all? I could not suppose that such a thing would be.
350. At the same time it might? Any mechanical fact is possible.
351. Any selector, if he chose to do it, could do it; and if the land reverted to the run what could the lessee do? He could get the permission of the Crown to alter the improvements so as to make the land available and useful.
352. *Mr. Robertson.*] Can you show any distinction in the law as to the right of a lessee to a run to deal with improvements made by himself and with improvements which have been upon the selection subsequently forfeited? Yes. The sections of the Acts of 1861 and 1875 providing for the purchase of land by virtue of improvements to the “owner.”
353. Show us the clause? Clause 8 of the Act of 1861 and clause 2 of the Act of 1875.
354. Can you show me any distinction between the two classes of improvements? Yes. In one case the Crown will allow the lessee to buy by virtue of improvements, but in the other case the lessee will not be allowed to buy. The word “owner” means that he is to be the owner of the improvements, but not as Mr. Justice Faucett put it in the other case—subject to the rights of the Crown and to his limited tenure.
355. *Chairman.*] You say that the Act says that the lessee is the owner, but that is only when he has actually purchased the improvements? I interpret the Act to mean that the man is the owner when he has paid for the improvements.
356. Would you apply the term owner to a man who held improvements on a forfeited selection belonging to the Crown? No. Section 8 of the Act of 1861 describes the person entitled to purchase as the “improver,” or his alienee. Section 2 of the Act of 1875, which repealed the other, empowered the Crown to sell to the “owner” of the improvements. In one place it is the “improver” or his alienee, and in the other it is the owner.
357. You mean the man who paid for them? Yes.
358. *Mr. Dangar.*] You admit that the whole of the improvements on the forfeited selection go to the lessee during his lease. You must allow that they belong to him, because you allow him to purchase the land? Not in virtue of the conditional purchaser’s improvements, but in virtue of improvements that were recognised to be his. Whether in this case of Mr. Ricketson’s they were the same as the conditional purchaser made or not I cannot say.
359. These purchases reverted to the lessee of the run, and you allowed him to purchase them? I do not admit that he was allowed to purchase them by virtue of the improvements found on the forfeited selections. I say that the purchases are allowed in virtue of improvements that were claimed by the applicant and admitted to be his property.
360. The Crown did not challenge them because the deeds have been issued? I do not know that the Crown did not challenge them. I believe that in those days the administration was very lax in that and in many other matters.
361. *Chairman.*] Will you look at the list that was handed in by Mr. Griffin. On page 4 you will find conditional purchase 73-12,299? Yes.
362. What is the date of the forfeiture of that conditional purchase? It was forfeited on the 7th August, 1876.
363. What was the date of Mr. Ricketson’s application to purchase it as an improvement purchase? The 9th August, 1876.
364. How long was that after the forfeiture? Two days.
365. What are the improvements said to be on that land? According to Mr. Smith’s report, dated 12th April, 1876—a hut, £15; yard, £35; building, £15; fencing, £160—total, £225.
366. Is it possible that these improvements could be erected in two days? It is possible, but highly improbable.
367. On the next page you will find the selection of J. Doherty, conditional purchase portion 8;—what is the date of the forfeiture? 7th August, 1876.
368. What is the date of the application for the improvement purchase? 9th August.
369. How many days had elapsed? Two days.
370. Next you will find the conditional purchase of William Liscombe;—when was it forfeited? On the 7th August, 1876.
371. When was application made for the improvement purchase? On the 9th August.
372. What length of time had elapsed? Two days.
373. Look at the next one, A. W. Robertson’s selection;—when was that forfeited? On the 7th August.
374. When was it applied for as an improvement purchase? On the 9th August.
375. What time had elapsed in that case? Two days.
376. Then there is D. Macpherson’s purchase;—What is the date of the forfeiture of that? 7th August, 1876.
377. What is the date of the application by Mr. Ricketson to purchase the land by virtue of improvements? 9th August.
378. What time had elapsed? Two days.
379. Then there is the case of George Dogherty;—what was the date of the forfeiture of that lease? 7th August, 1876.
380. What was the date of the application to purchase by virtue of improvements? The 9th August.
381. How much time had elapsed in that case? Two days.
382. Then there is the case of William Dogherty;—what is the date of the forfeiture? 7th August.
383. What is the date of the application to purchase the land by virtue of improvements? 9th August.
384. What amount of time had elapsed? Two days.
385. The next is the case of Charles Miller;—what is the date of the forfeiture of that selection? 7th August.
386. And what is the date of the application to purchase it as an improvement purchase? The 9th August.
387. What was the lapse of time in that case? Two days.
388. There is another one, Fanny A. Carter;—what is the date of the forfeiture of that selection? 7th August, 1876.
389. What is the date of Ricketson’s application to purchase by virtue of improvements? 9th August.
390. What time had elapsed in that case? Two days.
391. There is another case a little further down, that of Thomas Adams;—when did that lapse? On the 20th July, 1878.
392. When was it applied for as an improvement purchase? On the 29th August.
393. Were those forfeitures published in the *Gazette*? Yes.
394. Is the *Gazette* published in Sydney? Yes.
395. How long would it take for the *Gazette* to reach Deniliquin? In those days it would take about two days and a half.
396. Is it reasonable to expect that when those forfeitures appeared in the *Gazette* several days had elapsed before Mr. Ricketson could see them? Yes, if he was living at Deniliquin; but still it was possible for him to know about them within half an hour, as he might receive the information by telegraph, or he might know a week beforehand that they were

- were going to be forfeited. I think I should mention that a number of these applications made by Mr. Ricketson were refused, and other applications were afterwards made, which were granted.
397. And some were sold by auction, and he became the purchaser? Yes; but a number of his improvement-purchase applications were refused.
398. Did those forfeited lands go into the lease for any considerable time, or were they almost immediately applied for to be purchased by virtue of improvements or sold by auction? Almost immediately most of them were applied for to be purchased by virtue of improvements.
399. And some were sold by auction? Yes.
400. And in such cases as these, would they be likely to go into the lease? I do not quite understand. They did fall into the lease the moment that the forfeiture took place.
401. But as there was only two days between the forfeiture and the application to purchase in virtue of improvements, would those forfeited selections go into the lease? Unquestionably, the moment that the forfeiture took effect.
402. How long? Until the land was sold.
403. Suppose that no rent was paid at all for the selections, would they form any part of the lease? Yes, they would still form part of the lease.
404. Without payment of rent? Yes; that is a matter for the Department to look after.
405. Can a man be a leaseholder without being charged for rent? I do not see why a lease should not be granted for a nominal consideration.
406. Has anything been paid? For the lease—yes; but for these lands I fear there has not.
407. As far as you know? As far as I know, rent was probably not paid for some of these selections, for a time at any rate.
408. *Mr. Robertson.*] You notice that the whole of the selections which you refer to were made under the Act of 1861? Yes.
409. And if in these cases these people whose names have been given were the vicarious selectors or dummies of Mr. Ricketson, I suppose you are not prepared to say that as far as the Crown knows Mr. Ricketson did not make the improvements on those selections? I do not know. He may have made them for all I know. It is only right to say that the appraisements were carried out every five years, and the lands that fell into the lease were not taken into account until the five-years term had expired.
410. *Mr. Alison.*] In those days the rent was so much a block? Yes.
411. *Chairman.*] Was this charged for in that way? That is conclusive when I point out that the rent in 1876, 1877, and 1878 amounted to £1 7s. 7½d. per section, showing that it must have been calculated at per block.
412. What became of those forfeited conditional purchases? They reverted to the pastoral lease in which they were situated.
413. And they were declared to be—what? They were declared by the Supreme Court to go to the pastoral tenant for the term of his lease. Mr. Ricketson was the registered holder, from and after the 12th February, 1874. The Australian Mortgage Land and Finance Company transferred to him on that date.

Friday, 5 July, 1889.

Present:—

MR. ALISON, | MR. HUGH TAYLOR.  
R. BARBOUR, Esq., in the Chair.

Thomas Robertson, Esq., Solicitor, appeared for Mr. Henry Ricketson.

Mr. Henry Ricketson called in, sworn and examined:—

414. *Chairman.*] You are the lessee of the Barratta Run? Yes.
415. *Mr. Robertson.*] In the return which has been placed before the Committee there is a selection that was made on the 20th November, 1873, by Fannie Barbour, conditional purchase No. 73, portion 3;—what has become of this conditional purchase? I applied for it under the 31st clause of the Act, and put on my own improvements, which were passed.
416. The 31st clause gave the lessee a right to apply for land in virtue of prospective improvements—improvements which it was intended to make afterwards? Yes.
417. You stated that you intended to make certain improvements on the land? Yes.
418. And did you make those improvements? I did.
419. Have you obtained a grant of the land? No, not yet.
420. Then there is a selection in the name of Margaret Barbour;—what became of that? It was taken up by Margaret Barbour, and then forfeited.
421. And what happened after that? I applied for it under the 31st section of the Act, but it was refused. I was informed that I could apply under the 2nd section, which I did. It has been granted since.
422. Between the time of the first and the second application you improved the land? Yes.
423. And you applied under the 2nd clause, which gives a right to purchase by virtue of improvements? Yes.
424. And your application was granted? Yes.
425. And you have the Crown grant for that land? I think so; I do not know.
426. You have paid up for it? Yes.
427. I now come to another selection—R. Barbour's, portion 23, parish of Ricketson;—what was the history of that conditional purchase? It was taken up by J. Pitty, parish of Ricketson.
428. What did Pitty do with it? It was forfeited, and I applied for it, and that was dealt with in the same way.
429. You first of all applied for it under the 31st clause, and the Government granted it under the 2nd? Yes.
430. And you have a Crown grant? I believe I have; I paid for one.
431. I come now to portion 14, parish of Ricketson, selected by S. P. Barbour, 320 acres;—what is the history of that? It was forfeited.
432. What did you do after that? I applied for it under the 2nd clause, and put on the necessary improvements.
433. Was it granted? No; it is not granted yet.
434. Another selection was taken up by Mary K. Barbour—portion 10, parish of Ricketson;—what is the history of that purchase? It was forfeited.
435. It was forfeited on the 7th August, 1876;—did you apply for it afterwards? I applied for it under the 31st clause, but my application was refused, and I was told that I could have it under the 2nd clause, and it was granted under the 2nd clause.
436. There was another selection made by Catherine Barbour on the 20th November, 1873,—portion 11, county of Ricketson? It was taken up at the same time. They were forfeited, and I got them under the 2nd clause, having first applied for them under the 31st clause.
437. Another selection is that of Leighton Barbour, portion 13, parish of Ricketson. It was taken up on the 20th November, 1873;—was that forfeited? Yes; and I took it up under the 31st clause and put on the improvements.
438. *Chairman.*] Has it been purchased? It has not been granted yet.
439. *Mr. Robertson.*] Another selection is that of R. Barbour, junior—portion 12;—was that forfeited? Yes; I applied for that under the 31st clause, but to neither of these have I got a title.
440. The whole of these selectors whose names you have mentioned are I believe children of the Chairman of the Committee, except J. Pitty? Yes, and he is his brother-in-law.
441. When these conditional purchases were forfeited, had they any improvements upon them; and if so, what was the nature of the improvements, and what became of them? There were no improvements that were any good except what I had put on the land myself. What I had put on I removed and put on new ones.
442. *Mr. Taylor.*] What improvements were on the land when the selection was forfeited? There was fencing of my own there, and there is fencing put on by the selector which is useless—it can neither keep stock in nor keep them out. It was fencing made of pine sticks 15 or 17 yards apart with corroded iron ruined by salt water. These formed a part of what Mr. Barbour called improvements. These improvements were sold to me by Mr. Barbour.
443. *Mr. Robertson.*] When you speak of improvements made on the selections by you, do you mean boundary fences or improvements that you have made before the land was selected? Improvements made by me before the selections were forfeited to keep my stock off Mr. Barbour's land.

444. Then they were boundary fences? Yes.
445. Will you say that you purchased these improvements from Mr. Barbour;—I presume you are referring to an award in the matter of arbitration between you, by which you were adjudged to pay? Yes.
446. What were you ordered to pay for these improvements? I objected to their going into the reference paper. I told Mr. Barbour that he could not get the land in virtue of them, but he said that if I would let them go into the reference paper he would get the Government to put the land so that I should have it at 30s. an acre. He said he could get the land for £1 an acre if I would allow it to go into the reference paper. The improvements were useless; they were all pine sticks, except a few gum posts, which belonged to me. He got them off my land, and some he took after they had been put into a pile on the run. Some were rejected posts of mine. Mr. Barbour had no business with them. Evidence on that point has been given by a man named Isaac Everett.
447. Under the award you were adjudicated to pay Mr. Barbour 10s. an acre for the improvements upon his forfeited selections? Yes, when a grant was procured from the Crown.
448. Did you succeed in getting that grant? Never.
449. And consequently the condition on which you were to pay that money was not fulfilled? No.
450. And you refused to pay it? I refused to pay it.
451. And the improvements were of no use to you? Of no use whatever.
452. Does not Mr. Barbour consider that he has a grievance because you have not paid this 10s. an acre? He assumes to have a grievance, but he knows well that the improvements were no good. On portion 14 there is a fence which is useless—a calf could run through it—the posts are only little pine sticks. He could not get any others about there, the selectors having taken them all.
453. Is it not on account of Mr. Barbour's supposed grievance as to your not paying this 10s. an acre for the improvements that this Committee is sitting here to-day? Yes, it is. He tried to sell me the land the day after he selected it. He did not tell me the exact words, but I put a witness in the box who said that Mr. Barbour had stated that if I did not buy him out he would make the land cost me £5 an acre.
454. What have you done in reference to getting these grants? I had to put on the proper improvements and get the grants under the 2nd or 31st clause.
455. Have you made the improvements required by the Act in addition to Mr. Barbour's improvements? Yes, I have.
456. You are giving the Committee to understand that the Government refused to grant a selection on Mr. Barbour's improvements? Yes; they would not allow anything for them. I had to put on my own improvements. Mr. Barbour was to have got the land from the Government before he could give me a title.
457. Did Mr. Barbour ever threaten you with Parliamentary action unless you satisfied his claim? Yes; he told me one time, in front of the Exchange, that if I gave him £150 we would be good friends.
458. What followed from that? I told him that I would do nothing of the kind—that his improvements were no good, and that he had not carried out what he stated he would in the reference paper. I had carried out my part of the award, but he had not carried out his part. He told me that if I did not do so he would get roads gazetted through my run.
459. At any rate you believe that this inquiry is a result of your refusing to satisfy Mr. Barbour's demands? Yes.
460. What happened the second time he spoke to you? It was in the "Exchange Hotel" that he saw me again, and he asked me if I was going to give him anything; he repeated almost exactly what he had said before, and wanted me to give him some money. I said that I would do nothing of the kind, and turned my back on him. I told him that if he talked to me like that again I would put him in the logs. To the best of my recollection that was a year ago last April or May.
461. *Mr. Taylor.*] If Mr. Barbour had carried out his agreement, what amount would you have had to pay him at 10s. an acre? If he had carried it out I should have had to pay him £700 or £800, and it would have saved me twice that amount, because I had to put on good improvements.
462. *Mr. Robertson.*] I have a letter here which I intend to put in as evidence—you have heard this letter read, and the copy which you have handed in,—is that a correct copy? Yes. [*Appendix B 1.*]
463. In reference to the improvements generally upon Barratta Run, how many men did you keep employed there at the time of the forfeiture of the selections? The number varied. Sometimes 150 men. At that time I had about 450 men in my employment, and about 150 were on the Barratta Run.
464. And your object was to be able to put on by an almost instantaneous process any amount of improvements? Yes; I could put £3,000 worth of improvements on in a day in the shape of iron houses.
465. As a matter of fact you put on a number of iron houses? Yes.
466. And you made application in virtue of them, and the Minister refused the application? Yes.
467. He would not recognise them as anything but temporary structures? No.
468. Almost all this land that you have already obtained grants for, have you obtained a grant of any land to which you were not legally entitled? Not any. I may mention with regard to No. 27, on which it is said I put the improvements in two days, that my overseer made the application. Mr. Barbour himself saw that. On the 13th September he was in the tank, and it was finished that morning. The selection was forfeited on the 7th August, and on the 12th or 13th September the tank was completed. There was a little hole before, about 150 yards. On the morning of the 13th I saw Mr. Barbour in the tank—there was then about 30 yards to come out. The next day he went and selected 170 acres, and took the tank in with it, which the morning before he saw I was putting down. This was fifteen or eighteen days after it was forfeited. Mr. Barbour knows that I put on the improvements, and that my improvements were added to the selection, and I had to pay for them again. That was portion 27. I saw Mr. Barbour in the tank, and he got up and ran through the fence, which was close to the boundary of the selection taken up by his daughter Margaret.
469. If Mr. Barbour offered to give the whole of the money that you have expended in improvements on the Barratta Run, and in paying the Government for the land, with interest for the time in which you so invested your capital, would you be glad to get that money back? I should be very glad to get it back—the improvements that I have put on the Barratta Run would come to £45,000 or £50,000. Besides paying for the land, I have put down 160 tanks on the Barratta Run, and some I put down on purchased land after I had bought it.
470. How much have you expended on improvements? I should say £45,000, and a great deal of the land I have bought at auction. I bought 10,000 acres one day without any tank on it, and I put tanks on that land too.
471. How much has the Barratta Run cost you altogether? For land and the improvements, reckoning bank interest up to the present date, I should think £200,000—with bank interest, up to £250,000 or £300,000—more than I could get for it, a great deal. Taking the bank interest, the amount would come close up to £300,000; and as regards the selections, Mr. Barbour knows about Mr. Kelly's selection. About 100 yards out of that a small tank was made to hold water for the men to do work. When Mr. Barbour left portion 6, he knew that there was a tank on George Kelly's selection. He knew that it was not finished, and there was not over 150 yards out, yet after that £150 or £200 was put down for that tank, and they have charged for it, although Mr. Barbour knows that it was put down after the selection was forfeited, and it was added to my price. Mr. Barbour selected portion 27. He was in there on the 13th, and I think that on the 14th he selected it in the name of Ramsbotham. He had a man of that name in his employment.
472. You again repeat that not one block of land have you acquired except in accordance with law? Not one. My overseers put in applications, and Government officers were sent to inspect the improvements; but they would not recognise iron houses, and they would not pass the improvements until tanks were put down.
473. I suppose that a great many of your applications were refused in the first instance? Yes, they were, and further applications were sent in. I knew very well that there were always officers sent down to inspect the lands immediately they were forfeited. When the selections were forfeited my improvements were put on. I had to put on improvements to keep my stock off Mr. Barbour's land. I was not going to let Mr. Barbour get the better of me at law. He was waiting for that. I fenced all round portion 10. He ran up a fence between my boundary and portion 9, but it was no good. I had to put up another fence 6 inches from it. When I did that Mr. Barbour took up that fence and put it in another place. He then sent his children out there for three weeks, and they cut up the fence and burnt it. I put up a new fence there again. Mr. Barbour knows all that. A man named Beady was teaching his children for three weeks out there.
474. *Chairman.*] Will you look at this schedule—there is a selection there in the name of F. W. Ricketson, taken up by Henry Ricketson as agent for him, 320 acres;—when was that selection taken up? I think some time in August.
475. What improvements did you put upon that selection? Improvements enough.
476. Did you put up stables for Cobb & Co.? Yes.
477. When did you put up the improvements mentioned in the schedule? I think the day after the house went on the land, and after it was forfeited.

478. Were those improvements put on whilst it was a conditional purchase? They were not.
479. You applied to purchase that on the 21st May, and it was forfeited on the 7th May? Yes.
480. Do you want the Committee to believe that between the 7th May and the 21st—fourteen days—you put up stables that cost £175, fencing that cost £160, and made a tank that cost £133? Yes.
481. Do you expect the Committee to believe that in fourteen days you made improvements amounting to £463? Yes.
482. Were those improvements put up after the 7th May, and before the 21st May? Yes; the improvements in virtue of which I got the land were put on after the forfeiture of the selections.
483. The stables for Cobb & Co. £175, the fencing £160, the tank £133;—did you put all these improvements on the land between the 7th and the 21st May, a period of fourteen days? I could not swear to the fourteen days, but the stables were put up the day after the forfeiture. I was always looking out for these things.
484. Again I ask, did you erect the whole of these improvements in fourteen days? Some may have been later than fourteen days. I think I was on there some days after putting up a fence, and some of the officers visited the place. It was a month after. The men had not finished all the fencing, but there was enough to take the land.
485. Did you put any of those improvements on before the 7th May—before the selection was gazetted forfeited? Not to my knowledge, I had the fencing round the margin of my selections, ready to be put up.
486. Did you not put up the improvements before the 7th May, 1877? No; I did not. If there was anything at all there it would be a little hole to hold the water.
487. There is a selection in the name of C. N. Ricketson, No. 8 parish of Ricketson, 320 acres;—was that a selection you took up in the name of one of your children? Yes, it was.
488. What improvements did you put on during the time it was a selection? There were some improvements on the land before it was a selection.
489. That is not an answer to the question;—what improvements did you put on during the time that it was a selection? I do not really know. My overseers were there; they made out the application, but another went in after. I know that the improvements were put on after. I do not remember much about it; but I know that there was a tank there before the land was selected, which I think you saw.
490. When Smith, the Inspector of Conditional Purchases, visited that selection on the 12th April, 1876, he reported that there was a hut valued at £15; fencing, £180; a tank, £100? That was some months before the selection was forfeited. It was forfeited on the 7th August, and his report is dated the 12th April, 1876.
491. I suppose that that report is true, is it not? I know that there was some tank marked out, and Mr. Smith asked if I was going to put a tank there, and I told him I was.
492. At the time Smith called, when you took him round, he reported that there was a hut, valued at £15; fencing valued at £180; a tank, at £100;—were these improvements there when he visited the selection? I do not remember it; it is a number of years ago. I do not know what value he put on the improvements. I know there were tanks put down after the land was forfeited, and you remember it too. You saw the men at work there.
493. Will you answer my question. Were there any improvements made on this selection whilst it was a selection? Yes; I daresay there was something in the way of a hut, but I think that was put on before it was selected.
494. I wish you would say yes or no? It is a thing I cannot recollect.
495. You can say you don't know? I will say what is correct.
496. You say that there was something put on the land before it was selected? If it was it was taken off again, and other improvements were made.
497. You say something was put on;—was that the hut which is valued at £15? I know there was a hut on it.
498. Was the fencing valued at £180? I cannot remember. All the ground was laid out with fencing.
499. If you are determined not to answer the question say so, and I will not ask you any more? You can ask whatever questions you like. The improvements that the land was taken under were put on after it was forfeited.
500. Were those improvements which I mentioned just now put on the selection whilst it was a selection? I think there is some exaggeration as to their value.
501. Who removed them? I do not know—some of the men.
502. Who instructed them;—they could not do it without your instructions? I could move my fencing where I liked.
503. Did they remove it against your instructions? Some of the men would do it under the directions of the overseer.
504. *Mr. Taylor.*] You have overseers? Yes.
505. They could give orders? Yes.
506. *Mr. Alison.*] They might act without your knowledge? Yes.
507. *Mr. Taylor.*] They have the power? Yes; they have power to make paddocks.
508. *Chairman.*] You mean that the improvements were moved either by your consent or by your authority? If I put up a fence I had a right to take it down. They certainly knew my fencing from anything you put up. Your fences were all pine sticks.
509. They removed the improvements then without your authority? I do not know anything about it. What you call improvements were no use at all; anyone could knock them down with his hands. There were seven horses in a paddock, and when they were running one of them struck your fence and knocked seven panels down. A two-year-old foal got entangled in the wire and broke off a dozen of them.
510. The next selection is in the name of M. A. G. Ricketson;—was that also one of your children? Yes.
511. That selection was subsequently forfeited, was it not? Yes; and there was a tank on it before it was selected.
512. Were the improvements on it put on it by you for your daughter whilst it was a selection? If they were put there there were others put on afterwards.
513. There is a hut £15, fencing £180, tank £150;—those were improvements that Inspector Smith found there? Yes; those are portions 8 and 9. To the best of my knowledge the hut was put on before it was made a selection.
514. And was the fencing put on whilst it was a selection? No; to the best of my knowledge there was a portion of it fenced, but the fencing did not remain there.
515. Was the tank put on whilst it was a selection? No; it was finished after it was forfeited. The tank had been commenced, but was not completed. Almost all the work was put on after the forfeiture; you would hardly call it a tank that was there before the forfeiture.
516. It is reported by Smith as having been there? Yes, but it went on before.
517. Were the tank and fencing put on the land whilst it was a selection? No; I do not say any such thing. There was some fencing on it, but it came off.
518. Who took it off? My men, I suppose.
519. By your instructions? I do not remember instructing them. I told them to put a new fence on, so that we could apply for the land under the 2nd clause.
520. *Mr. Alison.*] There was some fencing, some sort of a tank, and some sort of a hut, I suppose? Yes; when it was taken up there was some sort of a tank on it, and I think the hut was on it. I put on the improvements.
521. *Chairman.*] Further on there is another selection taken up by you as agent for J. Dogherty—No. 8, Banangalite;—what improvements did you put on whilst it was a selection? I think there was a very small tank.
522. That selection was forfeited on the 7th August, 1876? Yes. To the best of my knowledge there was a small tank, which was made into a large one.
523. Was that inspected by Smith on the 12th April? I do not know.
524. He says there was a hut valued at £15, a tank valued at £200, and a fence £78;—is that true or not? I do not know. I cannot say what was Mr. Smith's valuation. It was certainly not worth that, but it was made up to that.
525. You were with him on the 12th April, some six months before the thing happened, and this is his report, as shown by the papers? I know that the tanks were all made into large tanks after the land was forfeited.
526. From April to August is four months; before the land was forfeited Smith found those improvements on it;—is that true or false? When Mr. Smith saw those improvements he asked me if I intended to finish the tank, and I said yes.
527. A few months afterwards Mr. Finlay visited the selection and found fencing to the value of £120, a tank valued at £133, and a hut valued at £10;—is that true? Yes; it was going on when Mr. Finlay was there.
528. Were they there when he called? There was fencing going on then. If there was any fencing on it had not been completed. The old fencing had been removed. It ran up against your house.
529. You took up a selection as agent for William Liscombe? Yes.

530. Did you put any improvements on the land whilst it was a selection? That I cannot say. There were improvements put on after. The officers inspected the land two or three times, and would not allow for the iron houses, and tanks were put down to make it up.
531. That was forfeited on the 7th August, and Smith had reported on 12th April that there was a hut valued at £15 and fencing of the value of £135? There was fencing and a house, but the fencing is outside the line; it is not on Liscombe's land.
532. The next selection is A. W. Robertson's;—did you take that up as agent for Robertson? Very likely I did.
533. Did you put any improvements on that land whilst it was a selection? A small tank, I think, and a hut.
534. And some fencing? There may have been some fencing. There was some fencing around the margin of the selection.
535. That land was also forfeited on the 7th August, 1876? Yes.
536. And Smith visited the land on the 12th April and reported these improvements, which you say were a hut, fencing, and tank? There might have been a small tank on it. There was a larger tank put on it afterwards.
537. Was that after the 12th April, the time when Smith was there? It was made into a large tank after Smith had been there.
538. There was a tank there when Smith was there? I would not swear it. If Smith reports that there was it was only a small tank.
539. There is another selection in the name of D. Macpherson;—did you take up that land in the name of D. Macpherson? Yes.
540. What improvements did you put on whilst it was a selection? A hut and a little tank, and that was going on at the very time when you were on the selection.
541. Was there a fence? Not a complete fence. I had fencing there.
542. If Smith reported that there was fencing there, would he be telling the truth? Oh, there would be some fencing there, I daresay, but the same fencing is not there now.
543. *Mr. Robertson.*] And you have not got the land? No; but I have some fencing there.
544. Have you removed the fencing there? Decidedly. I have not one mile of my old fencing that was standing on the 7th August. It was all renewed, to the best of my knowledge.

CONDITIONAL PURCHASES MADE UPON BARRATTA RUN.

APPENDIX to Evidence of F. Griffin.

A 1.

C.P. or I.P. No.	Date.	Selector.	Name of Agent (if any).	Area.	Portion No.	Parish.	Inspectors' Reports, Date and value of Improvements, and Improvements claimed in I.P. application.	By whom Inquiry held, and date.	Fate of Application.	By whom Improvements valued in connection with I.P. application.	Date of Alienation, and Price per acre, and Usset Price at Auction.	Remarks, and amount added for Improvements.
C.P., 73-8167	7 Aug., 1873	H. J. Ricketson	F. W. Ricketson.	acres. 320	1	Banangalite.	Keele, 2 July, 1876—Fencing..... £140 0 0	Rose, 14 May, 1877	Lapsed, 7 May, 1877	.....	.....	This land was applied for by R. Barbour, 20 Nov., 1873. C.P. 73-12293. Void, 24 July, 1874.
I.P., 77-1066	28 May, 1877	Hy. Ricketson	.....	320	1	do	House, stable, fencing, tank ..... £320 0 0	.....	.....	Orr, 5 September, 1833— Wool-scouring ..... £180 0 0 Fencing ..... 172 7 0 Tank ..... 90 0 0 £442 7 0	Deed issued, 6 Nov., 1834; £15s. per acre.	
C.P., 73-8168	7 Aug., 1873	F. W. Ricketson	.....	240	2	do	Keele, 28 June, 1876— Bridge and house ..... £240 0 0	Rose, 14 May, 1877	Lapsed, 7 May, 1887	.....	.....	The land was applied for by Wm. Barbour, 20 Nov., 1873. C.P. 73-12292. Void, 24 July, 1874.
I.P., 77-1067	28 May, 1877	Hy. Ricketson	.....	240	2	do	House, fencing, tank ..... £240 0 0	.....	.....	Orr, 5 September, 1833— Fencing ..... £107 17 0 Tank ..... 94 10 0 Bridge ..... 60 0 0 £262 7 0	Deed issued, 6 Nov., 1834; £16s. per acre.	
C.P., 73-8440	14 Aug., 1873	F. W. Ricketson	Hy. Ricketson	320	10	Barratta.	Carne, 17 June, 1878— Stables for Cobb & Co. .... £175 0 0 Fencing ..... 100 0 0 Tank ..... 133 6 8	.....	Lapsed, 7 May, 1877	.....	.....	Deed issued, 22 May, 1882; £1 2s. 6d. per acre.
I.P., 77-1064	21 May, 1877	Hy. Ricketson	.....	320	10	do	House, tank, fencing ..... £320 0 0	.....	.....	Carne, 17 June, 1878— Stables ..... £175 0 0 Fencing ..... 100 0 0 Tank ..... 133 6 8 £408 6 8		
C.P., 73-8450	14 Aug., 1873	W. F. Ricketson	Hy. Ricketson	320	48	do	Carne, 17 June, 1878— Iron house ..... £100 0 0 Fencing ..... 100 0 0 Old hut ..... 5 0 0	.....	Lapsed, 7 May, 1877	.....	.....	Sold at auction, 2 Nov., 1888; upset price, £2 12s. 9d.
I.P., 77-1065	21 May, 1877	Hy. Ricketson	.....	320	48	do	House, fencing, &c. .... £320 0 0	.....	Refused	N. Paton, 24 June, 1878— Iron house ..... £100 0 0 Fencing ..... 140 0 0 £240 0 0		
C.P., 73-8161	14 Aug., 1873	C. N. Ricketson	Hy. Ricketson	320	8	Ricketson	Smith, 12 April, 1876— Hut ..... £15 0 0 Fencing ..... 180 0 0 Tank ..... 100 0 0	Johnson, 8 May, 1876	Forfeited, 7 Aug., 1876	.....	.....	Improvements sufficient to bar selection
C.P., 76-130	14 Sept., 1876	W. Dodemaide	.....	320	8	do	..... £295 0 0	.....	Void, 18 April, 1879	.....	.....	
I.P., 76-1737	9 Aug., 1876	H. Ricketson	.....	320	8	do	House, tank, post and wire fencing £350 0 0	.....	.....	Finley— Fence ..... £160 0 0 Tank ..... 150 0 0 Hut ..... 15 0 0 £325 0 0	Deed issued, 20 Aug., 1879; £1 per acre.	

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C.P. or I.P. No.	Date.	Selecter.	Name of Agent (if any).	Area.	Portion No.	Parish.	Inspectors' Reports, Date and value of Improvements, and Improvements claimed in I.P. application.	By whom Inquiry held, and date.	Fate of Application.	By whom Improvements valued in connection with I.P. application.	Date of Alienation, and Price per acre, and Unset Price at Auction.	Remarks, and amount added for Improvements.
C.P., 73-8462	14 Aug., 1873	Amy G. Ricketson	Hy. Ricketson	320 acres.	0	Ricketson	Smith, 12 April, 1876— Hut..... £15 0 0 Fencing..... 180 0 0 Tank..... 150 0 0 £345 0 0 Carne, 7 September, 1879— Hut..... £30 0 0 Dam..... 20 0 0 Fence..... 160 0 0 Tank..... 120 0 0 Iron hut..... 60 0 0 £390 0 0	Johnson, 8 May, 1876	Forfeited, 7 Aug., 1876			
I.P., 76-1733	9 Aug., 1876	Hy Ricketson	.....	240 (Part of por. 9)	61	do	House, tank, post and wire fencing £350 0 0			Landon, 15 June, 1831— Tank..... £22 0 0 Do..... 78 0 0 Fencing..... 160 0 0 Hut..... 40 0 0 £300 0 0	Deed issued, 30 July, 1833; £11s. per acre.	
C.P., 73-12231	20 Nov., 1873	Geo. Boyd	Hy. Ricketson	320	33	Billabong			Lapsed, 16 May, 1877		19 Dec., 1877; £30 lot.	
C.P., 73-12232	20 Nov., 1873	J. N. C. Orton	Hy. Ricketson	320	10	do	Carne, 12 October, 1878— House..... £100 0 0 Fencing..... 180 0 0 £280 0 0		Lapsed, 16 May, 1877			
I.P., 77-1383	14 June, 1877	Hy. Ricketson	.....	320	10	do	Hut, house, and fencing..... £320 0 0		Refused	Landon, 3 December, 1830— House..... £100 0 0 Fencing..... 105 0 0 Do..... 20 0 0 £225 0 0	7 Dec., 1831; £15s. per acre.	
C.P., 73-12239	20 Nov., 1873	Fredk. Gee	R. Barbour	320	6	Ricketson	Street, 24 December, 1874—Hut, iron roof..... Carne, 7 September, 1879— Fencing..... £85 0 0 Tank..... 20 0 4 Fencing..... 70 0 0 £125 0 4 Carne, 16 March, 1886— Fence..... £90 0 0 Tanks..... 300 0 0 £390 0 0		Lapsed, 16 May, 1867 Lapsed reversed, 27 Oct., 1877			
C.I.P., 77-1423		H. Ricketson	.....	320	6		House and tank (intended)		Refused		7 May, 1879; £15s. per acre.	
C.P., 73-12290	20 Nov., 1873	Samuel Tucker	R. Barbour	160	1	Ricketson	Keele, 2 July, 1876—Hut..... £5 0 0 Carne, 17 August, 1878— Tank..... £111 6 8 Hut..... 10 0 0 £121 6 8	Rose, 23 May, 1877	Lapsed, 16 May, 1877			
I.P., 77-1385	13 June, 1877	Henry Ricketson	.....	63½ (Part of por. 1.)	1	do	Tank and cottage..... £160 0 0			Landon, 24 June, 1831— Hut..... £20 0 0 Tank..... 98 16 0 £118 16 0	Deed issued, 18 Nov., 1834; £15s. per acre.	
C.P., 73-12291	20 Nov., 1873	Fanny Barbour	R. Barbour	320 now 158	3	Banangalite.	Carne, 10 July, 1880— Cottage..... £40 0 0 do..... 25 0 0 Shed, &c..... 24 0 0 Fencing..... 134 0 0 £223 0 0 Carne, 8 August, 1880— Shed, &c..... £24 0 0 Fencing..... 134 0 0 £158 0 0	Rose, 3 Sept., 1877	Forfeited, 19 March, 1878			



C.P. or I.P. No.	Date.	Selector.	Name of Agent (if any).	Area.	Portion No.	Parish.	Inspectors' Reports, Date and value of Improvements, and Improvements claimed in I.P. application.	By whom Inquiry held, and date.	Fate of Application.	By whom Improvements valued in connection with I.P. application.	Date of Alienation, and Price per acre, and Upset Price at Auction.	Remarks, and amount added for Improvements.
C.P., 73-12298	20 Nov., 1873	Mary K Barbour.	R. Barbour	acres. 320	10	Ricketson	Street, 24 December, 1874— Hut and fence ..... Burdett, 8 April, 1874—Hut..... £20 0 0 Carne, 9 August, 1880— By selector ..... 105 16 8 By lessee ..... 608 6 8	Johnson, 6 May, 1876	Forfeited, 7 Aug., 1876			
C.I.P., 76-893 I.P., 76-1745	9 Aug., 1876 9 Aug., 1876	Hy. Ricketson Do		640 320	10 & 11 10	do do	House, dams, tanks, fence ..... House, tank, fence ..... £320 0 0		Refused Refused	Finley, 27 November, 1876— Tank ..... £70 0 0 Hut..... 5 0 0 Fence..... 75 0 0 Excavation for tank ..... £150 0 0 187 10 0 £337 10 0		Not being within a block of 5 miles square.
C.P., 73-12269	20 Nov., 1873	Catherine J. Barbour.	R. Barbour	320	11	do	Smith, 12 April, 1876— Hut..... £15 0 0 Yard ..... 35 0 0 Buildings ..... 15 0 0 Fencing ..... 160 0 0 Carne, 9 August, 1880— By selector ..... 145 0 0 By lessee ..... 881 13 4	Johnson, 5 May, 1876	Forfeited, 7 Aug., 1876			
I.P., 76-1746	9 Aug., 1876	Hy. Ricketson		320	11	do	House, post and wire fence, and tank ..... 350 0 0		Refused	Finley, 27 October, 1876— Fence ..... £150 0 0 Shed, &c. .... 80 0 0 Hut..... 5 0 0 £235 0 0		
I.P., 77-172	5 Feb., 1877	Do		640	10 & 11		Two tanks and dam..... £475 0 0			Rigaut, 29 March, 1877— Tank ..... 460 7 6 Dam ..... 20 0 0 Tank ..... 166 14 0 Cottage ..... 70 0 0 £707 1 6	Deed issued, 1 June, 1880; £1 per acre.	
I.P., 77-338 I.P., 77-334 C.P., 73-12300	19 Feb., 1877 19 Feb., 1877 20 Nov., 1873	Wm. Dodemaine. J. Ramsbottom Leighton Barbour		320 320 320	11 10 13		Huts, woolshed, yards, fence .... £320 0 0 Carne, 10 August, 1880— Tank ..... £500 0 0 Fence (lessee) ..... 40 0 0 £540 0 0		Refused do Forfeited, 4 Sept. and 1 Nov., 1877			
C.P., 73-12301	20 Nov., 1873	R. Barbour, junr	do	320	12	do	Burdett, 25 March, 1874—Hut .... £7 0 0 Keele, 2 July, 1876— Cottage ..... £80 0 0 Tank ..... 35 0 0 £115 0 0 Carne, 10 August, 1880— Tanks ..... 58 6 8 Fence ..... 160 0 0 House..... 160 0 0 £378 6 8	Rose, 3 and 6 Sept., 1877	do do			
C.I.P., 77-1391 C.I.P., 78-1599	28 May, 1877 19 Mar., 1878	Hy. Ricketson Do		320 640	12 12 & 13	do do	Fencing, tank-house ..... Tank-house, fencing .....		Refused			
C.P., 73-12524	27 Nov., 1873	J. Dougharty	H. Ricketson.	238½	8	Banangn-lite.	Smith, 12 April, 1876— Hut..... £15 0 0 Tank ..... 200 0 0 Fence..... 78 0 0 £293 0 0	Johnson, 8 May, 1876	Forfeited, 7 Aug., 1876			

C.P. or I.P. No.	Date.	Selector.	Name of Agent (if any).	Area.	Portion No.	Parish.	Inspectors' Reports, Date and value of Improvements, and Improvements claimed in I.P. application.	By whom Inquiry held, and date.	Fate of Application.	By whom Improvements valued in connection with I.P. application.	Date of Alienation, and Price per acre, and Upset Price at Auction.	Remarks, and amount added for Improvements.
I.P., 76-1740	9 Aug., 1876	Hy. Ricketson	.....	acres. 238½	3	Banangalite.	House, post and wire fence, and tank ..... £340 0 0	.....	.....	Finley, 27 October, 1876— Fencing ..... £120 0 0 Tank ..... 133 6 8 Hut ..... 10 0 0 £263 6 8	Deed issued, 1 November, 1878; £1 per acre.	
C.P., 73-12525	27 Nov., 1873	J. Dougharty	H. Ricketson	8½	29	Ricketson	Smith, 12 April, 1876 ..... Nil.	Johnson, 8 May, 1876	Forfeited, 7 Aug., 1876	.....	22 Nov., 1876; £1 per acre.	
C.P., 73-12526	27 Nov., 1873	J. Kelly	do	238½	7	Banangalite.	Smith, 12 April, 1876— Hut ..... £15 0 0 Posts ..... 78 0 0 £93 0 0	do do	do do	.....	29 Nov., 1876; £331 lot.	
C.P., 73-12527	27 Nov., 1873	Do	do	8½	30	Ricketson	Smith, 12 April, 1876 ..... Nil.	do do	do do	.....	22 Nov., 1876; £1 per acre.	
C.P., 73-12528	27 Nov., 1873	Geo. Kelly	do	320	11	Banangalite.	Smith, 13 April, 1876— Hut ..... £25 0 0 Tank ..... 200 0 0 Fence ..... 90 0 0 £315 0 0	do do	do do	.....	29 Nov., 1876; £635 lot.	
C.P., 73-12529	27 Nov., 1873	Wm. Lascombe	do	320	23	Ricketson	Carne, 17 June, 1878— Tank ..... £246 13 0 Fence ..... 80 0 0 £326 13 0 Smith, 12 April, 1876— Hut ..... £15 0 0 Fencing ..... 135 0 0 £150 0 0	Johnson, 8 May, 1876	do do	.....		
I.P., 76-1749	9 Aug., 1876	H. Ricketson	.....	320	28	do	House, post and wire fencing, and tank ..... £340 0 0	.....	Refused	Finley, 27 October, 1876— Tank ..... £156 5 0 Fence ..... 40 0 0 House ..... 100 0 0 Hut ..... 5 0 0 £301 5 0	8 March, 1882; £1 14s. 0d. per acre.	£156 5s. added for tank
I.P., 77-246	8 Feb., 1877	Do	.....	320	23	do	House, tank, fencing ..... £400 0 0	.....	do	.....		
C.P., 73-12530	27 Nov., 1873	A. W. Robertson	Hy. Ricketson	320	32	do	Smith, 12 April, 1876— Hut ..... £25 0 0 Fence ..... 90 0 0 Tank ..... 200 0 0 £315 0 0	Johnson, 8 May, 1876	Forfeited, 7 Aug., 1876	.....		
I.P., 76-1748	9 Aug., 1876	Hy. Ricketson	.....	320	32	.....	House and tank ..... £350 0 0	.....	Refused	Finley, 27 October, 1876— House ..... £160 0 0 Tank ..... 143 15 0 Hut ..... 17 0 0 £320 15 0		
I.P., 77-289	8 Feb., 1877	Do	Hoskins and Blomfield.	320	32	Ricketson	House, tank, hut ..... £350 0 0	.....	.....	Rignaut— Tank ..... £195 0 0 House ..... 120 0 0 Hut ..... 10 0 0 £325 0 0	Deed issued, 10 Feb., 1879; £1 per acre.	
C.P., 73-12531	27 Nov., 1873	D. McPherson	Hy. Ricketson	320	25	do	Smith, 12 April, 1876— Hut ..... £25 0 0 Fence ..... 180 0 0 £205 0 0 Carne, 17 June, 1878— Fence ..... £160 0 0 Tank ..... 180 0 0 £340 0 0	Johnson, 8 May, 1876	Forfeited, 7 Aug., 1876	.....		
I.P., 76-1743	9 Aug., 1876	H. Ricketson	.....	320	25	.....	House, tank, fencing ..... £350 0 0	.....	Refused	Finley, 27 October, 1876— Tank ..... £140 10 0 Hut ..... 15 0 0 Fence ..... 120 0 0 £275 10 0		

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I.P., 77-244 C.P., 73-12532	8 Feb., 1877 27 Nov., 1873	H. Ricketson John Catto	..... H. Ricketson	acres. 320	25 27	Ricketson do	House, tank, fencing ..... £320 0 0 Smith, 12 April, 1876— Hut ..... £15 0 0 Tank ..... 200 0 0 Fence ..... 90 0 0 £305 0 0 Carne, 17 June, 1878— House ..... £160 0 0 Tank ..... 140 0 0 Fence ..... 80 0 0 £380 0 0	..... Johnson, 8 May, 1876	Refused ..... Forfeited, 7 Aug., 1876	..... .....	..... .....	..... .....
C.P., 76-131 I.P., 76-1793	14 Sept., 1876 10 Aug., 1876	J. Ramsbottom Hy. Ricketson	..... .....	175 320	..... 27	do do	..... Tank, post and wire fence, and house £350 0 0	.....	Void, 31 Aug., 1877 Refused, 15 Jan., 1877	..... Finley, 1 November, 1876— House ..... £160 0 0 Tank ..... 143 15 0 Hut ..... 5 0 0 Fence ..... 40 0 0 £348 15 0	13 April, 1881, £1 18s. 4d. per acre.	13s. 4d. per acre.
I.P., 77-246	8 Feb., 1877	Do	.....	320	27	do	House, tank, fence ..... £350 0 0	.....	Refused, 9 April, 1879	Rigaut, 3 April, 1877— Tank ..... £174 13 0 Fence ..... 75 0 0 House ..... 120 0 0 Hut ..... 10 0 0 £379 13 0	.....	.....
C.P., 73-12533	27 Nov., 1873	A. Kelly	H. Ricketson	320	33	do	Keale, 26 June, 1876—Hut ..... £5 0 0 Carne, 17 June, 1878— Hut ..... £25 0 0 Tanks ..... 240 0 0 Fence ..... 60 0 0 £325 0 0 £320 0 0	Rose, 23 May, 1877	Lapsed, 16 May, 1877	.....	.....	.....
I.P., 77-1337	14 June, 1877	H. Ricketson	.....	320	33	do	Tanks, hut, fencing ..... £320 0 0	.....	.....	Landon, December, 1880— Tank ..... £107 0 0 " ..... 169 0 0 Fence ..... 27 0 0 £303 0 0	Deed issued, 2 July, 1883, £15s. per acre.	.....
C.P., 73-12534 I.P., 76-1747	27 Nov., 1873 9 Aug., 1876	Guy Dougharty H. Ricketson	H. Ricketson .....	320	15 15	do do	Smith, 12 April, 1876— Hut ..... £25 0 0 Fence ..... 100 0 0 £125 0 0 £360 0 0	Johnson, 8 May, 1876	Forfeited, 7 Aug., 1876 Refused	..... Orr, 11 July, 1882— Tanks, fencing, and hut ..... £320 15 3 ..... Finley, 27 October, 1876— Fence ..... £52 10 0 Tank ..... 43 3 9 House ..... 100 0 0 £275 18 9	.....	.....
I.P., 77-240	8 Feb., 1877	Do	Hoskins & Blomfield.	320	15	do	House, tank, fence ..... £345 0 0	.....	.....	Rigaut, 3 April, 1877— Fence ..... £112 10 0 House ..... 120 0 0 Hut ..... 10 0 0 Tank ..... 82 10 0 £325 0 0	Deed issued, 10 Feb., 1879, £1 per acre.	.....
C.P., 73-12535	27 Nov., 1873	Wm. Dougharty	H. Ricketson	320	9	Bananga- litc.	Smith, 12 April, 1876— Hut ..... £25 0 0 Posts ..... 35 0 0 Tank ..... 150 0 0 £190 0 0	Johnson, 8 May, 1876	Forfeited, 7 Aug., 1876	.....	.....	.....

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I.P., 76-1736	9 Aug., 1876	H. Ricketson		acres 320	9	Banangalite.	House, post and wire fencing, and tank ..... £250 0 0			Finley, 27 October, 1876— Fence ..... £30 0 0 Tank ..... 137 13 9 Hut ..... 15 0 0 £232 13 9	Deed issued, 5 Feb., 1883; £1 per acre.	
C.P., 73-12330	27 Nov., 1873	D. M'Alister		320	6	do		Johnson, 8 May, 1876	Forfeited, 7 Aug., 1876			
I.P., 76-1792	10 Aug., 1876	Hy. Ricketson		320	6	do	House, hut, fencing, bridge ..... £330 0 0					
I.P., 77-173	5 Feb., 1877	Do	Hoskins & Blomfield.	320	6	do	House and fencing ..... £350 0 0			Rigaut, 3 April, 1877— Fencing ..... £157 10 0 House ..... 120 0 0 Bridge ..... 46 0 0 Fencing ..... 75 0 0 £398 10 0	Deed issued, 10 Dec., 1879; £11s. per acre.	
C.P., 73-12338	27 Nov., 1873	R. Reeves	H. Ricketson	320	1	Stannaforth.	Keele, 2 July, 1876— Hut, fencing, and dams ..... £300 0 0	Rose, 22 May, 1877	Lapsed, 16 May, 1877			
I.P., 77-1381	13 June, 1877	Hy. Ricketson		320	1	do	Tank, house, fencing, dam ..... £320 0 0		Refused			
C.P., 73-12330	27 Nov., 1873	Chas. Mullen	H. Ricketson	320	20	Ricketson	Smith, 12 April, 1876— Hut ..... £25 0 0 Tank ..... 200 0 0 £225 0 0	Johnson, 8 May, 1876	Forfeited, 7 Aug., 1876			
I.P., 76-1742	9 Aug., 1876	Hy Ricketson		320	20	do	House and large tank ..... £350 0 0		Refused	Finley, 27 October, 1876— Tank ..... £200 0 0 House ..... 60 0 0 Hut ..... 10 0 0 £260 0 0		
I.P., 77-241	3 Feb., 1877	Do	Hoskins & Blomfield.	320	20	do	House and large tank ..... £350 0 0			Rigaut, 3 April, 1877— House ..... £70 0 0 Hut ..... 10 0 0 Tank ..... 241 2 0 £321 2 0	Deed issued, 10 Feb., 1879; £1 per acre.	
C.P., 73-12340	27 Nov., 1873	Geo. Calvert	H. Ricketson	320	5	Stannaforth.	Keele, 2 July, 1876—Hut ..... £5 0 0	Rose, 23 May, 1877	Lapsed, 19 May, 1877			
I.P., 77-1835	14 July, 1877	H. Ricketson		320	5	do	Tank and hut ..... £320 0 0			Rebello (see office memo.)—Tank .. £350 0 0	Deed issued, 12 Dec., 1881; £1 per acre	
C.P., 73-12351	4 Dec., 1873	Thos. Pike	H. Ricketson	320	3	do	Keele, 2 July, 1876—Hut ..... £5 0 0	Rose, 23 May, 1877	Lapsed, 16 May, 1877			26 Sept., 1877; £325 lot.
C.P., 73-12352	4 Dec., 1873	Jane Reeves	do	320	6	do	Keele, 26 June, 1876—Hut ..... £5 0 0	Rose, 23 May, 1877	Lapsed, 16 May, 1877			
I.P., 77-1837	14 July, 1877	Hy. Ricketson		240 Part of 320	6	do	Large hut, tank, and dam ..... £320 0 0			Orr, 3 April, 1834— Tank ..... £110 0 0 House ..... 200 0 0 Tank ..... 134 2 6 £444 2 6	Deed issued, 19 Feb., 1836; £1 5s. per acre.	
C.P., 73-12353	4 Dec., 1873	Hy. Liscombe	H. Ricketson	320	7	do	Keele, 26 June, 1876—Nil	Rose, 23 May, 1877	Lapsed, 16 May, 1877			
I.P., 77-1234	8 June, 1877	Hy. Ricketson		235 Part of por. 7	34	do	Tank and fencing ..... £320 0 0			London, 4 December, 1830— Tank ..... £188 0 0 Fence ..... 47 0 0 £235 0 0	Deed issued, 10 Feb., 1836; £1 5s. per acre.	
C.P., 73-12354	4 Dec., 1873	R. Grant	H. Ricketson	320	18	Ricketson	Street, 19 Dec., 1874—Hut and dam		Lapsed, 19 May, 1877			

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I.P., 77-1282	7 June, 1877	H. Ricketson	H. Ricketson	acres. 320	18	Ricketson	Sheep-yards, fencing, tank, dam, and hut..... £320 0 0	.....	.....	Landon, 3 December, 1880— Sheep-yards ..... £100 0 0 Iron huts ..... 70 0 0 Tank ..... 44 0 0 Dam ..... 15 0 0 Fencing ..... 110 0 0 £339 0 0	Deed issued, 30 Oct., 1882; £1 5s. per acre.		
C.P., 73-12855	4 Dec., 1878	Alicc Reeves	do	320	21	do	Keele, 20 June, 1876—Hut and tank £107 15 0 Carne, 17 June, 1878— Tank ..... £266 13 4 Fence ..... 40 0 0 Hut ..... 20 0 0 £320 18 4 £350 0 0	Rose, 23 May, 1877	Lapsed, 16 May, 1877	.....	.....		
I.P., 77-242	8 Feb., 1877	H. Ricketson	Hoskins and Roomfield.	320	21	do	Large tank, fencing ..... £350 0 0	.....	Refused	Rigaut, 3 April, 1877— Tank ..... £209 2 0 Hut ..... 10 0 0 Fence ..... 13 15 0 £227 17 0	27 July, 1881; £2 5s. 6d. per acre.	£1 0s. 6d. per acre.	
C.P., 73-12856	4 Dec., 1878	R. Reeves	H. Ricketson	320	10	Banangalite.	Smith, 12 April, 1876— Hut ..... £30 0 0 Posts ..... 35 0 0 Tank ..... 140 0 0 £205 0 0	Johnson, 8 May, 1876	Forfeited, 7 Aug., 1876	.....	.....	29 Nov., 1876; £525 lot.	£205.
C.P., 73-12857	4 Dec., 1878	J. Wills	do	320	17	Ricketson	Street, 19 Dec., 1874—Small hut ..... £205 0 0	.....	Lapsed, 16 May, 1877	.....	.....		
I.P., 77-1280	9 June, 1877	H. Ricketson	.....	320	17	.....	Tank, dam, fencing, house, and hut £320 0 0	.....	.....	Landon, 3 Dec., 1880— Tanks ..... £227 0 0 Dam ..... 100 0 0 Iron hut ..... 60 0 0 Fence ..... 55 0 0 £542 0 0	Deed issued, 30 Sept., 1884; £1 per acre.		
C.P., 73-12858	4 Dec., 1878	Selma Emery	H. Ricketson	320	16	Ricketson	Keele, 10 June, 1876— House ..... £200 0 0 Tank ..... 150 0 0 £350 0 0 £320 0 0	Rose, 14 May, 1877	Lapsed, 16 May, 1877	.....	.....		
I.P., 77-1281	9 June, 1877	H. Ricketson	.....	290 Part of 320	16	do	Tanks, house, and fencing ..... £320 0 0	.....	.....	Landon, 3 Dec., 1880— Tanks ..... £212 0 0 Fence ..... 80 0 0 Iron hut ..... 60 0 0 £352 0 0	Deed issued, 2 Dec., 1884; £1 per acre.		
C.P., 73-12859	4 Dec., 1878	D. Sheehan	H. Ricketson	320	19	do	Keele, 20 June, 1876— Hut ..... £5 0 0 Tank ..... 175 0 0 £180 0 0 £320 0 0	Rose, 23 May, 1877	Lapsed, 16 May, 1877	.....	.....		
I.P., 77-1283	8 June, 1877	H. Ricketson	.....	320	19	do	Tank, house, hut ..... £320 0 0	.....	Refused	Landon, 2 Dec., 1880— Tank ..... £167 0 0 Fence ..... 13 0 0 Hut ..... 40 0 0 £220 0 0	27 Sept., 1882; £1 5s. per acre.		
C.P., 73-12860	4 Dec., 1878	E. Denbigh	H. Ricketson	320	15	Barrattia	Keele, 2 July, 1876—Nil ..... Carne, 17 June, 1878— House ..... £100 0 0 Tank ..... 173 6 8 £333 6 8 £320 0 0	Rose, 23 May, 1877	Lapsed, 16 May, 1877	.....	.....		
I.P., 77-1382	14 June, 1877	H. Ricketson	.....	320	15	do	Tank, house, fencing ..... £320 0 0	.....	.....	Rebello, 24 Nov., 1879— Tank ..... £231 5 0 Fence ..... 45 0 0 House ..... 75 0 0 £351 5 0	Deed issued, 8 Aug., 1881; £1 per acre.		

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C.P., 73-12861 C.P., 75-299	4 Dec., 1873 22 April, 1875	Jas. Allen Do	H. Ricketson do	acres 320 320	25 25	Banangan-lite. do	Street, 19 December, 1874—Hut Carne, 13 October, 1878— Hut ..... £40 0 0 Fence ..... 225 0 0 Bridge ..... 65 0 0 Cutting burrs ..... 7 0 0		Forfeited, 6 May, 1875 Lapsed, 8 Jan., 1879			} This land was sold as an annual lease, 2 Jan., 1880, to Hy. Ricketson.
C.P., 78-12862 I.P., 77-243	4 Dec., 1873 8 Feb., 1877	J. R. Reeves H. Ricketson	H. Ricketson Hoskins and Blomfield.	320 320	22 22	Ricketson do	Keele, 2 July, 1876—Hut and fence £337 0 0 £110 0 0 House, tank, fence ..... £350 0 0	Rose, 23 May, 1877	Lapsed, 16 May, 1877 Refused	Rigaut, 3 April, 1877— Fence ..... £75 0 0 Tank ..... 142 10 0 House ..... 120 0 0 £337 10 0	25 Jan., 1882; £1 5s. per acre.	
I.P., 77-1386 C.P., 73-12963	14 June, 1877 4 Dec., 1873	Do Fanny A. Carter.	H. Ricketson	320 226½	22 17	do Barratta	Fencing, house, tank ..... £320 0 0 Smith, 13 April, 1876—Hut ..... £15 0 0 Fencing ..... 101 0 0	Johnson, 8 May, 1876	do Forfeited, 7 Aug., 1876			
I.P., 76-1744	9 Aug., 1876	H. Ricketson		226½	17	do	Tank, post and wire fence, house, &c. .... £116 0 0 £350 0 0		Refused	Finley, 27 October, 1876— Tank ..... £62 10 0 House ..... 160 0 0 Fence ..... 22 10 0 £245 0 0		
I.P., 77-293	8 Feb., 1877	Do	Hoskins and Blomfield.	226½	17	do	House, tank, fencing ..... £330 0 0			Rigaut, 3 April, 1877— Tank ..... £110 9 0 Fence ..... 30 0 0 House ..... 120 0 0 £260 9 0	Deed issued, 10 Feb., 1879	
C.P., 73-12867 C.P., 73-12875 C.P., 75-201	4 Dec., 1873 4 Dec., 1873 22 April, 1875	Mary Kelly Do Do	H. Ricketson do do	200 120 200	16 17 16	Banangan-lite. do do	Carne, 7 December, 1877—Hut ..... £50 0 0 Tank ..... *100 0 0 Fencing ..... *180 0 0	Rose, 29 June, 1878	Forfeited, 6 April, 1875 do Forfeited, 2 Sept., 1878			*Note.—Tank and fencing on part 17.
I.P., 76-1103 I.P., 77-170	27 June, 1876 5 Feb., 1877	H. Ricketson Do	Hoskins and Blomfield.	320 now 200 120	16 17	do do	Tank, fencing, house ..... £330 0 0 £400 0 0 Tank, fencing, house ..... £400 0 0			Rigaut, 3 April 1877— Fence ..... £20 0 0 House ..... 70 0 0 Hut ..... 10 0 0 Tank ..... 211 16 0 Dam ..... 10 0 0 Fence ..... 105 0 0 £426 16 0	Deed issued, 14 Aug., 1882; £1 per acre. Deed issued, 18 Sept., 1882; £1 per acre.	
C.P., 73-12868 I.P., 74-2229	4 Dec., 1873 1 April, 1874	Margaret Nolan H. Ricketson	John Nolan	320 320	5 5	do do	Cancelled, vide 74-7946 Alm. Iron cottage ..... £320 0 0			Folkes, 26 July, 1876— Iron house ..... £180 0 0 Tank and dam ..... 140 0 0 £320 0 0	Deed issued, 5 April, 1880; £1 1s. per acre.	
C.P., 75-63	4 Feb., 1875	Wm. Chapman	R. Boyd	320	5	do	L. S. Folkes, 26 July, 1876— House ..... £180 0 0 Tank, &c. .... 140 0 0 £320 0 0		Void, 3 Sept., 1877			Contains improvements.
C.P., 73-12877 C.P., 75-260	4 Dec., 1873 22 April, 1875	Ann James Do	H. Ricketson	320 320	14 14	do do	Street, 19 December, 1874—Iron hut		Forfeited, 6 April, 1875 Lapsed, 5 July, 1881			

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I.P., 76-1739	0 Aug., 1876	H. Ricketson		acres. 320	14	Banangalite.	House, tank, post and wire fencing £860 0 0		Refused	Finlay, 27 October, 1876— Fencing ..... £115 0 0 Tank ..... 218 15 0 Hut..... 4 0 0 £337 15 0			
I.P., 77-238	3 Feb., 1877	Do	Hoskins and Bloomfield	320	14	do	Tanks and fencing ..... £380 0 0		do	Rignut, 8 April, 1877— Tank ..... £282 6 0 " ..... 37 10 0 Fencing ..... 82 0 0 £401 16 0			
C.P., 73-13062	11 Dec., 1873	W. Liscombe	C. Mullen	320	13	do	Street, 19 December, 1874— Small hut .....		Forfeited, 6 April, 1875.				
C.P., 75-258	22 April, 1875	Do	H. Ricketson	320	13	do	Carne, 18 June, 1875— Iron hut .....		Lapsed, 10 Oct., 1878.				
I.P., 79-1929	2 Oct., 1879	H. Ricketson	A. M. L. & F. Co.	320	13	do	Tanks ..... £320 0 0			London, 15 January, 1880— Tank ..... £220 0 0 " ..... 100 0 0 £320 0 0	Deed issued, 10 Dec., 1883; £1 per acre.		
C.P., 73-13063	11 Dec., 1873	H. Cole	C. Mullen	100	40	do	Carne, 18 June, 1878— Hut ..... £40 0 0		Lapsed, 16 May, 1877.				
I.P., 77-1255		H. Ricketson		100	40	do							
C.P., 74-3049	12 Mar., 1874	J. H. Bennett.	C. Mullen	320	53	Hobden	Carne, 17 June, 1878—Nil .....		Lapsed, 9 Oct., 1877.			16 Oct., 1878; £1 5s per acre.	
C.P., 74-3050	12 Mar., 1874	W. H. Greaves	do	320	54	do	Carne, 17 June, 1878— Tank ..... £226 13 4 Fence ..... 80 0 0 £306 13 4						
I.P., 84-12	19 May, 1884	H. Ricketson	A. M. L. & F. Co.	Part of 320	71	do	Tank ..... £190 10 0					Deed issued, 31 Feb., 1884. £1 5s. per acre.	
C.P., 74-4071	30 April, 1874	J. Caldwell	H. Ricketson	150	37	Barratta			Lapsed, 16 Feb., 1878.				
C.P., 74-4972	30 April, 1874	Jas. Holmes	do	100	33	do	Carne, 13 October, 1878—Nil .....		Lapsed, 8 Jan., 1879.			29 Sept., 1880; £1 5s. per acre.	
C.P., 74-4994	30 April, 1874	W. Holmes	do	80	34	Billabong	Carne, 12 October, 1878—Nil .....		Lapsed, 16 Feb., 1878.			5 Jan., 1881; £1 5s per acre	
C.P., 74-4995	30 April, 1874	F. Hyde	do	80	9	do	Carne, 12 October, 1878—Nil .....		do			5 Jan., 1881; £1 5s. per acre	
C.P., 74-5308	21 May, 1874	John Horne	do	120	5	Kirrahirri			do				
C.P., 74-5800	21 May, 1874	D. Caldwell	do	120	6	do	Carne, 12 October, 1878—Nil .....		do			9 April, 1879 ..	Withdrawn
C.P., 74-5810	21 May, 1874	J. Boyd	do	150	45	Billabong	Carne, 12 October, 1878—Tank. ... £120 0 0		do			28 May, 1879; £2 1s. per acre.	16s. per acre.
C.P., 74-6283	28 May, 1874	J. Horne		120	26	Banangalite	Carne, 12 October, 1878—Nil .....		do				
C.P., 74-14723	5 Nov., 1874	Thos. Adams	R. C. Boyd	320	11	Billabong	Carne, 12 October, 1878— Iron cottage ..... £80 0 0 Building ..... 140 0 0 Fencing ..... 200 0 0 £420 0 0		Lapsed, 20 July, 1878.				
I.P., 78-2084	29 Aug., 1878	H. Ricketson		130	11	do	House and fencing ..... £320 0 0			Rebello, 7 February, 1880— House ..... £80 0 0 Iron building ..... 60 0 0 Fence ..... 200 0 0 £340 0 0	Deed issued, 18 Nov., 1884; £1 per acre.	Applied for as 320 acres.	
I.P., 83-2	9 Jan., 1883	Do		61	67	do	Fencing ..... £41 0 0		Refused*				*Refused, as the wires had been drawn from fence. Now freehold.
C.P., 74-12724	5 Nov., 1874	Fatey Adams	R. C. Boyd	139 320	66 31	Billabong	Carne, 12 October, 1878— Cottage ..... £70 0 0 Fencing ..... 270 0 0 £340 0 0		Lapsed, 20 July, 1878.				

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I.P., 78-2083	20 Aug., 1878	H. Ricketson		100 (Part of 320 ac)	31	Billabong	House and fencing . . . . . £320 0 0			Rebello, 7 February, 1880— Fencing . . . . . £270 0 0 House . . . . . 70 0 0 £340 0 0	Deed issued, 2 Dec., 1884; £1 5s. per acre.	Applied for as 320 acres.
I.P., 83-3	9 Jan., 1888	Do	A. M. L. & F.	71 (Part of 320 ac)	69	do	Fencing . . . . . £71 0 0			Callaghan, 31 August, 1883—Fence £70 10 0	Deed issued, 10 Feb., 1886; £1 5s. per acre.	Now an auction purchase.
C.P., 74-12725	5 Nov., 1874	R. Bowie		149 320	68 12	do	Carne, 12 October, 1878—Tank . . £246 13 4 Dam . . . . . 40 0 0 Fence . . . . . 67 10 0 £354 8 4		Lapsed, 20 July, 1878			
I.P., 78-2082	2 Sept., 1878	H. Ricketson	R. C. Boyd	320	12	do	Large tank and dam . . . . . £320 0 0			Rebello, 7 February, 1880— House . . . . . £150 0 0 Piggery . . . . . 10 0 0 Shed . . . . . 10 0 0 Well . . . . . 25 0 0 Garden . . . . . 26 0 0 Yard . . . . . 20 0 0 Tank . . . . . 281 5 0 Fence . . . . . 67 10 0 £618 15 0	Deed prepared, 12 Dec., 1881; £1 per acre.	
C.P., 75-12	12 Jan., 1875	Geo. Friday	R. C. Boyd	40	30	Banangalite.	Carne, 7 December, 1877—Hut . . £5 0 0 Fence . . . . . 45 0 0 £50 0 0	Rose, 3 Sept., 1878	Lapsed, 10 Oct., 1878		27 Dec., 1878; £2 10s. per ac.	
C.P., 75-92	11 Feb., 1875	Jas. McKay	H. Ricketson	320	27	Barratta.	Carne, 8 September, 1879—Nil . . . . .		do		7 April, 1880; £1 5s. per acre.	
C.P., 75-99	18 Feb., 1875	Solomon Hewer	R. C. Boyd	320	24	Kirrabirri	Carne, 12 October, 1878—Nil . . . . .		do			
I.P., 78-3310	30 Dec., 1878	H. Ricketson	A. M. L. & F. Co.	53 (Part of 320 ac)	38		Tank, dam, house . . . . . £320 0 0			Dawson, 11 Feb., 1880—Tank . . £58 0 0	Deed issued, 25 July, 1884; £1 per acre	Applied for as 320 acres.
C.P., 75-100	18 Feb., 1875	John Klemm	R. C. Boyd	320	1	Kirrabirri	Carne, 12 October, 1878—Iron hut £15 0 0		Lapsed, 10 Oct., 1878		28 Mar., 1879; £1 5s. 1d. p. ac.	£14 13s. 4d.
C.P., 75-101	18 Feb., 1875	Mary Klemm	do	320	22	do	Carne, 12 October, 1878—Nil . . . . .		do		28 Sept., 1888; £1 12s. p. acre.	£109.
C.P., 79-502	10 Mar., 1879	H. Ricketson		320	22	do	Tank . . . . . £320 0 0		Refused, 28 Mar., 1881	Lardner, 7 Dec., 1881—Tank . . £109 0 0		
C.P., 75-103	18 Feb., 1875	Amy Tulk	R. C. Boyd	320	11	do	Carne, 12 October, 1878—Tank . . £280 0 0 Hut . . . . . 55 0 0 £335 0 0		Lapsed, 10 Oct., 1878			
I.P., 79-503	10 Mar., 1879	H. Ricketson		320	11	do			Refused	No papers	28 May, 1879; £2 5s. 11d. p. ac.	11d. per acre.
C.P., 75-104	18 Feb., 1875	Lucy Tulle	R. C. Boyd	160	10	do	Carne, 12 October, 1878—Nil . . . . .		Lapsed, 10 Oct., 1878		10 Sept., 1879; £1 5s. per acre.	
C.P., 75-105	13 Feb., 1875	Samuel Cox	do	160	37	Stannaforth.	Carne, 17 June, 1878—Nil . . . . .					
C.P., 75-405	22 July, 1875	John Young	do	44	38	Banangalite.	Carne, 18 June, 1878—Tank . . . £58 6 8	Rose, 10 Dec., 1878	Lapsed, 3 April, 1879			
C.P., 75-424	29 July, 1875	R. Willan	do	60	48	Hehden	Carne, 12 October, 1878—Nil . . . . .		do		10 Sept., 1879; £1 5s. per acre	
C.P., 78-84	22 June, 1876	S. Nixon		40		Banangalite.			Void, 23 May, 1877	Land included in a prior selection of M. Kelly		
C.P., 77-101	10 April, 1877	J. C. Hervey		640	38 & 39	Billabong	Carne, 10 July, 1880— Buildings . . . . . £300 0 0 Fence . . . . . 120 0 0 Cultivation . . . . . 60 0 0 Clearing . . . . . 40 0 0 Cottage . . . . . 50 0 0 Tank . . . . . 113 6 8 £683 6 8					Certificate of conformity issued to H. Ricketson (absence), 29 September, 1880.

I certify that the information given in this schedule is taken from the papers in each case, and is correct,—

F. GRIFFIN,  
Clerk, Lands Department.

30th May, 1889.

[Appendix to Evidence of Henry Ricketson.]

B 1.

Dear Sir,

Parliament, New South Wales, Sydney, 28/12/88.

In reply to your note of to-day, inquiring whether I have anything to communicate, I have nothing but to refer you to my former letters, that letter that had the postscript which you have been showing to some of the Denilquin people, to persuade them to sign your petition, several of whom have written to me to get their names struck off, as they say you misled them.

About the improvements, I will get a Select Committee when the House meets to go into the whole matter. They will deal with Barratta first, and take Arratulla, Cornallo, and the other stations after.

Henry Ricketson, Esq.

Truly yours,  
R. BARBOUR.

No. 2.

R. Barbour, Esq., M.P., to The Under Secretary for Lands.

Dear Sir,

Parliament House, Sydney, 10 April, 1890.

In the beginning of February last I presented a petition to His Excellency the Governor, signed by myself, praying that His Excellency and the Executive Council would instruct the Attorney-General to take steps with respect to the Barratta forfeited conditional purchases. I traced the petition from the Governor to the Colonial Secretary, and from the Colonial Secretary to the Lands.

I shall take it kind if you will inform me of what has become of it, and whether it has yet reached the Attorney-General, and oblige

Yours, &c.,  
ROBT. BARBOUR.

No. 3.

Questions and Answers.

LEGISLATIVE ASSEMBLY, 21 MAY, 1890.

(18.) BARRATTA RUN:—MR. BARBOUR asked THE SECRETARY FOR LANDS,—

(1.) Was a petition presented to His Excellency and the Executive Council in February last by the Chairman of the Select Committee on the Barratta forfeited conditional purchases, praying, as certain facts were elicited in the evidence given requiring further legal investigation, that the report which has been adopted by this House and all the papers be sent to the Attorney-General for further action?

(2.) Have any steps been taken in connection therewith; and, if so, what?

MR. BRUNKER answered,—

(1.) A petition referring to forfeited conditional purchases on Barratta Holding was presented by Robert Barbour, M.P., to His Excellency the Governor, and was subsequently received in this Department.

(2.) The papers are at present before me, but have not yet been finally dealt with. They were submitted to me on the day that I had to leave the office by reason of ill-health, and I have not been able to look into them since. The papers will very likely be sent on to the Attorney-General this week.

To be placed with the papers in connection with the petition.—W.H.C., 16/6/90.

No. 4.

The Under Secretary for Lands to R. Barbour, Esq., M.P.

Sir,

Department of Lands, Sydney, 6 June, 1890.

In reply to your letter of the 10th April last, respecting your petition in connection with forfeited conditional purchases on Barratta Run, I am directed to inform you that, having carefully reviewed the report of the Select Committee, Mr. Secretary Bruncker is of opinion that it does not disclose any facts necessitating an opinion from his honorable colleague the Attorney-General, but your having approached His Excellency the Governor by petition, he deems it his duty to submit the prayer of the petition for consideration of the honorable the Attorney-General.

I have, &c.,  
WM. HOUSTON,  
Under Secretary  
(pro W.H.C.)

No. 5.

The Under Secretary for Lands to The Crown Solicitor.

Sir,

Department of Lands, Sydney, 6 June, 1890.

I am directed by the Secretary for Lands to forward herewith a Petition presented to His Excellency the Governor by Robert Barbour, M.P., respecting forfeited conditional purchases on Barratta Run, and to request that you will be good enough to submit the same for the consideration of the honorable the Attorney-General.

I have, &c.,  
WM. HOUSTON,  
Under Secretary  
(per W.H.C.)

## No. 6.

## The Crown Solicitor to The Under Secretary for Lands.

*Subject*:—Petition presented to His Excellency the Governor by Robert Barbour, M.P., respecting forfeited conditional purchases on Barratta Run.

Sir,

Crown Solicitor's Office, Sydney, 9 June, 1890.

I have the honor to return herewith the papers relating to the above matter which were forwarded to me from your Department on the 6th day of June, 1890, and to state that I have submitted them to Mr. Attorney-General Simpson, a copy of whose memo. thereon will be found upon the other side of this letter. (For enclosure  
see No. 1.)

I have, &amp;c.

JOHN WILLIAMS,  
Crown Solicitor.

Submitted.—W.H., 11/6/90. Inform Mr. Barbour, M.P.—J.N.B., 11/6/90. R. Barbour, M.P., informed, 12/6/90. Copy of letter enclosed.—W.H.C., 17/6/90.

## [Enclosure.]

## COPY MEMORANDUM.

The Minister for Lands, after carefully reviewing the Report of the Select Committee, is of opinion that it does not disclose any facts necessitating an opinion from the Attorney-General, but merely deems it his duty to submit the prayer of Mr. Barbour's petition to the Governor and Executive Council for my consideration.

It is no part of my duty as Attorney-General "to cause this case to be investigated, with a view to the withdrawal and cancellation of every Crown grant that may have issued to Henry Ricketson upon misrepresentation" (I quote the language of Mr. Barbour), and I am not aware of any steps which it is necessary for me to take in this case to "vindicate the law in its highest prerogative," that of "being a terror to evil-doers, and a praise and protection to those who do well" (I again quote the language of Mr. Barbour).

G. B. SIMPSON,  
A.-G., 9/6/90.

## No. 7.

## The Under Secretary for Lands to R. Barbour, Esq., M.P.

Sir,

Department of Lands, Sydney, 12 June, 1890.

Adverting to my letter of the 6th instant, intimating that your petition respecting forfeited conditional purchases subsequently alienated to Mr. Henry Ricketson, lessee of Barratta Run, had been forwarded for the consideration of the honorable the Attorney-General, I am directed by the Secretary for Lands to inform you that the honorable the Attorney-General, in a minute on the subject, states that it is no part of his duty, as Attorney-General, to cause this case to be investigated with a view to withdrawal and cancellation of every Crown grant that may have issued to Henry Ricketson upon misrepresentation as alleged by you, and he is not aware of any steps which it is necessary for him to take in this case to vindicate the law.

I have, &amp;c.,

WM. HOUSTON,  
Under Secretary  
(per W.H.C.)



1891.

NEW SOUTH WALES.

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PARLIAMENTARY STANDING COMMITTEE ON  
PUBLIC WORKS.

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REPORT

TOGETHER WITH

MINUTES OF EVIDENCE, APPENDIX, AND PLANS,

RELATING TO THE

PROPOSED COLLEGE

FOR THE

TRAINING OF TEACHERS OF PUBLIC SCHOOLS.

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Presented to Parliament in accordance with the provisions of the Public Works Act,  
51 Vic. No. 37, section 8.

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SYDNEY : GEORGE STEPHEN CHAPMAN, ACTING GOVERNMENT PRINTER.

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1891.

18—a

[2s. 6d.]



## MEMBERS OF THE COMMITTEE.

## LEGISLATIVE COUNCIL.

The Honorable JOHN LACKEY, Chairman.  
 The Honorable ANDREW GARRAN.  
 The Honorable FREDERICK THOMAS HUMPHERY.  
 The Honorable WILLIAM JOSEPH TRICKETT.  
 The Honorable GEORGE HENRY COX.

## LEGISLATIVE ASSEMBLY.

JACOB GARRARD, Esquire, Vice-Chairman.  
 HENRY COPELAND, Esquire.  
 JAMES EBENEZER TONKIN, Esquire.  
 WILLIAM SPRINGTHORPE DOWEL, Esquire.  
 EDWARD WILLIAM O'SULLIVAN, Esquire.  
 CHARLES ALFRED LEE, Esquire.  
 WILLIAM MCCOURT, Esquire.  
 JAMES PATRICK GARVAN, Esquire.

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Training College for Public School Teachers (explanation, estimate, and plans of proposed) .....	A
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## PLAN.

The proposed College for the Training of Teachers of Public Schools.



# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## COLLEGE FOR THE TRAINING OF TEACHERS OF PUBLIC SCHOOLS.

### 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, and the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, to whom was referred the duty of considering and reporting upon "the Erection of a College for the Training of Teachers of Public Schools," have, after due inquiry, resolved that it is expedient the proposed College should be erected, and in accordance with the provision of subsection IV, of clause 13, of the Public Works Act, report their resolution to the Legislative Assembly:—

1. The proposed College is intended, it is explained, for the purpose of providing the necessary accommodation for male students in training as teachers of the Public Schools, the operations of the College to be so conducted as to obtain for the students not only the advantages of the instruction imparted within the College, but as full a benefit as is possible under the circumstances of their position from the course of lectures and studies in the University. To enable this to be done the College will be erected in the University grounds, and declared a College within the University. Its Principal will be recognised *ex officio* a member of the University, and he will have the same rights and privileges as are conferred by the University Act of 1861 on Principals of the affiliated Colleges. The management of the College, including the appointment of its staff, will be under the control of the Minister of Public Instruction, but the students will be subject to the rules and regulations of the University so far as these may affect them as undergraduates or members of that institution. It is contended by the Minister of Public Instruction that to ensure a sufficient supply of thoroughly qualified teachers for effectively carrying on the work of national education it is necessary that the State shall itself provide an efficient system of educational and professional training for candidates for the position of teachers, this training being of a kind which shall enable students to acquire full information in the subjects to be taught in schools, and have the advantage of the highest professional skill in the art of teaching.

2. The College will be a building of three stories, and it will contain accommodation for the residence and instruction of fifty-one students. Separate bed-rooms each 12 feet by 8, fitted with such conveniences as will enable the room to be used as a study for private work, will be provided for the students, and there will be five class-rooms for different kinds of work, and a lecture-room, for the accommodation of about 250 persons who, consisting of teachers generally, as well as the resident students, may be admitted to lectures. In addition to the class-rooms provision is made in the plans for a library and museum, a students' recreation-room, a gymnasium, and the necessary accommodation for servants and for other purposes associated with a building of the kind. A residence for the Principal will be erected apart from the main College building, but connected with it by an arcade; and there will be a porter's lodge at the entrance to the College grounds. The three buildings will be erected of Pyrmont stone externally, and internally of brick and coke concrete, the roof to be covered with slates, and the internal finishings to be neat and substantial, but not extravagantly ornate. The style adopted is English Norman of the 12th century.

Estimated  
cost.

3. It is estimated by Mr. W. E. Kemp, Architect for Public Schools, and the author of the design, that the cost of erecting the College and its appurtenances will be £37,500.

Witnesses  
examined.

4. It has not been necessary in this inquiry to examine many witnesses, the points upon which it has been desirable to obtain information being few, and the witnesses called by the Committee competent to explain everything clearly and satisfactorily. Mr. E. Johnson, Under Secretary of Public Instruction, laid before the Committee a statement of the case, and this with a printed document presented to Parliament, and published with the proceedings in this inquiry as an appendix to the evidence, formed a sufficient basis upon which to elicit the further information necessary to enable the Committee to arrive at a decision. Having had the Under Secretary before them the Committee examined Mr. W. E. Kemp with reference to the plans and specifications of the proposed College and the estimate of cost. Mr. J. C. Maynard, Chief Inspector of Public Schools, and Mr. J. C. Conway, Principal of the Training College, Fort-street, and the intended Principal of the proposed College, were called to obtain from them an explanation of the present system of training Public School teachers and the advantages which in their opinion the proposed College would afford in this training work. Mr. H. E. Barff, Registrar of the University of Sydney, was examined for the purpose of eliciting information from him relative to the cost of Colleges already erected in the University grounds, and his opinion as to the advantages or otherwise likely to be gained from the erection and use of the proposed College, including the relations that will exist between the College and the University. One other witness was called, Mr. W. L. Vernon, Government architect, and he was invited to report upon the plans and estimate of cost prepared by Mr. W. E. Kemp, so that the Committee might have before them the opinions of a second architect on these matters.

The evidence.

5. The evidence obtained by the Committee may be summarised under the following heads:—

- (a) Description and objects of the College.
- (b) Whether the plans are such as will provide the accommodation necessary in connection with a College of the kind.
- (c) Whether the plans are too elaborate, or the estimate is reliable.
- (d) Whether the College is likely to secure the objects desired.

Whether the  
plans will  
provide the  
accommoda-  
tion necessary.

6. The description and objects of the College have already been stated. The question whether the plans are such as will provide the accommodation necessary in connection with a College of the kind has been answered by most of the witnesses. Apart from the opinion of Mr. Kemp, the architect, Mr. Maynard, Chief Inspector of Public Schools, is of opinion that they will meet all requirements both for the present and the future. As to the site he considers it the best available in the University grounds, the situation being good and easily accessible; what was particularly wanted was to get close to the University, and this end has been secured. One thing only he objects to, and that is placing the residence of the Principal outside the main building. The Principal, he considers, should live inside the building to supervise the students. Mr. J. Conway, the Principal of the present Training School at Fort-street, is of opinion that the design provides all the accommodation required for at least the next quarter of a century, and Mr. H. E. Barff, Registrar of the University of Sydney, approves of the plans, with the exception that he thinks it would be better for the Principal to reside in the building occupied by the students. The style of architecture, and the building generally, will do well, he says, for the purpose intended, and will be in harmony with the University buildings. The chief evidence on the subject of the plans and the accommodation for which they make provision, apart from that given by Mr. Kemp, will be found in a report by Mr. W. L. Vernon, Government architect. In his opinion the plans fulfil the required conditions "in an ample but not extravagant manner, and each separate department appears to have been carefully studied and placed relatively in the most advantageous position." The building, he further states, is so planned that it is capable of enlargement, either on the flanks or on the front looking towards the University.

7. It does not appear, as far as the Committee can ascertain, that either the plans are too elaborate or the estimate of cost is excessive. The style of architecture selected by the architect, Mr. Kemp, was chosen by him, he explains, because it is, as far as is requisite, in harmony with the buildings already in the University grounds, and because it is one which is easily arranged to provide for modern wants. In Mr. Vernon's opinion the design, as far as the drawings disclose, is correct and conscientiously worked out; it will stand alone as an example of the particular period it represents in the history of design, and instead of clashing with the later styles adopted in the surrounding buildings will harmonise and have an educational effect. On the question of cost Mr. Vernon estimates it at £47,538. Mr. Kemp's estimate for the Principal's residence is between £2,000 and £3,000; Mr. Vernon's £4,734. Mr. Kemp estimates that the porter's lodge will cost about £1,000; Mr. Vernon considers it will cost £1,728. The cost of the main building Mr. Vernon estimates at £38,780, and he sets down £2,296 for excavations, roads, approaches, and boundaries, &c. With reference to Mr. Vernon's estimates and report Mr. Kemp states that, after reconsidering his own estimate, he can only come to the conclusion that Mr. Vernon has very much over-estimated the cost, and that he is still of opinion that his own estimate is ample. It is based upon properly drawn specifications, and he is firmly of opinion it will not be exceeded. Mr. Vernon's estimates, to a certain extent, have been based on the cost of the Medical School attached to the University, which Mr. Kemp states is a more expensive class of building than the proposed College, and though Mr. Vernon regards his estimates as fair he admits he has not read the specifications. Mr. Vernon disapproves of the size of the Principal's residence which he thinks unnecessarily large, and also of the size of the porter's lodge; but Mr. Kemp's reply to this is that the residence and the lodge are only in keeping with the main building, and are not excessive in size or cost. Regarding Mr. Kemp's figures as more likely to be correct than Mr. Vernon's, chiefly for the reason that Mr. Vernon when making his estimate had not the advantage of reading the specifications, and bearing in mind that by a provision of the Public Works Act the cost of the College cannot exceed 10 per cent. above the estimate laid before the Committee, there is some strong testimony in support of the reasonableness of the amount stated by Mr. Kemp, in the evidence given by Mr. H. E. Barff. Mr. Kemp's estimate for the proposed College, accommodating fifty-one students, is £37,500. Mr. Barff states the accommodation and cost of the existing Colleges in connection with the University, and with those buildings the proposed College compares in these two matters very favourably. St. Paul's College, accommodating thirty-six students, cost £35,000; St. Andrew's College, with accommodation for twenty-seven students, cost £28,200; and St. John's College, accommodating twenty-five students, cost between £36,000 and £40,000.

Whether the plans are too elaborate or the estimate is reliable.

8. The arrangements for carrying out the system intended to be brought into operation in the College appear to be very complete. Under the system at the Training School, Fort-street, the students are non-resident. Their board and lodging are paid for at considerable expense, but they live where they please, the consequence being that the teaching staff of the school know nothing of the students' places of residence or where they spend their evenings. Added to this the distance between the Training School and the University interferes greatly with the attendance of students at University lectures. The proposed College, it is claimed, will allow of supervision, good training, and economy; the students being constantly under the control of the teaching staff, provided with ample facilities for being thoroughly instructed in the duties of their profession, and supplied with comfortable residence and board at an expense less than is incurred under the present system at Fort-street. The site for the College has been given by the Senate of the University, and the Senate approve of the plans of the buildings, and will make satisfactory arrangements for the admission of the students to the University lectures, and for placing the Principal of the College on the same level as the Principals of the existing affiliated Colleges. Matters between the Department of Public Instruction and the University with regard to the College are consequently in a satisfactory condition, and the arrangements appear equally complete for the due carrying on of that portion of the training of the students which will be conducted within the College building. Mr. H. E. Barff says of the College that he thinks the method of training proposed will be the means of producing more efficient teachers than the existing methods; that

Whether the College is likely to secure the objects desired.

that they will derive immense advantage from residing with one another close to the University library, and to the University laboratories; that they will be much benefitted by taking part in the University Debating Society, and the various other associations connected with the University; and that they must be under better supervision in the College than they can be in scattered lodgings.

Decision  
arrived at by  
the  
Committee.

9. The Committee, having duly considered the evidence before them, arrived at the decision expressed in the following extract from the Minutes of Proceedings of Tuesday, 10th March, 1891 :—

Mr. Trickett moved—

“That, in the opinion of the Committee, it is expedient the proposed College for the Training of Teachers of Public Schools, as referred to the Committee by the Legislative Assembly, be carried out.”

Mr. Copeland seconded the motion, *pro forma*.

Mr. O'Sullivan moved—

“That the motion be amended by adding to it the following words:—‘But recommend that the designs for the residence of the Principal, and the Porter's Lodge, be less costly in character.’”

The amendment was not seconded.

The motion was passed on the following division :—

Ayes, 9.  
Mr. Garrard,  
Dr. Garran,  
Mr. Humphery,  
Mr. Trickett,  
Mr. Tonkin,  
Mr. O'Sullivan,  
Mr. Lee,  
Mr. McCourt,  
Mr. Garvan.

Noes, 2.  
Mr. Cox,  
Mr. Copeland.

JOHN LACKEY,  
Chairman.

Office of the Parliamentary Standing Committee on Public Works,  
Sydney, 19 March, 1891.

# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## MINUTES OF EVIDENCE.

### COLLEGE FOR THE TRAINING OF TEACHERS OF PUBLIC SCHOOLS.

WEDNESDAY, 11 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.	JAMES EBENEZER TONKIN, Esq.
The Hon. FREDERICK THOMAS HUMPHERY.	WILLIAM SPRINGTHORPE DOWEL, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	EDWARD WILLIAM O'SULLIVAN, Esq.
The Hon. GEORGE HENRY COX.	CHARLES ALFRED LEE, Esq.
JACOB GARRARD, Esq.	WILLIAM McCOURT, Esq.
HENRY COPELAND, Esq.	JAMES PATRICK GAVAN, Esq.

The Committee proceeded to consider the proposed College for the Training of Teachers of Public Schools.

Edwin Johnson, Esq., Under Secretary of Public Instruction, sworn and examined:—

1. *Chairman.*] Have you a paper with you in reference to the initiation of this proposed building? I have.
2. Will you hand it in? Yes.
3. Does it consist of minutes from Ministers? Yes; and it contains a *précis* which I, myself, prepared for the Minister to submit to the Cabinet—an explanatory statement of the case.
4. Is there any other evidence which you would like to offer in reference to the proposed College? I think this statement contains all I desire to say on the subject.
5. Is it a full statement of the case? Yes; and is as follows:—

Proposed Establishment of a Training College for State School Teachers, within the University.

*A statement of the case.*

1. A site, approved by the Senate and Department, has been selected and surveyed.
2. The management of the College, including the appointment of its staff, will be under the sole control of the Minister for Public Instruction.
3. The Senate is agreeable to make satisfactory arrangements as to the students' matriculation and attendance at University lectures, and is prepared to accept an annual lump sum in lieu of lecture fees, &c., for students.
4. The Senate further suggests:—
  - (a) That the College, in common with the other colleges, shall be declared to be a College "within the University."
  - (b) That the Principal of the College shall be recognised as a member of the University, and have the same rights and privileges as are conferred on the Principals of the affiliated colleges by the University Act of 1861, 24 Vic. No. 13.
  - (c) That an arrangement be made in favour of the University, under which individual University students not belonging to the Training College can be admitted to the College teaching (or lectures) on the subject of "Pedagogy," or the "Science and Art of Teaching."
  - (d) That the Minister shall allow the Senate to see the plans and designs proposed for the College buildings and grounds, and favour it with an opportunity of communicating with him on the subject, should it see occasion to offer suggestions.
5. A Bill has been prepared under which the land selected as a site may be resumed, and the College established.

Respecting the Senate's suggestions, it may be stated that (a) and (b) will be advantageous to the College and will not interfere with its organization or work as a State Institution under the Minister's control; that (c) is in no way objectionable, provided the students referred to are admitted to the lectures on Pedagogy only, and that, for admission to such lectures, they pay the required fee; and that suggestion (d) is a reasonable one, inasmuch as it is the duty of the Senate to see that any buildings to be sanctioned shall, in their general appearance and design, be in keeping with those already erected on the University ground.

E. Johnson,  
Esq.  
11 Feb., 1891.

The chief advantages of having the Training College within the University may be summarised as follow:—

- (a) A class of superior teachers, with University training, will be provided for the more important Public Schools, Superior Schools, and High Schools under the Department, and from such class of teachers the Inspectors of Schools can be chosen.
- (b) The fact of the teachers receiving a University training will have great influence in moulding public opinion in favour of our schools; it will tend to foster the profession of teaching, by drawing to it young persons of high intelligence and promise; it will elevate the standard of culture among teachers, and invigorate the Public School system generally.
- (c) The present arrangements for enabling students to attend the University lectures are of a makeshift character, and under them proper supervision cannot be exercised by the Training School staff. The only effective remedy for this state of things is to establish the proposed residential College within the University.
- (d) As pointed out by the Principal of the Training School, the cost of maintaining students will be less under the proposed arrangement than it is under the present system.

Department of Public Instruction,

Sydney, 20th October, 1890.

E.J.

Submitted.—E.J., 20/10/90.

I submit this matter to the Cabinet, but not concurring in (c).—

J.H.C.

THURSDAY, 12 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. Andrew Garran.

The Hon. Frederick Thomas Humphery.

The Hon. William Joseph Trickett.

The Hon. George Henry Cox.

Jacob Garrard, Esq.

Henry Copeland, Esq.

James Ebenezer Tonkin, Esq.

William Springthorpe Dowel, Esq.

Edward William O'Sullivan, Esq.

Charles Alfred Lee, Esq.

William McCourt, Esq.

James Patrick Garvan, Esq.

The Committee further considered the proposed College for the Training of Teachers of Public Schools.

William Edmund Kemp, Esq., Architect for Public Schools, sworn and examined:—

W. E. Kemp,  
Esq.  
12 Feb., 1891.

6. *Chairman.*] How long have you held your present position? For nearly eleven years.
7. You have been engaged in the supervision of the different buildings for the Public School Department during that time? Yes, since the passing of the present Public Instruction Act.
8. The design for the proposed building is yours? Yes.
9. What is its proposed cost? £37,500.
10. You have gone carefully into the design, I take it? Yes.
11. You are in a position to say with some degree of conclusiveness that the building could be carried out for that sum? I have no doubt whatever that it can be carried out for the sum stated.
12. Have you given much attention to the character of the buildings erected in different parts of the world for a similar purpose? I have given some consideration to what has been done in other places.
13. And you think that this building is, in its design, suitable for the purposes required of it? I think so.
14. Whereabouts is it to be constructed? Facing Bligh-street, on the University Grounds, between St. Paul's College and St. Andrew's College.
15. Do you think it contains the necessary accommodation? Ample accommodation for the number of students provided for—fifty-one.
16. Is it proposed that the students shall reside in the building, or simply go there for tuition? That they shall reside there altogether.
17. And the masters? There is a residence, attached to the College by a covered way, provided for the Principal.
18. The building provides accommodation for the teachers? For the Principal in the attached house, and for three teachers within the College itself.
19. What are the principal rooms in the building? Perhaps I had better go through the plan. Owing to the fall of the ground, there is a basement under half of the building, and in it the housekeeper and servants are provided for, together with all the kitchen and scullery accommodation. On the ground floor there is a dining-hall with a lift from the kitchen floor, and five class-rooms, a master's office, a waiting-room, and a lecture-hall capable of containing, perhaps, four or five times the number of resident students, in order that other students may be admitted to lectures. Then, in the right-hand wing, there is accommodation for seventeen students, with bath-rooms and closets. On the upper floor there is a similar group of bed-rooms for students in each wing, a museum, a library, a students' day-room, and a masters' common room.
20. There will be three stories altogether? Yes; the basement, the complete ground floor, and a complete upper floor. Under the lecture-hall, on the basement level, is the gymnasium.
21. What material do you propose to use for the building? Stone externally, and brick internally.
22. The outside walls will be of stone, and the partition and dividing walls of brick? Yes.
23. I see that one part of the building is lower than the other. Is that from the configuration of the land? Yes. There is a total fall in the length of the ground of nearly 30 feet, and of about 16 feet in that portion on which the building stands. The front elevation shows the fall of the ground. I propose to raise part of it to provide access to the College, and to excavate it lower down to give an area.
24. That will not detract from the appearance of the building? I think it will rather improve it. You will see the general effect of the building from the perspective drawing, which also gives you an idea of its position in relation to the University. You can see the Macleay Museum, and the back of the great hall of the University in the distance.
25. Is your water supply there perfect. What would be the altitude of the land? Above the sea?
26. Yes? That I do not know. Less than the altitude of the University or St. Paul's.
27. Then you would have no difficulty in getting water from the ordinary service? No. Speaking from memory, I should say that we are 20 feet below the level of the Newtown-road.

28. *Mr. Trickett.*] The paper before me says that the site of this building is to be resumed. I judge, therefore, that it is not Government land? It is University land, and I presume it will have to be resumed from the University authorities.

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29. You provide, as an addition to the College, a residence for the Principal; what do you estimate will be the cost of that building? It is included in the £37,500.

30. Yes, but how much do you set aside for it alone? As far as I remember, nearly £2,000.

31. In arriving at these estimates of cost, had you specifications prepared? Yes, the specifications are prepared.

32. Have they been gone into pretty carefully? Yes.

33. We were told yesterday, that if specifications were not prepared there could be no certainty as to what the cost of the building would be. You have gone carefully into the figures on a regular architect's specification? I have estimated the cost knowing exactly what my intentions are with regard to the building.

34. Do you think it was necessary to spread this building out so as to make it cover so much ground, for the accommodation of fifty-one students? Yes. I do not think you could get the accommodation, with due regard for light and air, if you had the buildings much closer together than that.

35. I see that some students are to be accommodated on the ground floor—is that a usual thing in a building of this kind? It is not at all an isolated instance of such an arrangement, and I do not think it is objectionable.

36. Have you considered whether the building could be erected for a less sum, making it, of course, of sufficient architectural beauty to be in keeping with the surrounding buildings? I think the building will be a very cheap form of structure considering its character. I do not think there would be any way of cheapening it without detracting both from its usefulness and from its character as an architectural work.

37. Do you know the other colleges in the vicinity—St. Paul's College? Yes.

38. How many students does it accommodate? I think they have some thirty or thirty-five students there now, and I think the building is full.

39. Have you any idea what that building cost? No, I have not.

40. Do you know what St. Andrew's College cost? I do not know the accommodation nor the cost of St. Andrew's College.

41. Could you give us any information as to cost respecting St. John's College—the Roman Catholic College? No, I do not know what its accommodation is, and I have only a vague idea that a good deal more money than £37,000 was spent on it.

42. Could you tell us how many servants you have provided accommodation for on this plan to attend upon these fifty-one students? I think I have provided four bed-rooms.

43. But they are large rooms? They will accommodate two or three servants each. I reckon that in a place like that, besides the kitchen servants, they will probably want three or four housemaids.

44. These students' rooms are 12 x 8 feet 6 inches. Is that a sufficient size for them? I think it is an ample size. It gives some 1,500 cubic feet of air space.

45. Notwithstanding that the room is to be used for purposes of study as well as for sleeping you think that its size is sufficient? I think it is sufficient, though I do not think it is excessive. I may say that the room will only be used for purposes of study during the small portion of the day a man may devote to private study. The principal part of the studying will be done in the classes and lecture-rooms.

46. But a large portion of the students' time will be devoted to private study? Not a very large portion.

47. Is this your only effort in designing plans for this building, or were any alternative plans prepared? This was the only plan prepared for this building, although six or seven years ago I prepared plans for training colleges for both male and female students, which it was proposed to erect at Hurlstone.

48. Were those plans of as elaborate a character as this is? They were of a totally different style. It was intended to build the colleges of brick, in the free, classic, Queen Anne style.

49. Before the plans were elaborated as you now see them, were any sketch plans prepared and submitted to the Minister? Yes. I might say that the lithographs before you were prepared from the sketch plans submitted to the Minister.

50. There do not appear to be very many large rooms in this building, though the lecture-hall is a large room, is it not? Yes.

51. How would it compare with the room in which we are? I should say it would be rather wider, and about the same length.

52. I suppose it would be 7 or 8 feet wider? Probably that.

53. Do you not think that it would be possible, by bringing these buildings closer together, and having the bed-rooms on an additional story, to make a much cheaper building of it? I do not think that you would reduce the cost materially. There would be the same amount of flooring, wall space, and windows; in fact, the only saving would be in the roof, and that, perhaps, would be more than made up by the additional cost of building higher, and by the additional staircases. There would be a very small saving, if any.

54. You do not know anything of the proposed working of the institution? No; I know nothing of it officially.

55. Will this £37,000 include all the improvements of approach, together with the roads, and fencing, and everything of that kind? Yes.

56. There will be no extras, as far as you can foresee? As far as I can see, that sum will cover everything.

57. *Mr. Cox.*] Is this building supposed to contain both male and female teachers? No; only male teachers.

58. *Mr. Humphery.*] What was your object in not providing residential quarters for the Principal in the College? Well, it appeared to me, and it does appear to me now, that it would be a better arrangement to have the Principal outside the building, so that his family and his servants might be kept apart from the College. I imagine, also, that the Principal would think it a more pleasant arrangement to be detached from the College.

59. In St. Andrew's College, is provision made for the Principal within the building? I do not know the arrangement at all. I have never been inside the building.

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60. Is there separate provision made at St. John's? There, I believe, everybody lives within the premises ; but that college is worked on principles different from ours.
61. Do you not think that the Principal would have better control over the resident pupils if he resided in the College, instead of living away from it? I should not think so. He is within such easy reach of the College that any unusual noise would be heard by him.
62. How would he know whether the students' quarters were occupied or not? I take it that there would be other masters in the College. There is a provision for the accommodation of a resident master in each of the dormitory wings.
63. You are unable to say whether, at St. Andrew's College, the Principal resides within the college? Yes.
64. What are the dimensions of the pupils' rooms? About 12 feet by, I think, 8 feet 3 inches. I think 9 feet was the dimension on which the building was set out, and there is a 9-inch wall to be taken out of that.
65. What is the width of the passages? I think they are 6 feet.
66. What is the height of the rooms? About 14 feet clear; 15 feet from floor to floor.
67. *Mr. McCourt.*] If the whole of the buildings were carried out in brick how much cheaper would it be—10 per cent., 15 per cent.? I should say about 10 per cent.
68. Would brick not be so good as stone? Not so good to look at. It might be as good for use.
69. In every other respect but appearance it would be as good? Yes; I suppose the building would be as durable in brick as in stone. I do not think the difference would be quite 10 per cent. in that building, because the whole of the interior work is already provided for in brick. There is merely the reduction on the cost of the external walls.
70. What will the cost of the building be per student? About £740.
71. Without the ground? Without the ground; but you have to take into consideration that the residential staff will also be provided for with that money—the Principal and his family, and all the servants, which would probably bring the number up to nearly eighty. There is also a porter's lodge included, which would probably be the residence of five or six people.
72. Do you consider £740 per student rather high a cost? No, I do not think it is. I think the Sydney University, which has no resident students at all, must have cost nearly as many thousands as this will hundreds per student.
73. *Mr. Garrard.*] I understood you to say that seven or eight years ago you prepared plans for a training college for both male and female teachers to be erected at Hurlstone—what accommodation did you provide for? I have never looked at the plans since a few months after they were prepared, and I can hardly tax my memory; but I think there was accommodation for fifty or sixty students in each building.
74. What was the estimated cost of those buildings? I do not think any very close estimate was ever made; the thing did not arrive at such a stage as to make it necessary to prepare specifications, or to go into any close estimate of cost.
75. Do you know any reason why the design has been altered from a combined college for both sexes to a college for male students only? I really do not know. My own impression is that since the female students are already provided for at Hurlstone it was thought proper to provide accommodation for male students only here.
76. How many students are provided for at Hurlstone? About fifty.
77. Are their requirements fully met? Fairly well met.
78. Is no project on the boards to enlarge that building, or to build a new college there? No; I do not think there is any such proposal at present.
79. You have about four acres of land here? Yes; I think there is rather more than four acres.
80. What is the object of that half-chain road down the side of the ground? That is a road reserved by the University authorities to give access to their own ground.
81. Supposing it were decided to give the female students the benefit of being close to the University, there would be no room on this site for another college? Another college could be built there, but not very conveniently, I think. The proposed College will cover considerably less than half the ground, so that an equally large building might be put up on the other half, but then the land would be crowded. The two buildings would be too close together, and no room would be left for a recreation ground.
82. Have these plans been submitted to the Senate of the University? They have been examined by some members of the Senate, I know. I do not know whether they have been submitted to the Senate itself.
83. If you were choosing a site, would you take this one, or would you try to get a better one without that ugly fall in the ground? I do not at all object to the fall myself—I think it rather improves the appearance of the building, and it makes it very convenient, keeping the domestic offices away from the rest of the building.
84. You had nothing to do, I suppose, with the choosing of the ground? No, I had not.
85. You were merely told, "There is a piece of land, and we want a college put upon it," and you have taken advantage of the form of the ground to put the best building up? Yes.
86. There will be slate roofs, I presume? Yes.
87. Is the pathway between the Principal's house and the College covered in at the sides as well as on top? On top, and on one of the sides.
88. There does not seem to me to be a very large amount of bath accommodation provided;—how many baths are there altogether? There are three for each group of seventeen students. There are seventeen beds in each wing and three baths. I do not know whether three bath-rooms are shown on the lithographs. They were taken from the sketch plan, which was necessarily subject to modifications.
89. I suppose there are other baths for the servants and general staff? Yes.
90. *Mr. O'Sullivan.*] I see that the style you have chosen is the English-Norman of the 12th century;—will that accord with the architecture of the other buildings there? Every building on the University ground is of a different period of architecture. St. Paul's, the building nearest to us, is 13th century; St. John's and St. Andrew's, about 14th century—St. Andrew's, with a strong tinge of Scotch; and the University is 15th century. I selected this style because it was one which is more easily arranged to provide for modern wants. Your windows may be of almost any size or shape you like, and they look as well single as they do grouped. There is not the same restriction about it as there is with some of the other Gothic styles.

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91. In which direction will the building face? South, towards Newtown.
92. Do you know the Ormond College in Melbourne? I do not. I have never been in it.
93. It was built of stone, and only cost £30,000, and, I think, gives more accommodation for students than you propose to give? Is that a residential college?
94. For the staff? But not for the students, I think.
95. Do you think that if this building were a hotel to accommodate fifty boarders, it would cost as much as the sum named? The probability is it would be of very different style, and would be built in a great many more floors.
96. I suppose you have been guided in your design by a desire to erect a building in accord with the other buildings already there? Yes.
97. *Mr. Lee.*] With reference to the site;—is it a portion of the ground which is already vested in the Trustees of the University? Yes.
98. And it will have to be resumed by a special Bill? That I am not in a position to say; but, from what I see in the papers, I presume so.
99. You know nothing as to the title of the land? No. I know generally that the land is granted to certain Trustees for the University.
100. Do you know whether it is the intention to vest this site in the Public Instruction Department? I believe that that is the intention; but I do not know.
101. And thus remove it from the guardianship of the Trustees of the University? Yes.
102. In other words, the College, when built, will be solely the property of the Public Instruction Department? I presume that that is the position; but I do not know.
103. I see that some provision is made for the submission of the plans to the Senate for approval;—has that been made? I believe so.
104. And have they met with their approval? I presume so. I know that several members of the University have seen the plans, because I exhibited them to them myself in the Minister's office.
105. Have they offered any suggestions? No.
106. They were satisfied with the design submitted by you? I believe so.
107. *Mr. Copeland.*] Has the Colonial Architect seen these plans, and gone through them? Mr. Vernon? No.
108. Now that Mr. Vernon is appointed Colonial Architect, are you in any way subject to him;—does he supervise your work in any way? No.
109. You are entirely independent of the Colonial Architect? Yes.
110. You are simply the Architect for the Department of Public Instruction? Yes; and I am responsible solely to the Minister of Public Instruction.
111. And you do not submit any of your architectural designs to Mr. Vernon? No; and Mr. Vernon does not submit any of his designs to me. We are equally independent of each other.
112. But is he not appointed as the supervisor of Government buildings, or something of that sort? For the Public Works Department. All buildings under the control of the Secretary for Works are, I suppose, under the supervision of Mr. Vernon.
113. But he has nothing whatever to do with the Public Instruction Department? No.
114. *Mr. Doucal.*] Do you consider the site that has been selected for this purpose a good one? Yes; I think that it is a very good site.
115. Is it good for drainage purposes? Yes; we have a good fall, and fairly good soil, and the main sewer is within very easy access of us.
116. What provision have you made as regards sanitary arrangements, so as to include the whole of the work in the specification? What do you understand by sanitary arrangements?
117. The work in connection with the sewers, cesspits, or closets? We have patent closets, which are to be connected with the main sewerage system.
118. All that provision is made and included in your specification? Yes.
119. Are you aware that the Secretary for Public Works has decided, since the appointment of Mr. Vernon to the position of Colonial Architect, that competitive designs shall be called for public buildings? I saw some such statement in the public press, but I have no other means of knowing what that Minister's designs are.
120. You have had no official information from the Secretary for Public Works that any future large buildings are to be thrown open to public competition? No.
121. Has the Minister of Public Instruction consulted with you at all in any way about calling for competitive designs for public buildings? He has proposed to invite competitive designs for a school—a first-class school. I believe he is going to send all over the world, and get a school which is to surpass all schools that have ever been built; but the sending away of the conditions is now being waited for.
122. Do you think it is necessary to send outside the colony for designs for these works? No; I do not.
123. Now, as regards this particular building, if the Minister had consulted you in reference to calling for competitive designs, do you think that you would have considered it a wise course to take? I do not myself think that any benefit will accrue to the country by inviting competitive designs in any case.
124. And, under the circumstances, you do not think that any benefit would be gained by calling for competitive designs for this building? No.
125. You have made a special study of this particular work in comparison with other colleges? Yes; this building is for a specific purpose, and other college arrangements do not, in many cases, meet the requirements of this building, though I know pretty well what has been done in the construction of colleges in other places.
126. Do you think that all requirements are fully met in the design? I think so.
127. Have you provided ample accommodation for the teachers and the Principal? Yes.
128. Now, with regard to the size of the dormitories, it has been suggested that they would be occupied a good deal by the students for the purpose of studying; but you appear to think that such would not be the case;—is that why you have made these dormitories rather small; are they not rather small? I do not think so; I think they are amply large.
129. You think they are sufficiently large for the health and requirements of the pupils? Yes.
130. *Mr. Tonkin.*] In drafting these plans, did you try to exercise any particular economy in the cost of construction, or did you just draft them to meet the requirements, without any consideration of the cost?

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- I designed the building to meet the requirements, bearing in mind, as I do in all my work, the necessity for the extremest economy in the expenditure of public money.
131. You could not reduce the price? Not without reducing the efficiency of the building in some way.
132. There is not too much spent on show alone? I think not.
133. Do you think there could be a material reduction if the appearance were not taken into consideration—if you were merely putting up a building to accommodate fifty-one students? If I were putting up a building to accommodate the same number of wool bags I should probably make a cheaper one, but for the purposes of a college I do not think it could be cheaper, unless all idea of appearance were thrown over, and absolutely plain, straight brick walls built. I do not think you could materially reduce the cost.
134. Then you have not expended any more money on the appearance of the building than you could possibly avoid spending, compatibly with its position? Taking into consideration the character of the buildings around it, I do not think the building could be reduced in cost.
135. *Chairman.*] Are all the buildings on the University Reserve of stone? The Prince Alfred Hospital is of mixed brick and stone.
136. Are the walls stone and the inside brick? Brick walls, with stone dressings; stone architraves and windows, and stone quoins, and so on. The facing of the wall is brick. That is the only brick building there, with the exception of the Principal's residence at St. Paul's College, which is of red brick, and the Macleay Museum, which, I think, is a cemented building. The main buildings on either side of this College—St. Paul's, St. Andrew's, and St. John's Colleges—are all stone.
137. What difference do you estimate there is between the cost of stone and the cost of brick for a building like this—what percentage? In this particular building, the external walls only being of stone, the saving would not be very large—it might be somewhere between 5 and 10 per cent.
138. Does position make any great difference in the relative cost of brick and stone. The site of this building is, I think, very near to where a great quantity of bricks are made. Would that affect the cost in any way? It is also within very reasonable distance of the principal quarries—the Pymont quarries—and nearer than most other Sydney buildings to a place from which we are getting a large quantity of good stone now—Arneliffe.
139. *Mr. Dowal.*] Was it not the practice of your Department a few years since to allow private architects to design and supervise the construction of public school buildings? I think in the first year in which I held office some two or three architects in Sydney were entrusted with the erection of these buildings—Mr. Mansfield had one, Blackman and Parkes two, and Mr. Mays two.
140. Did you find that that worked as economically and as satisfactorily as the present practice of the Department? I think not.
141. Was not the total cost of supervision and designing larger then than it is now? It is very difficult to make a comparison between the commission paid to an individual and the cost of carrying on a department like that of which I am the head.
142. In your opinion, do you think it would be cheaper and better to give this building to a private architect than for the Department to carry it out themselves? I think it would be better for the Department to do it themselves.
143. It would be cheaper and more satisfactory? That is my opinion.
144. *Mr. Garvan.*] You have stated that if you were to carry out this work in brick instead of in stone, it would make a difference of between 5 and 10 per cent. ? On the total cost of the building.
145. Then what induced you to design it of stone rather than of brick? The more ornamental and monumental character of the stone building when compared with a brick building, and the necessity of making the building compare favourably with the surrounding colleges.
146. On the whole, you think a stone building presents a better appearance than a brick one? I think, irrespective of any question of ornament, a stone wall is better looking than a brick wall.
147. And you think a stone wall itself is better than a brick wall? It is a better looking wall, and in many respects also a better wall.
148. Would it be more lasting? Probably not more lasting; I do not think there would be very much difference.
149. It is entirely a matter of appearance? Principally, and a little of additional strength. There is more strength in a stone wall than in a brick wall.
150. But for all the purposes of strength a brick wall would be equally effective? It would be sufficiently strong.
151. If, instead of costing 5 or 10 per cent. more, it cost 20 per cent. more to put up stone walls, would you recommend them? That is a wide question.
152. I have named a big difference, in order to elicit an opinion from you? I should not think the building would be worth 20 per cent. more in stone, except, as I said before, to look at. I take it that in this case we are bound not to put up any building which will not be fitted to its surrounding, this being the great educational centre of the country.
153. I presume you would have no definite instructions, when asked to prepare a plan, as to what material it should be built of? I had no definite instructions, but I was aware of the statement that the University Senate would permit of the erection of the building only in consideration of its being of such a character that it would not disgrace the site, but would bear favourable comparison with the surrounding buildings.
154. Could not a building with brick walls be put up that would not disgrace the site? You can make a brick building as ornamental as you like, but economy would very soon fail in that. You would find that a more elaborate brick building would cost as much as a stone building.
155. But if it cost 20 per cent. more to use stone instead of brick, would you recommend that the building should be constructed of stone? In this particular position I certainly should.
156. Supposing it cost 25 per cent. more, would you still recommend stone? Well, you can hardly say where you would draw the line.
157. I want to ascertain whereabouts you would draw the line? Well, for that position, I think a building of stone, which would bear favourable comparison with the other colleges, would be worth quite half as much again as a plain brick building.

John Charles Maynard, Esq., Chief Inspector of Public Schools, sworn and examined:—

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158. *Chairman.*] You have held your position for some years? About five years.
159. Have you had anything to do during that time with the construction or designing of school buildings? Practically nothing, beyond advising as to the accommodation required.
160. You have advised as to the accommodation required? Yes.
161. You have been consulted by the Architect? It is my duty when an application is received for a school to say what space is required. I recommend a school of a certain kind, and then my responsibility ceases.
162. Had you anything to do with the proposed College? Only as far as giving the accommodation required.
163. You suggested that certain accommodation should be provided in the way of class-rooms, lecture-rooms, living-rooms, and so on? Yes; accommodation for about fifty students.
164. And you think that if the proposed building were erected, it would meet all the requirements of the purpose for which it is to be erected? I think so.
165. Is provision made for present or for prospective pupils? I think the building will meet all the wants of the pupils, both for the present and for the future.
166. Had you any experience in this sort of work in other parts of the world before you were employed here? No.
167. You think the design of the building meets all requirements? I think so.
168. Is it your opinion, from what you know of these buildings, that the expense is within reasonable bounds? I think it is.
169. You know the estimated cost—£37,500? Yes.
170. Do you think the work could be done for that amount? That I could not express an opinion upon.
171. Is the design submitted by the Architect in keeping with the recommendations which you have made from time to time? My recommendations only refer to the accommodation—nothing more.
172. So far as that goes, are the arrangements in keeping with your recommendations? Yes.
173. Do you think the site is a good one? The best available on the ground, I think.
174. Is it easily accessible to those who would have to go there? Yes.
175. How far is it from the Railway Station? I should say about half a mile.
176. And it occupies a tolerably uniform situation with the other buildings which surround it? The situation is good, I think.
177. *Mr. Cox.*] This school is only for male teachers? Yes.
178. Is it not desirable to have a college for female teachers as well? There is one, and that is why it was suggested that this College should be put up.
179. Where is the College for Female Teachers situated? At Hurlstone, Ashfield.
180. What was the cost of it? I could not say. It was an old school, purchased at a very cheap rate, and converted into a Training College, but I forget the price.
181. What number of teachers does it hold? Fifty; or fifty-three might be put in.
182. It did not cost £37,000? A very large piece of land was bought with it; I think 27 acres. The land was more valuable than the building.
183. Do you know the approximate value of the building? I could not give you any idea.
184. Having this College for Female Teachers, you are compelled now to put up a building for male teachers? Yes.
185. Was there not sufficient room upon this land which you now speak of for a college for male teachers? What we particularly wanted was to get close to the University.
186. What means have the female teachers of getting the necessary instruction where they are situated? They are driven down to the train at Summer Hill, and then they take the train to Newtown or Sydney, and walk or take the tram to the University.
187. Would not the same facilities be available for the male teachers? This arrangement is found to be very inconvenient for the female teachers, especially in wet weather.
188. Is the inconvenience so great that there is any probability of the school being removed? I think so. I think that ultimately the land will be sold and the Training College built near the University. That is the opinion of most of us.
189. *Mr. Tonkin.*] How many public school teachers have you in training at the present time? Always about 100—fifty male and fifty female students. It may be fifty-three or forty-nine in either place, but the average is fifty.
190. Where are the male teachers now studying? At Fort-street.
191. Do they board there? No; they board anywhere. That is the objection.
192. Do you think that there is not any likelihood of an increased number of teachers being required in the course of a few years? I think that fifty trained teachers will meet all requirements—that is, fifty every year.
193. Are fifty more than are required at the present time? At the present time we absorb about twenty-five male and twenty-five female trained students every year.
194. Do the others die out, or leave? Yes.
195. This College provides accommodation for fifty only? That is, for fifty boarders.
196. Possibly you may have a number of students resident in Sydney? Yes; if we really required them.
197. It would not be absolutely necessary for a student to become a resident at this College? It would be desirable; but if the College should become overcrowded we could make some of them day scholars, though we do not anticipate having to do that.
198. At present there will be no other students taken except resident students? That is all.
199. What advantage do you gain in having the students resident? The advantage of supervision. Now we have not the slightest knowledge of where they spend their evenings, or where they lodge, nor do we know anything about them. The College would allow of supervision, good training, and economy.
200. Would it not be more economical if they boarded themselves out? At present the students at Hurlstone cost £30 a year, but the young men who are boarded out are paid £6 a month, that is £72 a year, so that the boys cost £42 a year more than the girls. This College would make a saving of more than £2,000 a year.
201. You have been carefully through these plans? I should not like to say carefully. I merely made suggestions as to accommodation required.
202. Have you looked at the class-rooms—do you know their dimensions? Yes.

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203. And the principal rooms that are required for the College? Yes.
204. Is it your opinion that they are sufficiently large? I think they are.
205. Is there anything in the plans which could be improved upon? There is only one thing, and that I objected to from the outset. It is the placing the Principal's residence outside the main building. I consider that the Principal should live inside the building, to supervise the students.
206. Are you still of that opinion? I am still of that opinion.
207. I suppose you could not say if that could now be altered? No.
208. How far would the Principal's house be from the College itself? Not many yards.
209. Is there provision for resident masters as well as for the Principal's accommodation? Yes.
210. The resident masters will live in the building? Yes.
211. So that the scholars will not absolutely be left to themselves? No; and the gentlemen who thought that the Principal might live outside the building considered that the resident masters would be a sufficient protection for the students.
212. Can you tell the Committee how many servants it is intended to have on these premises? I should say about five or six.
213. Does that include the kitchen servants and all? At Hurlstone there are a housekeeper, a cook, an assistant cook or scullery maid, and, I think, three servants—five or six altogether.
214. You think that this College would do with the same number? About the same number, I think.
215. Altogether, you think that the design could not be very much improved upon, and that the College is a great necessity? There is no question about that.
216. The site is all that could be required? Yes.
217. Your opinion is that the building is just what it should be? Yes; as to meeting necessary requirements.
218. *Mr. Humphery.*] Were you consulted about the plans now before the Committee? I think not, after the preparation of the plans.
219. Did you see the plans before they were submitted to this Committee? Yes.
220. Did you offer any suggestion about making provision in the College for the Principal? Yes.
221. Why was not your suggestion embodied in the design? I do not know; I suppose it was overruled by the Minister's acceptance of the plans as a whole.
222. As far as you are concerned you are quite of opinion that the Principal's residence should be within the College, and not away from it? Yes.
223. Did you hear my question to the Architect on the subject, and the Architect's reply? Yes.
224. Do you agree with that? I think the Architect is of opinion that the Principal should live outside—I do not agree with that.
225. How long has the present Training School been in existence? To my knowledge, more than twenty-two years.
226. Since that school has been in existence have you had greater efficiency on the part of the teachers—has there been any improvement in the teachers? Yes.
227. Do you look for still greater efficiency by making provision for them in this Training College? Yes.
228. What did you say was the cost of each pupil at Fort-street? £72 a year. Every month each of the students receives a cheque for £6.
229. And the students find their own board and lodging? Yes.
230. If you divide the probable cost of this building, which you may put down at £40,000 in round figures, by fifty, you will find that the interest will come to about £40 a year for each pupil? Take the cost of the building at £40,000, the interest on that at 4 per cent. will be £1,600. At present we pay the students for lodging the difference between £72 and £30—that is, £42 a year. Fifty times that is £2,100.
231. But then there is the maintenance as well? I am reckoning £30 a year for maintenance.
232. So that there will be no appreciable difference between the cost of maintaining the teachers of the College and the present cost? Yes, there will be a difference of £42 if you discard the interest. They cost £72 at present, whilst the girls cost £30.
233. You have not added to the cost of maintenance the interest upon the cost of the College; therefore, as a matter of fact, there would only be a slight appreciable difference between the present cost of maintenance, and the cost of maintenance after erection? The difference between £2,100 and £1,600.
234. That is £500? Yes.
235. At present what portion of the scholar's time is devoted to the Fort-street School? The whole of the day.
236. What time has he for attending lectures? You mean at the University?
237. Yes? I include that in the day's work. The whole morning is spent at the University.
238. What portion of his time has he to spend at the Fort-street School in performing his duties there as a teacher, and what portion does he devote to study? Those that go to the University spend the whole of the morning there, and return at 1 o'clock. The whole of the afternoon is spent in Fort-street in study, or in practising in the school.
239. Would the same system be pursued at the College? Exactly the same.
240. The whole of the morning would be spent by the pupils residing at the College at the University? Yes. All the lectures at the University are given in the morning—none are given in the afternoon, so that half the day would be given by the students to the University, and half to their own study, or to practising teaching.
241. Is not the Fort-street site far less convenient than this site will be? Yes.
242. Therefore it would be an advantage, so far as convenience for attending to their duties goes, to have a College at the University? Yes.
243. While attending at the University, what schools would the students probably be obliged to attend in the afternoon? A practising school specially designed for them to work in.
244. Would they have to attend one particular school, or would they be distributed? One particular school.
245. Where is that school? At present it is at Fort-street; but when the University College is opened we shall use a school at the back of the College, which we call Newtown North.

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246. Within easy walking distance? Just on the opposite side of the road—you could throw a stone from one to the other.
247. So that there is no doubt that the College would be a great convenience for students? No doubt.
248. I observe that there are a number of dormitories on the ground floor—do you think that it is advantageous to have students on the ground floor? Certainly not advantageous—rather a disadvantage I consider, if it could be avoided.
249. Do you think the design could be improved by having the students' quarters above the ground level? I could not say that without going through the plan; it would be very desirable if it could be done.
250. At any rate, you do not approve of the students' quarters being on the ground floor? Not if it could be avoided.
251. For what reason? Simply that I think it would be healthier to sleep upstairs—no other reason.
252. Do you think it would be an improvement in the design if the Principal's quarters could be provided in the wing at present devoted to the students? I think it would be better for the government of the College.
253. *Mr. Garrard.*] Do you not think that if the Principal were a man with many olive branches, it would be very desirable, for the sake of discipline, that his family should be removed from the College buildings? That could be provided for. I never knew of a training college where the Principal did not live on the premises.
254. Are you in favour of this then, because it has been customary hitherto? No, but I have a recollection of pillow fights and things of that kind among students.
255. There will be two resident masters there—do you not think that they would be able to prevent pillow fighting? It is not altogether the suppression of pillow fighting I am thinking about, but the question of general supervision.
256. The Principal's residence is actually connected with the establishment? It is on the same site, but it is not connected with the College buildings.
257. It is connected by a covered way? I think that is sufficient to detach it.
258. I suppose if the buildings were of a very much larger character, some portions of them would be as far away from the Principal's residence if it formed part of them, as some portions of this building will be from it now. The lecture-hall is supposed to accommodate 250 people. I suppose it will be used for students outside the College attending lectures? Yes.
259. *Mr. McCourt.*] Would the students living in Sydney be required to go into residence in this College? Yes.
260. Whether they lived with their parents or not? Yes.
261. It would be compulsory upon them? Yes, and it is at present at Hurlstone.
262. *Mr. Garvan.*] You said you had an objection to the students sleeping on the ground floor on the score of health;—has any other objection suggested itself to you? No.
263. Is it undesirable to give the students the opportunity of easy ingress and egress? No, I did not think of that. I know that the grounds slope a good deal, and I think it would be better for them to sleep upstairs.
264. Now that your attention has been drawn to it, do you think there is anything in that objection? I think not.
265. On the score of health could not the dormitories be changed from the eastern wing to the western wing? I do not know to what extent that might interfere with the whole plan of the building.
266. You think it would be a decided advantage to have control over the students at night? Yes, and in the day-time too. There would be various advantages from this association of teachers with students, because there are many things to be learnt besides book knowledge.
267. You think it would give you a more perfect knowledge of the character of the teachers you were sending out if you had complete control of them in a College like this? Yes, and the association would do them good. They would get hints as to manners and things of that kind.
268. Is it not some advantage to let young people fight their way in the world a little, so that they may know something of human nature, as they would do in finding their own lodging, instead of being kept within the College? They get plenty of fighting their own way before they go into the College, and afterwards, too.
269. What ages are the people you train? From eighteen to twenty.
270. At that particular age you think it would be a decided advantage to have them within a Training College? I have no doubt about it.
271. *Mr. Dowel.*] Was the size of the bed-rooms, 12 ft. by 8 ft., suggested by you? No, I did not suggest the size of any of the buildings.
272. Do you think that those rooms are sufficiently large to be used as bed-rooms and studies? I do not think that the pupils should study in the dormitories—it was never intended that they should, and I think they would not be allowed to go there except at night, or at certain times in the day. There is a library provided for private study.
273. But suppose the bed-room was adapted as a study for private work, would you approve of that? No.
274. Do you think the rooms are sufficiently large? Not for students to sit in and to turn into a study.
275. Coming back to the size of the class-rooms—36 ft. by 25 ft.—that would be a room considerably less than this. Do you think it would be large enough for the purpose? The largest class would not number more than twenty-five, and it would be large enough for that class. The students are divided into two classes, seniors and juniors, so that there would never be more than twenty-five in a class.
276. Under the circumstances, you consider the rooms sufficiently large? Yes.

James Conway, Esq., Principal of the Training College, Fort-street, sworn and examined:—

277. *Chairman.*] You are Principal of the Training College? I am.
278. Where is it now situated? At Fort-street.
279. How long have you held the position? Since June, 1887.
280. Do you reside at Fort-street? I reside in a house next to the Fort-street Training School, between that school and the Observatory grounds.
281. How many students have you there now? There are sixty there at present, but ten will leave in March, leaving fifty for next year.

J. Conway,  
Esq.

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- J. Conway, Esq., 232. Are they resident or non-resident? They all board out.  
 233. You have written some letters with reference to these proposed buildings, have you not? Yes.  
 12 Feb., 1891. 234. Will you read them? The first is dated, Training School, Fort-street, 23rd August, 1890. It is as follows:—

Memorandum to The Under Secretary, Department of Public Instruction, Sydney.

I HAVE deferred reporting on the recommendations of the Committee of the Senate upon our proposed Training College, as several of the points raised therein appeared to require careful consideration and study of the various Acts of Parliament under which the University itself and the affiliated colleges have been incorporated. After a careful perusal of these Acts, as embodied in the calendar, I have come to the conclusion that it would be decidedly an advantage for our College to be declared "A College within the University," inasmuch as it will place our students in every way on an equal footing with those of the other colleges, a result much to be desired.

With reference to the appointment of Principal, however, there is one especial feature in which our College must always be distinct in its constitution. The object of our proposed College is to train teachers for our primary schools, and the first and most essential consideration in the selection of a Principal ought to be his qualifications for that all-important duty. A thorough knowledge of "the science and art of teaching," based upon actual experience, is, in my opinion, of far more importance than any academical honors for this particular position. I have no hesitation in saying that if, in the appointment of future Principals, this qualification be either overlooked or relegated to a subordinate place there will be great danger of the College failing to perform effectively that distinctive work, which alone would justify its existence.

J. CONWAY,  
Principal.

Upon that, Chief Inspector Maynard writes:—

I agree with the first and second recommendations, but not with the third, which would practically most seriously limit a Minister's choice in the appointment of Principal.

And there is a second minute:—

I THINK the recommendations of the Senate may be accepted. The other colleges in connection with the University are incorporated, ours will not be, and therefore the Affiliated Colleges' Act will not apply. The Senate are of opinion that a clause should be embodied in the new Act, to place the Principal of the Training College on the same footing as those of other colleges, that is to say, that he become at once a member of Convocation, and entitled to all the rights and privileges of a graduate of the University.

The adoption of these proposals will not, I have ascertained, place any restriction on the Department's choice of a Principal for the College.—E.J.

The second memorandum is dated the 14th October, 1890:—

THE correspondence in connection with the proposed Training College, on the University grounds, has now reached a very satisfactory stage as far as our Department is concerned. We have selected the best vacant site on the grounds, and every proposal which we have placed before the Senate has practically been conceded. The proposal of the Senate to make our College "a College within the University," is an admirable one, as it will at once place our students on the same footing as those of the other affiliated colleges. The possible danger of the University authorities interfering in the selection of a Principal, or in any other of the internal arrangements of the College, has been shown to be without foundation, Mr. Barff stating clearly and emphatically—and he made this statement, with the permission of the Senate—that no such interference was ever contemplated.

The admission of outsiders to lectures on pedagogy as suggested by Mr. Barff, is a mere matter of detail, and may well be left for discussion later on. Personally, I see no objection to it. The advantages of the proposed Training College within the University may be briefly summarised as follows:—

1. It will be utilised for the purpose of training the very best of our ex-pupil teachers (selected by competitive examination). We would thus, in course of time, have a supply of trained teachers, who would also be graduates of our University, and from these, the ranks of inspectors, teachers of high schools, and of superior public schools, would be recruited.
2. The University being, to a very large extent, a State endowed corporation, it follows that its labours should be as far reaching as possible—should, in fact, benefit the State as a whole, and this can most readily be done by making our teachers the medium of communication. In other words, the education received by our teachers at the College and University will be reflected upon the State through the medium of the public schools.
3. Under the extended system of training which came into force in January, 1889, the necessity for a closer contact with the University was recognised as a fundamental principle, and every step taken since then has pointed in the same direction.
4. The present arrangements for enabling students to attend the University lectures are very unsatisfactory, inasmuch as the seniors are practically beyond my control till 2:30 p.m. daily. There is, however, no remedy for this state of affairs except a resident college. In fact, the principle of sending our best ex-pupil teachers to the University having been admitted, the necessity for a resident college follows as a natural corollary.
5. The cost of maintenance of the resident Training College would, even allowing for the interest on the capital expended in its construction, be less than the present system.

J. CONWAY,  
Principal.

285. You still hold the opinions expressed in those letters? Certainly.

286. With reference to the residence of the Principal, are you of opinion that he should, or should not, reside within the College? I think it would be a mistake for him to reside in the building. I fancy that a detached residence would be preferable in many ways. Provided that I held the position of Principal, I should see that two teachers resided, one on each floor at the end of the line of dormitories, and I should hold them personally responsible to myself for the actions of the students while I was away; while I should take care that there were means of communication with myself at any time during the night, so that, practically, I would be in the same position as if I were residing in the College.

287. You would consider it essential that you should be within a reasonable distance of the College? Certainly.

288. Are there special objections to the Principal residing within the College? Should I happen to get the position of Principal, I have a small family and I should like to have a separate home; I have been used to that all my life.

289. Then it would be essential that the gentlemen whom you left in charge of the students, assuming that you were not in the College yourself, should be single men? There would be no difficulty about getting efficient single men to act as assistant masters.

290. That is the principal objection—that family life is inconsistent with residence in a place like this? Quite so.

291. Have you had experience of training schools like this in other parts of the world? No, I have not.

292. Do you believe the site to be a good one? I assisted in choosing it, and Professor Anderson Stuart remarked at the time that I had picked the eye out of the University. I replied that I thought the eye could not be used for a better purpose.

293. Is the design submitted in keeping with what you believe to be necessary and right? As far as I am able to judge. I am not able to express a positive opinion on that point.

294. Do you think it provides all the necessary accommodation, taking a prospective view of the requirements? Yes, for the next quarter of a century any way, and arrangements could then be made for increasing the size of the building.

295. *Mr. Trickett.*] From whom did this building emanate? Really, that is a very hard question to answer. It has been freely talked about among the head officers of the Department for many years past.
296. Was it a suggestion from the University? No, it came from the Department—not from the University.
297. I understand that the students have to reside for two years at the Training College? Yes.
298. But to enable them to get a degree at the University they will have to be there three years? Yes.
299. How will that work in? Very easily. A special circular was sent out by the Chief Inspector some time ago, inviting pupil teachers to prepare for matriculation before entering the Training School, and those doing so will be able to pass through their first and second years' course while in the Training School, and special arrangements will be made to keep them in Sydney, so as to enable them to take their third year's course by attendance at evening lectures.
300. So, to carry out this idea, it will be necessary for those who wish to become bachelors of arts to be resident in Sydney? Yes, and I should also mention that the three best would be allowed to remain a third year in the Training College.
301. Would it be compulsory that the students should try to obtain their degrees? No, it is not compulsory.
302. If, after two years' training in the College, they choose to go into the country, can they do so? No. At the end of the first year they have to pass an examination. If it proves that they have not made satisfactory progress in the subjects taught in the Training School, they will not have the option of a second year's training—they will simply be sent away to small schools in the country.
303. If at the end of the first year they do not seem fitted for advancement will they have no second chance? The examination is of such a character that a second chance would not be desirable or necessary. If they pass the first year's examination successfully, they are entitled to the second year's training.
304. Will they, during the first and second years, have to attend evening lectures at the University? If they matriculate before coming to the College they will get instruction in the morning at the University. If they do not matriculate first they will be prepared for matriculation in the Training College.
305. If they do not matriculate before they go to the Training School they will have to be there more than three years before obtaining a degree? Then they leave with the status of a first year's student at the University, and if they are young men with any ambition at all they will take care to finish the course themselves.
306. *Mr. Johnson* puts as one of the chief advantages of having a Training College within the University the statement that "the fact of the teachers receiving a University training will have great influence in moulding public opinion in favour of our schools." I want to know how they are going to get that University training in two years if the whole day is spent in their own College in learning to become public school teachers? The thing will work its own cure. An increasing number of pupil teachers, year by year, will matriculate before entering the Training School, then they will leave the Training College with the status of second-year students.
307. Matriculation is the permission given to become a student at the University? They will matriculate before entering the Training College, and they will be in the Training College for two years. At the end of the first year they will pass the first year examination at the University.
308. How do they get the necessary teaching? They are attending lectures at the University up to that time during the mornings. I mentioned that in my memorandum.
309. And in the afternoon they are taught the mode of teaching, that is, the practical work of a public school? Yes.
310. Have you any information which you can give us about the comparative cost of buildings of this character, here or elsewhere? No.
311. *Dr. Garran.*] Will your curriculum be in any way altered when you get this new College? No, it will not.
312. But the College will be more convenient? Very much more convenient in every way.
313. Do you admit students to this College other than children from public schools? So far we have only admitted pupil teachers who have served their course of apprenticeship; but there is a provision for the admission of outsiders.
314. If a young man, brought up at a Roman Catholic school, or at a grammar school, wished to become a public school teacher, would you admit him? That is a matter upon which the Minister would have to decide.
315. How do you do at present? We admit no one but those from our own service.
316. Then how do you get Roman Catholics? We have a large number of Roman Catholic pupil teachers in the Training School.
317. Where were they before they were pupil teachers? In the public schools chiefly.
318. You only take pupil teachers from those who have been in the public schools? No. Any child, educated no matter where, may apply for the position of pupil teacher.
319. The examination is the only test—they can come from anywhere? Yes.
320. And when they are pupil teachers they may pass on to this College? Yes.
321. There is no exclusiveness? None at all.
322. Do you see any objection to young men sleeping on the ground floor? I have been thinking over the matter since the objection was raised, but I cannot say that I do.
323. What is to prevent them from getting out of the windows? The door would be locked.
324. But the windows would not; you have not thought over the matter? No.
325. Have you looked into the ventilation of these bed-rooms? Yes; I have chatted over the matter with *Mr. Kemp*.
326. There is no fire-place in any of them? No.
327. Are there any ventilators? Yes; over the doors and in the walls.
328. Are they sufficient? I think so.
329. *Mr. Tonkin.*] Will this building afford you sufficient accommodation for your present requirements? For the next quarter of a century.
330. Did I not understand you to say that you had now sixty pupil teachers? Yes, but I stated that ten would leave in March—they are simply there temporarily.

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331. Will there never be sixty again? This is a mere temporary arrangement. Special permission was given to ten of the students who passed the first year's examination in December last to sit for the honor examination in March next, and they were allowed to come to the Training School for study.
332. Will that never occur again? If so, it will be under the same conditions. They will stay at home at night and come to the College in the day-time.
333. There are fifty students to be placed in this College immediately? Yes.
334. And there is only accommodation for fifty? For fifty-one.
335. Do you think there will be no increase in the demand during the next five or six years? I do not think so—not for the class of teachers for which the College is intended.
336. And the maximum number of teachers that there will be for years to come is now reached? No, certainly not. The Training College is intended to supply teachers to the higher class of schools, and I feel quite convinced that if it provides accommodation for fifty students it will answer all requirements for the next quarter of a century. I believe for longer. Even if it does not, it is quite easy to add to the building.
337. What is the average attendance at Fort-street? Fifty—they are compelled to attend every day.
338. What is the average number which you have had on the roll, say for the last three years? It has averaged between thirty and fifty.
339. Has there been a steady increase from one year to another? No.
340. Could you give us the numbers each year for five years back? No, but I will send them to you if you like.
341. You see why I am asking. I have an idea that there must be an increase in the applications for admission in the future? You see there cannot possibly be an increase, because those who come to the College are selected. We select our students in this way,—fifteen scholarships and ten half-scholarships are open each year. All the first class pupil teachers (that is, all who have passed through a four years' apprenticeship) are examined at the end of four years, and the fifteen boys who get the highest marks are awarded full scholarships, that is, the Department pay the entire cost of training them, and the ten who get the next highest marks get half-scholarships, that is, the Department defray half their expenses; so you see that only twenty-five are admitted each year. They would be the twenty-five juniors. The twenty-five seniors would remain from the year before, so that, as long as the regulation remains as it is, the number cannot be increased.
342. But is there no probability of the regulation being altered? Yes, that is quite likely.
343. There will be a large increase of population during the next few years? Yes.
344. Will not that necessitate an increase in the number of scholarships? Mr. Kemp has made arrangements for increasing the accommodation if necessary.
345. You expect the public schools to increase in number? Certainly.
346. And the pupils? Yes.
347. And will not these scholars also increase? The scholarships will be increased as necessity arises.
348. Taking that into consideration, do you think it will be advisable to erect a building for present requirements only; do you not think it would be a little more sensible to look into the necessities of the future? I think we have done so. The matter has been well considered. We consider that accommodation for fifty-one students will answer all requirements for the next quarter of a century.
349. But you have got the fifty now; do you think there will be no increase in the next quarter of a century in the population? The increase will not be sufficient to warrant an increase in the number of students for a considerable time to come.
350. Have you formed any estimate of the probable increase in the number of schools or in the population during the next twenty-five years? I have not thought of that.
351. Then how can you say that the present accommodation will meet all the requirements for the next quarter of a century—you see that this is a very serious question? It cannot be regarded as a serious question, because we can always increase the accommodation if necessary. We are not bound down by hard and fast rules.
352. Have you not pupils enough now to fill this building if it were finished? Yes.
353. You have no further accommodation? No accommodation for any more.
354. In five years' time, perhaps six or ten more may be required. Do you not think it would be advisable to anticipate those requirements by increasing the accommodation now? I see no objection to that.
355. Do you know that it is more expensive to add to a building after it is finished, than it would have been to increase its size at first? I see no objection to that. If the Department of Public Instruction choose to provide accommodation for sixty when we only require fifty, I shall not object.
356. Do you not think it would be better than to only have accommodation for present requirements? I see no necessity for it at present.

TUESDAY, 17 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. FREDERICK THOMAS HUMPHREY.	HENRY COPPELAND, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	JAMES EBENEZER TONKIN, Esq.
The Hon. GEORGE HENRY COX.	EDWARD WILLIAM O'SULLIVAN, Esq.
JACOB GARRARD, Esq.	CHARLES ALFRED LEE, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed College for the Training of Teachers of Public Schools.

Henry Ebenezer Barff, Esq., M.A., Registrar, University of Sydney, sworn and examined:—

H. E. Barff,  
Esq.  
17 Feb., 1891.

357. *Chairman.*] You are Registrar of the University of Sydney? Yes.
358. And have been for some years? Nine years.
359. Have you given any attention to the project of building a College for the Training of Teachers for Public

Public Schools? Yes. All the communications between the Department of Public Instruction and the University have been through my hands. H. E. Barff, Esq.

360. Then you are well acquainted with the whole subject? Yes.

361. Do you consider a building such as that proposed to be erected is necessary? I consider it would be a great advantage to the students at the Training College to be in residence at the University, and for the public school system generally.

362. You are acquainted with the site upon which it is proposed to construct the building? Yes.

363. I suppose you are aware of the design? I have seen it for a few moments, but I have not studied it. From a cursory glance at it I thought it was a very good one. It seemed to me to meet all the requirements. I saw the plans in Mr. Kemp's office. They appeared to me to contain all the necessary accommodation. Of course, I do not know anything about the question of architecture.

364. You think the plans are suitable so far as the architecture is concerned? Yes. If I were providing the requirements of the College it is not likely that I should make suggestions in exactly the same way.

365. A question arose the other day as to the propriety or wisdom of having the Head Master a resident of the College;—have you thought of that matter at all? I certainly think he should reside on the premises.

366. I inferred from the evidence of the Master that he proposed to be away altogether, and to leave the place in charge of two or more deputy-masters? According to the plan, I think there is a covered way connecting the two buildings, so that the Principal will not actually be away from the College.

367. Do you think that that would meet the requirements of the case? Of course, it depends on whether there are assistants residing on the premises; but some of the staff ought to be on the premises. In my opinion, it would be best for the Principal to be on the premises; but if some of the staff were on the premises, that might meet the requirements of the case.

368. Then with the master adjacent, and not very far off, you think that would be sufficient? I think it would.

369. You think the proposed site is a healthy one, as well as suitable for the purposes required of it? Yes, it is a very good site; it is on fairly high ground, and there is plenty of scope for good drainage.

370. *Mr. Copeland.*] I should like to ask you a few questions in reference to the policy of the State in undertaking the training of teachers;—do you think it is absolutely necessary that the State should burden itself with the preparation of young men for this particular branch of the Public Service? That is a matter to which I have not given a very great amount of attention. It seems to me that the officers of the Department of Public Instruction are the proper people to answer that question.

371. I think you, being connected with the highest branch of education in the State, ought to have formed some pretty clear notions on the subject;—would it not be possible for the State to allow young men to be educated and trained in other schools, or in other places, so long as they acquired the training and the education; would it not be equally serviceable for these men to become teachers irrespective of where they received their education or training? Do you mean without respect to the cost of the State?

372. Outside the State altogether. Is it necessary, in the interests of our educational system, that the teachers should go through one particular mill or one particular training college? My opinion is that a large number of people could be found who would be serviceable as public school teachers without going through this Training College. But I am placed in a very difficult position in being asked a question which is purely a matter of expediency in connection with the Department of Public Instruction. I take it for granted that if the Department had been able to get efficient teachers without the establishment of this Training College they would not have proposed its erection. They have found it necessary to have training schools, and they have found it necessary to educate their teachers there. It seems to be their opinion that they can make the most efficient teachers by sending them to the University.

373. Do you find any difficulty in the University in taking students who have been taught in different schools—even in different countries. So long as they have acquired the necessary standard of education is it not immaterial where they have acquired that education? Quite immaterial.

374. Do you not think the same thing would apply in reference to public school teachers. Of course, I am asking you the question as one of policy. We have to do with the question of policy as well as with the question of constructing the building, and I should like to have your opinion as representing the highest branch of education? Of course, it would not matter where the teacher gained his knowledge, but the success of a teacher depends a great deal upon his knowledge of the art of teaching and upon his practical skill in teaching, and I have always understood that the Training College, and the period of pupil teacherdom before the student goes into the College, are intended to give him that practical skill.

375. Do you think it is desirable or necessary that all teachers should pass through the one planing machine, as you may term it—that they should all come out of one mill; or do you think it would be better if teachers exercised individual judgment and experience of their own? I think it is well that they should make use of their experience and individual judgment.

376. You think there is nothing to be gained by the State in putting a whole host of young men through one process of drilling, like a lot of soldiers, and causing them to sink their own individuality, as I take it? Of course, if that is done it will be a great disadvantage.

377. Is that not likely to be done if we compel all the teachers of future generations to go through the one series of training and no other, without any opportunity of acquiring different ideas? I do not think that will be the case in regard to the University subjects, because, when the students are attending the lectures of the University they have the choice of a large number of subjects of study.

378. I am not speaking now of the University students, but of the students going through this College? But I understood the object of having the College on the University grounds is to enable all the students passing through it to become University students, and to attend the lectures at the University.

379. That is one object, but could not that object be gained equally as well without this Training College at all. Are not the University classes open now for young men residing anywhere about Sydney? Yes; and the students at the Training College do attend at the present time.

380. And other students besides the Training College students attend? Yes.

381. And it would be quite competent for any reasonable number of students desirous of becoming public school teachers to attend? Certainly.

382. And it would be competent for them to attend without the State erecting this College, which, in my opinion, may be likened to a machine which is going to turn out hundreds of young men of one stamp and

17 Feb., 1891.

- H. E. Barff,  
Esq.  
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- and of the same way of thinking, and with one particular mould of training? Yes, of course the University lectures are open to all students who may attend. One of the principal objects of the Training College was, I understood, to afford the advantages of college life to these men, to enable them to mix more with one another, and to enable the Principal and the teachers to have better supervision over them. Under present arrangements they are all boarded out in different parts of the town.
383. But will not the system proposed have a tendency to crush out all private enterprise in the shape of educational establishments? I do not see how the establishment of this College can interfere with private enterprise.
384. If the State undertakes the training from the cradle to the grave, almost, does it not necessarily preclude other people who have educational attainments from keeping private schools, and other educational establishments? I do not see how it can affect private schools, inasmuch as this College is for the training of Government teachers for Government schools only.
385. And you think it is desirable that there should be a training establishment for public school teachers, so that they should all have the same class of training? I think it is highly desirable, and I would go further, and say that persons who wish to teach in private or grammar schools should have the privilege of attending this Training College, in order that they may learn something of the practical art of teaching.
386. Do you think there is nothing to be gained by having numbers of different teachers having different ideas and different modes of imparting knowledge? A very great deal, of course.
387. Will not individuality of character be likely to be crushed out in going through this training mill? I cannot see that it will altogether, because the greater part of the student's time, when he is living at the College, will be spent in attending lectures at the University upon subjects which he can choose for himself. The particular instruction which he will receive at the College will be on the art of teaching, and a few school subjects which are not taught at the University; but his principal time will be spent in attending University lectures, and he can attend lectures on any subject he likes, so that they will not really all pass through the same mill.
388. *Mr. Humphery.*] In reply to a question from the Chairman, you were about to make a suggestion as to a better mode of giving effect to the proposal to establish a teaching institution in connection with the University? I do not think I intended to make any such suggestion. What I said was, that if I had furnished the information to the Architect for drawing up the plans, my suggestions would have been different.
389. Will you favour the Committee with the suggestions you would have made if you had been consulted? I have not given any attention to the matter.
390. Why do you say your suggestions would have been different? Well, it is not likely that the suggestions of any two men would have been the same.
391. Can you assist us by letting us know what your suggestions would have been? I have not sufficiently examined the plans, nor thought of the requirements of the College.
392. At present there is a training school in connection with the University? Not in connection with the University.
393. But teachers attending the Training School do attend the University? Yes.
394. Do you think the plan proposed will be the means of producing more efficient teachers than the existing plans? Yes.
395. In what way do you think greater efficiency will be attained? I think the students, whilst in training, will derive an immense advantage from residing with one another close to the University library, and close to the University laboratories; and they will also derive a large amount of benefit from taking part in the University Debating Society, and the various associations connected with the University. They will also be under better supervision in the College than they can be in lodgings.
396. Is it your opinion that it would be an advantage to the College that the Principal should reside within the building, instead of having a separate residence? Yes.
397. What is your reason for saying so? Because I think better supervision could be maintained. The Principal would know better what was going on in the College.
398. Have you any information as to the present cost of maintaining pupils at different colleges—at St. Andrew's and St. Paul's? I have no information on that point, but I could state the fees the students pay for residence and tuition.
399. Where could the information referred to be obtained? From the Principals of the colleges.
400. Who is the Principal of St. Andrew's? The Rev. Dr. Kinross.
401. Of St. Paul's? Canon Sharp, and of St. John's, the Rev. Dr. O'Brien.
402. Do you think the dormitories intended to be provided for these students are sufficiently large—12 feet by 8 feet 3 inches? They seem to be very small. In St. Andrew's College the rooms are 13 feet square.
403. No less than 13 feet square? Not less.
404. And the height? About 15 feet. In St. Paul's College they are about 14 feet square, and in St. John's College 15 feet by 13.
405. With one student in each room? Yes.
406. Therefore you consider 12 feet by 8 feet 3 inches is too small? I should certainly say it was too small if the student has to study as well as use the room as a dormitory.
407. If the room is simply used as a dormitory will it be large enough then? I should think it would.
408. For health and convenience, too? Yes; if it is properly ventilated.
409. *Mr. Tonkin.*] Is not the principal advantage to be derived from the erection of this College to give pupils a thorough understanding in practical teaching? Yes.
410. Do you not think that it is a very desirable thing to instruct teachers in the art of imparting their knowledge to others? Yes.
411. Is there not a large percentage of gentlemen who have taken high degrees at college who do not possess that necessary requirement? Yes; it very often happens so.
412. There are many who are themselves very clever, but they have not the ability to teach? Yes.
413. Under these circumstances, is it not necessary that there should be a college in which teachers should learn the art of teaching? Yes.
414. Do you see anything in the questions asked you by Mr. Copeland in regard to putting teachers through one training school? Of course, the ideal system of teaching would be to take each student individually.

individually. In that way you would bring out his individuality and all his good points; but it is quite impossible to do that. H. E. Barff,  
Esq.

415. They must go through the same class of training to make them teachers? Wherever you have teaching you must have classes, and wherever you have classes you must turn out a number of people from the same mould. 17 Feb., 1891.

416. Is there any other way of making teachers? I know of none.

417. Have you any knowledge of the number of pupils at present attending the lectures at the University from the Fort-street School? There were forty-five last year, including female teachers from Hurlstone College.

418. Can you tell us how many females and how many males there are? Seventeen or eighteen females, and the rest males.

419. Have you noticed whether, during the last year or two, there has been an increase in the attendance, or has it remained stationary? Last year was the first year in which pupils from the Training College attended the University lectures.

420. And have they increased this year much? The term does not commence until next month.

421. Can you give us any idea as to the number of pupils a building of this kind should accommodate? No; I only know from information I have received. I understand there are fifty students in the Training College, and that they do not intend to increase that number. Therefore, they propose to build a College with fifty rooms in it. That is all the information I can give.

422. Have you found any increase in the University attendance during the last few years? Yes; it has increased very fast.

423. Do you not think it will be the same in regard to other educational establishments throughout the colony? Yes; but I understand that this College is to provide for the residence of the students educated by the Department, and I see no particular reason why the Department should not provide for any number it thinks fit. Of course, the Department will not refuse to give employment to people educated elsewhere, and in the course of time there may be a number of competent applicants from outside, so that it will not be necessary to extend the College.

424. Then you think it will merely mean that there will be a keener competition in connection with the examinations for this privilege? Exactly.

425. And that will be more of a benefit than otherwise? Yes.

426. I suppose you have no doubt in your own mind that this is a move in the right direction? Not in the least.

427. And that the College will turn out better teachers than the general run of our Public Schools? Yes.

428. Men more qualified to teach and of better education? Yes.

429. *Mr. Garrard.* Have the plans of this proposed building been submitted to the Senate and received their approval? No.

430. Has the Senate the option of exercising any control over the size of the building? In writing to the Minister of Public Instruction, the Senate suggested that the plans should be submitted to it for approval before the building was commenced.

431. Has that been assented to by the Minister? I do not think it has been specifically assented to, but it is understood there is no objection.

432. You think the style of architecture and the building generally will do well for the purpose intended? Yes.

433. It will not be out of harmony with the present University buildings? No.

434. It will neither disgrace them nor put them into the shade? No.

435. The site of the proposed College is vested in the University Senate? Yes.

436. Have they power to allot a site for this purpose, or how would it come into the hands of the Department of Public Instruction? It will be necessary for an Act of Parliament to be passed to resume the land for this particular purpose.

437. And will it be necessary to pay the full price of the land to the University? No; the University does not propose to make any charge for it.

438. For the purpose of overcoming legal difficulties a Bill will have to be passed? Yes.

439. No demand for payment will be made by the Senate? No.

440. In a statement which has been put before us—I do not know whether you have a copy of it or not—the Senate submitted certain points to the Minister for consideration. They thought, for instance, “That an arrangement be made in favour of the University, under which individual University students not belonging to the Training College, can be admitted to the College teaching (or lectures) on the subject of ‘Pedagogy,’ or the Science and Art of Teaching.” Has that been agreed to by the Minister,—if you look at the bottom of the page, you will see that the Minister accepts everything but that particular arrangement;—will that be a difficulty in the way of coming to terms between the Senate and the Department of Public Instruction? I do not think the Senate will lay any great stress upon that. It is more a suggestion than a condition.

441. Therefore, if Parliament agreed to the expenditure of the money for the erection of this building, it is not likely that any difficulty will arise between the Senate and the Department of Public Instruction, which will in any way burke the scheme? No; I think not.

442. All the ground is clear? Yes; I do not think there will be any difficulty at all.

443. With regard to the question of the Principal residing on the premises;—if two resident masters, independent of the Principal, reside permanently in the building, would there not be sufficient oversight? Perhaps there would.

444. Have you any knowledge as to whether the Principals in the other colleges live on the college grounds? At St Paul’s College the Principal has a separate residence in the same way as is proposed in the present instance. In the other two colleges the Principals live within the walls of the colleges.

445. Is St. Paul’s the most recently built college? It is the oldest of the three colleges. But the warden’s lodge, as it is called, was built about four years ago.

446. And prior to the building of that, did the Principal reside within the college? Yes; he lived in a number of rooms originally intended for student’s rooms.

447. And when they became full they had to find a place for him elsewhere? Yes.

448. And instead of adding to the college buildings proper, they built a separate residence? Yes.

- H. F. Barff, Esq.  
17 Feb., 1891.
449. Do you not think that the Principal being away from the College, and yet close enough to it to have some supervision, is better than living within the college? No; I should think, for the purpose of supervision, it would be better to have the Principal inside.
450. As a rule the Principals are married men, and have families? Yes.
451. Is it not likely that their families might interfere with the discipline? It all depends on how the College is built. At St. Andrew's the Principal and his family live in one end of the building. It communicates with the rest of the building by a door which opens into a lower corridor, and I think there is a door into the upper corridor, so that the Principal's residence is in the building, although it is practically separate from it.
452. Is it not better to have "supervision by a covered way," than to have the Principals actually in the building? I think I should put them in the building.
453. Do you know of any instance of the Principal and his family residing in a college interfering with the discipline of the institution? I have no information of such an instance.
454. In view of the close proximity of the Principal's residence to the proposed College, and the fact that two masters will reside within the College, you think there will be sufficient supervision? Yes; I think that will answer the purpose fairly well.
455. *Mr. O'Sullivan.*] You will see by the plan that the front of the building faces Newtown on the south;—has the Senate been consulted in regard to the direction which the building should front? I do not think it has expressed any opinion.
456. Do you think that is the proper direction? Well, it is the only frontage to the street on the ground.
457. The back portion appears to overlook the University, does it not? The back portion looks more towards St. John's College than towards the University, or rather between the two, I should imagine.
458. You think, then, that that is the best frontage that they could obtain on the land? Yes, certainly.
459. *Mr. Trickett.*] How many students can reside in St. Paul's College? Thirty-six.
460. What was the cost of the building? £35,000.
461. When was it built? In 1858.
462. Are there many lecture-rooms or class-rooms in it besides students' residential apartments? There are a library and two large lecture-rooms.
463. What is the size of the lecture-rooms? I do not know. There are two large rooms, a chapel, a dining-room which will hold 100, and quarters for the providore and servants.
464. How many will the lecture-rooms accommodate? I cannot tell.
465. Do all the students reside on the first floor? Some of the students' rooms are on the first floor and some on the ground floor.
466. Has any objection been found to having rooms on the ground floor? I cannot say.
467. You have heard of no objections? No.
468. How many students can be accommodated at St. Andrew's College? Twenty-seven.
469. What was the cost of that building? £28,200.
470. That includes the Principal's quarters? Yes.
471. And the college was built ten years ago? Twelve or thirteen years ago.
472. How many students does St. John's College accommodate? Twenty-five.
473. Can you tell us the cost of that building? I understand it cost between £36,000 and £40,000.
474. Is the accommodation there much larger than it will be in the proposed building? It is a very large building. I think the accommodation is far greater there.
475. How many principals or assistant masters live there? The residential quarters are very extensive. They are all on the ground floor. I think only one assistant lives on the premises.
476. Is St. John's College completed now? No; the original plans included another large wing, which was to consist of nothing but students' rooms, at the end near the Newtown-road. There is to be a tower at the other end, near the Parramatta-road. Of course, if the building were completed, and this wing containing nothing but students' rooms were built, the cost per student would be very much diminished.
477. Then, judging by comparison, £37,500 for a building to accommodate fifty students is not a very large sum? Certainly not.
478. Evidence was given the other day to the effect that the course of study which these pupils would go through would be similar to that gone through in the University, and that being so, the students would be able to go up each year for their respective grades prior to getting a degree;—do you know whether that matter has been considered by the Senate? Under the arrangement made by the Instruction Department with the Senate, the students from the Training School will be regular University students. They will enter the University by passing the matriculation examination, and will reside at the College while attending the University lectures. They will attend the University lectures in the morning, and do their practical work in the afternoon and evening.
479. Has that been considered by the Senate? Yes; and approved of.
480. Then they will be able to attend evening lectures? Yes; if they think fit.

Walter Liberty Vernon, Esq., Government Architect, sworn and examined:—

- W. L. Vernon, Esq.  
17 Feb., 1891.
481. *Chairman.*] You are the Government Architect? Yes.
482. As Government Architect, have you anything to do with the supervision of public schools? Nothing whatever; they are under Mr. Kemp. I have to do with the University buildings, but not with the public schools.
483. The public school system is kept distinct from the University system? Yes; so far as I am concerned.
484. You are not consulted in any of the designs or plans? Not of the schools. They are under the control of Mr. Kemp.
485. Have you any knowledge of the proposed Training School for Teachers at the University grounds? I have not seen the plans yet. I only heard last night that you wished me to appear here to-day, and I have had no opportunity of obtaining the particulars or seeing the plans. I would suggest that I should go carefully through them, and send you a short report.
486. Have you seen the general plan? I have seen it for the first time to-day.

487. You would not like to venture any opinion about the building without examination? I could not.
488. Have you had to do with the erection of any of the University buildings? I followed my predecessor in completing certain works, and am now building some new Engineering Schools.
489. Could you form any estimate as to what a building to accommodate fifty teachers ought to cost? To tell you the truth, a Training School of this kind is a new feature to myself. I have had to do with ordinary colleges, but not with a Training School for State Teachers. I would rather make myself conversant with the amount of class-room and other accommodation, which will be requisite before giving an opinion.
490. *Mr. Tonkin.*] Do you believe in the principle of open competition amongst architects for the erection of public buildings? Yes.
491. You know that it is the intention of the Government in the future, in the Works Department, to adopt that system? Yes.
492. Do you think it ought to be adopted in connection with the Educational Department;—do you think there should be any difference between one Department and another? No; but it is possible that this particular scheme may have been initiated prior to the public competition system was thought of.
493. In the event of a public competition the plans, I suppose, are placed before you for your opinion? They would be in the case of the Public Works Department.
494. Do you not think that competition itself will result in better buildings for a less price, and a better style of architecture? I think in the general run of buildings it would; but it is possible that in a case of this kind, which is highly technical, that it would be difficult to grasp particular requirements. It is quite a new departure to build a school of this kind. It is a highly technical scheme.
495. Would not the same argument hold good in the case of a hospital? I do not think so. There are general lines laid down which govern all hospitals.
496. Would not this College be similar to the educational portion of the University? It might be by telescoping the different departments in a similar manner. In the University there is an assemblage of separate schools. The proposed building, I take it, will be more of a complete school in itself.
497. Then you believe the open competition system is a move in the right direction? Undoubtedly, as a general rule.

W. L. Vernon,  
Esq.

17 Feb., 1891.

THURSDAY, 26 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHERT.

The Hon. WILLIAM JOSEPH TRICKETT.

The Hon. GEORGE HENRY COX.

JACOB GARRARD, Esq.

HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.

WILLIAM SPRINGTHORPE DOWEL, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM MCCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed College for the Training of Teachers of Public Schools.

Walter Liberty Vernon, Esq., Government Architect, sworn and further examined:—

498. *Mr. Garrard.*] Will you kindly read your Report to the Committee on the plans of the proposed Training College for State School Teachers? Yes.

REPORT on Plans of proposed Training College for State School Teachers.

Sir,

Department of Public Works, Government Architect's Branch, Sydney, 26 February, 1891.

In accordance with the instructions of the Public Works Committee, I have examined the plans and scheme for the proposed Training College, and do myself the honor to report upon them as follows:—

The accommodation required, I have ascertained from the Public Instruction Department, is for fifty resident students, with Principal, tutors, and servants, together with the necessary provision of means for embracing the whole of a three years' course of studies, excluding only those that I understand will be undertaken in the University buildings adjoining. I am of opinion that the plans submitted fulfil these conditions in an ample, but not extravagant manner, and each separate department appears to have been carefully studied, and placed relatively in the most advantageous position.

The building is so planned that it is capable of enlargement, either on the flanks, or on the front looking towards the University.

The main façade is shown to face Bligh-street, while the rear faces the University, and all things being equal as regards aspect, I think, from an architectural point of view, this is a mistake; and as it is designed to form another of the group of handsome buildings forming the University, its best front should be towards the main group and not to a thoroughfare of the comparative unimportance of Bligh-street. This will not, so far as I have ascertained, affect the present plans beyond a reversal of the accommodation.

I concur in the plan of providing the Principal with a separate residence, which is placed sufficiently near and with good access to the main buildings, but I am inclined to think it is unnecessarily large, and unless the Principal is in receipt of a handsome salary its proper maintenance would prove to be more of an incumbrance than otherwise. This opinion also applies to the porter's lodge.

The whole of the buildings are projected to be faced with cut and worked stone, and I gather this is also the case with the interior walls of Lecture Hall.

The style of design chosen is that of "Norman," somewhat approaching to "Byzantine," and I consider, so far as the drawings disclose the design, that it is correct, and conscientiously worked out, and will stand alone as an example of this particular period in the history of design, and instead of clashing with the later styles adopted in the surrounding buildings, will harmonise, and should have an educational effect.

Comparatively speaking, few modern buildings of any note (excepting in America) have reproduced this particular style, and it is generally conceded that more difficulty exists in reproducing the spirit and charm of its details, than almost in any other style of architecture.

I quite approve of the detail drawings for the work so far as I have seen them, but I may be pardoned for urging that the greatest care and ability will be required throughout its construction, to maintain the distinctive features and spirit of this particular style.

In estimating the cost of erection of this building I have been guided to some extent by that of the New Medical Schools, of which the conditions are somewhat similar.

The following is my statement of the approximate cost of erection, viz.:—

Excavations, roads, approaches, boundaries, &c. ....	£2,296
Main building .....	38,750
Principal's residence .....	4,734
Porter's lodge .....	1,728
Total.....	£47,538

I have, &c.,

W. L. VERNON.

499.

The Chairman, Public Works Committee

18—C

W. L. Vernon,  
Esq.

26 Feb., 1891.

W. L.  
Vernon,  
Esq.

26 Feb., 1891.

499. *Mr. Trickett.*] Mr. Kemp's estimate is £37,500? Of course, I have been careful to include all the boundaries, roads, gates, and so on.
500. And that is included in Mr. Kemp's estimate; have you gone carefully through the specifications and plans? I have gone through the plans, but not the specifications. I have based this report, to some extent, upon the Medical School. That building was built at a cost of 11½d. per cubic foot, and I think this will cost about the same; some portions a little less and some a little more.
501. Would it have been a better guide for you to have seen the specifications? It would; but I think I pretty well understand the matter.
502. £1,700 seems a large amount to be spent on a porter's lodge—on a residence for a man getting about £2 a week? It is necessarily of an ornamental character. It is built in the Norman style.
503. Do you see any way of decreasing the expense? I think that building and the master's residence might be reduced.
504. Without interfering with architectural beauty? I think it might, to some extent.
505. Can you say to what extent? Not without going into the plans. You might put up a very presentable building for a porter's lodge for £1,000 or £1,200.
506. Of stone? Yes; or stone and brick.
507. Do you consider the master's residence too large in regard to the number, or size of the rooms? The rooms are of ample size. It is a very handsome building altogether, and it will run into cost, no doubt. Of course, it is worth consideration whether you would not put a handsome building there for the sake of £800 or £900.
508. Is that residence in a very conspicuous position? It stands out by itself, connected by an arcade with the main building.
509. What is the number of the rooms? There are a drawing-room, dining-room, study, and six bed-rooms, I think, and the adjuncts are all very good.
510. What is the width of the hall? Nine feet.
511. That is a pretty good size? It is an extremely comfortable family house.
512. What is the size of the living rooms? Drawing-room 20 ft. x 15 ft., with a bay window; dining-room 20 ft. x 15 ft., study 15 ft. x 20 ft., with a bay window; kitchen 16 ft. x 14 ft., and the various offices are all in keeping.
513. How many bed-rooms are there in the main building? Six.
514. Besides the servants' bed-room? No.
515. What are the sizes? The sizes follow the rooms below.
516. Can you see where any saving can be made? Of course, so much depends on the position of the Principal himself. If it is a large institution it is not too large, but if it is confined to fifty students the house is full sized for a man of ordinary means. Of course, the larger the house, the more expense to keep in order.
517. You have had considerable experience in building private houses? I have built a good many.
518. What rent would a house of that character bring in a fairly good locality? In Double Bay it would bring about £270 a year.
519. What would it bring in Neutral Bay? £220 or £230.
520. Independent of the size of the house, do you think it is of a very expensive character? Of course, it is all in character with the main building, and I think it would be a pity not to retain that character.
521. Are the walls of the out-houses of such a character that they could be reduced? The walls are 18 inches thick; you might reduce them to 16.
522. That would not make very much difference? No.
523. If the building is carried out to its present size, you do not see any great chance of reducing the cost of it? The balconies and verandahs are all carried out with stone. Everything is very good.
524. If they are constructed as balconies generally are, with iron pillars, would it make any considerable difference? Yes.
525. Some hundreds of pounds difference? I would not like to say how much.
526. You advise that the position of the building should be altered—that the back should be placed in front? I think it should be considered.
527. Have you looked at the ground? Only on the plan. I know the ground from crossing it.
528. Could that alteration be made without increasing the expense? Yes.
529. It would only reverse the arrangement of the rooms? That is all.
530. Do you see any means of saving any money in the main building? I do not, unless the lecture-hall could be built of a less expensive material than stone; but I am not absolutely certain that it is of stone. Of course, it is a very handsome room.
531. If you had an opportunity of studying the specifications would you have a better opportunity of informing the Committee whether any saving could be made in your estimate? I do not think so, because the rooms are all built with one class of finish.
532. There being such a large discrepancy between you and Mr. Kemp, the Committee would like to be certain? I feel bound to go by the experience gained in the Medical School.
533. In this country? Almost adjoining. It cost £66,000. It works out to 11½d. per foot cube.
534. Do you approve of the arrangement of this building? I do.
535. Do you think a building of a more compact nature could be designed—three stories high instead of two;—to my idea this building seems to cover a lot of ground? I think Mr. Kemp has hit the right thing. If you decrease the area of the building and go higher, you make it extremely difficult to get your large common rooms, or lecture-hall and library of sufficient dimensions in the smaller area. Of course there is no difficulty about dormitories, but you lose the space you require in your common rooms.
536. Do you think the dormitories are suitable? They are very lofty. The cube contents are quite enough.
537. It is not intended to use them as studies? I presume each student might have a writing-table in them, but he would not use his room all day long.
538. You think they are amply large? Yes.
539. Have you studied the bath and closet accommodation? Yes.
540. Is it ample and convenient? Very, indeed.

541. What amount do you think could be reasonably saved in the lodge and the Principal's residence? You might save £1,500 on the work.
542. Have you consulted with Mr. Kemp on the matter at all? Mr. Kemp has not seen or heard of this Report until I read it just now. Mr. Kemp lent me his plans in the first instance, and told me the accommodation which was required.
543. *Mr. Dowel.*] You have referred to the Medical School as a building upon which you based your estimate;—is it not a fact that that building is a more expensive class of building than the one proposed to be erected? There may be a little more elaboration in some of the external portions, but I think that is met by the internal accommodation and the fittings required in this new building, besides which the ornamental external appearances of this new building are quite as elaborate, where they do exist, as those in the Medical School.
544. Is it not a fact that Mr. Kemp's mode of ascertaining the probable cost of this building would be more reliable than your mode of cubing—where, for instance, he has had the quantities correctly taken out? I cubed all mine.
545. Is it not a fact that the cube system is not so accurate as one in which all the quantities and details are taken out? I admit that. There is 10 per cent. variation.
546. Under the circumstances you would not pit your estimate against Mr. Kemp's as being most reliable? If Mr. Kemp has taken out the quantities I should, perhaps, prefer his estimate.
547. So far as quantities go, you would consider that he was in a better position to form a correct estimate than you would be under your method of cubing? I would.
548. *Mr. Humphery.*] What would be the additional cost of the main building if you were to make provision for the Principal in the College instead of giving him a separate residence? About the cost of a separate residence.
549. There would be no saving? I do not think there would.

W. L.  
Vernon,  
Esq.  
26 Feb., 1891.

TUESDAY, 3 MARCH, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.	JAMES EBENEZER TONKIN, Esq.
The Hon. FREDERICK THOMAS HUMPHERY.	WILLIAM SPRINGTHORPE DOWEL, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	EDWARD WILLIAM O'SULLIVAN, Esq.
The Hon. GEORGE HENRY COX.	CHARLES ALFRED LEE, Esq.
JACOB GARLAND, Esq.	WILLIAM McCOURT, Esq.
HENRY COPELAND, Esq.	JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed College for the Training of Teachers of Public Schools.

Edwin Johnson, Esq., Under Secretary of Public Instruction, sworn and further examined:—

550. *Mr. Trickett.*] What is the name of the Principal of the Training College? James Conway.
551. Has the residence attached to this College been designed especially for the accommodation of that gentleman and his family? No.
552. Do you know whether he was consulted in regard to the requirements of the building? I rather fancy that the Architect had some conversation with him on the subject.
553. What salary does he get? He gets £450 a year as Principal of the College.
554. Is that his whole salary? No; he receives £50 a year as Superintendent of the pupil teachers' classes, held on Saturdays, and he gets a fee of 60 guineas as a Member of the Board of Examiners.
555. Does his whole income amount to £563? Yes.
556. Does he get any allowance for house rent? He has a house rent free in Fort-street.
557. Have you compared that residence with the new residence? It is quite as commodious as the residence about to be erected.
558. Was it built for this gentleman? No. It was originally two houses occupied under the old National Board by the Secretary and the Chief Inspector of Schools.
559. It has occurred to the Committee that the proposed new residence is rather a palatial building for a gentleman in receipt of a salary of £563;—do you think that that is so? My recollection is that the building contains only four bed-rooms, a drawing-room, and a dining-room. I hardly fancy that a gentleman occupying that position could be properly accommodated with a less number of rooms.
560. They are very large rooms—20 feet by 18 feet, I think? 20 feet by 15 feet.
561. Do you think that it is a suitable residence for a gentleman in that position? I think so.
562. And that it is not too extravagant? I do not think so.
563. *Dr. Garran.*] Under your present system, what salaries or allowances do you give your pupil teachers from the time you take them in hand and attempt to train them? Male pupil teachers receive £42, £48, £60, and £72 in the successive years of their training.
564. How long has that system been in operation? This scale of salaries has been in operation for about twelve months. The principle of payment has been in force for the last thirty-eight years.
565. You could not get an adequate number of good teachers if you did not pay them? No.
566. Are there many professions in which persons are paid a salary while they are learning, and are taught at the public expense at the same time? I do not think it is a common thing, but instances do occur in other professions where it is done.
567. Did this system originate at a time when you could not get teachers unless you did so? Yes; and if we did not do it we could not get any pupil teachers now.
568. It is absolutely necessary? Yes; we have had to increase the salaries in order to induce male candidates to come forward.
569. The present rate of payment is not too high? No.
570. If you drop the allowances you would be short of teachers? We should get no candidates.
571. You have had a system of collegiate training in operation for some years in connection with female teachers—has your experience been in favour of the collegiate system as against the lodging system? Yes.

E. Johnson,  
Esq.  
3 Mar., 1891.

- E. Johnson, Esq.  
8 Mar., 1891
572. It has had a favourable influence on the teachers? Yes.
573. In what respect? It enables the Principal and her assistants to exercise a proper supervision over the students' studies at night, and to see that they are profitably engaged.
574. Does it establish a better *esprit de corps*? It does, and I think it gives a better tone to the students.
575. You think that the evidence so far is clearly in favour of that? Overwhelmingly in favour of putting these young teachers into residence.
576. You have not had this experience in regard to young lads? No.
577. Do you feel the want of it? We do.
578. You have good reasons for believing that the residential system would improve the tone of the young men? Yes.
579. And that it would make better teachers of them? Quite so.
580. That is one reason in favour of building this College? The chief reason.
581. There is no pecuniary gain? We should gain about £2,000 a year by the change.
582. In what way? We allow each student a monthly allowance of £6; we have ascertained at Hurlstone that the average cost of a student there is under £30 a year, and we infer that we shall be able to educate and board male students at about the same rate, which will leave a clear gain of £42 a year on each student.
583. You have allowed nothing for the interest on the outlay—you cannot get a building erected for nothing, you know? The estimated cost of the building is £40,000, which at 5 per cent. means an annual interest of £2,000, but then we shall have the use of the buildings which we now occupy for other purposes.
584. You will have to allow for rates and repairs? We are not troubled with many rates, fortunately.
585. You will have to repair? Yes, but we shall have the use of the buildings which we now occupy for other purposes, and that is an item which should be considered.
586. You will not make any pecuniary gain by it on the whole? I rather fancy that we shall.
587. The great gain is the gain in the moral tone in the young men? Yes.
588. You think that alone is sufficient justification for putting up the building? I do.
589. Looking at the plan, do you not see that on one side the bed-rooms of the pupils are on the ground floor? Yes.
590. Do you think there is any disadvantage in having their bed-rooms on the ground floor, where they can get in and out at any time without being seen? I think it would be well if it could be prevented.
591. Do you notice that the masters' rooms are on the inner side, where they have the least possible command or control over the bed-rooms. Is that a good position for the masters' rooms? It ought to be stated that, in addition to the supervision of the masters, one of the students will be captain of each bed-room. He will have the immediate supervision of the students, and the master will only be appealed to in the event of the authority of the captain of the room being found to be futile or ineffective.
592. Still you have put the masters exactly where they have least possible control over the various rooms of the students? Yes.
593. Might not that be improved upon? I daresay it might, but the Architect will be best able to answer that question.
594. You have put the Principal right outside the building, so that in the evening he will have very little control over the young men he is teaching, and practically will throw the control on to the masters and the captains of the rooms? I imagine that the Principal will be required to visit the dormitories at night once or twice.
595. Is that considered part of his duty? That is part of his duty.
596. Have you considered this question of the bed-rooms opening on to the ground floor? We did consider that. We tried to make better arrangements, but we could not secure the other advantages and at the same time make better arrangements.

William Edmund Kemp, Esq., Architect for Public Schools, sworn and further examined:—

- W. E. Kemp, Esq.  
3 Mar., 1891
597. *Mr. Garrard.*] You have read the paper, and also the evidence furnished by Mr. Vernon, the Government Architect, with reference to the proposed College Buildings? Yes.
598. Is there any portion which you desire to controvert or to challenge? I was very much astonished at his estimate of the cost of the buildings. Since he gave his evidence I have reconsidered my own estimate, and I can only come to the conclusion that he has over-estimated the cost very much. I am still of opinion that my original estimate is ample.
599. You based your estimate upon properly and sufficiently well drawn up specifications? Yes.
600. Mr. Vernon had not those specifications when he was preparing his estimate? No.
601. How do you think he arrived at his estimate? He states here that he arrived at it by a comparison with the cost of the Medical School. The Medical School is of a much more expensive character than this building will be.
602. He was guided therefore by the cost of the Medical School adjoining, which is of a far more expensive kind of building? Yes.
603. And, after duly considering the matter, you are firmly of opinion that your estimate of the cost will not be exceeded? I am of that opinion.
604. With reference to his evidence on the subject of the Principal's residence, do you agree with his estimate of its probable cost? I do not.
605. What is your estimate? I did not make a note of the figures, but I know that it was between £2,000 and £3,000.—Mr. Vernon's estimate is nearer £5,000.
606. And you based your estimate on carefully drawn specifications? Yes.
607. With reference to the porter's lodge, Mr. Vernon puts the cost of that building down at £1,728—what is your estimate of the cost? About £1,000.
608. I understand you to say that you do not think the Principal's residence or the porter's lodge are in any way out of harmony or proportion with the main building? I think not, and I may say that the Principal's residence contains nothing more than what I consider is absolutely necessary for the residence of a person occupying such a position. It might have been possible to make the rooms rather smaller; but the gain would be very small, and the loss to the occupant of the house I consider would be very great.
- 609.

609. You have heard Mr. Johnson, the Under Secretary, state that the Principal receives a salary of £563 a year. Now, would you, if you were a private gentleman in receipt of that salary and desired to have a house built, go to the expense of having it built on the elaborate scale which you have prepared in this case? I do not suppose that any man with such an income would build such a house for himself. W E. Kemp,  
Esq.  
Mar., 1891.
610. You look upon the house, then, as State property? Yes.
611. And you consider, therefore, a building of a substantial character should be erected? I consider it necessary to make this building correspond in style with the College buildings generally.
612. Do you agree with Mr. Vernon that the building should face the north instead of the south? No. I may say that the whole of the other buildings on the grounds face outwards, as our building does, towards the road. We should have had to put the back premises to the road, and consequently the access to the building would not have been so good as it is if it were built in the other way.
613. Your frontage is within a reasonable distance of Bligh-street? Yes, it is about 130 feet from the street, simply leaving room to get a carriage drive.
614. Your frontage, if it faced the north, would be a considerably greater distance from the road than it is at present? A quarter of a mile, I suppose.
615. Is St. Andrew's College on the east or west of your building? It is on the west, facing Miasenden-road.
616. What road does St. John's College face? It will face the Parramatta-road when it is completed.
617. And St. Paul's? It is in such an incomplete state that one can hardly say which is the front. I think the front will face the east.
618. So that each building erected upon the University grounds fronts the road it is nearest to, and you are adopting the same principle in the case of your building? Yes.
619. You differ, therefore, with Mr. Vernon in his suggestion that your building should be turned right about? Decidedly.
620. Is there any other point in his evidence to which you desire to refer? The only other point is in regard to his estimate of the value of the house. He said that such a house would fetch £260 or £270 a year. I think he as much over-estimates the probable annual rental of such a house as he does its prime cost.
621. *Mr. Tonkin.*] Is this residence placed in such a position that if it were built in a plainer manner it would be a kind of eyesore to the principal buildings? It is necessary to have a residence, and as that residence must be in immediate proximity to the College, it is necessary that it should correspond in style with the other buildings.
622. Suppose the building should require to be enlarged on either flank, could not the residence be attached to the main building so as to permit of the extension of the flanks at any time? It could have been so built, but it would interfere with the lighting of the building, and would preclude the possibility of any further extension of the wing it might happen to be built against.
623. Would not that reduce the cost of construction? No; I do not think there would be any saving; it would cost quite as much.
624. You do not think we could reduce the cost of constructing the residence without injuring the plan, from an architectural point of view? I do not think so.
625. You do not think the cost is out of proportion to the position which this residence occupies? I do not think it is.
626. And I suppose the same remark applies to the porter's lodge? Yes.
627. The cost of that lodge could not be reduced in any way? Not to supply what I consider sufficient accommodation for a man and his family.
628. Is a porter's lodge necessary from an ornamental point of view;—is it necessary that there should be a porter's lodge at all? One of the conditions made by the Senate of the University was that there should be a porter's lodge, and that it should be placed so as to command the entrance to the University as well as the entrance to our own building. Our porter will have charge of the University gate as well as our College gate.
629. Under these circumstances you do not think it is any too large or elaborate? I do not think so.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

College for the Training of Teachers of Public Schools.

APPENDIX.

A.

TRAINING COLLEGE FOR PUBLIC SCHOOL TEACHERS.

(EXPLANATION, ESTIMATES AND PLANS OF PROPOSED.)

Presented to Parliament, pursuant to the 13th section of Public Works Act, 1888.

Minute by the Minister of Public Instruction.

Proposed College for Training Teachers of Public Schools.—Explanation of the proposed work.

Department of Public Instruction, 21 November, 1890.

THIS proposed work is submitted and recommended by me for the purpose of providing accommodation for students in training as teachers of the public schools. This accommodation includes rooms for classes and for general purposes of instruction, as well as apartments for the Principal and staff, residential students and College servants. Full particulars on these and other details are to be found in the Architect's Report annexed. The estimated cost of the work is £37,500, exclusive of the value of the site which is situated in the University grounds, and has an area of 4 acres 1 rood and 9½ perches. The University Senate have agreed to surrender this site to the Crown without compensation or claim, in order to enable the Government to carry out this work. It is proposed to conduct the College for male students only, and to so conduct its operations as to gain for these students as full a benefit as is possible under the circumstances of their position, from the University course of lectures and studies. The College will be by its Act of Incorporation declared to be a College "within the University"; having a Principal recognised as *ex officio* a member of the University, and having the same rights and privileges as are conferred by the University Act of 1861 on Principals of the Affiliated Colleges. The management of the College, including the appointment of its staff, will be under the control of the Minister of Public Instruction, but the students will be amenable to the rules and regulations of the University so far as they may affect them as undergraduates or members of that body.

The Senate of the University have agreed to make liberal arrangements as to students' matriculation and attendance at lectures, and also to accept an annual lump sum in lieu of lecture fees, &c., for students, such sum being a very considerable reduction on the full fees, and only fairly covering the increased expenditure of the University in regard to the students.

The annexed outline of the training course will show certain details of the proposal as it affects the character of the educational work and the numbers of teachers or students comprised in this proposal.

Sketch plans of the site and proposed buildings are also attached.

J. H. CARRUTHERS,  
Minister of Public Instruction.

Report of the Architect of Public Schools on the accommodation provided, and estimated cost of new College for Training Teachers of Public Schools.

THE main building will provide the necessary accommodation for the residence and instruction of fifty-one students. Separate bedrooms are provided for the students, each room to be 12 feet by 8 feet fitted with conveniences for use as a study for private work, five classrooms are provided for different classes for various kinds of work, and a lecture room to accommodate about 250 for lectures, to which teachers generally, as well as resident students, can be admitted. This hall will be a very suitable room for singing practice, and being lighted only from the roof will be a good room for drawing classes.

In the basement provision is made for ample kitchen and scullery accommodation and stores and larders, and also for a sitting-room and bedroom for the housekeeper, and four good bedrooms for servants. The only communication between this part of the premises and the upper floors of the College is by a staircase which starts from the vicinity of the housekeeper's room, with a screen and door which cuts off communication.

An office for the Principal is provided near the main entrance, with waiting-room attached; and on the same floor is a dining-hall, with communication by lift to the basement.

In addition to the class-rooms there is provision for a library and museum, a common room for the resident masters, and a recreation room for the students.

A covered gymnasium forms part of the scheme, the space under the lecture-hall being utilised for that purpose.

Ample bath and closet accommodation is provided of the most modern and complete kind, the closets being in turrets with open lobbies to prevent any possible contamination of air in the sleeping-rooms.

The Principal's residence is attached to but separate from the College, and provides the usual requisites of a modern residence.

A porter's lodge is provided, which will command the entrance to the College grounds, and also a new road into the University grounds, between the Training College and St. Andrew's College.

It is proposed to erect the buildings with Pyramont stone externally, and internal walls of brick, and in part of coke concrete. The roof to be covered with slates, and all internal finishings to be neat and substantial, but not extravagantly ornate.

The style chosen, as shown by the drawings, is English Norman of the 12th century; a style which allows of a good deal of effect without excessive cost, and lends itself easily to modern requirements.

The estimated cost, including enclosing fences, drainage, &c., is £37,500.

WM. E. KEMP,  
Architect for Public Schools.

Outline of Training Course, &c., of proposed College for Training Teachers of Public Schools.

1. To carry on the work of National Education effectively a supply of thoroughly qualified teachers is absolutely necessary for State Schools.
2. To ensure such supply it is necessary that the State shall itself provide an efficient system of educational and professional training for teacher candidates.
3. This training must be of a kind to secure to candidates the best facilities for—
  - (a) Acquiring full information in the subjects to be taught in schools; and
  - (b) For obtaining the highest professional skill in the art of teaching or pedagogy.
4. The course of training has been arranged to extend over a period of six years, commencing from the time when a boy or girl candidate has finished the ordinary school curriculum.
5. The candidates pass the first four years of this course as pupil-teacher apprentices in State Schools under qualified teachers.
6. Pupil-teachers, as the term implies, are both pupils and teachers. As pupils they receive from the Principal of the school (out of school hours) instruction in school subjects, and in school organisation and methods of teaching; and as teachers they (during school hours) teach and manage junior classes under the Principal's direction and supervision.

7. Before admission as a pupil-teacher a candidate has to pass a competitive examination in reading, writing, dictation, arithmetic, grammar, geography, drawing, and vocal music; and is also required to teach a junior class in the presence of an Inspector.

8. At the end of each of the four years of apprenticeship, pupil-teachers must pass examination in attainments and skill; and if successful they are allowed to proceed with the next year's course.

9. In addition to their professional instruction and training during apprenticeship, pupil-teachers receive annual payments from the State, viz. :—

For first year—males.....	£42;	females.....	£24
„ second „ „ .....	£48;	„ .....	£30
„ third „ „ .....	£60;	„ .....	£36
„ fourth „ „ .....	£72;	„ .....	£48

10. At the close of their apprenticeship, pupil-teachers are about 18 years of age; and to render them fully competent for teachers' work in the large number of more important State Schools a further and higher course of training is necessary. Hence the most intelligent and best advanced among them are afforded an opportunity of entering the Training Institution, established for the purpose of providing this higher and completing course.

11. The ordinary Training College course extends over two years, examinations being passed by students at the end of each year. In this institution lessons and lectures are given in the theory and practice of pedagogy by professors of the highest qualifications for such work; and by making the institution a College within the Sydney University the students will have similar advantages in connection with the study of literary and scientific subjects.

12. This comprehensive and complete course of education and training for State School Teachers is absolutely necessary when the character of the educational work required of them is duly considered.

13. After leaving the Training College and University thus equipped, the students will be employed for two or three years, as assistants in large city and suburban schools, before being themselves appointed to the sole charge of country schools.

14. The expense to the State of training college education is not greater than that of pupil-teacher apprentices in their third and fourth years.

15. The advantages;—

- (a) Will promote economy in the conduct of the Training College.
- (b) Will foster the profession of teaching by drawing to it young persons of high intelligence.
- (c) Will elevate the standard of culture among teachers.
- (d) Will mould public opinion in favour of our State School system.
- (e) Will invigorate the Public School system generally.

16. There are now 360 male pupil-teachers, about one-fourth of whom proceed to examination for student scholarships each year.

17. There are fifty scholarships and half-scholarships (a full scholarship being of the value of £72 per annum) tenable for two years for successful male students, although the number of students may exceed fifty by the division of scholarships.

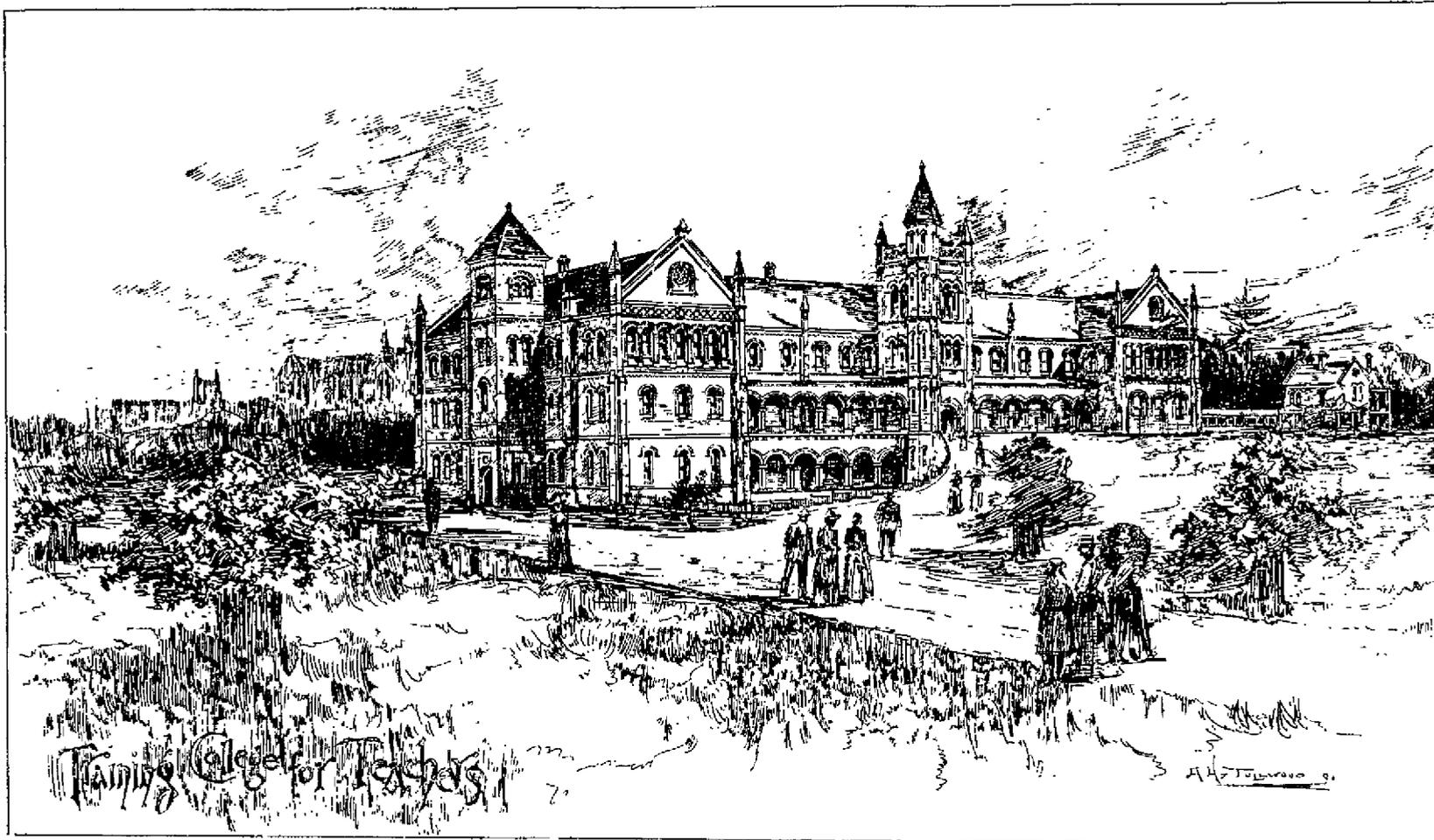
18. The number of male students now in training is 56, of whom 13 reside at home, and 43 in licensed lodging houses.

19. The proposed College will give residential accommodation to the latter class, but affording equal facilities for instruction to all alike.

J. H. CARRUTHERS.

[Three Plans.]





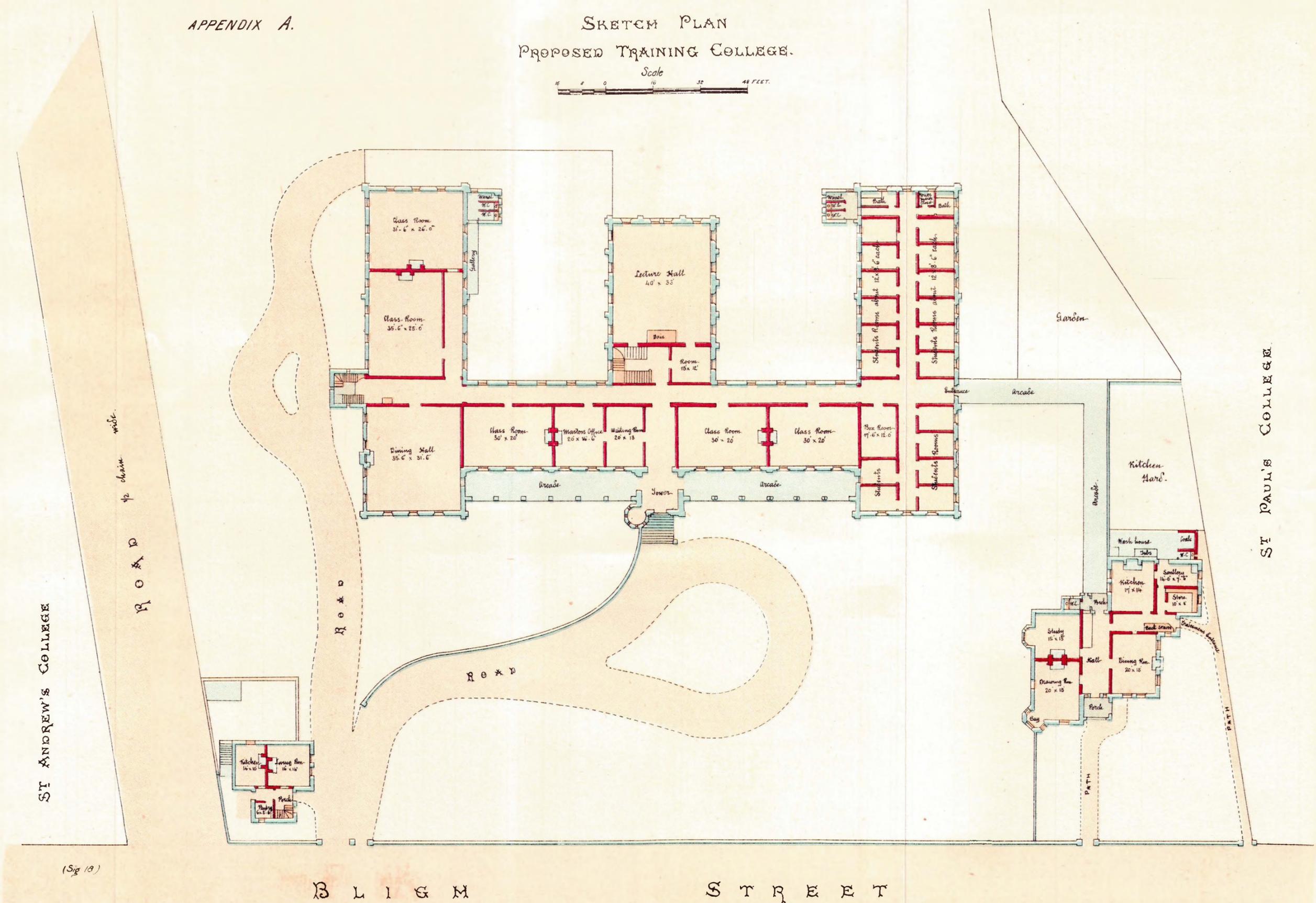
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THE PROPOSED COLLEGE  
FOR THE  
TRAINING OF TEACHERS OF PUBLIC SCHOOLS

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE  
SYDNEY, NEW SOUTH WALES.

APPENDIX A.

SKETCH PLAN  
PROPOSED TRAINING COLLEGE.



ST ANDREW'S COLLEGE

ROAD  
1/2 chain wide.

BLIGH

STREET

ST PAUL'S COLLEGE

(Sig 18)



NEW SOUTH WALES.

BANKING, LAND, BUILDING, AND INVESTMENT COMPANIES' LIABILITIES AND ASSETS.

(GENERAL ABSTRACTS FOR QUARTER ENDED 31 DECEMBER, 1890.)

Presented to Parliament, pursuant to Acts 4 Vic. No. 13 and 42 Vic. No. 21.

SUMMARY of GENERAL ABSTRACT of the Sworn Returns, rendered pursuant to the Act of Council 4th Victoria No. 13, and 42 Victoria No. 21, of the Average ASSETS and LIABILITIES, and of the CAPITAL and PROFITS, of the undermentioned BANKING, LAND, BUILDING, and INVESTMENT COMPANIES of the Colony of New South Wales, for the Quarter ended 31st December, 1890.

COMPANIES.	LIABILITIES.						ASSETS.							CAPITAL AND PROFITS.			
	Bills in Circulation.	Balances due to other Banks.	Deposits not bearing Interest.	Deposits bearing Interest.	Other Liabilities.	Total Liabilities.	Coin.	Bullion.	Landed Property.	Notes and Bills of other Banks.	Balances due from other Banks.	Notes and Bills discounted, and all other debts due to the Companies.	Total Assets.	Capital paid up.	Rate per Annum of last Dividend.	Amount of Dividend.	Amount of Reserved Profits at the time of declaring such Dividend.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Sydney and Suburban Mutual Permanent Building and Land Investment Association (Limited)	.....	174 8 2	.....	146037 17 5	44333 0 7	100545 12 2	2 5 2	.....	142478 10 7	8 18 5	10006 18 3	143794 0 11	301890 10 4	87277 19 0	10 7/8 cent.	4056 15 8	31500 0 0
Town and Country Land, Building, and Investment Company (Limited)	.....	1271 10 0	.....	8005 0 0	12093 0 0	22374 10 0	.....	.....	19320 0 0	.....	.....	16452 0 0	35772 0 0	9064 6 3	6 3/4 cent.	587 16 1	2000 0 0
Haymarket Permanent Land, Building, and Investment Company (Limited)	.....	11397 13 4	.....	137873 0 1	34868 16 10	134140 1 8	078 2 6	.....	157187 16 8	16 3 1	5548 12 8	111171 15 8	274551 10 7	52333 1 10	10 3/4 cent.	2610 12 9	32000 0 0
Pitt, Son, & Badgery (Limited)	.....	80529 3 0	.....	40405 5 0	.....	76934 8 0	.....	.....	10768 10 6	.....	.....	127683 3 0	138351 13 0	50000 0 0	10 3/4 cent.	2500 0 0	5000 0 0
Land Company of Australasia (Limited)	5631 1 8	51301 12 6	.....	111202 8 4	233470 0 4	401605 2 10	248 0 3	.....	467055 10 4	691 13 10	6221 4 8	178758 12 0	652975 1 1	104285 8 0	12 3/4 cent.	6252 9 1	51951 4 2
Exchange Bank of Australia (Limited)	9615 7 0	1568 0 1	.....	5210 16 2	30 16 11	16425 6 8	709 17 7	104 13 2	14273 8 10	.....	12 3 6	3822 16 9	18927 10 9	4322 0 0	15 3/4 cent.	320 0 7	250 0 0
Metropolitan Mutual Permanent Building and Investment Association (Limited)	.....	5782 11 4	.....	151684 12 9	98225 3 8	255592 7 9	.....	.....	235077 14 3	.....	.....	162630 5 1	308207 10 4	123224 10 0	8 3/4 cent.	4928 19 7	12500 0 0
Excelsior Land, Investment, and Building Company and Bank (Limited)	.....	175 5 0	11834 12 10	284602 7 8	29103 12 6	325265 13 6	971 5 0	.....	172959 13 10	2334 9 2	5996 19 6	251765 1 4	434527 14 4	57890 0 0	8 3/4 cent.	4638 8 0	49000 0 0
City and County Investment, Land, and Building Company (Limited)	.....	13140 13 1	.....	42187 7 7	31235 0 3	91563 5 11	240 13 7	.....	55673 13 6	1105 18 8	3599 13 4	54570 9 8	115199 13 9	17628 8 5	10 3/4 cent.	1034 13 1	13066 13 11
Sydney and Provincial Land and Building Company (Limited)	.....	6343 11 5	.....	22004 13 9	14860 0 0	43208 5 2	.....	.....	38438 13 9	.....	1245 16 0	50039 12 2	87724 0 11	33854 13 0	8 3/4 cent.	1168 11 0	11000 0 0
Commercial Building and Investment Company (Limited)	.....	.....	823 7 10	234731 9 3	.....	235054 17 1	.....	.....	276226 6 5	.....	.....	27678 14 8	304505 1 1	50000 0 0	10 3/4 cent.	2500 0 0	15000 0 0
National Building, Land, and Investment Company (Limited)	.....	12494 1 11	.....	90469 16 7	18744 9 5	122648 7 11	835 1 1	.....	94591 1 8	.....	.....	62949 2 5	158375 5 2	24764 9 8	10 3/4 cent.	1206 8 2	12289 4 11
Mercantile Building, Land, and Investment Company (Limited)	.....	25620 7 7	.....	97178 9 0	89777 17 8	212576 14 3	59 11 2	.....	158546 14 5	887 1 7	3117 15 5	100631 14 0	263242 16 7	31475 15 0	7 1/2 cent.	1167 17 3	25718 12 6
Intercolonial Investment, Land, and Building Company (Limited)	.....	5053 7 9	.....	31238 9 11	31296 10 3	67593 7 11	500 0 0	.....	46932 7 8	.....	.....	56734 8 9	103166 16 5	23156 1 11	10 3/4 cent.	1021 10 6	10500 0 0
Anglo-Australian Investment, Finance, and Land Company (Limited)	.....	37331 8 3	.....	236011 13 3	581178 14 7	803519 16 1	201 2 4	.....	719165 0 3	.....	70 0 0	270028 2 0	989454 4 7	115924 0 0	15 3/4 cent.	10740 0 3	67525 0 0
Carried forward	£ 16246 9 2	207129 9 11	11703 0 8	1044043 12 9	1170820 9 0	3049548 1 6	4456 4 0	104 13 2	2607840 17 10	5543 4 0	36419 3 3	1622510 4 5	4270873 7 5	787030 12 8	.....	50786 6 7	342301 0 6

ASSETS and LIABILITIES of BANKING, LAND, BUILDING, and INVESTMENT COMPANIES—continued.

COMPANIES.	LIABILITIES.						ASSETS.							CAPITAL AND PROFITS.			
	Bills in Circulation.	Balances due to other Banks.	Deposits not bearing Interest.	Deposits bearing Interest.	Other Liabilities.	Total Liabilities.	Coin.	Bullion.	Landed Property.	Notes and Bills of other Banks.	Balances due from other Banks.	Notes and Bills discounted, and all other debts due to the Companies.	Total Assets.	Capital paid up.	Rate per Annum of last Dividend.	Amount of Dividend.	Amount of Reserved Profits at the time of declaring such Dividend.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Brought forward .....	15246 9 2	207129 9 11	11708 0 8	1044643 12 9	1170820 9 0	3049548 1 0	4455 4 0	104 13 2	2607840 17 10	5548 4 9	36419 3 8	1622510 4 5	4276878 7 5	787930 12 8	.....	50780 6 7	342301 0 6
Mutual Provident, Land, Invest- ing, and Building Society (Limited) .....	.....	21300 12 0	.....	44154 1 8	11740 10 0	77285 3 8	.....	.....	77967 11 2	.....	.....	32070 14 9	110038 5 11	26993 18 11	6 ½ cent.	720 18 5	16000 0 0
Assets Realization and General Finance Company (Limited) .....	.....	2055 0 0	.....	102066 0 0	.....	104711 0 0	.....	.....	17059 0 0	.....	.....	181760 0 0	199749 0 0	25000 0 0	5 ½ cent.	701 0 0	5000 0 0
Newcastle and County Mutual Building, Land, and Invest- ment Company (Limited) .....	6328 2 0	8838 2 8	.....	10336 3 9	66 17 2	25559 0 1	.....	.....	11240 17 8	.....	.....	39122 11 2	50863 8 10	23525 8 0	10 ½ cent.	2113 0 7	2100 0 0
Australian Banking Company (Limited) .....	.....	2510 7 8	3665 8 11	59416 9 11	.....	65592 6 6	1500 12 6	.....	3124 4 0	.....	.....	167473 12 7	172098 9 10	101080 14 0	10 ½ cent.	4733 9 0	4500 0 0
Australian Mercantile Loan and Guarantee Company (Limited) .....	.....	.....	.....	73606 17 3	.....	73606 17 3	1049 7 2	.....	3924 11 9	.....	4930 9 9	134067 10 0	142471 18 8	69814 5 0	8 ½ cent.	5389 6 0	9529 7 9
Federal Building Society .....	.....	.....	.....	181911 8 2	.....	181911 8 2	.....	.....	.....	.....	1372 4 1	183584 12 0	184956 16 7	200000 0 0	10 ½ cent.	10000 0 0	16518 10 8
Mortgage, Guarantee, and Mercantile Finance Corporation of New South Wales (Limited) .....	.....	55173 7 0	1407 16 0	34083 10 9	.....	90664 13 9	.....	.....	68329 10 0	.....	.....	88317 8 4	146640 13 4	49987 10 0	10 ½ cent.	2500 0 0	3033 7 6
Southern Building, Mortgage, and Investment Company (Limited) .....	.....	3988 2 3	.....	18052 16 4	921 5 4	22962 2 11	47 7 3	.....	7053 12 2	.....	.....	22286 10 6	29387 9 10	5000 0 0	10 ½ cent.	250 0 0	1425 6 11
Australian Mutual Investment and Building Company (Limited) .....	.....	25333 19 3	.....	340598 13 10	110168 0 0	476100 13 1	250 0 0	.....	315735 0 0	961 10 0	.....	213306 0 6	630752 10 6	24835 8 3	25 ½ cent.	2831 9 0	49103 15 11
Burwood Building and Invest- ment Company (Limited) .....	2116 12 2	1281 8 2	.....	22633 6 2	83998 12 4	110079 18 10	.....	.....	48880 5 6	.....	.....	76892 19 7	125573 5 0	11416 2 0	10 ½ cent.	312 3 4	3765 0 4
Cumberland Building, Land, and Investment Company (Limited) .....	.....	11857 1 0	.....	24832 11 4	961 18 10	37371 11 8	.....	.....	28704 13 10	100 0 0	.....	31719 16 0	58524 9 10	20210 0 0	6 ½ cent.	1206 14 11	2020 2 6
The Federal Reversionary Investment and Financial Company (Limited) .....	.....	.....	.....	12463 10 0	.....	12463 10 0	10 0 0	.....	4480 0 0	196 0 0	1271 8 1	20669 10 11	20626 19 0	13008 0 0	.....	.....	.....
Land, Mortgage, Loan, and Discount Company (Limited) .....	.....	1634 14 11	.....	2030 14 6	.....	3715 9 5	204 18 7	.....	14976 14 3	.....	.....	20425 2 1	38006 14 11	80000 0 0	9 ½ cent.	2700 0 0	8111 10 8
British and N.S.W. Invest- ment and Financial Company (Limited) .....	.....	.....	.....	8034 7 1	.....	8034 7 1	.....	.....	.....	.....	471 9 11	8249 13 10	8721 3 9	10246 2 0	.....	.....	.....
Commercial Agency, Trading, and Banking Company (Limited) .....	.....	.....	.....	593 10 7	.....	593 10 7	146 12 9	.....	.....	.....	402 0 4	2892 6 7	3440 19 8	3404 17 6	.....	.....	.....
Goldsbrough, Mort, & Company (Limited) .....	.....	.....	8093 11 1	393539 17 4	.....	401633 8 5	.....	.....	248485 8 4	.....	.....	602314 4 7	845749 12 11	350000 0 0	10 ½ cent.	17600 0 0	229860 1 6
Balmain Building Society and Savings' Bank (Limited) .....	2207 13 3	2263 12 9	.....	6365 9 5	.....	10941 15 5	.....	.....	7023 3 5	.....	.....	7949 15 9	14972 19 2	3629 5 0	8 ½ cent.	130 18 3	593 12 4
St. Leonards' Land, Building, and Investment Company (Limited) .....	.....	6260 14 3	.....	4906 16 1	3320 2 7	14487 11 11	.....	.....	8968 11 7	.....	.....	17907 17 7	26476 9 2	10616 6 0	10 ½ cent.	680 3 0	1149 1 0
The Colonial Finance, Mortgage, Investment and Guarantee Corporation (Limited) .....	.....	1005 0 4	.....	79290 15 4	137393 16 6	217690 1 2	.....	.....	36691 8 8	.....	.....	229860 8 9	266551 12 5	37500 0 0	10 ½ cent.	1792 5 8	8836 14 7
Sydney Land, Bank, and Financial Agency Company (Limited) .....	11410 0 0	.....	.....	50778 13 4	.....	62188 13 4	25 0 0	.....	48040 17 7	.....	7426 10 8	35901 0 8	91393 14 11	27912 10 0	8 ½ cent.	1112 10 0	2318 7 3
Totals .....	37308 17 1	350777 1 8	24874 16 8	3174679 3 7	1510401 11 9	5107041 10 9	7689 2 3	104 13 2	3538076 12 8	9924 10 0	51693 6 1	3789431 17 0	7346970 10 8	1832150 19 10	.....	105400 3 9	700171 19 6

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The Treasury, New South Wales,  
Sydney, 24th February, 1891.

JAMES PEARSON,  
Accountant.

W. McMILLAN,  
Treasurer.

1891.

NEW SOUTH WALES.

BANK LIABILITIES AND ASSETS.

(FOR QUARTER ENDED 31 DECEMBER, 1890.)

Presented to Parliament, pursuant to Act 4 Vic. No. 13.

SUMMARY of GENERAL ABSTRACT of the Sworn Returns, rendered pursuant to the Act of Council 4th Victoria No. 13, of the Average ASSETS and LIABILITIES, and of the CAPITAL and PROFITS of the undermentioned BANKS of the Colony of New South Wales, for the Quarter ended 31st December, 1890.

Table with columns: BANKS, LIABILITIES (Notes in Circulation, Bills in Circulation, Balances due to other Banks, Deposits not bearing Interest, Deposits bearing Interest, Total Liabilities), ASSETS (Coin, Bullion, Landed Property, Notes and Bills of other Banks, Balances due from other Banks, Notes and Bills discounted, and all other Debts due to the Banks, Total Assets), CAPITAL AND PROFITS (Capital paid up, Rate per Annum of last Dividend, Amount of Dividend, Amount of Reserved Profits at the time of declaring such Dividend).

\* Includes bonus of 2 1/2 per cent. per annum.

† Including bonus of £15,625.

The Treasury, New South Wales, Sydney, 3rd February, 1891.

JAMES PEARSON, Accountant.

W. McMILLAN, Treasurer.



1891.

NEW SOUTH WALES.

BANK LIABILITIES AND ASSETS.

(FOR QUARTER ENDED 31 MARCH, 1891.)

Presented to Parliament, pursuant to Act 4 Vic. No. 13.

SUMMARY of GENERAL ABSTRACT of the Sworn Returns, rendered pursuant to the Act of Council 4th Victoria No. 13, of the Average ASSETS and LIABILITIES, and of the CAPITAL and PROFITS of the undermentioned BANKS of the Colony of New South Wales, for the Quarter ended 31st March, 1891.

Table with columns: BANKS, LIABILITIES (Notes in Circulation, Bills in Circulation, Balances due to other Banks, Deposits not bearing Interest, Deposits bearing Interest, Total Liabilities), ASSETS (Coin, Bullion, Landed Property, Notes and Bills of other Banks, Balances due from other Banks, Notes and Bills discounted, Total Assets), CAPITAL AND PROFITS (Capital paid up, Rate per Annum of last Dividend, Amount of Dividend, Amount of Reserved Profits at the time of declaring such Dividend).

\* Including bonus of 2 1/2 per cent.

† Including Government deposits, £32,307 13s. 10d.

‡ Including Government deposits, £1 0s. 11d.

§ Including £853,700, average amount of Government securities held.

The Treasury, New South Wales, Sydney, 1st May, 1891.

JAMES PEARSON, Accountant.

W. M'CALLAN, Treasurer.



1891.

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NEW SOUTH WALES.

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# EIGHTH REPORT

ON THE

## CREATION, INSCRIPTION, AND ISSUE OF STOCK

UNDER THE PROVISIONS OF THE

“INSCRIBED STOCK ACT OF 1883”

(46 VIC. No. 12).

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Presented to Parliament, pursuant to Act 46 Vic. No. 12, sec. 13.

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SYDNEY: GEORGE STEPHEN CHAPMAN, ACTING GOVERNMENT PRINTER.

1891.



1891.

NEW SOUTH WALES.

## EIGHTH REPORT

ON

## THE CREATION, INSCRIPTION, AND ISSUE OF STOCK,

UNDER THE PROVISIONS OF THE

"INSCRIBED STOCK ACT OF 1883" (46 VIC. No. 12).

To the Honorable William McMillan, Esq., M.P., Colonial Treasurer.

The Treasury, New South Wales,

Sir,

Sydney, 19th May, 1891.

I have the honor to submit the Eighth Annual Report under the provisions of the "Inscribed Stock Act of 1883."

The last Report was dated 23rd April, 1890. There has been no further issue of Stock in the interval.

A statement of the Stock created and inscribed under the provisions of the Act is given below :—

## FIRST INSCRIBED LOAN.

Created for the conversion of outstanding Debentures, on which a Loan had been raised on the 8th June, 1882, under authority of the Acts 41 Vic. No. 7 and 43 Vic. No. 11, with an obligation on the part of the Government to convert same into Inscribed Stock :—

Capital amount of such Stock	...	...	*£1,186,300.
Rate of interest thereon	...	...	4 per cent. per annum, payable half-yearly.
Currency	...	...	Fifty years.
Condition of redemption	...	...	Payment on maturity, at par.

## SECOND INSCRIBED LOAN.

Created for the purpose of raising a Loan under authority of the Acts 41 Vic. No. 7 and 43 Vic. No. 11 :—

Capital amount of such Stock	...	...	£3,000,000.
Rate of interest thereon	...	...	4 per cent. per annum, payable half-yearly.
Currency	...	...	Fifty years.
Condition of redemption	...	...	Payment on maturity, at par.

THIRD

\* The balance of this Loan, £813,700, is outstanding in Debentures.

## THIRD INSCRIBED LOAN.

Created for the purpose of raising a Loan under the authority of the Acts 43 Vic.  
No. 11, 44 Vic. No. 12, and 44 Vic. No. 28 :—

Capital amount of such Stock	...	£3,000,000.
Rate of interest thereon	... ..	4 per cent. per annum, payable half-yearly.
Currency	... ..	Fifty years.
Condition of redemption	... ..	Payment on maturity, at par.

## FOURTH INSCRIBED LOAN.

Created for the purpose of raising a Loan under the authority of the Acts 44 Vic.  
No. 28 and 46 Vic. No. 12 :—

Capital amount of such Stock	...	£5,500,000.
Rate of interest thereon	... ..	3½ per cent. per annum, payable half-yearly.
Currency	... ..	Forty years.
Condition of redemption	... ..	Payment on maturity, at par.

## FIFTH INSCRIBED LOAN.

Created for the purpose of raising a Loan under the authority of the Acts 44 Vic.  
No. 28, 45 Vic. No. 22, 46 Vic. No. 23, and 48 Vic. No. 26 :—

Capital amount of such Stock	...	£5,500,000.
Rate of interest thereon	... ..	3½ per cent. per annum, payable half-yearly.
Currency	... ..	Forty years.
Condition of redemption	... ..	Payment on maturity, at par.

## SIXTH INSCRIBED LOAN.

Created for the purpose of raising a Loan under the authority of the Act 48 Vic.  
No. 26 :—

Capital amount of such Stock	...	£5,500,000.
Rate of interest thereon	... ..	3½ per cent. per annum, payable half-yearly.
Currency	... ..	Thirty-eight years.
Condition of redemption	... ..	Payment on maturity, at par.

## SEVENTH INSCRIBED LOAN.

Created for the purpose of raising a Loan under the authority of the Act 48 Vic.  
No. 26 :—

Capital amount of such Stock	...	£3,500,000.
Rate of interest thereon	... ..	3½ per cent. per annum, payable half-yearly.
Currency	... ..	Thirty years.
Condition of redemption	... ..	Payment on maturity, at par.

## EIGHTH INSCRIBED LOAN.

Created for the purpose of raising a Loan under the authority of the Acts 48 Vic.  
No. 26 and 52 Vic. No. 16 :—

Capital amount of such Stock	...	£3,500,000.
Rate of interest thereon	... ..	3½ per cent. per annum, payable half-yearly.
Currency	... ..	Twenty-nine years.
Condition of redemption	... ..	Payment on maturity, at par.

I have, &c.,

F. KIRKPATRICK,

Acting Under Secretary for Finance and Trade.

1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

STATE OF CURRENT ACCOUNT IN LONDON.  
(RETURN SHOWING.)

*Ordered by the Legislative Assembly to be printed, 27 May, 1891.*

[Laid upon the Table of the House in answer to Question No. 7, Votes No. 5, 26 May, 1891.]

Questions.

(7.) LONDON ACCOUNT:—MR. GARVAN asked THE COLONIAL TREASURER,—

(1.) What money has been sent by the Government from Sydney to the credit of the London account from 1st January, 1870, to present date; giving particulars of date, and amount for each transaction?

(2.) Similar information with reference to money transmitted from London to Sydney?

Answers.

RETURN showing the money that has been sent by the Government from Sydney to the credit of the London Account, from 1st January, 1870, to 26th May, 1891; also the dates and amounts of each remittance.

Date.	Amount.	Total.	Date.	Amount.	Total.
1872.	£ s. d.	£ s. d.	1878.	£ s. d.	£ s. d.
Dec. 30 .....	.....	20,000 0 0	Jan. 30 .....	100,000 0 0	
1873.			Feb. 16 .....	100,000 0 0	
Jan. 27 .....	50,000 0 0		Mar. 15 .....	100,000 0 0	400,000 0 0
Nov. 3 .....	150,000 0 0		1879.		
Dec. 1 .....	200,000 0 0	400,000 0 0	Jan. 30 .....	50,000 0 0	
1874.			Mar. 18 .....	200,000 0 0	250,000 0 0
Feb. 21 .....	300,000 0 0		1880.		
Sept. 25 .....	50,000 0 0		May 11 .....	.....	250,000 0 0
Dec. 21 .....	100,000 0 0	450,000 0 0	1889.		
1875.			April 24 .....	.....	500,000 0 0
June 10 .....	150,000 0 0		1890.		
July 8 .....	100,000 0 0		Dec. 8 .....	10,000 0 0	
Aug. 6 .....	100,000 0 0		" 11 .....	100,000 0 0	110,000 0 0
Sept. 3 .....	100,000 0 0		1891.		
" 30 .....	100,000 0 0	550,000 0 0	Jan. 2 .....	175,000 0 0	
1876.			" 9 .....	62,500 0 0	
June 10 .....	50,000 0 0		" 10 .....	100,000 0 0	
July 7 .....	300,000 0 0		" 16 .....	62,500 0 0	
Aug. 31 .....	100,000 0 0		" 17 .....	100,000 0 0	
Oct. 20 .....	100,000 0 0		Feb. 2 .....	100,000 0 0	
Nov. 17 .....	50,000 0 0		" 28 .....	30,000 0 0	
Dec. 15 .....	100,000 0 0	700,000 0 0	Mar. 10 .....	61,250 0 0	
1877.			" 20 .....	61,250 0 0	
Mar. 9 .....	350,000 0 0		" 26 .....	50,000 0 0	
" 17 .....	50,000 0 0		April 6 .....	30,000 0 0	
June 27 .....	400,000 0 0		" 9 .....	50,000 0 0	
Dec. 22 .....	100,000 0 0	900,000 0 0	" 10 .....	100,000 0 0	
1878.			" 15 .....	100,000 0 0	
Jan. 19 .....	100,000 0 0		" 20 .....	138,750 0 0	
			Total.....		1,221,250 0 0
					£5,751,250 0 0

RETURN showing the money that has been received by the Government from London to the credit of the Sydney Account from 9th December, 1870, to 26th May, 1891; also the dates and amounts of such remittances.

Date.	Amount.	Total.	Date.	Amount.	Total.
1870.	£ s. d.	£ s. d.	1885.	£ s. d.	£ s. d.
Dec. 9 .....	.....	100,000 0 0	Jan. 14 .....	1,000,000 0 0	
1882.			Mar. 16 .....	1,200,000 0 0	
Sept. 26 .....	250,000 0 0		„ 27 .....	800,000 0 0	
Nov. 13 .....	250,000 0 0	500,000 0 0	June 2 .....	500,000 0 0	
1883.			Oct. 15 .....	250,000 0 0	
Mar. 29 .....	200,000 0 0		„ 30 .....	500,000 0 0	
May 4 .....	200,000 0 0		Dec. 7 .....	500,000 0 0	4,750,000 0 0
Sept. 29 .....	350,000 0 0		1886.		
Nov. 10 .....	350,000 0 0		Mar. 1 .....	500,000 0 0	
Dec. 10 .....	500,000 0 0	1,600,000 0 0	May 25 .....	250,000 0 0	
1884.			June 16 .....	250,000 0 0	
Feb. 29 .....	350,000 0 0		July 8 .....	250,000 0 0	
Mar. 17 .....	350,000 0 0		Aug. 7 .....	900,000 0 0	
April 12 .....	300,000 0 0		Sept. 4 .....	630,000 0 0	
May 14 .....	500,000 0 0		Oct. 8 .....	630,000 0 0	3,410,000 0 0
June 23 .....	500,000 0 0	2,000,000 0 0			
				Total.....	£12,360,000 0 0

Sydney: George Stephen Chapman, Acting Government Printer.—1891.

[3d.]

1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

INTERNATIONAL UNION FOR THE PUBLICATION OF  
CUSTOMS DUTIES.

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

RECAPITULATION Table drawn up in pursuance of Articles 8, 9, 10, and 11, of the Convention of 5th July, 1890, and on the basis shown in the Report of the annexed signatory's of the said Convention.

Countries who have joined.	Annual quota in francs. (Annual Subscription.)	Cost of first instalment quota (to pay in 1891 only) in francs.	Number of copies of the Bulletin to be received by each country joined.	Language spoken in country joined.
<b>1st Class.—Countries whose commerce amounts regularly to more than 4 milliards of francs.</b>				
England and her Colonies, not specially named afterwards.....	6,833	2,733	456	English.
Belgium.....	6,833	2,733	456	French-Flemish.
United States.....	6,833	2,733	456	English.
France and her Colonies.....	6,833	2,733	456	French.
Holland and her Colonies.....	4,100	1,610	274	Dutch.
Russia.....	4,100	1,610	274	Russian.
<b>2nd Class.—Countries whose commerce amounts regularly to from 2 to 4 milliards of francs.</b>				
Austria-Hungary.....	2,982	1,192	199	German-Hungarian.
Spain and her Colonies.....	4,970	1,988	332	Spanish.
India (British).....	4,970	1,988	332	English.
Italy and her Colonies.....	4,970	1,988	332	Italian.
<b>3rd Class.—Countries whose commerce amounts regularly to from 500 millions to 2 milliards of francs.</b>				
Argentine Republic.....	3,106	1,242	207	Spanish.
Brazil (United States of).....	1,863	745	124	Portuguese.
Canada.....	3,106	1,242	207	English-French.
Denmark and her Colonies.....	1,863	745	124	Danish.
New South Wales.....	3,106	1,242	207	English.
Portugal and her Colonies.....	1,863	745	124	Portuguese.
Switzerland.....	3,106	1,242	207	French-German.
Turkey.....	1,863	745	124	Turkish.
Victoria.....	3,106	1,242	207	English.
<b>4th Class.—Countries whose commerce amounts regularly to from 100 to 500 millions of francs.</b>				
Cape of Good Hope.....	2,485	994	166	English.
Chili.....	2,485	994	166	Spanish.
Columbia (United States of).....	2,485	994	166	Spanish.
Egypt.....	1,491	596	100	Arabic.
Equator.....	2,485	994	166	Spanish.
Greece.....	1,491	596	100	Greek.
Japan.....	1,491	596	100	Japanese.
Mexico.....	2,115	994	166	Spanish.
New Zealand.....	2,485	994	166	English.
Persia.....	1,491	596	100	Persian.
Queensland.....	2,485	994	166	English.
Roumania.....	1,491	596	100	Roumanian.
Uruguay.....	2,485	994	166	Spanish.
Venezuela (United States of).....	2,485	994	166	Spanish.

Countries who have joined.	Annual quota in francs. (Annual Subscription.)	Cost of first instalment quota (to pay in 1891 only.) in francs.	Number of copies of the Bulletin to be received by each country joined.	Language spoken in country joined.
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5th Class.—Countries whose commerce amounts regularly to from 50 to 100 millions of francs.

Bolivia .....	1,863	745	124	Spanish.
Costa Rica .....	1,863	745	124	Spanish.
Guatemala.....	1,863	745	124	Spanish.
Haiti .....	1,863	745	124	French.
Natal .....	1,863	745	124	English.
Peru .....	1,863	745	124	Spanish.
Serbie .....	1,118	447	75	Serbian.
Siam .....	1,118	447	75	Siamese.
South African Republic .....	1,118	447	75	Dutch.

6th Class.—Countries whose commerce is less than 50 millions of francs.

Western Australia .....	621	248	42	English.
Dominican Republic .....	621	248	42	Spanish.
Independent Congo States .....	372	143	25	Congolais.
Honduras Republic .....	621	248	42	Spanish.
Nicaragua .....	621	248	42	Spanish.
Paraguay .....	621	248	42	Spanish.
Salvador.....	621	248	42	Spanish.
Tasmania .....	621	248	42	English.
New Territory .....	621	248	42	English.

1891.

NEW SOUTH WALES.

# METROPOLITAN FIRE BRIGADES' BOARD.

(SEVENTH ANNUAL REPORT.)

Presented to Parliament, Pursuant to Act 47 Vic. No. 3, sec. 7.

The Chairman of The Fire Brigades' Board to The Colonial Secretary.

Sir, Head Quarters Fire Station, Castlereagh-street, Sydney, 3 March, 1891.

I have the honor, in pursuance of section 7 of "The Fire Brigades Act, 1884," to present the Report of my Board on the operations of the year 1890.

I have, &c.,  
CHARLES BOWN,  
Chairman.

## REPORT OF THE FIRE BRIGADES' BOARD FOR THE YEAR 1890.

In obedience to section 7 of the "Fire Brigades Act, 1884," the Fire Brigades' Board has the honor of presenting its Report for the year ending 31st December, 1890.

The seats held by the elective members of the Board became vacant, by effluxion of time, in the month of March,—the retiring members being Richard McCoy, Esq., J.P.; Alderman S. E. Lees, Esq., M.L.A.; Walter Church, Esq., J.P.; E. J. Love, Esq.; and William A. Gibb, Esq. The elections duly held to fill the vacancies resulted in the return of Alderman J. C. Beare, J.P., by the Municipal Council of the City of Sydney; Charles Hellmrich, Esq., J.P., by the other contributing Municipal Councils; Edward J. Love, Esq. (re-elected), by the Volunteer Fire Companies; Walter Church, Esq., J.P. (re-elected), by the Fire Insurance Companies having their head quarters in New South Wales; and M. W. S. Clarke, Esq., M.A., by the other Fire Insurance Companies doing business in the Colony.

Comparing the list of contributing Insurance Companies (*Vide Appendix I*) with that of the previous year a change will be observed in the omission of three Companies which have ceased business, and the addition of two contributors.

The amount held at risk in the metropolitan district is shown by the attested returns of the Insurance Companies to have been £57,148,388 on the 31st December, 1889,—an increase of no less than £3,565,388 upon that of the previous year—which, again was £3,054,632 in excess of the returns for December, 1887.

Appendix II gives a list of the municipalities contributing to the Board under the provisions of the Act. The total "assessed value" of their ratable property, according to the returns collected during the year 1889, upon which their contributions for 1890 were based, was £4,546,996, an increase of £127,703 over that of the previous assessment; the contributing municipalities remaining the same. During the year just passed, however, certain changes have taken place, which will affect the returns for the current year, to wit,—the extension of the Fire Brigades' Act to the municipalities of Granville and Kogarah; the amalgamation of the boroughs of St. Leonards, St. Leonards East, and Victoria, into the municipality of North Sydney; and the separation of Drummoyne from Five Dock. In other districts in the county of Cumberland movements are in progress to have the jurisdiction of the Board extended to them.

With the extension of its jurisdiction follows increased responsibility and necessity for extended provision for protection against fire; that responsibility the Board feels deeply, and has devoted the most careful consideration to the best methods of providing fire-protection, so far as the resources at its disposal will permit.

In the metropolis the erection of lofty buildings of great cubical capacity, frequently in narrow lanes and without proper precautions against fire, has continued unchecked, and the risk of disastrous conflagrations must increase in similar ratio. The Board has taken every opportunity in its annual reports and elsewhere to give earnest warnings to the authorities, and to the public generally, of the growing danger in that respect. Those warnings have unfortunately been severely emphasised during the past year by the occurrence of the most destructive fire that has yet been experienced in the Australian colonies. The fire referred to broke out on the 2nd October, in the premises of Messrs. Gibbs, Shallard, and Co., Hosking Place, and despite the efforts of the Metropolitan Fire Brigade, assisted by the Volunteer Companies, hampered as they were by narrow lanes, insufficient water supply, and high buildings erected without regard to the fire risk, the flames spread to Castlereagh, Moore, and Pitt Streets, and destroyed one of the most valuable blocks in the city, in which were some of the largest warehouses with most costly stocks. Among the buildings destroyed were,—that of Messrs. Gibbs, Shallard, & Co., Pomerooy Chambers,

with the large stock of the English and Australian Furnishing Co., the great wholesale warehouses of Messrs. Henry Bull & Co., Messrs. Feldheim, Gotthelf, & Co., Messrs. Lark, Sons, & Co., and others; the fine building of the City Bank was also involved in the widespread ruin; the Athenæum, the Gorman, and the Southern Clubs, together with large blocks of offices, were either completely burned out or severely damaged. Fortunately the efforts of the firemen, under the experienced direction of Superintendent Bear, prevented the fire from spreading across Moore-street, and the important block bounded by King, Pitt, Moore, and Castlereagh Streets was happily saved, though for some time it was in imminent danger. The firemen also succeeded in beating back the flames from a number of valuably stocked buildings in Pitt-street, though the back portions of the warehouses of Messrs. Newton, Bros., and other buildings, suffered considerable damage by fire, water, and falling walls.

Necessary precautions against fire.

It is reasonable to believe that if, in those valuable buildings, precautions against fire had been taken, such as the Board has faithfully and persistently asserted the necessity of—by means of iron shutters to windows, bricked-in lifts with iron doors, proper divisional walls, the prohibition of wooden bridges between buildings, &c.—the ravages of the flames might have been checked before they had spread over such a large area, and an immense amount of valuable property saved. Indeed the evidence at the official inquiry into the origin of the fire went to show that the flames spread from the upper story of Messrs. Gibbs, Shallard, & Co.'s premises, downwards, by way of the unprotected lift, and thus gained inextinguishable hold before the alarm was given. The Board has, also, unremittingly called attention to the necessity for an improvement in the water supply for the better protection of lofty buildings. The fire in question has conclusively shown that the Board did not do so without good reason.

Water supply.

Owing to the water-mains being placed less than two feet beneath the surface of the roadway, the pipes in Moore-street and Hosking Place, were broken by falling walls during the progress of the conflagration. The leakage thus caused greatly reduced the pressure in Castlereagh-street, and the firemen were thereby placed at a most improper disadvantage. A well-adjusted system of locks would have gone far towards preventing this, and the running of the water to waste, which lasted for days before it could be checked. The supply in Pitt-street was also inadequate to cope with a fire of such magnitude, the mains being much too small.

The fire was, fortunately, unattended by loss of life, but several firemen were severely injured by the collapse of the loosely bonded walls.

Cause of the fire's extension.

The following description of the premises occupied by Messrs. Henry Bull & Co. may help to explain how the fire extended so as to paralyse the firemen:—Originally there were two distinct warehouses, adjoining the City Bank, in Pitt-street. At the rear was a small court-yard, and at the east end was a bulk warehouse, opening on a lane leading to Hosking Place, on which was an iron shed for empty cases; it opened also to Moore-street at the rear of the City Bank. The warehouse immediately adjoining the Bank was then connected by galleries across the yard with the bulk warehouse; then openings were made between the two warehouses in Pitt-street; the rest of the court-yard was covered with floors, and a glass roof; thus making an unbroken risk from Pitt-street to Messrs. Lark, Sons, & Co.'s warehouse. But this was not all:—the shed for empty cases was removed to make way for a large warehouse of six stories, extending over the whole space from the bulk warehouse to Hosking Place, communicating throughout with every other part of the premises. There was thus no space for the firemen to act, and if, as it happened, the fire should extend from Gibbs, Shallard, & Co.'s premises to those of Messrs. Henry Bull & Co., there was no possibility of fighting it. The Board is of opinion that in this case the constant alterations that took place in covering the fire breaks, without the slightest let or hindrance on the part of the authorities, and practically establishing a gigantic flue communicating with Moore and Pitt Streets, and Hosking Place, pierced in several places with well-holes and lifts, is mainly responsible for a large part of the loss which took place on that occasion.

An unbroken risk.

Inquest.

By the courtesy of the Honorable the Minister of Justice, at the request of the Board, the scope of the inquest held by the City Coroner into the origin of the fire was widened as much as possible, so as to place emphatically before the public important facts concerning the necessity of fire precautions being taken in the erection of buildings in the city. The evidence taken at the inquiry has been printed by order of the Legislative Assembly, and the Board desires to commend, to all interested in city property, a careful study of the lessons it contains, especially the evidence given by the Superintendent of Fire Brigades, whose practical experience makes it particularly valuable. The inquiry extended over several days, and, though it did not effect the discovery of the actual means whereby the fire originated, was, nevertheless, not without good results, for many facts of vital importance to the safety of the lives and property of the general public were impressively brought before them, and must tend to good results in future. The jury returned an open verdict as to the cause of fire, but added three emphatic riders that forcibly support the views this Board has strongly and frequently urged, to which, therefore, it has the honor to call special attention in this place. The riders were:—

Verdict with emphatic riders.

“Rider I.

“The Jury suggest that an Act be at once brought into force in the City of Sydney—

- “1. That no large buildings be erected in any lane, place, or narrow street, in this city, without all side windows being protected, inside and outside, with iron shutters; and, in addition, all such large buildings be provided with fire-proof floors and iron shut-down doors.
- “2. That all bridges over any public or private roadway in the city, connecting buildings, be prohibited.
- “3. That partitions composed of lath and plaster, wood, or any other inflammable material in public buildings be strictly prohibited; and
- “4. That all lifts be enclosed with brickwork, and have iron shut-down doors to each floor.”

Rider II.—*Re Water Supply.*

“During the progress of the fire we find that the water supply was sufficient, but the mains in Pitt-street being only 4-inch they were not able to cope with it (the fire), as only one jet was obtainable to feed 1-inch nozzle between King and Hunter Streets, from each of the 4-in. mains.”

“We suggest that the 4-in. mains in Pitt-street, and all 3-in. and 4-in. mains in the city, be at once replaced with one 6-in. and one 9-in. main; also, all dead ends to be done away with.”

*Rider*

*Rider III.—Re Telegraph Wires.*

"That the attention of the Superintendent of Telegraphs be drawn to the dangerous manner (to life and property), in which telegraph wires are erected in the city, as they prohibit the use of salvage ladders and life-saving appliances in the case of fire. We also suggest that all wires be placed underground, as done in London and other large cities, &c."

The Board is of opinion that if the recommendations of the jury be carried out, an immeasurable loss both of life and property, that otherwise appears inevitable, may be prevented.

The height of the telegraph wires in the principal streets of Sydney is an element of danger which, at any moment, may have serious results; a fact which is made sufficiently obvious by the statement that in the fire above referred to the wires prevented the large fire ladders from touching the buildings, and rendered them useless for saving life or property.

Danger by telegraph wires.

Unless action be speedily taken to supply the want of a proper Building Act, and to empower the Board to prevent the erection of buildings which are so many dangerous fire-traps, a repetition, from time to time, of widespread and destructive fires must be expected. In the proposed Bill to amend the "Fire Brigades Act, 1884," submitted in the fifth annual report of this Department (*Vide* page 36, section 30), provision is made for conferring such powers, as in the public interest are urgently required; but up to the present, though every opportunity has been taken to press for action in this most important matter, the representations have remained without effect.

Necessity for a Building Act.

The Board has again to point out that, if it is expected to do its best in the way of prevention of fire, it must be furnished with power to prohibit the erection of structures which are dangerous to life and property when on fire, and the alterations which go on day by day, whereby what looks from the outside a fire-proof structure is turned into a hidden mine of destruction for itself and the neighbourhood. It is not possible for the City Council to act without receipt of information, and this information cannot be supplied without invidiousness to the informer.

The hourly notifications which are made to the Insurance Companies of apparently trivial alterations which are really of vital moment to the existence of large blocks of the city, if not of the city itself, are proofs that the City Council cannot be aware of what is going on, or if aware cannot prevent it. In some cities more than a certain cubical capacity is absolutely prohibited; and certainly no alteration should be permitted to any building, without public notification and permission. As it is only with reference to hazards from fire that such a law need be strictly acted upon, it is evident that the Fire Brigades' Board should have the power of dealing promptly with the cases as they arise.

Warehouses as now constructed are frequently little better than overgrown fireplaces, with chimneys in the shape of lift-shafts, and generally with a large central opening from cellar to roof, the floors being nothing more than wooden rings surrounding the central space; on these are piled heaps of merchandise which yearly becomes more combustible as chemical science progresses.

Take for example the substance known as celluloid, from which all kinds of articles are made,—combs, billiard-balls, tablets, shirt collars, &c. This is made from gun-cotton, with finely divided tissue paper and camphor gum, treated with sulphuric and nitric acids, and also with carbon bisulphide and mineral naphtha. The application of a match to one of these articles causes a blaze only extinguishable with great difficulty. The most innately combustible substances are now used extensively for all manufactures; and it might be that a building stored with admittedly combustible substances is not more dangerous than a seemingly harmless soft-goods or fancy-goods warehouse.

Increased danger in modern manufactures.

It is certainly a nice question to determine whether or how far a man has a right to imperil his neighbour; but this question never seems to trouble this community, as witness such things as saw-mills, &c., in the centres of some of the city blocks.

With reference to the water supply in the city this Department has been in frequent communication with the Water and Sewerage Department, and delegates from the two Boards have also held a conference during the year, with a view to arrive at a joint understanding. Though much still remains to be done to improve the supply of water for extinguishing fires, the Fire Brigades' Board has pleasure in testifying to the efforts being made by the Board of Water Supply and Sewerage to carry out much required improvements.

Board of Water Supply.

The year 1890 was again marked deeply in the fire annals, by another extraordinarily destructive outbreak on the 2nd December. This occurred at the kerosene bond, Messrs. Gibbs, Bright, & Co.'s wharf, Miller's Point. This was of wood, and adjoined one of the wooden jetties. Stored in the bond, which stood in dangerous proximity to a thickly populated portion of the city, were 176,000 gallons of kerosene oil. The oil became ignited, by some unexplained means, and the blazing liquid, floating on the surface of the harbour water, set alight to the jetties and wharfs, from which the vessels were hastily removed. The bond was destroyed, together with some valuable stacks of Baltic timber, and other property, and the wharfs in the vicinity more or less seriously damaged. The efforts of the Fire Brigades, who with all available engines, hose, and other appliances, were speedily at the scene of disaster, prevented the flames from spreading to the neighbouring wine and spirit bond, and thence probably sweeping the whole of Miller's Point; a calamity which for some critical minutes it was feared it would be impossible to avert.

Destructive fire at kerosene bond, Miller's Point.

Special attention is here directed to this fire, because of the repeated pressure of this Board for legislation to control the storage of large quantities of inflammable oils, explosives, &c., in the vicinity of other buildings. The Board has now recommitted for consideration the proposed Amended Act to place restrictions on the storage and sale of kerosene, &c.

Necessity for control of storage of inflammable oils, &c.

From the *Post Magazine* of London, 15th November, 1890, it appears that the attention of the London Council has been directed to the inadequacy of the present law relating to the storage and use of inflammable liquids. Public attention has been directed to this question by recent important fires in London, in which petroleum was involved. Amongst these may be mentioned the fire on the Metropolitan Railway, in Farringdon Road, and the fire at Cloth Fair City, at which several lives were lost. Both these fires were caused by the ignition of the highly inflammable vapour from petroleum spirit, and there have been many other serious fires from petroleum. The question of the amendment and extension of the Petroleum Act has been under the consideration of the Government for many years, but nothing has been done, though the necessity for controlling and regulating the storage of these dangerous liquids is generally admitted. In these circumstances the Council is pressing upon the Government the urgent necessity for bringing forward a measure, on the meeting of Parliament, adequate to protect London from the danger to which it is now constantly exposed.

Nothing

Nothing need be altered in the foregoing paragraph to make it apply to the City of Sydney. The Fire Brigades' Board, in 1888, spent considerable time over the question, but for some reason or other their efforts were in vain. The present Act is simply a fraud. The testing provided by the Act is of the most primitive description. There is not the least difficulty under it of allowing all the rubbish of other countries to be imported, nor are there any means of regulating the storage of mineral oils either in bulk or in smaller quantities.

**Explosives' Act.** The Gunpowder and Explosives Act is another instance of a Bill, perhaps properly drafted in the first instance, being rendered useless by the insertion of a few words. It occurred to an amender to make a distinction between "explosives" and "explosive substances"—each being carefully defined—but the wording of the subsequent clauses was not altered. The result is that "explosive substances" cannot be dealt with by law!

**Metropolitan Fire Brigade.** The Metropolitan Fire Brigade is in an admirable state of discipline and efficiency, is well officered, and can turn out, fully equipped, with steam fire-engine, &c., &c., in considerably less than half a minute. The complement of firemen of all ranks in the Brigade is 34, but the number must be increased when the northern fire station is erected. During the year the Brigade turned out to 331 calls. A list of the fires attended is supplied in a return on pages 12 to 23, with particulars of the destruction of property.

**Volunteer Fire Companies.** The Volunteer Fire Companies within the Board's jurisdiction are, generally, in a good state of efficiency, and under command of the Superintendent of Fire Brigades, have rendered effective service to the permanent Brigade at large fires, besides extinguishing small fires in their own localities, and checking their spread before they had time to make headway. On the occasion of the great fire on 2nd October, the city and suburban volunteers came in, to the number of some 130 men, and rendered valuable service. Most of the volunteer companies turned out to all the larger fires in the city; and those whose stations are nearest the city boundary, also attended numerous less serious fires. The Companies have, during the year, been subsidised by the Board to the extent of £2,066; besides which considerable sums have been devoted to their equipment with fire-extinguishing appliances, horses, &c. The Board has allotted to them different districts, within which the local Companies are to act. Further particulars concerning these Companies are given elsewhere.

**Newtown Fire Station.** By the gift of the Honorable the Colonial Secretary, at the solicitation of this Board, the old watch-house at Newtown Bridge was occupied as a fire-station in the month of July, after considerable outlay by the Board to fit it for the head-quarters of the Newtown Volunteer Fire Company. A few months afterwards, however, the Board received notice that the site was required by the Railway Department, and must be vacated by the 10th November, 1890; and Newtown was, thus, left without adequate protection against fire. This caused the Board much anxiety, and the deepest consideration has been given to the subject of providing a station for that important suburb. A committee of the Board, and the Superintendent of Fire Brigades, have personally visited and reported on various sites, with a view to secure one which would serve both Newtown and the adjoining suburb of Camperdown. The Board trusts that, in consideration of the circumstances under which the site of the Newtown Fire Station was resumed at such brief notice for the Railway Commissioners, and the stultified expenditure thereupon, it may confidently look to the Government for assistance to repair the loss which has placed that populous district at so great a disadvantage.

**Telephone Fire alarm system.** The Telephone Fire-alarm system has worked admirably, and has proved of the utmost importance as a rapid means of giving alarm, in a matter where speed is one of the most necessary conditions for success. The system has therefore been greatly extended. Telephone Fire-alarm Boxes, connected directly with one or other of the Fire Stations, have been multiplied throughout the city, placed in the most important centres, and extended to suburban districts. One has been placed as far away as Lackey-street, Summer Hill, and the telephone has been pushed out to the Ashfield Volunteer Fire Station; connections have also been made with the University, the Police Station at Cook's River, the Council Chambers at Randwick, and in other directions. In the last-mentioned suburb a reel has been placed, with the requisite gear, a shed erected to house them, and telephone connection effected with the Waverley Fire Station; which, in common with other Volunteer Stations, has telephone communication with the other stations in its district (the eastern suburbs), and with head-quarters.

**Fire Station to protect north end of city.** The long promised fire station to protect the wharfs and valuable stores at the northern end of the city has not yet been built, but the Board is pleased to notice that on the 17th December, 1890, the Legislative Assembly voted a sum of money for its erection. The site granted for the station is a most suitable one for the purpose, being near Queen's Wharf, and fronting George-street and a proposed new street. That a northern station is urgently required cannot be doubted; but if proof were required, the fire at Messrs. Gibbs, Bright, & Co.'s wharf, on 2nd December, certainly has demonstrated it. In that quarter of the city are numerous warehouses and bonds, stocked with valuable and frequently inflammable goods; and the shipping, wharfs, and accompanying sheds, characteristic of that portion of the metropolis, present elements of danger which call for special measures to prevent other great disasters in time to come. How unexpectedly the danger may at any moment be increased is testified to by the uneasiness manifested by property-owners, Insurance Companies, and the Police Department, during the recent great strike in the shipping trades. Acting in the best interests of the public, the Board caused a temporary station to be at once erected on the site granted by the Government. This was occupied on 19th September, by a complement of men, with a powerful steam fire-engine and a complete fire extinguishing equipment, and has since remained so occupied. The engine from it was the first to reach the two great fires above mentioned; both occurring in localities nearer to that station than to any other. On its erection it was immediately connected by telephone with head-quarters, and with various fire alarms placed in carefully chosen localities. This temporary station is at present worked by reliefs from Head-quarters and No. 2 Station, Metropolitan Fire Brigade; but the extra duty entailed is found to be very severe upon the limited number of members of the Brigade, even though volunteer assistance has been utilised as much as possible. The Board therefore desires to express the hope that the work of erecting the permanent station may be proceeded with as rapidly as possible; in order that the members of the Brigade may be relieved of the present undue strain, that accommodation may be provided for a more adequate number of firemen, and that a most important quarter of the city may have suitable protection.

**Powerful fire-engine.** Early in the year the Board, foreseeing that the present reckless custom of building, as aforesaid, must result in disaster, and feeling that the water pressure was altogether inadequate for the height of the premises if a conflagration occurred, decided, upon the advice of the Superintendent of Fire Brigades, to obtain

obtain a more powerful engine than any at present in its possession. Tenders were invited, and that of Messrs. Shand, Mason, and Co., of London, was accepted. This engine is being constructed to specifications drawn up by Superintendent Bear; it will be fitted with many improvements, and when complete will be the most powerful land steam fire-engine extant. It is expected to arrive in June, and will no doubt prove an efficient auxiliary in fighting large fires.

The Board regrets having to record that in July suspicions, which proved to be too well founded, were aroused concerning the integrity of its late Secretary—William Ager. Before inquiry could be made he had disappeared, and although detectives were at once put upon his track, all efforts have, as yet, failed to capture him. A special audit instituted by the Board revealed defalcations in his accounts amounting to £822, of which the sum of £500 was recovered from the Victoria Insurance Company (Limited), in which office a fidelity guarantee insurance had been effected. The vacancy was thrown open for public competition, and a large number of applications were received, out of which the Board's selection fell upon Mr. Z. Collis Barry, who has high testimonials. Secretary.

In compiling the estimates for the current year the most careful economy has been exercised. The income of the previous year was £11,325, and, notwithstanding extended jurisdiction causing necessity for increased expenditure, the estimates for 1891 only amount to £11,400. Since the adoption of the estimates, however, the two unusually large fires mentioned above occurred; and the consequent expenses, besides the necessity of replacing several hundred pounds worth of hose, which was destroyed by falling walls, made an unexpectedly large drain upon the Board's resources. Estimates

The question of electric lighting, daily becoming of more importance, should receive prompt attention at the hands of the Government. There are daily accidents in those cities which have adopted it, principally caused by bad materials, ignorance in fixing or installation, and laxity in supervision during erection. From the difficulty of discovering defects in the fittings of electric as well as gas lighting, it seems to be essential that regulations should be made that all parts should, as much as possible, be exposed to view, as is the case in the city of New York, as well as general regulations for safety of the public. If buildings were properly constructed, and gas fittings correctly fixed, it should be an impossibility for an apartment to be wrecked by a collection of gas therein. There have been several instances of the destruction of strong rooms owing to the absence of ventilation, although gas was adopted for lighting purposes. Surely architects and others should know better. The London authorities seem to be as slow as those at Sydney as regards protecting the public from the dangers of electric lighting, and at both places the only check is by regulations emanating from Insurance Companies; but this can never be a satisfactory method for the general public, as there may be hundreds of cases where this supervision cannot be called in. Electric lighting.

The Board cannot conclude without drawing attention to a serious fire in London during the year 1890, which occurred in the premises of Rowley and Brock, helmet and hat makers.—Though by the Petroleum Act 3 gallons of naphtha are allowed it was proved that no less than 25 gallons were brought in every week. By this fire eight persons lost their lives. It was pointed out at the inquest on the fire, that not only were the efforts of the firemen neutralised in saving the lives of the workpeople, but that they were themselves in danger of losing their own, owing to the suffocating nature of the fumes. Necessity for a complete Petroleum Act

This example shows the necessity of a full and complete Petroleum Act and trustworthy and vigilant officials to carry it out. The Board suggests that, as to it is entrusted the protection from fire of the inhabitants and property of the County of Cumberland, it should be armed with better powers than are given by the Act under which it exists. It would seem as if it were of vital importance that it should be *en rapport* with other Boards and Departments dealing with matters closely connected with fire hazards and means of extinguishing fire; and it should be an impossibility for a Chinaman to be able, with correctness, to inform the Superintendent that he has no power to order him to remove a single piece of wood in those admittedly dangerous nuisances, the Chinese carpenters' yards and shops—or, for that matter, for anyone else to be able to do so. Bosses's powers should be increased.

It has always been held unwise to lock the stable door after the steed is stolen, but no less foolish is it to expect that the Fire Department can overtake culpable neglect caused by defective Acts relating to building, &c., or violations of them, or neglect of carrying them into operation.

In conclusion, the Board trusts that the many occasions upon which the services of the Department have been called into requisition, as witnessed by the appended statements in this report, have proved that splendid service has been rendered by the Superintendent and the Brigade, and the Volunteer Firemen acting in conjunction with them. Service rendered.

In the appended report of the Superintendent of Fire Brigades, and in various tabulated statements also supplied, details are given to which attention is invited.

CHARLES BOWN,  
Chairman.

Head Quarters Fire Station,  
Sydney, 2nd March, 1891.

## APPENDIX I.

## INSURANCE COMPANIES.

STATEMENT showing the amount held at Risk within the Metropolitan area, on 31st December, 1889, by the Insurance Companies contributing under the "Fire Brigades' Act, 1884," with their respective contributions (*pro rata*) in the year 1890.

Insurance Companies.	Amount held at Risk.	Contributions for 1890.	Insurance Companies.	Amount held at Risk.	Contributions for 1890.
	£	£ s. d.		£	£ s. d.
The Australian Alliance .....	349,316	23 1 6	The National of New Zealand ...	1,068,396	70 11 6
Alliance .....	844,125	55 15 2	N.S.W. Assurance Corpora-		
Australian Mutual .....	7,451,400	492 4 3	tion .....	700,791	46 5 10
Australian Traders' Mutual .....	130,350	8 12 2	Netherlands India .....	44,200	2 18 5
Australian Trust Management	72,093	4 15 3	New Zealand .....	2,159,173	142 12 6
British Australian and New			North British and Mercantile	1,049,185	69 6 1
Zealand .....	42,557	2 16 3	Northern .....	800,000	52 16 11
British and Colonial .....	301,409	19 18 2	Norwich Union .....	2,098,070	138 11 10
City of London .....	256,096	16 18 4	Pacific .....	1,138,450	75 4 0
City Mutual .....	1,999,923	132 2 2	Phoenix .....	1,901,237	125 11 9
Colonial Mutual .....	1,501,700	99 3 11	Queen .....	1,142,291	75 9 1
Commercial Union .....	6,044,534	399 5 7	Royal .....	735,000	48 11 1
Cornwall .....	230,773	18 10 11	Scottish Union and National ..	282,000	18 12 7
General .....	195,688	12 18 6	South British .....	927,185	61 4 11
Glasgow and London .....	315,731	20 17 2	Standard of New Zealand ...	1,101,166	72 14 9
Guardian .....	529,615	34 19 8	Straits .....	336,826	22 5 0
Hamburg Magdeburg .....	271,039	17 18 1	Sun Fire Office .....	635,484	41 19 7
Hong Kong .....	275,735	18 4 3	Sydney Mutual .....	1,014,523	67 0 4
Imperial .....	1,125,000	74 6 3	Union of New Zealand .....	714,085	47 8 5
Lion .....	405,807	26 16 2	United .....	3,152,528	203 4 11
Liverpool and London and			United Australian Mutual ...	439,801	29 1 0
Globe .....	2,973,120	196 7 10	Victoria .....	1,691,700	111 14 11
London and Lancashire .....	492,909	32 11 2	Fire Underwriters' Association	219,050	14 9 5
Manchester .....	280,505	18 10 7			
Mercantile Mutual .....	7,625,090	503 13 8	Total .....	£ 57,148,388	3,776 0 0
Mutual .....	32,742	2 3 3			

## APPENDIX II.

## MUNICIPALITIES.

STATEMENT showing the assessed value of ratable property for the year 1889, in the Municipalities contributing, under the "Fire Brigades' Act, 1884," to the Fire Brigades' Board, Sydney, in the year 1890; with their *pro rata* contributions.

Municipality.	Assessed Value.	Contributions.	Municipality.	Assessed Value.	Contributions.
	£	£ s. d.		£	£ s. d.
City of Sydney .....	2,069,420	1,718 1 4	Parramatta .....	76,550	63 11 1
Alexandria .....	61,620	51 8 4	Petersham .....	105,035	87 4 1
Ashfield .....	140,945	117 0 0	Randwick .....	106,017	88 0 4
Balmain .....	190,668	158 5 11	Redfern .....	166,538	138 5 3
Burwood .....	80,059	66 9 4	St. Leonards .....	107,746	89 9 1
Camperdown .....	41,897	34 15 8	St. Leonards East .....	79,915	66 6 11
Darlington .....	27,201	22 11 8	St. Peters .....	30,370	25 4 8
Five Dock .....	32,689	27 2 9	Victoria .....	39,067	32 8 8
Glebe .....	150,380	124 17 0	Waterloo .....	68,221	52 9 9
Leichhardt .....	116,530	96 14 10	Waverley .....	109,600	90 19 10
Macdonald Town .....	33,713	27 19 9	Willoughby North .....	71,005	58 19 0
Manly .....	74,303	61 13 9	Woollahra .....	144,147	119 13 5
Marrickville .....	114,140	94 15 3			
Newtown .....	148,500	123 5 9	Totals .....	£ 4,546,896	3,776 0 0
Paddington .....	165,720	137 11 8			

## APPENDIX III.

SUMMARY of Attendances at Board Meetings during the year 1890.—Number of Meetings—28 (exclusive of Committee Meetings).

Names.	Meetings.	
	Present.	Absent.
Charles Bown, Esq., J.P. (Chairman) .....	28	Nil.
Walter Church, Esq., J.P. (Vice-Chairman, 1889-90) .....	25	3*
W. A. Gibb, Esq. ....	3	3†
Alderman S. E. Lees, M.L.A. ....	6	Nil†.
Richard M'Coy, Esq., J.P. ....	6	Nil†.
E. J. Love, Esq. ....	27	1*
M. W. S. Clarke, Esq., M.A. (Vice-Chairman, 1890) .....	21	1†
Alderman J. O. Beare, J.P. ....	22	Nil†.
Charles Hellmrich, Esq., J.P. ....	19	3†

NOTE.—The biennial term of office expired in March, 1890.

Re-elected in March. † Retired in March. ‡ Elected in March.

APPENDIX IV.  
FIRE BRIGADES' BOARD OF SYDNEY.

ABSTRACT OF RECEIPTS AND EXPENDITURE for the Year ending 31st December, 1890.

RECEIPTS.		EXPENDITURE.	
	£ s d.		£ s d.
Cash in hand, 1st January, 1890 :-		By Plant, stores, &c. ....	1,039 14 2
To Mercantile Bank .....	202 6 2	Clothing .....	230 3 6
Superintendent's watching duty account.....	20 0 0	Salaries .....	5,332 19 4
" petty cash account.....	20 19 6	Board fees .....	300 0 0
	312 5 8	Printing, stationery, and postage .....	110 13 2
To N. S. W. Government Treasury .....	3,775 0 0		7,033 15 2
Insurance Companies—		Rates and taxes .....	141 8 8
The Australian Alliance .....	23 1 6	Life premiums on firemen's lives .....	43 7 2
Alliance .....	55 15 2	Guarantee premiums .....	10 10 0
Australian Mutual .....	492 4 3	Medical fees .....	19 19 0
Australian Traders' Mutual .....	8 12 2	Auditors' fees .....	64 18 0
Australian Trust Management .....	4 15 3		300 2 10
British Australian and New Zealand .....	2 16 3	Lighting .....	332 7 5
British and Colonial .....	19 18 2	Fuel .....	65 11 0
City of London .....	10 18 4		397 18 5
City Mutual .....	132 2 2	Rewards for calls.....	8 13 0
Colonial Mutual .....	99 3 11	Cab-hire and cartage .....	41 4 10
Commercial Union .....	300 5 7	Rewards to turncocks .....	8 11 0
Cornwall .....	18 10 11	Petty expenses.....	75 13 7
Fire Underwriters' Association.....	14 9 5	Assistance rendered .....	139 8 0
General .....	12 18 6	Law costs .....	56 2 4
Glasgow and London .....	20 17 2	Miscellaneous .....	75 12 0
Guardian .....	34 19 8	Repairs .....	314 5 0
Hamburg Madgeburg .....	17 18 1		518 10 9
Hong Kong .....	18 4 3	Horses—	
Imperial .....	74 6 3	Purchase of .....	137 5 0
Lion .....	26 16 2	Fodder for.....	215 13 8
Liverpool and London and Globe .....	136 7 10	Shoeing .....	22 0 0
London and Lancashire .....	32 11 2	Harness .....	43 5 6
Manchester .....	18 10 7		418 2 2
Mercantile Mutual .....	503 13 8	Fire-alarms, Telephones, &c.—	
Mutual .....	1 1 8	50 fire alarms .....	681 5 0
National .....	70 11 6	50 line shutter board, north station.....	104 17 6
New South Wales Assurance Corporation .....	46 5 10	Extension of lines, repairs, &c. ....	453 12 10
Netherlands India .....	2 13 5		1,239 15 4
New Zealand .....	142 12 6	Subsidies to Volunteer Fire Companies—	
Northern .....	52 16 11	Alexandria .....	100 0 0
Norwich Union .....	138 11 10	Ashfield .....	100 0 0
North British and Mercantile .....	69 0 1	Balmalm .....	200 0 0
Pacific .....	75 4 0	Burwood .....	100 0 0
Phoenix .....	125 11 10	Glebe .....	150 0 0
Queen .....	75 9 1	Manly .....	75 0 0
Royal .....	48 11 0	Newtown .....	175 0 0
Scottish Union and National .....	18 12 7	North City .....	100 0 0
South British .....	61 4 11	Paddington .....	150 0 0
Standard of New Zealand .....	72 14 9	" Brewery .....	100 0 0
Straits .....	22 5 9	Parramatta (No. 1) .....	85 0 0
Sun .....	41 19 7	" (No. 2) .....	85 0 0
Sydney Mutual .....	67 0 4	St. Leonards .....	200 0 0
Union of New Zealand .....	47 3 5	Standard Brewery .....	68 15 0
United .....	268 4 11	Waterloo .....	100 0 0
United Australian Mutual .....	20 1 0	Waverley .....	90 0 0
Victoria .....	111 14 11	Woolahra .....	150 0 0
	3,775 18 6	Leichhardt .....	37 10 0
Municipal Councils—			2,066 5 0
City of Sydney .....	1,718 1 4	Volunteer Firemen employed for watching	
Alexandria .....	51 3 4	duty at fires .....	18 10 0
Ashfield .....	117 0 4	Standard Brewery Volunteer Fire Company—	
Balmalm .....	158 5 11	Repairs to plant .....	6 10 0
Burwood .....	68 9 4	Standard Brewery Volunteer Fire Company—	
Carapardown .....	34 15 8	Purchase of horse .....	25 0 0
Darlington .....	22 11 8		50 0 0
Five Dock .....	27 2 9	Temporary Northern Station—Erection of...	143 6 6
Glebe .....	124 17 0	Rent—St. Leonards Volunteer Fire Station .....	5 0 0
Leichhardt .....	96 14 10	W. Ager—Deficiency for 1890 .....	443 14 4
Macedonald Town .....	27 19 9	Less amount recovered from Victoria	
Manly .....	61 12 9	Insurance Co. ....	405 5 9
Marrickville .....	94 15 2		38 8 7
Newtown .....	123 5 9	Cash in hand—	
Paddington .....	137 11 8	Mercantile Bank .....	1 19 2
Parramatta .....	63 11 1	Superintendent's watching duty account .....	20 0 0
Petersham .....	87 4 1	" petty cash account .....	30 0 0
Randwick .....	88 0 4		51 19 3
Redfern .....	138 5 3		
St. Leonards .....	50 9 1		
St. Leonards East .....	66 6 11		
St. Peters .....	25 4 3		
Victoria .....	42 8 8		
Waterloo .....	52 9 9		
Waverley .....	90 19 10		
Willoughby North .....	58 19 0		
Woolahra .....	119 13 6		
	3,775 0 1		
Miscellaneous—			
Rent of quarters in stations .....	472 11 10		
Sale of condemned plant .....	19 4 2		
Sale of old watch-house, Newtown .....	59 2 0		
Watching duties at fires .....	33 11 9		
Fines on members of brigade .....	6 10 0		
Assistance rendered .....	30 0 0		
Use of engines .....	6 0 0		
	626 19 9		
Total .....	£12,263 4 0	Total .....	£12,263 4 0

I hereby certify that I have examined and compared the books, vouchers, and accounts of the Fire Brigades' Board for the year ended 31st December, 1890, also statement of receipts and expenditure hereon, and find that the same are correct.

JAMES ROBERTSON, F.I.A.V.,  
Public Accountant.

Sydney, 12 January, 1891.

APPENDIX V.  
VOLUNTEER FIRE COMPANIES, 1890.

Name of Station.	Situation of Station.	No. of Members registered on Roll.	Plant.		Subsidy.	Number of Calls attended.		Total number of Alarms given to M. F. B.		Total number of Members attended at all Calls.	Average number Members attended at each Call.
			Engines, Reels, &c.	Hose, feet of.		False alarms and chimneys.	Actual fires.	False alarms and chimneys.	Actual fires.		
<b>CITY COMPANIES.</b>											
North City .....	Cumberland-street...	12	1 hose waggon, 2 horses, reel, &c.	1,330	£ s. d. 100 0 0	24	63	1	4	367	3.8
Paddington Brewery	Dowling and Oxford Streets.	25	2 reels, 1 manual engine, &c.	950	100 0 0	20	73	1	13	948	9.3
Standard Brewery ...	Foveaux-street .....	22	hose cart, horse reel, &c.	900	68 15 0	31	82	2	6	1,136	10.0
<b>SUBURBAN.</b>											
Alexandria .....	Gerard-street .....	22	1 manual engine, 1 hose reel, &c.	805	100 0 0	3	20	.....	2	216	9.4
Ashfield .....	Liverpool Road .....	15	1 manual engine, &c.	754	100 0 0	2	12	.....	2	126	9.0
Balmain (2 stations)..	Booth-street and at Darling-street.	21	2 manual engines, 2 hose reels, &c.	1,000	200 0 0	1	11	1	8	66	5.5
Burwood .....	Burwood Road .....	15	1 manual engine and gear.	842	100 0 0	.....	1	.....	.....	6	6.0
*Darlington .....	Shepherd-street .....	.....	.....	.....	.....	2	19	.....	2	122	5.3
Glebe .....	Mitchell-street .....	19	1 manual engine, 1 reel, &c.	1,100	150 0 0	1	17	1	10	110	6.0
Leichhardt .....	Marion-street .....	17	1 manual engine, hose reel, &c.	400	37 10 0	3	12	1	3	81	5.4
Manly .....	Market-lane.....	17	2 manual engines, &c.	800	75 0 0	.....	6	.....	3	44	7.3
Newtown.....	Railway Bridge .....	16	1 manual engine, hose reel, ladder carriage, &c.	1,300	175 0 0	4	21	3	8	194	7.7
Paddington .....	Oxford-street .....	17	1 manual engine, hose reel, &c.	1,050	150 0 0	12	22	1	1	172	5.0
Parramatta No. 1 ...	Church-street .....	23	1 manual engine, 1 hose reel, &c.	800	85 0 0	.....	5	.....	1	31	6.2
Parramatta No. 2 ...	Church-street .....	23	1 manual engine, 1 reel, 1 hose and ladder cart, &c.	1,300	85 0 0	.....	3	.....	3	16	5.3
St. Leonards (2 stations).	Mount-street and at Alfred-street.	19	2 manual engines, 2 reels, &c.	2,000	200 0 0	.....	2	.....	2	12	6.0
Waterloo .....	Kellick-street .....	19	1 manual engine, 1 hose and ladder cart, &c.	580	100 0 0	.....	13	.....	5	120	9.9
Waverley.....	Carrington Road.. ...	17	1 manual engine, 1 reel, &c.	1,093	90 0 0	1	21	.....	5	152	6.9
Woollahra .....	Moncur-street.....	17	2 manual engines, gear, 1 horse, &c.	774	150 0 0	2	23	2	6	171	6.8
		336			2,066 5 0	115	426	13	84	4,099	

\* Not subsidised.

APPENDIX VI.

STATEMENT showing the Attendance of Volunteer Companies at Actual Fires, within specified hours, for the Year 1890.

Volunteer Companies.	12 midnight to 6 a.m., 47 actual fires.		6 a.m. to 12 noon, 41 actual fires.		12 noon to 6 p.m., 47 actual fires.		6 p.m. to 12 midnight, 100 actual fires.		Total number of fires, 235.	
	Number of fires attended.	Number of men present.	Number of fires attended.	Number of men present.	Number of fires attended.	Number of men present.	Number of fires attended.	Number of men present.	Total number of fires attended.	Total number of men present.
<b>CITY COMPANIES—</b>										
North City .....	15	91	15	34	6	14	27	153	63	292
Paddington Brewery .....	16	208	13	67	10	38	34	427	73	740
Standard Brewery .....	21	229	15	106	13	95	33	399	82	829
<b>SUBURBAN—</b>										
Alexandria .....	4	34	3	25	3	26	10	107	20	192
Ashfield .....	3	35	2	11	2	10	5	56	12	112
Balmain .....	5	33	2	9	1	10	3	14	11	66
Burwood .....	.....	.....	.....	.....	1	6	.....	.....	1	6
Darlington .....	2	.....	2	7	2	10	13	86	19	103
Glebe .....	3	12	4	17	1	8	9	69	17	106
Leichhardt .....	6	38	1	2	3	12	2	15	12	67
Manly .....	2	10	.....	.....	3	18	1	16	6	44
Newtown .....	8	61	.....	.....	2	19	11	83	21	163
Paddington .....	5	48	3	19	3	14	11	79	22	160
Parramatta No. 1.....	.....	.....	.....	.....	2	.....	3	31	5	31
No. 2.....	.....	.....	.....	.....	2	.....	1	16	3	16
St. Leonards.....	1	6	.....	.....	1	6	.....	.....	2	12
Waterloo .....	4	43	2	20	1	2	6	64	13	120
Waverley .....	5	45	1	18	5	27	10	62	21	152
Woollahra .....	5	49	1	18	5	15	12	76	23	158
* Granville .....	.....	.....	.....	.....	1	8	.....	.....	1	8
* Rockdale .....	.....	.....	.....	.....	.....	.....	2	10	2	10

\* Companies marked thus were not subsidised by the Fire Brigades Board.

## APPENDIX VII.

Mr. Superintendent Bear's Report.

Metropolitan Fire Brigade Head Quarters Station,  
Sydney, 16 February, 1891.To the Fire Brigades' Board,  
Gentlemen,

I do myself the honor to submit to your Board, herewith, my Seventh Annual Report of the working and general efficiency of your Brigade and the several Volunteer Fire Companies, together with the details of fires attended in the City and Suburbs of Sydney for the year ending the 31st December 1890.

The total number of alarms received for fires or supposed fires was 298; of these, 44 were false alarms; 19 proved to be only chimney alarms, and 235 were actual fires. Of the actual fires 205 were slight or trifling, 12 were serious, and 18 resulted in total destruction. Of the 235 actual fires, 144 were insured, 33 not insured, and in 53 instances insurances on the buildings or contents could not be ascertained. In addition to the ordinary fires there have been 33 chimney fires requiring the attendance of firemen with hand pumps only, and 2 casualties, in which life was lost or endangered, but in which no damage was done to buildings or their contents,—making an aggregate total of 333 calls for fires, false alarms, chimney fires, and casualties.

The fires of 1890, as compared with those of 1889, show an increase of 10; in the chimney fires attended with engines, an increase of 5; and those attended by firemen with hand-pumps, an increase of 2.

In the fires which were slight there has been an increase of 26; in serious, a decrease of 5; and in fires which resulted in total destruction, a decrease of 11. Among the buildings totally destroyed are classed shed buildings, weather-board cottages, &c. Attached are detailed statements of the various fires attended by the Brigade and the Volunteer Fire Companies, as well as those unattended, but which have been reported to the Brigade from various sources, and a member of the Brigade has been sent to obtain the necessary particulars. The various summaries appended show the particular dates, times of call, times of outbreak, trades, localities, insurances, hourly and daily, weekly and monthly. There is also appended a summary of the "Supposed origin of Fires" for the year.

Referring to the summary of localities it will be noticed that in the city of Sydney alone there were 188 calls, 113 of which were for actual fires, 29 were false alarms, 16 were chimney-fires, reported as houses on fire, and 30 were chimney fires attended by firemen with hand-pumps only.

Of the actual fires in the city there were in Cook Ward, 22; Brisbane Ward, 19; Denison Ward, 17; Macquarie Ward, 16; Gipps Ward, 12; Fitzroy and Phillip Wards, 10 each; and Bourke Ward, 7.

In the suburbs there were 143 calls, of which 122 were for actual fires, 15 were false alarms, 3 were for chimney fires reported as houses on fire, 3 were for chimney fires which were attended by firemen with hand-pump only. The suburbs affected in regard to actual fires only were as follows, viz.—Glebe, 13; Balmain, Paddington, Petersham, and Redfern, 11 each; Manly, 8; Waterloo, and ships in the harbour, 7 each; Marrickville, 6; Ashfield, Newtown, and Waverley, 5 each; Leichhardt, 4; Parramatta and Woollahra, 3 each; Granville, Macdonaldtown, and St. Leonards, 2 each; Alexandria, Camperdown, Canterbury, Darlingtown, Randwick, and St. Peters, 1 each.

In summarising the trades, it will be observed that private dwellings have been mostly affected by fires, the number for all classes of damage being 84; but taking the actual trades into consideration, the most notable stand in the following order, viz.—Licensed victuallers, 15; stables, 9; boarding-houses, Government buildings, railways, &c., ships, printers, stationery and fancy goods dealers, 7 each; grocers, 6; fruiterers and green grocers, and ironfounders, 5 each. Drapers, milliners, and dress-makers, 4 each; boot makers and boot factories, cabinet makers, commission agents, and produce merchants, plumbers and gasfitters, storekeepers and stores, timber merchants and saw-mills, tobacconists, 3 each; bakers, butchers, buildings in course of erection, confectioners, emery cloth makers, general dealers, open yards, restaurants, saddle and harness makers, 2 each; other trades affected, 1 each. These are to be found in the "Summary of Trades."

The strength of the Brigade is as follows, viz., 1 large steam fire engine, 5 small steam fire engines, 1 7-inch manual engine, 4 6-inch manual engines, 6 under 6-inch manual engines, 3 telescope ladders, 1 ladder van, 1 hose van, 5 hose reels, 14,979 feet of 2½ inch hose, most of which is in good condition, 12 horses, 43 telephones erected, 6 telephone switch boards, 47 fire alarm telephones (erected), 34 firemen, including Superintendent, Principal Foreman, and coachmen.

The under-mentioned Volunteer Fire Companies hold plant on loan from your Board, viz., Alexandria, Ashfield, Burwood, Leichhardt, Manly, St. Leonards, Waverley, North City, Standard Brewery. Five Volunteer Fire Stations are also invested in the hands of your Board.

A hose reel and plant has been stationed at the Randwick Council Chambers during the past year. The North City and Standard Brewery Volunteer Fire Companies being supplied with our own hose and now running with horses, have proved a very great assistance to the Brigade.

The following comprise the Volunteer Fire Companies within your Board's jurisdiction, viz., Alexandria, subsidised by your Board £100; Ashfield, £100; Balmain (two stations), £200; Burwood, £100; Darlingtown, not subsidised for 1890; Glebe, £150; Leichhardt, £50; Manly, £75; Newtown, £175; North City, £100; Paddington, £150; Paddington Brewery, £100; Parramatta No. 1, £85; Parramatta No. 2, £85; St. Leonards (two stations), £200; Standard Brewery, £68 15s; Waterloo, £100; Waverley, £90; Woollahra, £150; total amount paid to Volunteer Fire Companies for the year, £2,066. Irrespective of the subsidies, new plant and extension of telephone communication has been granted to Suburban Volunteer Fire Companies during the past year. The approximate value of the whole of your Board's stations and plant is £49,782.

The undermentioned are the whole of the members of the Metropolitan Fire Brigade:—

Name.	Rank.	Date of Appointment.	Where stationed.
William Douglas Bear .....	Superintendent of Fire Brigades and Inspector of Kerosene.	Under Government, May, 1884.	No. 1, Head-quarters Station.
Alfred Webb .....	Principal Foreman .....	26 June, 1888.	do.
John Ford .....	Foreman .....	1 Aug., 1884.	Officer in charge No. 2 Station.
William M'Knight .....	Engineer .....	1 July, 1884.	Head-quarters.
John M'Knight .....	do .....	14 July, 1884.	do.
John Snelson .....	1st class fireman, and Acting Foreman.	do	Officer in Charge No. 3 Station.
George Gray .....	1st class fireman .....	1 July, 1884.	No. 2 Station.
Sidney Watson .....	do .....	1 Jan., 1885.	Head-quarters.
George Lang .....	do .....	7 Jan., 1885.	do
Thomas Gordon .....	do .....	3 Jan., 1885.	do
Thomas Gorman .....	do .....	18 June, 1885.	No. 2 Station.
Charles Brown .....	2nd class fireman .....	1 July, 1884.	No. 3 Station.
Joseph Stanchell .....	do .....	do	Head-quarters.
James Hancock .....	do .....	1 Aug., 1884.	No. 2 Station.
Samuel Holman .....	do .....	11 Feb., 1886.	Head-quarters.
Robert Nash .....	do .....	1 Jan., 1887.	No. 3 Station.
Charles Bowers .....	do .....	5 May, 1887.	No. 2 Station.
John Kellett .....	do .....	4 May, 1887.	Head-quarters.
Thomas Cutts .....	do .....	19 March, 1888.	do
Harris Davis .....	do .....	18 April, 1888.	No. 2 Station.

Members of the Metropolitan Fire Brigade—*continued.*

Name.	Rank.	Date of Appointment.	Where stationed.
Francis Howard .....	2nd class fireman.....	19 April, 1888 ..	No. 2 Station.
Stephen Eyre.....	2nd class fireman, and coachman .....	6 Aug., 1888 ..	Head-quarters.
George Watson .....	3rd class fireman.....	8 Oct., 1888 ..	No. 3 Station.
Frank Jackson .....	do .....	7 Feb., 1889 ..	Head-quarters
John Graham .....	do .....	15 April, 1889....	do
George Cobb .....	do .....	do .....	do
George Parsons .....	do .....	6 Sept., 1889....	do
Augustus Gerard .....	do .....	21 Feb., 1890 ..	do
George Alchin .....	3rd class fireman, and coachman .....	28 April, 1890....	No. 2 Station.
George Hickmott .....	3rd class fireman.....	15 Sept., 1890 ..	Head-quarters.
Albert Pickering .....	3rd class fireman, and coachman .....	18 Sept., 1890 ..	do
Charles May .....	3rd class fireman.....	3 Oct., 1890....	do
James Muir .....	do .....	10 Oct., 1890....	do
John Cannell.....	do .....	13 Oct., 1890....	do

During the year telephonic communication has been established between the University and No. 2 Station; also between Ashfield and No. 3 Station; and between Randwick and Head Quarters Station, *via* Waverley and Woollahra Stations. A 30-shutter switch-board has been fitted up in No. 2 Station; an extra 10-shutter switch-board has been fitted up in No. 3 Station, making a total of sixteen shutters at that station.

A 6-shutter switch board was fitted up at the Woollahra Volunteer Fire Company's Station, in anticipation of fire alarms being erected hereafter.

Arrangements have been made with the Telegraph Authorities to connect the Police Station at Cook's River with No. 3 station, Marrickville, and three fire alarms in Harris-street, Pyrmont, with No. 2 station, George-street West.

Additional telephone fire alarms were erected during the year, making a total of 47, as under:—

## TELEPHONE FIRE ALARMS.

No.	Fire Station to which the Box is connected	Position of Alarm.
1	Head Quarters M.F.B., Castlereagh-street .....	Corner of George and Park Streets.
2	" " " " .....	" York and King Streets.
3	" " " " .....	" Pitt and King Streets.
4	" " " " .....	" Elizabeth and King Streets.
5	" " " " .....	" Liverpool and College Streets.
6	" " " " .....	" William-street and Boomerang Road.
7	" " " " .....	" William and Victoria Streets.
8	" " " " .....	" Elizabeth and Park Streets.
9	" " " " .....	Macquarie-street, opposite Parliament House.
10	Northern Station, George-street North .....	Corner of Hunter and Bligh Streets.
11	" " " " .....	" Hunter and Castlereagh Streets.
12	Head Quarters .....	" Pitt and Market Streets.
13	" .....	" King and Sussex Streets.
14	" .....	" Sussex and Erskine Streets.
15	Northern Station.....	" Kent and Margaret Streets.
16	Head Quarters.....	" Elizabeth and Hay Streets.
17	" .....	Messrs. A. Hordern & Sons, George-street, Haymarket.
18	" .....	Corner of Sussex and Liverpool Streets.
19	" .....	" Kent and Bathurst Streets.
20	" .....	" Kent and Market Streets.
21	" .....	" Oxford and Riley Streets.
22	" .....	" George-street and Union-lane.
23	" .....	" George and Goulburn Streets.
24	" .....	" York and Market Streets.
25	" .....	Messrs. Bridge & Co., Wool Store, Harbour-street.
26	No. 3 M.F.B. Station, Marrickville .....	Corner of Norton-street and Parramatta Road, Leichhardt.
27	" " " " .....	" Railway premises and Lackey-street, Summer Hill.
28	" " " " .....	" Marrickville and Illawarra Roads, Marrickville.
29	" " " " .....	Council Chambers, St. Peters.
30	Waverley Volunteer Fire Station .....	Council Chambers, Randwick.
31	M.F.B., Northern Station, George-street North .....	George-street North, opposite the Mariners' Church.
32	" " " " .....	Corner of George-street North and Lower Fort-street.
33	" " " " .....	" Lower Fort and Windmill Streets.
34	" " " " .....	" Argyle and Playfair Streets.
35	" " " " .....	" Argyle and Kent Streets.
36	" " " " .....	Victoria Terrace, opposite the Eye Hospital, Miller's Point.
37	" " " " .....	Corner of Young-street and Circular Quay.
38	" " " " .....	" Macquarie-street North and Circular Quay.
39	" " " " .....	" Bridge and Pitt Streets.
40	" " " " .....	Pitt-street, opposite Angel-place.
41	" " " " .....	Corner of Church Hill and Charlotte-place.
42	" " " " .....	Kent-street, near Gas-lane.
43	" " " " .....	Corner of Bent and O'Connell Streets.
44	No. 2 M.F.B. Station, George-street West .....	" Elizabeth and Devonshire Streets.
45	" " " " .....	" George-street West and Newtown Road.
46	" " " " .....	" Regent and Cleveland Streets.
47	" " " " .....	" Redfern and Botany Streets, Redfern.

All the Volunteer Fire Stations, with the exception of Burwood and Parramatta, all theatres and music halls, the Government Printing Office, the Railway Department, the Town Hall, and Messrs Hoffmann & Co., are in direct communication with our three permanent Fire Stations. The police stations are also connected through the Central Police Station. The various wharfs, warehouses, business houses, and many public buildings are also in telephone communication by means of the General Post Office Exchange, which is open to receive and transmit calls for fires at any hour of the day and night, and arrangements have been made by which the watchmen employed by the principal business houses report through to Head Quarters Station several times during the night.

On the 19th of September a temporary northern fire station was erected on the Government land situated alongside of the site granted for the permanent station, and was supplied with a 50-shutter board; 13 telephone fire alarms were also erected around this station. A steam fire engine and a few men are in constant attendance day and night, but I may here state that the men having to do the three watches from the other three stations brings a great strain on the whole staff, and I am afraid I shall have to ask your Board for more men before the permanent station is erected. To relieve the men as much as possible, part of the tower duty has been done by two of the Paddington Brewery Volunteer firemen each night, at a cost of 8s. a night of eight hours. Two young men are also in attendance each night at the No. 2 and Northern stations from 10 p.m. to 6 a.m., and on Saturday night from 8 p.m. to 6 a.m. to assist with the telephone communication and to take charge of each station and keep up the communication in case of a fire, thereby giving us the assistance of two extra members of the M.F.B. at a fire.

During the past year many very high buildings have been erected throughout the city without any regard having been paid to the distance between them and other buildings. I must again repeat what I have stated in previous annual reports that if this recklessness of building continues without any protection by means of iron shutters we must expect very large fires, as was the case on the 2nd October, when about £50,000 worth of property was destroyed merely for the want of iron shutters on the buildings on either side of the street.

The Water and Sewerage Board has made great improvements in the water reticulation during the year, both in the city and suburbs, especially so in the city since the late large fire, by putting down large mains, but I trust they will continue to do away with the 3-inch and 4-inch mains in the principal thoroughfares, and where large buildings exist. About 400 screw-down hydrants have been fixed about the city, and a large number of the old-fashioned fire-plugs have been done away with and ball hydrants substituted in their place, both in the city and suburbs.

Through your Board I desire to thank the whole of the officers and members of the Volunteer Fire Companies for their valuable co-operation and assistance during the past year, especially so at the fires which occurred on the 2nd October and the 2nd December.

I have also to express my obligations to the officers and members of the police force, the city taracocks, and the citizens in general for their valuable co-operation.

The condition of the Brigade with regard to discipline and general efficiency is very satisfactory; although the duties are becoming rather heavy for such a small body of men they are cheerfully carried out. I take this opportunity of offering your Board my sincere acknowledgment for the great support it has given me on all occasions.

I have, &c.,

WILLIAM D. BEAR,  
Superintendent of Fire Brigades, and Inspector of Kerosene.

APPENDIX VIII.

List and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies, for the Year ending December, 1890, Sydney, New South Wales.

Date	When discovered	Time of Call.	Locality.	Name of Tenant.	How Premises occupied.	Construction of Premises.	Origin or supposed cause of Fire	Insurance		Extent of Damage, &c.	Extinguished by
								Contents	Building.		
1890. Wednesday, 1 January.	3 30 a.m.	3 30 a.m.	Woodland-street, Canterbury.*	George Scherer	Private Dwelling	Weatherboard, and iron roof.	Kerosene lamp, explosion of.	Mercantile Mutual, £20 None	Industrial Mutual, £125 Mercantile Mutual, 250	A weatherboard cottage of 3 rooms, and contents, burned out and fallen down. A weatherboard cottage of 3 rooms, with contents, burned out and fallen down.	Ashfield Vol. Co., with standpipe, assisted by M. F. B., and Newtown Vol. Co.
Saturday, 4 January.	10 55 a.m.	11 0 a.m.	Corner of King and Turner Streets, Balmain.	G. Murdock	"	Wood, and wooden roof.	Kerosene lamp, carelessness with.	None	None	Fowl house at the rear of premises, about 8 x 10 feet, nearly burned down, and a number of fowls killed.	Inmates and neighbours with buckets of water.
Monday, 6 January.	10 10 a.m.	10 14 a.m.	105, King-street, City.	James Bartlett, sen.	Hosier, &c.	Brick, and iron roof.	Gas, explosion of	Australian Mutual, £1,700 United Australian Mutual, £1,000	Unknown	About 3 feet of flooring of the window damaged by fire and cutting away; contents of window damaged by smoke.	Inmates and M.F.B., with buckets of water.
Friday, 10 January.	12 45 a.m.	12 46 a.m.	519, Elizabeth-street, Strawberry Hills.	J. Graham	Stables	Wood, and iron roof	Light thrown down.	None	Australian Mutual	Side and roof of stables in rear of premises slightly damaged by fire, and a small quantity of fodder damaged by water.	Inmates, with buckets of water.
Friday, 10 January.	9 0 p.m.	9 7 p.m.	George-street, City	Messrs. Thompson & Giles	Drapers	Brick, and slate roof.	Unknown	Manchester, and City of London, and other offices; -£65,350. Rents, £2,500.	In general offices, £8,000.	A small quantity of waste paper burned in back shop on ground floor.	Night watchman, with buckets of water.
Saturday, 11 January.	6 0 p.m.	4 7 p.m.	Miller-street, Pyrmont	Messrs. Triggs & Marr.	Ironfounders	Iron, and iron roof.	Oven, overheat of	Building and contents, National of New Zealand, £2,500.		Side of shed building slightly damaged by fire	Neighbours and M.F.B., with handpump and buckets of water.
Thursday, 16 January.	2 0 p.m.	2 6 p.m.	George-street, City	John Solomon	Royal Museum and Palace of Amusements.	Brick, and iron roof.	Gas light coming in contact with scenery.	None	Liverpool and London and Globe, £3,000.	A small amount of scenery damaged by fire on first floor	Inmates, with buckets of water.
Saturday, 18 January.	2 15 a.m.	2 35 a.m.	Bruce-street, Waterloo	George Thompson	Private Dwelling	Weatherboard, and iron roof.	Unknown	None	Australian Mutual, £100	A weatherboard cottage of 2 rooms, and contents, burned out, and fallen down	M.F.B., with steam fire engine.
Sunday, 19 January.	8 0 p.m.	8 5 p.m.	Corner of John-street and Botany Road.	Unoccupied	Shop	Brick, and iron roof.	Children playing with fire.		Unknown	About 2 x 1 feet of wooden flooring of flat roof over yard damaged by fire.	Neighbours, with buckets of water.
Tuesday, 21 January.	8 50 p.m.	None recd.	Corner of New Canterbury Road and Crystal-street, Petersham	G. Rawlins	Licensed Victualer, "Oxford Hotel."	Brick, and slate roof.	Candle	Commercial Union.	Commercial Union	Window curtains and carpet slightly damaged by fire in front room on first floor.	Inmates and neighbours, with buckets of water.
Saturday, 25 January	4 45 a.m.	4 53 a.m.	12, Bond-street, City	R. G. Torrett & Co.	Tailors	Brick and shingle roof.	Light thrown down.	Imperial, £650	Unknown	A quantity of tailors' material and some wearing apparel burned. Wood partition and underneath part of staircase slightly damaged by fire in front shop on ground floor, rest of shop and contents damaged by heat and smoke	M.F.B. with hydrant and chimney hose.
Saturday, 25 January	5 30 p.m.	5 40 p.m.	23, Campbell-street, City.	Yei Hing Jang	Boarding-house	Brick, and iron roof	Fireworks.	None	Unknown	A small portion of matting and wall-paper slightly damaged by fire in front room on first floor.	Inmates, with buckets of water.
Saturday, 25 January.	9 25 p.m.	9 32 p.m.	242, Elizabeth street, City.	Mrs. Kroger	Boarding-house	Brick, and slate roof.	Light thrown down.	Nerwich Union, £150.	Unknown	A quantity of bedding and house-linen damaged by fire on landing of first floor.	Inmates, with buckets of water.
Sunday, 26 January,	6 20 p.m.	6 26 p.m.	95, Clarence-street, City	J. Maloney	Ironmonger	Brick, with iron and shingle roof.	Foul chimney	None	Aust. Mutual, £600.	Roof severely damaged by fire and cutting away, and ceiling under damaged by water.	Neighbours and M.F.B., assisted by North City Vol. Co., with handpump.
Monday, 27 January.	8 50 p.m.	9 2 p.m.	Oxford-street, Waverley	Misses Tiernan	Milliners and dressmakers.	Brick, and slate roof.	Unknown	N.S.W. Corporation	Pacific Insurance Co.	Shop and dwelling of five rooms; shop and three rooms, together with contents, burned out and roof off. Kitchen and room over damaged by water.	Waverley, Woollahra, and Paddington Vol. Fire Cos, with standpipes.
			"	A. M'Mahon	Bootmaker	"	"	None	"	Roofs slightly damaged by fire; ceilings under damaged by water and front shop windows broken.	
			"	H. R. Roberts	Bildmaker	"	"	N.S.W. Corporation.	"		
Wednesday, 5 February.	8 45 a.m.	None recd.	1, Wynyard-street, City	Messrs. Cook, Rhodes, & Co.	Clothiers	"	Rats, at matches.	Union of New Zealand.	Unknown	A portion of canvas and paper ceiling of office on first floor burned.	Burned itself out.
Friday, 7 February.	8 5 a.m.	None recd.	Beatrice-street, Ashfield	J. Beckhaws	Private dwelling.	Weatherboard, and iron roof	Hot ashes	None	Mercantile Mutual, £100	Wood partition, ceiling, and floor of kitchen on ground floor, together with a small quantity of wearing apparel, damaged by fire.	Inmates and neighbours, with buckets of water.
Sunday, 9 February.	8 30 a.m.	None recd.	Manly Vale, Manly	A. E. Heaton	Private dwelling.	Weatherboard, and iron roof.	Unknown	None	None	A weatherboard cottage of two rooms, together with contents, burned out and fallen down.	Burned itself out
Wednesday, 12 February	1 55 p.m.	2 0 p.m.	167, Sussex-street	H. Hillier	Saddle and harness maker	Brick, and iron roof.	Light thrown down.	Union of New Zealand, £550.	Unknown	A small quantity of straw damaged by fire in back store.	Employees, with buckets of water.
Wednesday, 12 February	8 30 p.m.	9 0 p.m.	New Canterbury Road, Petersham.	W. H. Weirick	Plumber	Brick and stone, with slate roof.	Gas bracket	Union of New Zealand, £450.	Union of New Zealand, £600.	Window curtains burned; window sash and a small quantity of furniture damaged by fire in front room on first floor.	Inmates, with buckets of water.
Friday, 14 February.	4 50 a.m.	4 54 a.m.	Corner of Mitchell-street, and Glebe Road, Glebe.	Mrs. A. Purvis	Stationer and fancy goods dealer.	Brick, and iron roof.	Unknown	Standard of New Zealand, £300; Sun, £200.	Australian Mutual, £300.	Shop, containing a quantity of stationery and fancy goods, very severely damaged by fire and water. Inquest concluded on the 26th February, 1890. Mr. and Mrs. Purvis committed to take their trial at the next Quarter Session, 11th April, 1890, and were both discharged.	Globe Volunteer Company, with standpipe.

\* Outside the M.F.B. area

† Previous fire, 8th August, 1885.

List and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies—continued.

Date.	When discovered.	Time of Cal.	Locality.	Name of Tenant.	How Premises occupied.	Construction of Premises.	Origin or supposed cause of Fire.	Insurances.		Extent of Damage, &c.	Extinguished by
								Contents.	Building.		
1890. Friday, 14 February.	9-25 p.m.	9-30 p.m.	45, Mary-street, City	J. O'Donnell	Private dwelling	Brick, and shingle roof	Candle	None	Unknown	Bed curtains burned; bed, bedding, and a small portion of furniture slightly damaged by fire in front room on first floor	Inmates and neighbours, with buckets of water.
Sunday, 16 February.	9-25 p.m.	9-30 p.m.	Darling-street, Balmain	George Wise	Butcher	Weatherboard, and iron roof.	Gas bracket	"	Guardian, £175	Shop and dwelling of four rooms; two rooms and contents burned out; rest of house and shop, together with contents, damaged by fire and water.	Balmain Volunteer Company, with hydrant.
Monday, 17 February.	8-0 a.m.	None recd.	Cowles Road, Mossman's Bay, St. Leonards.	David Henderson	Private dwelling	Weatherboard, and iron roof.	Light thrown down.	Building and contents, Mercantile Mutual, £150.	Royal	A weatherboard cottage of four rooms, with contents, burned out and fallen down.	Burned itself out.
Sunday, 23 February.	12-24 a.m.	12-34 a.m.	450, Oxford-street, Paddington.	Messrs McEnery and Moloney.	Drapers	Brick, and iron roof.	Unknown	Commercial Union, £1,000.	Royal	Front shop and contents, consisting of a large quantity of drapery, very severely damaged by fire; stair case and two rooms over, together with furniture, damaged by heat and water.	Paddington Volunteer Company, with standpipe.
Tuesday, 25 February.	9-15 p.m.	10-7 p.m.	117, Princes-street	C. H. Lindeman	Boarding house	Brick, and slate roof.	Gas bracket	Australian Mutual, £600.	Unknown	Bed curtains burned; bed and bedding slightly damaged by fire and water in front room on second floor; ceiling of same room slightly damaged by heat.	Inmates, with buckets of water.
Wednesday, 26 February.	10-30 a.m.	10-30 a.m.	*250, Pitt-street, City	The Emu Crystalline Paper and Emery Cloth Manufacturing Co. (F. Eastley, manager)	"	Brick, and iron roof.	Defect in gas stove.	None	N.S.W. Corporation, £16,000.	A quantity of paper, crystalline, and fittings damaged by fire and water in workshops on third floor.	M.F.B., with hydrant.
Wednesday, 26 February.	8-0 p.m.	8-11 p.m.	44, Globe Point Road, Glebe.	Mrs. Maher	Private dwelling	Brick, and slate roof.	Light thrown down.	Mercantile Mutual, £300.	Unknown	Bed and bedding, and a small quantity of wearing apparel damaged by fire and water in the back room on first floor.	Glebe Vol. Co. and inmates, with buckets of water.
Thursday, 27 February.	8-0 p.m.	8-9 p.m.	Waterloo-street, Balmain West.	F. Stafford	"	Brick, and iron roof.	Candle.	None	Commercial Union, £600.	Some paper ornaments round gas pipe burned in back room on ground floor.	Inmates, with buckets of water.
Thursday, 27 February.	10-20 p.m.	†	The Corso, Manly	Mrs. Price	Oyster saloon	Brick, and iron roof	Candle.	United Insurance Company.	Union of New Zealand.	Back room on first floor and contents severely damaged by fire and water. Ceiling under damaged by water, and roof slightly damaged by fire and cutting away.	Manly Volunteer Co., with manual engine.
Saturday, 1 March.	6-24 a.m.	6-28 a.m.	1250, Pitt-street, City	The Emu Crystalline and Paper and Emery Cloth Manufacturing Co. (F. Eastley, manager).	"	Brick, and iron roof.	Spark from chimney.	None	N.S.W. Corporation, £16,000.	A quantity of lamp-black damaged by fire and water on bridge of third floor; bridge slightly damaged by fire; two doors broken open.	M.F.B., with hydrant.
Sunday, 2 March.	1-0 a.m.	1-10 a.m.	144, Oxford-street, City	J. Fienberg & Co.	Cabinet-makers	Brick, and iron and shingle roof.	Smoking tobacco	Phoenix, £1,000.	Australian Mutual, £1,000.	First floor and contents, consisting of a large quantity of furniture, picture frames, mouldings, &c., together with roof, very severely damaged by fire and water. Contents in front shop under slightly damaged by water.	M.F.B., with hydrant, assisted by the Paddington Brewery, Standard Brewery, and North City Volunteer Companies.
Monday, 3 March.	10-15 p.m.	10-24 p.m.	267, Bourke-street	John Wise	Butcher	Brick, and iron roof.	Light thrown down.	Mercantile Mutual.	Unknown	A small quantity of wearing apparel and a couch severely damaged by fire and water in back kitchen in basement.	Inmates and neighbours, with buckets of water.
Friday, 7 March.	11-0 p.m.	11-44 p.m.	71, Macquarie-street South.	Mrs. Baine	General dealer	Brick, and slate roof.	Gas bracket	City Mutual	"	Bed, bedding, and some wearing apparel damaged by fire and water in front room on first floor. Mrs. Baine slightly burned on hands.	Inmates, with buckets of water.
Saturday, 8 March.	9-45 p.m.	None recd.	124, George-street, Redfern.	T. H. Westwood	Private dwelling	Brick, and shingle roof.	Matches, carelessness with.	None	Unknown	Bed, bedding, and some wearing apparel damaged by fire and water in front room on ground floor.	Inmates and police, with buckets of water.
"	11-30 p.m.	None recd.	155, Brougham-street, Darlinghurst.	Rev. D. Wollmski	"	Brick, stone, and slate roof.	Candle	Mercantile Mutual.	"	Bed, bedding, wearing apparel, and carpet in back room on second floor, damaged by fire and water.	Inmates with buckets of water.
Tuesday, 11 March.	2-15 a.m.	2-38 a.m.	Botany Road, Waterloo	James Flood	Contractor	Open street.	Light coming in contact with broken gas main.	None	"	About 40 yards of timber, blocking up sides of sewer, damaged by fire.	Alexandria Vol. Co., with standpipe.
Friday, 21 March.	§	None recd.	Fountain-street, Manly	Rev. J. Olley	Private dwelling	Brick, and shingle roof.	Unknown	Mercantile Mutual, £100.	Sydney Mutual, £100.	A bed and bedding totally destroyed in back room on ground floor, rest of room and contents damaged by smoke, &c.	Burned itself out.
Monday, 24 March.	10-30 p.m.	10-40 p.m.	Government Wharf, Circular Quay.	Steam Punt "Eva"	"	Wood.	Light thrown down.	"	South British, £1,200.	Bulk-head damaged by fire, and door to same broken open.	Water Police, with buckets of water.
Saturday, 29 March.	4-45 p.m.	6-54 p.m.	116, King-street, Newtown.	Messrs. Christie Bros.	Confectioners	Brick, and iron roof.	Over heat of drying stove.	Australian Mutual.	Unknown	A small quantity of confectionery, and part of a case used for drying purposes, damaged by fire and water in drying room on first floor.	Newtown Vol. Co., and neighbours, with buckets of water.
"	8-45 p.m.	9-2 p.m.	Hargrave lane, off Elizabeth-street, Paddington.	J. Sullivan	Private dwelling	Weatherboard, and iron roof.	Candle	None	Australian Mutual, £200.	Bed curtains burned; bed, bedding, and wicker partition damaged by fire in back room on ground floor; rest of room and contents damaged by heat, smoke, and water. Margaret Sullivan, age 6 years, very severely burned about the head and body, taken to the Sydney Hospital; since dead.	Neighbours, with buckets of water.
Tuesday, 1 April.	12-45 p.m.	1-12 p.m.	Wellington-place, off Upper Dowling-street, Darlinghurst.	Patrick Hayes	Private dwelling	Brick, and iron roof.	Tar, boiling over of.	None	Australian Mutual.	A small quantity of tar destroyed, and back kitchen on ground floor, slightly damaged by fire. Patrick Hayes slightly burned on the hands.	Inmates, with buckets of water.
Thursday, 3 April.	5-57 p.m.	5-58 p.m.	23, Elizabeth-street, Redfern.	The Sydney Printing and Stationery Company; J. H. Swinerton, Manager.	"	Brick and iron roof.	Explosion of chemicals.	Imperial, Straits, Lion, and other offices.	Imperial, Straits, Lion, and other offices.	A quantity of chemicals destroyed; partition and shelving slightly damaged by fire in photographic room on first floor. J. H. Swinerton burned on the hands.	Inmates, with buckets of water.

\* Subsequent fire, 1st March, 1890. † None received by Metropolitan Fire Brigade. ‡ Previous fire, 26th February, 1890. § Discovered, Saturday, 22nd March, at 2 p.m. ¶ Outside M.F.B. area.

List and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies—continued.

Date.	When discovered.	Time of Call.	Locality.	Name of Tenant.	How Premises occupied.	Construction of Premises.	Origin or supposed cause of Fire.	Insurances		Extent of Damage, &c	Extinguished by—
								Contents.	Building.		
1890. Thursday, 31 April.	8.0 p.m.	8.1 p.m.	*Church Hill .....	The Trustees of St. Patrick's Church.	Place of worship	Stone, and slate roof.	Candle .....	Building and contents, City Mutual, £5,000.	.....	Small portion of drapery over the altar damaged by fire.	Caretaker, with a coat.
Saturday, 6 April.	8.20 p.m.	8.24 p.m.	52, Kent-street, City ..	Andrew Erickson .....	Private dwelling..	Brick, stone, and iron roof.	Light thrown down.	N.S.W. Corporation, £200.	Unknown .....	Bed, bedding, and a small quantity of wearing apparel burned, and woodwork slightly damaged by fire, in back room on ground floor.	Neighbours, with buckets of water.
Monday, 7 April.	9.30 p.m.	9.35 p.m.	66, Pitt-street, Waterloo	George Lenton .....	" ..	Brick, and iron roof	Kerosene lamp—upsetting of.	None.....	Australian Mutual, £500.	Some wearing apparel burned, and partition scorched in front room on first floor.	Inmates and Waterloo Vol. Co., with buckets of water.
Tuesday, 8 April.	9.20 p.m.	9.26 p.m.	232, Elizabeth-street, City.	Chong Ling .....	Cabinet-maker ..	" ..	Light thrown down.	None.....	None.....	A quantity of waste paper burned under stairs in front shop, and underside of staircase slightly damaged by fire.	Inmates and Standard Brewery Vol. Co., with buckets of water.
Friday, 11 April.	5.55 p.m.	5.57 p.m.	105, Glebe Road, Glebe	Samuel Haggarty .....	Private dwelling..	" ..	Matches, carelessness with.	None.....	Unknown .....	A small quantity of wearing apparel slightly damaged by fire and water in front room on first floor	Inmates, with buckets of water.
Saturday, 12 April.	6.45 p.m.	6.50 p.m.	†Cowper's Wharf, Woolloomooloo.	S.S. "Civility," Stanley Brown, Captain.	Steamship .....	Wood .....	Light thrown down.	None.....	None .....	Cabin and contents on upper deck slightly damaged by fire and water.	Watchman, with buckets of water.
Saturday, 12 April.	8.55 p.m.	9.1 p.m.	Corner of Glebe Road and Franklin-place, Glebe.	Andrew Knox .....	Private dwelling..	Brick, and iron roof.	Spark from fire-place.	None.....	Australian Mutual, £400.	Bed and bedding slightly damaged by fire and water in front room on first floor.	Inmates, assisted by Glebe Vol. Co., with buckets of water.
Sunday, 13 April.	8.4 p.m.	8.8 p.m.	20, Brougham-street, Glebe.	Joseph Swindells .....	" ..	" ..	Candle ..	None.....	Unknown .....	A small quantity of wearing apparel and about 2 feet of boarding under staircase in back room on ground floor slightly damaged by fire.	Inmates, with buckets of water.
Monday, 14 April.	10.40 p.m.	10.46 p.m.	168, Clarence-street ..	Messrs. Costin & Co. ..	Oil and colour merchants.	Brick, and slate roof.	Unknown ..	New Zealand, £6,000; Phoenix, £4,000.	Commercial Union, £2,000; Pacific, £2,000.	Back part of warehouse on ground floor. Lift, from ground to third floor, and back of roof-hung, damaged by fire, portion of stock on top floor damaged by fire and water, and front door broken.	M.F.B., with hydrant
"	"	"	" ..	D. Storer & Sons (Limited).	Manufacturers of oils and colours.	" ..	" ..	Office Furniture, &c., Phoenix	Queen .....	Front door broken open, and first floor window broken by strangers.	"
Tuesday, 15 April.	6.20 a.m.	† ..	Charlotte-street, off Elizabeth-street, Ashfield.	R. C. Amos .....	Stationer .....	" ..	Children playing with matches.	Queen .....	Unknown .....	A small quantity of wearing apparel and a dressing table, slightly damaged by fire, and glass door broken, in front room on first floor.	Inmates, with buckets of water.
"	6.10 p.m.	† ..	Church-street, Parramatta.	Robert Cort .....	Tobacconist .....	Stone and brick, and slate roof.	Light thrown down.	Commercial Union.	Liverpool and London and Globe	Bed-room and contents on first floor damaged by fire and water	Parramatta Nos. 1 and 2 Vol. Companies, with hydrant.
Wednesday, 16 April.	9.0 p.m.	9.8 p.m.	George-street, Macdonaldtown.	Mrs. Knowles .....	Private dwelling..	Weatherboard, and shingle roof.	Candle .....	None.....	Colonial Mutual.	A weatherboard cottage of four rooms and contents burned out, and most part fallen down.	Newtown Vol. Co., M.F.B., and Alexandria Vol. Co., with standpipes, assisted by Darlington and Waterloo Vol. Companies.
"	"	"	" ..	Mrs. Hogden .....	" ..	" ..	" ..	" ..	" ..	A weatherboard cottage of four rooms and contents nearly burned out, and most part fallen down.	"
Saturday, 19 April.	8.45 p.m.	8.52 p.m.	Avoca-street, Randwick	Dawson West .....	Produce merchant	Brick, and iron roof.	Matches, rats at	Lion .....	Unknown .....	Wooden compartment, about 8 x 8 feet, used as office on ground floor of store, damaged by fire, and windows broken by strangers.	Neighbours, with buckets of water
Sunday, 20 April.	7.30 a.m.	8.0 a.m.	422, 454, George-street, City.	Messrs. Beale & Co. ...	Pianoforte warehousemen.	" ..	Overheat of exhaust pipe from engine.	.....	Commercial Union.	About 10 x 6 feet of wood lining burned in engine-room in sub-basement, and wood partition over damaged by cutting away.	Inmates, with private hydrant, and M.F.B., with hydrant.
Tuesday, 22 April.	2.20 p.m.	2.28 p.m.	Victoria-street, Waverley	Unoccupied .....	Private dwelling ..	Brick, and slate roof.	Boiling over of tar.	.....	United Insurance Co., £700.	A small quantity of tar destroyed. Walls and ceiling of back kitchen on ground floor damaged by smoke and heat	Waverley Vol. Co., with sand.
Friday, 25 April.	3.48 p.m.	† ..	The Corso, Manly .....	Chong Hop .....	Fruiterer, &c. ...	Stone, and shingle roof.	Unknown ..	Hong Kong, £300	Unknown .....	Kitchen and back-room on 1st floor, with contents, burned out, and roof off Shop, and two rooms over, with contents, severely damaged by fire and water, and roof partly burned off.	Manly Vol. Co., with manual engine
"	"	"	" ..	The Misses Devine .....	Refreshment rooms.	Brick, and shingle roof.	.....	N.S.W. Corporation.	" ..	Contents of back-room on ground floor slightly damaged by fire and water, and window-frame scorched; windows broken by heat	"
Saturday, 26 April	6.0 p.m.	6.35 p.m.	173, George-street .....	San San War .....	Boarding-house..	Brick, and iron roof.	Foul chimney ..	None .....	" ..	Small portion of fire-place and roof of kitchen on ground floor slightly damaged by fire.	Inmates, with buckets of water.
Monday, 28 April.	2.20 a.m.	2.32 a.m.	Kettle's Estate, off King-street, Newtown.	George S. Brock .....	Stables .....	" ..	Light thrown down.	" ..	" ..	A quantity of produce, consisting of hay, chaff, &c., in loft over stables, damaged by fire and water.	Newtown Vol. Co., with hydrant, assisted by M.F.B. Neighbours.
"	7.20 p.m.	† ..	8 Napier-street, Piddington.	Mrs. Lucy Sammonds ..	Boarding-house..	" ..	Gas explosion ..	Northern, £100	Commercial Union, £300.	Window-curtain burned and window-frame scorched in middle room on ground floor; rest of room and contents damaged by explosion. Mrs. Lucy Sammonds, age 45 years, slightly burned on the hands and arms; Mr. Sammonds, age 20 years, burned on the head, neck, and arms.	"
Thursday, 1 May.	6.55 p.m.	6.58 p.m.	§Jones-street, Ultimo ..	G. and C. Hoskins .....	Ironfounders .....	Open yard ..	Boiling over of tar.	None.....	None.....	About 50 gallons of tar destroyed, and about 20 feet of wooden fencing damaged by fire in open yard at the rear of premises.	Employees, with sand, assisted by M.F.B., with buckets of water.

\* Previous fire, 31st August, 1888. † Outside M.F.B. area. ‡ No call received by M.F.B. § Subsequent fire, 19th May, 1890.

LIST and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies—continued.

Date.	When discovered	Time of Call.	Locality.	Name of Tenant.	How Premises occupied.	Construction of Premises.	Origin or Supposed cause of Fire.	Insurances.		Extent of Damage, &c.	Extinguished by
								Contents.	Building.		
1890. Friday, 2 May.	5.40 p.m.	5.48 p.m.	11, Botany-street, Redfern.	Alexander Ross . . . . .	Private dwelling.	Brick, and iron roof.	Kerosene lamp, explosion of	None . . . . .	None . . . . .	A small quantity of bedding and some wearing apparel damaged by fire and water in back room on second floor.	Inmates, with buckets of water.
"	9.20 p.m.	9.25 p.m.	43, Watfie-street, Chipendale	P. M'Kinnor . . . . .	"	"	Kerosene lamp, upsetting of	" . . . . .	Unknown . . . . .	Window-curtains burned, and a small quantity of crockery damaged by breakage in front room on ground floor.	Neighbours and police, with buckets of water.
Tuesday, 13 May	12.30 a.m.	No call.	The Pier, Manly . . . . .	Charles Russell . . . . .	Refreshment Saloon.	Wood, and iron roof.	Unknown	Merc. £140.	Merc. Mutual, £360.	A small quantity of paper bags burned and underneath part of staircase damaged by fire in shop on ground floor.	Citizens and the crew of s.s. "Brightside."
Wednesday, 14 May.	1.40 a.m.	1.46 a.m.	6, Foy-street, Balmain	Henry White . . . . .	Private dwelling.	Weatherboard, and iron roof	"	None . . . . .	New Zealand, £200	A weatherboard cottage of four rooms, with contents, burned out and fallen down.	Balmain Vol. Co., with stand-pipe, assisted by M.F.B.
"	"	"	4, " "	Mrs. Isabella Clark . . . . .	General dealer	Weatherboard, with shingle and iron roof.	"	Aust. £135.	Mutual, £200	Shop and dwelling of three rooms severely damaged by fire and water, and most part of roof off. Contents damaged by removal.	"
"	"	"	2, " "	Edwin Childligh . . . . .	Private dwelling.	Weatherboard, & shingle roof	"	None . . . . .	Aust. Mutual . . . . .	An empty shed building of two floors in rear burned out and fallen down.	Roof damaged by heat, &c.; contents damaged by breakage and removal.
Friday, 16 May.	9.10 p.m.	No call.	20, Eveleigh-street, Redfern.	Mrs. C. Reynolds . . . . .	"	Weatherboard, and iron roof	Kerosene lamp, upsetting of.	" . . . . .	Unknown . . . . .	A small quantity of furniture and some wearing apparel damaged by fire and water in front room on ground floor.	Neighbours, with buckets of water.
Monday, 19 May.	7.5 p.m.	7.9 p.m.	Jones-street, Ultimo . . . . .	G. and C. Hoskins . . . . .	Iron foundry.	Open yard . . . . .	Tar, boiling over of	" . . . . .	None . . . . .	About 100 gallons of tar destroyed, and about 25 feet of fencing burned and fallen down in open yard at rear of premises	M.F.B. with sand, assisted by employees.
Wednesday, 21 May.	9.40 a.m.	9.46 a.m.	117, Globe Road, Glebe . . . . .	Joseph Holloway . . . . .	Plumber and Gas-fitter	Brick, and iron roof	Flue, over-heat of.	" . . . . .	Aust. Mutual, £275.	About 2 feet of an upright in wash-house in rear of premises damaged by fire.	Inmates, with buckets of water.
Friday, 23 May.	8.50 p.m.	No call.	49, George-street, Redfern	Mrs. O'Brian . . . . .	Private dwelling	Brick and slate roof.	Gas explosion . . . . .	" . . . . .	Aust. Mutual . . . . .	A house of eight rooms very severely damaged by explosion, windows blown out, and contents damaged by dirt, &c.	Mrs. Ernest Mills, age 24 years, slightly injured about the head; Ethel Mills, age 2½ years, slightly injured about the face.
"	9.45 p.m.	9.51 p.m.	Taylor-street, City . . . . .	Mrs. Burko . . . . .	"	Brick, with iron over shingle roof.	Kerosene lamp, explosion of.	" . . . . .	Aust. Mutual, £100.	Lamp destroyed, and a small quantity of bedding damaged by fire, and water in front room on ground floor.	Inmates and Paddington Brewery Vol. Co., with buckets of water.
Sunday, 25 May.	10 a.m.	10.27 a.m.	8, Little Bloomfield-street.	S. Wyatt . . . . .	"	Brick, and slate roof	Child playing with matches.	" . . . . .	Unknown . . . . .	Bed, bedding, and a small quantity of wearing apparel damaged by fire and water in front room on first floor.	Inmates and neighbours with buckets of water.
Tuesday, 27 May.	10.40 p.m.	10.45 p.m.	Marrickville Road . . . . .	M. Cahill . . . . .	Confectioner . . . . .	Brick, and iron roof	Light coming in contact with gas.	New Zealand . . . . .	Merc. Mutual . . . . .	Meter destroyed, and wood-work under window damaged by cutting away.	Neighbours.
Thursday, 29 May.	5.50 p.m.	6 p.m.	Marion-street, Leichhardt.	Angus M'Kenzie . . . . .	Private dwelling	"	Candle . . . . .	None . . . . .	Unknown . . . . .	Bed, and bedding slightly damaged by fire and water. Window broken and frame damaged by heat in back room on ground floor.	Inmates with buckets of water.
Thursday, 5 June.	7.30 a.m.	No call.	Corner of Bathurst and James Streets.	C. H. Egging . . . . .	Licensed Victualler, "West End Hotel."	Brick, and slate roof.	Child playing with matches.	" . . . . .	" . . . . .	Bed, bedding, and curtains damaged by fire and water in back room on first floor.	Inmates with buckets of water.
Monday, 9 June.	12 midnight	No call.	94, King-street, Newtown.	Charles Schott . . . . .	Tobacconist . . . . .	Brick, and iron roof	Matches, rats at.	Aust. Mutual . . . . .	" . . . . .	A small quantity of stock, and about 4 feet shelving damaged by fire and water in front shop on ground floor.	Inmates with buckets of water.
Tuesday, 10 June.	9.30 a.m.	No call.	71, Abercrombie-place, City.	James Leonard . . . . .	Licensed Victualler, "Royal Oak Hotel."	"	Smoking tobacco	Norwich Union . . . . .	Norwich Union . . . . .	Bed, bedding, and curtains, and small portion of wainscot damaged by fire and water in back room on ground floor.	Inmates with buckets of water.
Saturday, 14 June.	5.30 p.m.	No call.	Quarantine Station, Manly.	F. W. Vincent, Supt. of Station.	Store . . . . .	Wood, and iron roof.	Line-slaking, by rain.	None . . . . .	None . . . . .	A weatherboard store, containing a large quantity of stores, burned out and fallen down.	Manly Vol. Co., with manual engine from tanks, assisted by employees.
"	9.10 p.m.	9.18 p.m.	111, Pitt-street, City . . . . .	Messrs Houghton & Co. Auctioneers . . . . .	"	Brick, and slate roof.	Unknown . . . . .	United Insurance Co., £1,000.	Commercial Union . . . . .	Two rooms on second floor severely damaged by fire, ceilings under slightly damaged by water, and front door broken open.	M.F.B. with hydrant, assisted by several volunteer companies.
Sunday, 15 June.	11.40 a.m.	11.50 a.m.	302, Oxford-street . . . . .	George Gore . . . . .	Tobacconist . . . . .	Brick, and iron roof	Escape of gas . . . . .	None . . . . .	Unknown . . . . .	Small portion of paper on wall damaged by fire, and contents slightly damaged by water in front shop on ground floor.	Inmates, and Paddington Brewery Vol. Co., with buckets of water.
Monday, 16 June.	12.40 p.m.	No call.	83, Botany-street, City.	John M'Carthy . . . . .	Private dwelling.	Brick, and shingle roof.	Child playing with matches.	Victoria, £200 . . . . .	Victoria . . . . .	Bed, bedding, and curtains burned, rest of contents of front room on first floor damaged by heat, smoke, and water.	Police and neighbours with buckets of water.
"	6.10 p.m.	No call.	Smith-st., Parramatta . . . . .	N.S.W. Government . . . . .	Police Barracks . . . . .	"	Foul chimney	None . . . . .	None . . . . .	Small portion of shingle roof damaged by fire and cutting away.	Police and Parramatta Vol. Cos., with buckets of water.
Wednesday, 18 June	1.40 p.m.	No call.	Carey-street, Leichhardt	John Marriott . . . . .	Private dwelling.	Brick, and iron roof.	Candle . . . . .	" . . . . .	Mercantile Mutual . . . . .	Window frame, blinds, and curtains slightly damaged by fire in front room on ground floor.	Inmates and neighbours with buckets of water.
Friday, 20 June.	8.52 p.m.	8.52 p.m.	527, Kent-street . . . . .	Messrs Baker and Botson.	Printers, &c. . . . .	"	Light thrown down.	Phoenix, £250 . . . . .	Commercial Union, £6,000.	Top floor of warehouse and contents, consisting of a small quantity of printers' material, &c., severely damaged by fire and water, and part of roof off.	M.F.B., with hydrant, assisted by the North City, Standard Brewery, and Paddington Brewery, Vol. Cos.
"	"	"	"	The Australian Builder and Contractors' News Mr. J. A. Philp, Manager.	"	"	"	Phoenix, £700 . . . . .	" . . . . .	Two floors under and contents, consisting of quantity of printers' material and machinery, &c., together with basement, damaged by water.	"

\* Previous fire 1st May, 1890.

LIST and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies—continued.

Date.	When Discovered.	Time of Call.	Locality.	Name of Tenant.	How Premises occupied.	Construction of Premises.	Origin or supposed cause of fire.	Insurances.		Extent of Damage, &c	Extinguished by
								Contents.	Building.		
1890. Friday, 20 June.	9-30 p.m.	9-55 p.m.	1, Hugenden Terrace, Cavendish street, Petersham	Thomas Street .....	Private dwelling	Brick, and slate roof.	Light thrown down.	Imperial, £3,000 ..	Unknown .....	Back bedroom on first floor and contents burned out, and part of roof off; passage and staircase to main building damaged by fire and heat; kitchen and laundry under damaged by water.	M.F.B. and Newtown Vol Co., with stand-pipe.
Saturday, 21 June.	10-10 a.m.	10-20 a.m.	Off Botany Road, Water- loo.	The Australian Wool Co., H. B. Cadell, manager.	Wool-wash .....	Wood, iron, and iron roof.	Unknown .....	Queen .....	Queen .....	A weatherboard building of four rooms, used as store, and bedrooms for workmen, together with contents, burned, and fallen down	Waterloo Vol. Co., with manual, assisted by M.F.B. and Alexandria Vol. Co. Neighbours and police, with buckets of water.
"	10-45 p.m.	No call.	Lewisham street, Peter- sham.	Mrs. Louisa Purie .....	Private dwelling.	Brick, and slate roof.	Candle .....	None .....	Unknown .....	Bed, bedding, and carpet, slightly damaged by fire and water, in back room on ground floor.	Neighbours and police, with buckets of water.
Sunday, 22 June.	12-5 a.m.	12-8 a.m.	700, George-street, Brick- field Hill.	J. H. Collins .....	Fancy goods dealer	"	"	Phoenix, Austral- ian Mutual.	"	Dressing-table and cover damaged by fire in back room on third floor.	Inmates, with buckets of water.
Thursday, 26 June.	9-45 p.m.	7-0 p.m.	Rear of 197, Albion- street, Surry Hills.	Unoccupied .....	Stables .....	Brick, and iron roof	Lime slaked by rain.	"	"	Two sacks of lime and a quantity of wood damaged by fire in stables at rear of premises.	Neighbours, assisted by Paddington Brewery Vol. Co., with buckets of water.
Friday, 27 June.	10-0 p.m.	No call.	Cook's River Road, St. Peters.	John Hall .....	Storekeeper ..	"	Light thrown down.	None .....	Liverpool & Lon- don & Globe, £200.	A small quantity of wearing apparel damaged by fire in back room on first floor; rest of room damaged by heat and smoke.	Inmates, with buckets of water.
Friday, 4 July.	8-30 p.m.	8-35 p.m.	*Sussex-street, foot of Margaret-street.	S.S. "Burrumbeet," Capt. G. Tait.	Steam-ship .....	Iron .....	Kerosene lamp, upsetting of.	Victoria Insurance Company.	Colonial Mutual.	About 300 bales of straw and 1,000 bags of chaff severely damaged by fire and water; wood lining on port side of ship damaged by fire.	Crew, with donkey-pump and private hydrant, and M.F.B., with hydrant and steamer, assisted by several Vol. Cos.
Sunday, 6 July.	6-0 a.m.	7-40 a.m.	Corner of Darling and Macdonald streets, Balmain.	Mrs. Jane Kestle .....	Baker .....	Brick, with shingle and iron roof.	Defective Brick- work.	None .....	Australian Mutual	About 230 loaves of bread destroyed, and wood ceiling of bakehouse damaged by heat and smoke.	Balmain Vol. Co., with hy- drant.
"	8-30 a.m.	8-33 a.m.	158, Clarence-street ..	Messrs. T. H. Mate & Co.	General importers	Brick, and iron roof.	Spontaneous igni- tion (oil waste.)	Queen, £5,000 ..	Union of New Zealand.	About 4 feet of flooring damaged by fire and cutting away on third floor of warehouse.	M.F.B., with buckets of water and hand-pump.
Tuesday, 8 July.	6-0 p.m.	6-5 p.m.	240, Pitt-street .....	James Pavie .....	Restaurant .....	Brick, and slate roof.	Candle .....	None .....	Aust. Mutual, £1,500.	Window curtains burned, and sofa slightly damaged by fire in front room on first floor	Inmates, with buckets of water.
"	11-30 p.m.	11-32 p.m.	*Sussex-street, A. U.S. N. Co.'s wharf.	S.S. "Bancoora," Capt. G. Brown.	Steam-ship .....	Iron .....	Light thrown down.	Unknown .....	Unknown .....	A small quantity of canvas gear and wood partition slightly damaged by fire in sail room.	Ship's crew, with ship's donkey-pump.
Wednesday, 9 July.	8-20 p.m.	8-24 p.m.	290, Oxford-street, Pad- dington.	William Searle .....	Plumber, &c. ...	Brick, and iron roof.	Candle .....	None .....	None .....	Bed and bedding damaged by fire in front room on first floor; window-curtains burned, frame scorched, and window-glass broken.	Neighbours and Paddington Vol. Co., with buckets of water.
Thursday, 10 July.	7-50 a.m.	8-0 a.m.	New Canterbury Road, Petersham.	Henry May .....	Licensed victual- ler, "Masonic Hotel."	"	Spark from fire- place.	Liverpool and London and Globe.	Com. Union .....	About 2 feet of joist burned; flooring and fireplace damaged by breakage in middle room on first floor; ceiling under and a small quantity of furniture damaged by water.	Neighbours and M.F.B., with buckets of water.
Friday, 11 July.	12-25 a.m.	12-30 a.m.	71, Rose-street, Darling- ton.	Messrs. Pope, Maher, and German.	Ironfounders ..	Wood and iron	Overheat of fur- nace.	South British, £1,500.	"	A quantity of bagging burned, and wood beam slightly damaged by fire on furnace platform in foundry.	Darlington Vol. Co., with buckets of water.
Saturday, 12 July.	2-30 a.m.	2-36 a.m.	70, Cameron-street, Pad- dington.	J. C. Beare .....	Private dwelling.	Weatherboard, and iron roof.	Spark from fire	City Mutual, £200	City Mutual, £500	Weatherboard building, about 80 x 12 feet, used as kitchen, bath-room, &c., adjoining rear of dwelling, nearly burned out, and most part fallen down; furniture of dwelling damaged by removal.	M.F.B., with stand-pipe, assisted by several Vol. Cos.
Sunday, 13 July.	3-45 a.m.	3-59 a.m.	108, Fitzroy-street, Surry Hills.	Patrick Hogan .....	Bootmaker .....	Brick, and slate roof.	Candle .....	None .....	Com Union, £600	Bed, bedding, and a small portion of furniture slightly damaged by fire in back room on first floor.	Inmates and Paddington Brewery Vol. Co., with buckets of water.
Wednesday, 16 July.	12-40 a.m.	12-44 a.m.	78, Pyrmont-street, Pyrmont	Messrs. Graham & Co. ...	Coffee and spice mills.	Brick, and iron roof.	Kiln, overheat of	Aust. Mutual, machinery, £650.	Aust. Mutual, £500.	About 7 cwt. of chicory burned in kiln and woodwork of kiln severely damaged by fire.	M.F.B., with stand-pipe.
Friday, 18 July.	11-50 a.m.	11-58 a.m.	17, Kensington-street ..	J. Flanagan .....	Private dwelling	Brick, and shingle roof	Foul chimney ..	None .....	Australian Mutual, £260	About 3 feet of shingle roof, damaged by fire, and cutting away.	M.F.B., with Tozer pump.
Monday, 21 July	4-30 p.m.	No Call.	Corner of Pitt and King Streets.	J. Hurst .....	Licensed Victual- ler, "Beach's Hotel."	Brick, and slate roof.	Gas bracket .....	"	None .....	Canvas advertisement on verandah, damaged by fire.	Inmates, with buckets of water.
Tuesday, 22 July	10-25 a.m.	10-28 a.m.	Park-street .....	.....	Open thorough- fare.	"	Light thrown down.	"	"	Twelve bales of New Zealand flax severely damaged by fire in road, and floor of van slightly scorched.	M.F.B., with hydrant.
"	6-55 p.m.	7-0 p.m.	Brisbane-street, City ..	J. Sutton .....	Packing case maker.	Wood, and iron roof.	Unknown .....	"	Mercantile Mutual, £200.	Office on ground floor, and roof of workshop, together with contents, damaged by fire.	M.F.B., with stand-pipe.
Friday, 25 July.	5-0 a.m.	5-3 a.m.	78, Clarence-street .....	Messrs. Strong and Trowbridge.	Commission agents.	Brick, and iron roof.	"	New Zealand ..	Imperial, United, and Queen Insur- ance Companies	Ground floor of warehouse and contents, consisting of saddlery, &c., severely damaged by fire and water.	M.F.B., with steam fire engines, assisted by several Vol. Cos.
"	"	"	"	Messrs. Cox & Maller ..	Importers .....	"	"	Commercial Union.	"	First floor and contents, severely damaged by fire and water.	"
"	"	"	"	Arthur S. Searle .....	Importer of india- rubber goods.	"	"	United, £2,000; Guardian, £1,000; London and Lan- cashire, £1,000; British and Colo- nial, £1,000.	"	Basement and contents, severely damaged by water.	"

\* Outside M.F.B. area.

† Previous fire, 3rd November, 1886.

List and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies—continued.

Date.	When discovered.	Time of Call.	Locality.	Name of Tenant.	How Premises occupied.	Construction of Premises.	Origin or supposed cause of Fire.	Insurances.		Extent of Damage, &c.	Extinguished by
								Contents.	Building.		
1890. Friday, 23 July.	5-0 a.m.	6-3 a.m.	78, Clarence-street	Messrs. McMurtrie & Co.	Hoof manufactur- ers.	Brick and iron roof.	Unknown	National of New Zealand.	Imperial, United, and Queen In- surance Co.'s.	Two top floors and contents, slightly damaged by smoke.	M.F.B., with steam fire- engine, assisted by several Vol. Cos.
Saturday, 2 August.	3-45 a.m.	4-1 a.m.	76, Clarence-street London-street, Newtown	A. M. Mouson	Private dwelling	Wood	Light thrown down.	None	Queen, £1,000. Main building only.	Two top floors and contents, slightly damaged by smoke. A quantity of lumber in shed building, at rear of premises, damaged by fire.	M.F.B., and Newtown Vol. Co., with hand-pump.
Wednesday, 6 August	6-5 p.m.	6-14 p.m.	5, Hunter-street, City	L. Conway	Jeweller	Brick, and iron roof.	Unknown	"	British and Colonial. Unknown	A small amount of contents in front room on second floor, damaged by fire and water, wall slightly scorched.	Inmates and neighbours with buckets of water.
"	11-35 p.m.	11-40 p.m.	157, Liverpool-street, City	J. Garrett	Private dwelling	Brick, and slate roof.	Gas bracket	Commercial Union, £1,500.	"	Bed, bedding, and bed curtains, damaged by fire and water, in back room, on second floor.	Inmates, with buckets of water.
Friday, 8 August.	10-5 p.m.	10-11 p.m.	98, Dowling-street, Pad- dington.	Jeremiah Finn	Bootmaker	Brick, and shingle roof.	Spark from chim- ney of house.	None	Commercial Union	Roof and ceiling under damaged by fire and cutting away; contents damaged by water and dirt.	Paddington Brewery Vol. Co., with hydrant.
Monday, 11 August.	5-30 a.m.	5-40 a.m.	107, Cleveland-street, Redfern.	George Raffan	Builder, &c.	Wood, and shingle and iron roof.	Overheat of fur- nace flue.	Mercantile Mutual	Mercantile Mutual	Engine and boiler house of two floors burned out and fallen down. A range of buildings of two floors about 60 x 20 feet, 50 x 30 feet, and 80 x 25 feet, containing a large amount of machinery, joinery, timber, &c., burned out and fallen down. A large quantity of stacked timber, together with joinery shed, &c., very severely damaged by fire.	M.F.B., with steamers, and Vol. Co.'s, with manual and stand pipes.
"	"	"	101, Cleveland-street, Redfern	A. U. Teifer	Private dwelling	Brick, and slate and iron roof.	"	None	"	Back portion of house of two floors very severely damaged by fire, and a portion of contents by heat and removal.	"
"	"	"	139, Cleveland-street, Redfern.	J. H. Offord	"	"	"	"	"	Back part of house of two floors very severely damaged by fire, and a portion of contents by heat and removal.	"
"	"	"	187, Cleveland-street, Redfern.	— Hardon	"	"	"	"	"	Back part of house of two floors very severely damaged by fire, and a portion of contents by heat and removal.	"
"	"	"	185, Cleveland-street, Redfern.	A. Peel	"	"	"	Mercantile	"	Back part of house of two floors damaged by fire, and por- tion of contents by removal.	"
"	"	"	183, Cleveland-street, Redfern.	Mrs. Mullins	"	"	"	None	"	Back portion of house of two floors damaged by heat, and windows broken.	"
"	"	"	197, Cleveland-street, Redfern.	W. H. Flowers	Milliner	"	"	Victoria	"	Back shed slightly damaged by fire, and windows broken by heat.	"
"	8-15 p.m.	8-16 p.m.	54, George-street, West	Frank Hamilton	Licensed Victual- ler, "Duke of Wellington Hotel."	Brick, and iron roof.	Light thrown down.	None	Unknown	A small portion of furniture damaged by fire in front room on first floor.	Inmates with buckets of water.
Wednesday, 13 August.	12-15 a.m.	No call.	3, South-street, off Liver- pool-street	E. Bowra	Private dwelling	Weatherboard & shingle roof.	Candle	"	"	A small quantity of furniture and some wearing apparel damaged by fire and water in front room on ground floor.	"
Friday, 15 August	3-45 a.m.	4-0 a.m.	Canterbury Road, Peter- sham.	Messrs Langdon, Hop- kins, and Langdon	Timber merchants	Wood and iron roof.	Unknown	City Mutual— Machinery, £760, timber, £500.	City Mutual, £100	A saw-mill covering an area of about 140 x 40 feet, con- taining a large amount of machinery, timber, &c., burned out and fallen down, slight damage to surround- ing property belonging to same firm.	M.F.B., and Newtown, Leichhardt, and Ashfield Vol. Cos., with hydrants.
"	2-50 p.m.	2-57 p.m.	23, Glenmore Road, Pad- dington.	Ernest Clark	Painter	Brick and shingle roof.	Spark from chim- ney.	None	Mercantile Mutual	About 2 feet of shingles and end of rafters damaged by fire and cutting away. Ceiling under slightly damaged by water.	Paddington Brewery Vol. Co., with buckets or water.
"	5-40 p.m.	5-55 p.m.	Cook Road, Marrickville	Thomas Warden	Private dwelling	Weatherboard and iron roof.	Matches, children playing with.	"	Aust. Mutual, £300.	A two storey weatherboard cottage of six rooms, with a portion of the contents, burned out and most part fallen down.	M.F.B. and Newtown Vol. Co., with hydrant and stand-pipe.
Saturday, 16 August.	2-35 p.m.	2-45 p.m.	19, Ashmore-street, Mac- donaldtown.	P. Mijch	"	Brick and iron roof.	Tar, boiling over of.	"	Aust. Mutual, £200.	Back kitchen on ground floor and contents damaged by heat and smoke.	Inmates.
Sunday, 17 August.	2-20 p.m.	2-40 p.m.	Honewell-hill, Padding- ton.	Mrs. Flemming	"	Weatherboard and iron roof.	Children playing with matches.	"	Unknown	A small quantity of straw burned in back yard.	Inmates, with buckets of water.
Tuesday, 18 August.	7-15 p.m.	7-22 p.m.	223, King-street, New- town.	John Steward	Grocer	Brick and iron roof.	Light thrown down.	New Zealand	"	About twenty cases of jam and about 1 ton of sugar damaged by fire and water in shed at rear of premises used as a store room.	"
Wednesday, 20 August.	8-20 p.m.	8-25 p.m.	Crystal-street, Peter- sham.	S. Hastings	Private dwelling	"	"	None	Aust. Mutual, £1,000.	A small quantity of bedding and lumber, together with a few feet of skirting board, damaged by fire in back room on first floor.	M.F.B., with hand-pump.
Sunday, 24 August.	10-50 a.m.	10-54 a.m.	Corner of Goulburn & Sussex Streets, City	Patrick Lacey	Licensed Victual- ler.	Brick and shingle roof	Foul chimney	"	Unknown	Chimney on fire in back kitchen on ground floor, and roof slightly damaged by fire and cutting away.	M.F.B. with hand-pump and cutting away.
Wednesday, 27 August.	2-10 p.m.	2-15 p.m.	115, Elizabeth-street, Redfern.	Timothy O'Brien	Private dwelling	Weatherboard and iron roof.	Unknown	"	Sydney Mutual	Two rooms on ground floor at rear of premises used as bed- rooms, and wash-house together with contents burned out, and most part fallen down.	M.F.B. with stand-pipe, assisted by the Standard Brewery, Waterloo and Alexandria Vol. Cos.
"	"	"	117, Elizabeth-street, Redfern.	A. H. Abel	Grocer	"	"	Aust. Mutual	Unknown	About 15 feet of wooden partition in store-room at rear of shop damaged by fire, and a quantity of groceries damaged by water.	"
Thursday, 28 August.	8-5 a.m.	8-11 a.m.	Crystal-street, Peter- sham	Robert Ulph	Private dwelling	Open yard	Tar, boiling over of.	None	None	About 100 gallons of tar, and about 20 feet of fencing in back yard destroyed by fire.	M.F.B., with sand.
Saturday, 30 August.	8-22 a.m.	8-27 a.m.	Circular Quay	N.S.W. Government	Custom House	Stone and brick and slate roof.	Gas-stove, light ing of.	"	"	Front office on ground floor used Imbour Master's office, and contents slightly damaged by fire and water.	Inmates, with private hose

List and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies—continued.

Date.	When discovered.	Time of Call.	Locality.	Name of Tenant.	How Premises occupied.	Construction of Premises.	Origin or supposed cause of Fire.	Insurances.		Extent of Damage, &c.	Extinguished by
								Contents.	Building.		
1890. Saturday, 30 Aug.	11:30 a.m.	11:35 a.m.	19, Brisbane-street	Mark Foy	Stables	Wood	Light thrown down.	None	Unknown	Four bales of straw and about two tons of chaff slightly damaged by fire and water.	Employees with buckets of water.
Sunday, 31 August.	5:25 p.m.	5:30 p.m.	116, Cumberland-street, City.	William Moran	Licensed victualer, "Australian Hotel."	Brick and stone and iron roof.	Matches, children playing with.	"	City Mutual	Bed, bedding, and portion of contents damaged by fire, and part of windows and frames burned in back room on first floor.	North City Vol. Co., with hand-pump.
Monday, 1 Sept.	2:3 a.m.	2:7 a.m.	Reynolds-street, Balmain.	J. P. Walker	Timber yard and saw-mills	Brick, wood, and iron, and iron roof.	Unknown	Building and contents in various offices. £5,850.	"	Timber yard and saw-mills of two floors covering an area of about 210 x 110 feet, containing a large amount of timber stacks, machinery, &c., nearly destroyed by fire.	Kilmain Vol. Co., with stand-pipe, and M.F.B. with steamer and stand-pipe.
"	6:40 p.m.	6:48 p.m.	Edgecliffe Road, Woollahra.	Charles Lamb	Private dwelling	Stone and shingle roof.	Spark from chimney of house.	Norwich Union	Norwich Union	About 12 feet of shingle roof damaged by fire	Inmates with buckets of water.
Wednesday, 3 Sept.	1:50 p.m.	2:10 p.m.	Western Road, Balmain	Church of England	School	Weather-board, and shingle roof.	Spark from chimney.	Unknown	Unknown	A small portion of weather-boards and iron shooting damaged by fire, and glass windows damaged by breakage under gallery on ground floor of school.	Inmates of the school, with buckets of water.
Thursday, 4 Sept.	10:5 p.m.	10:12 p.m.	127, York-street	J. Sandy	Fruiterer (wholesale)	Brick and stone, with slate roof.	Smoking bacon.	None	"	A small quantity of rubbish burned in dust bin in store on ground floor.	M.F.B., with buckets of water.
Sunday, 7 Sept.	2:0 a.m.	No call.	Darling-street, Balmain	Unoccupied	Shed	Wood, and iron roof.	Light thrown down.	"	None	A small quantity of straw and paper burned, and side of shed building slightly damaged by fire at rear of premises.	Police and neighbours, with buckets of water.
Friday, 12 Sept.	6:10 p.m.	6:20 p.m.	11, Parramatta Road, Globe.	Louis Israel	China and glass importer.	Brick, and iron roof.	Gas bracket	Glasgow and London, £500.	Unknown	Curtains of glass door leading to balcony burned and door frame damaged by fire. Contents of front room on same floor slightly damaged by water.	Inmates, with buckets of water.
Monday, 15 Sept.	7:20 p.m.	7:23 p.m.	4, Crab-lane, off Cumberland-street.	Mrs. McHenry	Private dwelling.	Brick, and slate roof.	Light thrown down.	None	City Mutual	A quantity of wearing apparel burned in front room on first floor; rest of room and contents damaged by fire and water. Ceiling under also damaged by water.	North City Volunteer Fire Company, with buckets of water.
Tuesday, 16 Sept.	6:40 p.m.	6:45 p.m.	Sussex-street, Grafton Wharf.	*S.S. "Rockton," Captain Saunders.	Steamship	Iron	"	Unknown	Unknown	Lamp-room and deck cabins on starboard side and starboard gangway damaged by fire.	Employees, with hydrant.
Wednesday, 17 Sept.	7:20 a.m.	7:22 a.m.	Harbour-street	Building in course of erection.	"	Brick	Tar, boiling over of.	"	"	A small quantity of tar destroyed by fire in building in course of erection.	Employees, with sand.
"	7:45 a.m.	7:49 a.m.	172, Clarence street, City.	Messrs. J. A. Bull & Co.	Grocers (wholesale)	Brick and stone, and iron roof.	Unknown	Commercial Union, £2,000; United Insurance Co., £1,000; North British, £1,000.	Pacific Mercantile, Mutual, United, Australian Mutual.	Third floor and contents, consisting of a large quantity of tea, groceries, &c., nearly burned out. Fourth floor and contents, consisting of general groceries, damaged by fire, and portion of roof off. Contents in third floor and basement under severely damaged by water.	M.F.B. and Volunteer Companies, with steamer, hydrant, and private hydrant.
"	6:0 p.m.	No call.	Corner of Denison Road and Toothill street, Petersham.	John Rush	Baker	Brick, and slate roof.	Matches, children playing with.	Australian Mutual, £600.	Unknown	Bed and a quantity of bedding damaged by fire in back room on first floor.	Inmates and neighbours with buckets of water.
Thursday, 18 Sept.	8:50 a.m.	8:54 a.m.	Wharf-street, H. R. S. Navigation Wharf.	*S.S. "Namo," Captain Knowles.	Steamship	Iron hull and wood cabins, &c.	Unknown	None	None	Two cabins burned out; remainder of cabins and saloon in after part of vessel severely damaged by fire; three doors leading to same broken open.	M.F.B., employees, and Vol. Cos., with private hydrant, steamer, and hydrant.
"	3:23 p.m.	3:27 p.m.	Jones-street, Ultimo	Messrs. G. & C. Hoskins	Ironfounders	Wood, and iron roof.	Tar, boiling over of.	"	"	About 20 gallons of tar in shed at rear of premises destroyed.	Employees, with sand.
Saturday, 20 Sept.	1:50 p.m.	No call.	Railway Depot, Granville.	N.S.W. Government	Railway Works	Open yard	Spark from engine	"	None	A number of cases containing fish-plates and bolts damaged by fire in railway yard.	Employees, with stand-pipe and buckets of water.
"	6:45 p.m.	7:6 p.m.	4, Hannam-street, City.	W. Ford	Private dwelling.	Brick, and iron roof.	Kerosene lamp, upsetting of.	"	Unknown	Kerosene lamp destroyed in front room on ground floor, and contents in ditto damaged by water and breakage.	Inmates and neighbours, with buckets of water.
Sunday, 21 Sept.	5:16 p.m.	5:17 p.m.	George-street, South	The Sydney Cyclorama Co.	Cyclorama	"	Explosion of chemicals.	Unknown	"	Small quantity of chemicals used for making coloured fires and bench for working same upon, damaged by fire and water, and about 6 feet of wooden casing under gallery slightly damaged by fire in Cyclorama.	Caretaker, with private appliances
Monday, 22 Sept.	4:35 a.m.	4:50 a.m.	Milson's Point, St. Leonards East.	*S.S. "Barangaroo"	Steam Ferry-boat	Wood	Spontaneous ignition.	Norwich Union	Norwich Union	Engine-room and stokehold, together with all machinery and boilers very severely damaged by fire; portion of deck also damaged by fire.	St. Leonards Vol. Co., with hydrant.
Wednesday, 24 Sept.	6:45 a.m.	7:0 a.m.	48, Pitt-street, City	Messrs. Cockburn and Jackson.	Wine merchants.	Brick and stone, and iron roof.	Hot ashes	New Zealand, £500.	Unknown	About 7 feet of bond timber damaged by fire and cutting away in wall of premises. Door to cellar broken open by strangers	Neighbours and M.F.B., with buckets of water.
Friday, 26 Sept.	5:40 a.m.	6:0 a.m.	Off Fitzgerald-street, Waverley.	Unoccupied	Private dwelling.	Stone, and iron roof.	Incendiarism	"	Sidney Mutual, £750.	House of eight rooms, seven rooms severely damaged by fire and heat, and one room and contents damaged by heat and smoke.	Waverley Vol. Co., with stand-pipe, assisted by Woollahra Volunteer Co., M.F.B., with steam fire-engine.
"	12:27 p.m.	12:32 p.m.	Regent-street, City	N.S.W. Government Railways.	Offices, Audit Department.	Brick, and shingle roof.	Spark from locomotive.	None	None	Roof severely damaged by fire; ceilings under damaged by water, contents damaged by water and removal.	Inmates and neighbours with buckets of water.
Saturday, 27 Sept.	9:39 p.m.	9:35 p.m.	5, Wexford-street, City.	Mrs. O'Connor	Boarding-house	Brick and slate roof.	Candle	Unknown	Unknown	Back room on ground floor severely damaged by fire; contents of same room slightly damaged by water.	Inmates and neighbours with buckets of water.
Monday, 29 Sept.	10:9 p.m.	No call.	Bourko-street, Waterloo	Messrs. A. Forsyth & Co.	Rope makers	Wood, and iron roof.	Careless use of fire.	In several offices.	"	About 4 x 2 feet of rope. Spinning shed damaged by fire.	Watchman, with buckets of water.

\*Outside M.F.B. area.

† Previous fires, 1st May, 1890, and 19th May, 1890.

‡ Subsequent fire, 13th October, 1890.

LIST and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies—continued.

Date.	When discovered.	Time of Call.	Locality.	Name of Tenant.	How Premises occupied.	Construction of Premises.	Origin or supposed cause of Fire.	Insurances.		Extent of Damage, &c.	Extinguished by.		
								Contents.	Building.				
1890. Tuesday, 30 Sept. Thursday 2 Oct.	3-0 a.m. 2-27 a.m.	No call. 2-29 a.m.	59, Excelsior-street, Lenchardt.	Mrs. F Hunter . . . .	Grocer . . . . .	Weatherboard, and iron roof.	*Unknown . . . .	United, £100 . . .	Unknown . . . .	A small weatherboard shop, containing a small quantity of groceries, slightly damaged by fire and water. Building of six floors and basement, about 150 x 50 feet, containing a large quantity of stationery, printing materials, machinery, &c. Basement, containing engineer's stock and stock of a restaurant burned out, and most part fallen down. Building of four or five floors, about 100 x 100 feet, containing a very large stock of fancy goods, &c., burned out and fallen down. Building of four floors, about 100 x 80 feet, containing a large quantity of soft goods, burned out and fallen down. Two buildings of four and five floors, about 40 x 150 feet, and 35 x 110 feet, containing a large stock of soft goods, burned out and fallen down. Building of three floors and basement. First and second front floors burned out, and roof off. Lower part of contents severely damaged by water. Contents of three floors in rear of Bank (manager's residence) severely damaged by water. Conservatory, in rear of first floor, back burned out, and roof off. Buildings, of two and three floors, about 46 x 126 feet, nearly burned out, and roof off. Building of 5 floors, about 26 x 126 feet; top floor nearly burned out and roof off; all back floors and contents severely damaged by fire and water. Building of 4 floors, about 50 x 100 feet; back portion severely damaged by falling walls; contents of all floors severely damaged by water. Building of three floors; about 25 x 100 feet; back portion damaged by falling walls; contents of three floors damaged by water. Building of three floors and basement, about 23 x 100 feet; back portion and contents nearly burned out and part of roof off; contents in front portion severely damaged by water. Building of two floors, back portion and contents damaged by falling walls. Building of three floors and basement, about 40 x 60 feet; back portion and contents severely damaged by fire and water, and upper floors damaged by falling walls. Warehouse of four floors and basement, about 55 x 87 feet, containing a large stock of furniture, &c., burned out and fallen down. Occupying basement. Building of three floors, and basement about 46 x 100 feet. Top floor and contents burned out and roof off; back staircase burned out, all floors and contents under, very severely damaged by water and falling debris. Rear building of two floors and contents severely damaged by fire and falling walls. Building of three floors and basement; back bed-rooms and contents severely damaged by fire and falling walls; front portion of building and contents damaged by water. Building in rear damaged by falling walls.	Inmates and neighbours, with buckets of water. M. F. B., and most Volunteer Companies, with six steam fire engines, and hydrants.		
			Ho-king-place . . . . .	Messrs. Gibbs, Shallard, & Co.	Printers . . . . .	Brick, stone, and iron roof.	" . . . . .	Several offices, £19,750.	Several offices, £13,000.				
			" . . . . .	Messrs. Tylor & Co. . . .	Engineers . . . . .	" . . . . .	" . . . . .	N. B. and Mercantile, £2,060.	" . . . . .				
			No. 2, Moore-street . . . .	W. Reddy . . . . .	Restaurant	Merchants . . . . .	Brick, stone, and iron roof.	" . . . . .	None . . . . .			Several offices, £65,300.	Several offices, £23,500.
			Nos 102 and 104, Pitt-street.	Messrs. H. Bull & Co. . .	" . . . . .	" . . . . .	Stone, brick, and iron roof.	" . . . . .	" . . . . .			Several offices, £120,000.	Several offices, £20,000.
			100, Pitt-street . . . . .	T. H. Reuss and others.	Offices . . . . .	" . . . . .	Brick, and slate roof.	" . . . . .	" . . . . .			" . . . . .	Aust. Mutual, £1,000; Com. Union, £6,000.
			95, Pitt-street . . . . .	Messrs. J Palmer and Sons, and others.	Scott Chambers, offices.	Brick, and iron roof.	" . . . . .	" . . . . .	" . . . . .			Aust. Mutual, £125; United, £300.	Several offices, £6,000.
			92 and 94, Pitt-street . . .	Several tenants . . . . .	Edison Chambers, offices.	" . . . . .	" . . . . .	" . . . . .	" . . . . .			Com. Union, £250; Aust. Mut., £80; Mer. Mut., £200.	Commercial Union, £14,000; Vic- toria, 3,000.
			90 Pitt-street . . . . .	" . . . . .	Gladstone Cham- bers, offices	Stone, and iron roof.	" . . . . .	" . . . . .	" . . . . .			None . . . . .	Mer. Mutual, £2,500.
			88, Pitt-street . . . . .	" . . . . .	Auctioneers and offices.	Brick, and iron roof.	" . . . . .	" . . . . .	" . . . . .			South British, £400.	South British, £7,000.
			Rear of 86, Pitt-street . .	Lazarus Aaronson & Co.	Jewellers and offices.	Brick, and slate roof.	" . . . . .	" . . . . .	" . . . . .			Several offices, £14,300.	" . . . . .
			Rear of 80, 82, and 84, Pitt-street.	Messrs C. Newton Bros.	Merchants . . . . .	" . . . . .	" . . . . .	" . . . . .	" . . . . .			Several offices, £35,500.	Building in rear— Pacific, £4,000.
			17, Castlereagh-street . .	The English and Aus- tralian Furniture Com- pany, and others.	Furniture Ware- house, and offices	" . . . . .	" . . . . .	" . . . . .	" . . . . .			Several offices, £4,000.	Com. Union, £1,500; United, £7,000.
			19, Castlereagh-street . .	Messrs. Lawrence & Co. Athenaeum Club, H. Crug, secretary.	Commissionagents	" . . . . .	" . . . . .	" . . . . .	" . . . . .			Several offices, £3,200 Royal, £3,500	Mercantile Mutual, £12,000.
27 and 29, Castlereagh- street.	German Club, W. H. Phelps, manager.	" . . . . .	Brick and wood, iron roof.	" . . . . .	" . . . . .	" . . . . .	South British, £1,500.	Sydney Mutual, £4,000; South British, £1,000.					
15, Castlereagh-street . .	Southern Club . . . . .	" . . . . .	Brick, slate, iron, and shingle roof.	" . . . . .	" . . . . .	" . . . . .	Several offices . .	£10,100 . . . . .					
Rear of 35 and 37, Castlereagh-street.	W. A. Starkey . . . . .	Cordial manufacturer.	Brick and slate roof.	" . . . . .	" . . . . .	" . . . . .	Australian Mutual, £1,500.	Commercial Union £1,975; Pacific, £1,975; Australian Mutual, £150; ditto on four adjoining houses, £1,900					
4, Moore-street . . . . .	Messrs. Davenport & Co	Accountants . . . .	Brick, stone, and iron roof.	" . . . . .	" . . . . .	" . . . . .	None . . . . .	Commercial Union, £1,000; Victoria, £5,000					

\* An inquest was held and an open verdict returned.

† Buildings adjoining and communicating

List and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies--continued.

Date	When discovered.	Time of Call.	Locality.	Name of Tenant.	How Premises occupied.	Construction of Premises.	Origin or supposed cause of Fire.	Insurances.		Extent of Damage, &c.	Extinguished by
								Contents.	Building.		
Thursday, 2 October.	12 30 p.m.	12 35 p.m.	118, William-street . . .	Building in course of alteration.	Brick, and iron roof.	Careless use of fire.	.....	.....	A small quantity of timber and some shavings burned in kitchen on ground floor.	Employees, with buckets of water.	
Saturday, 4 October.	4 30 p.m.	None recd. by M.F.B.	The Corso, Manly.....	J. G. Cousins .....	Licensed Victualer, "Steyne Hotel."	Spark from chimney.	.....	Victoria, £5,000.	About 14 x 12 feet of shingle roof burned off and damaged by fire and breakage, ceilings under, and a small portion of contents damaged by water.	Manly Vol. Co., with manual, assisted by neighbours.	
"	8 35 p.m.	8 43 p.m.	Palmer-street, Woolloomooloo.	Antonio Magna .....	Fruiterer .....	Wood .....	Kerosene lamp, upsetting of.	None .....	None .....	Fruit stall and contents very severely damaged by fire in open street.	Neighbours, with buckets of water.
Tuesday, 10 October.	11 53 a.m.	11 59 a.m.	35, Campbell-street, Globe.	A. Kennedy .....	Private dwelling	Brick, and shingle roof.	Spark from chimney.	" .....	" .....	About 10 feet of roof damaged by fire and cutting away, 1st floor ceiling under severely damaged by water, contents slightly damaged by removal.	Glebe Vol. Co., with stand-pipe.
"	3 50 p.m.	3 58 p.m.	47, Pymont-street, Pymont.	R. Macintosh .....	" .....	" .....	" .....	Australian Mutual, £ .....	" .....	About 14 feet of shingles and rafters of roof damaged by fire and cutting away, ceiling under damaged by water.	Neighbours, with buckets of water.
"	6 40 p.m.	6 49 p.m.	1, Perry-lane, off Underwood-street, Paddington	P. Moriarty .....	" .....	Brick, and iron roof.	Kerosene lamp, upsetting of.	None .....	Unknown .....	A kerosene lamp destroyed, and a small portion of wearing apparel damaged by fire in back room on ground floor.	" "
Thursday, 9 October.	12 10 p.m.	12 13 p.m.	172, Elizabeth-street . .	W. Buxton .....	Glass rivetter....	" .....	Gas bracket .....	" .....	" .....	Counter and a small portion of stock damaged by fire and breakage in front shop on ground floor.	" "
Friday, 10 October.	2 15 a.m.	2 18 a.m.	Pymont-street, Pymont.	J. C. Ellis .....	Timber merchant	Open yard . .	Light thrown down.	National, £5,000 United, £2,400	None .....	Small portion of fencing in yard damaged by fire . . . . .	Night watchman, with buckets of water.
"	3 55 a.m.	4 0 a.m.	Fisher-street, Petersham	S. Bold .....	Private dwelling	Brick, and shingle roof.	" .....	None .....	" .....	A small quantity of wearing apparel burned in back room on ground floor. Rest of room and kitchen slightly damaged by fire and heat.	M.F.B., with hand pump.
Sunday, 12 Oct.	2 25 a.m.	2 48 a.m.	52L, George-street, City	H. Hardy, Proprietor ..	Town Hall Coffee Palace.	Brick and slate roof.	Flue, overheat of	Acet. Mutual, £1,000.	Unknown .....	A quantity of pine boards stowed over rafters in kitchen on ground floor damaged by fire; walls slightly damaged by heat and water.	Night porter and inmates with buckets of water.
"	8 30 p.m.	8 47 p.m.	15, Lodge-street, Forest Lodge.	R. Cunningham.....	Private dwelling	Brick and iron roof.	Gas bracket ..	None .....	" .....	Window-blind in front room on first floor, damaged by fire	Inmates with buckets of water.
Monday, 13 Oct.	2 55 p.m.	None received by M.F.B.	Lavender-street, St. Leonards East.	A. Walker .....	Stable .....	Weatherboard iron roof.	Matches, children playing with	" .....	Mer. Mutual ..	About 10 x 6 feet of side of stable, and portion of fence damaged by fire.	St. Leonards Vol. Co., with hydrant.
"	5 p.m.	No call.	Railway Department, Granville.	N.S.W. Government ..	*Railway Works ..	Open yard ..	Spark from locomotive.	None .....	None .....	A number of cases containing bolts and fish-plates, damaged by fire.	Employees from Messrs. Hudson's works, with hydrant.
Tuesday, 14 Oct.	12 33 p.m.	No call.	Moonbie-street, Ashfield	Mrs. W. McDonald .....	Private dwelling	Brick and iron roof.	Spark from fire-place.	" .....	" .....	A quantity of old bags in a box, and about 3 feet of flooring, damaged by fire in washhouse at rear of premises.	Inmates and members of the Ashfield Vol. Co., with buckets of water.
"	1 25 p.m.	1 29 p.m.	Matthew-street, Darling Harbour.	Forsyth .....	Asphalter .....	Open yard .....	Spark from locomotive.	Unknown .....	Unknown .....	A small number of casks containing tar slightly damaged by fire in open yard.	Neighbours and M.F.B., with sand and buckets of water from hydrant
Wednesday, 15 Oct.	2 40 p.m.	3 1 p.m.	Foster-street, Leichhardt.	Joseph Scutt .....	Stable .....	Weatherboard iron roof.	Light thrown down.	Union of N.Z., £50.	Union of N.Z., £50.	Stable in rear of premises about 12 x 24 feet, containing a buggy and harness and a quantity of lumber, burned out and fallen down.	Leichhardt Vol. Co., with hydrant.
Thursday, 16 Oct.	3 58 p.m.	4 p.m.	86, Woolloomooloo-street, Woolloomooloo.	Mrs. James .....	General dealer ..	Wood and iron roof.	Spark from fire-place	None .....	None .....	Bed and bedding damaged by fire in back room on ground floor	Neighbours with buckets of water.
Saturday, 18 Oct.	11 28 a.m.	11 36 a.m.	105, George-street West	Miss E. W. Goodc.....	Draper .....	Brick and iron roof.	Candle .....	Scottish Union and National, £340 ; New Zealand, £150.	Unknown .....	A quantity of millinery in shop windows severely damaged by fire, and a quantity of drapery in shop damaged by water and removal; window-frame also damaged by fire.	Inmates and neighbours, with buckets of water.
Saturday, 18 October.	11 22 p.m.	11 29 p.m.	North-street, Marrickville.	Percy Challice .....	Private dwelling..	Weatherboard, iron roof.	Light thrown down.	Australian Mutual	Mercantile Mutual, £150.	Two rooms and contents burned out, and part of roof off; furniture in front room damaged by heat and water.	M.F.B., with stand-pipe, assisted by Newtown and Ashfield Vol. Cos
Sunday, 19 October.	7 28 a.m.	7 29 a.m.	3S, Market-street, City..	Messrs. Hsley, Double-day, & Co.	Merchants .....	Brick, stone, and iron roof.	Unknown .....	Royal Insurance Company, £4,660.	Unknown .....	A number of cases of oil on ground floor damaged by fire; rest of contents in back part of warehouse damaged by smoke.	M.F.B., with hydrant, assisted by Vol. Cos.
"	4 30 p.m.	No call.	15S, Harris-street, Pymont.	F. Rose .....	Chemist .....	Brick and iron roof.	Heat of sun on shop window.	Liverpool and London and Globe, £250.	" .....	Shop window and contents, consisting of a quantity of patent medicines, &c. slightly damaged by fire and water, one carbony broken by heat, and window broken by falling carbony.	Water from broken vessel
"	5 19 p.m.	5 19 p.m.	Bellevue Hill, Woolahra.	Unoccupied .....	Private dwelling.	Stone and shingle roof.	Spark from bush fire.	.....	" .....	A three-roomed cottage burned out, and fallen down, and about 6 x 6 feet of roof of stable burned off.	Waverley and Woolahra Vol. Cos., with hand-pumps and buckets of water.

\* Previous fire, 20th September, 1890.

List and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies—continued.

Date.	When discovered.	Time of Call.	Locality.	Name of Tenant.	How Premises occupied.	Construction of Premises.	Origin or supposed cause of Fire.	Insurances.		Extent of Damage, &c.	Extinguished by
								Contents.	Building.		
1890. Sunday, 19 October	9-35 p.m.	9-45 p.m.	Birrell-street, Waverley	T. W. Richards	Private dwelling	Brick, and slate roof	Candle	Australian Mutual, £200.	Unknown	Window-curtain burned, and window-frame slightly damaged by fire in back room on first floor.	Inmates, with buckets of water
Monday, 20 October	10-20 p.m.	10-27 p.m.	John-street, Woollahra.	J. A. Stockbridge	Stables	Weatherboard, iron roof.	Light thrown down.	None	None	Stables and contents burned out and fallen down; one horse severely burned.	Woollahra Vol. Co., with stand-pipe.
Saturday, 25 October	11-30 a.m.	11-34 a.m.	15, Washington-street, City.	Thomas Patterson	Private dwelling.	Brick, and shingle roof	Spark from chimney.	"	Unknown	Small portion of shingle roof damaged by fire and cutting away; ceiling under slightly damaged by water	Neighbours, with buckets of water.
"	11-35 a.m.	11-50 a.m.	20, Mary-street, Surry Hills.	Thomas Leech	"	"	"	Australian Mutual	Australian Mutual	About 8 feet of shingle roof damaged by fire and cutting away; ceiling under, in front room, on first floor, slight damaged by water.	Neighbours and Standard Brewery Vol. Co., with buckets of water and hand-pump.
"	"	"	28, " "	Charles Campbell	"	"	"	None	None	Small portion of shingle roof damaged by fire.	"
"	9 15 p.m.	9 25 p.m.	43, Glebe Road	Joseph Putan	Fruiterer	Brick, and iron roof.	Kerosene lamp, upsetting of.	None	Unknown	Kerosene lamp destroyed in front room on ground floor	Inmates, with buckets of water.
"	10 0 p.m.	No call.	New Canterbury Road, Pyram.	J. W. Rissitor	Private dwelling.	Brick, and slate roof	Candle	Unknown	"	Window frame and curtains in back room on first floor damaged by fire	"
Monday, 27 October.	9 30 p.m.	9 42 p.m.	52, Cooper-street, Waterloo.	Catherine Prevell	"	Brick, and iron roof.	"	None	"	Bed, bedding, and bed curtains, severely damaged by fire and water, and about 3 feet of lining boards of ceiling slightly damaged by fire in back room on ground floor.	Inmates and neighbours, with buckets of water.
Wednesday, 28 October.	6 0 p.m.	No call.	Knov-street, City	Jacob Molz	"	Wood, and slate roof.	Kerosene, carelessness with.	"	"	A portion of furniture and some wearing apparel damaged by fire in out-house used as kitchen in rear of premises. Toska Molz, age 44 years, very severely burned about the body; since dead. Herbert Molz, age 8 years 11 months, very severely burned about the body and legs; since dead. Claudine Molz, age 7 years, burned about the legs and arms.	Inmates, with buckets of water.
"	7 30 p.m.	"	14, Ivy street, Redfern.	Stewart Wait	"	Brick, and iron roof.	Matches, carelessness with.	"	Com. Union, £500	Bed, bedding, and a quantity of wearing apparel, damaged by fire in front room on first floor. Rest of same room damaged by heat and water; ceiling under slightly damaged by water, and glass door broken. The occupant, Stewart Wait, age 36 years, severely burned about the hands.	Inmates and neighbours, with buckets of water.
"	9 25 p.m.	9 30 p.m.	Gloucester-street, City.	Thomas Hughes	Licensed Victualer, "Whalers Arms, Hotel."	Stone, and iron roof.	Candle	South British	Unknown	Bed and window curtains damaged by fire in front room on first floor	Inmates, with buckets of water.
Friday, 31 October.	11 45 a.m.	12 16 p.m.	39, Campbell-street, Glebe.	George Simpson	Private dwelling.	Brick, and shingle roof.	Spark from chimney.	None	Mercantile Mutual.	Roof damaged by fire and cutting away; ceilings of two rooms on first floor and one room on ground floor, damaged by water	Globe Vol. Coy., with stand-pipe.
"	"	"	37, " "	Mrs. Green	"	"	"	"	"	Roof damaged by fire and cutting away, ceiling of two rooms on first floor damaged by water.	M.F.B. with hydrant.
Saturday, 1 Nov.	12-15 p.m.	12-18 p.m.	Liverpool-street, City	The City and Suburban Coal Company.	Office	Weatherboard, iron roof.	Unknown	"	None	A weather-board shed about 12 x 12 feet, used as office, with contents, burned out.	"
"	10-50 p.m.	11-7 p.m.	Parramatta Road, Ashfield.	G. H. Hope	Private dwelling.	Brick, and slate roof.	Light thrown down.	Australian Mutual, £250.	Australian Mutual, £700.	Bed, bedding, and wearing apparel, and about 10 x 10 feet of wood partition damaged by fire; in back room on third floor, rest of contents of same room damaged by heat and water	Inmates and police, with buckets of water.
Sunday, 2 Nov.	6-15 a.m.	No call	180, Campbell-street	J. Murcott	"	"	Kerosene lamp, explosion of.	None	Unknown	Bed, bedding, and wearing apparel burned in front room on first floor, rest of contents of same room damaged by fire and water. Mrs. Murcott, aged 24 years; severely burned about the body, taken to the Sydney Hospital. James Murcott, aged 30 years, burned on both hands	Citizens with buckets of water.
"	1 30 p.m.	1 35 p.m.	1, Bartlett's Terrace, Oxford st., Paddington.	Patrick Phelan	"	Brick, and shingle roof.	Spark from flue adjoining.	"	Australian Mutual, £500.	About 6 x 6 feet of roof damaged by fire and cutting-away, and ceiling under slightly damaged by water	Woollahra Vol. Coy., with hydrant.
Monday, 3 Nov.	4-0 a.m.	4-15 a.m.	Corner of Kippax and Little Waterloo Streets	W. J. Mallon	Grocer	Brick, and slate roof.	Light thrown down.	"	Unknown	A small quantity of groceries, damaged by fire under counter in front shop; window broken by heat.	Inmates and neighbour with buckets of water.
"	4-40 a.m.	4-58 a.m.	Darling and Cooper Streets, Balmain.	F. McKeon	Dairyman	Weatherboard, and iron roof.	Unknown	"	None	A small portion of contents of store room in rear of premises slightly damaged by fire.	Inmates, and Balmain Vol. Co., with buckets of water.
"	7-40 p.m.	No call.	33, Brisbane-street	Joseph Jacobs	Private dwelling	Brick, and slate roof.	Kerosene lamp, upsetting of.	New Zealand	Unknown	Furniture in front room on ground floor damaged by fire, window broken by heat, and window frame scorched.	Inmates and neighbours, with buckets of water.
Sunday, 9 Nov.	12-25 a.m.	12 31 a.m.	129, Oxford-street, City	J. E. Sickels	Fruiterer	Brick, and iron roof.	Gas stove, over-heat of.	Australian Mutual, £75	"	Shop and contents, consisting of fruits, &c., burned out, staircase to 1st floor destroyed, rest of house and contents of three rooms very severely damaged by fire, heat, &c.	Paddington Brewery Vol. Co., with hydrant, assisted by M.F.B., and other Vol. Companies.
"	"	"	181 " "	W. D. Johnson	Music warehouse	"	"	Australian Mutual, £350.	"	Stock in front shop damaged by removal.	"
Monday, 10 Nov.	10-35 p.m.	10 38 p.m.	119, Lower George-st., City.	Albert Humphries	Licensed Victualer, "Queensland Hotel."	"	Candle	Standard of New Zealand.	"	Window blind burned in back room on first floor, and window frame scorched.	Inmates.

\* Buildings adjoining and communicating.

List and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies—continued.

Date.	When discovered	Time of Call.	Locality.	Name of Tenant	How Premises occupied.	Construction of Premises.	Origin or supposed cause of Fire.	Insurances.		Extent of Damage, &c.	Extinguished
								Contents.	Building.		
1880. Friday, 14 Nov.,	1 40 a.m.	1 48 a.m.	233, William-street . . .	Martin O'Neill . . . . .	Licensed Victual- ler, "Campbell Hotel."	Brick, and slate roof.	Matches, rats at	None . . . . .	City Mutual, £1,900.	Till and underneath of portion of counter slightly damaged by fire.	Inmates, with buckets of water.
Saturday, 15 Nov.	7 55 a.m.	No. call.	Corner of Elizabeth and Kippax Streets.	D. O'Connell . . . . .	Licensed Victual- ler, "Aurea Hotel."	Brick, and iron roof.	Child playing with matches.	City Mutual . . .	City Mutual . . .	Furniture in back room on first floor slightly damaged by fire and water; window broken by heat, and window frame scorched.	Inmates, and members of Standard Brewery Vol. Co., with buckets of water. Employees, with buckets of water.
Sunday, 16 Nov.	1 15 a.m.	1 20 a.m.	151, Brougham-street	C. J. Mc Caffrey . . . . .	Van proprietor . . .	Wood, and iron roof.	Light thrown down.	Australian Mutual (horses only)	Australian Mutual	Side of stables slightly damaged by fire . . . . .	Neighbours, with buckets of water.
Tuesday, 19 Nov.	7 45 p.m.	7 49 p.m.	Cowper-street, Waverley	Mrs. Dawson . . . . .	Private dwelling	Brick, and iron roof	Candle . . . . .	None . . . . .	Unknown . . . . .	Bed and bedding damaged by fire and water in back room on first floor. A child named Ethel May Dawson, aged 13, car and 8 months, burned about the body and legs;—since dead.	Neighbours, with buckets of water.
Friday, 21 Nov.	12 45 p.m.	12 58 p.m.	17, Red Lion-street, Bal- main.	J. Terry . . . . .	"	Weatherboard, and iron roof.	Spark from fire- place	Mercantile Mu- tual.	"	A cottage of three rooms and kitchen, together with con- tents, severely damaged by fire and water.	Balmain Vol. Co. and neigh- bours, with stand-pipe.
Saturday, 22 Nov.	8 28 p.m.	8 32 p.m.	6, Fowler's-terrace, off Kent-street, City.	D. Ritchie . . . . .	"	Brick, and slate roof.	Kerosene lamp, upsetting or.	None . . . . .	"	Window-curtains burned, and contents of front room on ground floor damaged by water.	Inmates, with buckets of water.
Sunday, 23 Nov.	9 8 p.m.	9 10 p.m.	Malakoff-street, Mar- rickville.	H. Blunt . . . . .	"	"	Candle . . . . .	"	"	Window-curtains and blind in front room on ground floor slightly damaged by fire.	"
Friday, 25 Nov.	6 6 p.m.	6 8 p.m.	57, Goodhope-street, Paddington.	D. Sheehy . . . . .	Stables . . . . .	Weatherboard, and iron roof.	Matches, children playing with.	"	Australian Mu- tual, £200.	Left over stables slightly damaged by fire, contents of same slightly damaged by water.	Paddington Vol. Co., with stand-pipe, assisted by Pad- dington Brewery Vol. Co.
Saturday, 29 Nov.	4 0 p.m.	4 0 p.m.	Alt-street, Ashfield . . . .	F. Crane . . . . .	Open yard . . . . .	"	Burning rubbish	"	"	About 5 tons of firewood and about 40 feet of fencing destroyed by fire.	Ashfield Vol. Co., assisted by M.F.B. with stand-pipe.
Tuesday, 2 Dec.	9 6 a.m.	9 13 a.m.	75, Quarry-street, Ultimo	James Supple . . . . .	Private dwelling . . .	Brick, and iron roof.	Tar, boiling over of.	Unknown . . . . .	Unknown . . . . .	Back kitchen on ground floor slightly damaged by fire and smoke. Chimney in same damaged by fire.	M.F.B., with Tozer-pump.
"	2 25 p.m.	2 29 p.m.	Kent-street . . . . .	"	Open yard . . . . .	"	Unknown . . . . .	None . . . . .	"	A quantity of tin destroyed, and a cart slightly damaged by fire.	Burned itself out.
"	8 45 p.m.	8 48 p.m.	*Gibbs, Bright, & Co.'s Wharf, Miller's Point	Messrs. Gibbs, Bright, & Co.	Kerosene bond, stores, timber stacks, and wharfs in gene- ral.	Wood and iron, and iron roof.	"	Kerosene—Queen, £2,500; Guardian, £100; North British, £1,000; Sun, £750; New Zealand, £300, and several other offices.	Australian Mu- tual.	A kerosene bond, about 60 ft. x 90 ft., containing 22,000 cases or 176,000 gallons of kerosene, and a very large quantity of rock-salt.—Store burnt down, and the greater part of kerosene and rock-salt destroyed.	M.F.B., with six steamers, and most Vol. Cos.
"	"	"	"	Messrs. Scott, Hender- son, & Co.	Timber . . . . .	"	"	Timber—Hong Kong, £6,000.	"	Baltic timber, stacks about 80 ft. x 132 ft. x 20 ft. and 25 feet, two-thirds destroyed.	"
"	"	"	"	Messrs. Gibbs, Bright, & Co.	"	"	"	Guardian, £1,600	"	Under part of three wharves severely damaged by fire, sheds surrounding damaged by heat, and contents of same, consis- ting of merchandise, &c., slightly damaged by water.	"
"	8 47 p.m.	8 51 p.m.	56, Rifev-street, Wool- loomooloo.	J. Inglis . . . . .	Private dwelling . . .	Brick, and slate roof.	Candle . . . . .	None . . . . .	United Insurance Co.	Bed, bedding, and a quantity of wearing apparel, and some furniture, severely damaged by fire in back room on first floor; door and door-frame damaged by heat; ceiling under damaged by water; windows to front room on first floor broken by stranger.	Neighbours, with buckets of water.
Friday, 5 Dec.	9 30 p.m.	9 46 p.m.	Wellington-street, Chippendale.	William Johnson . . . . .	"	Brick, and shingle roof.	"	"	"	Small quantity of bedding in front room on ground floor severely damaged by fire.	M.F.B., with Tozer-pump.
Saturday, 6 Dec.	7 50 p.m.	No. call.	86, Castlereagh-street, Redfern.	George Dickman . . . . .	Storekeeper . . . . .	Stone, and iron roof	Light thrown down.	None . . . . .	"	Small chest of wearing apparel damaged by fire in middle room on first floor.	Inmates, with buckets of water.
Sunday, 7 Dec.	5 20 p.m.	do	Church-street North Parramatta.	"	Burying-ground . . .	Open ground . . .	Unknown . . . . .	"	"	A portion of fencing and a quantity of grass destroyed by fire.	Parramatta Vol. Cos., Nos. 1 and 2, with hydrant.
Tuesday, 9 Dec.	8 25 a.m.	8 29 a.m.	Kennedy-street, Globe Point.	W. Jarrett . . . . .	Private dwelling . . .	Brick, and slate roof.	Gas—seeking for an escape of, with light.	Mercantile Mutual	Mercantile Mutual	A small quantity of gas-pipe destroyed in stables at rear of premises.	Inmates, with buckets of water.
Thursday, 11 Dec.	2 40 a.m.	3 24 a.m.	Corner of Upper Road and Muri-lane, Globe.	Joseph Knox . . . . .	Grocer . . . . .	Wood, and iron roof.	Unknown . . . . .	Australian Mutual	Australian Mutual	A loft over stables at rear of premises, containing a small quantity of fodder and a number of empty cases, burned out, and roof off. Stables under damaged by water.	Globe Vol. Co., and M.F.B., with stand-pipe.
"	8 45 p.m.	8 26 p.m.	108, Burton-street, Dar- linghurst.	H. Cohen . . . . .	Private dwelling . . .	Brick, and slate roof.	Matches, careles- ness with.	Australian Mutual, £800.	Liverpool and London and Globe.	Window-curtains and blind burned, a small portion of furniture damaged by fire and water, and window-sash and ceiling damaged by heat, in back room on ground floor.	Inmates, with buckets of water.
"	10 30 p.m.	No. call.	173, Pitt-street, Redfern	Mrs. E. Basford . . . . .	"	Brick, and iron roof.	Light thrown down.	None . . . . .	"	About 3 feet of wood partition damaged by fire in wash- house at rear of premises.	"
Friday, 12 Dec.	2 40 a.m.	No. call.	Raglan-street, Manly . .	The Rev. D. Hulbert . . .	"	Weather-board, and iron roof.	Unknown . . . . .	None . . . . .	Unknown . . . . .	A weather-board cottage of eight rooms, together with contents burned out and fallen down.	Manly Volunteer Company, with manual engine.
"	5 0 a.m.	5 0 a.m.	506 and 508, George- street, City.	W. W. Campbell & Co. . .	Furniture manu- facturers.	Brick, and iron roof.	Spark from chim- ney adjoining.	N.S.W. Corpora- tion, £300.	Commercial Union, £1,700.	About 12 x 12 feet of wood ceiling and a quantity of furni- ture burned in workshop on first floor. Roof and rest of contents damaged by fire, heat, smoke, and water.	M.F.B., with hydrant.
"	"	"	506, " " "	F. Bullard . . . . .	Stationer & fancy good-dealer.	"	"	Australian Mutual, £1,500.	"	A small portion of contents in back part of shop damaged by water.	"

Previous fire, 12th November, 1885. † William Johnson committed to take his trial at Quarter Sessions for incendiarism, and acquitted.

LIST and Details of Fires attended by, or reported to, the Metropolitan Fire Brigade, or Volunteer Fire Companies—continued.

Date.	When discovered	Time of Call.	Locality.	Name of Tenant.	How Premises occupied.	Construction of Premises.	Origin or supposed cause of Fire.	Insurances.		Extent of Damage, &c.	Extinguished by
								Contents.	Building.		
Saturday, 13 Dec.	10 20 p.m.	10 28 p.m.	7 and 9, Druiitt-street, City.	Messrs. Chapman & Co.	Iron foundry...	Wood and iron, with iron roof.	Spark from furnace.	Building & contents—British and Colonial, £800, Pacific Insurance Co., £500, Cornwall, £500, General, £250, Phoenix, £531.	None	Shed building of one and two floors, about 250 x 80 feet, containing machinery, forges, patterns, &c. Roof of whole very severely damaged by fire. Machinery under slightly damaged by water.	M.F.B., with four steam fire engines and hydrant, assisted by various Volunteer Companies.
Sunday, 14 Dec.	5 20 a.m.	5 31 a.m.	176, Regent-street, Redfern. 182, " "	Messrs. Kelbourne and Burckett. T. Walker	Produce merchants. Stables	Wood and iron, with iron roof. Wood, and iron roof.	Unknown	The Mutual, £100 None	None	A shed, about 16 x 30 feet, containing about 90 bales of straw, burnt out and fallen down. Loft over stables, containing about 50 bales of hay and 100 bags of chaff, severely damaged by fire and partly fallen down. Side and roof of cottage severely damaged by fire, and contents by water and removal. Gas meter and wood casing to same very severely damaged by fire on front verandah.	M.F.B., and Alexandria Vol. Company, with stand-pipes, assisted by Waterloo and Standard Brewery Volunteer Companies.
Monday, 15 Dec.	7 0 p.m.	7 5 p.m.	5, Williams lane, off Margaret-st., Redfern 41, George-street North	Mrs. M. Dixon John Ryan	Private dwelling	Brick, and iron roof.	Gas, seeking for an escape of, with light. Gas bracket	" Commercial Union, £3,000.	None	Window curtain burned in room on third floor	Inmates, with buckets of water.
Tuesday, 16 Dec.	10 50 p.m.	10 57 p.m.	Pitt-street	N.S.W. Government— J. C. Abbott, caretaker	G.P.O.	Stone, and iron roof	Light thrown down.	" Union of New Zealand, £100.	None	Shed building, about 36 x 24 feet, used as stables; and store containing a quantity of fibre and straw, nearly burned out, and most part fallen down. Four horses burned to death.	M.F.B., with hydrant.
Wednesday, 17 Dec.	3 18 a.m.	3 29 a.m.	Factor-street, Darling Harbour.	Messrs. Laycock, Son, and Nettleton.	Stables and store.	Wood and iron, with iron roof.	Light thrown down.	" Guardian, £800	Unknown	About fourteen bales of straw on ground floor, and two bales of kapok and a quantity of flock on first floor, severely damaged by fire, rest of contents damaged by heat, smoke, and water; windows broken.	Inmates and neighbours, assisted by Balmain Vol. Co., with buckets of water.
Thursday, 18 Dec.	11 58 p.m.	12 2 a.m.	Victoria-lane, off George-street	A. R. Lemaire	Bedding manufacturer.	Brick, and iron roof.	"	" More. Mutual, £200	None	About 8 x 2 feet of wood partition and a couch severely damaged by fire in back kitchen on ground floor	North City Vol. Company, with hydrant, assisted by M.F.B. and Standard Brewery Vol. Company, with hydrant.
Sunday, 21 Dec.	12 40 p.m.	12 47 p.m.	Mort-street, Balmain	J. F. Kaufman	Licensed Victualler, "Fire Brigade Hotel."	"	Matches, children playing with.	" New Zealand, £400	United Insurance Company, £350.	Shop and dwelling, of three rooms and kitchen, with contents, very severely damaged by fire and water.	North City Vol. Company, with hydrant, assisted by M.F.B. and Standard Brewery Vol. Company, with hydrant.
Monday, 22 Dec.	2 0 a.m.	No call.	61, College-street, Camperdown.	W. Swadling	Private dwelling.	Weatherboard, and iron roof.	Unknown	" Northern Insurance Co.	City Mutual, £500	Shop and contents, consisting of a quantity of harness, leather, &c., severely damaged by fire, heat, and water	M.F.B., with hydrant.
Tuesday, 23 Dec.	2 5 a.m.	2 13 a.m.	108, Cumberland-street, City.	Wing, Jen, & Co.	Grocers	Brick, and slate roof.	"	" N.S.W. Corporation, £250.	None	About 2 gallons of tar destroyed in washhouse at rear of premises; washhouse slightly damaged by smoke	Inmates, with buckets of water.
"	2 35 p.m.	2 42 p.m.	The Association Cricket Ground, Moore Park.	Messrs. Pain & Co., H. Denton, manager.	Firework makers	Wood, and iron roof.	Fireworks, explosion of.	None	Norwich Union, £150.	A shed building, about 60 x 18 feet and contents, consisting of a quantity of firework material, burned out and partly fallen down.	Inmates, with buckets of water.
Thursday, 25 Dec.	3 48 a.m.	3 53 a.m.	614, George-street, City	Messrs. Stubbing Bros.	Printers	Brick, and iron roof.	Unknown	New Zealand, £600	Unknown	Contents of second floor, consisting of printer's materials, machinery, and bedding severely damaged by fire and water. Contents of two floors under damaged by water.	M.F.B., with hydrant.
"	8 50 p.m.	8 52 p.m.	69, Bathurst-street	H. W. Williams	Licensed Victualler, "Memora Hotel"	"	Smoking tobacco.	None	"	A bed and bedding severely damaged by fire and water in back room on first floor; rest of contents slightly damaged by smoke.	Inmates, with buckets of water.
Friday, 26 Dec.	12 4 a.m.	12 9 a.m.	58, York-street, City	S. Mitchell	Saddle and harness maker	"	Unknown	" None	None	Shop and contents, consisting of a quantity of harness, leather, &c., severely damaged by fire, heat, and water	M.F.B., with hydrant.
"	3 0 a.m.	3 0 a.m.	725, Harris-street, Ultimo.	Mrs. F. Hamilton	Boarding house	Brick, and slate roof	Light thrown down	"	Unknown	Kitchen and contents on ground floor severely damaged by fire and water, and windows broken by heat.	Inmates, with buckets of water.
"	11 0 a.m.	11 11 a.m.	Windham-street, Alexandria.	Ralph Grinstone	Private dwelling	Brick and weatherboard, with iron and shingle roof	Tar, boiling over of.	None	None	About 2 gallons of tar destroyed in washhouse at rear of premises; washhouse slightly damaged by smoke	Inmates, with sand.
"	12 35 p.m.	12 38 p.m.	160, George-street north	Trapp and Stirling	Store	Brick, and slate roof.	Light thrown down.	Unknown	Unknown	A quantity of brown paper and wood damaged by fire in basement, and a large stock of brown paper damaged by water	M.F.B., with hydrant.
"	"	"	"	L. C. Smith	Tobacconist	"	"	None	"	Flooring in front shop damaged by cutting away, and stock in shop damaged by smoke	"
Saturday, 27 Dec.	7 0 p.m.	No call.	36, Chambers-street, City.	W. Tobin	Private dwelling	Stone, and iron roof.	Kerosene lamp, upsetting of	"	Unknown	Small quantity of old wearing apparel and a cot damaged by fire in front room on ground floor.	Inmates, with buckets of water.
"	10 0 p.m.	10 50 p.m.	Roseby-street, Marrickville.	John Sims	"	Weatherboard, and iron roof.	Spark falling from candle.	"	Aust. Mutual, £150.	A weatherboard cottage of four rooms with contents burned out and fallen down.	M.F.B., with hydrant.
Monday, 29 Dec	6 40 p.m.	6 43 p.m.	Marrickville Road, Marrickville.	J. J. Thomas	Upholsterer	Brick, and slate roof	Matches, children playing with.	"	Unknown	Window-blind in front room on first floor burned	Inmates and neighbours, with buckets of water.
Wednesday, 31 Dec	6 10 p.m.	6 16 p.m.	115, Great Barcom-street	F. Wagstaff	Bootmaker	Brick, and iron roof.	Foul chimney.	"	"	Bed, bedding, and a quantity of wearing apparel, damaged by fire in front room on first floor, rest of contents in same room damaged by heat, smoke, and water.	Paddington Brewery Vol Co., with hydrant.

APPENDIX IX.  
SUMMARY of Localities for 1890.

City and Suburbs	Class of Fire.									Total No. of Fires	False Alarms.	Chimney Fires.		Grand Total
	Slight.			Serious.			Total.					Attended with engines, and reported as house fires.	Attended with hand-pump only.	
	In-sured.	Not in-sured.	Insur-ance Un-known.	In-sured.	Not in-sured.	Insur-ance Un-known.	In-sured.	Not in-sured.	Insur-ance Un-known.					
<b>CITY—</b>														
Bourke Ward .....	3	3	1	...	...	...	...	...	...	7	5	3	1	16
Brisbane „ .....	8	1	6	4	...	...	...	...	...	19	9	3	3	31
Cook „ .....	11	1	8	1	...	...	...	...	1	22	3	3	3	31
Denison „ .....	7	2	7	...	...	...	...	...	1	17	4	...	5	26
Fitzroy „ .....	6	...	4	...	...	...	...	...	...	10	1	3	1	15
Gipps „ .....	10	...	1	...	...	...	1	...	...	12	1	4	3	20
Maequarie „ .....	12	3	...	...	...	...	1	...	...	16	3	...	7	26
Phillip „ .....	4	1	5	...	...	...	...	...	...	10	3	...	7	20
Total .....	61	11	32	5	...	...	2	1	1	113	29	16	30	188
<b>SUBURBS—</b>														
Alexandria .....	...	1	...	...	...	...	...	...	...	1	...	...	...	1
Ashfield .....	3	1	1	...	...	...	...	...	...	5	1	...	...	6
Balmain.....	4	3	2	1	...	...	1	...	...	11	2	...	...	13
Botany* .....	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Burwood .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Camperdown .....	1	...	...	...	...	...	...	...	...	1	...	...	...	1
Canterbury*.....	...	...	...	...	...	...	1	...	...	1	1	...	...	2
Darlington .....	1	...	...	...	...	...	...	...	...	1	1	...	...	2
Granville*.....	...	2	...	...	...	...	...	...	...	2	...	...	...	2
Glebe.....	8	...	5	...	...	...	...	...	...	13	1	...	...	14
Leichhardt .....	2	...	1	...	...	...	1	...	...	4	1	...	...	5
Macedonaldtown .....	1	...	...	...	...	...	1	...	...	2	1	...	...	3
Manly .....	4	...	...	1	...	...	...	2	1	8	...	...	...	8
Marrickville .....	2	...	2	1	...	...	1	...	...	6	3	...	1	10
Newtown .....	3	2	...	...	...	...	...	...	...	5	...	2	1	8
Paddington .....	8	1	2	...	...	...	...	...	...	11	...	1	1	13
Parramatta .....	1	2	...	...	...	...	...	...	...	3	...	...	...	3
Petersham .....	6	2	2	1	...	...	...	...	...	11	1	...	...	12
Redfern.....	4	1	4	1	...	...	1	...	...	11	1	...	...	12
Randwick.....	1	...	...	...	...	...	...	...	...	1	...	...	...	1
St. Leonards .....	1	...	...	...	...	...	1	...	...	2	...	...	...	2
St. Peters.....	1	...	...	...	...	...	...	...	...	1	...	...	...	1
Waterloo .....	1	1	2	...	...	...	2	...	...	7	...	...	...	7
Waverley .....	3	...	1	...	...	...	1	...	...	5	1	...	...	6
Woollahra.....	1	1	...	...	...	...	...	...	1	3	...	...	...	3
The Harbour*.....	3	1	1	1	1	...	...	...	...	7	...	...	...	7
	121	29	55	11	1	...	12	3	3	235	44	19	33	331
Casualties .....	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Totals .....	121	29	55	11	1	...	12	3	3	235	44	19	33	333

\* Marked thus, are not in the M.F.B. area.

## APPENDIX X.

## SUMMARY of Trades for 1890.

Trades.	Class of Fire.									Grand Total.
	Slight.			Serious.			Total.			
	Insured.	Not insured.	Insurance Unknown.	Insured.	Not insured.	Insurance Unknown.	Insured.	Not insured.	Insurance Unknown.	
Auctioneer	1									1
Asphalter			1							1
Bakers	2									2
Bedding Manufacturer	1									1
Boarding Houses	4		3							7
Bootmakers and Boot Factory..	2		1							3
Builder				1						1
Buildings in course of erection.			2							2
Butchers	2									2
Cabinet Makers	2	1								3
China and Glass Importer	1									1
Cemetery		1								1
Coffee Palace	1									1
Commission Agents and Pro- duce Merchants.	1			1			1			3
Contractor		1								1
Confectioners	2									2
Chemist	1									1
Coffee and Spice Mill	1									1
Clothier	1									1
Cyclorama			1							1
Drapers, Milliners, and Dress- makers.	3						1			4
Dairyman		1								1
Engineer and Boilermaker				1						1
Emery Cloth Manufacturers	2									2
Fruiters and Greengrocers		1	2	2						5
Furniture Dealer			1							1
Firework Maker								1		1
General Dealers	1	1								2
Government Buildings, Rail- ways, &c.		6						1		7
Glass Rivetter			1							1
Grocers	5			1						6
Hosier	1									1
Importer, General	1									1
Ironfounders	2	2	1							5
Ironmonger	1									1
Jeweller	1									1
Kerosene Bond							1			1
Licensed Victuallers	9	1	5							15
Merchant	1									1
Museum	1									1
Oyster Saloon	1									1
Oil and Colour Merchant	1									1
Office								1		1
Open Thoroughfare		1								1
Open Yards		2								2
Packing Case Maker	1									1
Painter and Decorator	1									1
Place of Worship	1									1
Pianoforte Dealer and Music Seller.	1									1
Private dwellings	39	6	29	1			6	1	2	84
Printers and Stationers and Fancy Good Dealers	5			1			1			7
Plumbers and Gas-fitters	2	1								3
Restaurants	2									2
Ropecmaker	1									1
Saddlers and Harness-makers	2									2
Ships	3	1	1	1	1					7
School			1							1
Stables	4	2	2				1			9
Storekeepers and Stores	1		2							3
Shop Unoccupied			1							1
Shed		1								1
Tailor	1									1
Timber Merchants and Saw- mills	1			2						3
Tobacconists	2		1							3
Van Proprietor	1									1
Wine Merchant	1									1
Wool-washing Establishment..							1			1
Totals	121	29	55	11	1		12	3	3	295

## APPENDIX XI.

## HOURLY and Daily Summary of Calls for 1890.

Hour.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Total.
A.M., 1st.....	2	...	...	1	1	3	1	8
" 2nd.....	3	1	...	1	1	1	1	8
" 3rd.....	2	3	3	1	1	3	2	15
" 4th.....	1	...	...	2	2	3	1	9
" 5th.....	...	3	1	...	...	2	1	7
" 6th.....	1	...	1	...	1	2	1	6
" 7th.....	1	...	1	1	...	...	1	4
" 8th.....	3	...	...	2	3	1	1	10
" 9th.....	2	2	1	...	2	2	2	11
" 10th.....	...	...	2	1	...	...	...	3
" 11th.....	5	1	2	1	...	...	3	12
" 12th.....	2	...	1	2	...	4	5	14
P.M. 1st.....	1	2	1	1	4	4	3	16
" 2nd.....	1	...	4	2	...	3	2	12
" 3rd.....	1	1	4	3	1	3	1	14
" 4th.....	1	...	2	...	2	1	2	8
" 5th.....	1	2	...	...	...	1	4	8
" 6th.....	4	2	2	2	4	4	1	19
" 7th.....	5	6	8	2	2	4	6	33
" 8th.....	...	6	3	6	4	2	3	24
" 9th.....	5	4	4	5	3	4	6	31
" 10th.....	5	2	1	2	3	10	6	29
" 11th.....	1	6	2	...	3	1	6	19
" 12th.....	1	1	1	2	1	...	4	11
Casualties.....	48	42	44	37	38	59	63	331
Totals.....	48	42	44	37	38	59	63	333

## APPENDIX XII.

## WEEKLY Summary of Calls for 1890.

Week.	Casualties.	False- Alarms.	Chimney Alarms.	Fires	Totals.	Week.	Casualties.	False Alarms	Chimney Alarms.	Fires.	Totals.
1st ending Jan. 4	...	1	...	2	3	28th ending July 12	...	3	3	8	14
2nd " " 11	...	1	...	4	5	29th " " 19	...	...	2	3	5
3rd " " 18	...	...	...	2	2	30th " " 26	...	1	3	4	8
4th " " 25	...	...	1	5	6	31st " Aug. 2	...	...	1	1	2
5th " Feb. 1	...	1	1	2	4	32nd " " 9	...	1	1	3	5
6th " " 8	...	2	...	2	4	33rd " " 16	...	...	4	7	11
7th " " 15	...	1	...	5	6	34th " " 23	...	1	2	3	6
8th " " 22	...	...	...	2	2	35th " " 30	...	3	2	4	9
9th " March 1	...	1	...	7	8	36th " Sept. 6	...	...	1	6	7
10th " " 8	...	...	1	5	6	37th " " 13	...	1	1	2	4
11th " " 15	...	...	...	1	1	38th " " 20	...	1	1	9	11
12th " " 22	...	1	...	2	3	39th " " 27	...	...	2	6	8
13th " " 29	...	1	...	2	3	40th " Oct. 4	...	3	3	6	12
14th " April 5	...	2	1	4	7	41st " " 11	...	2	...	6	8
15th " " 12	...	...	...	5	5	42nd " " 18	1	...	2	10	13
16th " " 19	...	1	...	6	7	43rd " " 25	...	...	2	9	11
17th " " 26	1	1	...	4	6	44th " Nov. 1	...	2	...	7	9
18th " May 3	...	...	...	5	5	45th " " 8	...	1	1	5	7
19th " " 10	...	...	...	...	...	46th " " 15	...	2	3	4	9
20th " " 17	...	...	2	3	5	47th " " 22	...	...	3	4	7
21st " " 24	...	...	...	4	4	48th " " 29	...	2	2	3	7
22nd " " 31	1	1	...	3	5	49th " Dec. 6	...	1	2	6	9
23rd " June 7	1	...	...	1	2	50th " " 13	...	...	1	8	9
24th " " 14	...	...	...	4	4	51st " " 20	...	...	...	5	5
25th " " 21	2	1	...	8	11	52nd to the end of the year	...	1	...	14	15
26th " " 28	1	1	...	3	5						
27th " July 5	1	1	...	1	3	Total.....	2	44	52	235	333

APPENDIX XIII.  
MONTHLY Summary of Calls for 1890.

Months.	Casualties.	False Alarms.	Chimney Alarms.		Class of Fire									Grand Total.
			Attended with engines, and reported as house fires.	Attended with hand-pump only	Slight.			Serious.			Total destruction.			
					Insured	Not insured.	Insurance unknown.	Insured	Not insured.	Insurance unknown.	Insured	Not insured.	Insurance unknown.	
January .....		3	1		9	1	2				3			19
February .....		3		1	12		1				1	1		19
March .....		3	1		9	1	1							15
April .....	1	4	1		12	3	4	1			1			27
May .....		1	1		2	5	3	4			1			17
June .....		5			3	8	1	4	1		1	1		24
July .....		4	4		6	11	3	1	1					30
August .....		5	2		6	9	3	5	3					33
September .....		3	2		4	9	3	7	3	1				32
October .....	1	6			6	14	5	12			2	1	1	48
November .....		5	6		3	10	2	4	1					31
December .....		2	1		2	13	4	10	1		3		2	38
1890 .....	2	44	19	33	121	29	55	11	1		12	3	3	333
1889 .....	2	33	14	31	121	22	36	17			19	6	4	305

APPENDIX XIV.  
COMPARISON of Calls for the years 1881 to 1890.

	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	Total.
False alarms .....	35	39	60	50	42	32	14	35	33	44	384
Chimney alarms .....	117	60	45	46	64	40	60	61	45	52	590
Fires, slight. ....	54	75	80	91	160	150	174	222	179	205	1,390
" serious .....	12	12	10	15	13	21	18	19	17	12	149
" total destruction .....	25	26	14	23	23	34	15	25	29	18	232
Totals .....	243	212	209	225	302	277	281	362	303	331	2,745

APPENDIX XV.  
SUMMARY of Causes of Fires for 1890.

Boiling over of fat, tar, oil, &c. ....	10	Kilo, overheat of .....	1
Burning rubbish .....	1	Light thrown down .....	40
Candle .....	28	Light coming in contact with broken gas main .....	1
Children playing with fire .....	1	"    "    "    gas .....	1
"    "    "    matches .....	13	Lighting gas-stove .....	1
Chimney, foul .....	6	Lime slaked by rain .....	2
Defective brickwork .....	1	Matches, carelessness with .....	4
Doubtful and unknown .....	37	"    rats at .....	4
Explosion of gas .....	5	Overheat of oven .....	1
"    chemicals .....	2	"    drying stove .....	1
Fire, carelessness with .....	2	"    exhaust-pipe from engine .....	1
Fireworks .....	2	"    furnace flue .....	1
Flue, overheat of .....	2	Spark from fireplace .....	6
Furnace, overheat of .....	1	"    engine .....	1
Gas-light coming in contact with scenery .....	1	"    chimney .....	12
Gas bracket .....	10	"    furnace .....	1
Gas, seeking for escape of, with light .....	1	"    flue adjoining .....	1
Gas-stove, over heat of .....	1	"    locomotive .....	3
Hot ashes .....	2	"    bush fire .....	1
Heat of sun on shop windows .....	1	Smoking tobacco .....	3
Incendiarism .....	1	"    bacon .....	1
Kerosene, carelessness with .....	1	Spontaneous ignition .....	2
"    lamp, carelessness with .....	1	Vapour coming in contact with flame .....	1
"    "    explosion of .....	4		
"    "    upsetting of .....	11		
		Total .....	295

## APPENDIX XVI.

SUMMARY of how Fires were reported to Brigade for 1890.

Calls given by.	Casualties.	Fires.	False alarms.	Chimney Alarms.		Total.
				Reported as House Fires.	Attended by handpump only.	
Alexandria Volunteer Fire Brigade .....		2				2
Ashfield Volunteer Fire Brigade .....		2				2
Balmain Volunteer Fire Brigade .....		8	1			9
Caretaker .....		1				1
Cabman .....	1	3				4
Citizen .....	1	35	8		12	56
Council Chambers .....		1				1
Darlington Volunteer Fire Company .....		2				2
Fire Alarm Telephones .....		31	16	7	3	57
G.P.O. Telephones .....		21	9	3	1	34
Globe Volunteer Fire Company .....		10	1			11
Granville Volunteer Fire Company .....		1				1
Insurance Companies .....		3				3
Leichhardt Volunteer Fire Company .....		3	1			4
Manly Volunteer Fire Company .....		3				3
Members of Brigade .....		2			2	4
Newtown Volunteer Fire Company .....		8	1	2		11
Night Watchmen .....		1				1
North City Volunteer Fire Company .....		4		1		5
No. 1 Volunteer Fire Company .....		1				1
Occupant of premises .....					1	1
Paddington Volunteer Fire Company .....		1		1		2
Paddington Brewery Volunteer Fire Company .....		13		1		14
Parramatta Volunteer Fire Company, No. 1 .....		1				1
Parramatta Volunteer Fire Company, No. 2 .....		3				3
Police direct from fires .....		9	1		3	13
Police—Central Station, Telephone .....		13		2	1	16
Police—Balmain Station, Telephone .....		1				1
Police—Erskine-street Station, Telephone .....		1				1
Police—Inspector-General's Office, Telephone .....					1	1
Police—Petersham Station, Telephone .....		1				1
Police—Pymont Station, Telephone .....		4	1			5
Police—Redfern Station, Telephone .....		5				5
Police—Newtown Station, Telephone .....		1				1
Police—Manly Station, Telephone .....		4				4
Police—Water Station, Telephone .....		3				3
Police—Woolloomooloo, Telephone .....		1				1
Police—No. 3 Station, Telephone .....		1				1
Police—No. 4 Station, Telephone .....		2			1	3
Reflection seen from Station .....			1			1
Standard Brewery Volunteer Fire Company .....		6		2		8
St. Leonards Volunteer Fire Company .....		2				2
Seen from the Station .....					6	6
Tower, Head-quarter's Station .....		5	3		1	9
Waterloo Volunteer Fire Company .....		5				5
Waverley Volunteer Fire Company .....		5				5
Woollahra Volunteer Fire Company .....		6	1		1	8
Totals .....	2	235	44	19	33	333

1891.

## NEW SOUTH WALES.

**FIRE BRIGADES ACT, 1884.**

(GOULBURN FIRE BRIGADES BOARD—FIFTH ANNUAL REPORT.)

Presented to Parliament pursuant to Act 47 Vic. No. 3, sec. 7.

The Chairman of the Goulburn Fire Brigades Board to The Colonial Secretary.

Sir,

Goulburn, 9 February, 1891.

We have the honor to present you with the fifth Annual Report of the Goulburn Fire Brigade's Board.

We have pleasure in informing you that the new fire-station, in course of erection in Montague-street, on land the property of the Government, is now on the eve of completion.

We beg to inform you that this Board, in common with the other country Boards, is still without legal power to enforce payment of the contributions due by the insurance companies. Most of these bodies have, however, paid your Board certain specified contributions, but have guarded themselves against admitting any legal liability. Other companies have failed to pay any contribution whatever. Your Board venture to express the hope that an amending Fire Brigades Act may be passed by the Legislature early next session.

The Brigade numbers 27, all of the members being thoroughly efficient.

One fire only has occurred during the year, viz., at Denny's hay and corn store, the damage being estimated at about £100, and covered by insurance.

The Board have held 14 meetings during the year, which have been attended as follows, viz.:—Mr. Betts (chairman), 13; Mr. Riley, 14; Mr. Ball (Mayor), 10.

We beg to enclose herewith a statement, showing the Board's receipts and payments for 1890.

We have, &amp;c.,

A. M. BETTS, Chairman.  
R. T. BALL, Mayor.  
W. R. RILEY.

## STATEMENT of Receipts and Payments by the Goulburn Fire Brigades Board, for the year ending 31st December, 1890.

DR.				CR.	
RECEIPTS.				PAYMENTS.	
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
1890—Jan. 1.			By 1890—Dec. 31.		
To Balance brought forward .....		88 4 3	Brigade subsidy .....	133 15 0	
1890—Dec. 31.			Superintendent.....	50 0 0	133 15 0
Goulburn Municipal Council.....	133 6 8		New Fire Station on account		
Colonial Treasurer .....	99 19 6		contract .....		450 0 0
Fire Insurance Companies.....	169 4 4		Board fees .....	37 16 0	
		402 10 6	Secretary's salary.....	26 0 0	
Interest on deposits .....		21 10 0	Auditor .....	1 1 0	
Transfer from deposit account .....		1,010 0 0	Postages, printing, &c. ....	6 9 6	
			Water rates .....	1 5 0	
			S. W. Alexander, survey fee	2 2 0	
					74 13 6
			Transfer to deposit account.....		790 0 0
		£ 1,522 4 9	Balance carried forward.....		23 16 3
1891—Jan. 1.					£ 1,522 4 9
To balance brought forward .....		23 16 3			

A. M. BETTS,  
Chairman.

Examined and compared with the books and vouchers, and found correct.—C. E. MACKENZIE, Auditor, 2nd Jan., 1891.



1891.

NEW SOUTH WALES.

## REPORT

ON THE

DEPARTMENT OF CHARITABLE INSTITUTIONS

OF

NEW SOUTH WALES,

FOR THE YEAR ENDED

31 DECEMBER, 1890,

FROM THE

DIRECTOR OF GOVERNMENT ASYLUMS AND BOARDING-OUT OFFICER.

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Presented to Parliament by Command.

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SYDNEY: GEORGE STEPHEN CHAPMAN, ACTING GOVERNMENT PRINTER.

1891.

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## ANNUAL REPORT.

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Department of Charitable Institutions,  
New South Wales, Sydney, May 1, 1891.

The Director of Government Asylums and Boarding-out Officer to The  
Principal Under Secretary.

Sir,

I have the honor to present, for the information of the Honorable the Colonial Secretary, a statement of the operations of the Department of Charitable Institutions for the year ended December 31, 1890, together with occasional references to the work of the previous year for the purposes of comparison.

My appointment as Director of Government Asylums and Boarding-out Officer dates from August 1, 1888, but previously, under the State Children's Relief Board, I directed the administration of the other principal division of the Department, namely, the State Children's Relief Branch, since August 1, 1878. This brief explanation is necessary in order that the report which follows may be made clear. Previous to August 1, 1888, the Asylums for Infirm and Destitute were under the control of a Manager of Asylums; and special investigations into all institutions wholly or partially subsidised from State funds were conducted by an Inspector of Public Charities. On that date, however, under the policy of reorganization adopted by Parliament upon the recommendation of the Colonial Secretary, those two offices were abolished; a new office, designated "Director of Government Asylums and Boarding-out Officer" was created; and, as reorganised, the Department of Charitable Institutions, as its work during the period under notice discloses, now includes the control of—

### SECTION I.

1. The Government Asylums for Infirm and Destitute Men and Women at Liverpool, Parramatta, and Newington.
2. The Boys' Cottage at George-street Asylum.
3. Cottage Homes (almshouses) for Destitute, Aged, and Infirm Married Couples.
4. Admissions into the abovenamed Institutions.

### SECTION II.

1. Subsidy claims of Hospitals, Benevolent Societies, and other Institutions partly supported by the State, when special inquiries are necessary.
2. Investigations (when directed by the Colonial Secretary) into the management of all Institutions, wholly or partly supported from the Consolidated Revenue.
3. Admissions into the Sydney Benevolent Asylum and other Institutions of inmates wholly supported by the Government.

SECTION

## SECTION III.

1. Distribution of relief to the Unemployed, and investigations into the same, when directed by the Colonial Secretary.

## SECTION IV (UNDER THE CONTROL OF THE STATE CHILDREN'S RELIEF BOARD).

1. State Children's Relief Department for boarded-out, apprenticed, and adopted children.
2. Cottage Hospitals for invalid children at Parramatta and Mittagong.

The Industrial and Reformatory Schools continue to be controlled by separate agencies—the former, under Act 30 Vic. No. 2, by the Minister of Public Instruction; and the Reformatory for Girls at Shaftesbury under Act 30 Vic., No. 4, by the Minister of Justice. It is therefore not part of my duty to report upon those institutions unless under special direction, except in regard to children selected from them for boarding out. The Government Asylums for Infirm and Destitute are not governed by legislative enactment, but the State Children's Relief Department is administered under Act 44 Vic., No. 24. The President of that Department (the Hon. Arthur Renwick, M.D., M.L.C.) reports annually to Parliament upon its operations; but no report has been forwarded to the Colonial Secretary on the management of the Government Asylums since the year 1855; and before resuming the yearly statements, I considered it would be well to permit an annual period to elapse subsequent to reforms which had been introduced tentatively under the new system of management, in order that their operation should be thoroughly tested. The results thus far have been highly satisfactory, and after dealing with them in detail, I think it will not be out of place to respectfully submit one or two suggestions for the Colonial Secretary's consideration, with a view to legislation for the more effective management of the institutions referred to under section I.

## ASYLUMS FOR INFIRM AND DESTITUTE.

The following table shows the number of inmates sheltered and under treatment in the Government Asylums for Infirm and Destitute during the year 1890:—

Institutions	In Institutions, 1 January, 1890		Admitted during 1890.		Discharged during 1890.		Died during 1890.		In Institutions on 31 December, 1890.		
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Total.
Liverpool .....	799	...	757	..	592	...	175	...	789	...	749
George-st., Parramatta ..	770	...	1,328	..	1,055	..	176	...	867	...	867
Macquarie-st., do ...	283	...	411	...	303	...	43	...	238	...	288
Newington .....	28	422	60	384	56	290	...	86	32	430	462
Cottage Homes, Parra- matta .....	18	21	4	19	3	17	...	...	19	23	42
Total .....	1,898	443	2,560	493	2,009	307	394	86	1,895	453	2,448

There has been a total increase of 107 in the admissions, but the difference has really arisen in connection with the Hospitals, to which just 100 patients were sent from the public infirmaries in excess of the number received in 1889, so that the increase in the general divisions of the four institutions was only 7. The admissions at Newington Asylum include both men and women. It is necessary to explain that from 36 to 40 old men are now generally employed at that establishment on the farm, dairy, piggeries, and in erecting and repairing buildings. They are completely isolated from the female division, and are under the direction of a careful attendant. There has been a decrease of 10 in the number of inmates at Liverpool, an increase

increase of 5 at Macquarie-street, of 12 at Newington, 97 at George-street, and 3 at the Cottage Homes for Aged Destitute Married Couples.

The next table indicates the average number of patients in the Asylum Hospitals during 1889 and 1890, and the ratio of increase in those divisions at each Institution :—

Asylum.	1889.	1890.	Increase.
Liverpool ... ..	306	312	6
George-street, Parramatta ... ..	294	364	70
Macquarie-street, Parramatta ... ..	151*	167*	16
Newington ... ..	137	145	8
	888	988	100

\* These figures include ophthalmic cases.

or an increase of 11.26 per cent.

OPHTHALMIC Cases treated in the Asylum, Macquarie-street, Parramatta, during 1890.

Trichiasis ... ..	13
Granular Ophthalmia ... ..	51
Xerophthalmia ... ..	5
Nebula ... ..	18
Nyctalopia ... ..	2
Conjunctivitis ... ..	50
Glaucoma ... ..	11
Cataract ... ..	33
Optic Atrophy ... ..	15
Hypermetropia ... ..	2
Choroiditis ... ..	8
Aphakia ... ..	13
Irido-cyclitis ... ..	1
Excision ... ..	2
Iritis ... ..	5
Neuritis ... ..	1
Lost eye ... ..	8
Ectropion ... ..	1
Presbyopia ... ..	1
Keratitis ... ..	1
Pterygium ... ..	1
Diplopia ... ..	1
Pannus ... ..	1
Leucoma ... ..	4
Ulcers ... ..	1
Entropion ... ..	2
Total ... ..	251

In addition to these, 139 less important ophthalmic cases were treated at George-street Asylum.

Both tables, in conjunction with the statistics of 1885 (the period of the last published report of the late Manager of Asylums) indicate that the constitution of these institutions has almost entirely changed during the past five years. They were first established solely for aged and destitute persons—that is, for those dependent classes of the community who, while not actively suffering from disease, had in consequence of old age or other causes become too infirm to earn a livelihood, and merely required comfortable refuges in their latter days. For example, in the year 1885 there were 1,280 in the general divisions of the asylums, and only 448 in the hospitals; but in 1890, the general wards contained 1,515 persons, and the hospitals 988. Thus, while there had been an increase of 235 persons, or 18.36 per cent., in the class properly designated “infirm and destitute,” the hospital patients had increased by the large number of 540, or 120 per cent., or a total increase between the two periods of 775 inmates and 44.85 per cent.

The

The difference between the maintenance cost of hospital patients at the Government asylums and in the public infirmaries is at least £25 in favour of the former; and as 297 such patients were received during the year 1890 (apart from those previously sent to the Asylums for Infirm and Destitute) from the Coast, Prince Alfred, and Sydney Hospitals, for whose full support the Government were directly liable), it is apparent that the asylums are in this particular effecting a large saving to the State.

Prior to 1887 the sick inmates did not enjoy the advantages of a trained nursing staff, but were attended to almost wholly by the more able-bodied inmates, who received for their services small gratuities varying from 3d. to 1s. a day—a system which has distinctly failed, and too frequently been attended with grave abuses wherever it has been tried. An official investigation disclosed that in this Colony it formed no exception to the rule; and in June, 1877, the Colonial Secretary wrote the following minute on the subject:—"In the division of the inmates under future management, those who are suffering from disease or wounds should be placed under hospital treatment, quite separate from those not so afflicted. Not only for these, but also for the very aged and infirm, I consider a limited staff of trained nurses should be provided." Shortly afterwards effect was given to this minute by the engagement of several female nurses for Newington Asylum for women, and a few trained male attendants, possessing general hospital experience, for the Parramatta Asylums. No opportunity has been afforded prior to this report of publicly notifying the result of this change. I have carefully watched its operation during the past two and a half years, and also extended the system as increases in the hospital divisions rendered additional help of the kind necessary; and there cannot be a doubt that it has proved a blessing to the hundreds of sick and afflicted poor who were previously in the hands of ignorant wardsmen, possessing neither the patience nor the professional training requisite for an office in which both qualifications are in the highest degree necessary. I can speak more freely in this important matter, because this improved method of nursing was initiated before my appointment. This, and several other changes, were not applied to Liverpool Asylum, because the Medical Superintendent, Dr. J. A. Beattie, who is one of the most humane and experienced officials in every phase of hospital management in this country, suggested that the old and new methods should be allowed to run side by side for a year or two, in order that there might be reliable comparisons of results. He now agrees with me, however, that no further exception should be made in connection with his institution, and the Medical Adviser of the Government also concurs in this opinion. There are five trained nurses at Newington Asylum, four at Macquarie-street, and four at George-street Asylum.

It will be gathered from the foregoing statistics that the Government Asylums for Infirm and Destitute have been so far diverted from their original purposes that they are now practically hospitals for chronic and incurable diseases, as well as homes for the infirm and indigent. They are relieving-houses for the metropolitan and country infirmaries, and the figures already quoted show that more than one-third of the inmates, or nearly 40 per cent., are classed as hospital patients. No other colony is in the same position with regard to cognate institutions. The asylums which can be most fairly selected for the purpose of comparison, are those of Victoria, and there the proportion of the afflicted to sound inmates is only 14 per cent. The general hospitals there are not relieved of their patients by the Benevolent Asylums to anything like the same extent that they are in this Colony.

The statement of diseases in the following mortality table furnishes ample evidence of the prime importance of the hospital divisions of the asylums, and the care, skill, and humanity required for their efficient management:—

## RETURN of deaths in the Government Asylums for the Infirm and Destitute—year 1890

Diseases.	Liverpool.	George-st., Parramatta.	Macquarie- street, Parramatta.	Newington.	Total.
Surgical—					
Fractures .....	1	.....	.....	1	2
Tumours .....	.....	1	.....	.....	1
Ulcers .....	3	.....	2	1	6
Necrosis of pelvis .....	.....	1	.....	.....	1
Of Respiration—					
Asthma .....	5	2	1	.....	8
Bronchitis .....	12	26	9	2	49
Phthisis of lungs, larynx, &c. ....	46	9	1	9	65
Pleurisy .....	2	.....	.....	.....	2
Pneumonia .....	.....	4	.....	.....	4
Of Circulation—					
Aneurism of aorta and other arteries ..	2	21	5	6	34
Apoplexy .....	.....	7	1	.....	8
Cardiac disease .....	7	1	1	.....	9
Syncope .....	1	2	.....	2	5
Nervous system—					
Epilepsia .....	1	1	.....	3	5
Hemiplegia .....	1	1	.....	.....	2
Hysteria .....	.....	.....	.....	1	1
Meningitis .....	1	3	.....	.....	4
Paralysis .....	14	2	.....	5	21
Paraplegia .....	1	.....	.....	1	2
Softening of the brain .....	.....	3	2	3	8
Spinal diseases .....	.....	2	1	.....	3
General disease—					
Cancer .....	6	4	7	7	24
Cystitis .....	.....	4	3	.....	7
Diarrhœa .....	1	7	.....	2	10
Dropsy .....	.....	.....	.....	1	1
Dysentery .....	.....	1	.....	.....	1
Enteritis .....	2	1	1	.....	4
Erysipelas .....	.....	2	.....	.....	2
Gastritis .....	1	1	1	.....	3
Kidney .....	1	1	.....	1	3
Liver .....	2	5	1	1	9
Malignant growth .....	.....	.....	.....	3	3
Peritonitis .....	.....	7	.....	2	9
Rheumatism .....	1	3	.....	.....	4
Syphilis .....	1	2	.....	1	4
Senile decay .....	63	52	7	24	156
Total .....	175	176	43	86	480

The Government Asylums now deal with all the indigent consumptive patients, and cancer cases in the Colony, as well as with indigent persons suffering from heart disease, paralysis, and senile decay (imbecility arising from old age), from which complaints 349 out of the total of 480 deaths have resulted. It is thus apparent that buildings and conditions of management, which might have been suitable enough for these institutions a few years ago, are now obsolete and inadequate to their present requirements; and it is therefore desirable that the lines of a comprehensive and permanent system for administering relief to our dependent adults, who include the most sadly afflicted classes of the community, should be laid down with as little delay as possible, to avoid farther useless expenditure on several of the existing institutions, which are all very much overcrowded. Several suggestions with this object are under the consideration of the Colonial Secretary, and if it should be determined to select a sufficient area of land, a sum of £10,000, which has been voted by Parliament on the Loan Estimates of 1891, may be devoted toward the erection of buildings on the most approved modern principles, in which the various classes of inmates may be subjected to the distinct conditions of treatment that are necessary, if it is decided to continue the combination of hospitals for chronic and incurable diseases with asylums for infirm and destitute.

It was recommended to the Government in 1887 that the Randwick Asylum should be converted into a hospital for the reception of all classes of chronic disease; and it was estimated that the maximum number of persons who could with safety be received into the present buildings, after a large expenditure upon alterations, was

380. There were at that time 600 patients under treatment in the hospitals of the Government institutions, and it was pointed out that the number would probably "be largely added to by drafts from the coast hospitals and two great metropolitan hospitals," a prediction which has been verified by the increase of numbers to 988. Randwick Asylum would, therefore, not by any means meet existing requirements, and I think medical authorities will consider it unsuitable in one or two other more important respects. The consumptive patients and rheumatic inmates need a milder air and warmer temperature than that of the sea shore in the bleak winter months, and probably a site from 12 to 15 miles inland from Sydney would be more suitable, while it would be sufficiently easy of access from the metropolitan infirmaries. Some hundreds of these old people, too, are, if not actually bedridden, just able on occasions to crawl into the sunshine with assistance, and it would be a cruel proceeding to place them in dormitories from which they would be physically unable to go downstairs for the slight recreation which it is only just possible, under the most favourable circumstances, to afford to persons so hopelessly afflicted.

The best solution of the problem would be to obtain an estate of about 500 acres, or less, as a central site for all the institutions for dependent male adults. The women are already provided for at Newington, where there is sufficient area for the institution to be made one of the model establishments of its kind, after the addition of one or two buildings to admit of classification. It is probable that the Liverpool Asylum will eventually be required for railway workshops. The Railway Commissioners have already purchased the Liverpool Park for that purpose, and it is so close to the Government Asylum that it will not be possible to continue the institution as a refuge for persons suffering from nervous complaints and the other illnesses incidental to this particular class. The Parramatta buildings are admittedly unsuitable for hospitals. An estate of sufficient area could be sub-divided to contain buildings suitable for the requirements of all classes of inmates.

The best method of economically housing the permanently sick and decrepit poor is undoubtedly in brick pavilions of one floor, each capable of accommodating from thirty to forty inmates, with the necessary out-offices, day-rooms, and nurses' apartments. A most complete system of classification could be accomplished on such an estate. The management could be made more economical, and the general establishment largely self-supporting. There would be room for a farm, dairy, piggeries, poultry yards—industrial divisions in which inmates able to do light work could be suitably employed, and a regular gradation of departments, sufficiently isolated from each other to meet the needs of all classes fairly, without wasting philanthropy on the underserving or withholding indulgences from the meritorious.

These desiderata cannot be secured at present for want of such facilities for separation. The hospitals could be placed remote from the other divisions, and here again the principle of classification might be effectually applied, so as to secure the best results. The consumptive patients, who now number nearly seventy, need special treatment, and so do the unfortunate sufferers from cancer, of whom there are usually about thirty in hospital, and who ought to be treated at some distance from other inmates. There were twenty-four deaths from this frightful disease last year. Suitable environment is a prime factor in any slight happiness which these poor sufferers are permitted to enjoy, and it cannot be extended to them under present conditions. Writing of them recently, the Medical Superintendent of Liverpool Asylum said:—"Being situated in the front part of the building, where the afflicted patients are in full view of visitors and persons passing in and out, their removal to a less conspicuous and more ample ward—or better still, to an isolated building—would be less hurtful to the feelings of the men themselves, as well as less horrifying to those obliged

obliged to witness their sufferings." These words apply equally to the cancer ward at Macquarie-street Asylum; and the construction of both buildings prevents any better arrangements, while there is no ground to spare at either place for the erection of a separate ward. Then there are the aged sufferers from senile decay, now numbering upwards of 300, who are very helpless; indeed, are quite in the "second childhood" stage of existence, and need the kindly treatment and care requisite for children. An infirmary, with special appliances, is also required for eye patients, of whom there are over 200 under treatment. Dr. Odillo Maher, the visiting ophthalmic surgeon to the Asylums, has expressed an opinion that as much as is possible, with the present appliances, has been done during the past three years to ameliorate the condition of the patients who suffer from painful complaints of the eye; but the system is still very imperfect, because they cannot be, as they ought to be, completely isolated from other inmates in a suitable building. Dr. Maher has recommended, "That there be a separate ophthalmic hospital to which only shall be admitted those suffering from ophthalmic diseases, which can be cured or benefited by treatment," and that the patients be attended by a skilled ophthalmic nurse. He points out "that two great advantages might be thus secured—the ophthalmic patients, many of whom suffer from contagious eye disease, would not associate with those whose eyes are healthy, and thus the danger of contagion would be avoided; and a ward could be set aside for the treatment of children suffering from granular ophthalmia, many of whom are kept at the Government expense in the Sydney hospitals. By persistent and timely treatment the sight of many such children would be preserved, which, if neglected, would become totally or partially lost." Such an institution might easily be included under distinct arrangements in the hospital divisions. A small lock hospital is also required, as syphilitic patients are now occasionally received from the Coast Hospital and other infirmaries. The "dietetic system," providing for dieting inmates according to their physical needs and conduct, which has been adopted with remarkable success in connection with prisons and charities in one or two American states, might be applied throughout the whole establishment as a method of rewards and punishments, in conjunction with exclusion from recreation grounds, reading rooms, and amusements. Such an estate would possess an ample area for creating bright and healthful surroundings. The whole of this little colony of dependents should be placed under the local management of a medical superintendent and an assistant—for both of whom there would be plenty of employment—with resident dispensers, and a limited staff of trained nurses, aided by inmates paid by small gratuities as at present, the domestic arrangements to be under the control of matrons. The abolition of existing offices would make the new method of management less expensive than the present system, and hardship to individuals might be as far as possible avoided by reappointing them to the new posts. This, of course, is the mere outline of a scheme which is not at all utopian, and the details can be filled in without difficulty. Suitable buildings need not be of an expensive description, and indeed the sale of existing properties would almost provide for their cost. The Legislature has never hesitated to make very generous provision for the mentally afflicted, the criminals, and other dependent classes in this country. A corresponding generosity might well be extended, under their altered conditions of life, to the class now inhabiting the Asylums for Infirm and Destitute, in which suffering humanity in its most painful form seeks relief, and where there are many respectable old colonists whose decline from prosperity and happier days is due to illness or misfortune rather than to vice or crime.

We have happily not yet needed in this country institutions assimilating to the English workhouses for the relief of able-bodied paupers, and the statistics in this report, which have been submitted

to

to crucial tests of their correctness, should dispel any popular belief that our public charities, or at least those under the direct control of the Government, are abused to any great extent by persons physically and mentally capable of being bread-winners. In order to place this point beyond doubt, every inmate of the Government asylums was medically examined in June, 1890. At Liverpool, with 860 inmates, 13, apart from the working staff, were returned as being able to earn their own living, if suitable employment could be found for them; at George-street Asylum, Parramatta, only 2 were able to work out of 930; at Macquarie-street, 4 out of 310 were able to work; and at Newington Asylum, with 460 women, the return was "nil." Thus, out of 2,560 persons, only 19 were returned as being robust enough to earn a livelihood, and as the majority of these were over 70 years of age, it would have been cruel to cast them adrift.

Outdoor relief is not granted in connection with the Government Asylums of this Colony, although it is the main form of aid dispensed from the English workhouses, where the indoor dietary, accommodation, and routine, are so unattractive that they afford an almost infallible test of the *bona fides* of applicants who seek admission on the ground of pauperism. In New South Wales the only outdoor relief granted is from local Benevolent Societies, and it is not given to able-bodied paupers; but to widows or deserted wives and children, and a few aged persons who are infirm and past work. A comparison of our statistics of dependents with similar returns in the last report of the English Local Government Board will be interesting, as showing the singular extent to which this Colony enjoys immunity from both poor rates and pauperism; and I find, from intercolonial reports, that the figures quoted are quite as applicable to the other colonies. There are four sets of tables relating to New South Wales, and England and Wales, showing:—

1. Indoor adult paupers in both countries (including the Sydney Benevolent Asylum to make the comparison fair);
2. Indoor adult paupers and children;
3. Adult indoor and outdoor paupers;
4. Adult indoor and outdoor paupers and children:—

#### INDOOR PAUPERS.

NUMBER of Adult Indoor Paupers in New South Wales compared with those in England and Wales.

Year.	Population.	Number of Paupers.	Proportion of Paupers to population.	Per-centage.
<i>New South Wales.</i>				
Including the Benevolent Asylum.				
1 J.n., 1889... ..	1,085,740	2,265	1 in every 479 ..	0·20
1890... ..	1,122,200	2,424	1 in every 462 ...	0·21
<i>England and Wales.</i>				
1 Jan., 1889... ..	28,628,804	126,886	1 in every 225 ...	0·44
1890... ..	29,015,613	125,783	1 in every 230 ...	0·43
ADULT PAUPERS AND CHILDREN.				
<i>New South Wales.</i>				
1 Jan., 1889... ..	1,085,740	3,945	1 in every 275 ...	0·36
1890... ..	1,122,200	4,104	1 in every 273 ...	0·37
<i>England and Wales.</i>				
1 Jan., 1889... ..	28,628,804	180,701	1 in every 158 ...	0·63
1890... ..	29,015,613	177,295	1 in every 163 ...	0·61

INDOOR

## INDOOR AND OUTDOOR PAUPERS.

NUMBER of Adult Indoor and Outdoor Paupers in New South Wales, compared with those in England and Wales.

Year.	Population.	Number of Paupers.	Proportion of Paupers to Population.	Percentage.
<i>New South Wales.</i>				
1 Jan., 1889... ..	1,085,740	2,802	1 in every 387 ...	0.25
1890... ..	1,122,200	2,961	1 in every 379 ...	0.26
<i>England and Wales.</i>				
1 Jan., 1889... ..	28,628,804	479,452	1 in every 59 ...	1.67
1890... ..	29,015,613	471,817	1 in every 61 ...	1.62

## ADULT INDOOR AND OUTDOOR PAUPERS AND CHILDREN.

<i>New South Wales.</i>				
1 Jan., 1889... ..	1,085,740	5,474	1 in every 198 ...	0.50
1890... ..	1,122,200	5,633	1 in every 199 ...	0.50
1891... ..	1,145,400 (mean)	5,710	1 in every 199 ...	0.50
<i>England and Wales.</i>				
1 Jan., 1889... ..	28,628,804	736,859	1 in every 39 ...	2.57
1890... ..	29,015,613	712,933	1 in every 41 ...	2.45

The return of New South Wales includes 1,200 boarded-out children, and inmates of the Reformatory and Industrial Schools. If all the children controlled by voluntary agencies in the two countries could also be taken into consideration, the English percentages would be comparatively much higher. The figures as they are, however, fully illustrate the happier conditions of life in Australia, where the term "pauperism," as it is interpreted in the mother country, is hardly understood practically.

The financial tables indicate that the Department has been economically managed. Table 1 contains a statement of the gross expenditure from January 1 to December 31, 1890, viz. :—

	Liverpool, 816.	George-street, 879.	Maequarie- street, 298.	Newington, 409.	Cottage Homes, 41.	Total, 2,503.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Rations .....	4,822 15 8	5,686 8 0	2,106 0 5	2,956 10 7	537 15 3	16,109 9 11
Milk (including cost of cows, fodder, and milk).	720 14 4	404 13 7	161 14 3	195 19 1	26 15 6	1,509 16 9
Medical comforts ...	815 2 6	284 10 9	157 6 6	63 0 0	18 15 6	1,338 15 3
Drugs .....	216 3 11	717 6 10	405 4 8	134 14 8	6 6 8	1,479 16 9
Fuel .....	431 6 4	390 14 3	222 18 3	228 16 10	71 19 3	1,345 14 11
Light .....	43 8 2	184 11 2	95 19 7	37 16 10	50 2 6	411 18 3
Water .....	360 0 0	190 10 0	137 16 0	.....	20 5 0	708 11 0
Burials .....	167 11 6	182 11 6	72 0 6	114 0 6	.....	536 4 0
Travelling expenses	439 18 3	515 12 5	182 2 10	114 9 1	4 15 8	1,257 8 3
Hardware .....	165 0 0	282 9 4	99 1 0	171 4 0	44 6 11	762 1 3
Clothing .....	1,202 3 2	2,813 13 11	833 6 5	611 3 4	65 18 9	5,526 5 7
Sundries .....	499 17 5	322 1 9	211 11 11	277 5 6	30 19 4	1,341 15 11
Pigs .....	186 6 0	.....	.....	2 0 0	.....	188 6 0
Salaries and wages	2,480 8 2	1,733 8 0	972 12 2	1,921 6 3	374 8 6	7,482 3 1
Directors' office.....	1,122 13 7	1,209 6 10	410 2 9	645 10 9	56 8 11	3,444 2 10
Total .....	13,673 9 0	14,917 18 4	6,068 7 3	7,473 17 5	1,308 17 9	43,442 9 9
Repairs, &c. ....	288 3 2	564 13 3	411 1 7	1,410 8 3	179 18 7	2,854 4 10
Total .....	13,961 12 2	15,482 11 7	6,479 8 10	8,884 5 8	1,488 16 4	46,296 14 7

TABLE

TABLE 2 shows Revenue, value of Stock on hand in excess of value at beginning of year, and Expenditure deducted.

	£	s.	d.	£	s.	d.
Collections of revenue .....	1,005	8	4			
Value of cows (less 15 per cent.) .....	700	16	6			
"    drugs.....	41	10	0			
"    clothing .....	533	17	8			
"    hardware .....	390	7	5			
	<hr/>			2,671	19	11
Travelling expenses of applicants, &c., not in asylums	1,257	8	3			
Repairs to buildings, &c. ....	2,854	4	10			
	<hr/>			4,111	13	1
	<hr/>			£6,788	13	0

From the above figures it will be seen that altogether £46,296 14s. 7d., was spent upon the Government Asylums for Infirm and Destitute, and Cottage Homes for Aged Destitute Couples, in 1890. This includes a sum of £2,854 4s. 10s. for repairs, and the balance of £43,442 9s. 9d. has to be further reduced by £3,929 8s. 2d., which is made up as follows:—Collections of revenue, £1,005 8s. 4d.; value of cows (less 15 per cent. written off for depreciation), £700 16s. 6d.; drugs, in stock, £41 10s.; clothing, in stock, £533 17s. 8d.; hardware, in stock, £390 7s. 5d.; conveyance of applicants and persons discharged from asylums, £1,257 8s. 3d. The item of £1,509 16s. 9d. for milk includes:—Cows, £313 14s.; milk, £564 14s. 3d.; fodder, £631 8s. 6d.; (the amount of £564 14s. 3d. for milk only, will be reduced during the current year by about £300.) The net expenditure upon maintenance, salaries, &c., has thus been £39,513 1s. 7d., from which should be deducted £1,283 3s. 3d., proportion of Cottage Homes' cost; and the annual cost of each inmate to the Government has, therefore, been £15 10s. 6d., exclusive of the cottage homes, which are dealt with under a separate heading. Following are the details of average cost in connection with each asylum:—

	Liverpool.	George-st.	Macquarie-st.	Newington.	Total.	Cottage Homes.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Rations .....	5 18 2½	6 9 5	7 1 4	6 6 1	6 6 6	13 2 4	6 8 8½
Milk .....	0 11 9¼	0 3 10½	0 3 10½	0 3 10½	0 6 6	0 3 10½	0 6 5½
Medical comforts .....	1 0 0	0 6 5½	0 10 7	0 2 8	0 10 9½	0 9 2	0 10 8½
Drugs .....	0 5 0	0 16 0	1 6 10	0 5 4	0 11 7½	0 3 1	0 11 6
Fuel .....	0 10 7	0 8 10½	0 14 11½	0 9 9	0 10 4	1 15 1	0 10 9
Light .....	0 1 0½	0 4 2	0 6 5	0 1 7½	0 2 11¼	1 4 5½	0 3 3½
Water .....	0 8 10	0 4 4	0 9 3	.....	0 5 7	0 9 10½	0 5 8
Burials .....	0 4 1	0 4 2	0 4 10	0 4 10½	0 4 4	.....	0 4 3½
Hardware .....	0 2 5½	0 1 4½	0 1 0½	0 6 5½	0 2 8	1 1 8	0 2 11½
Clothing .....	1 8 2	2 19 7½	1 17 4½	1 5 7	2 0 0	1 12 2	1 19 10½
Sundries .....	0 12 3	0 7 4	0 14 2½	0 11 10	0 10 7½	0 15 1½	0 10 8½
Pigs .....	0 4 7	.....	.....	0 0 1	0 1 6½	.....	0 1 6
Salaries and wages .....	3 0 9½	1 19 5	3 5 3½	4 1 11	2 17 9	9 2 8	2 19 9½
Director's office .....	0 16 8	1 4 4½	1 1 0	0 13 7	0 19 4½	1 6 6	0 19 6
Total .....	15 4 5½	15 9 5	17 17 0	14 13 7½	15 10 6	31 5 11¼	15 15 8½

This compares very favourably with the cost elsewhere. In Victoria last year it was £16 7s. 9d.; and in Queensland, £16 17s. 5d. In both Colonies the number of patients in the asylum hospitals was only about a third of those in this Colony, and, therefore, the expenditure upon medical comforts was correspondingly less than in New South Wales. The average annual cost in England is £19 10s. per head. The treatment of the poor, however, is not so generous in the other Colonies, where the cost is higher, as it is in New South Wales. In Queensland, for instance, the report for 1890 states that it has not been practicable to give milk, except to the sick, in the hospitals, and to the women—that is to about a third of the total number; and the diet tables of other Colonies show a much less varied dietary than the poor of this Colony are now receiving.

In

In view of the progressive increase in the number of hospital inmates, who require expensive diet, it is not likely that this low average cost can be maintained. The high charge for medical comforts at Liverpool Asylum (£1 per head) needs explanation. It has been incurred principally in connection with the consumptive patients, who, in the opinion of the Medical Superintendent, require extra stimulants. The difference in the cost of clothing at Newington and Liverpool, as compared with George and Macquarie Street Asylums (£1 5s. 7d. and £1 8s. 2d. per head, as against £2 19s. 7½d. and £1 7s. 4½d., respectively), is also conspicuous. The cause is that the greater part of the wearing apparel is made on the premises at Liverpool and Newington; but want of room for workshops and appliances prevents it from being done at the other institutions.

One of the first duties delegated to me was a revision of the dietary throughout the Asylums. An official investigation into this matter in 1887 had elicited from Dr. Manning, Inspector-General of Insane, and now also Medical Adviser to the Government, the following emphatic opinion:—

He had had a considerable number of cases which having been cured by treatment in one or other Hospitals for Insane he discharged to one of the benevolent asylums, and which came back to him for treatment within a very short time. The impression he had formed with regard to these cases was that they had not been sufficiently fed, and that if they had been sufficiently fed they would not have returned. He considered that the general benevolent dietary, and the want of variety, were very objectionable. The mental condition of aged persons, and persons of weak mind, was liable to be aggravated by insufficient food, and when he received these old persons (from the Benevolent Asylums) into his hospitals for insane the essential part of his treatment consisted in feeding them up.

Dr. Maher and Dr. Morgan, Ophthalmic Surgeons to the Asylums, gave equally strong testimony on this point. The general dietary at that time consisted of dry bread, and tea without milk, for morning and evening meals, and, excepting on Christmas-day and Queen's Birthday, an unvaried dinner at mid-day of boiled meat in soup with vegetables. Tea was served out at the rate of 1 ounce to every five persons daily. The bread and meat allowances were each 1lb. per diem; and there was an objectionable practice of serving out the whole day's bread ration in the morning, so that by evening the majority of inmates were either without bread, or possessed a few dry remnants; subsequently, in consequence of the visits of a ladies' committee and an official inquiry, there was some improvement at Newington. On the other hand the issue of alcoholic stimulants appeared to be most excessive, the total cost for the year 1888 for Liverpool, Parramatta, and Newington Asylums, in which there were then altogether 2,200 inmates, being £2,723 16s. 4d. Tests applied to the quality of the provisions, which were not at that time supplied to the standard of samples, were most unsatisfactory. Tea, which was taken on more than one occasion from the daily supplies, and forwarded to the Government analyst to be tested, was declared to be "utterly without power of nutriment, and possessing none of the qualities of genuine tea"; and analyses of tobacco, spirits, and milk (of which large quantities were consumed in the hospitals) were equally unsatisfactory, the added water to the milk supplied under contract being on several occasions in proportions varying from 20 to 60 per cent. The system of supplying to samples and tests was at once introduced, and although there was a great deal of difficulty, at first, in keeping contractors up to the mark, they soon realised that the letter of their contracts must be strictly adhered to, and on the whole there is now very little cause of complaint.

After consulting the Medical Adviser to the Government, and several other high medical authorities experienced in the management of institutions, I decided to reduce the ration weight of bread and meat from 16 to 14 ozs., to increase the tea allowance to 1 ounce daily for four inmates; to abolish as far as possible the free use of stimulants,  
except

except when prescribed medically to hospital patients; and with the saving of cost thus effected, to substitute a varied diet of heat-giving food. The following table was adopted:—

WEEKLY DIETARY.—Compiled from dietary scale (weight).

Remarks.—Hospital dietary to be regulated by Medical Officer; and general record to be kept for inspection in diary. Wines, beer, and spirits to be issued only under authority of Medical Officer, except in cases of emergency.

Day.	Breakfast.	Dinner.	Tea.
SUN.	1 pint coffee.* 1 pint porridge, made with 2 oz. maizemeal or oatmeal; and 1 oz. treacle or sugar, at discretion of Superintendent. 4 oz. bread.†	Irish stew, made with 14 oz. mutton (including bone weight), 12 oz. potatoes, and other vegetables, onions, and herbs, 1 oz. flour. 4 oz. bread. Cabbage.	1 pint tea, made with $\frac{1}{4}$ oz. tea, $\frac{3}{4}$ oz. sugar, $\frac{1}{2}$ gill milk. 6 oz. bread. 1 oz. honey.
MON.	1 pint tea, made as for Sunday's tea. 6 oz. bread. 1 oz. jam.	14 oz. beef, roasted. 12 oz. potatoes. 2 oz. bread. 6 oz. pudding.‡	1 pint tea. 6 oz. bread. 1 oz. treacle.
TUE.	1 pint porridge, } made as above. 1 pint tea, } 4 oz. bread. }	Haricot, 14 oz. mutton and necessary vegetables. 4 oz. bread. 1 pint soup, made from liquor of beef bones of previous day, with 1 oz. barley, rice, or pease meal, and other vegetables.	1 pint tea. 6 oz. bread. 1 oz. jam.
WED.	1 pint coffee.* 6 oz. bread. 1 oz. treacle.	14 oz. boiled beef, with soup made as at present. 12 oz. potatoes. 4 oz. bread.	1 pint tea. 6 oz. bread. 1 oz. honey.
THU.	1 pint tea, } made as above. 1 pint porridge, } 4 oz. bread. }	Curry, 14 oz. mutton and necessary seasoning. 12 oz. potatoes—rice may be substituted for potatoes. 4 oz. bread.	1 pint tea. 6 oz. bread. 1 oz. treacle.
FRI.	1 pint coffee.* 6 oz. bread. 1 oz. honey.	14 oz. beef (weight includes bone) minced. 12 oz. potatoes. 4 oz. bread. Cabbage.	1 pint tea. 8 oz. currant cake, made with some ingredients as pudding.
SAT.	1 pint tea, } made as above. 1 pint porridge, } 4 oz. bread. }	Repeat Tuesday's dinner.	1 pint tea. 6 oz. bread. 1 oz. treacle.

\* One pint coffee, made with  $\frac{1}{4}$  oz. coffee,  $\frac{3}{4}$  oz. sugar,  $\frac{1}{2}$  gill milk.

† Bread to be cut up and served out in its proportions for each meal.

‡ Receipt for bread pudding for 250 men, each to receive about 8 oz.:—Bread, 50 lb.; flour, 12½ lb.; suet, 8½ lb. (dripping should be used when practicable); sugar, 8½ lb.; currants, 8½ lb.; spice, 2 oz. These quantities absorb 3 buckets of water. To be divided for boiling into puddings of required size. Daily record of breakfast, dinner, and tea to be entered in book kept for that purpose.

P.S.—The foregoing to form basis of diet, which may be so regulated or altered, at discretion of Superintendent, as to suit convenient working of establishment; so long as it is not inferior in quality and quantity, and is of the same general character.

Daily dietary scale for unemployed men.—14 oz. bread, 14 oz. meat, 12 oz. vegetables, 1½ oz. sugar, 1 gill milk,  $\frac{1}{4}$  oz. tea, 1 oz. jam, treacle, or honey, for tea, and same for breakfast with bread, when no porridge; 1 oz. pepper and 20 oz. salt for every 100 full daily rations. Any inmate requiring more bread at any meal should at once inform the superintendent, or any person authorized to receive request.

Men actively employed, such as cooks, laundrymen, gardeners, labourers, &c., may be allowed 1 pint coffee, 1 oz. cheese, 4 oz. bread, in addition to authorized scale—only when no spirits or beer are granted. The medical officer may order any extra articles of diet he may deem necessary in particular cases.

Daily dietary scale for working men.—16 oz. bread, 16 oz. meat, 12 oz. potatoes, 1½ oz. sugar; 1 gill milk,  $\frac{1}{4}$  oz. tea, 1 oz. jam, treacle, or honey for tea, and also for breakfast with bread, when no porridge.

The application of this diet table made an enormous reduction possible in the consumption of spirits at three of the institutions; and when tested subsequently by the death rate it gave some remarkable results, the reasons previously urged on behalf of the free use of alcohol being that it prolonged life.

The

The following tables show the operation of the change in detail ; and as a more certain guide the mortality tables of three years prior and two years subsequent to the alteration have been selected :—

Name of Asylum.	Cost of Stimulants, 1888.	Cost of Stimulants, 1890.
Macquarie-street, Parramatta .....	£ s. d. 540 8 7	£ s. d. 155 6 6
Newington .....	655 4 6	63 0 0
George-street, Parramatta .....	777 17 8	286 10 9
Total cost at Parramatta and Newington.....	1,973 10 9	504 17 3

Or a total reduction at once in the drink bill at three asylums of £1,468 13s. 6d. per annum. At Liverpool the cost increased in the same period from £750 5s. 7d. to £815 2s. 6d. from the cause already stated.

In the years 1883, 1884, and 1885, under the old system, the death rate was 24, 27, and 33 per cent. per annum, with average ages of those who died at 65, 63, and 64 years respectively. Then for two years (1886 and 1887) no statistics were prepared, but the death rate increased. Under the new system the death rate went down almost as rapidly as the stimulants, the returns showing 18 per cent. in 1889, with the average age at 63 years; and 20 per cent. in 1890, among patients averaging 65 years of age. The following table contains the particulars of the fall :—

	1883.	1884.	1885.	1889.	1890.
Deaths during year .....	341	474	605	455	480
Daily average number of inmates.....	1,802	1,683	1,723	2,347	2,503
Number in Hospitals .....	423	443	448	888	988
Average age of patients who died .....	65	63	64	63	65

The daily average number of inmates includes the lesser number in the hospitals. The points for consideration are the steady increase from the year 1883 to 1885 in the number of deaths, and of inmates in the general and hospital divisions; and the proportionate decrease of deaths following the provision of more generous diet, and abolition, to a large extent, of alcoholic stimulants, whilst the number of inmates in the general and hospital divisions was very much greater. This result is a very striking practical confirmation of the opinions expressed by Dr. Manning, Dr. Morgan, and Dr. Maher which have been quoted. It is well to point out also that the advance in hospital numbers in 1889-90 was not due to a falling off in the health of the general divisions, but wholly to the numerous transfers from the Sydney and country infirmaries direct to the asylum hospitals, which had increased between the two periods (from 1885 to 1890) from 448 to 988.

In connection with the new dietary, a change was made which, although trifling in itself, added much to the comfort of inmates at the Parramatta and Newington Asylums. The tables were broken up into messes of eight and ten inmates, with a mess captain at the head of each, who cut up and distributed the food to his particular division, so that every man was enabled to have a hot dinner. It will be easily understood that this was not possible (particularly in winter) when the dinners of from 500 to 600 men had to be laid on tables extending the whole length of the dining rooms before the meals commenced.

RETURN showing the Ages of the Inmates in the Government Institutions for the Infirm and Destitute, 1 May, 1891.

Institutions.	Under 10 years.	10 to 20 years.	20 to 30 years.	30 to 40 years.	40 to 50 years.	50 to 60 years.	60 to 70 years.	70 to 80 years.	80 to 90 years.	90 to 100 years.	Over 100 years.	Total.
Liverpool .....	...	...	15	35	55	97	213	259	117	11	2	804
George-street, Parramatta ...	1	2	9	30	47	123	204	317	223	33	1	990
Macquarie-street, Parramatta ...	...	...	5	17	28	49	80	95	31	...	...	305
Newington.....	...	2	13	32	46	94	127	125	41	4	2	486
Cottage Homes, Parramatta...	...	...	...	1	...	1	12	17	9	...	...	40
Total.....	1	4	42	115	176	364	636	813	421	48	5	2,625

Average age—about 70 years.

The table is an interesting one. It shows that at the date of this report there were in the asylums 2,625 inmates. Of these 5 were over 100 years of age—namely, 2 women at Newington; 1 man at George-street, Parramatta; and 2 men at Liverpool. 48 were between 90 and 100 years of age; 421 were between 80 and 90 years; 813 between 70 and 80 years; 636 between 60 and 70 years. There were thus 1,923 inmates, out of the whole number of 2,625, whose ages ranged from 60 to over 100 years. The lower standard of ages at Liverpool and Newington Asylums is caused by the majority of the phthisical patients being treated there. Indeed, special causes have led to the admission of all inmates under 70 years of age. They are either crippled, paralysed, rheumatic, consumptive, ophthalmic, or otherwise physically afflicted.

RETURN of Percentage of Deaths and Average Ages of Deceased Inmates at each Government Asylum for the Infirm and Destitute for the year 1885 (period of last report under old system) and the year 1890.

Institutions.	Deaths.		Percentage of Deaths.		Average of Age.	
	1885.	1890.	1885.	1890.	1885.	1890.
Liverpool Asylum .....	288	175	40·05	25·54	62·82	60·71
George-street, Parramatta.....	123	176	29·85	15·17	67·86	68·07
Macquarie-street, Parramatta ...	101	43	31·82	11·75	64·26	68·28
Hyde Park (now Newington) .....	93	86	30·29	23·06	63·52	63·84
Total .....	605	480	33·75	20·06	64·61	65·06

Seeing that in 1890 there was a daily average of 2,503 inmates and only 480 deaths, and in 1885 only 1,728 inmates and 605 deaths, the figures are very explicit, and afford an excellent counter check upon what has been stated respecting the results of the different methods of treatment, nursing, and dietary adopted under the old and new systems. It is only fair to point out that the higher percentages of deaths at Liverpool and Newington Asylums, and the lower average ages of deceased inmates, are due to those institutions being the main receptacles for all the dependent consumptives of the Colony who seek

seek admission to the public infirmaries. For example, the deaths from this disease at Liverpool among young men last year were 46, as against 9 at George-street and 1 at Macquarie-street Asylum, and there were 9 such deaths at Newington. A deduction of these cases from the whole number over which the percentage has been struck makes the mortality statistics at each of the institutions very equal.

The following table contains a statement of deceased inmates at each of the Government Institutions for the Infirm and Destitute for the year 1890:—

Institutions.	Above the age of—									
	10	20	30	40	50	60	70	80	90	Total.
Liverpool .....	...	13	18	19	22	29	46	22	6	175
George-street, Parramatta .....	1	3	4	11	14	51	55	31	6	176
Macquarie-street, Parramatta.....	...	...	2	...	7	10	17	6	1	43
Newington .....	1	2	8	10	7	16	27	12	3	86
Cottage Homes, Parramatta ...	...	...	...	...	...	...	...	...	...	...
Total .....	2	18	32	40	50	106	145	71	16	480

A comparative return has been prepared of the ratio of deaths throughout the Colony and in the Government Institutions for Infirm and Destitute for the year 1889 among persons of similar ages:—

Ratio of Deaths throughout the Colony, and in the Government Institutions for the Infirm and Destitute, year 1889.

Above the Age of	Mean Population—1,103,970.			
	In Colony.		In Government Institutions for the Infirm and Destitute.	
	Deaths.	Ratio per 1,000 living.	Deaths.	Ratio per 1,000 living.
10	643	·532	2	·002
20	1,173	1·062	20	·018
30	1,131	1·024	30	·027
40	1,092	·989	45	·041
50	1,136	1·029	70	·063
60	1,077	·975	106	·096
70	1,000	·906	125	·113
80	492	·446	47	·043
90	70	·063	8	·007
100	43	·038	2	·002
Children.....	6,939	6,286	.....	.....
Total .....	14,796	13,400	455	·412

The above figures deserve particular attention, as they indicate how life may be prolonged under proper hygienic conditions, with plain wholesome food, warmth, and due attention to cleanliness. A similar calculation with the same result has been made in the children's division. At the asylums, the total ratio of deaths among inmates of all ages up to 100 years was less than one half per thousand of the mean population of the Colony in 1889, while the ratio outside was nearly  $13\frac{1}{2}$  per 1,000. It should be borne in mind also in considering these figures, that the proportion of sick and afflicted inmates to the healthy population is very much larger in the asylums than outside, which makes this return more striking. Almost the same proportion of deaths to the same ages is preserved throughout the table, so that the advanced ages only of the majority of inmates is no particular factor in the general result, which shows that the calculation has been made on a proper basis.

As the Statistical Register for 1890 will not be published for some time, a similar comparative statement in reference to the Government

ment establishments and the outside population cannot be prepared for last year, but I present a comparison between the two years in connection with the asylums only, for the purpose of showing how little the percentage has varied there :—

Mean Population of Colony, 1889 :—1,108,970.			Mean Population of Colony, 1890 (estimated) :— 1,145,400.	
Above the Age of	Deaths at Asylums.	Ratio per 1,000 living Population of Colony.	Deaths at Asylums.	Ratio per 1,000 living Population of Colony.
10	2	·002	2	·002
20	20	·018	18	·016
30	30	·027	32	·028
40	45	·041	40	·035
50	70	·063	50	·044
60	106	·096	106	·092
70	125	·113	145	·126
80	47	·043	71	·062
90	8	·007	16	·014
100	2	·002	.....	.....
Total .....	455	·412	480	·419

In any criticism of these figures it should be remembered that during the years 1889–90 all the asylums were from unpreventable causes very much overcrowded. The superintendents and medical officers made repeated representations on the subject. The principal cause, as I have pointed out, was the large influx of patients from the public infirmaries; the lower percentage of deaths also of course tended to keep up the numbers; and there was a third cause which came as a surprise upon the authorities. In former years it was customary for large numbers of inmates to go out in the summer months and return in winter; but the provision of additional comforts and better food largely reduced this migratory class; and many of the old men, instead of travelling as usual through the country in the warm weather, doing odd jobs or depending on outside charity, remained in the institutions. It has in consequence been necessary at different times to close Newington, Liverpool, and Macquarie-street Asylums against admissions, and during these periods the Medical Adviser of the Government has been good enough to refrain from sending in patients from the infirmaries. On September 7, 1890, the Government Medical Officer and Visiting Surgeon to the Parramatta Asylum wrote :—“The overcrowded condition has never assumed such proportions, and is so long continued that it can no longer be regarded as a temporary evil; the danger to health from overcrowding must be immediately averted. . . . I have never known the asylums to be so crowded at this season of the year. The atmosphere is vitiated by about 10 o'clock p.m., due to the exhalations arising from the bodies of the occupants, and is positively nauseous to sensitive persons.” The Government Medical Officer and Medical Superintendent of Liverpool Asylum wrote in equally strong terms, as did the Medical Officer at Newington, where at one period there were not less than 115 extra beds made upon the floors, in store rooms, lavatories, passages, or between the other beds.

The state of matters complained of is shown in the following table, which was drawn up in June, 1890 :—

Asylums.	Proper accommodation for.	No. now in.	Excess.	Able to work outside.
Liverpool .....	650	860	210	13
George-street, Parramatta .....	730	930	200	2
Macquarie-street .....	240	310	70	4
Newington .....	340	460	120	Nil.
Total .....	1,960	2,560	600	19

To

To abate the evils arising from the want of cubic space at George-street Asylum, additional windows were opened in the roof and the sleeping dormitories. The Colonial Secretary authorised the rental of ten houses close to the Institution, which afforded sleeping accommodation to 175 persons; and a new convalescent ward was erected at Newington to accommodate sixty women. The reading-rooms at George and Macquarie Street Asylums were also temporarily closed and used as dormitories. These expedients, and the closure of Liverpool Asylum against admissions until the discharges brought the number in the house down to a healthier standard, afforded temporary relief; but on 31st December, 1890, there were still about 480 more inmates than there was proper accommodation for, and this excess will not, in the ordinary course, decrease.

A sum of £3,000 is on the Estimates of 1891 for expenditure at Newington Asylum, and out of this it is intended to erect a few cottages (similar to those at Parramatta for destitute married couples) for the reception of women who "have seen better days," and who cannot, under existing circumstances, be separated from the general body of inmates. A step in this direction was taken some months ago by the conversion of an old storeroom into a sleeping apartment for ten of the superior women. Although the accommodation thus provided in a mere "lean-to" is far inferior to that in the dormitories, the change is much appreciated by those who are thus, to some extent, formed into a separate little society. A small consumptive hospital will also be erected out of this vote for phthisical patients, who now have to be treated in the ordinary sick wards, which is not at all desirable. The expenditure of the whole amount will probably afford accommodation for about seventy-five more inmates, and the additions should be completed by the end of the year.

An inexpensive addition has been made at Newington, which was much needed. The institution contains a number of women of such weak intellect that they are not capable of taking care of themselves, while they are physically strong enough to cause constant anxiety in consequence of their wandering habits, which led them into all sorts of dangerous places. A pleasant little enclosure, with a pavilion and some garden seats in it, has been set apart for their separate use, and they are here placed in charge of a reliable inmate, who is paid a small gratuity for looking after them. They are not in any way shut out from a view of the really bright surroundings of their new day-quarters, the only safeguard against their wandering being a picket fence, which is found quite sufficient.

The milk supplied to the four Government Asylums in 1889 cost at the rate of £1,500 per annum, and representations of the difficulty of obtaining it pure under contract for the use of hospital patients, with whom it was a staple article of food, led the Colonial Secretary to authorise the purchase of cows for all the institutions. The experiment had been tried previously, to a limited extent, at several of the asylums. £540 3s. 6d. has altogether been expended since for this purpose, and the change has been most beneficial. The dairy stock is renewed from time to time, dry cows being sold to the best advantage, and the proceeds paid into the Treasury. On grounds of economy there is no objection to this system, and in every other respect its advantages are obvious. It is estimated that thus far it is saving an expenditure of at least £500 a year, and the medical officers have no doubt that the general health of the inmates is largely benefitted by the plentiful supply of pure milk which they receive. It is now only necessary to purchase a partial supply for Liverpool Asylum, in consequence of the difficulty of obtaining grazing ground for additional stock near enough to the institution, but it is hoped that this obstacle will be overcome in the course of a few weeks, and Liverpool will then be in the same favourable position as the other asylums.

It has also been found desirable to alter the method of bread-supply to the Parramatta and Newington institutions during the past year. It was previously purchased under contract, but dissatisfaction was frequent with regard to both its quality and weight. It was ultimately decided to follow the plan adopted at Liverpool Asylum, and bake bread upon the premises. Ovens were accordingly erected at Macquarie-street Asylum; and that institution, George-street Asylum, Newington Asylum, the Cottage Homes for Aged Destitute Couples at Parramatta, and the Cottage Hospitals of the State Children's Relief Department at Pennant Hills, are now all supplied from the Government bakehouse. About 2,350 lbs. weight of bread is baked daily (including the quantity used at Liverpool), so that the work of this Department is not light, and it requires careful oversight. The change has been very satisfactory in every respect, a contingent advantage being that the inmates are able on one or two days of each week to have sweet currant cake substituted for a portion of the bread ration at the evening meal,—a cheap little luxury which the old people highly appreciate. Although the allowance of bread is nominally 14 ozs. daily to each person, I have given instructions that the inmates are to be permitted to eat as much as they require at meal times, but are not to remove any from the tables. The result is that the total consumption is generally well within the standard, and waste is prevented.

There must, of course, always be a certain quantity of refuse food at large establishments, but no attempt appeared to have been made to convert this into a source of profit at any of the asylums. Where practicable, it was consequently decided to establish piggeries. This could not be done at Parramatta, because the Asylums were within proscribed boundaries; but tenders were invited for the purchase of the refuse, and about £30 per annum was thus realized for payment into the Treasury. At Newington and Liverpool the waste food was made much more profitable in another way. Pigs were bred, bought, and re-sold at considerable profit. The returns since the experiment was tried at these institutions in 1889 have been:—Pigs purchased, £450 7s. 3d.; sold, £829 7s. 6d.; profit, £379 0s. 3d.; value of pigs in stock, £105. Thus, including the price of refuse sold at Parramatta (£60), a gross profit of £544 0s. 3d. has been realized in two years on waste which was previously valueless to the Government.

Greater attention to the cultivation of green vegetables at the institution farms since 1889 has resulted in a saving of money, and the provision to a much greater extent than formerly of a wholesome article of diet for the inmates. The yield from the present limited grounds has shown what might be done with a sufficient area. This has been particularly noticeable at Newington, Liverpool, and Macquarie-street (Parramatta) Asylums. At the latter alone, prior to 1889, the expenditure upon green vegetables was usually from £50 to £75 a year. This charge has since been wholly saved. The total yield last year was:—From Newington farm, 48,138 lb.; Liverpool, 20,315 lb.; Macquarie-street, 19,008 lb.; George-street, 11,207 lb.; total, 98,668 lb., or upwards of 44 tons. The farm labour is provided by inmates, so that its cost is very trifling.

As far as possible provision has been made for relieving the monotony of the sick wards, and enabling the general body of inmates to obtain some kind of mental enjoyment. During the past two years the expenditure of £140 upon books has been authorised. Nearly 2,000 vols. have been added to the various libraries, consisting mainly of entertaining works of fiction and standard magazines. The daily newspapers are also supplied to all the institutions for the use of inmates. A few books and periodicals have been presented privately, but they have not been of much value, although donations of literature would be thankfully received. Indeed the lack of interest manifested in this and other requirements of the inmates by the public is very singular.

singular. Our afflicted fellow creatures in these asylums, who now number between 2,000 and 3,000 souls, are certainly as susceptible to practical sympathy as any other dependent class in the community; yet it is almost withheld from them, with the exception of that bestowed by paid officials and a few ladies who are good enough to visit them occasionally. The cause probably is that the asylums are generally regarded as purely Government Institutions not needing voluntary aid of any kind; but it should be widely known that there is no obstacle to help being rendered of any description that would be likely to brighten the lives of the inmates or lessen the burden of the State. A donation of £500 was left last year to the Liverpool Asylum by the late Mrs. Fox of Redfern, "in recognition of the kindly treatment bestowed upon a patient who was once admitted at her request." It has been recommended that the amount be devoted towards the erection of a cancer ward, to be designated the "Fox Ward," when a suitable site has been obtained. Another philanthropic lady, Miss Nellic D. Brenan of Sydney, has undertaken to pay half the cost of a balcony at the George-street Asylum, in order that some hospital patients, who are unable to go downstairs may be wheeled out of their dormitories sometimes; and an inmate at Newington Asylum, now deceased (named Mrs. Margaret Bradley) bequeathed to the institution a sum of £90, which it was not known she possessed when she was admitted. These, I understand, are the only benefactions of the kind on record. Several concerts were given at the asylums during the year, and they seemed to be much enjoyed.

The Colonial Secretary sanctioned a humane provision for the relief of paralysed and crippled inmates in the hospital wards early in 1890. To enable these sufferers to enjoy outdoor recreation twenty-five invalid chairs have been purchased at a cost of £150, and distributed where most required; and it is not possible to overvalue the boon thus conferred on many poor creatures, who were previously either bedridden or confined to their wards. They are now in turn wheeled about in the open air in genial weather by more vigorous inmates, and this recreation not only contributes to their happiness, but effects a marked improvement in their general health.

It has been deemed advisable to make a permanent arrangement for the carriage of hospital patients to the various asylums from the railway stations on their arrival from the country infirmaries. An ambulance service was provided for this purpose in 1889. The only expenditure necessary was upon the purchase of a horse and ambulance waggon, which are managed by a trustworthy inmate. Indeed, the cost is much less than under the old method of carrying the sufferers in cabs or vans, which was often a source of great discomfort and undesirable for other reasons. This matter is of some importance, seeing that last year 190 patients were received direct from the country hospitals, as well as a large number of others from the interior under magistrates' orders who were too infirm to walk. The plan adopted is to request, as soon as admission orders are issued from the head office, that the Hospital Superintendents shall telegraph information of the departure of patients to the Superintendent of the Asylum they are despatched to. The ambulance then meets the trains, so that hardship to the sick from unnecessary detention is as far as possible avoided.

Although I am naturally disinclined to point out any defects which the re-organisation of the Government Asylums was intended to remedy, it is necessary to state that the books and records generally were in such a defective condition that it was not possible to preserve a check upon the expenditure, or to provide against the waste or misappropriation of stock and stores. There was no reason to suppose that there had been any misappropriation, except in one case to which it is unnecessary to refer further here inasmuch as it does not concern any present official; but the entire absence of ordinary commercial  
books

books placed it in the power of any official, or indeed any person who might improperly obtain access to the stores, to dispose of goods without fear of detection. The expenditure on clothing and hardware exceeded £5,000 annually, and upon drugs over £1,000; and no stock books were kept to indicate how these supplies were distributed. With the exception of Liverpool Asylum the financial books were also so defective that it was not possible to keep a reliable check upon the collections or disbursements. An Inspector was sent from the Treasury to report on the matter, and upon his recommendation complete book-keeping records were adopted, which have since been carefully kept. They include financial and stock books, in which receipts and disbursements of all moneys collected, and supply and distribution of stock and stores are entered. A general stock-taking of drapery, clothing hardware, drugs, &c., is held half-yearly; and the balances in hand at those periods are clearly accounted for. Weighbridges have been placed at all the Institutions to weigh the coal, wood, and other heavy goods, which were previously received without any such check. A further aid to economy has been sanctioned in the shape of a central store at the head office. This will admit of a forecast of the requirements of the institutions in this Department for each year. All goods will then be received at the central store, and distributed thence to the Asylums as required. The present plan is to send a half year's supply at once to the asylums on their own requisitions, and it is then beyond the control of the administrative centre. The Government Stores Department strongly recommend the change, which they are of opinion will obviate a good deal of inconvenience in connection with supplies; and, it is believed, effect a large saving.

A heavy expense has been cast on the Parramatta Institutions during the past two years, with which it is not at present in the power of the Department to deal. The nightsoil service is by law under the control of the Parramatta Borough Council, and it entails an outlay of nearly £450 a year on the George and Macquarie street Asylums, and the Cottage Homes for Aged Destitute Couples. I am not prepared to say that the price paid is out of proportion to the value of the service rendered; but it is quite certain that the soil might be made a profitable source of income if a desiccating plant could legally be placed under the control of this Department. Under the old method the disposal of this material did not cost more than £120 per annum. A plant of sufficient capacity could be procured for about £2,000; it might be erected on the Newington Estate; the annual cost of working it would probably not exceed £300. Desiccated nightsoil is the best manure, and it could readily be sold for £7 a ton—indeed, that price is now paid for it to the Ammonia and Poudrette Company of Botany by the Director of the Sydney Botanical Gardens. One plant could treat nightsoil from all Government institutions at Parramatta, including the gaol, hospitals for insane, and industrial school. Any surplus of reduced soil not required for the farms of these institutions and the asylums for infirm and destitute could be sold, or sent to Ham Common Agricultural College and other Government establishments, as, when thus treated, it is an odourless powder. This project is quite practicable, and the saving which it would at once effect in connection with the asylums of this Department would go far towards making it a financial success.

The consumption of gas at the Parramatta Institutions proved so costly that it became a question for serious consideration as to whether or not it should be continued. In order to reduce the cost, the gas-stoves used at George-street Asylum, for heating the hospitals, were discontinued, and charcoal was substituted, care being taken to provide safeguards against fire. Notwithstanding this alteration, gas at George-street last year cost £184 11s. 2d., and at Macquarie-street, £95 19s. 7d. Kerosene oil, at Newington, has been superseded by Hooker's system of manufacturing gas on the premises from oils. It  
affords

affords an excellent light, and the cost to this large institution, in 1890, was only £37 16s. 10d. Kerosene is still used at Liverpool Asylum, but the Government Architect has been requested to report on the cost of extending Hooker's method to Liverpool and Parramatta Asylums, and if it is adopted a large saving will be effected. It is an absolutely safe method of supply, and skilled labour is not required in connection with it.

At the two largest institutions (George-street, Parramatta, and Liverpool) tell-tale clocks have been placed in the hospitals, similar to those in use at the Hospital for Insane, and careful officials have been appointed as night watchmen, whose duty it is to visit those divisions frequently, ascertain if any patients need attention from the wardsmen, and generally to overlook the institutions at night. These officials keep report-books, which are submitted daily to the Superintendents, and the clock-tables prevent any neglect of duty from escaping detection.

In consequence of the infirm condition of inmates whose quarters are in that division of the George-street Asylum known as the "Mill side," on the bank of the Parramatta River, which consists of five flats, approached by narrow and steep flights of stairs, a report was procured from Mr. Bear, Superintendent of Fire Brigades, as to the liability of the institutions generally to fire, and the danger to inmates in the event of such a disaster. Mr. Bear's report was, on the whole, reassuring. It was to the effect that the character of the buildings rendered any serious outbreak of fire improbable, and some suggestions were made for safeguards, which were forwarded to the Colonial Architect to be dealt with. The principal of these was to connect the George and Macquarie Streets Asylums by telephone with the Parramatta Fire Brigade Station, so that, if required, fire engines could reach either of the institutions in a few minutes. An alteration was made to the iron stove-pipes which pass from the basement through the upper floors, for the purpose of heating the dormitories in cold weather. Where they came in contact with timber they were enclosed in clay drain-pipes, so that ignition of the floors became impossible. Fire-buckets are also kept filled with water in every dormitory. At Liverpool Asylum there is an excellent fire-engine, which is always kept in good order, and a plentiful supply of water is near at hand.

#### DEFAULTING RELATIVES.

The customary difficulties have been met with in inducing persons in good circumstances to contribute towards the support of relatives in the Government Asylums; and it is quite clear that the only remedy must be a legal one, as suggested elsewhere. There are not, so far as can be ascertained from information elicited (but this is very uncertain), very many such cases; but there are some of a very scandalous and cruel nature, in connection with which filial and fraternal affection seem dead among well-to-do persons moving in good society, who have not hesitated to cast parents or other near relatives upon public charity, and neither persuasions nor threats of exposure have brought them to a sense of their duty. Under the English law (43 Eliz., c. 2, s. 6), "children of every poor, old, blind, lame, and impotent person not able to work, being of sufficient ability, are made liable at their own charges to relieve such poor person"; but according to this law the liability could only be enforced so long as the patient was actually chargeable to the parish. In 1890 a measure was introduced into the British House of Commons, which is entitled the "Maintenance of Parents Act." This made it lawful for any poor person to summon his child, or children (including grandchildren), before two justices in petty sessions, or a stipendiary magistrate, and obtain a maintenance against his family, separately or jointly, up to £1 per week, to be enforced in the same manner as

affiliation orders, so that such parent should not become a charge upon the parish. This law, however, does not act both ways, inasmuch as it does not cast a similar liability upon well-to-do parents or grandparents with regard to adult pauper children. A few typical cases have been selected from the asylum records to show the necessity of such a law in New South Wales. Initials only are used. The heartlessness with which all ties of blood or kindred have been ignored in these cases would be incredible if the official records did not afford such undoubted proof of it.

F.B., aged 74.—Twenty-nine years in Government Service, N.S.W., as C.P.S., in two important districts; been in institution three and a half years; exemplary character; well educated; gentlemanly demeanour; wears own clothes; case excites such sympathy that he is allowed to go in and out at will; pleasant habits; brother a Police Magistrate, N.S.W.; son, bank manager; another son a magistrate, and well-to-do; all decline to support him, except bank manager, who allows 1s. a week; have all been written to on several occasions; was compelled to go into asylum to avoid starvation.

P.D., aged 75.—Fifty-five and a half years in Colony; two sons, postmasters in the Public Service, N.S.W.; one daughter, married to postmaster in an important town, N.S.W.; all relatives asked to contribute; one son allows 5s. a week; other replied that when he wanted advice from Director of Asylums as to how he should treat his father he would ask for it; daughter declined to contribute; head of non-contributing son's Department written to, and circumstances of case explained, but declined to interfere.

M.B., 63 years.—Fifty-one years in Colony; widow; son a well-known sporting man in good circumstances; refuses to assist her.

F.J.C.; 66 years; fifty four years in Colony; was in public service for twenty years; one brother bank manager; other in public service; will have nothing to do with him; is now imbecile.

E.J.; 67 years of age; twenty-four years a colonist; before admission to asylum was stopping at Night Refuge; son now retired; lately manager of an important bank in New South Wales; refuses to assist her, and stopped paying for board and lodging to force her into the poor house.

E.F.; aged 98 years; sixty-five years a colonist; daughter married to postmaster, who is also large landowner; declined to keep mother any longer, although well-to-do; was sent on by Magistrate's order; arrived in very weak state, and unable to get about; brought from train by Macquarie-street ambulance, and placed in hospital ward.

F.L.; fifty-two years colonist; paralysed; brother a rich squatter; sister leading resident of important inland town; other well-to-do relatives, who all refuse to have anything to do with him.

E.M.C.; 60 years; colonist for twenty-eight years; suffers from bronchitis; formerly in Camden Hospital; two sons, well-to-do tradesmen, written to, and refuse to support him.

W.G.S.; two sons and two daughters able to keep him, who refuse to assist in any way; one son in Government service.

And so the shameful list goes on. Forty such cases have been handed to me for citation, and those detailed are fair examples of the whole. There are among those not already mentioned the case of a man 73 years of age, fifty years a colonist, who has two sons (one in the Government service). Another of a man, 69 years of age, twenty years in the Colony, in feeble health, whose son, a Government servant, writes:—"I received no aid from him; why should I help him?" The head of this gentleman's department, on being appealed to, wrote:—"I do not see that I can in any way direct this man's actions; I have spoken to and advised him, but can do no more." Two other sons refuse to contribute. A man, 60 years of age, and thirty-nine years in the Colony, suffering from dropsy and heart disease, has a son in a leading Melbourne bank, who refuses to answer letters asking for help. A blind widow, 54 years old, fifty years in the Colony, has a son accountant in one of the largest Sydney firms, who refuses to contribute. R.W., 65 years, fifty years a colonist, has one brother C.E. clergyman in another Colony, another in business as a chemist; both decline to help him. A man has a well-to-do son, mayor of an important borough, who refuses to help him. It is very noticeable that, although a number of children are inhuman to parents, very few parents refuse to contribute something to their children's support, no matter what their age or character may be. It is quite possible that the subjects of some of these cases have led dissolute lives,

lives, and have brought trouble to their families, but it is certain also that many of them are well-behaved old people, whose poverty is their only crime. It may, perhaps, be asked—Why were these persons admitted? The answer is, they could not be permitted to die on the streets. Some have been brought by the police, some from the hospitals. All have presented the Government Medical Officer's certificate that they were infirm and destitute, and, on grounds of humanity, fit subjects for admission, their own kith and kin having cast them off; and I wish to emphasize the statement that every sort of moral influence has been brought to bear on their relatives, who are, however, impervious to all appeals to their benevolence, pride, or shame—indeed, to everything except the application of a law which does not yet exist.

#### THE BOYS' HOME AT GEORGE-STREET ASYLUM.

A division of the George-street Asylum now adjoining the pavilion hospital on the "mill side," was opened in 1882, for the reception of diseased, crippled, and deformed boys, and in that and the following years it contained fourteen inmates. It has since been more or less used for this class of unfortunates, and others who have included lads from ten years of age to young men of twenty. It is separated from the main division as far as possible; and the greatest care and kindness are bestowed upon the inmates, who are placed in charge of a careful and skilled wardsman. The cottage is also contiguous to the trained attendants' quarters, so that the lads have the advantage of their presence and oversight. I have endeavoured to avoid using this division of the institution; and am of opinion that it should be abolished. Although every precaution is taken to keep the lads distinct from the old men, there is a constant moral association which cannot be prevented; and its effect upon young persons must be to destroy their spirit of self-dependence, and probably ultimately cause them to be absorbed into the mass of the pauper population. The perpetual presence of some hundreds of old men having their daily wants supplied without effort of their own cannot be a wholesome spectacle for young minds, and the results of such association elsewhere afford convincing proof that these objections are not a mere question of sentiment. The highest authorities on matters of social science are unanimous as to the necessity for keeping as widely apart as possible the young and the old of the pauper and criminal classes, and except in New South Wales, it is very seldom indeed that they are sheltered in the same premises. Cottage Homes, or boys' farms and reformatories, have happily superseded the poor-house and the gaol. There are at present only eight occupants of the boys' cottage at George-street Asylum. There are one or two pitiable cases among the records of the year, and several others which should be dealt with in a reformatory, if we possessed such an establishment. One little fellow, aged 13, suffers from spinal injury and imbecility consequent, there is too good reason to believe, upon injuries inflicted by a cruel stepfather; another lad, aged 21, who has just died, suffered from disease of the heart and liver, and acute rheumatism. A young man, 19 years of age, is afflicted with dropsy of the legs and feet, and cannot move from his chair without assistance. Then there is a sturdy lad of 16, who, having been discharged from the Central Criminal Court, upon recognisances for his good behaviour for a year, after pleading guilty to a charge of criminally assaulting a little girl of 6 years old, was placed in this division because it was the only refuge for him from association with criminals. Another lad of 17, was sent in because he had, from his own misconduct, become unfit to live in a home outside; and lastly, there is a boy of 6½ years "under observation," who has been declared by the medical officer, matron, and committee of a leading public institution, to be morally unfit to mix with the other children, and particularly the little girls. Although the physical wants of all these lads are fully supplied,

supplied, there are no means of training those who are strong enough to receive instruction to any occupation that will be useful to them in after life; they are being brought up in comparative idleness, except that they potter about a little garden, and occasionally help with housework. The cottage is pleasantly situated, and the home is made bright for the sick children. Such cases as that of the child afflicted with spinal disease, are usually received at the invalid homes of the State Children's Relief Department, at Mittagong and Parramatta; but there was no opening there when he was sent temporarily to his present quarters, and he became so much attached to the latter, when he was in a much better condition of mind and body, that he has been permitted to remain. A recommendation has been made that all these lads should be removed from George-street Asylum, and placed in a separate home with plenty of ground attached to it (apart from any institution for adults) which can be used for others of their class, who are too old or too vicious to be sent to the children's homes at Mittagong and Parramatta, and in which they could, under a firm experienced matron, or a man and his wife, have good moral training, healthy surroundings, and, when requisite, plenty of hard work. I hope to report next year that it has been carried out. A farm home, with accommodation for about 20 to 25 lads, would meet existing requirements, and their maintenance cost would not exceed the usual reformatory charges. The child of  $6\frac{1}{2}$  years will be suitably boarded out in the country, where he cannot associate with other children until he is trained out of his present knowledge. It may seem singular that there is any difficulty in dealing with a youngster of such tender years; but cases of children of six and eight years of age, afflicted with the immorality and vices of criminals, are quite common with the State Children's Relief Department and the Industrial Schools, although they are generally amenable to good influences.

#### THE COTTAGE HOMES FOR DESTITUTE MARRIED COUPLES.

At the Government Asylums for Infirm and Destitute, in 1858, there were a number of respectable aged married couples who, in the decadence of life, after having perhaps been companions for nearly half a century, had fallen into poverty or chronic illness, and had separated—the husband to go to Liverpool or Parramatta, and the wife to Newington. Some of these cases were very sad; and the constant appeals of both husbands and wives for re-union were most painful. Such inmates had belonged for the most part to the respectable middle class of society, and included tradesmen and artizans, farmers, and in some instances persons of very good education. In August, 1888, the Colonial Secretary formulated the idea of re-uniting them in cottage homes or almshouses, and soon afterwards directed that steps should be taken to provide these refuges. It was decided to locate them so that the occupants might enjoy the privileges of ordinary citizens, and be free from the restrictions and surroundings of institutions. A site was purchased for £3,200 near the Parramatta railway station, and early in 1889 twenty cottages and a Superintendent's house were erected at an average cost of £140 each. A cottage was also set apart for three of the more able-bodied single women, who were appointed to do the laundry work, and clean and scrub the homes of the infirm. The buildings were built of brick, and each contained a bed-room, sitting-room, and kitchen, with an attractive garden in front of every home. They were also neatly but plainly furnished at the Government cost. During 1889, 26 men and 38 women were admitted, the numerical difference between the sexes representing the number of workwomen admitted at various times. A married couple was placed in each home, either from the Asylum or from among applicants awaiting admission. Careful inquiries were made into the character of those thus selected, and also as to whether there

there were relatives able to help them. When the homes were occupied, it was found that the combined ages of the oldest couple were 169 years, and of the youngest 129 years. The longest period of marriage among them was 50 years, and the shortest 20 years. The average combined ages of each couple was 141.75 years, and the average period of married life 40.95 years. These figures are very significant of the necessity which existed for the homes, and of the humanity of such a provision. During 1889, 7 men and 16 women (including the "cleaners") were discharged: in the case of the married couples, in consequence of husbands or wives falling into such ill-health that it was necessary for one or other to be returned to the asylum for active hospital treatment and careful nursing; and in such cases, when there was no hope of cure, the remaining member had to be again sent to an institution. One husband and one wife of different couples died in 1889; and on December 31, 1889, there were 18 couples, and 3 workwomen at the homes. During 1890, 4 new couples were admitted; 3 homes were broken up in consequence of the permanent illness of occupants; and on December 31, 1890, there were 19 couples and 4 workwomen at the cottages.

As soon as the selection of inmates commenced it was apparent that the old people had not separated until they had, in most cases, been compelled to do so by bodily infirmities; and that rather than live apart they had, up to the last, submitted to all the hardships of poverty. The cottages thus became practically hospitals for feeble persons requiring infirmary treatment, and diet; and, in nearly every case, medicines. It was necessary to appoint a medical officer, and Dr. Brown, junr., of Parramatta, accepted this post at a nominal honorarium (£75 a year), which about paid the cost of drugs. Thus, although the homes are, in a social and domestic aspect, highly successful, and constitute the most benevolent provision yet made for the sick or feeble poor of this Colony, they can only be maintained under their present circumstances at the rate which it has been estimated by the Medical Adviser of the Government it would cost to support a chronic hospital—namely, about £30 per inmate yearly. This cost might, of course, be much reduced, if more robust couples were selected; but that would be a departure from the main object of their provision, which was to re-unite in their last days those who had creditably fought the battle of life together until they were unable to longer bear the heat and burden of the day. It may be pointed out, however, that the heaviest item in the management cost (salaries, £9 2s. 8d. per head) would not be greater if there were double the number of cottages, and it will decrease proportionately as the homes are extended.

The total expenditure in 1890 was £1,283 3s. 3d., exclusive of repairs, or an average cost of £31 5s. 11½d. per inmate. The following table shows the items upon which the principal increases on ordinary institution charges occur:—

	Rations.	Fuel.	Light.	Water.	Hardware.	Salaries.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Government Asylum rates, per annum, for each inmate.	6 6 6	0 10 4	0 2 11½	0 5 7	0 2 8	2 17 9
Cottage home rates, per annum, for each inmate.	13 2 4	1 15 1	1 4 5½	0 9 10½	1 1 8	9 2 8

The adjustment of the dietary was a matter of some difficulty. As each home received its allowance separately, it was necessary to watch the daily consumption of provisions carefully to prevent waste or extravagance; and at the same time to ensure that sufficient quantities were issued. Finally, the following table was adopted, as being fair in both respects, and it appears to give satisfaction. The milk

milk is nominally placed at two gills daily to each couple; but it is issued in any quantity prescribed by the medical officer, and it is a common article of diet for delicate inmates.

Rations issued to each cottage daily for one couple.

Food.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
	Mut. Chp. lb. oz.	S. Beef. lb. oz.	F. Mut. lb. oz.	F. Beef. lb. oz.	Mut. Chp. lb. oz.	Fish or F. Beef. lb. oz.	F. Mut. lb. oz.
Meat .....	1 8	1 8	1 8	1 8	1 8	1 8	1 8
Bread .....	1 12	1 12	1 12	1 12	1 12	1 12	1 12
Potatoes.....	oz.	oz.	oz.	oz.	oz.	oz.	oz.
Fresh Veg..	12	12	12	12	12	12	12
Milk .....	gills.	gills.	gills.	gills.	gills.	gills.	gills.
	2	2	2	2	2	2	2

Weekly rations to each cottage in addition to daily supply.

Monday.	Wednesday.	Friday.	Saturday.	Sunday.
Sugar .....	2½ lb.	Soup, made from 2 shins beef ; split peas, 2½ lbs ; and other vege- tables.	Currant cake for tea.	Butter ... 8 oz.
Tea .....	½ "			Pudding, made with currants, 2lbs.; flour, 2½lbs.; suet, 2 lbs.; bread, 6 loaves ; sugar, 2½ lbs.; spice and candy peel; cut up and distributed among cottages.
Oatmeal ..	¾ "			
Rice .....	¾ "			
Coffee .....	3½ oz.			
Flour .....	12 "			
Onions .....	12 "			
Jam				
Treacle or } ... 16 "				
Honey				
Potatoes .....	4 lb.			

N.B.—1. Each cleaner receives half the weekly quantity. 2. Where the inmates of one cottage are in receipt of two eggs, as medical comforts, 1 lb. of meat allowed only. 3. Eggs, stimulants, &c., not specified, but issued as directed by medical officer.

Each cottage is supplied with books; and recently a commodious reading-room, which is also used for religious services, was opened and furnished with periodicals and daily newspapers.

### THE ADMISSIONS DEPARTMENT.

RETURN of Admissions from 1 January to 31 December in the years 1889-90.

Country Orders.	1889.	1890.	New Applica- tions.		Re-admissions.		Coast Hospital.	Sydney Hospital.	Prince Alfred Hospital.	Totals.					
			1889.	1890.	1889.	1890.	1889.	1890.	1889.		1890.				
Police Magistrates .....	514	437 } 769 } 190 }	627	1,113	694	1,124	1,345	81	82	126	159	23	56	3,236	2,063
Hospitals .....	255														

I have furnished the tables for the past two years in order to show distinctly one or two important features. There has been a falling off in the total number of admissions of 273. The decrease among new applicants has been 419, and increase of re-admissions 221. The latter class consists of persons who may properly be designated the casual pauper population of the country. They are not actually hospital patients, nor are they able to earn a livelihood permanently. They drift in and out of the institutions as their bodily health fluctuates, and the custom, when the medical officers report them as being fit to travel or able to do light work, is to furnish them with railway passes to the interior, generally to neighbourhoods where they are known, and they hang about stations or homesteads cooking for shearers, or filling other light employments, subsisting on charity in many cases, and generally living precariously until the cold weather, or relapses into illness, compels them to again seek the shelter of the Institution. There is no opportunity of making a comparison of their number

number for more than two years, as no such return was previously published. There was in 1890 an increase of 1 in the number of patients received from the Coast Hospital, 33 from the Sydney Hospital, and 33 from the Prince Alfred Hospital, or a total of 67 in this class of patients from the metropolitan infirmaries.

The admission branch is a source of great anxiety, because it is impossible to deal with country applicants so as to ensure with certainty that they are eligible for admission. There is excellent provision against imposition with regard to applicants in Sydney, who constitute more than two-thirds of the cases. The Government Medical Officer, who is beyond the pressure of local influences, undertakes their medical examination at stated hours daily, and makes first inquiry into their circumstances; his investigations are checked by another personal examination, when applicants come to the central depôt for admission orders; and they are again medically examined at the asylums. The risk of receiving improper admissions exists in the country districts, and how to obviate it has been a matter of considerable difficulty. It was quite evident from some of the cases sent in that local hospitals receiving Government subsidy for the maintenance of their own sick poor were casting their responsibilities in a wholesale manner on the Government asylums, and so anxious were some of them to get rid of these unfortunates that many reached the institutions almost in a moribund state. Besides the hospital authorities, country police magistrates sent in patients of this class, who ought to have been treated locally. In more than one instance these patients have died very soon after their admission, and recently it was found necessary to hold an inquest on such a patient, who had been sent in on a medical certificate from Cowra to the effect that he "was physically and mentally fit to travel." He was met at the train by the ambulance, but fell dead at George-street Asylum while being taken out of the vehicle, after five minutes' conveyance from the railway station. The Medical Officer of the Institution expressed the opinion that "death was due to exhaustion owing to the long journey in his feeble state of health," and the jury returned a verdict accordingly.

In the beginning of 1890 an expedient was adopted which to a great extent checked this abuse of State charity, and largely put a stop to a practice which was most cruel. A circular was sent in response to every application from the country districts, and particularly from the hospital authorities, intimating that admission orders could only be granted under the following conditions:—

1. That applicant was both infirm and destitute, and had not any relatives in a position to support him outside a public institution.
2. That applicant was physically and mentally fit to travel.
3. That the case was not one which should be treated in a local hospital, or by a local benevolent society, subsidised for that purpose.
4. That in every case when practicable a medical certificate must be obtained as to the applicant's eligibility for admission into, or treatment in, one of the Asylums for the Infirm and Destitute.

It was further notified that as all the asylums were overcrowded no person must be forwarded unless such a course was indispensable; and medical officers of hospitals were warned that as every patient would be further medically examined on his arrival at the Government Asylums for Infirm and Destitute, it was very requisite that great care should be exercised in connection with the certificates, as it was not desirable that the annual statement to be furnished to the Colonial Secretary for publication in future should contain conflicting testimony. The first four months' operation of this circular brought the country admissions

admissions down nearly 40 per cent., and after nine months' trial the figures at the end of last year stood thus :—

Admissions from the country, January 1 to December 31, 1889.				Admissions from the country, January 1 to December 31, 1890.			
Police Magistrates...	...	...	514	Police Magistrates	...	...	437
Hospitals	...	...	255	Hospitals	...	...	190
Total	...	...	769	Total	...	...	627

A total decrease of 1 1/2 or nearly 19 per cent.

Although the terms of the circular were very explicit, and its result was satisfactory so far, it was still evident that medical certificates were carelessly given in many cases; and the Inspector-General of Police was then requested to allow his local officers to report on cases when practicable, principally with reference to applicants' means. The following *précis* of a few typical cases indicates what followed :—

*Case No. 1.*—From hon. sec. of hospital asking for four orders for inmates of his institution to be transferred to a Government Asylum, and sending four certificates from the hospital doctors. Police report showed that patient No. 1. had been sent to hospital for temporary treatment to recover from exposure and exhaustion consequent on his having been lost in the bush; he was a civil engineer; had quite recovered; was a strong man, and was merely waiting for a suit of clothes to enable him to leave hospital; did not want to go into Asylum. Patient No. 2, a labourer, appeared strong, and was found working as "yardsman," for which he would receive payment; had three married daughters in Queensland. No. 3 was an eligible patient. No. 4 was very doubtful, and was held over. Hospital secretary (who is also local clergyman) was informed that upon information received two orders were declined, and one was sent for patient No. 3; he replied, "You must allow me to say that the course adopted to examine cases upon which our medical officers (men of the highest character) had reported was a most improper one—a direct and uncalled for reflection upon these gentlemen," and concluded by again asking for the order. Was informed that on reports two orders must be declined, as patients were clearly ineligible for Government asylums, and that course adopted was only taken in usual way to protect interests of Government. Secretary replied, "Your statement that this step was necessary to protect the interests of the Government, and ascertain the exact circumstances of each case, only aggravates the insult to our medical officers. . . . The asylums, though improved under your direction are not attractive;" the police report was "untrue and absurd," and so on in similar terms. Orders still refused.

*Case No. 2.*—From a P.M. asking order for Newington Asylum, and enclosing medical certificate that woman was not a fit subject to be treated in local hospital or by local benevolent society, as she was suffering from diffuse carcinoma of uterus and vagina, and showed unmistakable specific symptoms. Referred application to Medical Adviser for his opinion as to whether a person suffering as described could be sufficiently and properly treated in local hospital and benevolent society. Medical Adviser replied, "I am decidedly of opinion that this case should be treated in local hospital and benevolent society." Order refused.

*Case No. 3.*—From a P.M. asking for order for patient in local hospital who was suffering from diarrhoea and needed medical attendance from time to time. Had a son (a farmer) residing 28 miles away who was willing to pay. Noted application to police for inquiry, and minuted it "If there is a local hospital and benevolent asylum subsidised by Government, it appears to me that this man should be treated locally. If not, he should reside with his son, who could obtain the necessary medicines from local hospital." Police sergeant reported that he had seen the son, who rented 1,000 acres of land and dealt in sheep, and he had consented to take his father home.

*Case No. 4.*—Hospital secretary asks for order, and encloses hospital doctor's certificate that patient is suffering from "general debility," and was fit for Liverpool Asylum. Police sergeant reports on this application that he found the patient at work; he had no wish to go into a Government asylum, as he could get his own living if his health kept as good as it was.

*Case No. 5.*—From hospital superintendent asking for a patient to be admitted into an asylum, and enclosing a medical certificate. Police sergeant reports that he found this man at work at his trade as a shoemaker in the town, and he was quite able to get a livelihood. He had not wanted to, nor would he go into any asylum.

There are many such cases recorded, but the foregoing examples are sufficient to show the necessity for stringent legal provisions for compelling country towns to contribute in a direct manner towards the support of such of their own sick and poor as they may decline to keep locally. Some practical suggestions to this effect are made in the outlines of proposed legislation under a different heading. It may be well to

to remark that the experience of New South Wales is not unique in this particular. The experience of all great civilized communities has proved that the only effectual way to prevent the spread of pauperism (the spirit of which is as contagious as the small-pox) is to strike at the root of it, and that is the desire to transfer all local obligations to the central government. There is happily always a disposition to err on the side of humanity, but it exists especially where there are facilities for "passing on" applications for relief, and then it leads to relieving indiscriminately. England has long ago settled the matter very practically by means of the tax-gatherer; and other countries which are still comparatively young among nations are giving the most earnest attention to this particular department of social science. In most of the American States the laws relating to the relief of the poor are very emphatic about compelling the counties to bear the whole maintenance cost of the indigent and the sick by means of local charges. The Canadian system seems best adapted to these colonies, however, and its universal application, while they are still young among the family of States, is worth consideration; for that is the time when the problem can be most easily grappled with. It is thus described:—"Its principle is to get over the difficulty between town and country by State payments of 20 cents a day for each *bona fide* hospital case treated; payments of 7 cents a day for chronic cases unsuitable for hospital patients. To meet the case of small hospitals, where this rate of payment would not be sufficient, a supplementary allowance is made of not more than one-fourth of the revenue from all local sources. For benevolent homes, or refuges for indoor poor, the rate of payment by the State is 5 cents per head per day, with a supplementary aid of 2 cents a day. All other costs for caring for paupers, whether in refuges or hospitals, is borne by the local bodies." Dr. Macgregor, C.M.G., who is an eminent authority, and who was selected by the New Zealand Government on that account to reorganise the general charities of that colony at a time when they were labouring under great abuses, strongly advocates the adoption of this method, as he has seen it working in Ontario.

#### OUTLINES OF NECESSARY LEGISLATION.

I have endeavoured to explain clearly the defects under which the charitable institutions of this Colony labour, in consequence of the absence of some necessary legal provisions; and, before concluding this division of my report, I beg to suggest the outlines of legislation which experience has shown to be required immediately, to make their management thoroughly efficient:—

- (1.) Providing for maintenance cost of inmates to be paid by relatives. Grandparents, parents, children, and grandchildren (whether married or single) to be compelled to contribute when they are in a position to do so.—[The necessity for a law of this character has been explained very fully.]
- (2.) Providing for uniform intercolonial legislation to prevent the transfer of paupers from one Colony to another, and making relatives liable in whichever Colony they may reside. [During the past year several cases have been dealt with in which persons have sent indigent relatives from other Colonies into New South Wales. For example, a son, who was in very comfortable circumstances, sent his mother from Queensland to this Colony twice, and on each occasion she was returned to him at the Government cost; but it was necessary to accommodate her temporarily at Newington Asylum.]
- (3.) Local rates to be chargeable for maintenance (wholly or in part) of all dependent persons transferred from their respective districts to Government Asylums.—[No such condition is embodied in the Local Government Bill, although it

provides for the very liberal endowment of proposed Municipal districts. The Victorian measure (38 Vic. No. 506, sec. 484) imposes this liability on every municipality, including the City of Melbourne and town of Geelong; and the Senate and House of Representatives of the Commonwealth of Pennsylvania—where some of the best managed institutions in the world exist—last year passed a law charging the maintenance of paupers upon their respective counties to the extent of 1 dollar 75 cents each per week, any excess being paid by the State. The division of this report, headed "Admissions," indicates the extent to which the country authorities have sought to take advantage of the central charities, and the difficulty experienced in disposing of their applications.]

- (4.) Hospitals receiving Government subsidy to be charged with a portion of the maintenance cost of patients who, being under treatment for illness or accident, are in their convalescent stage forwarded to the Government Asylums for Infirm and Destitute for subsequent treatment at the Government cost.—[It is a common practice for country hospitals and benevolent asylums to endeavour to evade their responsibilities in this way, as a number of typical cases cited under the heading of "Admissions" show; although the prime condition under which they receive the subsidy is that "the Government, through Police Magistrates or other approved officers, have the right of recommending the admission of patients."]
- (5.) Inmate's pensions to be chargeable for their support.—[A number of the inmates are in receipt of small pensions insufficient to support them outside the Asylums, but from which deductions should fairly be made towards their maintenance cost. At present such payments are purely voluntary on their part, as the pensions cannot be drawn from the head office except with their consent.]
- (6.) Providing for voluntary aid in connection with the management cost.—[All the institutions for aged, infirm, and destitute in this Colony are now wholly supported at the Government expense. In other countries, where the public contributions equal a moiety of the total cost, the contributors are allowed to have an equal voice in the management under certain restrictions. There are also contingent advantages in connection with the voluntary system which it is not necessary to explain in detail here.]
- (7.) Providing for the occupation of inmates at suitable employments, with penalties for refusing to work.—[Although the statistical returns show that the asylums do not contain any able-bodied paupers, still there are many inmates who might, under a proper industrial system, contribute, as in the gaols, towards the cost of their maintenance, and at the same time themselves receive a portion of the profits. At present a good deal of the clothing, boots, and tinware, used at the asylums is made by inmates, who are paid small sums for their work; but the system might be so expanded under better conditions as to make the establishments largely self-supporting, and at the same time afford wholesome light employment to some hundreds of inmates.]
- (8.) Authorising the sale of manufactured articles to other public institutions at schedule rates to be determined by a Board, as in the case of the gaols.
- (9.) Providing for the appropriation and sale or investment of the property of permanent inmates (or moneys or property left by deceased inmates) as may seem most fair in the interests of

of the individual and the State.—[Although care is taken not to admit applicants with means, it not infrequently happens that by misrepresentation they obtain admission while possessing money or property, which they subsequently refuse to transfer to the public trust account. Several such cases are at present under consideration, and the Crown Law authorities state that the Government have no remedy; while in consequence of their physical or mental infirmities the inmates cannot be expelled from the asylums. In one instance a man blind and infirm has a large sum of money in a bank; in another, a deaf and partially blind epileptic has a large sum in the Savings Bank; in a third, the epileptic child of a lunatic has nearly £100 in the Savings Bank; and in a fourth, a man who had been blinded and otherwise seriously injured by an explosion of dynamite before his admission, has property which he declines to sell.]

- (10.) Inmates to open their letters in presence of Superintendent, and one other duly appointed officer, in order that any money contained in such letters may be dealt with under the trust accounts. Any inmate refusing to comply, to have his or her letters opened by Superintendent in presence of another official; and the money contents dealt with in the manner just specified.—[This may appear a trifling matter to embody in an Act of Parliament, but it cannot be dealt with by a mere regulation, because a law already exists relating to the opening of letters by persons other than the owners.]
- (11.) Inmates' money orders to be cashed upon the written authority of the Superintendent, and proceeds paid into the public trust accounts. (The existing law relating to money orders makes this section necessary.) All such orders to be liable for maintenance charges unless reasonable cause to the contrary can be shown.
- (12.) Inmates to be provided with free railway passes by authority of Director of Asylums, under medical certificate that they are able to earn a livelihood, to enable them to procure employment in the country districts, when such a course shall, after due inquiry, be considered desirable for the purpose of relieving the Government of the cost of their maintenance, provided no such pass shall be issued to the same person more than once in every half-year.
- (13.) Director of Asylums, or other duly appointed officer, to have power to take summary proceedings against any person for the recovery of any real or personal property or money owned by any inmate either prior or subsequent to his or her admission to an Asylum.
- (14.) Superintendents to diligently inquire of inmates as soon after admission as practicable as to ownership in real or personal property, and report result of such inquiries to Director of Asylums, in order that section 13 may be carried into effect.
- (15.) Applicants having property or means, and being helpless or infirm, and without relatives in a position to properly attend to them, to be admitted upon payment of maintenance charges according to their means, up to the full maximum cost incurred by the State.
- (16.) Providing for penalties on inmates who abscond, or offend against good order or decency.—[The asylums contain a number of men who would probably be deterred from committing these offences, which are not infrequent, if punishment by seclusion, low diet, or other light penalties were provided.]

(17.)

- (17.) Absconders to be handed over to police and dealt with as vagrants, except when their re-admission is considered desirable by the asylum authorities.
- (18.) Inmates may demand investigation into their treatment or other matters affecting their welfare, and such inquiry shall be made by Director of Asylums, or other duly authorised officer, within forty-eight hours after such demand, the result to be notified as soon as practicable to the applicant or other persons concerned, either of whom may, if dissatisfied, appeal to the Colonial Secretary for his determination in the matters at issue.
- (19.) Superintendents shall not expel or impose penalties upon inmates, except in cases of emergency, to be approved by the medical officer pending further inquiry, without first reporting the cases for approval or otherwise to the Director of Asylums, and records of such emergency cases in detail must be kept in a "punishment book" provided for that purpose.
- (20.) Providing for classification of inmates and separate treatment, according to their physical and mental condition, as to diet, employment, seclusion when requisite on medical grounds, and out-door indulgences.—[The change in the objects and character of the institutions during the past five years, as pointed out elsewhere, renders this section necessary.]
- (21.) Power to establish almshouses or cottage homes of two classes, viz.:—1. Those in which the premises only are granted; 2. Others in which inmates are wholly supported by the State.—[The advantage of such homes is fully explained in this report].
- (22.) Regulating admissions generally, and particularly those from the country districts.—[This is more fully explained under the head "Admissions." At present the Director of Asylums has power to accept or reject applications, whether recommended by Government Medical Officers or not, and the information usually afforded for his guidance is of the most meagre character. Clerks of Petty Sessions might in the first instance be required to inquire into the merits of local applications upon the reports of police, and forward details of cases, accompanied by medical certificates of the applicants' physical disability, to the Director of Asylums for determination, which shall be subject to the decision of the Colonial Secretary in cases of dispute.]
- (23.) Applicants, or any persons applying on their behalf, who make untrue statements, or obtain admission orders by means of misrepresentations, or under fictitious names, to be guilty of misdemeanour, provided they be informed of their liability by the authorities to whom their applications are made.—[Evidence of the necessity of this section is afforded almost daily at the central depot, and the institutions.]
- (24.) Providing for return of inmates to local benevolent asylums, or hospitals in receipt of Government subsidies, whose admission into the Government Asylums for Infirm and Destitute may have been improperly secured by means of misrepresentation on the part of the local authorities; and in cases where such inmates may be physically unfit to be so returned, the offending institutions to be chargeable with their full maintenance cost while in the Government Asylums in the form of deductions from subsidies. Board to determine such cases to consist of the Medical Adviser to the Government, the Director of Government Asylums, and a Police Magistrate when practicable, or otherwise a Justice of the Peace.
- (25.)

- (25.) Superintendents to have power to admit applicants in cases of emergency; and report same to Director of Asylums for investigation as soon as practicable after such admissions.
- (26.) Cases of accident, or other cases which should properly be treated in a general metropolitan or country hospital, not to be admitted into the Government Asylums except when delay in the transmission of such patients to the hospitals would endanger life; and all such patients (or their relatives as hereinbefore defined) to be charged, when able to pay, at the same rate as they would be if under treatment in the general hospitals.
- (27.) Director of Asylums to have power to suspend any official for neglect of duty, dishonesty, or ill-usage of inmates, pending the decision of the Colonial Secretary.
- (28.) Providing for the manner of appointing officers, attendants, and servants of the institution generally.
- (29.) All officials to carry out any instructions that may be given in writing by the Director of Asylums; but Superintendents and Medical Officers to have power of appeal to Colonial Secretary when such instructions appear to them to be improper or unreasonable.
- (30.) Providing for utilisation and treatment of nightsoil and sewerage matter.—[The power to deal with this at present is legally vested in the Borough Council, which has power to make any charge it may deem proper.]
- (31.) Medical Officer to furnish Director of Asylums annually, or when called upon, with reports on the condition of the hospitals, and generally on the sanitary arrangements of the institutions, together with any particulars required in reference to the inmates.
- (32.) Providing that all officials connected with the Department of Charitable Institutions shall be under the control of that Department.—[The medical officers and dispensers at Liverpool and Newington Asylums, and the Cottage Homes for Aged Destitute Couples, are officials of the Department of Charitable Institutions; while the visiting medical officers and dispenser at the George and Macquarie Streets Asylums, Parramatta, are attached to the establishment of the Medical Adviser to the Government. The Medical Adviser agrees that on grounds of discipline, and for other obvious reasons, this arrangement is not desirable, and experience has strongly indicated that the system of control should be uniform.]
- (33.) Providing for religious ministrations to inmates under the method adopted at the gaols and hospitals for insane by the payment of small stipends to clergymen of the principal denominations, the amount of which shall be determined by the Colonial Secretary from time to time.
- (34.) Relatives to be allowed to visit inmates at duly appointed periods; and inmates to be permitted to visit relatives and provided with means for that purpose when special circumstances appear to warrant such a course.
- (35.) Authorizing regulations defining the duties and responsibilities of officials and other employees; and for giving proper effect to legislation; and providing penalties other than those which may be imposed by law, for defaults.
- (36.) The Director of Government Asylums to report annually to the Colonial Secretary on all the Charitable Institutions and other departments under his control.
- (37.) Providing penalties and how to be recovered for breaches of any of the foregoing sections.

## SECTION II.

## SUBSIDY CLAIMS FROM HOSPITALS, BENEVOLENT SOCIETIES, AND OTHER INSTITUTIONS.

A number of subsidy claims from institutions in receipt of State-aid have been referred to this Department for investigation. It should be understood, however, that the following list does not include all such institutions throughout the Colony, but merely those in Sydney and suburbs. The method of inquiry is for an experienced official to compare accounts rendered to the Government with the books of the institutions, and investigate any items that may not be in accordance with the regulations under which subsidies are granted. The under-mentioned claims having been found correct were passed for payment without deductions :—

Institution for Deaf, Dumb, and Blind : £450 for 1889 ; £450 for 1890, for subsidies ; £157 10s., and £247 for inmates admitted by Government.

Home for Indigent Blind Women : Subsidy 1888, £150 ; 1889, £500 ; 1890, £500.

Sydney Benevolent Asylum : Maintenance of inmates, January 1 to December 31, 1889, £4019 13s. 6d. ; subsidy on collections, £500 ; maintenance, 1890, £4,200 17s. ; subsidy, £500.

Sydney Hospital : Claims for subsidy, 1888, £4,000 ; 1889, £4,000.

Prince Alfred Hospital : Subsidy, 1888, £4,000 ; subsidy, 1890, £4,000 ; maintenance of State child, £7 7s.

Hospital for Sick Children, Glebe Point : Subsidy, 1888, £763 17s. ; 1889, £703 4s. 5d. ; 1890, £700.

Infants' Home, Ashfield : Subsidy, 1889, £70 19s. ; ditto, £300 ; maintenance of children, £28 16s.

The following claims being in some particulars irregular, were reduced as indicated :—

Hospital for Sick Children : £633 6s. 1d., claimed for subsidy on collections. The account included an item of £186 17s. 8d., proceeds of an entertainment. In consequence of no larger contribution than £100 being allowed subsidy of like amount, the claim was reduced to £546 8s. 5d.

Infants' Home, Ashfield : Subsidy claimed for 1888, £437 9s. 4d. ; £226 5s. only allowed, the balance of £211 3s. being struck off because it was made up of items which could not be classed as subscriptions, such as £100 interest from the Walker bequest, and a number of payments from parents for the maintenance of children in the home. Subsidy for 1889, claimed on £354 4s. The sum of £229 1s. only was allowed, the books showing that the difference of £124 3s. had been received from parents for the support of children at the home.

Prince Alfred Hospital : Claim for £4,000 (the maximum subsidy) on collections for 1889. The total collections set forth in the account for 1889, amounted to £5,094 10s. 1d., but the Inspector reduced this by £1,440 14s. 10d., which, on scrutiny of the account, was found to be contributions towards the erection of a nurses' home. These had been carried to the general account, and presented in this form as items for subsidy. The claim was not allowed. Further subscriptions to the general fund were, however, added to the balance of £3,653 15s. 3d., until it amounted to the full sum of £4,000 voted by Parliament, which was then handed over to the institution.

Home for the Blind, Castlereagh-street : Subsidy claim for £190 7s. 10d. Disallowed altogether, for reasons stated under the next heading.

It would we well if the books of the country institutions were subjected to the same close scrutiny as those near the metropolis. There is no reason to suppose that they are not kept in a strictly accurate manner, or that the claims for subsidy are not based on legitimate data ;

data; but seeing that the amounts presented from the metropolitan and suburban institutions, as being entitled to subsidy payments, were reduced by £2,054 0s. 3d., when they were, doubtless, deemed by the local authorities to be correct, it would be more satisfactory if the accounts of all such institutions were checked under the same system, lest their managers may be deriving undue advantages from a similar misunderstanding.

## INVESTIGATIONS INTO MANAGEMENT.

### INFANTS' HOME, ASHFIELD.

By direction of the Colonial Secretary two important investigations have been held into the management of institutions subsidised from State funds; and full reports, accompanied by evidence, have been furnished to the Government in both cases. In the first, charges had been preferred by his Eminence Cardinal Moran against the Infants' Home at Ashfield on the following grounds:—1. That the Roman Catholic inmates were not allowed to see the clergyman at the Home; neither were they allowed to go out to Mass. 2. That no priest was admitted to baptize the children, or to administer the sacraments to the Catholic mothers. 3. That the Protestant clergyman visited the institution, and baptized the children of the Roman Catholic mothers. 4. That children who died, for whose interment the institution provides, were all interred in the Protestant cemetery. 5. That children who survived, and were cared for by the institution, were transferred to Protestant homes, and were all reared Protestants. It appeared that although quite 50 per cent. of the inmates professed the Roman Catholic faith, that particular denomination was never represented on the Committee, and no person belonging to it was employed on the staff. The evidence shewed that the charges were partly justified, and partly inaccurate; and some of the alleged conditions had existed eighteen months previously, but had been remedied by the present Superintendent. Several of the rules complained of also applied to Protestants as well as Catholics. A summary of the investigations into this matter showed:—Charge 1. That in accordance with the rule of the Home, from its initiation, neither Protestant nor Roman Catholic clergymen had ever been permitted to visit the Home officially. The only exception made in regard to this matter occurred on five occasions during ten years, when the Rev. Dr. Corlette was sent for to baptize Protestant infants who were supposed to be in a dying state. Further, neither Catholics nor Protestants were allowed to go out of the Home to church until the practice was altered by the present Superintendent. Charge 2. That although the late Superintendent must have been aware that the Rev. Dr. Corlette (Church of England) thus baptized Protestant children, she refused to allow the Rev. Mr. Long (Roman Catholic) the same privilege on the only occasion on which he applied to baptize a sick Catholic infant. The Committee had no knowledge of this occurrence, and the late Superintendent acted upon her own responsibility. From the evidence of the authorities, it further appeared that if the occasion arose the priest would be allowed to baptize any dying Catholic children at the Home. Charge 3. That on one occasion only a Roman Catholic child was baptized at the Home by the Protestant clergyman, at its mother's request (its father being a Protestant), because she thought it was dying, and the Protestant clergyman happened to be present baptizing a Church of England baby. Charge 4. That the children who died (including a number of Roman Catholics), for whose interment the institution provided, were, with one exception, interred in Protestant ground, between 24th February, 1885, and July 30th, 1888; but that since that time all children had been interred in the cemeteries of their respective denominations. The practice originally followed seemed to have arisen from a desire to save expense. Charge 5. That in 1883 two Roman Catholic children were erroneously discharged to the State Children's

Children's Relief Department by the Superintendent of the Infants' Home, as being Protestants, and were boarded-out accordingly. It appeared from the records that up to the end of 1888 the Home had received State subsidies amounting altogether to £9,064 16s. 5d. The subsidies since paid amount to £1,401 10s. 9d.; making the total amount of State aid £10,466 7s. 2d.

#### HOME FOR THE BLIND.

In connection with a subsidy claim for £190 7s. 10d., an inquiry was directed into the management of the Home for the Blind, Castlereagh-street, on 17th October, 1890, and it became apparent at once that a searching investigation was necessary. The avowed objects of the Institution were to afford sleeping accommodation and teach trades to blind men to enable them to earn a livelihood outside. Previous to the addition of the Inquiry Branch to the Department of Charitable Institutions, two annual subsidy claims had been paid to the Home without any inquiry into its management. The Home occupied an eight-roomed house in Castlereagh-street, at a rental of £3 per annum; there were four sleeping apartments, containing, altogether, twelve beds, the front room on the ground floor being used as a shop for the sale of halters, mats, &c. The Inquiry Officer's Report contained the following statements:—

The main object of the Institution is to provide free sleeping accommodation for blind men, the manufacture and sale of goods being secondary,—as the Industrial Blind Institution in the Boomerang Road meets this requirement. According to the Committee's Annual Report (attached), the number of beds provided last year was 1,825—or an average of five beds nightly. At present, however, I cannot find that more than three blind people sleep on the premises. These comprise the Manager, and a man and boy, who live altogether in the house, and are partially employed in the shop or in hawking goods. But admitting that the average number amounts to five, as mentioned in the report, it will be seen that this represents the whole of the work of any utility done by the Institution; and the cost of this is nearly £400 per annum, the subscriptions for 1889 being £190—and subsidy is now claimed for a similar amount. Apart from the above, I would respectfully invite attention to the following points in connection with the Home:—(1) Most of the goods exhibited for sale are purchased by the Institution, and not made by the blind. The man and boy kept on the establishment have little or nothing to do, but are retained and paid "bonuses." (2) The commission paid for collecting subscriptions is unusually large, namely 20 per cent.—the amount under this head last year being £36 19s. 9d., and travelling expenses £14 10s. 11d., for collecting £190. (3) Two of the four Committeemen are relatives of the Manager, while the Secretary is a granddaughter, and the housekeeper is his wife, receiving for her services £1 per week. (4) The accounts are audited (according to the books) by two members of the Committee. (5) The Manager is Treasurer as well as Manager. He states that the subscriptions received have either been paid into his private banking account or absorbed at once in the current expenditure, payment not being made by cheque. Thus it is impossible to certify to the correctness of the subscription-list under notice. [The Government subsidies have been paid direct by the Colonial Treasurer into the Savings Bank, and these have been drawn out as required.] The Committee are at present much hampered for want of funds. I may add that I have consulted disinterested authorities, as well as blind men themselves on the subject, and the unanimous opinion is that the deserving blind do not care, from a feeling of self-respect and independence, to avail themselves of such a charity, but prefer the domestic advantages of their own homes. The meagre call upon the Institution appears to bear out this view, and to point to the conclusion that the Home is not required.

The Committee having named a number of persons as having been taught trades at the Home, by which they were earning a living outside, an endeavour was made to trace them, when it was found that they were at the date of the inquiry employed as follows:—No. 1, blind, played violin outside Town Hall; No. 2, blind, sold halters, but lived mainly on charity; No. 3, blind, travels in country with an organ; No. 4, blind, played a flute; No. 5, not blind, working on a station; No. 6, bad sight, leading a blind man in the country; No. 7, had a little sight, acted as guide to blind men; 8, good sight, worked as labourer; 9, blind, had a selection; 10, blind, had applied for readmission; 11, blind, was learning a trade in another institution for the blind; 12, blind, was living with his father; 13, blind, lived by mendicancy; 14, blind, was in a charitable institution. The Manager  
named

named a number of persons as being able to give evidence in favour of the Home, and they were all found, but their statements were of so grave a character (they have been furnished in detail to the Colonial Secretary) that, taking them in conjunction with the official reports, I deemed it my duty to recommend that the subsidy claimed be not paid, and that no further State-aid be given. Briefly stated, the principal grounds of objection to a continuance of support from the Government were thus summarised:—1. The Home was almost useless, inasmuch as it was seldom resorted to by blind men, and trades were not taught to any extent worth considering. 2. Few, if any, persons derived benefit from the Home, except the Manager and his family. 3. If the statements made were to be relied on subscriptions were solicited by means of deceit and misrepresentation. 4. The books were so loosely kept that it was impossible to trace the moneys collected, or obtain a satisfactory statement of accounts, the subscriptions received either having been paid into the Manager's private banking account (according to his own admission) or absorbed at once into expenditure, payment not being made by cheque. 5. The operations were extravagant, as it cost £51 in commission and travelling expenses to collect £190, and according to the last annual report £400 to accommodate five blind men nightly, sleeping accommodation only. Other evidence showed that the number had ranged from one to three, and sometimes there had not been any inmates in the Home at all. 6. The establishment seemed to be carried on as a family affair, the Manager being both Manager and Treasurer, while the Secretary was his grandchild, and the housekeeper was his wife. Two of the four committeemen were his relatives, one being a son-in-law, and the other related by marriage.

There were other equally unsatisfactory conditions in connection with the management, and several of the witnesses made much more serious allegations, which were set forth fully in the evidence submitted to the Colonial Secretary. The reports were forwarded to the Committee in order that they might have an opportunity of answering the charges, but their explanation not being considered satisfactory the subsidy allowance was withheld. As a consequence the establishment designated a "Home for the Blind" was broken up.

#### ADMISSIONS INTO SUBSIDIZED INSTITUTIONS.

Early in 1889 the duty of enquiring into and dealing with admissions of children, at the Government expense, into the Sydney Benevolent Asylum, and other institutions subsidized from the Consolidated Revenue, was transferred to this Department; and there is no doubt that the careful investigations into every such application have resulted in a considerable saving to the State. Care has been taken that no hardship should follow this change of system, by admitting at once applicants whose cases were apparently deserving of relief, and inquiring into them afterwards. By an arrangement with the Benevolent Asylum authorities, direct admissions were also referred to this Department, to be dealt with in the same manner as the ordinary cases just referred to. Under this method I have authorized the admission of 219 children at the cost of the Government in 1889, and 200 in 1890; and 100 such applicants have been refused on the official reports, on the ground that they did not need relief, or that responsible relatives were in a position to keep them. It is often very difficult to draw the line as to the circumstances under which parents or other relatives should be relieved of children. Frequently sober, decent men, in receipt of good wages, ask for their children to be taken over under payment, because they have drunken wives, who neglect the home and allow the little ones to run wild. Sometimes wives will apply under similar conditions, in connection with their husbands. It is worthy of remark, however, that the latter

cases are very rare. Long-suffering respectable women of this class often come to the Department for advice or help, but seldom for the purpose of relieving themselves of their offspring. Experience, too, has shown that when a man is relieved of his children, he pays the maintenance cost for a time, but is soon content to regard the State as their natural parent, ceases to take an interest in them, and in the end deserts them altogether. On the contrary, even the most depraved women seldom lose maternal affection or interest in their little ones; and a good deal of difficulty is in consequence caused by their persistent efforts to trace children who have been taken from them and placed in good homes under better moral influences. It is not possible to make a fixed rule in reference to the class of children eligible for State guardianship. The Department has to be guided by the circumstances of each case. Great care is taken not to break the parental tie unless the necessity for doing so is very urgent indeed, but where father and mother are both irreclaimable it is better, on grounds of social and political economy, for the State to secure the comfort and happiness of the children by incurring the expense of converting them into good citizens, than to reject them with the knowledge that probably they and their descendants will eventually have to be maintained at far greater cost in the poor-houses or the gaols. The following cases, selected from last year's returns, are a few examples of those which have been rejected:—

1. A Police Magistrate applies for the admission of four children, ages from 12 to 3 years, into an institution on the ground that the mother is deserted by her husband and unable to keep them. Usual inquiry directed. Report shows that mother and her sister keep a pie-shop, and appear to be making a living. Her husband is a shearer, and sends her money occasionally. A week before the application he forwarded her £3. Police report "both husband and wife are young and strong and well able to keep the children." It was suggested to the woman that if she was not obtaining enough money from her husband she should proceed against him, but she decided to let him alone until after the shearing "when he would have a large cheque."—Application refused.

2. Mother applies for four of her children to be taken over, leaving her with a baby, on the ground that husband, although regularly employed driving a milk-cart, drinks his earnings, and will not give her support. Report states, "appearance of house and children indicate want of means, although children look healthy and well nourished. Applicant taken no steps to compel husband to support his family, and appears little disposed to do so. I am not satisfied that it is not an arranged thing between the two to get Government to take the children, and am afraid that if this is done nothing more will be heard of parents."—Directed that woman must "apply to magistrate for order against her husband, or no help would be rendered. If she did this she should apply to the Benevolent Asylum for provisions, and report again to Department if she found it necessary to do so."

3. From local clergyman, asking for relief "for poor girl who has fallen a victim to deceitful men; has given birth to two children, and is now an outcast; her parents disown her; she has cast herself upon our mercy, and I recommend her to your care."—Official inquiries disclosed that the woman had two illegitimate children by different fathers, against both of whom she had taken legal proceedings, and who were both paying her for the children. Another report stated that apart from these lapses she was of good character, and could readily obtain employment. Instructions noted on application:—"I do not think this is a case in which the State should interfere. The woman has obtained Court orders against the fathers of her children, and she should, as is usual in such cases, go to service with the baby, which will enable her to make liberal provision privately for the elder child. Inform Mr. ——— accordingly."

4. Man applies for his two children to be taken over on the ground that his wife, a drunkard, neglected them; stated that he was only a fireman earning two guineas a week, and could not afford to provide for them privately, but would pay the Government 5s. a week for the two, and could pay no more.—Inquiries disclosed that the man was steady, and that he earned £3 10s. a week. Instructed that he must make arrangements privately for the children, and that the police might be informed of the condition and surroundings of the home, in order that if they thought the circumstances warranted such a course the mother might be punished.

5. Man applies for his two children to be taken charge of, on the ground that he cannot obtain employment; mother dead. Report showed that children were staying with grandmother, who was living on a little money left by her husband. Another son, a labourer, was living in the same house with four grown-up daughters. Applicant was strong, healthy and 35 years of age; a labourer. Directions issued:—"M. should ask relief from Benevolent Society until he gets work, which is now (1/9/99) easy enough to procure in any department of labour."

6. Father, a vanman, asks for four children to be boarded out, on the ground that the mother is of intemperate habits. Inspector reports:—"I cannot gather that she is so to the extent involving serious neglect of her children, to whom she appears attached. They looked thoroughly healthy, well-nourished, and happy; there was nothing in their condition to warrant State interference; the woman's husband ill-uses her. The case is one of ordinary domestic infelicity, and I respectfully submit whether applicant might not be left to make his own arrangements."—Order refused.

7. Man applies for three children to be taken over, as the mother is dead, and he cannot get work, having been out of employment some time. Inspector reports that the man is in regular employment at a boot-factory, earning good wages.—Order refused.

8. Step-daughter of a man applies for her two step-sisters to be boarded out, on the ground that the mother was dead, and their father did not look after them or give sufficient means of support. Inquiries disclosed that the man was in regular employment, and was able and willing to provide for the children.—Order refused.

### SECTION III.

#### RELIEF TO THE UNEMPLOYED.

In consequence of representations to the Colonial Secretary, on February 20th, 1890, to the effect that a large number of men were without food or shelter in Sydney, and could not obtain employment, and the weather at that time being very inclement indeed, it was directed that temporary shelter should be given to them in the drill-shed at Fort Macquarie, pending an inquiry into the necessity for continuing relief at the Government expense. I was instructed to undertake the administration of relief, in conjunction with an officer from the Colonial Secretary's office. The shed was opened on February 20, and 167 men presented themselves for shelter on the evening of that day. Their occupations were registered as follows:—Blacksmith, 1; bootmaker, 1; butcher, 1; carpenters, 2; cooks, 5; clerks, 4; dentist, 1; grocer, 1; labourers, 140; mason, 1; miners, 3; printer, 1; painters, 3; upholsterer, 1; lawyer, 1; sailor, 1. They were, with few exceptions, able-bodied; a very large proportion were young men; they were sober, and generally well clad. The daily official report presented to the Colonial Secretary on the following day stated that it was somewhat significant that the majority were recognised by two reliable public officials, who had a year previously acquired a thorough knowledge of this particular class of the community, in connection with the operations of the Casual Labour Board, as men who were almost invariably out of work. The greater number were usually on the Government Relief List at the period referred to, and quite eighteen per cent. were recognised as having been defaulters—that is, men who conducted themselves so unsatisfactorily that assistance to them had been discontinued. Although only 167 presented themselves on February 20th, it was represented that about 800 would probably require shelter. On the following night, however, only 80 men sought shelter, and they were classified as follows:—Labourers, 62; carpenters, 2; painter, 1; cook, 1; mason, 1; seamen, 2; blacksmith, 1; groom, 1; hatter, 1; brickmaker, 1; lawyer, 1; clerks, 2; printer, 1; miner, 1; bricklayer, 1; butcher, 1. The Casual Labour Board's books showed that 45 of these 80 had been on the old relief list, and 19 had been dismissed from the works for misdemeanours. On the third night 152 men applied for shelter, and their occupations were recorded as—labourers, 126; carpenters, 2; painters, 2; cooks, 3; mason, 1; seamen, 2; blacksmith, 1; groom, 1; baker, 1; brickmaker, 1; lawyer, 1; clerks, 3; printers, 2; miners, 2; bricklayer, 1; butcher, 1; chemist, 1; upholsterer, 1. 94 were recognised as having been almost continually employed by the Casual Labour Board, and of these 37 were recorded as defaulters. On the first night a new blanket was served out to each man, and on the following morning most of the blankets were so contaminated with vermin that they could not be returned to the Government stores; but were subsequently cleansed

as

as far as possible, and distributed among the poor families receiving relief from the Benevolent Society. After the third day relief was discontinued. On this occasion shelter, but not rations, was granted to the men.

On May 7, 1890, a similar application for relief was made by a deputation to the Colonial Secretary, on behalf of the unemployed, and it was again alleged that at least 800 men would require shelter. The same method was adopted as on the previous occasion. On May 8th, 136 men received shelter and the use of blankets. They were all of the same class as those relieved in February, and 32 were the same men. On the following day it was decided to grant applicants a ration of bread and cheese, and 168 men were sheltered and fed. 53 of them were recognised as having received relief at former periods. On the 10th May, 159 were sheltered, and 160 fed. On Sunday, the 11th, 200 were fed, and 190 sheltered. On the 12th, 203 men received rations, and 217 were sheltered. Upon these applicants being questioned as to where they came from, the following particulars were elicited:—From Victoria, 63; Queensland, 33; New Zealand, 21; South Australia, 10; Tasmania, 2; America, 9; Germany, 2; England, 20; Ireland, 20; Scotland, 5; and New South Wales only 25 of the whole number. Of these 25, 20 men were recognised by the police as habitual park loafers, who seldom or never worked. The only ration issued was 1 lb. of bread, and a  $\frac{1}{4}$  lb. of cheese; but as it was suspected from conversations among the men that a large number were also drawing rations from public institutions, the Superintendent of the Soup Kitchen was requested to attend the next distribution. He did so, and the information supplied by him led to a recommendation that relief should be discontinued. He stated that on Sunday, after obtaining the Government ration, 63 men applied for dinner at the Soup Kitchen, and on Monday there were 58 similar applicants. He had been present at the distribution of rations on both days. It was therefore decided to discontinue indiscriminate relief, but to administer relief to any deserving persons who might afford proof that they were really in distress. None of the men, however, made any further application, and consequently the relief was not continued. The figures are sufficiently instructive to render comment unnecessary.

## SECTION IV.

### THE STATE CHILDREN'S RELIEF DEPARTMENT.

This important division of the Department of Charitable Institutions has, as usual, done a large amount of work during the past year, under the control of the State Children's Relief Board, of which the Hon. Arthur Renwick, M.D., M.L.C., has been President since the initiation, in 1881, of the boarding-out system of dealing with dependent children in this Colony. His customary comprehensive report on the operations of the Department for the official year ending April 5, 1890 (the annual period prescribed by 44 Vic. No 24) will shortly be presented to Parliament, and it has not hitherto been customary outside that document for the officer directing or inspecting the Charitable Institutions to do more than state the results of the work carried on amongst these children in the time covered by his own annual statement,—that is, during each year ending December, 31. The President has suggested that in any new legislation—which he has from time to time recommended in some very important particulars for the more efficient management of State children generally—the annual periods shall be made to correspond. The present method requires a number of officials, who have no spare time, to devote nearly a week to the preparation of two sets of annual statistics within three months every year.

The

The particulars of the children under control on December 31 1889, and December 31, 1890, are placed in juxtaposition for comparison in the following table:—

	Boarders.		Apprentices.		Adopted without Payment.		Boarded-out without Payment.		Absconders' List.	
	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.
Boys ... ..	786	735	462	560	56	53	8	14	13	20
Girls ... ..	478	478	240	287	86	86	5	13	2	4
	1,264	1,213	702	847	142	139	13	27	15	24

	Unofficial Children.		In Hospitals.		In Cottage Homes.		In Depot.		Total.	
	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.
Boys ... ..	3	2	1	1	49	43	...	3	1,378	1,431
Girls ... ..	11	3	3	3	62	73	1	2	888	949
	14	5	4	4	111	116	1	5	2,266	2,380

There are one or two features in connection with this table deserving of special remark. Although the difference between the admissions and discharges in the two years shows an increase of 44 in the total number of children under the control of the department on December 31, 1890, yet there has been a decrease in the number whose support is paid for by the State of 51 in the boarding-out division and cottage hospitals combined, these being the only branches against which a maintenance cost is chargeable. It is expected that the "adoption without payment" provision of the Act, which does not exist in connection with any other department controlling dependent children, in conjunction with the apprenticeship and service divisions, will so operate as time lapses that there will never be a material increase in the number of children who are a charge upon the Government. The numerical advance last year occurred principally in the apprenticeship branch, which increased from 702 to 847, and among those boarded-out without payment, as a preliminary to complete adoption, whose number advanced from 13 to 27. The class designated "unofficial," are children who, being above the age at which they can be legally taken over under the State Childrens Relief Act, and having been left without natural guardians, have voluntarily surrendered themselves for protection. Their number has decreased from 14 to 5, the other 9 having gone to situations on their own account. The absconders have increased by 9 in 1890, but the whereabouts of most of them are known. As they are nearly all of advanced ages, and are doing well in situations, it is not deemed advisable to bring them again under the rules of the department, which they refuse to comply with.

The

The Cottage Homes at Pennant Hills (Parramatta) and Mittagong continue to be a most beneficent provision for sadly afflicted children, who otherwise would have to remain in institutions. Since the establishment of the first home in 1885 (there are seven such refuges) 511 invalid children have been admitted into them, and 395 have been sufficiently cured to be placed in boarding-out homes among healthy children, or discharged in other ways. The nature of their complaints, and the work of humanity which is done in these homes may be judged from the following statement of diseases with which the children were afflicted when admitted:—

Abscesses ... ..	2	Delicate and lame ... ..	1
„ ... ..	1	„ ophthalmic ... ..	5
Bronchitis (chronic) ... ..	1	„ partial paralysis ... ..	4
„ ... ..	1	„ running ears ... ..	3
Contraction of leg sinews ... ..	1	„ scrofulous ... ..	1
Chilled feet ... ..	1	Debility (general) ... ..	90
Cripples ... ..	3	„ and turned eye ... ..	1
Chinese (half) ... ..	2	„ and measles ... ..	1
Catarrh ... ..	1	Dysentery ... ..	1
Dirty habits and sore ear ... ..	1	Ophthalmia ... ..	156
Dropsy and rheumatism ... ..	2	„ and scrofulous ... ..	5
Deaf and dumb (change of air) ... ..	1	„ semi-idiotic ... ..	1
Diarrhœa ... ..	2	„ ulcerated foot ... ..	1
Defective palate ... ..	1	„ running ears ... ..	7
Dirty habits ... ..	1	Ophthalmia and scalp eruption, and	
Deformed and paralyzed ... ..	1	general debility ... ..	3
Eruptions ... ..	15	One leg ... ..	2
„ scalp and deformed chest ... ..	1	Spinal disease ... ..	8
„ and bad habits ... ..	2	Strumous ... ..	1
„ and scrofulous ... ..	1	Semi-idiotic ... ..	2
„ of scalp ... ..	13	St. Vitus' dance ... ..	2
Epilepsy ... ..	3	Sore leg ... ..	3
Eruptions of scalp and body ... ..	3	Sore foot ... ..	1
Eucemia ... ..	1	Sore ear ... ..	1
Knee-pan, injury to ... ..	1	Scrofulous ... ..	27
Fractured limb ... ..	1	Scabies ... ..	6
Hip disease ... ..	4	Teething ... ..	1
„ and partial paralysis ... ..	1	Typhoid ... ..	1
Heart disease ... ..	5	Ulcers ... ..	3
Hip disease and running ears ... ..	1	Weak legs ... ..	1
Half-caste ... ..	5	Whooping cough ... ..	1
Hand, accident to ... ..	1	Weak intellect ... ..	8
Hand, necrosis of ... ..	1	Paralysis ... ..	7
Hip, accident to ... ..	1	„ of brain ... ..	1
Malformed feet ... ..	4	„ (partial) and spinal disease	1
„ hands ... ..	1	Running ears ... ..	6
Marasmus .. ..	2	„ and skin eruption ... ..	2
Malformed mouth .. ..	1	Rheumatism ... ..	2
Incontinence of water ... ..	3	Ring-worms ... ..	10
Necrosis of foot ... ..	1	Children who have passed through	
One eye ... ..	2	homes as apprentices ... ..	38

Only 1 child died at the Cottage Homes, and 5 boys and 2 girls died in the boarding-out division during 1890, which is a very low rate of mortality indeed, considering the classes and ages of children who are taken in charge.

The gross annual average cost per head of boarded-out children at the date of last statement was £14 7s. 5d., and after deducting £634 19s. 9d. payments by parents towards maintenance, the net cost to

to the Government was £13 18s. 5d. per child, which was the lowest charge recorded since the creation of the department in 1881.

At the Cottage Homes the average capitation cost in 1890 was £22, or 2s. 6d. per head less than in 1889. Under the one method there is a saving on institution charges of at least £7 per child, and by the other not less than £25 per head on the charges in hospitals, from which most of these little ones were taken.

#### CONCLUDING REMARKS.

I have to apologise for the length of this report; but as it is the first sent in under the new system of dealing with the charitable institutions of New South Wales, it has been necessary to explain the operations of each department in detail, in order that the results of the reorganization directed by the Colonial Secretary in August, 1888, should be clearly understood. I have at the same time to express my thanks to the various heads of the Government Departments, and other officers in the Service, who have rendered me much valuable assistance in carrying out the duties of my office.

I have the honor to be,

Sir,

Your most obedient Servant,

SYDNEY MAXTED,

Director of Government Asylums and Boarding-out Officer.



1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

## MAINTENANCE OF SICK PAUPERS.

(REPORT ON VOTE FOR THE YEAR 1890.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

The Medical Adviser to the Government to The Colonial Secretary.

Sir,

Sydney, 22 April, 1891.

I do myself the honor to submit herewith a report on the administration of the vote for the maintenance of the sick poor, for the year 1890, together with certain returns in continuation of those for the year 1887-8-9 presented, with a report on this vote during those years, on the 1st of May, 1890.

The Hospital Admission Depot has been continued in rooms at the top of King-street during the year, and was in charge of Dr. Strong, from January 1 to May 1; but on leave being granted to this officer, prior to retirement from the Public Service, the duties were undertaken by Dr. Paton, the acting Government Medical Officer, who was in charge at the close of the year.

The following table shows the number of applicants for Hospital treatment during the year, together with the manner in which they were dealt with.

### HOSPITAL ADMISSION DEPOT, 1890.

TABLE showing how the Applications for Hospital treatment were dealt with.

Nature of Order issued and number refused.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Coast Hospital .....	129	97	106	125	110	114	112	121	110	94	106	106	1,330
Prince Alfred Hospital .....	50	44	42	47	54	31	39	42	50	44	49	36	528
Sydney Hospital .....	53	72	51	54	54	43	53	42	55	64	58	57	656
Moorecliff Ophthalmic Hospital .....	20	17	18	15	12	7	11	12	12	13	14	10	161
Asylums for Infirm and Destitute .....	81	77	72	86	90	89	108	90	98	119	110	117	1,137
For Outdoor Hospital treatment .....	120	95	104	149	97	53	71	60	103	94	76	85	1,107
Trusses .....	8	7	7	4	5	4	7	6	6	4	5	6	69
Refused Orders .....	46	42	48	60	39	44	38	21	43	29	35	52	497
<b>Total .....</b>	<b>507</b>	<b>451</b>	<b>448</b>	<b>540</b>	<b>461</b>	<b>385</b>	<b>439</b>	<b>394</b>	<b>477</b>	<b>461</b>	<b>453</b>	<b>469</b>	<b>5,485</b>

It will be seen that of 5,485 applicants, 1,330 received orders for the Coast, 656 for the Sydney 528 for the Prince Alfred, and 161 for the Moorecliff (Ophthalmic) Hospitals, whilst 1,137 were recommended for admission to the Asylums for the Infirm and Destitute, and 1,109 for out-door Hospital treatment. The large number of 497 were refused relief as being unfit subjects for aid from the Government votes, and 69 received orders for trusses.

On referring to the table for the year 1889 it will be seen that there were 732 more applicants in 1890 than during that year, and that in the disposal of these the stress fell mainly on the Asylums, for which a much larger number of recommendations were issued.

The Medical Officer at the Admission Depot is charged not only with the apportionment of the applicants to the Institutions for which their diseases and necessities best fit them, but through subordinate officers with making preliminary inquiries as to their fitness, on the score of poverty, for Government relief. During the year steps were taken to obtain much more complete information relative to the applicants for relief at the Hospital Admission Depot than had heretofore been collected, and this information, though not complete for 1890, will be available for future reports.

It is a somewhat curious fact that a considerable number of the orders and recommendations given are never presented to the institutions named therein. This, whilst especially the case with recommendations to the Asylums for the Infirm and Destitute, also applies to the Sydney and Prince Alfred Hospitals, fifty-six orders given during the year for the former, and six for the latter not having been presented. In some cases, notably those in which the recommendations are for the Asylums for the Infirm and Destitute, the applicants not being at the end of their resources refuse to take advantage of the proffered aid; and in others, especially in the case of the two main Hospitals, the patients not being recommended to the institution for which they have a preference, decline assistance at all. This is the more remarkable as the cases recommended for treatment in the Sydney and Prince Alfred Hospitals are, as a rule, suffering from the severer forms of disease.

In addition to the cases dealt with by the Government Medical Officer at the Hospital Depot a number are taken to the metropolitan hospitals who are found by the police in a critical condition, whilst others (severe cases of typhoid fever and urgent cases of disease especially reported) are sent with orders issued direct from the Medical Adviser's office. All these cases, as well as those admitted through the Hospital Admission Depot, are paid for by the Government at the rate of 3s. a day, and in addition ambulance charges and funeral expenses are, as a rule, paid for from the Government vote. The following table shows the number of such cases admitted to Hospital during the year:—

Orders issued for the Admission of special and urgent cases and cases taken to Hospital by Police or transferred from Government Institutions for special treatment.

Issued for	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Coast Hospital .....	36	26	39	30	9	7	9	3	8	6	8	17	198
Prince Alfred Hospital.....	13	16	7	6	8	8	16	18	15	11	10	10	138
Sydney Hospital .....	5	8	19	13	18	14	19	12	10	5	13	21	157
Moorecliff Ophthalmic Hospital	5	7	3	2	4	1	1	2	2	4	5	4	40
<b>Total .....</b>	<b>59</b>	<b>57</b>	<b>68</b>	<b>51</b>	<b>39</b>	<b>30</b>	<b>45</b>	<b>35</b>	<b>35</b>	<b>26</b>	<b>36</b>	<b>52</b>	<b>533</b>

The following table shows the number of patients who remained in the Metropolitan Hospitals at the charge of the Government at the close of the year 1889, together with the number admitted through the Hospital Admission Depot, Medical Adviser's Office, and other sources during the year 1890, the total cost to the Government and other particulars.

#### MAINTENANCE OF PAUPER PATIENTS IN THE METROPOLITAN HOSPITALS.—SERVICE, 1890.

Hospital.	Remaining in Dec. 31, 1890.			Admissions.			Discharges.			Deaths.			Remaining in (Government patients) Dec. 31, 1890.			Total patients in on Dec. 31, 1890			Average stay of Government patients.	Days.	Amount.	Burials.	Ambulance and trusses, &c.	Contributions by patients.	Total cost.
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.							
Prince Alfred ..	41	18	59	303	237	600	350	238	538	40	22	62	44	25	69	113	85	103	97.49	24,372	£ 3,655 10	£ 10 10 0	£ 09 1 0	£ 26 15 6	£ 3,717 12 6
Sydney ..	31	29	60	466	311	777	410	276	636	52	27	79	35	37	72	120	69	189	23.47	21,509	£ 3,271 7	£ 67 11 6	£ 11 10 0	£ 11 9 6	£ 3,338 19 6
Moorecliff .....	24	17	41	124	76	200	121	78	202	..	..	..	24	15	39	33	23	56	63.75	13,887	£ 2,083 1	..	..	£ 8 5 0	£ 2,074 16 0
<b>Total .....</b>	<b>96</b>	<b>64</b>	<b>160</b>	<b>933</b>	<b>654</b>	<b>1,637</b>	<b>884</b>	<b>602</b>	<b>1,470</b>	<b>92</b>	<b>49</b>	<b>141</b>	<b>103</b>	<b>77</b>	<b>180</b>	<b>266</b>	<b>177</b>	<b>443</b>	<b>37.15</b>	<b>60,063</b>	<b>£ 9,010 4</b>	<b>£ 87 1 6</b>	<b>£ 80 11 6</b>	<b>£ 46 9 0</b>	<b>£ 3,131 8 0</b>

It will be seen that the Prince Alfred Hospital received £3,717 12s. 6d., the Sydney Hospital £3,338 19s. 6d., and the Moorecliff (Ophthalmic) Hospital, which is managed as a branch of the Sydney Hospital, the large amount of £2,074 16s., and that the average stay of Government patients in these institutions was 37, 23, and 68 days respectively.

Calculated on the admissions (the numbers in Hospital at the close of 1889 and of 1890 being taken as nearly balancing each other) the cost to the Government of each patient has been, at the Sydney Hospital, £4 5s., at the Prince Alfred Hospital, £5 12s., and at the Moorecliff Ophthalmic Hospital, £10 7s., the cost being in proportion to the number of days in Hospital.

With regard to the Moorecliff Hospital, at which the large majority of cases are always at the charge of the Government, I desire to point out the very large Government expenditure. In addition to paying £2,074 16s. at the rate of 3s., per diem for each patient, the Government has also paid £400 as rent of the house in which the patients live. Considering that a considerable proportion of the patients on discharge go to Asylums for the Infirm and Destitute with more or less impaired vision, it seems doubtful if the benefits accruing are commensurate with the expenditure incurred, and reasonable to think that the Government might undertake the management of the Ophthalmic Hospital and carry out the work at a considerable reduction in the cost since the class of cases require but little expenditure for nursing and medicine, and but little beyond ordinary diet.

The following is a statement of the number and classification of all patients admitted to the Sydney, Prince Alfred, and Moorecliff Hospitals during the year 1890:—

Classification.	Sydney.	Prince Alfred.	Moorecliff.
Accidents .....	664	233	8
Urgent medical and surgical cases.....	657	369	20
<b>Total .....</b>	<b>1,321</b>	<b>602</b>	<b>28</b>
Pauper patients paid for by the Government at the rate of 3s. per diem .....	765	662	202
Paying patients contributing towards their maintenance at various rates .....	381	1,059*	58
Patients admitted under subscribers' orders.....	404	..	18
<b>Total admissions .....</b>	<b>2,871</b>	<b>2,323</b>	<b>306</b>

\* Four of these patients were admitted under the "Bed Donors" regulations.

From the above figures it will be seen—

- 1st. That the percentage of accidents and urgent cases admitted without charge at the Sydney on the total admissions, is 46·01; at the Prince Alfred, 25·92; and at Moorecliff, 9·15.
- 2nd. That the percentage of pauper patients, paid for by the Government, on the total admissions at Sydney, is 26·65; at Prince Alfred, 28·50; and at Moorecliff, 66·01.
- 3rd. That the percentage of cases paying towards their maintenance at Sydney, is 13·27; at Prince Alfred, 45·58; and at Moorecliff, 18·96.
- 4th. That the percentage of patients admitted on subscribers' orders at Sydney, is 14·67; at Prince Alfred, nil; and at Moorecliff, 5·88.

On consideration of all accidents and urgent cases brought to the Hospitals being admitted, the Sydney and Prince Alfred Hospitals are subsidised by the Government by payments of £ for £ for subscriptions collected, and the sums paid to them on this account for 1890 was £4,000 for each Hospital. Of these cases it will be seen that Sydney admitted 1,321 and Prince Alfred 602; the latter institution is therefore performing only half the work that Sydney does for the same consideration.

In conclusion I beg to point out that the arrangements under which the sick poor now receive Hospital relief are briefly as follows:—

- 1st. Accidents and urgent and necessitous cases taken to the Hospital are admitted at once, provided there are beds, and the cost met by the Hospitals from the annual subsidy granted by the Government.
- 2nd. Cases of sickness discovered either in the streets or elsewhere by the police are admitted at once by the Hospital authorities provided there are vacant beds, and orders are subsequently granted from the Medical Adviser's officer for payment at the rate of 3s. per diem from the vote for the maintenance of sick paupers.
- 3rd. In certain urgent and necessitous cases reported to the Medical Adviser by medical practitioners, orders are given for admission, and the patients are paid for at 3s. a day from the vote above mentioned.
- 4th. The Hospital Admission Depot, at the top of King-street, is open from 10 to 12 daily, except Sunday, Good Friday, and Christmas Day. All sick persons applying are examined by the Government Medical Officer as to their sickness, and also as to their means. All who are in necessitous circumstances are given orders to either the Coast, the Sydney, or the Prince Alfred Hospital, according to the special nature of the illness and the beds vacant at the respective Hospitals, and, in the case of the Sydney and Prince Alfred Hospitals, payment is made by the Government at the rate of 3s. a day.

Cases which, on examination, appear not to need Hospital treatment, and to be suitable for the Asylums for the Infirm and Destitute, are given recommendations for those Institutions.

I have, &c.,

F. NORTON MANNING, M.D.,

Medical Adviser to the Government.





I have again to remark that where no contested election took place very little interest, according to the result of numbers, seems to have been exhibited, and the majority of those entitled to vote appear to have been apathetic about the matter. In Bellvue Ward, Woollahra, only one vote was recorded.

The operation of the vote has been quite secondary to the firm stand taken by the Licensing Bench in refusing licenses to places that were not clearly shown to be of public convenience and required utility.

W. E. LENTHALL, Inspector,  
District Inspector, Metropolitan Licensing District.

Forwarded to the Inspector-General of Police.—G. READ, Supt., 27/4/91.

[Sub-Enclosure.]

COMPARATIVE Return of Result of Local Option Vote in the Metropolitan-Suburban Municipalities, taken in February, 1891.

Municipalities.	No. of Voters on Municipal Lists.	Division A—New Licenses.			Division B—Removals.			Results—A.		Results—B.		Gazette Notification.		No. of Hotels.	Whether Election contested.
		Yes.	No.	Total	Yes.	No.	Total	Affirmative.	Negative.	Affirmative.	Negative.	No.	Date.		
1891.															
ALEXANDRIA—															
East Ward .....	326	53	70	132	57	70	127	...	1	...	1	116	19 Feb.	3	Contested.
West Ward .....	744	107	122	229	106	114	220	...	1	...	1	"	"	3	"
South Ward .....	276	77	35	112	56	48	104	1	...	1	...	"	"	1	"
Beaconsfield Ward....	258	26	20	46	24	18	42	1	...	1	...	"	"	1	"
ASHFIELD—															
North Ward .....	817	78	233	311	88	213	301	...	1	...	1	222	7 Apr.	1	"
South Ward .....	1,160	83	261	344	105	234	339	...	1	...	1	"	"	2	"
East Ward .....	1,075	37	146	183	44	141	185	...	1	...	1	"	"	2	"
BALMAIN—															
South-west Ward .....	2,836	293	450	743	325	300	715	...	1	...	1	128	25 Feb.	21	"
South-east Ward .....	892	15	60	81	28	50	78	...	1	...	1	"	"	7	No contest.
North-east Ward .....	678	13	44	57	17	40	57	...	1	...	1	"	"	7	"
North Ward .....	2,067	188	323	461	177	278	455	...	1	...	1	"	"	7	Contested.
BOFANY—															
Cook Ward .....	340	1	18	19	2	17	19	...	1	...	1	115	1889.	2	No contest.
Bank Ward .....	230	...	4	4	...	4	4	...	1	...	1	22 Feb.	2	2	"
Booralee Ward .....	110	1	7	8	1	7	8	...	1	...	1	"	"	2	"
BOFANY NORTH—															
North Ward .....	289	43	43	86	38	44	82	1	...	...	1	183	1890	1	Contested.
South Ward .....	282	19	24	43	21	21	42	...	1	...	1	20 Mar.	1	1	"
Central Ward .....	167	25	10	44	26	16	42	1	...	...	1	"	"	1	"
BELWOOD—															
North Ward .....	417	5	37	42	6	7	13	...	1	...	1	101	1891.	4	No contest.
South Ward .....	366	23	33	56	25	31	56	...	1	...	1	13 Feb.	1	1	"
East Ward .....	311	3	19	22	3	18	21	...	1	...	1	"	"	1	"
CAMPERDOWN—															
Belmore Ward .....	188	3	10	13	6	7	13	...	1	...	1	101	"	6	"
Cook Ward .....	385	50	87	137	51	86	137	...	1	...	1	"	"	4	Contested.
Kingston Ward .....	393	9	27	36	8	28	36	...	1	...	1	"	"	1	No contest.
CANTERBURY—															
North Ward .....	535	4	7	11	3	6	9	...	1	...	1	231	13 Apr.	2	"
East Ward .....	434	44	90	80	45	33	78	1	...	1	...	"	"	1	Contested.
West Ward .....	435	9	7	16	8	6	14	1	...	1	...	"	"	1	No contest.
CONCORD .....	566	86	55	141	98	41	139	1	...	1	...	128	25 Feb.	2	Contested.
DARLINGTON .....	410	67	108	235	83	140	223	...	1	...	1	101	12 "	5	"
DRUMMOYNE—															
Drummoyne Ward .....	117	2	15	17	6	11	17	...	1	...	1	116	10 "	1	No contest.
Bourke Ward .....	181	9	25	34	14	20	34	...	1	...	1	"	"	1	"
Birkenhead Ward .....	247	11	33	44	18	26	44	...	1	...	1	"	"	2	"
ENFIELD—															
Central Ward .....	212	21	58	79	36	41	77	...	1	...	1	201	23 Mar.	1	Contested.
West Ward .....	115	14	7	21	17	4	21	1	...	1	...	"	"	1	No contest.
East Ward .....	207	2	14	16	3	11	14	...	1	...	1	"	"	1	"
FIVE DOCK—															
West Ward .....	264	23	51	77	23	34	77	...	1	...	1	128	25 Feb.	2	Contested.
East Ward .....	144	...	8	8	...	8	8	...	1	...	1	"	"	1	No contest.
GLEBE—															
Outer Glebe Ward .....	292	11	11	22	11	11	22	1	...	1	...	101	12 "	11	"
Bishopthorpe Ward .....	512	5	37	42	5	37	42	...	1	...	1	"	"	9	"
Forest Lodge Ward .....	283	43	103	146	56	89	145	...	1	...	1	"	"	5	Contested.
Inner Glebe Ward .....	559	2	33	35	8	27	35	...	1	...	1	"	"	3	No contest.
HURSTVILLE—															
Hurstville Ward .....	664	24	75	99	31	69	100	...	1	...	1	131	6 Mar.	2	Contested.
Bexley Ward .....	1,201	57	153	210	68	141	209	...	1	...	1	"	"	1	"
Peakhurst Ward .....	265	8	20	28	12	16	28	...	1	...	1	"	"	1	"
KOGARAH—															
East Ward .....	679	48	75	123	50	70	129	...	1	...	1	188	1890	3	"
West Ward .....	331	7	15	22	8	13	21	...	1	...	1	"	29 Mar.	1	No contest.
Middle Ward .....	377	15	11	26	16	11	21	1	...	1	...	"	"	1	"
LEIGHHARDT—															
West Ward .....	1,143	124	214	338	141	194	335	...	1	...	1	101	1891.	4	Contested.
Middle Ward .....	622	119	165	284	116	158	274	...	1	...	1	"	12 Feb.	3	"
East Ward .....	975	119	208	327	126	189	315	...	1	...	1	"	"	3	"
North Ward .....	807	82	131	213	88	125	213	...	1	...	1	105	1891.	1	"
MCDONALDSTOWN—															
Middle Ward .....	274	45	73	118	50	73	123	...	1	...	1	196	20 Mar.	2	"
North Ward .....	271	20	37	57	25	38	61	...	1	...	1	"	"	2	"
South Ward .....	189	34	48	82	32	38	70	...	1	...	1	"	"	1	"

Municipalities.	No. of Voters on Municipal Lists.	Division A—New Licenses			Division B—Removals.			Results—A.		Results—B.		Gazette Notification.		No. of Hotels.	Whether Elections contested.
		Yes.	No.	Total.	Yes.	No.	Total.	Affirmative.	Negative.	Affirmative.	Negative.	No.	Date.		
<b>MANSIE—</b>															
Steyne Ward	469	42	94	136	51	82	133	..	1	..	1	101	12 Feb.	2	Contested.
Fanlight Ward	400	32	97	129	46	73	119	..	1	..	1	"	"	2	No contest.
Wentworth Ward	250	7	23	30	8	22	30	..	1	..	1	"	"	..	"
<b>MARRICKVILLE—</b>															
East Ward	837	115	170	285	108	133	241	..	1	..	1	186	29 Mar.	6	Contested.
West Ward	419	72	118	190	67	101	168	..	1	..	1	"	"	2	"
North Ward	654	126	209	335	101	164	265	..	1	..	1	"	"	12	"
South Ward	698	121	107	318	92	165	257	..	1	..	1	"	"	1	"
<b>NEWTOWN—</b>															
Camden Ward	1,016	5	23	28	7	14	21	..	1	..	1	"	"	5	No contest.
O'Connell Ward	1,195	74	149	223	94	122	216	..	1	..	1	"	"	9	Contested.
Enmore Ward	1,369	9	30	39	9	30	39	..	1	..	1	"	"	8	No contest.
Kingston Ward	632	60	124	174	60	112	172	..	1	..	1	"	"	6	Contested.
<b>NORTH SYDNEY—</b>															
	4,336	320	651	970	307	673	970	..	1	..	1	116	10 Feb.	18	"
<b>PADDINGTON—</b>															
Upper Ward	343	47	123	170	63	90	162	..	1	..	1	136	20 Mar.	9	"
Lower Ward	290	65	126	191	72	113	185	..	1	..	1	"	"	8	"
Glenmore Ward	312	11	38	49	14	30	50	..	1	..	1	"	"	7	"
Middle Ward	351	48	92	147	54	83	142	..	1	..	1	"	"	2	"
<b>PETERSHAM—</b>															
Amundale Ward	538	39	158	197	61	126	187	..	1	..	1	128	25 Feb.	4	"
Sydenham Ward	174	..	8	8	2	6	8	..	1	..	1	"	"	3	No contest.
South Kingston Ward	231	35	108	143	46	95	141	..	1	..	1	"	"	1	Contested.
Lewisham Ward	778	3	30	33	3	23	31	..	1	..	1	"	"	1	No contest.
<b>RANDWICK—</b>															
Coogee Ward	636	24	33	57	27	28	55	..	1	..	1	116	19 "	2	Contested.
Middle Ward	606	31	71	102	42	62	104	..	1	..	1	"	"	2	"
West Ward	364	9	19	28	12	16	28	..	1	..	1	"	"	1	No contest.
<b>REDFERN—</b>															
Redfern Ward	304	8	16	24	8	16	24	..	1	..	1	101	12 "	13	"
Golden Grove Ward	529	19	18	28	8	20	28	..	1	..	1	"	"	10	"
Surry Hills Ward	528	106	183	293	101	124	225	..	1	..	1	"	"	9	Contested.
Belmore Ward	337	43	110	158	50	96	146	..	1	..	1	"	"	4	"
<b>ROCKDALE—</b>															
Arncliffe Ward	923	56	127	183	61	110	171	..	1	..	1	116	19 "	4	"
Scarborough Ward	619	34	55	89	38	51	89	..	1	..	1	"	"	3	"
Rockdale Ward	738	70	120	190	78	107	185	..	1	..	1	"	"	1	"
<b>ST. PETER'S—</b>															
Brompton Ward	395	30	118	154	37	110	147	..	1	..	1	"	"	4	"
Cook's River Ward	359	7	13	20	8	12	20	..	1	..	1	"	"	3	No contest.
St. Peter's Ward	91	5	15	20	5	15	20	..	1	..	1	"	"	..	"
<b>STRATHFIELD—</b>															
	429	2	30	32	2	30	32	..	1	..	1	105	15 Feb. 1880	..	"
<b>WAFFRILD—</b>															
	1,177	76	135	211	90	117	207	..	1	..	1	101	12 Feb.	19	Contested.
<b>WAVERLEY—</b>															
Lawson Ward	430	52	118	170	61	109	170	..	1	..	1	116	19 "	6	"
Waverley Ward	566	14	54	68	14	58	72	..	1	..	1	"	"	3	No contest.
Bend Ward	576	19	73	92	25	67	92	..	1	..	1	"	"	1	Contested.
Nelson Ward	416	10	26	36	16	23	38	..	1	..	1	"	"	1	No contest.
<b>WILLOUGHBY—</b>															
Chatsworth Ward	340	24	92	116	24	87	111	..	1	..	1	222	7 Apr.	2	Contested.
Middle Harbour Ward	503	1	8	9	1	8	9	..	1	..	1	"	"	..	No contest.
Lane Cove Road	428	25	57	82	26	54	80	..	1	..	1	"	"	..	Contested.
<b>WOOLLAHRA—</b>															
Piper Ward	1,140	1	5	6	..	6	6	..	1	..	1	101	12 Feb.	8	No contest.
Edgecliffe Ward	633	..	8	8	1	7	8	..	1	..	1	"	"	..	"
Double Bay Ward	321	4	15	19	3	16	19	..	1	..	1	"	"	2	"
Belvue Ward	255	..	1	1	1	1	1	..	1	..	1	"	"	8	"
<b>Total</b>	<b>56,766</b>	<b>4,038</b>	<b>8,043</b>	<b>12,101</b>	<b>4,498</b>	<b>7,128</b>	<b>11,626</b>	<b>10</b>	<b>89</b>	<b>10</b>	<b>89</b>	<b>..</b>	<b>..</b>	<b>351</b>	<b>..</b>

W. E. LENTHALL, Inspector,  
District Inspector, Metropolitan Licensing District.



1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**ADMINISTRATION OF JUSTICE.**

(SPIRITS, WINE, AND BEER—CONVICTIONS UNDER LICENSING ACT.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

FURTHER RETURN (*in part*) to an *Order* of the Legislative Assembly of New South Wales, dated 15th February, 1884, That there be laid upon the Table of this House, for the years 1881, 1882, and 1883, respectively,—

- “(1.) The quantity, in gallons, of spirits, wines, and beers, respectively, imported into this Colony.
- “(2.) The quantity, in gallons, of spirits, wines, and beers, respectively, manufactured in this Colony.
- “(3.) The quantity, in gallons, of spirits, wines, and beers, respectively, imported and manufactured, per head of the population of the Colony.
- “(4.) Also, Returns from each Police District of the Colony, including the Metropolitan District, under the following heads:—
- “(a) The number of licensed houses in each district.
- “(b) The number of Colonial wine, wholesale wine and spirit, and brewers’ licenses, respectively, in each district; also, the number of licenses to distil spirits.
- “(c) The number of convictions for drunkenness.
- “(d) The number of convictions for drunkenness, with obscene or indecent language.
- “(e) The number of convictions for drunkenness, with riotous behaviour.
- “(f) The number of convictions for drunkenness, with common assault.
- “(g) The number of convictions for drunkenness, with assault upon the Police.
- “(h) The number of offences of the above nature committed between 8 a.m. on Saturday and 8 a.m. on Sunday; and the like between 8 a.m. on Sunday and 8 a.m. on Monday.
- “(i) The number of convictions for selling on Sunday.
- “(j) The number of convictions for selling during prohibited hours other than for Sunday-selling.
- “(k) The number of convictions for selling adulterated liquors.
- “That such Returns in future be laid upon the Table of this House and printed as soon after the close of the year as possible.”

(*Mr. Hutchinson.*)

RETURN showing the number of Licensed (Publicans') Houses in each District for the year 1890, under the Licensing Acts of 1882-83.

District.	No.	District.	No.	District.	No.
Albury ... ..	42	Germanton ... ..	8	Paterson ... ..	5
Armidale ... ..	56	Glen Innes ... ..	19	Patrick's Plains ... ..	20
Ballina ... ..	24	Goulburn ... ..	63	Penrith ... ..	24
Balranald ... ..	17	Grafton ... ..	42	Picton ... ..	7
Barraba ... ..	4	Grenfell ... ..	15	Port Macquarie ... ..	9
Bathurst ... ..	70	Gundagai ... ..	22	Port Stephens ... ..	12
Bega ... ..	23	Gunnedah ... ..	21	Qucanbeyan ... ..	18
Bellinger ... ..	12	Hartley ... ..	29	Quirindi ... ..	11
Berrima ... ..	24	Hay ... ..	35	Raymond Terrace ... ..	5
Bingara ... ..	7	Hill End ... ..	7	Richmond River ... ..	16
Bombala ... ..	11	Hillston ... ..	37	Ryde ... ..	12
Bourke ... ..	62	Inverell ... ..	25	Rylstone ... ..	6
Braidwood ... ..	18	Jerilderie ... ..	5	Scone ... ..	9
Brewarrina ... ..	21	Kiama ... ..	10	Shoalhaven ... ..	16
Brisbane Water ... ..	18	Lismore ... ..	20	Tamworth ... ..	37
Broken Hill ... ..	83	Liverpool ... ..	18	Temora ... ..	28
Broulee ... ..	16	Macleay ... ..	21	Tenterfield ... ..	17
Burrowa ... ..	17	Macleay River ... ..	20	Tibooburra ... ..	4
Camden ... ..	5	Maitland ... ..	62	Tumbarumba ... ..	8
Campbelltown ... ..	8	Manning River ... ..	18	Tumut ... ..	23
Carcoar ... ..	42	Menindie ... ..	9	Tweed River ... ..	16
Cassilis ... ..	11	Metropolitan ... ..	853	Urana ... ..	8
Cobar ... ..	24	Milparinka ... ..	16	Wagga Wagga ... ..	62
Condobolin ... ..	13	Mitchell ... ..	33	Walcha ... ..	6
Cooma ... ..	21	Moama ... ..	10	Walgett ... ..	22
Coonabarabran ... ..	13	Molong ... ..	30	Wanaaring ... ..	5
Coonamble ... ..	22	Moree ... ..	24	Waratah ... ..	77
Cootamundra ... ..	19	Mudgee ... ..	44	Warialda ... ..	11
Copeland ... ..	5	Murrurundi ... ..	9	Warren ... ..	2
Corowa ... ..	26	Muswellbrook ... ..	9	Wellington ... ..	20
Cowra ... ..	15	Narandera ... ..	27	Wentworth ... ..	19
Deniliquin ... ..	34	Narrabri ... ..	42	Windsor ... ..	24
Dowling ... ..	4	Newcastle ... ..	113	Wollombi ... ..	5
Dubbo ... ..	79	Nymagee ... ..	12	Wollongong ... ..	25
Dungog ... ..	6	Nyngan ... ..	22	Yass ... ..	18
Eden ... ..	11	Orange ... ..	43	Young ... ..	38
Emmaville ... ..	10	Parkes ... ..	21		
Forbes ... ..	31	Parramatta ... ..	45	Total ... ..	3,428

The Treasury, New South Wales, 20th March, 1891.

RETURN showing the number of Licensed (Colonial Wine) Houses in each District for the year 1890, under the Licensing Acts of 1882-83.

District.	No.	District.	No.	District.	No.
Albury ... ..	8	Germanton ... ..	1	Patrick's Plains ... ..	14
Armidale ... ..	6	Glen Innes ... ..	5	Penrith ... ..	6
Ballina ... ..	3	Goulburn ... ..	9	Picton ... ..	1
Balranald ... ..	1	Grafton ... ..	3	Port Macquarie ... ..	5
Barraba ... ..	2	Grenfell ... ..	1	Port Stephens ... ..	4
Bathurst ... ..	3	Gundagai ... ..	2	Quirindi ... ..	3
Bega ... ..	3	Gunnedah ... ..	4	Raymond Terrace ... ..	5
Bellinger ... ..	1	Hay ... ..	1	Richmond River ... ..	1
Berrima ... ..	4	Inverell ... ..	17	Ryde ... ..	4
Bingara ... ..	6	Liverpool ... ..	2	Scone ... ..	3
Bourke ... ..	2	Macleay ... ..	1	Tamworth ... ..	5
Braidwood ... ..	4	Macleay River ... ..	2	Tenterfield ... ..	4
Broken Hill ... ..	4	Maitland ... ..	13	Tumut ... ..	2
Burrowa ... ..	3	Manning River ... ..	5	Urana ... ..	1
Carcoar ... ..	2	Metropolitan ... ..	179	Wagga Wagga ... ..	2
Cassilis ... ..	2	Milparinka ... ..	1	Walgett ... ..	1
Condobolin ... ..	1	Moree ... ..	1	Wanaaring ... ..	1
Cooma ... ..	1	Mudgee ... ..	2	Waratah ... ..	6
Coonabarabran ... ..	3	Murrurundi ... ..	2	Warialda ... ..	3
Corowa ... ..	4	Muswellbrook ... ..	8	Wellington ... ..	8
Cowra ... ..	5	Narrabri ... ..	9	Wentworth ... ..	1
Dowling ... ..	1	Newcastle ... ..	6	Windsor ... ..	6
Dubbo ... ..	3	Nymagee ... ..	1	Wollombi ... ..	2
Dungog ... ..	3	Orange ... ..	1	Wollongong ... ..	3
Eden ... ..	2	Parkes ... ..	5	Yass ... ..	1
Emmaville ... ..	4	Parramatta ... ..	7	Young ... ..	3
Forbes ... ..	9	Paterson ... ..	2	Total ... ..	475

The Treasury, New South Wales, 20th March, 1891.

RETURN showing the number of Licensed Brewers in each Licensing District for the year 1890, under the Licensing Act of 1882.

District.	No.	District.	No.	District.	No.
Albury ... ..	2	Forbes ... ..	2	Narrandera ... ..	1
Armidale ... ..	1	Glen Innes ... ..	1	Newcastle ... ..	1
Bathurst ... ..	2	Goulburn ... ..	3	Orange ... ..	2
Bega ... ..	1	Grenfell ... ..	1	Parramatta ... ..	1
Bourke ... ..	1	Gundagai ... ..	1	Queanbeyan ... ..	1
Brewarrina ... ..	1	Hartley ... ..	3	Tamworth ... ..	1
Broken Hill ... ..	4	Hay ... ..	1	Temora ... ..	1
Carcoar ... ..	1	Hillston ... ..	1	Tamut ... ..	1
Cobar ... ..	1	Inverell ... ..	1	Wagga Wagga ... ..	3
Cooma ... ..	2	Kiama ... ..	1	Walgett ... ..	1
Coonamble ... ..	1	Macleay ... ..	1	Wellington ... ..	1
Corowa ... ..	1	Maitland ... ..	1	Wentworth ... ..	2
Cootamundra ... ..	2	Metropolitan ... ..	13	Young ... ..	1
Cowra ... ..	2	Mitchell ... ..	1		
Deniliquin ... ..	2	Moree ... ..	1	Total ... ..	76
Dubbo ... ..	2	Mudgee ... ..	1		

The Treasury, New South Wales, 20th March, 1891.

RETURN showing the number of Licensed Spirit Merchants in each Licensing District for the year 1890, under the Licensing Act of 1882.

District.	No.	District.	No.	District.	No.
Albury ... ..	4	Goulburn ... ..	7	Nymagee ... ..	2
Armidale ... ..	6	Grafton ... ..	3	Orange ... ..	1
Balranald ... ..	1	Grenfell ... ..	1	Parramatta ... ..	3
Bathurst ... ..	2	Gundagai ... ..	1	Patrick's Plains ... ..	1
Bega ... ..	1	Hay ... ..	7	Penrith ... ..	1
Bingera ... ..	1	Hillston ... ..	8	Richmond River ... ..	1
Bombala ... ..	2	Inverell ... ..	2	Ryde ... ..	1
Bourke ... ..	6	Jerilderie ... ..	1	Shoalhaven ... ..	1
Braidwood ... ..	4	Kiama ... ..	1	Tamworth ... ..	4
Brewarrina ... ..	4	Macleay ... ..	1	Temora ... ..	2
Broken Hill ... ..	6	Macleay River ... ..	1	Tibooburra ... ..	1
Campbelltown ... ..	1	Maitland ... ..	6	Tumbarumba ... ..	1
Cobar ... ..	2	Manning River ... ..	1	Tumut ... ..	2
Condobolin ... ..	1	Menindie ... ..	1	Urana ... ..	2
Cooma ... ..	3	Metropolitan ... ..	118	Wagga Wagga ... ..	6
Coonabarabran ... ..	2	Milparinka ... ..	1	Walgett ... ..	4
Coonamble ... ..	3	Mitchell ... ..	3	Warialda ... ..	1
Cootamundra ... ..	2	Moama ... ..	1	Wentworth ... ..	2
Corowa ... ..	5	Moree ... ..	1	Windsor ... ..	2
Deniliquin ... ..	5	Mudgee ... ..	5	Yass ... ..	2
Dubbo ... ..	5	Murrurundi ... ..	1	Young ... ..	2
Emmaville ... ..	1	Muswellbrook ... ..	2		
Forbes ... ..	2	Narrandera ... ..	3	Total ... ..	297
Germanton ... ..	1	Narrabri ... ..	1		
Glen Innes ... ..	1	Newcastle ... ..	7		

The Treasury, New South Wales, 20th March, 1891.

RETURN showing the number of Distillation Licenses (Brandy) in each Licensing District for the year 1890, under the Distillation Act, 13 Vic., No. 27.

District.	No.	District.	No.	District.	No.
Albury ... ..	6	Manning River ... ..	1	Port Macquarie ... ..	2
Braidwood ... ..	2	Molong ... ..	1	Raymond Terrace ... ..	1
Campbelltown ... ..	1	Mudgee ... ..	1	Tamworth ... ..	1
Dungog ... ..	1	Muswellbrook ... ..	1	Wellington ... ..	1
Emmaville ... ..	2	Narrandera ... ..	1	Windsor ... ..	1
Gundagai ... ..	2	Newcastle ... ..	1	Wollongong ... ..	1
Hume ... ..	2	Parramatta ... ..	2	Young ... ..	1
Inverell ... ..	4	Patrick's Plains ... ..	2		
Maitland ... ..	15	Penrith ... ..	4	Total ... ..	57

The Treasury, New South Wales, 20th March, 1891.

RETURN showing the number of Distillation Licenses (Scientific) in each District for the year 1890, under the Distillation Act, 13 Vic. No. 27.

District.	Number.
Broken Hill ... ..	1
Maitland ... ..	1
Metropolitan ... ..	7
Newcastle ... ..	2
Total ... ..	11

The Treasury, New South Wales, 20th March, 1891.

RETURN showing the number of Distillation Licenses (Apothecaries') issued for the year 1890, under the Distillation Act, 13 Vic. No. 27.

District.	Number.
Sydney ... ..	8

The Treasury, New South Wales, 20th March, 1891.

RETURN showing the number of Licenses to Distil Spirits issued for the year 1890, under the Distillation Act, 13 Vic. No. 27.

District.	Number.
Harwood Island, Clarence River ... ..	1

The Treasury, New South Wales, 20th March, 1891.

RETURN showing the number of Licenses to Rectify and Compound Spirits issued for the year 1890, under the Distillation Act, 13 Vic. No. 27.

District.	Number.
Nil ... ..	Nil.

The Treasury, New South Wales, 20th March, 1891.

1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**PUBLICANS' LICENSES FURTHER RESTRICTION BILL.**

(PETITION FROM JOHN DAVIES, CHAIRMAN OF A CONFERENCE, HELD IN TEMPERANCE HALL, SYDNEY.)

*Received by the Legislative Assembly, 27 May, 1891.*

To the Honorable the Speaker and Honorable Members of the Legislative Assembly, in Parliament assembled.

The humble Petition of the undersigned Chairman of a Conference held in the Temperance Hall, Pitt-street, Sydney, at which the accredited representatives and other members of the New South Wales Local Option League, the Wesleyan Church, the Church of England Temperance Society, the Sons of Temperance, the New South Wales Alliance, the Women's Christian Temperance Society, the New South Wales Band of Hope Union, the Young Men's Christian Association, the Congregational Total Abstinence Society, the Sydney City Mission, and the Blue Ribbon Army,—

SHOWETH:—

That your Petitioners regard with much satisfaction the action of the Government in introducing in the last session of Parliament the Publicans' Licenses Further Restriction Act.

That it was resolved at this Conference to represent to your Honorable House that it was its earnest desire that the said Bill should pass into law.

It was also resolved to respectfully ask your Honorable House to make the following amendments:—

1. Believing that one-sixth of the electors was too large a number to be necessary to demand a poll, not less than one hundred to be substituted.
2. That no deposit be necessary when a poll is demanded.
3. That a simple majority instead of two-thirds be sufficient to carry the prohibitory resolution.
4. That a clause be inserted so as to include in the Local Option vote power over the sale of liquor in clubs.
5. That the provisions of the Bill be made to apply to all licenses and not to publicans only.
6. That in the event of a poll failing to bring in force either of the resolutions it be allowed to demand a fresh poll at the end of a year.
7. That no extension of from one to three years of a license be allowed.
8. It was further agreed that it was very desirable to retain in the Bill the very valuable power proposed to give electors to permit them to demand a poll on either of the three resolutions contained in the Bill, so that they might be enabled to veto new licenses, or have prohibition. It was believed that to omit either of these resolutions would wrongly curtail the rights which ought to belong to the people.

They therefore pray that your Honorable House will be pleased to take the foregoing Petition into your favourable consideration.

And your Petitioners, as in duty bound, will ever pray.

18th April, 1891.

JOHN DAVIES,  
As Chairman of the Conference.



1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**PUBLICANS' LICENSES FURTHER RESTRICTION BILL.**  
PETITION FROM CALEB GAMBLING, CHAIRMAN OF A MEETING OF RESIDENTS OF CASTLE HILL

*Received by the Legislative Assembly, 28 May, 1891.*

To the Honorable the Speaker and Members of the Legislative Assembly of New South Wales, in  
Parliament assembled.

Your Petitioners, residents of Castle Hill and the surrounding districts, while thankful that the Government has introduced a measure dealing with the important question of liquor law reform, would humbly pray that the following provisions may be embodied in the Publicans' Licenses Further Restriction Bill now before your Honorable House:—

1. That Publicans' Licenses be limited as at present to one year.
2. That 100 electors be sufficient to demand a poll.
3. That no money deposit be required.
4. That the vote be taken on the simple issue of "License or No License"; that a majority of those voting decide the question; and that in the event of the vote being effective it shall come into operation at the expiration of the current annual licenses.
5. That in the event of a failure to obtain prohibition another poll may be demanded at the end of twelve months from the date of last vote.
6. That the vote embraces brewers, wine and spirit merchants, distillers, and grocers' licenses and be made to apply to clubs.
7. That not less than 100 electors who are qualified to vote can petition the Minister to test the validity of the poll, or to upset the decision arrived at by the majority of the electors.

Praying that your Honorable House will take the foregoing premises into your favourable consideration; and your Petitioners, as in duty bound, will ever pray.

Signed on behalf of the meeting,

CALEB GAMBLING,  
Chairman.

May 14th, 1891.

A similar Petition was received on 28th May, 1891, from members of Star of Hope Division, No. 14, Sons and Daughters of Temperance, Balmain.



1891.

## NEW SOUTH WALES.

## MILITARY FORCES OF THE COLONY.

(FOR THE YEAR 1890.)

Presented to Parliament by Command.

The Major-General Commanding the Military Forces of New South Wales to The Principal Under Secretary.

Sir,

I have the honor to forward my report of the Military Forces for the year 1890. The strength and establishment is now embodied in a tabulated form attached, which will be found a more convenient method of conveying information than that hitherto adopted.

## PERMANENT ARTILLERY.

This Corps has been increased during the past year to 558 of all ranks, necessitated by the progressive nature of the service in regard to increased armament and stores, the better organisation of the Artillery, and the performance of work which has hitherto been in a great measure done by outside labour.

The non-effective list comprises 46 desertions, 1 death and 81 discharges, which are made up as follows:—

Termination of limited engagement	...	...	42
By purchase	...	...	8
Medically unfit	...	...	10
Free	...	...	5
Incorrigible and worthless	...	...	1
Misconduct	...	...	11
Inefficiency	...	...	1
Conviction by Civil power	...	...	3
Total	...	...	81

The desertions show an increase of 18 over those of last year, for which it is difficult to assign any special reason, and I fear that this item will always be a somewhat prominent feature, seeing the facilities with which men chafing under discipline can reach the adjoining colonies. This disability is, I believe, common to the Permanent Forces throughout Australia.

The number of Courts-Martial (30), chiefly on deserters, has varied but little from that of previous year, and, with this exception, the general conduct of the Corps has been good.

During the year the Government has approved of a fresh division of the Artillery Defences, and the consequent separation of the command of the Artillery Forces from that of the Permanent Artillery. This redistribution of labour and responsibility will enable the Artillery command to be satisfactorily administered, which was not possible under an officer, as heretofore, holding the dual office.

A Riding School has been established for the training and instruction of officers and non-commissioned officers of the Permanent and Volunteer Artillery, with encouraging results.

The increase in the number of horses, through the transfer of those belonging to the Permanent Mounted Infantry (on disbandment), has enabled Colonel Spalding, C.M.G., in temporary command of Artillery Forces, to partly horse the Volunteer Field Batteries, and thus generally increase their efficiency in a manner impossible with draught horses hired, as heretofore, from contractors. A considerable amount of transport of guns and stores has been done in connection with outlying forts.

Of the four junior officers recently appointed, all have passed the necessary qualifying examination, and have obtained "first-class" School of Gunnery certificates.

A proper proportion of skilled artificers has been enlisted for the manipulation of the comparatively complex mechanism of the recent types of gun, a precaution which should ensure their being maintained in a service condition, and the due execution of such repairs, &c., as may be required from time to time.

It is to be hoped that the action of the Government in sending Captain Bridges to England, to undergo a long course of instruction in artillery subjects at Woolwich and Shoeburyness, also in the duties of Fire-master and the use of the improved position and range-finding instruments, will be followed at intervals in the case of other officers.

The stable for the Field Battery horses is now available, and being in the the Victoria Barracks it saves a great deal of extra work and inconvenience.

The School of Gunnery at Victoria Barracks is rapidly approaching completion; and as several descriptions of guns, including the 6-inch B.L. gun, on hydro-pneumatic disappearing carriage, will be mounted, together with a large number of models, special facility will exist for the better instruction of this Corps and of the Volunteer Artillery.

The drill of the Corps fairly good; arms and accoutrements in good order; and books generally posted to date. The condition of the Field Battery is not entirely satisfactory, but as officers and men become more accustomed to the work an improvement no doubt will shortly be manifest. Barracks clean and in good order; the batteries in charge, magazines, and stores well arranged; ordnance fit for immediate service.

The Corps has been engaged during the year in mounting and dismounting ordnance, and has assisted the Commanding Engineer's Department in putting together and mounting the new type guns and carriages.

#### PERMANENT SUBMARINE MINERS.

There has been no variation in the establishment of this Corps, neither have there been any discharges or Courts-Martial.

The Corps is well conducted, and forms a most useful body, and its efficiency will be largely promoted by the completion of the depôt at Chowder Bay.

Warrant Officer Wood, R.E., has returned to England on the completion of his engagement, and application has been made for his replacement.

Captain Lee, the officer commanding the Corps, has been sent to England to undergo a special course of instruction.

The Corps has been exercised regularly in the practice of such work as is possible under present circumstances, viz., rowing, knotting, and splicing, bending thimbles into wire rope, jointing cores of cables, connecting up, slinging, laying out, and picking up electro-contact mines, flag and lamp signalling, laying out and picking up ground mines, making up batteries, mine-fitting, electric-testing, cables, apparatus, testing cases and insulating plugs by hydraulic tests, making up mark II insulating plugs, fitting test room and observing stations at Berry's Bay, Middle and George's Head; laying shore ends at Middle and George's Head, also multiple cable.

#### PERMANENT MOUNTED INFANTRY.

This Corps was disbanded during the year, as, through restricted numbers, it had no special place in the scheme of defence. A sufficient increase would have carried with it a corresponding expenditure, which it was felt could be better utilised in another direction.

MEDICAL

## MEDICAL DEPARTMENT.

The formation of a small Permanent Medical Staff Corps is now proceeding, by the transfer of the present Hospital Staff from the Permanent Artillery, as a nucleus; for the remainder, thoroughly qualified men will be selected. A small permanent body such as this is the keystone of efficiency of the Medical service generally.

During the year 185 recruits for the Permanent Forces presented themselves for medical examination, and of this number 156 were accepted, and 29 rejected as unfit.

The physique of those accepted was of a very high order, as the following averages show:—Height, 5 ft. 7 in.; chest, 36½ inches; weight, 10 st. 13½ lb.

There were 293 admissions into the Hospital, but many of the cases were of a slight character, and only requiring detention and treatment to enable the men to be marked as “fit for duty.”

The classification of diseases is as follows:—

Acute Specific	...	...	...	...	...	3
Injuries	...	...	...	...	...	52
Respiratory Organs	...	...	...	...	...	35
Genito-Urinary Organs	...	...	...	...	...	57
Alimentary Canal	...	...	...	...	...	25
Eye and Skin	...	...	...	...	...	30
Nervous System	...	...	...	...	...	7
General Diseases	...	...	...	...	...	94

Of these admissions into Hospital, there were 33 for intemperance, which is a high record, being 11 per cent. of the total admissions.

The recent appointment of a second Medical Officer has enabled the largely increased duties of this department to be carried out with more promptitude and efficiency, and without the employment and cost of civil practitioners.

That portion of the Medical Staff Corps recently formed from the ranks of the partially-paid force has made considerable progress, not only in the knowledge of special ambulance drill and duties, but also in the practical field work, in the shape of first aid to the injured, &c.

A class for Non-commissioned Officers has been held in practical pharmacy under W. O. Leslie, and in this class several have exhibited such proficiency as to qualify for the higher examination for compounders.

This corps requires a slight addition to bring it up to the establishment sufficient for two brigades—now accepted as the organization of the Field Force.

The recruit standard of chest measurement for partially-paid forces has been raised to 34 inches, minimum, with a most decided improvement in the physique of the men attested.

Registers for medical examination of recruits have been kept, and the following averages will show the stamp of men passed into the ranks:—

	Height.	Chest.
Cavalry	5 ft. 9½ in.	34½ in.
Artillery	5 „ 8 „	36 „
Engineers	5 „ 8¼ „	35½ „
Subminers	5 „ 8½ „	35¾ „
Infantry	5 „ 7¼ „	34½ „
Mounted Infantry	5 „ 9¼ „	36¼ „

A proportion of Non-commissioned Officers and men from all branches in the Metropolitan District (excepting Cavalry) have been trained in stretcher and bearer drill, and first aid to the injured.

The equipment ordered from England has arrived, and been so arranged that all branches of the Service are provided for, and any Regiment or Corps required to act separately can at once be furnished with the necessary equipment.

The Field Hospitals and Bearer Companies *matériel* has been most carefully organized, and is available for service at any moment.

The various Batteries throughout the Colony are now being furnished with a Standing Surgical Equipment, forming in fact part of the Battery Stores, and, in addition, a certain portion of a passage in each has been so fitted up that it might be available for the reception and treatment of injured men.

The Garrison Hospital is maintained in a thoroughly effective condition.

PROVOST.

## PROVOST.

The administration of discipline has been satisfactorily carried out, and the prisoners have, from time to time, done a considerable amount of work in the repair of roads and pathways, cleaning and whitewashing portions of the Barracks, and attention generally to sanitary matters.

## PARTIALLY-PAID FORCES.

*Cavalry.*

On the 1st January, 1890, the Cavalry was transferred from the Reserves, with the result of an improvement in discipline, drill, and efficiency. The periodical inspections have shown a manifest advancement in the appearance of the men, the care of arms, &c., and the manner of wearing equipment.

Special attention has been given to the practice of out-post duty, advance and rear guards, squadron drill, volley firing, dismounted and other branches of drill suitable to local requirements.

The complete arming of this Regiment with the lance will be shortly effected.

*Artillery.*

A slight change has taken place in the organization of this Corps by No. 2 Battery being converted into a Field Battery at Head-quarters, and the Bulli Battery armed with two 40-pounder R.B.L. guns of position and two 45 Nordenfeldt machine guns. One Field and one Garrison Battery are wanting to complete artillery requirements, and will be submitted on 1892 Estimates.

The Non-commissioned Officers and Drivers of No. 1 Battery completed a course of riding instruction under the supervision of the Chief Instructor, and have so far advanced in efficiency that they are now permitted to ride and drive the horses of the Permanent Field Battery.

The Garrison Batteries are well up in their drills, and the condition of the Corps may be generally taken as satisfactory.

The following is the description of ordnance to which batteries have been drilled:—6-pounder R.M.L., 16-pounder R.M.L., 40-pounder R.B.L., and 45 machine gun, 9 and 10-inch R.M.L., 10-inch 25-ton R.M.L., 80-pounder R.M.L.

Repository drill for all batteries. Arms, accoutrements, and clothing in good order.

*Engineers.*

The establishment of this Corps has now been raised to that of two Field Companies, viz., 120 of all ranks.

The Corps has been exercised in the usual routine of drills, and maintains its reputation for efficiency, utility, and good conduct.

*Submarine Miners.*

The establishment has been raised to 120 of all ranks.

Although every opportunity is taken to effectively train the Corps to those duties it would have to perform in time of war, the disabilities which confront the Permanent Branch are equally applicable in this case.

Useful work was, however, done during the year, and the Corps may be congratulated on the interest taken in the same, the creditable state of efficiency attained under the circumstances, and its uniform good conduct.

*Mounted Infantry.*

With one exception the progress of this Regiment has been satisfactory, and extra care has been exercised to keep the Non-commissioned Officers up to the mark, by examination and otherwise. The average attendance at parade has been remarkably good, and great interest is taken in the work. The creditable degree of efficiency arrived at in shooting and field-firing has been noted in another portion of this Report.

*Infantry.*

The drill, discipline, and efficiency of this branch of the Service are satisfactory, and the interior economy as administered by commanding officers is of a high order for an organisation short of that obtaining in the Regular Service.

The various regiments are possessed of a vast amount of *esprit de corps*, and they continue to maintain a reputation for good conduct, which it is not too much to say is remarkable with so large a body of men.

Advantage

Advantage has been taken of the whole-day parades to give special practice in outpost duty. Regiments are now well acquainted with the latest attack formation.

#### *Commissariat and Transport Corps.*

This Corps is now under process of formation, and renders the Military Forces of the Colony pretty well complete as regards component parts, thus rendering it possible to take field with every branch in harmonious accord and working to the common end. It is estimated that a considerable saving per annum will be effected by the establishment of this corps, and the Transport Service will be performed in a more satisfactory manner than heretofore.

#### *Reserves.*

The Scottish Rifles form a fine and well-conducted body, but are less than half of the establishment. It is only too evident that the cost of maintaining an expensive uniform deters men from joining, and drives others out of the Service.

This is the only portion of the Reserves which has hitherto been drilled; but it is intended to submit a scheme to the Minister, which will not only increase the utility and efficiency of the Reserves generally, but will bring them more into touch with the force they are intended to supplement in time of war. This, however, cannot be effected without a corresponding expenditure, for discipline and efficiency mean pounds, shillings, and pence.

The Rifle Companies now number 4,510, as compared with 3,392 of previous year, and are merely trained as regards musketry.

The majority of Corps exhibit a keen interest in shooting, and are thus developing considerable skill with the rifle. 3,024 went through musketry during the year, and earned the money grant for their Corps. Of these, 1,023 were marksmen; 1,024 first-class shots; 977 second-class; and 179 third-class.

#### *Musketry.*

It is to be gathered from the report of Captain Cuthell, Staff Instructor of Musketry, that the shooting during the past year has shown a slight improvement over that of previous years.

The total number of men of the Partially-paid Force which went through the course was 2,355, as compared with 2,161 in 1889. The averages are computed on 2,220, leaving out 200 Permanent and Volunteer Artillery, and the following classification is arrived at:—

	1889.	1890.
Marksmen ... ..	556	849
1st Class ... ..	399	616
2nd Class... ..	674	382
3rd Class... ..	293	373

The percentages are:—

	1889.	1890.
Marksmen ... ..	28.90	38.24
1st Class... ..	20.76	27.75
2nd Class... ..	35.07	17.21
3rd Class... ..	15.24	16.80

The figure of merit of the whole is 131.33.

The best shot in the force is Private H. Smith of the Maitland Company, 4th Regiment, with a total of 199 points.

Best shot, Engineer Corps	... Corporal Tait	... .. 188 points.
„ „ Sub. Miners	... Sapper J. Kelly	... .. 168 „
„ „ Mounted Infantry	... Corporal Insted	... .. 195 „
„ „ 1st Regiment	... Private C. Crouch	... .. 181 „
„ „ 2nd „	... Private J. Jackson	... .. 187 „
„ „ 3rd „	... Private J. Lennon	... .. 186 „
„ „ 4th „	... Sergeant E. Sage	... .. 192 „

The shooting and attendance of the Metropolitan Corps were affected by generally bad weather, and the closing of the Paddington range.

The

The Staff Inspector of Musketry speaks in the highest terms of the interest and improvement in musketry exhibited by the Mounted Infantry, and although of very recent formation has proved its superiority to the Infantry Regiments. The Martini-Henry rifle is about to be issued, which will further improve the shooting power of the former.

A most important and absolutely essential portion of the annual training of an Infantry soldier was introduced last year, viz., field-firing, as if in the presence of an enemy. It has proved a marked success, and has developed an interest in the course of training which was altogether wanting in the ordinary routine, and Officers and men highly appreciate the practical and valuable nature of the instruction.

The following is a condensed return of the operations of the year, which particularly marks the superior attendance and shooting of the 3rd and 4th Regiments, as compared with that of the 1st and 2nd Regiments for the years 1889-90.

## MUSKETRY COURSE FOR 1890.

Corps.	As per Alphabetical Roll.	Exercised.	Partially Exercised.	Not Exercised.	Marksmen.	1st Class.	2nd Class.	3rd Class.	Figure of Merit, 1890.	Best Shot in Company.
P. F. Engineers, 1 Company .....	52	17	...	35	10	12	3	2	175.85	Sap. D. Menzies, 170.
" " 2 " .....	55	19	...	36	7	13	1	5	128.47	Corpl. Tait, 188.
" Sub-m. Miners, A Company .....	55	15	...	40	3	8	2	5	82.00	Sap. G. Kelly, 168.
" " B " .....	54	14	...	40	2	6	1	7	51.92	Sap. J. Miles, 153.
Total .....	216	65	...	151	22	39	7	19	109.43	
1ST REGIMENT.										
A Company, Headquarters .....	59	49	...	10	15	27	8	14	104.77	Corpl. A. Russell, 162.
B " " .....	67	52	...	15	11	27	10	15	85.59	Sergt. M. V. Hobbs, 151.
C " " .....	65	37	...	28	9	17	6	14	72.67	Clr.-Sergt. J. H. Strong, 159.
D " " .....	67	42	...	25	19	29	5	8	142.13	Pte. D. Jones, 165.
E " Parramatta .....	57	47	...	10	13	30	10	7	122.63	Corpl. A. Forsyth, 172.
F " Yass .....	24	20	...	4	4	11	3	6	104.60	Pte. W. J. Cameron, 140.
G " Wagga Wagga .....	59	40	...	19	19	30	4	6	147.34	Clr.-Sergt. Howarth, 173.
H " Albury .....	63	50	...	13	18	34	12	4	151.60	Pte. W. H. Barkley, 180.
I " Young .....	50	40	...	10	13	25	8	7	150.42	Pte. T. McVeigh, 176.
K " Hunter's Hill .....	66	54	2	10	26	36	6	12	136.77	Sergeant W. Fox, 166.
Total .....	577	431	2	144	147	266	72	93	121.85	
2ND REGIMENT.										
A Company, Headquarters .....	60	44	...	16	11	25	4	15	88.45	Sergt. J. Thomas, 164.
B " " .....	61	39	...	22	5	21	5	13	63.29	Clr.-Sergt. G. Gilder, 167.
C " " .....	62	40	...	22	11	19	6	15	88.27	Corpl. G. Cains, 175.
D " " .....	61	39	...	22	7	20	7	12	83.55	Pte. D. McLaughlan, 161.
E " Kiama .....	62	40	...	13	16	27	18	4	151.46	Pte. R. Jarvis, 183.
F " Ulladulla .....	62	53	...	9	16	33	15	5	157.41	Sergt. J. Knapp, 185.
G " Goulburn .....	63	53	...	10	29	45	2	6	170.60	Pte. P. Stephenson, 186.
H " Bowral .....	41	36	...	5	19	28	7	1	177.36	Pte. G. Chant, 167.
I " Ashfield .....	64	43	...	21	13	25	9	9	113.51	Sergeant A. M. Creary, 175.
K " Cooma .....	44	32	...	12	17	22	1	9	139.28	Pte. G. Schick, 171.
Total .....	580	428	...	152	144	265	74	89	123.31	
3RD REGIMENT.										
A Company, Windsor .....	63	58	...	5	21	37	13	8	137.43	Sergt. R. Mellish, 177.
B " Bathurst .....	63	50	...	13	23	32	10	8	144.72	Sergt. J. Naylor, 174.
C " Orange .....	72	60	...	12	25	51	8	1	179.45	Pte. J. Fisher, 178.
D " Richmond .....	61	58	...	3	23	37	7	14	128.38	Pte. R. A. Broughton, 184.
E " Lithgow .....	62	44	5	13	18	33	8	3	154.09	Pte. R. Grant, 186.
F " Mudgee .....	58	50	...	8	20	33	10	7	137.38	Pte. E. Darwell, 174.
G " Wellington .....	75	58	2	15	14	29	22	7	134.82	Color-Sergt. A. E. Ross, 176.
H " Molong .....	45	32	...	13	19	28	2	2	180.02	Pte. J. Collins, 169.
I " Dubbo .....	66	47	...	19	13	31	9	7	123.20	Pte. E. Perran, 163.
K " Penrith .....	64	50	1	13	9	23	6	18	72.04	Corpl. R. M'Cook, 155.
Total .....	629	507	8	114	185	334	97	76	139.15	
4TH REGIMENT.										
A Company, Newcastle .....	67	55	1	11	17	29	13	13	113.54	Pte. J. Timbrell, 184.
B " Maitland .....	68	53	...	15	21	38	8	7	179.15	Pte. M. Dilley, 184.
C " Singleton .....	65	54	...	11	17	32	21	1	167.27	Sergt. E. J. Bourke, 182.
D " Morpeth .....	66	49	1	16	19	37	7	5	144.50	L.-Corpl. J. Hamilton, 182.
E " Wallsend .....	71	62	1	8	24	47	5	10	139.50	Pte. J. Wallace, 177.
F " Tamworth .....	73	58	...	15	17	32	10	16	106.60	Pte. J. J. Lord, 175.
G " Muswellbrook .....	60	26	...	34	6	16	8	2	126.84	Col.-Sergt. A. S. Roberts, 172.
H " Lambton .....	69	65	...	4	28	47	17	1	179.12	Pte. F. C. Rosse, 183.
I " Armidale .....	71	50	...	21	22	34	7	9	139.92	Pte. J. B. Blencowe, 169.
K " Glen Innes .....	70	56	...	14	28	41	10	5	170.73	Corpl. H. B. Joseph, 172.
Total .....	680	528	3	149	199	353	106	69	146.72	

## MOUNTED INFANTRY.

Corps.	As per Alphabetical Roll.	Exercised.	Partially Exercised.	Not Exercised.	Marksmen.	1st Class.	2nd Class.	3rd Class.	Figure of Merit, 1890.	Best Shot in Company.
A Company, Tenterfield .....	56	40	...	16	19	30	5	6	151.50	Pte. A. M'Alister, 168.
B " Bega .....	51	42	1	8	26	34	4	4	176.09	Pte. C. Underhill, 173.
C " Queanbeyan .....	47	44	...	3	17	21	14	9	128.15	Pte. R. Macfarlane, 126.
D " Picton .....	50	38	...	12	23	32	1	5	169.97	Sergt.-major J. Reeves, 190.
E " Campbelltown .....	53	49	...	4	37	46	2	1	207.79	Sergt. J. Lynch, 192.
F " Inverell .....	51	48	...	3	30	45	...	3	183.70	L.-sergt. T. M'Clymont, 186.
Total .....	308	261	1	46	152	208	26	27	169.63	

*Continuous Training.*

The usual training of nine days at Easter was carried out at National Park for the Field Force, and at the Heads for the Garrison Artillery and Submarine Miners.

The attendance at the former numbered 3,204 of all ranks, and 641 horses, including the Field Battery Permanent Artillery and Permanent Mounted Infantry.

The Cavalry, Field Artillery, Engineers, Mounted Infantry, and Medical Staff Corps were each thoroughly practised in the exercises special to their respective branches.

The instruction of the Infantry was, to a great extent, confined to the attack formation, which is of paramount importance to that arm.

The tactical employment of the three arms could not be satisfactorily carried out in consequence of the restricted area of manœuvre, and indeed both Cavalry and Mounted Infantry injured a considerable number of horses by reason of the impracticable nature of the country. It is not to be expected they will bring valuable horses to the annual trainings under such conditions.

The Garrison, Artillery, and Submarine Miners, numbering 888 of all ranks, also did useful work.

The conduct of the troops in both Camps was, as usual, good; keen interest was exhibited by all ranks, and cheerful and ready obedience to orders was observed throughout.

Increased responsibilities and independence were imposed upon Commanding Officers at the National Park, and the manner in which the routine and administration of the various commands were carried out justified the confidence reposed in them.

## ORDNANCE STORE DEPARTMENT.

This important branch of the Public Service has at last been transferred to the Military Department, and, consequently, harmonious and more effective action has been secured. It is now conducted on Imperial lines as far as possible, and the supply services to the Forces have been carried out during the past year with as much promptitude and completeness as the nature of the duty, the want of accommodation, and the derivation of supplies would admit.

The Annual Board, as required by Imperial Regulations, was held during the month of August, and valuable recommendations emanated therefrom, which have either been acted on or are under the consideration of the Minister.

The reserve of small-arms ammunition, and that for other ordnance, is maintained on approved scale.

The practice of granting the use of camp equipment for other than Military, or even relief Services, has been continued, causing wear and deterioration, burdening the too-small labour staff of the Department with a heavy amount of unrecognised duty, and involving much expenditure of time, and some cost in handling and repair. The purpose for which this particular form of accommodation is frequently required is of the most twaddling description, and the contingent cost could more properly be borne by the individuals than the public, especially as no difficulty whatever exists in hiring suitable tents at a moderate cost.

It is proper to note that until suitable magazines are built on the site recommended at Newington, the conditions of storage cannot be carried out without risk, nor can the administrative changes recommended be adopted in their entirety.

## GENERAL REMARKS.

The withdrawal of certain portions of Estimates as submitted for 1890 and 1891 has left the Infantry numerically insufficient, but it is to be hoped that those of the ensuing year will provide for sufficient to complete the two Brigades.

A suitable rifle range at Randwick for the Head-quarter Force is in course of preparation, and may be shortly expected to be available for practice; but other matters, such as the provision of a proper ordnance store and gun wharf, a scheme of retirement for officers of the Permanent Forces, and the incorporation of the partially-paid as Militia, are as yet in abeyance.

During the past year lectures have been delivered at the United Service Institution as follows:—

- I. "The Defence of a Protected Harbour," by Lieutenant-Colonel Boddam, Assistant Engineer for Military Works.
- II. "Harbour Defence by Guard-boats, and their duties," by Commander Bosanquet, R.N., Commanding Naval Artillery Volunteers.
- III. "Round about Apia—Samoa," by Captain Castle, R.N., H.M.S. "Rapid."
- IV. "The Australian Soldier," by Captain McCutcheon, 1st Regiment.

Major Churchward, R.A., has been indefatigable in the instruction of a number of members in the War Game, several of whom took a very keen interest therein.

Major Lassetter, of the South Staffordshire Regiment, conducted classes in Elementary Military Topography.

The donations to the library have been very gratifying, and include a valuable contribution from the Secretary of State for War, through the Intelligence Department of the War Office, together with an intimation of further contributions from time to time.

The Library now contains about 600 books, journals, magazines, maps, &c., and the purchases by the Library Committee have been well chosen.

The action of the Government in deferring the order for the magazine rifle appears to be amply justified, seeing that up to the present moment the precise pattern of rifle and ammunition has not been finally decided upon by the Imperial authorities. When this is done, it will be time enough to give the order in the meantime our local troops possess an admirable weapon in the Martini-Henry.

At the latter part of 1890 I was directed to meet the Commandants of Victoria, South Australia, Queensland, Western Australia, and Tasmania, in Melbourne, for the purpose of inspecting and reporting upon the defences of Albany, Tasmania, Thursday Island, and Port Darwin. The Committee duly performed that portion of the work relating to the two first-named places, and their reports are now in the hands of the various Governments. That relating to the two last will be undertaken in the beginning of April next.

The Committee took advantage of the occasion to informally discuss the organisation, training, clothing, pay, &c., of the various local forces, with the view of recommending for adoption a common system of administration, &c., for the Military Defence Forces of Australia.

JOHN S. RICHARDSON, M.-G.,

Sydney, 16 March, 1891.

Commanding Forces.

RETURN OF THE MILITARY FORCES, NEW SOUTH WALES.

Branch of Service	Officers.	Warrant and N.-C. Officers.	Other ranks	Enrolled strength	Wanting to complete.	Establishment.	
General Staff.	Executive .....	3	.....	.....	3	3	
	Clerical.....	1	8	.....	9	9	
	Paymaster .....	1	5	.....	6	6	
	Commanding Engineer .....	1	4	1	6	6	
	Firemaster .....	1	2	.....	3	3	
	Musketry .....	1	5	.....	6	6	
	Quartermaster .....	1	1	.....	2	2	
Regulars.	Ordnance .....	2	5	8	15	15	
	N.S.W. Artillery .....	17	75	398	490	558	
	Permanent Submarine Miners .....	1	9	12	21	21	
Permanent Staff (unattached) .....	2	5	8	15	15	15	
Honorary Chaplains .....	.....	9	5	14	.....	14	
Partially-paid Corps.	.....	3	.....	.....	3	3	
	Cavalry, 6½ troops .....	21	57	232	311	46	357
	Artillery, 9 batteries .....	32	92	390	523	57	580
	Engineers, 2 companies .....	7	16	89	112	8	120
	Submarine Miners, 2 companies .....	9	12	88	109	11	120
	Mounted Infantry, 6 companies .....	19	57	232	308	19	327
	Infantry, 4 regiments .....	132	337	2,166	2,635	199	2,834
Reserves.	Medical Staff Corps .....	7	13	46	66	5	71
	Commissariat and Transport Corps .....	1	6	18	25	14	39
	Scottish Rifles, 2 companies .....	5	6	85	96	104	200
	Rifle Companies, 97 companies .....	3	10	4,500	4,513	.....	4,513
Total.....	270	734	8,237	9,291	531	9,822	

JOHN S. RICHARDSON, Major-General.

1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

ACCIDENT IN THE VICINITY OF COBBLER'S BEACH,  
NEAR MIDDLE HEAD.

(PROCEEDINGS OF A COURT OF INQUIRY.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

The Colonel Commanding the Military Forces to The Colonial Secretary.

Sir,

Military Staff Office, 20 April, 1891.

I have the honor to transmit herewith proceedings of a Court of Inquiry assembled to inquire into and report upon the cause of the deplorable accident which occurred in the vicinity of Cobbler's Beach, near Middle Head, on the 3rd instant.

The proceedings show that the Court have held a careful and exhaustive inquiry into the whole of the circumstances, and, in my opinion, have arrived at the only possible conclusion; for had the repeated directions and cautions, so carefully given by Colonel de Wolski, R.E., been obeyed, as might most reasonably have been expected from the high qualifications of the officers and non-commissioned officers immediately responsible—most notably the special order to pay out the whole of the cable connected with the mine to be fired—the disaster could not have occurred.

2. It will, I think, be some consolation to the friends and relatives of those lost and injured to be assured that from the evidence taken by the Court it is proved that the officers, non-commissioned officers, and men employed in the boat were cool and collected, and thoroughly imbued with the responsible, but not necessarily dangerous, nature of their duties.

3. As the officer immediately in command of the troops at Middle Head, I think it only due to myself to invite your attention to the somewhat peculiar statement handed in by Colonel de Wolski to the Court on the 13th instant, containing an apparently private letter signed "Robert Collins," from which it would appear that Colonel de Wolski expressed an opinion two or three hours before the explosion that danger attended the experiments, for which he properly  
takes

takes the whole responsibility. I can only say that if this was Colonel de Wolski's view it is an extraordinary thing that he made no official communication to me on the subject, and the first intimation I receive to this effect is by the importation (as before stated) of an apparently private letter having no bearing on the cause of the accident as disclosed by the evidence.

4. I would also direct your attention to that portion of Colonel de Wolski's statement wherein he expresses an earnest hope that this sad loss of life will not give rise to a loss of confidence in the safety of submarine mines. When it is taken into consideration that submarine mining practice has been carefully and successfully conducted for many years, under the direction of formerly our local officers, and subsequently by Imperial officers, I am satisfied no such loss of confidence will ensue. But these and other questions are but side issues of the sad proceedings I have to forward.

5. Colonel de Wolski's final statement, coming as it does from an Imperial officer, although in local employment, appears to me to be at the present stage more a question for the Government to consider than for me to comment upon.

I have, &c.,

WARNER SPALDING,  
Colonel Commanding Forces.

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[Enclosure.]

[Enclosure.]

PROCEEDINGS of a Court of Inquiry assembled at Middle Head Camp, on the 3rd April, 1891, by order of Colonel W. W. Spalding, C.M.G., bearing date 3rd April, 1891, to inquire into and report upon the cause of accident to Sub-Marine Miners' boat this afternoon.

**FIRST DAY.***President :—*

Colonel F. Wells, N.S.W.V.A.

*Members :—*

Lieut.-Colonel G. J. Airey, N.S.W.A. ; Lieut.-Colonel E. C. Cracknell, P.-P.Sub-Miners.

THE Court having assembled, pursuant to the above order, proceed to make the required declaration in paragraph 99 of the Volunteer Force Regulation Act.

The Court proceed to take evidence.

*Colonel F. R. de Wolski* having been duly sworn, states :—It was arranged, shortly after the inspection of troops by the Commander-in-Chief, two mines laid on the previous day by me should be fired from the jetty ; in addition to these, a number of charges of condemned gun-cotton were made up in india-rubber bags for experimental purposes ; some of these charges were fired on Thursday afternoon, and the others this morning, with the object of giving the officers and men practice ; shortly after luncheon, about 2.30 p.m., I walked down to the pier to give final instructions to the officers in charge, viz., Lieuts. Hammand and Bedford, with whom I had attached Corporal M'Kee, of the Royal Engineers, an assistant instructor in submarine mining ; in order to enable the charges to be fired rapidly in succession, I instructed Lieut. Hammand early in the morning to divide the cable in the boat into two portions ; two charges and two cables were thus prepared for firing ; to each charge was attached a float and a sinker, and the instructions were to lay the charge, row rapidly from it to nearly the full length of the cable, and then back-water, connect up, and fire ; the instructions were to fire the two 250 lb. mines laid out on Thursday, then to fire the experimental charges ; I reported to Colonel Spalding, immediately after Lord Jersey had addressed the officers, that the mines were ready to fire ; he replied that he would bring His Excellency to the point overlooking the mine field in a few minutes ; after waiting for some twenty minutes or more, and sending two officers to make inquiries, I determined to fire one of the mines on my own responsibility, as I could not accept the risk of keeping any longer loaded charges alongside the jetty which would take some time to lay out, as well as loaded mines lying in the fairway of the steamers ; I may mention that these two mines formed part of the three I had myself laid out on the previous day to explode in presence of the Premier, who had intimated his intention of visiting the camp ; the mine was successfully fired, and, His Excellency still not arriving, I telephoned down to the cutter to start laying out one of the 100 lb. gun cotton charges ; this was a distinct alteration to the programme I had pre-arranged with Lieut. Hammand, that the mines should be laid out first, and the extemporised charges afterwards, but as His Excellency had not arrived, I intended to reserve one of each type for him ; Lieut. Hammand telephoned back, asking the order be repeated, as No. 2 mine was ready ; the order was then repeated ; this only necessitated the dynamo being shifted from the pier into the cutter alongside, and, in my opinion, could make no possible difference in the work to be carried out ; the programme should have been adhered to, as loaded mines primed ready to fire should not have been allowed in dangerous proximity to a public jetty for such a long time ; I then signalled to the cutter to lay out the 100-lb. charge (one of the experimental ones) ; the cutter at once started from the jetty, proceeded to the marking buoy, which had been previously laid out, and I noticed she dropped the buoy connected with the charge, and rowed away about 100 yards from it ; the previously arranged signal for firing was made, viz., a red flag, which I answered by signalling to fire ; several seconds, I should say about thirty, elapsed before the charge was fired, and I noticed people in the stern of the boat moving about as if in doubt ; I then saw an explosion in the vicinity of the boat, and a number of fragments flying in the air ; on proceeding with Captain Morris, P.A., Dr. Ellis, and some others, to the scene of disaster, I got into a whaler and rowed to the charge which had been laid out by the boat just before ; I picked up the buoy to which the charge was attached, and found the charge unexploded ; there can be no reasonable doubt in my mind that the party in the boat had connected up the wrong charge to the dynamo exploder, and blown themselves up ; my instructions to Lieut. Hammand, with a view to avoiding the delay experienced the previous day, were to divide the cable into two lengths of about 110 yards each, and to connect each length to a charge ; instructions were given repeatedly to all the officers and non-commissioned officers employed in this work to keep the charges apart ; in the first camp, 1889, I declined to fire any extemporised charges, not knowing the officers and men, when asked to try by Colonel Roberts ; in 1890 we fired nothing but service charges, and this year we fired experimental charges ; for the two previous days exercised the officers, non-commissioned officers, and men at this work ; I had given special instructions that no charge should be laid down without a marking buoy, although this is not ordered in any Service Manual, such operation not being a drill manœuvre ; this precaution prevents the possibility of a charge after being laid

laid fouling the boat, and being dragged out of position at the time of explosion; the greatest care has always been taken to keep primed charges well apart, both in the store tent and in the boats, whether they were small or large, and I have seen this order carried out; the instructions to Corporal M'Kee and the officers in the boat, whom I regard as being under his instruction, were to backwater when the full length of the cable had been paid out, thereby assuring that the cable was attached to the proper charge; these instructions apparently could not have been carried out, for some unaccountable reason; there was plenty of time for the boat to get both charges properly separated, as she was lying alongside the jetty for an hour doing nothing; on the Thursday I had instructed Corporal M'Kee and those present to seal up the ends of cables of the strict service mines I had just laid, and instructed them this should be done as a safeguard; I had every confidence in Corporal M'Kee's knowledge of submarine mining and electricity; he had a thorough training in the Imperial Service; Lieut. Hammand was an experienced electrician, and Lieut. Bedford a careful experienced man in a boat; when I spoke to the officers and men in charge of the cutter at the jetty, shortly before the accident, they were calm and collected, and free from any excitement; the Captain of the Permanent Sub-Marine Miners is at Home undergoing a course of instructions, and the Warrant Officer Instructor has not been replaced; the duties of both these officers have devolved on me, and I have been present throughout the camp and have personally superintended every operation, such as laying out mines in Obelisk Bay, and making up mines and charges, working electric light, &c.; every reasonable precaution possible with a limited staff has been taken; as I accept the fullest responsibility for the arrangement of the programme, the details of the party, and for the order to fire both mines, I request to be allowed to be present during the proceedings.

The Court allows Colonel De Wolski's request.

*Dr. H. A. Ellis* is duly sworn, and states:—Being told an accident had occurred, I went down to the jetty at Cobbler's Beach; by request of Colonel de Wolski I went out with him in the whaler to pick up the buoy, and saw a 100-lb. charge attached to it still unexploded; the far or boat end of the cable only was injured, having been apparently blown up.

The witness withdraws.

It being now 11 p.m., the Court adjourns till to-morrow, the 4th April, at 9 a.m.

## SECOND DAY.

The Court re-assemble at 9 a.m., the 4th April, pursuant to adjournment. Present—The same Members as before.

*A. G. H. Morris*, Captain in the N.S.W. Artillery, being duly sworn, states:—I witnessed the accident yesterday afternoon; I was detailed by Colonel Spalding, at the request of Colonel de Wolski, to accompany him with Major Walker in the cutter to pick up the unexploded mine; the buoy was pulled up; the mine was unexploded, and was brought on shore immediately; I noticed the buoy before the explosion; where the explosion took place was about 100 yards from the buoy.

The witness withdraws.

*Sapper John Grant*, P.P.S.M., being duly sworn, states:—I was one of the crew of the boat in which the explosion took place, pulling an oar on the port bow; we left the wharf at about 3:15 p.m., and rowed out about 300 yards from the wharf; we had one charge of 100 lb. gun cotton hanging on the port quarter and two 50 lb. charges hanging over the starboard side; we lowered the 100 lb. charge with a buoy and flag attached, then we rowed some 70 or 80 yards away from the buoy, paying out cable, and were told to rest on our oars; I noticed that the flag of the buoy turned over; Lieut. Bedford gave the order to rest on our oars; I then noticed Corporal M'Kee connect the lead with the dynamo; as he was doing so Lieut. Hammand held up the red flag as a signal; then a signal came from the shore to fire; Lieut. Hammand turned the handle of the dynamo; the charge did not go off, and it was seen something was wrong; Corporal M'Kee then took up a cable, and held it against the dynamo; Lieut. Hammand was sitting next the handle of the dynamo; the explosion immediately occurred, and I knew nothing further; the dynamo was on the after thwart of the boat.

The witness withdraws.

*Sapper J. H. Bowmaker*, P.P.S.M., being duly sworn, states:—I was one of the crew of the boat in which the explosion took place, pulling No. 3 port oar; having laid the 100-lb. mine we pulled out to a safe distance, about 100 yards; the cable was connected with the dynamo, and Lieut. Hammand turned the handle to fire the charge, but the earth-plate was not in the water; he then threw the earth-plate overboard, and in doing so the cable was knocked off the dynamo; Lieut. Hammand then picked up a cable and attached it to the dynamo; he then turned the handle to fire and the explosion took place, the charge on the starboard quarter having exploded; the men who started in the boat, as far as I can remember, were Lieuts. Hammand and Bedford, Corporal M'Kee, Bugler Bennett, Sappers Brentnall, Borland, Blakeman, Adams, Tully, King, Bolin, Bowmaker, Grant, and Wailes; after the explosion I never saw anything further of Lieuts. Hammand and Bedford, Corporal M'Kee, and Bugler Bennett, who were all aft.

The witness withdraws.

*Lieut. A. Talbot*, P.P. Sub-Marine Miners, being duly sworn, states:—I was in charge of the jetty on the afternoon of Friday, 3rd instant, and was present when the cutter went away; I heard Colonel de Wolski instruct Corporal M'Kee to lower the sinker on the starboard quarter; I heard him also instruct them after lowering the charge to pull away from it to the full extent of the cable and hold water; officers and men had lunched at their usual messes; all officers and men were perfectly sober and free from any excitement; I recollect Colonel de Wolski telling Corporal M'Kee before leaving that he looked to him to see that all connections were properly made.

The witness withdraws.

*Lieut.*

*Lieut. John Yates Nelson*, of the P.P. Sub-Marine Miners, being duly sworn, states:—I am an electrician in the Telegraph Department; I was in charge of the field telegraph between the spectators' point and the jetty on the afternoon of the 3rd instant; I recollect Colonel de Wolski changing the orders after the first roburite mine had been exploded; he then gave directions for the gun cotton services to be fired; that order was queried by the operator at the jetty asking, "Should it not be No. 2 mine?" I repeated the message to lay out the gun cotton service; that order was acknowledged, and I saw the men getting away with the cutter; I have laid out these experimental charges myself; in every instance I have taken the precaution to see that the lead was perfectly clear and the boat at a safe distance, usually keeping the lead in my own hand, and putting over the earth-plate the last thing before connecting up; in any operation I have always been careful to ensure that I connected with the one leading to the charge to be exploded.

The witness withdraws.

*Lieut. John S. Alexander* of the P.P. Sub-Marine Miners, being duly sworn, states:—I was employed laying out extemporised charges on Thursday with Lieut. Talbot; Corporal M'Kee was there for about an hour in the afternoon; in the morning we fired four 5-lb. bags, in the afternoon two 50-lb., one 25-lb., and one 100-lb. charges; in every case there was a marking buoy out, and the boat was always at a safe distance; if two charges are in the boat it is usual to keep them separate; in the afternoon, about 3 o'clock, resumed duty on the cutter, and received two charges from the jetty; instructed the crew to place both in the boat, one in the bow, covered with a tarpaulin, the other in the stern ready for connecting up; before leaving the jetty Lieut. Hammand arrived to test the dynamo; as a precaution, he requested that I should shift the charge from the bow and put it alongside the one in the stern, that there might be greater safety whilst he was testing the dynamo in the bow of the cutter; I had the charge in the bow moved aft; immediately afterwards Colonel de Wolski arrived and called my attention to the fact that the charges ought to be kept separate; on all occasions care is taken to insure absolute safety; during Thursday afternoon, to show the care evinced always by Corporal M'Kee, he called attention to the cutter being very near one of the marking buoys of the roburite mines, and asked the coxwain of the boat to keep further away in passing it; he said he would not trust his own brother in sub-marine mining.

The witness withdraws.

*Sergeant R. Saunders*, of the P.P. Sub-Marine Miners, being duly sworn, states:—I have been in charge of the boat's crews on Thursday and Friday last; when Colonel de Wolski came down to the jetty on Friday afternoon I was in the boat; he noticed there were too many men in the boat, so called myself and two others ashore; Colonel de Wolski has given instructions always to buoy the charge, and as soon as they were laid to pull away to the end of the cable and to hold water; the last instruction was repeated by Corporal M'Kee on Friday afternoon; Colonel de Wolski was particular in seeing the men shifted towards the bow, so as to give plenty of room astern; the greatest care was taken when firing any charge; Corporal M'Kee was an exceptionally careful man; the greatest order prevailed amongst the crew, and there was no undue haste.

The witness withdraws.

*Colonel Warner Spalding, C.M.G.*, commanding the camp at Middle Head, being duly sworn, states:—Under certain conditions I consider that Colonel de Wolski had authority to fire the mine without reference to me; the conditions of safety or practice were under his supervision; I consider that under the conditions stated Colonel de Wolski was justified in exercising his own judgment; the charge that caused the accident was not laid before his Excellency the Commander-in-Chief arrived on the ground.

The witness withdraws.

The Court adjourns until Monday, at 10 a.m., for further evidence.

### THIRD DAY.

At 10 a.m., Monday, the 6th April, the Court reassembled. Present—The same members as before.

*Sapper W. Borland*, P.P. Sub-Marine Miners, being duly sworn, states:—I was in the boat on the afternoon of the accident at Cobbler's Beach, pulling stroke oar on the port side; there were two charges, one on each side; that of 100 lbs., on port side, was laid; the boat then pulled away about fifty yards or more; the whole of the coil was not paid out; a kink was in the cable, which was cleared by Corporal M'Kee, I believe; we then pulled on about twelve more yards, the whole of the cable was not paid out; a signal was made from the boat. Corporal M'Kee fixed the cable to the dynamo; Lieut. Hammand turned the handle of the dynamo; the charge did not explode; some one, I cannot say who, threw the earth-plate over the side of the boat; on its being found that it had not been in the water, Lieut. Hammand gave the dynamo two turns, and the cable caught the handle; Lieut. Hammand pulled the cable away from the dynamo, and gave it five turns; immediately afterwards the charge tied to the starboard side of the boat exploded; Lieut. Hammand worked the handle of the dynamo, and Corporal M'Kee made the connections, assisted by Bugler Bennett; one cable was placed in the bottom of the stern of the boat, the other was placed on the gang-board and stroke seat; the coils would be about 2 feet apart; the coil in the stern sheets was the one paid out first, I believe; I did not notice which cable was taken up and attached; the earth-plate referred to was a copper plate, 5 inches by about 8 inches; we were waiting at the jetty for about an hour, I think; there was a little undue hurry at the last moment; I do not remember any conversation between the officers and Corporal M'Kee; the charge on the starboard side was lashed about 6 inches below the gunwale of the boat, and was not lowered at all.

The witness withdraws.

*Sapper Arthur Adams*, of the P.P. Sub-Marine Miners, being duly sworn, states:—I was No. 4 on port side of the cutter; we had two charges, one of 100 lbs. on port side, and the other consisted of two 50-lb. lashed together; when we got about 300 or 400 yards out from the jetty, we cut the lashings of the 100-lb. charge on port side, and it dropped into the water; there was a buoy attached to it with a small red flag; we rowed away, paying out the cable; when we had gone about 50 or 60 yards the cable seemed to be drawn taut; Lieut. Bedford ordered us to back water, and cleared a kink which was in the cable;

cable; Corporal M'Kee attached the cable to the dynamo, assisted by Bugler Bennett; Lieut. Hammand turned the handle of the dynamo, and the charge which we had laid out did not explode; someone amongst the pullers called out that the earth-plate was not over; the earth-plate, which was a piece of copper about 6 inches square, was thrown over the port side of the boat by either Corporal M'Kee or Bugler Bennett; Lieut. Hammand turned the handle of the dynamo, and the cable got a turn round the handle; Lieut. Hammand then threw the cable off the handle and turned the handle several times again, and the explosion took place; I saw everything that passed, and I did not see a second connection made; to the best of my belief the coils were one on the top of the other; I forgot to say that Lieut. Hammand signalled to the shore when the cable tightened up; there were fourteen persons in the boat before the accident.

The witness withdraws.

*Second Corporal William John Stevens, R.E.*, attached to P.P. Sub-Marine Miners, being duly sworn, states:—On the morning of Friday, 3rd April, I drew 200 lb. of gun cotton from the store to make up two 50-lb. charges, and one 100-lb. charge; I filled the charges and took every precaution as laid down for the safety of gun cotton; about noon I handed charges over to Corporal M'Kee, who being assisted by a party of volunteer sub-marine miners, removed the charges to the pier at Cobbler's Beach; everything used in connection with these charges was of service material; the earth-plate for each charge comprised 12 feet of No. 18 gal. iron wire, in a coil of about 4 inches in diameter, and securely fastened to the top of the charge with spun yarn; I fell in on parade at 1:40 p.m., when Corporal M'Kee made the remark, "that everything was going off successfully"; detonators were all tested by Corporal M'Kee at Berry's Bay; the charges were all kept separate after being primed, and every precaution taken.

The witness withdraws.

*Sapper John Grant, P.P. Sub-Marine Miner*, previously sworn, deposed:—I have no reason to alter the evidence previously given by me; am certain that after Lieut. Hammand turned the handle of the dynamo, which failed to explode the torpedo, that Corporal M'Kee picked up a cable; the coils of both the cables did not appear free from where I was seated and seemed complicated; I am positively certain that the dynamo was on the after thwart, and that the coils of cable were overlapping; I did not see the cables put into the boat—nor do I know whether there were two separate cables, or only one coil; I saw the position Bugler Bennett occupied previous to the explosion; he had one knee on the seat situated on the starboard side, and the other leg stretched out towards the centre of the boat, and had his head leaning outboard; he had a piece of lashing in his right hand; all the men were very calm and collected, and very little conversation took place; everybody seemed to be extremely careful, and there was not the least excitement or hurry; the Court at my previous examination did not ask what occurred before leaving the wharf; the two 50-lb. charges were lying in the bow of the cutter before she left the wharf, and shortly before leaving the jetty Corporal M'Kee asked for the charges to be passed aft; I picked up one charge from underneath the bow thwart, and passed it astern; Sapper King handed the other along in a similar manner; I did not notice who received the charges in the stern, nor could I see who lashed them to the gunwale on the starboard side; it was after Colonel de Wolski had left the jetty that the charges were passed aft; all the handling of the charges beyond those stated was done aft, just before the explosion; Lieut. Hammand was seated on the port side of the after-thwart, with his feet in the stern sheets, body turned half round, and turning the handle of the dynamo with his right hand; Corporal M'Kee was kneeling in the centre of the cutter, facing the dynamo; Bugler Bennett was on the starboard side in the position already described; Lieut. Bedford was at the tiller.

The witness withdraws.

*Lieut. A. Talbot*, being recalled, on former oath, is re-examined, deposed:—I was the officer in charge of the wharf at Cobbler's Beach on the day of the explosion; the cable that was placed in the cutter was what is known as experimental cable; after the charges were attached to the boat's side, Corporal M'Kee connected the cable with the 100-lb. mine on the port side; after making the connection he counted the coils, and as nearly as possible cut the cable with a pair of clippers in the centre, and whilst doing so remarked "What's the use of this pair of clippers?" they being somewhat out of order; he then attached the other portion of the cable to the two 50-lb. mines on the starboard side. As the joint was being made, he (Corporal M'Kee) called out to Bugler Bennett, "You put on the india-rubber solution"; the cable lay in the stern sheets of the cutter in one coil, with the single exception that it had been severed by the clippers as nearly as possible in the centre, and remained in that condition when the cutter left the jetty; the explosion took place about 300 yards from the shore; sufficient time did not elapse from the departure of the cutter from the jetty up to the time of the explosion to enable the separate cables to be recoiled in another part of the boat; I saw the two 50-lb. charges on the starboard side as they were lashed on the cutter by Corporal M'Kee; they were lashed together, and placed vertically in position, hanging from the gunwale within a few inches of the water; heavy spun yarn was the material used in suspension of the charges; the two 50-lb. charges were connected up by a continuous circuit and the 100-lb. charge was connected to the cable; the united charges were also connected to the cable before the cutter left the wharf; just before leaving the wharf the dynamo was placed aboard the boat; the heads of the bags were up; the bottom of the bags did not touch the water by 6 inches.

The witness withdraws.

*Charles A. Smith*, Fellow Institute Chemistry, Fellow Chemical Society, London, Acting Examiner of Explosives, being duly sworn, deposed:—That he was at the jetty on Cobbler's Beach on the 3rd instant; saw the two 50 lb. bags being handed from the bow to the stern of the cutter; about an hour before the first roborite mine was fired; Corporal M'Kee took charge of the two charges, lashed them with tarred spun yarn, and made the necessary connection between the two bags; he had to break the connection again in order to put on the india-rubber tubing over the joint, and in order to do so pulled the wires apart; the bags were placed side by side in contact, and were hanging about 18 inches from the water; I did not observe any earth-plates attached to the charges; the whole of the cable was coiled up in the stern-sheets of the boat; Corporal M'Kee, with a jagged pair of pliers, severed the coil near the centre and drew the two ends out; he then cleaned the wire at one end and Bugler Bennett cleaned it at the

the other end; when I last saw the coils they were lying one on top of the other; I remember Colonel de Wolski giving orders for the sinker to be lowered, to prevent splash; after the first mine was laid Lieut. Talbot remarked, "I hope that they are not going to let off the first mine before they lower the second"; this was just prior to the explosion; there was no undue excitement, and all the men appeared to be calm and collected.

The witness withdraws.

5.30 p.m.:—The Court now adjourned until 10 o'clock to-morrow morning.

#### FOURTH DAY.

The Court reassembles at 10 a.m. Tuesday, the 7th of April. Present:—The same members as before.

*William Borland*, recalled, on his former oath, is examined, and states:—Bugler Bennett was sitting on the seat on starboard side just before the explosion, and I did not see him leaning over the gunwale, or doing anything to the charge; I could not say that he had any rope or line in his hand; I saw Corporal M'Kee use a pair of pliers to cut the cable at the wharf; one half the coil was lifted on to the seat; the other half was left in the bottom of the boat.

The witness withdraws.

*Sapper Arthur Adams*, recalled, on his former oath, states:—The dynamo was on the stroke thwart; I saw Bugler Bennett assisting Corporal M'Kee to cut away the lashing of first charge on port side; I am sure that both coils were in the stern sheet; at the time of the explosion Corporal M'Kee was doing something to the dynamo, but I cannot say what it was; I did not see Bugler Bennett leaning over gunwale on starboard side at any time; at the time of the explosion I was looking at Lieut. Hammand turning the handle of the dynamo.

The witness withdraws.

*Sapper Sydney Bolin*, P.-P. Sub-Marine Miners, being duly sworn, states:—I was pulling No. 2 on port side; the dynamo at the time of the explosion was on the after thwart; Lieut. Hammand was leaning over it about the middle of the thwart; I am not certain about the position of Corporal M'Kee; Bugler Bennett was on the starboard side of the boat; just over the two 50 lb. charges; I did not see him interfere with the charges; I do not think that the boat had list enough to bring the two charges into the water; the coils of cable were in the stern-sheets, one overlapping the other.

The witness withdraws.

*Sapper Percy Brentnall*, P.-P. Sub-Marine Miners, being duly sworn, states:—We connected up the two 50 lb. charges and hung them over the starboard side; we did the same with the 100 lb. charge over the port quarter; I assisted Bugler Bennett to connect the two 50 lb. charges on a continuous circuit; we then pulled about 100 yards from the wharf; Corporal M'Kee borrowed my knife, there being only one in the jointing-box; Bennett used the knife belonging to the jointing-box to cut the sinker away; Corporal M'Kee cut the lashings of the charge; the cable was paid over the port side; just previous to leaving the wharf the cable was divided by Corporal M'Kee—about five minutes before leaving the jetty; one coil of the cable was laying in the stern-sheets, the other was laying against the after thwart; a kink occurred in the cable in paying out; Lieut. Bedford gave us the order to back water; as soon as we had got the kink clear we pulled a few strokes more, and Lieut. Hammand said "That will do," and held up the flag a second time; I saw Corporal M'Kee making the connection to the dynamo, and Lieut. Hammand attending to the handle of the dynamo; in the morning the dynamo was on the after thwart, but it was taken ashore and we took it again on board about the last thing before starting; Lieut. Hammand gave three or four turns to the handle with no result; when some one sung out, "There is no earth-plate in"; some one called out, "Here it is," and Lieut. Hammand threw it overboard on starboard quarter; Bugler Bennett was on the starboard side; he was the nearest to me of the four; he had a service knife with a lanyard attached; I did not see him lean over the gunwale on the starboard side; Lieut. Hammand turned the handle, which is the last circumstance I remember; prior to that I saw Corporal M'Kee fumbling with the terminals; that was after they had tried to explode the mine and failed; I do not see how the earth-plate thrown over could have avoided crossing the charge on starboard side; I did not notice sufficient list on the boat to submerge the charge; it was a thin gutta-percha covered copper-wire from the dynamo to the copper plate; during the time that the earth-plate was being thrown overboard the handle of the dynamo was not turned; I did not see Colonel De Wolski on the wharf after dinner.

The witness withdraws.

The Court proceeded to Middle Head, and inspected the 100 lb. mine, which was not exploded on Friday, the 3rd of April, 1891. The lashings having been disturbed were re-lashed by Corporal Stevens, R.E., exactly as it was when issued to Corporal M'Kee, R.E. The earth coil was found undisturbed, and was again lashed on the top. The joint between the lead from the primer in the charge to the cable was found to be thoroughly sound, having been insulated with india-rubber tape and solution, over which a piece of indiarubber tubing had been secured according to the service practice. Colonel de Wolski then proceeded to lay out the charge under exactly similar conditions to those of Friday, and exploded it satisfactorily.

The Court then adjourned until 10.30 a.m. the next day.

#### FIFTH DAY.

At 10.30 a.m. on Wednesday, the 8th instant, the Court re-assembled. The same members as before being present.

*Corporal John Firman*, R.E., attached to P.S.M., on oath, states:—On Thursday, 2nd April, 1891, I was ordered to insulate the ends of the cable of the 250 lb. mines, which we had just laid; these ends are the ones the Court saw to-day on the pier; Colonel de Wolski ordered Corporal M'Kee to insulate them; Corporal M'Kee having two matters to attend to, ordered me to seal the ends; I did so; this is the custom of the Service; we always insulate the cables till connecting up; I assisted to fire five charges  
with

with the cables used; Lieut. Hammand and I tested the cables and the dynamo used on the day of the accident, in the chart room of the "Lilian," and found them correct; I remember Colonel de Wolski giving orders to Lieut. Hammand and Lieut. Alexander not to take two charges at a time; all five charges I saw were successfully fired from the boat.

The witness withdraws.

*James S. Fitzmaurice*, Officer-in-charge, Electric Light Branch, Electric Telegraph Department, having been duly sworn, deposed:—I recollect Colonel de Wolski instructing Corporal M'Kee, on Thursday, 2nd April, 1891, whilst some charges were being fired, that, in order to expedite the connection of the joints, as it was getting late in the afternoon, to try as an experiment not to cover with tape and solution, but merely to cover with india-rubber tubing well lashed over the insulation at each end; concurred with Colonel de Wolski that this would hold for a short time; Corporal M'Kee was under the impression that it would not; the charge was successfully exploded; I observed that whilst they were exploding charges, not more than half the length of cable was paid out, that being a safe distance; I did not, however, hear any instructions given about dividing the cable next day in order to expedite matters; there was a slight delay after the order to fire had been given, and Colonel de Wolski gave orders for everything to be ready, so that the earth plates could be connected immediately the order to fire was given; I witnessed the accident on Friday from a distance, but cannot give any information as to what took place in the cutter before she left the pier.

The witness withdraws.

*Corporal William John Stevens*, R.E, having been recalled on his former oath, stated:—That he remembered Colonel de Wolski, shortly after his arrival in the Colony, give instructions that all charges in laying out were to be marked by a buoy to show that the mine was actually in the position in which it was intended to remain; the instructions were issued in the presence of five or six officers, Warrant Officer Wood, and myself.

The witness withdraws.

*Capt. Alfred Broughton*, P.-P. Sub-Marine Miners, having been sworn, states:—On Thursday, the 2nd April, 1891, I was out in the "Lilian" with Colonel de Wolski, whilst the three roburite mines were being laid; I heard Colonel de Wolski give instructions to Corporal M'Kee on the pier: "You had better see that those cables are safely put away, and further see that the ends are carefully insulated to prevent any danger"; the cables were numbered 1, 2, 3, and 4, and also had the lengths marked on them; in case of a cable being cut, I certainly consider that the end should be marked after severance; this has been an instruction since I joined the Service; in every instance that I have been with Colonel de Wolski he has invariably stated that every precaution must be taken with regard to the laying of mines, and that no mine should be laid without being properly buoyed; I always found Corporal M'Kee to be a particularly careful man, and not likely to get flurried; I always considered Lieut. Hammand to be a careful officer and an experienced electrician, and would have trusted myself with him anywhere; it has always been the custom to test the cables before use, and a record of the test always kept; I heard Colonel de Wolski speaking about the high resistance, and also heard him instruct Corporal M'Kee to use a coil of wire instead of a copper plate.

The witness withdraws.

*Lieut. Arthur Chas. Logan*, P.-P. Sub-Marine Miners, being sworn, deposes:—I was on the jetty on the afternoon of Friday, the 3rd of April, 1891, between 2 and 2:30 p.m., and saw the charge placed in the cutter; they were at that time, one in the port quarter and the other on the starboard quarter; I knew nothing about the orders that had been given; I should say that the bags were hanging about 6 inches from the gunwale of the boat, and clear of the water by about a foot or 18 inches; I could not see the port charge slung from the jetty, but I noticed it on my way back to the cliffs; I saw the cable carefully coiled in one length in the stern-sheets of the boat in the morning after being used in three experiments; not being near enough, I did not hear Colonel de Wolski give them any directions as to how the cables leading to the charges were to be paid out; I did not see the sinker lowered under the water; there is no foundation for the statement that I was detailed for the duty that afternoon, and requested Lieut. Bedford to take my place; I was engaged on similar duty in the morning; I was looking through my glasses and saw the port charge lowered away, and about a minute before the accident I noticed the charges hanging on the starboard side in the same position as when the cutter left the wharf, and am positive that the starboard charge was not lowered into the water; I have passed my examination as far as the practical work is concerned, with the exception of testing, but I would not be put in charge of a loaded mine; to the best of my knowledge, every precaution was taken, and I would at any time have trusted myself with either Lieut. Hammand or Corporal M'Kee; the connections for the morning explosions were all made by Corporal M'Kee, and I consider that neither he nor Lieut. Hammand would be likely to get flurried; I was better acquainted with Lieut. Hammand than I was with Corporal M'Kee, but I consider the former to be a most clear-headed and careful officer; between the time of my leaving the jetty and the explosion there was ample time to have everything in proper order; there were a good many people on the jetty previous to the cutter leaving.

The witness withdraws.

The Court adjourned at 5:10 p.m. until Thursday, 9th instant.

## SIXTH DAY.

The Court reassembles on Thursday, 9th instant. Present:—The same members as before.

*Sapper Arthur Adams*, P.-P. Sub-Marine Miners, being recalled, on his former oath, states:—Two ends of a cable were given me to hold in the boat by Corporal M'Kee about a quarter of an hour before we left the wharf; we were not in our places then; the ends of cable were ready for connecting to the dynamo, and had previously been connected to the charges; we were then told to get into our places, and I handed the two ends of the cable to Borland; I was only told just to hold the two ends of the cable;

Corporal

Corporal M'Kee and Bennett, and Lieuts. Hammand and Bedford were on the jetty; that was before the big mine went off; these officers and non-commissioned officers got into the boat, and it was after that Corporal M'Kee handed me the two ends of the cable; he did not leave the boat after handing me the cable; I did not see the cables cut.

The witness withdraws.

*Sapper William Borland*, being recalled, on his former oath, states:—I recollect the ends of the cable being handed to Sapper Adams, who was sitting behind me, but I do not recollect his handing them to me; this was about a quarter of an hour before we left the jetty; there were two earth-plates on board; the one I saw thrown over was on the port side; one of the earth-plates, I cannot say which, was attached to a brass cleat on the gunwale of the boat on the port side; I cannot say who threw the earth-plate overboard; I saw the cable cut; it was just before the ends were handed to Sapper Adams; during the time that Lieut. Hammand was turning the handle of the dynamo my whole attention was fixed on him; he had been previously sitting on the starboard side seat, close up to the corner of the back seat; he stood up to turn the handle.

This witness withdraws.

*Sapper Percy Brentnall*, P.-P. Sub-Marine Miners, recalled, on his former oath, states:—The earth-plate I saw thrown overboard was picked up by Lieut. Hammand from behind the backboard of the boat, and thrown overboard by him on the starboard side; I saw two earth-plates on board, and one was attached to the shroud-plate on the port side, close alongside the stroke thwart; previous to our leaving the jetty this earth-plate was hanging over the side; it was brought on board after the cable was cut.

The witness withdraws.

*Sapper James King*, P.P. Sub-marine Miners, being duly sworn, subscribes to the following oath:—“The evidence that you shall give before this Court shall be the truth, the whole truth, and nothing but the truth. So help your God.” I was pulling the starboard bow oar; the dynamo was on the starboard seat aft; Lieut. Hammand was close to the dynamo, on the back seat to the right from where I was looking; Lieut. Hammand first turned the dynamo handle, and then it was found that the charge would not explode, and then I saw Bugler Bennet throw a plate overboard; the machine was turned again, and the explosion occurred; the earth-plate was thrown over the starboard side, the same side that I was sitting, a little bit ahead of the charge; I did not actually see it touch the water; I did not notice where the earth-plate was picked up from inside the boat; Bugler Bennett stepped aft two or three steps from where he was standing, turned back with the earth-plate in his hand, and dropped it overboard; at this moment Corporal M'Kee was doing something to dynamo connecting wires; the handle of the dynamo was towards port side of boat; owing to the shear of the boat I was able to see all that passed quite plainly; I did not notice any undue haste or flurry on the part of anyone.

This witness being perfectly deaf from the effects of the accident, the foregoing evidence is given him to read and sign,—after answering the questions in writing having been prepared for him to reply to verbally.

(Sd.) JAMES KING.

*Sapper James Henry Bowmaker*, recalled on his previous oath, states:—Just previous to the explosion I saw the dynamo on the after thwart in the centre of the boat; Bolin called out “Tell him the earth-plate is not in;” just previous to that I saw Lieut. Hammand throw the earth-plate over the starboard side. The cable to the mine that had been lowered was paid out on the port side close to the stern of the boat; I did not see the cable cut, and cannot tell when it was done; I am positive the dynamo was not on the seat with backboard, because Lieut. Hammand had his left leg over the gangway just previous to the explosion; shortly after I entered the boat, and before Lieuts. Hammand and Bedford had arrived I observed the cables in two coils, one on the port and the other on the starboard side partly covering the seats, they may have been overlapping; I noticed Corp. M'Kee hand two ends of a cable to Sapper Adams to hold; we were waiting about an hour at the jetty before starting and nothing was being done; I did not notice any undue excitement or flurry after the charge was laid; Sapper Bolin went up and had his dinner before we did, and when we came down to the wharf after 2 o'clock parade he was in the boat; no one else being in the boat at that time to the best of my knowledge.

*Sapper George Blakeman*, P.-P. Sub-Marine Miners, being duly sworn, states:—I was pulling No. 3 on the starboard side in the cutter and could see the two 50 lb. charges lashed to the starboard side; I did not see the 100 lb. charge on the port side; I am certain that the charges on the starboard side were not lowered at all; the dynamo was placed on the after thwart in the centre of the gangboard, and was being worked by Lieut. Hammand; I saw the earth-plate lying in the boat; I did not see anyone throw it over, but I subsequently saw Corp. M'Kee hold up the wire attached to it to enable Lieut. Hammand to turn the handle of the dynamo; I am positive that the two terminals and handles were on the same side as the earth-plate; I did not see the 100 lb. charge lowered, but saw the cable being paid out on the starboard side; I did not see the cable passed over Lieut. Bedford's head; whilst the cable was being paid out after the charge had been lowered the order was given “weigh enough,” so that the kinks could be taken out; when this was done we pulled on again; and after a few strokes the order was given to stop; shortly afterwards the signal to fire was given, but on Lieut. Hammand turning the handle of the dynamo a few times the mine did not explode; some one then called out the earth plate is not in the water; I then saw Lieut. Hammand give the dynamo one turn, and cannot recollect anything further.

The witness withdraws.

*Sapper David John Wailes*, P.-P. Sub-Marine Miners, being duly sworn, states:—I was pulling No. 4 on the starboard side of the boat, and cannot positively say whether the dynamo was situated on the after thwart or the starboard side seat, but I could see the handle under Sapper Brentnall's left arm; Lieut. Hammand was seated on the starboard side of the cutter; I saw Corp. M'Kee make a connection with the dynamo previous to the first attempt to fire the first mine; the earth-plate not being thrown over the mine did not explode; I then saw Corp. M'Kee drop it over the starboard side, but could not see whether it touched the water or not from where I was seated. I did not see any one holding up a wire whilst Lieut.

Hammand was turning the handle of the dynamo; immediately the earth plate was thrown over and Lieut. Hammand turned the handle the explosion occurred; Bugler Bennet was seated on the port quarter; Lieut. Bedford was at the tiller; I am certain that the handle of the dynamo was on the starboard side, otherwise I should not have seen it; I did not see any ends of the cable handed to Sapper Adams, and did not see the cable cut; we were at the jetty a long time doing nothing—probably an hour—after the charges had been slung; I saw Colonel De Wolski on the jetty, and heard him give orders for the suiker to be put under water to prevent any splash.

The Court at 5:10 p.m. then adjourned until 10 a.m., Friday, the 10th instant.

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### SEVENTH DAY.

The Court re-assembled on Friday, the 10th instant. Present:—The same members as before.

*Major P. B. Walker*, of the P.-P. Sub-marine Miners, being duly sworn, states:—I went out with Colonel de Wolski after the accident on Friday afternoon, and picked up the unexploded charge, I believe 100 lb. in weight; I did not examine it minutely; it appeared to be in very good condition; I had no responsibility with regard to the charges; I was out on the morning of Friday, and exploded three charges, one of 100 lb., one of 50 lb., one of 25 lb. gun cotton; Lieut. Hammand, Lieut. Bedford, Lieut. Logan, and Corporal McKee were with me, also Sergeant Saunders; all three charges were in the boat at the same time, and were successfully exploded; we had but one cable in the boat, and each charge was connected and laid separately and exploded; we connected the first charge, laid and exploded it; then connected with another charge, laid that on the same cable, and so continued until the three charges were exploded; Colonel de Wolski detailed a party after morning parade, about a quarter past 9, for the purpose of exploding these charges, and I went with the party; during the morning's work I did not notice any flurry or irresolution in the officers and party engaged; I know nothing of the detail of the work in the afternoon—was merely a spectator; I think both Lieutenant Hammand and Corporal McKee were highly efficient officers, and have both together and individually exploded mines with me on several occasions; if there were any special difficulty to be overcome in sub-marine mining, Lieut. Hammand is the officer I should have selected in preference to anyone, being perfectly cool, self-possessed, and thoroughly competent; I remember that Colonel de Wolski, on his first arrival, did give a caution relative to the danger of firing charges unbuoyed, and he directed in future that buoys should be attached to all charges to prevent danger from towing or fouling the cable.

The witness withdraws.

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*Colonel de Wolski*, R.E., examined on his former oath:—

1. After the evidence before the Court, and what you have seen, have you as an expert in torpedo work, any doubt that a wrong connection was made? I have not the slightest doubt that the cable from the starboard quarter was accidentally connected to the dynamo, instead of the charge which had been laid.
2. Although the charge on the starboard side of the boat was connected, would it not be necessary to complete the circuit before it would explode? Yes, it would be necessary to complete the circuit.
3. Is it not the case, under the conditions shown, that the circuit could only be completed by salt water or a metallic circuit? Yes, a circuit such as is described is absolutely necessary.
4. Would it not be necessary, in this particular case, in order to complete the circuit by water, that the earth-plate on the top of the starboard charge should be submerged? Yes, provided there was an earth-plate connected to the dynamo as well.
5. Would not the earth-plate thrown overboard and attached to the dynamo, after the first ineffectual attempt to fire the 100 lb. mine, if coming in contact with the wire earth connection on starboard charge, complete the circuit and fire the mine? Yes, it would, provided the handle of the dynamo were turned.
6. Can you explain to the Court why the cable was cut in two in the boat at the last moment, and why the cables were not severed earlier, and each cable lashed up separately and marked to prevent any mistake? No; I can offer no explanation as to why my instructions and the rules of the Sub-marine Mining Service were not carried out in this case.
7. In your evidence you stated you had arranged the programme for Friday, the 3rd instant. Do you not think it would have been better to have discharged the experimental charges singly, instead of having them both in the boat? Certainly, and this should have been done. Although it is highly undesirable, and was distinctly against my instructions, to have at the same time two primed charges connected up in the boat together, there is absolutely no danger attending such an arrangement, provided reasonable precautions be taken to follow out the general principles and instructions laid down for submarine mining practice. At a distance of 100 yards from a charge there is not the slightest shock, and the charge in a bag would not be subject to the slightest concussion.
8. Were Lieutenants Hammand and Bedford the only two officers of the P. P. S. Miners who assisted you in carrying out the operations on Friday, the 3rd instant? Yes; they were the only two officers to whom I gave orders.

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### Statement by Colonel de Wolski, handed in to the Court.

It was notified to me that the Premier would visit the Camp on Thursday, and His Excellency the Governor on Friday, and Colonel Spalding, commanding the Camp, asked me verbally to have some charges exploded in the afternoon of each day. As soon as the mine field in Obelisk Bay had been laid out, I went to the Sub-marine Mining Establishment, at Chowder Bay, on the morning of the 1st April, with Lieutenant Hammand, in the s.s. "Julian," loaded three 250 lb. mine cases with Roburite, and brought them round to Cobbler's Beach. Next morning (2nd April), Corporal McKee, R.E., took the gun cotton primers for these mines on board, and Corporal Firmin, R.E., connected up and slung the mines

mines on the steamer for laying out. I superintended the laying out of these three mines at positions previously marked by buoys carrying red flags. Lieutenant Alexander measured the distance with a tight line from the jetty, viz.: 200 yards to each buoy, and he also took soundings. The mines were then tested by Lieutenant Hammand and Corporal M'Kee, from the jetty, the mine field being all clear. Lieutenant Hammand reported the resistance of each mine as about 13 ohms. I remarked that this was far too high, and directed him to examine his earth-plate. As the connection of the wire to the plate appeared defective, I directed him to substitute a coil of wire for the copper plate. The resistance then fell to 3 ohms. Shortly after I ordered the ends of the cables to be sealed up, which was done in my presence. I recollect telling Corporal M'Kee, in presence of Lieutenant Hammand, always to seal up the ends of the cable, to prevent them being tampered with. This precaution is laid down in the drill, and I gave the order because they appeared to have neglected to do so at once. While this was being done Lieutenant Alexander had orders to fire four charges of 5 lb. each from the cutter, and charges of 100, 50, and 25 lb. were got ready to be fired in the afternoon in the presence of the Premier, who was, however, unable to come, owing to the inclemency of the weather. As it was necessary to explode the charges which had been prepared, I sent a message to Colonel Spalding that there would be some charges fired about 4 o'clock. The first charge fired was one of 100 lb. The primer detonated, but did not explode the wet gun-cotton, which was composed of old cuttings, chips, &c. Finding that it would take some considerable time to connect up a fresh charge, and in order to counteract the bad impression which might possibly be conveyed by this failure, I proceeded to the jetty, and ordered No. 1 Koburite mine to be fired. This was successfully done. We then fired the remaining charges from the cutter. During the time these mines were being fired, I observed that the length of cable on board—about 220 yards—was unnecessarily long and bulky in the boat, and was never more than half paid out before we were at a safe distance from the charge. It was in consequence of this, and the time taken to connect up a fresh charge, that I instructed Lieutenant Hammand to have the cable divided into two next day, so that two charges could be prepared beforehand. I repeated this order to both Lieutenant Hammand and Corporal M'Kee at the morning parade, but I never authorised the slightest departure from my repeated instruction to officers, non-commissioned officers, and men—both at the store tent in camp, on the steamers, and in the boats—to keep the primed charges well separated. So careful were we that each primer and each charge were in separate tents. On the day before the accident, I checked an officer for having two charges in the stern of the cutter together, even where no cable was connected to them, and he explained that the second charge had been temporarily removed from the bows from under a tarpaulin during the time that Lieutenant Hammand was testing the dynamos. My hurried visit to the jetty at about 2:30 p.m. on Friday was not for the purpose of taking personal charge, but merely to ascertain if they would be ready in time, and if they required any further instructions. I did not get into the cutter. I only saw one charge—viz., that on the starboard side, and I had not the faintest idea that there was another lashed on the port side, or that it was ever intended to place one there. Had I seen the charge on the port side I would instantly have had it removed. I did not pay any particular attention to the second charge, as I made sure it was in a place of safety. When the explosion occurred I was under the impression that the charge had not been properly freed, and had been dragged after the boat. It was not until I saw the buoy in its proper position that it was evident there had been a second charge on board. I at once informed His Excellency the Governor and the two Ministers (Mr. O'Connor and Mr. Gould) that I had no knowledge of a second charge on board. I proceeded to the buoy laid out, with Captain Morris, N.S.W.A., and Major Walker, P.P.S.M. and picked up the unexploded charge. My instructions to Lieutenant Hammand were explicit, and referred only to the charge on the starboard side. The sinker of this charge being about 18 inches out of water, I thought the splash on cutting it away might disconcert those in the boat, so I had it lowered into the water. I recollect Lieutenant Bedford remarking in a jocular way that it would take the way off the boat, and I replied that it would make little difference as they only had a short way to go. My remarks as regards paying out the cable to the full length were only a repetition of my constant caution to ensure that the boat was at a safe distance—that the cable actually led to the charge, and had not fouled the boat and possibly dragged it. The practice of firing experimental charges in bags and small cases was not introduced by me—it has been carried on for many years past by the Submarine Mining Corps at Berry's Bay and elsewhere. It is, however, a curious fact that during the Easter Encampment of 1889 I checked one of the officers for laying out a charge without a marking buoy, and I then warned the officers of the danger of exploding charges unless they were at a safe distance, which they could only ensure by a knowledge of the actual position of the charge, and by seeing the cable leading to the buoy. I recollect instancing the case of a cutter's crew blown up alongside one of Her Majesty's ships. They thought they were at a safe distance, while in reality the cable must have fouled the rudder and been dragged under the boat. This accident was related to me many years ago by Major (now Colonel) Sale, R.E., and made a deep impression on me. I recollect calling out to Corporal M'Kee on leaving that we would be ready to fire in about an hour, and that I relied on him to see that all the connections were properly made. I had the most perfect confidence in both Lieutenant Hammand, with whom I had been in daily contact during the camp in all the previous operations, and also in Corporal M'Kee, and I expected them to carry out intelligently all the precautions laid down in S.M. practice and my instructions during the previous experiments. It is simply beyond my comprehension how such careful and experienced electricians and submarine miners as Lieutenant Hammand and Corporal M'Kee could have started off from the jetty after such ample time to get everything in perfect order, with two coils of cable connected to two live charges within a few feet of them without separating the cables, identifying the ends and sealing them up. The first principles of all electrical work, however trivial, however free from danger, is never to make a connection to any instrument without tracing the leads, and in submarine mining work, such as connecting up and laying out mines, even where no firing battery is near, the cables are invariably carefully lashed in coils, their ends identified and insulated, and the coils kept clear of one another. In laying out mines the lashings of the cables are never cut, and the coils freed, until the order to lower away is given. On the Tuesday and Wednesday before the accident, I personally superintended the laying out of twelve mines in Obelisk Bay. The drill was perfectly carried out. There was not one single hitch in the operation, and I have never seen mines more correctly and expeditiously laid in my life. Several of the officers of the corps remarked to me that it was the most perfect practice they had ever had. I would have considered it almost a reflection on the intelligence of Lieutenant Hammand and Corporal M'Kee had I interrupted their work to detail

detail all the precautions enjoined in the Service, and had I thought it necessary I need hardly say I would never have entrusted them with the duty. Having heard the evidence of the survivors, there is not the slightest shadow of doubt in my mind that the explosion of the gun-cotton charge which killed Lieutenants Hammand and Bedford, Corporal M'Kee, and Bugler Bennett, occurred in the following manner:—1. The wrong cable was connected to the dynamo, *i.e.*, the cable to a charge secured to the starboard side of the cutter was, by mistake, connected to one of the terminals of the dynamo instead of the cable of the charge which had been laid out. 2. The earth-plate attached to the other terminal of the dynamo, on being thrown over the starboard side of the boat after the failure to explode the charge occurred, must have fallen on the top of the charge instead of into the water, and coming into contact with the coil of wire forming its earth, completed the circuit when the handle of the dynamo was again turned. The evidence conclusively proves, to my mind, that the wrong cable was attached from the first to the dynamo; that the charge on the starboard side was never disturbed, nor lowered into the water, without which a circuit through the earth-coil on the charge to the earth-plate in the water was impossible; and that the fact of connecting the wrong cable to the charge could never have caused the explosion had it not been for the accidental contact between the earth-plate and the earth attached to the mine, and this could not have occurred had my caution of the previous day to have the earth-plate got ready to attach to the dynamo been observed. The invariable custom is to have the plates in the water, and the lead lashed to the side of the boat, as it appears to have been on the port side. Further, the cable was not fully paid out, as specially ordered by me during my hurried visit at about 2.30 p.m. This precaution alone would have absolutely ensured the slightest risk even with two charges on board. It is a very painful thing to cast any reflection on the dead, more especially on men who were carrying out their duty to the best of their ability, but there is no getting away from the fact that, apart from all other questions, there was a manifest want of ordinary prudence displayed by Lieutenant Hammand and Corporal M'Kee in placing the dynamo alongside a live charge, when ample room had been made for it on the clear side of the cable on the stroke-seat and gang-board—the position the dynamo invariably occupied on all previous occasions. Had this been done there could have been no accidental contact between the earth-plates.

Lieutenant-Colonel Cracknell having to attend a Committee for electric lighting the city, the Court adjourns till Monday, the 13th April.

The Court assembled on Monday the 13th, Lieut.-Col. Wells and Lt.-Col. Airey only being present. Lt.-Col. Cracknell, owing to a death in his family, being unable to attend.

The Court received a further paper from Col. de Wolski, R.E., which is attached to the proceedings, and the Court further adjourned.

### Colonel de Wolski's statement, handed in 13th April.

I LEARN with extreme regret that certain remarks, alleged to have been made by me to a representative of the press immediately after the accident, have conveyed an impression that I intended to reflect on the character of the work done at the Easter encampments, and on the discipline of the officers and men engaged. Nothing could be further from my thoughts—nothing further from the truth. My views on the question reported in the *Daily Telegraph* of Saturday, 4th April, can only bear such an interpretation in the minds of those persons who never miss an opportunity of describing the military forces and defences of this Colony. What I did intend to convey is very clearly stated in the following letter, addressed to me by Captain Collins, late R.N., the present Secretary of Defence in Victoria, who was a guest in our camp on the day of the disaster:—

My dear Col. de Wolski,

Sunday, 5th April, 1891.

I wish to express my sympathy with you for the very deplorable accident that occurred last Friday to the boat's crew engaged in laying out mines at Middle Head.

I entirely concur in the views you are reported to have expressed as to the danger that exists in making such work a spectacular display, and I am therefore pleased to bear witness that your objections to such a mixture of display and work were very strongly expressed to me by you before lunch at Middle Head on the very day of the accident. Your objections were, therefore, almost prophetic. You fully stated your belief in the danger that accompanies such displays, and I join with you in regret that it should have had so speedy and so fearful a demonstration.

Yours, &c.,

ROBERT COLLINS.

I may add that I am informed on high authority that the Admiralty have of late years forbidden such displays on the Royal Naval Torpedo training-ship "Vernon," at Portsmouth. I think it would be wise to adopt the same system here, at all events until steps have been taken to provide a small submarine establishment at Cobbler's Beach, and to reserve the jetty exclusively for military purposes, as I have previously intimated my intention of recommending. During Easter week I have seen four steamers alongside the jetty at one and the same time, and the pier so blocked from end to end with visitors that I was obliged to land my party with their stores on the rocks in boats. Under these conditions the submarine miners carried on their work with great difficulty.

I cannot close this statement without some reference to the manner in which my time and energies during a brief tour of service in this Colony, which will expire in a few months, have been wasted in a protracted struggle to remove the construction of the defence works of this Colony from incompetent civil control, in the preparation of evidence for boards of inquiry, and a Royal Commission. I have had in consequence but little leisure to devote to my legitimate duties, not the least important of which are the training of the submarine miners, and the preparation of a scheme of defence. The want of a properly equipped submarine mining establishment and an efficient staff has made this portion of my duties well nigh impossible, and I can only say that it speaks volumes for the spirit which animates officers and men of the P.-P. Submarine Mining Corps that, under trying conditions and after years of neglect, they work so zealously on all occasions and always endeavour to make the best of their opportunities.

The points which I have touched upon may possibly account for some of the causes which have tended to bring about an accident involving so many faults of omission and commission. I would express an earnest hope that this sad loss of life will not give rise to any unwarranted loss of confidence in the safety of submarine mines, but that it will bring home to the Government of this Colony the necessity not for protracted Royal Commissions and inquiries, but for arriving at a speedy decision as to the

the appointment of a Minister of Defence, with time and leisure and the necessary staff, for controlling the military administration and defence of the Colony, as recommended first by General Schaw and later by General Edwards. The country owes a great debt of gratitude to the Premier for the care and wisdom he has bestowed in dealing with military matters; but every day of my service in this Colony convinces me more and more of the imperative necessity of obtaining the undivided attention of a responsible Minister, and I therefore consider it my duty to add this recommendation to my statement.

F. R. DE WOLSKI,  
Colonel.

11/4/91.

The Court adjourns.

On Wednesday, the 15th April, 1891, the Court re-assembled to consider their report. Present:—  
The same members as at the commencement.

### Report.

THE Court having maturely considered the evidence, report that on Friday afternoon, April 3rd, as part of the experiments to be carried out by the Permanent Sub-Marine Miners and the Partially-paid Sub-Marine Miners, during the Easter Encampment at Middle Head, two charges of gun cotton were prepared to be exploded from the cutter belonging to the corps.

The whole of the detail of officers and the other arrangements were entirely under the directions of Colonel de Wolski, who accepts the fullest responsibility, (*vide* his evidence given at the Middle Head Camp, April 3rd, page 4).

The following officers and men were told off by Colonel de Wolski to perform this duty:—Lieutenants Hammand and Bedford, Partially-paid Sub-Marine Miners; Corporal M'Kee, R.E., Permanent Sub-Marine Miners (an instructor of sub-marine mining, attached from the Imperial Service); and Bugler Bennett, who lost their lives in consequence of this accident; Sappers Brentnall, Borland, Blakeman, Adams, Tulley, King, Bowmaker, Grant, and Wailes, Partially-paid Sub-Marine Miners, who were employed as boatmen, and to assist the officers when necessary.

Colonel de Wolski personally visited the jetty, at about 2:30 p.m., and gave his final orders to Corporal M'Kee and the officers in the boat, whom he regarded as being under Corporal M'Kee's instructions. These instructions do not appear to have been carried out. The cable was not divided, marked, and separated, as it should have been, but left overlapping and the coils somewhat in confusion. The severance having only been made a short time before leaving the jetty, resulted no doubt in the wrong end of the cable being connected to the dynamo.

The cutter left the wharf about 3:45 p.m., and rowed out about 300 yards, with one charge of 100 lb. gun cotton on the port quarter, and two 50-lb. charges on the starboard quarter aft. The 100-lb. charge was lowered with a buoy and flag attached, and the boat was removed 80 to 90 yards or so from the buoy. Corporal M'Kee connected a lead with the dynamo and Lieutenant Hammand turned the handle, but the charge did not explode, which no doubt was caused through the earth plate not having been placed overboard. Subsequently the earth plate was thrown over, and an explosion at once took place.

This is confirmed by the following witnesses, survivors, who were on board the cutter:—Sappers Grant, Bowmaker, Borland, Adams, Brentnall, Wailes, King, and others.

The evidence of Sapper Percy Brentnall, which is very clear, shows that Lieutenant Hammand threw over the earth plate on the starboard quarter, and turned the handle of the dynamo, prior to which Corporal M'Kee was fumbling with the terminals.

This was after they had tried to explode the 100-lb mine and failed. He also states that he could not see how the earth plate thrown over could have avoided crossing the charge on the starboard side.

This appears to the Court to be the full solution of the accident. The earth plate, when thrown over, must have come in contact with the bare earth connection of the charge on the starboard quarter of the boat, and the wrong cable being connected with the dynamo completed a metallic circuit which only required a few turns of the dynamo to explode the charge. There is ample evidence to prove this was done; in fact, there is no other explanation of the cause, as no mine or charge could have been exploded unless the circuit was completed either through the water as a return circuit or purely a metallic circuit through the conductor.

The Court, to make a conclusive test, proceeded to Middle Head on the afternoon of the 7th April, to inspect and explode the 100-lb. charge, which had been laid and unexploded on Friday 3rd April. The earth coil was undisturbed and was again lashed on the top of the bag. Colonel de Wolski laid the charge under exactly similar conditions to those of Friday and exploded it satisfactorily.

This is another proof that the wrong cable was attached to the dynamo or there would have been no failure on the day in question.

From the evidence, the Court can only arrive at one conclusion: that the only persons to blame for this sad calamity were Lieutenant Hammand and Corporal M'Kee, the one for attaching a wrong connection, and the other for transmitting a current from the dynamo without making perfectly certain that the cables and earth-plates were without doubt in their proper positions.

How such a catastrophe could have happened with two cool thoroughly trained men such as Lieutenant Hammand and Corporal M'Kee—the former who has had six years experience and had passed a more than an ordinary examination, and the latter, who was considered a most efficient man by the Imperial authorities—is more than the Court can explain.

This is more especially the case as it is proved beyond all doubt that the officers and men engaged were all perfectly calm and free from any excitement at the time of leaving the wharf, and had been engaged on both the previous day and on the morning of the accident in the same duties.

Colonel de Wolski appears, from direct evidence, to have used every care and precaution as Instructor to the corps, and to have given his personal supervision to the stores issued, which were of "service material" in every case. The cables also used on this occasion were properly tested.

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The examination has been very much delayed owing to conflicting evidence of the witnesses in the boat and other causes. This, it appears to the Court, is due to the daze occasioned in the minds of the men by the shock, and the memories of the situations at previous drills being paramount. There can be no suspicion of wilful untruth on the part of anyone, and some of the statements are reconcilable, viz., as to the side on which the "earth-plate was thrown out," as there were two earth-plates in the cutter.

The Court in general give great credence to the statement of Sapper Brentnall, who was nearest the operations, and whose evidence was particularly clear.

F. WELLS, Col., P.P.A., President.  
 Members { G. J. AIREY, Lieut.-Col. N.S.W.A.  
 E. C. CRACKNELL, Lieut.-Col. P.-P.S.-M.M.

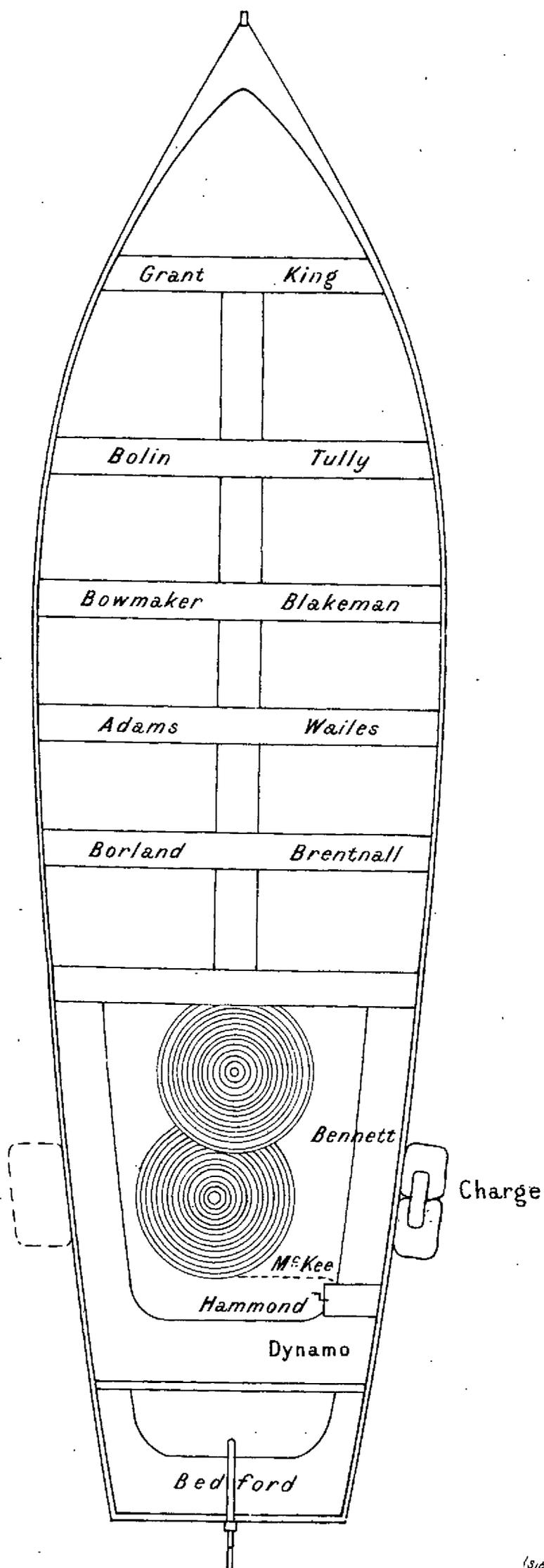
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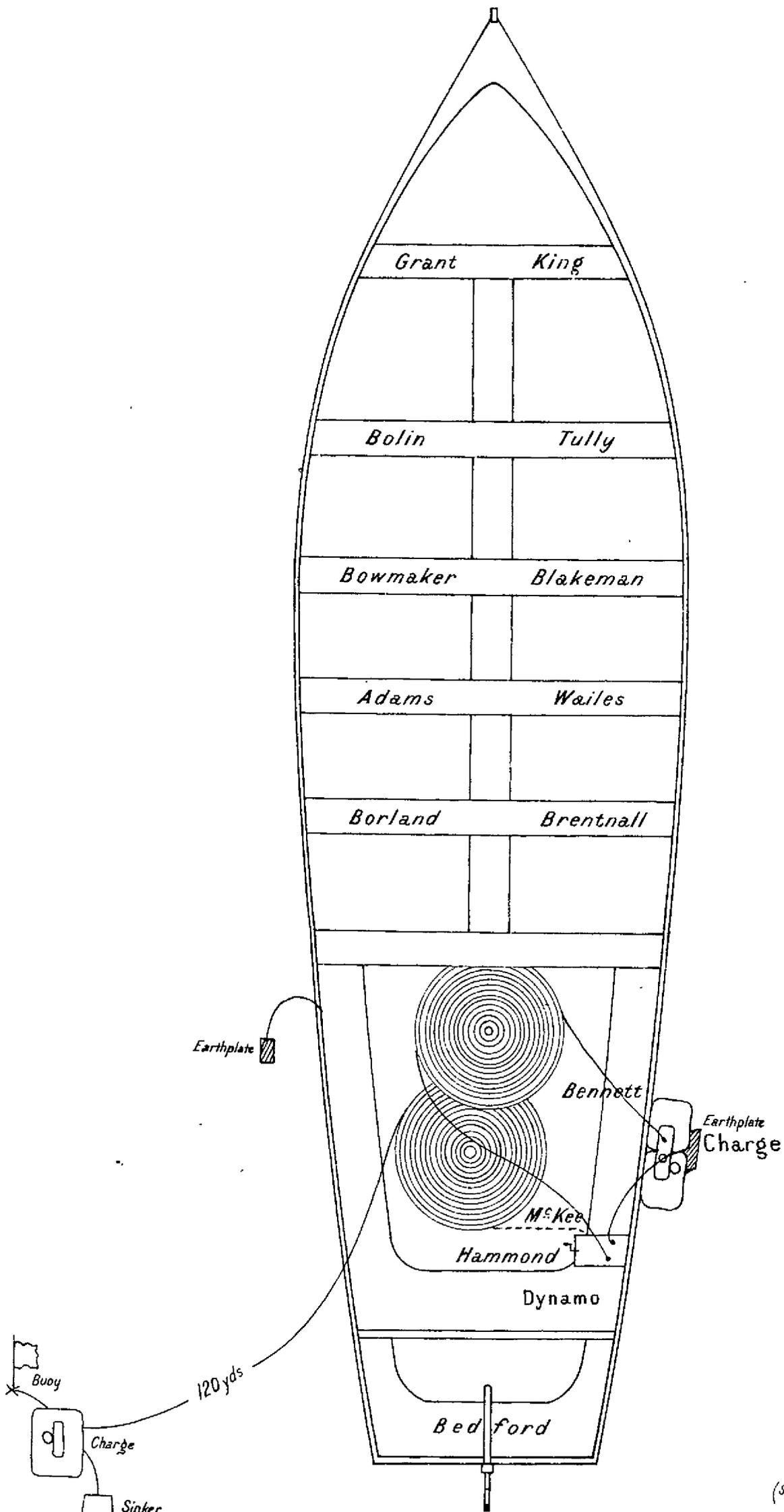
— SKETCH —

showing Position in Boat just before Explosion



— SKETCH —

Showing Electrical Circuits



1891.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## THURSDAY ISLAND AND KING GEORGE'S SOUND, &amp;c.

(STATEMENT BY THE MAJOR-GENERAL COMMANDING THE MILITARY FORCES, REGARDING MEETING OF COMMANDANTS OF VARIOUS AUSTRALIAN COLONIES COMMISSIONED TO VISIT AND REPORT AS TO BEST MEANS OF DEFENCE OF.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

The Major-General Commanding the Military Forces to The Principal Under Secretary.

Sir,

Head Quarters, 8 January, 1891.

I have the honor to state, that in accordance with the instructions of the Minister, Colonel de Wolski, R.E., and I left Sydney for Melbourne, on Friday, the 14th November last, to join the Committee of Commandants of the various colonies, appointed to report upon the defence of Albany, Thursday Island, Tasmania, and Port Darwin.

On the following Monday (17th) the duties of the Committee were commenced by an interview with the Honorable Sir Frederick Sargood, K.C.M.G., the Victorian Minister of Defence:—Present: Major-General Tulloch, C.B. (Victoria), Major-General Downes, C.M.G. (South Australia), Major-General Richardson, C.B. (New South Wales), Colonel French, C.M.G. (Queensland), and Colonel Bernard (Tasmania); Colonel de Wolski, R.E., and Major Hannay, R.E., also attended on behalf of New South Wales and Victoria, respectively.

The work before the Committee, and arrangements to be made in connection therewith, were duly discussed and agreed to, and General Tulloch then assumed the Presidency of the Committee.

On the 18th the Committee left for Adelaide by train *en route* for Albury per "Orient" steamer, which was reached on Sunday, the 23rd. Here the Committee were met by the representatives of Western Australia, in the persons of the Honorable T. A. Wright, and Major Phillips, the Acting-Commandant—Captain Moore, R.N., the representative of the Admiralty, here joined the Committee.

During the ensuing week the Sound, and country adjacent thereto, and that on both sides of the entrance of the harbour, were thoroughly inspected, and sites selected for the erection of the necessary works, &c. A portion of the Committee also visited Perth and Fremantle, on the invitation of the local authorities, with the view of advising as to the protection there required.

On the 29th the Committee left Albany by steamer "Austral," arriving in Adelaide on December 2nd. The following day I was permitted, by the courtesy of Major-General Downes, to inspect the Largs Bay and Glenelg Forts. Captain Wallcott, the Naval Commandant, was also good enough to show me over H.M.C.S. "Protector," and in the afternoon I continued my journey to Melbourne.

A meeting for formal discussion was held on Saturday, the 6th, and on the following Monday Colonel de Wolski returned to Sydney, his duties in connection with the fortification of Albany having been concluded. He, moreover, felt that his further absence from the active supervision of his important work in New South Wales was very undesirable, in which I fully concurred.

On the 9th a portion of the Committee (myself included) proceeded to Launceston, and were there joined by Colonel Warner, Acting Commandant, and Colonel Bernard. The afternoon of the 10th saw us *en route* to the north-west coast, and we considered the measures of defence proposed for the seaport towns of Devonport, on the River Mersey, Ulverstone, on the Leven, and lastly Emu Bay, returning to Launceston on the 13th, and thereon to Hobart same day. Generals Tulloch and Downes rejoined the Committee at the former place.

During our stay at Hobart the Queen's and Alexandra batteries, including both banks of the Derwent, were visited, and, indeed, the whole question of the defence of Hobart was exhaustively discussed.

On the 17th we again arrived at Launceston, and proceeded same day down the Tamar, to its mouth, inspecting the various points of vantage, and landing at the entrance. In the evening we were picked up by the Melbourne boat, and on arriving at Queenscliff, Captain Moore and I transhipped to a smaller vessel placed at our disposal by the Victorian authorities, to enable us to visit the various batteries at the entrance to the bay. We accordingly inspected the "Eagle's Nest," "Nepean Crow's Nest," and Swan Island Forts, as also the Submarine Mining Depot at last named, going on to Melbourne in the evening.

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The 20th and 22nd were taken up in consultation and the adoption of reports. On the 23rd Captain Moore and I were kindly shown over the Victorian war vessels by Captain Mann, R.N., the Naval Commandant. During our stay in Melbourne Colonel de Wolski and I visited the Williamstown Rifle Range during the annual matches of the Association, thinking that in all probability we should be able to pick up (as we did) some information which would assist in the formation of the new rifle range at Randwick now in progress. On the 24th of December I arrived in Sydney, and reported myself to the Minister.

Opportunity was also taken by the President of the Committee to informally discuss various questions relating to the personnel of the military forces of the various Colonies, such as organisation, training, discipline, pay, allowances, clothing, &c., which I think will be of value, should it be determined to establish the defence forces on federal lines.

In consequence of information received as to the very unfavourable climatic condition of Thursday Island and Port Darwin during the months of January, February, and March—sufficient, indeed, to prevent the Committee satisfactorily performing their work—it was decided to refer the matter to the Victorian Minister for Defence. Subsequent inquiry confirmed the report, and it was then decided to postpone the visit of the Committee to the abovenamed places until the second week in April next.

The reports of the Committee were delivered to the Victorian Minister of Defence, copies of which are doubtlessly now with this Government.

In conclusion, I have the pleasure to inform Sir Henry Parkes that the utmost kindness, consideration, and courtesy was extended to the representatives of New South Wales by the various Governments and officials of the Colonies visited.

I have, &c.,  
 JOHN S. RICHARDSON,  
 Major-General Commanding.

Submitted, 12/1/91. Scen.—H.P., 31/1/91.

1891.

NEW SOUTH WALES.

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**MINING.**  
 (REGULATION.)

---

 Presented to Parliament, pursuant to Act 37 Vic. No. 13.
 

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Department of Mines, Sydney, 13 March, 1891.

**REGULATION UNDER THE MINING ACT OF 1874.**

His Excellency the Governor, with the advice of the Executive Council, has been pleased to adopt the following Regulation as a Regulation under the Mining Act of 1874.

SYDNEY SMITH.

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 NOTICE of time fixed for hearing an Application for permission to suspend work on a Gold-mining Lease.

When an application shall have been made to the Warden, in terms of the Mining Act of 1874 and the Regulations thereunder, for permission to suspend work on any Gold-mining Lease which shall have been duly registered, the Warden shall appoint a time and place for hearing such application, and shall cause to be posted up at the Warden's Office nearest the land demised under the lease particularised in such application, and to be served, where practicable, upon the holders of adjoining claims or leases, a notice under his hand, stating the time and place appointed by him for hearing the said application: Provided that such notice be given at least seven days prior to the date fixed for the hearing of the application for permission to suspend work.

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1891.

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NEW SOUTH WALES.

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## CORPORATION OF THE CITY OF SYDNEY.

(STATEMENT OF RECEIPTS AND EXPENDITURE FOR THE YEAR ENDING 31 DECEMBER, 1890.)

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Presented to Parliament, pursuant to Act 43 Vic. No. 3, sec. 220.

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STATEMENT of the RECEIPTS and EXPENDITURE OF THE CORPORATION OF THE  
CITY OF SYDNEY, for the year ending 31st December, 1890.

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ABSTRACT of the RECEIPTS and DISBURSEMENTS of the MUNICIPAL COUNCIL OF THE CITY OF SYDNEY, on account of the CITY FUND, for the Year ending 31st December, 1890.

Incorporated by Act of Colonial Legislature, 43 Vic. No. 3.

RECEIPTS.				DISBURSEMENTS.				
	REVENUE.		TOTAL AMOUNT.		SALARIES.		CONTINGENCIES.	TOTAL AMOUNT.
	£	s. d.	£ s. d.		£	s. d.	£ s. d.	£ s. d.
City Rate, raised by assessment under authority of Act of Council, 43 Vic. No. 3	103,474	8 9		Office of Mayor	583	6 8		
Fees and Fines—Building Fees	1,164	5 0		Town Clerk and Department	1,350	0 0		
Special Building Fees	50	8 0		City Engineer and Surveyor and Department	2,223	1 9		
Police Dues	921	17 0		City Treasurer and Department	1,697	18 4		
Hoarding Licences	191	1 6		Inspector of Nuisances and Department	1,100	0 0		
Rents and Dues from Markets—George-street	8,540	14 0		City Architect and Department	818	15 0		
Belmore	4,811	8 10		Health Officer	238	3 11		
Eastern, Fish	2,887	1 0		Clerk of Markets	200	0 0		
Rents of City Wharves	2,257	10 0		City Solicitor	450	0 0		
Public Baths	674	4 2		City Auditors	200	0 0		8,661 5 8
Exhibition Building	143	0 0		City Improvements—Wages—				
Vestibule	56	13 0		Inspector of Nuisances Department			87,628	19 1
Randwick Toll-gate	1,714	11 10		Street watering			3,939	19 6
Cleansing earth-closets	272	16 0		General Establishment and sundries			5,680	7 8
Paving rate	2,098	1 6		General Works			23,600	0 0
Haymarket—Ground rent	450	10 0		City Markets			2,844	2 0
Sale-yard dues	1,304	5 9						73,691 8 3
Agricultural Society—Rent	30	0 0		City Improvements—				
Sydney Bathing Company	72	0 0		Metal				9,426 16 4
Auctioneers' licenses	2,431	13 7		City Improvements—Street Works—				
Rent and Agistment, Moore Park	54	12 0		Kerb, guttering, flagging, &c., under contract			7,916	9 1
Watering Randwick Road	76	2 5		Kerb, guttering, flagging, &c., under contract			804	15 1
Organ recitals	1,781	17 9		Tar paving, under contract			3,270	0 0
Miscellaneous receipts, Bailiffs' costs, &c	4,155	10 3		Forming, ballasting, and metalling, under contract			4,946	11 7
Premium on sale of Debentures	871	9 9		Sundries for General Works				16,937 16 9
Interest Account	23	16 5		City Markets, material			870	19 7
Interest on City Fund Reserve Account	3,714	15 5		Street watering material			684	15 8
Town Hall Loan Fund	634	14 7		Fire Brigade Board			1,718	1 4
Cattle Sale-yard Fund	14	0 0		Lighting expenses			12,328	17 1
			205,502 8 8	Interest expenses			5,950	15 4
				Bunnerong Road Trust			89	5 8
				Randwick Borough Council			857	0 8
				Government transactions and insurance			1,023	13 11
				Purchase of land			6,982	19 0
				Law expenses			164	10 6
				Special Organist			830	0 0
				Town Hall expenses			280	0 0
				Printing, stationery, advertising, stamps, cab-hire, rates, &c.			5,055	18 9
				Repairs, assessment, and sundries			2,437	10 10
				Interest on Town Hall Loan Debentures { Sydney ... £4,500 } London ... £8,000			12,500	0 0
				Street Loan Debentures—London			14,000	0 0
				Sydney Common Debentures			150	0 0
				Sydney Common Fund			7,876	7 9
				Town Hall Loan Sinking Fund			2,250	0 0
				Streets Loan Sinking Fund			6,000	0 0
				Town Hall Loan Sinking Fund, Colonial Treasury Account			1,400	0 0
				Streets Loan do do do			700	0 0
				Balance due by Union Bank, 31st December, 1890			19,468	7 4
				Balance due by Union Bank, 31st December, 1889			6,874	4 9
								12,494 2 7
			£ 205,502 8 8					£ 205,502 8 8

City Treasury,  
Sydney, 31st January, 1891.

GEO. CHRISTIE, F.I.A.V.,  
JAMES ROBERTSON, F.I.A.V., } City Auditors.

ARTHUR SPEER,  
Acting City Treasurer.

ABSTRACT of the RECEIPTS and DISBURSEMENTS of the MUNICIPAL COUNCIL OF THE CITY OF SYDNEY,  
on account of the CATTLE SALE-YARDS FUND, for the Year ending 31st December, 1890.

RECEIPTS.			DISBURSEMENTS.		
	REVENUE.	TOTAL.		CONTINGENCIES.	TOTAL.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Revenue by dues .....	9,804 1 7		Salaries of officers .....	821 0 0	
Sale of manure .....	80 0 0		Interest expenses .....	3,225 0 0	
Rent of offices .....	186 5 0		Incidental expenses .....	133 14 8	
Interest Account .....	331 13 0		General works .....	4 9 3	
Sinking Fund to Retire Debentures .....	25,000 0 0	35,301 19 7	Sinking Fund—Annual Contribution .....	2,500 0 0	6,684 3 11
Balance due by Union Bank, 31st December, 1889 .....	5,770 6 9		Debentures retired .....		25,000 0 0
Balance due by Union Bank, 31st December, 1890 .....	5,388 2 5	382 4 4	Fixed deposit .....		4,000 0 0
		£ 35,684 3 11			£ 35,684 3 11

City Treasury, Sydney,  
31st January, 1891.

GEO. CHRISTIE, F.I.A.V.,  
JAMES ROBERTSON, F.I.A.V., } City Auditors.

ARTHUR SPEER,  
Acting City Treasurer.

TOWN HALL LOAN FUND.

RECEIPTS.			DISBURSEMENTS.		
	REVENUE.	TOTAL.		CONTINGENCIES.	TOTAL.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
City Fund .....	12,500 0 0		General works .....	32,725 5 3	
Interest Account .....	2,578 13 6	15,078 13 6	Interest expenses .....	12,500 0 0	
Balance due by Union Bank, 31st December, 1889 .....	12,343 4 6		Salaries of officers .....	189 14 5	
Balance due by Union Bank, 31st December, 1890 .....	5,087 0 6	7,256 4 0	Clerk of Works .....	182 0 0	
Fixed deposit .....		30,000 0 0	Town Hall organ .....	1,766 10 11	
		£ 52,334 17 6	Incidental expenses .....	1,920 14 2	
			Furniture Account .....	2,582 11 6	
			Wages Account .....	468 1 3	52,334 17 6
					£ 52,334 17 6

City Treasury, Sydney,  
31st January, 1891.

GEO. CHRISTIE, F.I.A.V.,  
JAMES ROBERTSON, F.I.A.V., } City Auditors.

ARTHUR SPEER,  
Acting City Treasurer.

ABSTRACT of the RECEIPTS and DISBURSEMENTS of the MUNICIPAL COUNCIL OF THE CITY OF SYDNEY, on  
account of the STREETS LOAN FUND, for the Year ending 31st December, 1889.

*Incorporated by Act of the Colonial Legislature, 43 Vic. No. 3.*

RECEIPTS.			DISBURSEMENTS.		
	REVENUE.	TOTAL.		CONTINGENCIES.	TOTAL.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
City Fund .....	14,000 0 0		Interest expenses .....	14,000 0 0	
Interest Account .....	1,659 12 4	15,659 12 4	Incidental expenses .....	148 15 0	
Balance due by Union Bank, 31st December, 1889 .....	45,587 4 7		General works—		
Less balance due by Union Bank, 31st December, 1890 .....	33,335 2 2	12,252 2 5	Wages .....	1,041 2 0	
		£ 27,911 14 9	Streets .....	7,543 2 0	
			Cement, tar, &c. ....	2,075 2 7	
			Wood blocks .....	2,503 13 2	27,911 14 9
					£ 27,911 14 9

City Treasury, Sydney,  
31st January, 1891.

GEO. CHRISTIE, F.I.A.V.,  
JAMES ROBERTSON, F.I.A.V., } City Auditors.

ARTHUR SPEER,  
Acting City Treasurer.

## SYDNEY COMMON FUND.

RECEIPTS.			DISBURSEMENTS.		
	REVENUE	TOTAL.		CONTINGENCIES.	TOTAL.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Rent and agistment.....	104 19 0		General works .....	969 2 8	
Miscellaneous receipts.....	1 17 5		Interest expenses .....	342 5 3	
City Fund.....	8,026 7 9	8,133 4 2	Balance due to Union Bank, 31st December, 1889 .....		1,811 7 11
			Debentures retired.....		1,821 16 3
					5,000 0 0
					£ 8,133 4 2
	£	8,133 4 2		£	8,133 4 2

City Treasury, Sydney,  
31st January, 1891.

GEO. CHRISTIE, F.I.A.V.,  
JAMES ROBERTSON, F.I.A.V., } City Auditors.

ARTHUR SPEER,  
Acting City Treasurer.

## LIABILITIES of the MUNICIPAL COUNCIL of the CITY OF SYDNEY, 31st December, 1890.

	£ s. d.	£ s. d.	£ s. d.
<b>CITY FUND ACCOUNT.</b>			
Debentures outstanding.....		100,000 0 0	
Less amount to credit at Union Bank.....	19,468 7 4		
Less amount to credit at City Fund Reserve Fixed Deposit Account.....	75,000 0 0	94,468 7 4	5,531 12 8
<b>CATTLE SALE-YARDS FUND ACCOUNT.</b>			
Debentures outstanding.....		35,000 0 0	
Less amount to credit at Union Bank.....	5,388 2 5		
Less amount to credit at fixed deposit.....	7,000 0 0	12,388 2 5	22,611 17 7
<b>TOWN HALL LOAN FUND ACCOUNT.</b>			
Debentures outstanding.....		275,000 0 0	
Less amount to credit at Union Bank.....	5,087 0 6		
Less amount to credit at fixed deposit.....	20,000 0 0	25,087 0 6	249,912 19 6
<b>STREETS LOAN FUND ACCOUNT.</b>			
Debentures outstanding.....		300,000 0 0	
Less amount to credit at Union Bank.....		33,385 2 2	
			£ 544,721 7 7
<b>LESS SINKING FUNDS.</b>			
Cattle Sale-yards—Invested, £5,200. Less amount due to Union Bank, £3,159 0s. 2d. ....		2,040 19 10	
Town Hall Loan—Amount to credit at Union Bank, £6,091 13s. 8d. Fixed deposit, £20,000. Invested, £7,000 .....		33,091 13 8	
Streets Loan—Amount to credit at Union Bank, £8,732 9s. 4d. Fixed deposit, £20,000. Invested, £17,500 .....		46,232 9 4	
Town Hall Loan—Colonial Treasury Account—Amount to credit at Treasury.....		5,945 0 9	
Streets Loan .....		2,972 7 4	
			90,282 10 11
			£ 454,438 16 8

City Treasury, Sydney,  
31st January, 1891.

GEO. CHRISTIE, F.I.A.V.,  
JAMES ROBERTSON, F.I.A.V., } City Auditors.

ARTHUR SPEER,  
Acting City Treasurer.

1891.

## NEW SOUTH WALES.

**MUNICIPALITIES.**

(BOROUGH OF WAGGA WAGGA—BY-LAWS.)

**Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 153.**Colonial Secretary's Office,  
Sydney, 14th January, 1891.**BOROUGH OF WAGGA WAGGA.—BY-LAWS.**

THE following By-laws, made by the Council of the Borough of Wagga Wagga under the "Municipalities Act of 1867," having been confirmed by His Excellency the Lieutenant-Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

**BOROUGH OF WAGGA WAGGA.**

BY-LAWS for fixing and locating stands for public vehicles, cars, hackney-carriages, hansom cabs, omnibuses, and passenger-carrying vehicles, and for regulating the management and the fares to be charged by the proprietors, drivers, and conductors of such vehicles:—

1. The places specified in Schedule A, hereto annexed, are hereby respectively appointed public stands for licensed vehicles. The Council may by resolution from time to time, as they may see fit, alter the position of such stands or locate additional stands.
2. No person suffering from any infectious disease shall ride in or upon any licensed vehicle, and no driver or conductor of such licensed vehicle shall knowingly carry, or permit to be carried, any such person or (except to some police-office or watch-house) any corpse, or any person in a state of intoxication, or any person who is so noisily or violently conducting himself, or otherwise misbehaving, as to occasion any annoyance or to disturb the public peace; and no passenger shall carry on any licensed passenger-carrying vehicle any animal or any substance of any offensive character, or that might soil or damage the vehicle or the apparel of other passengers, and no driver or conductor shall sleep in or upon any licensed vehicle, or use the same for eating his meals therein.
3. The driver of any licensed vehicle carrying passengers shall (except when turning street corners or going over crossings) proceed with such hackney-carriage or cab at a speed not less than 6 miles an hour, unless when attending funerals, or when otherwise ordered by the hirer.
4. The driver of any licensed vehicle shall not stand or loiter in any place in the public street within the said Borough, excepting the places specified in Schedule A hereto, unless bona fide waiting for a passenger.
5. The fares payable by persons hiring licensed passenger-carrying vehicles shall be according to the scale fixed by Schedules B and C hereto annexed.
6. Copies of Schedules B and C, printed in type not smaller than brevier, shall be placed in each licensed vehicle by the proprietor or driver thereof, in such a position as to be easily seen by passengers.
7. For every offence against the provisions of any of the preceding By-laws to which no special penalty has been attached, the offender shall pay a penalty not exceeding ten pounds nor less than five shillings.
8. Whenever the word "vehicle" shall be used in the preceding or following By-laws, the same shall be understood to apply to either an omnibus, car, hackney-carriage, or hansom cab; and an omnibus shall mean a vehicle upon four wheels drawn by two or more horses; and a hackney-carriage shall mean a vehicle upon four wheels drawn by one or more horses; and a hansom cab, a vehicle upon two wheels drawn by one horse.
9. No proprietor or driver of any hackney-carriage or hansom cab within the said Borough shall demand, receive, or take more than the several fares or sums mentioned or set forth in the Schedules B and C to these By-laws, or such other sums as the Council of the said Borough shall from time to time determine or appoint in substitution thereof, as hereinafter provided; and every proprietor, driver, or conductor failing to comply with, or committing a breach of, this By-law shall for every such offence forfeit and pay a penalty or sum not exceeding five pounds nor less than five shillings.
10. No driver of any hackney-carriage or hansom cab shall refuse to take up any passenger or passengers unless already engaged for hire, nor refuse to convey such passenger or passengers to such place or places within the said Borough as he, she, or they may reasonably desire; and every person failing to comply with, or committing a breach of, this By-law shall forfeit and pay a penalty or sum not exceeding five pounds for every such offence.

11. No driver of any licensed vehicle shall be or remain at such a distance from his horse or horses, while attached to his vehicle, anywhere within the said Borough, as not to have immediate and full control over the same; and every person who shall commit a breach of this By-law shall for every such offence forfeit and pay a penalty or sum not exceeding five pounds nor less than five shillings.

12. The owner of every hansom cab or hackney-carriage or other licensed vehicle must provide, and the driver is bound to give every passenger on demand, a ticket containing a copy of Schedules B and C of these By-laws, printed as provided by the sixth of these By-laws, and on such ticket there shall be written or printed the number of the said hansom cab or hackney-carriage and the name and address of the owner thereof.

13. The driver of every hansom cab or hackney-carriage or other vehicle, who shall (except in the course of his hiring or at the request of passenger) stand with his vehicle at any place within the said Borough which is not included in Schedule A hereto, or has not been fixed or determined by resolution of the Council to be a stand within the meaning of these By-laws, shall for every such offence be liable to a penalty not exceeding sixty shillings, and in every prosecution under this By-law the onus of proving that he was bona fide waiting at the request of a passenger to whom he was then under hire shall be upon the person charged.

14. Every passenger hiring or travelling by a hansom cab or other vehicle shall be allowed 50lb. weight of luggage free of charge. Subject to this allowance the charges payable for the carrying of luggage shall be as provided by the scale in Schedule C hereto annexed.

15. If any person who shall hire a hansom cab or other licensed vehicle shall refuse on the termination of the hiring on demand being made therefor by the driver of such hansom cab or other licensed vehicle, or the conductor thereof, to pay at once in cash the lawful fare as provided in that behalf by the respective Schedules hereto, he shall on conviction thereof before two Justices pay a fine of not less than one pound and not more than ten pounds.

16. If any proprietor, driver, or conductor of any hansom cab or other licensed vehicle within the said Borough shall—after tender by the person hiring such vehicle of the lawful and proper fare chargeable in accordance with the Schedules B and C hereto annexed, or either of them—demand, receive, or take a sum in excess of the said fare, or of any fare which the Council of the said Borough may from time to time determine or appoint in substitution thereof by any By-law, to be duly passed and published in accordance with law, he shall, on conviction thereof before two Justices, forfeit and pay for every such offence a penalty or sum not exceeding ten pounds and not less than forty shillings.

17. Upon the conviction of any proprietor, driver, or conductor under the preceding By-law, the Mayor shall thereupon suspend the license of the offender, and report the matter to the next ordinary meeting of the Council, who may remove such suspension or confirm it for such period as they may think fit.

18. Unless specially stipulated for by the proprietor or driver beforehand, the fare for every journey begun by any licensed vehicle within the Borough and terminated within the Borough—whether the vehicle shall be in the meantime driven beyond the limits of the Borough or not—shall be in accordance with the Schedules hereto.

19. All existing By-laws made by this Council under the above heading and for the purposes set out therein are hereby repealed.

#### SCHEDULE A.

No. 1 Stand: For cabs and hackney-carriages.—On the north-eastern side of Fitzmaurice-street, from a point 18 feet south from its intersection with Little Gurwood-street to the Telegraph Office.

No. 2 Stand: For cabs and hackney-carriages.—On the south-eastern side of Little Gurwood-street, from a point 18 feet north-easterly from its intersection with Fitzmaurice-street to Tarcutta-street.

No. 3 Stand: For cabs and hackney-carriages.—On the eastern side of Collins-street, from its intersection with Edward-street to the railway gates.

#### SCHEDULE B.

Scale of fares to be charged by persons plying hansom cabs within the Borough of Wagga Wagga:—

- (a) For any time not exceeding one quarter of an hour, for one passenger—not exceeding one shilling.
- (b) For two passengers comprising one party, for any time not exceeding one quarter of an hour—not exceeding one shilling and sixpence.
- (c) For every additional quarter of an hour in either of the two preceding cases—not exceeding one shilling.
- (d) If engaged for one hour, or more than one hour, the charge shall not exceed the rate of four shillings per hour for one or two passengers for the first hour; and for every subsequent quarter of an hour or part thereof, the charge shall not exceed ninepence.

Scale of fares to be charged by persons plying hackney-carriages, omnibuses, or licensed vehicles other than hansom cabs, within the said Borough:—

- (e) For any time not exceeding one quarter of an hour for one passenger—not exceeding one shilling.
- (f) If hired by two persons, comprising one party, for any time not exceeding one quarter of an hour—one shilling and sixpence.
- (g) If hired for one hour or more than one hour, the charge shall not exceed the rate of four shillings per hour for the first hour for one or two passengers comprising one party; and for every subsequent quarter of an hour or part thereof, the charge shall not exceed one shilling.
- (h) If hired by three persons, comprising one party, for any time not exceeding one quarter of an hour—not exceeding one shilling and sixpence.
- (i) For every subsequent quarter of an hour or part thereof in the preceding case—not exceeding one shilling and sixpence.
- (j) If engaged for one hour or more than one hour, the charge shall not exceed the rate of five shillings per hour for three persons, comprising the one party, for the first hour; and for every subsequent quarter of an hour or part thereof, the charge shall not exceed one shilling.
- (k) If engaged by not less than three and not more than six persons, comprising one party, for any time not exceeding one quarter of an hour—not exceeding three shillings.
- (l) If engaged for more than one quarter of an hour, for every additional quarter of an hour or part thereof—not exceeding one shilling and sixpence.
- (m) If engaged for one hour or more than one hour the charge shall not exceed the rate of six shillings per hour for not less than three and not more than six persons comprising the one party.
- (n) After ten o'clock p.m. double fares may be charged.
- (o) For every journey within the Borough to or from any train arriving at the railway station after midnight and before 5 o'clock a.m.—for each passenger, two shillings and sixpence.

#### SCHEDULE C.

- (p) For carrying luggage within the Borough of Wagga Wagga, for every 50lb. weight for any time not exceeding one quarter of an hour—one shilling.
- (q) For every additional 50lb. weight of luggage or any part thereof, for any time not exceeding one quarter of an hour—one shilling.
- (r) If engaged for more than an hour, for every 50lb. or part thereof, for every additional quarter of an hour after the first hour—ninepence.

The above By-laws were made and passed, and adopted, by a resolution of the Council of the Borough of Wagga Wagga, at a meeting of the Council held on the ninth day of October last past, and the seal hereto was affixed by order of the said Council.—Dated this 20th day of November, A.D. 1890.

(L.S.) C. H. CROAKER,

J. HAWKES, Council Clerk,

Mayor.

1891.

NEW SOUTH WALES.

**MUNICIPALITIES.**

(BOROUGH OF WAGGA WAGGA—BY-LAWS.)

**Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 158.**Colonial Secretary's Office,  
Sydney, 5th February, 1891.**WAGGA WAGGA MUNICIPALITY.—BY-LAWS.**

THE following By-laws, made by the Council of the Borough of Wagga Wagga, under the "Municipalities Act of 1867," for regulating the admission of the public to the Town Hall Gardens, having been confirmed by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the provisions of the above-cited Act.

HENRY PARKES.

**BOROUGH OF WAGGA WAGGA.**

BY-LAWS for regulating the admission of the public to the Town Hall Gardens.

1. The Gardens shall be open to the public between the hours of 7 a.m. and 5 p.m. from the 1st day of May till the 31st day of August, both days inclusive, and from 7 a.m. till 9 p.m. from the 1st day of September till the 30th day of April, both days inclusive.

2. The entrance to and exit from the Gardens shall be by and at the gate on the western side fronting Baylis-street, and no person shall enter or leave the Gardens except at or by such gate.

3. If any person shall enter or leave the Gardens by any gate or opening, or in any other manner than at or by the gate specified in the preceding By-law, or shall enter the Gardens or be found or seen therein before or after the hours prescribed for the opening and closing thereof respectively by the first of these By-laws, or shall trample or walk or be upon any bed or place set apart for the propagation of plants or trees or the raising of seeds, or shall wilfully destroy, injure, pull up, remove, cut, or in any way damage any plant, tree, or shrub growing in the said Gardens, or shall commit any nuisance within the Gardens, or behave himself in a riotous or disorderly manner, or conduct himself in such a manner as to cause annoyance or offence to any person in the Gardens, he shall for every such offence on conviction thereof, before two Justices, be liable to a penalty not less than five shillings and not exceeding twenty pounds.

4. If any person shall deface, obliterate, throw, or cut down, or remove or alter the position of any notice, placard, or finger-post in the Gardens, he shall on conviction thereof, before two Justices, be liable to a penalty not less than five shillings and not exceeding ten pounds.

5. No dogs shall be allowed in the Gardens, and any person who shall allow his dog to stray therein shall on conviction thereof, before two Justices, be liable to a fine of not less than five shillings and not exceeding twenty shillings.

The above By-laws were passed by resolution at a meeting of the Council of the Borough of Wagga Wagga, held on Thursday, the 9th day of October instant.—Dated this 8th day of December, 1890.

J. HAWKES, Council Clerk.

(L.S.) C. H. CROAKER,  
Mayor.



1891.

## NEW SOUTH WALES.

## MUNICIPALITIES.

(BOROUGH OF NEW LAMBTON—BY-LAWS.)

Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 153.

Colonial Secretary's Office,  
Sydney, 14th January, 1891.

## BOROUGH OF NEW LAMBTON.—BY-LAWS.

THE following By-laws, made by the Council of the Borough of New Lambton, under [the "Municipalities Act of 1867," having been confirmed by His Excellency the Lieutenant-Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

THE Council of the Municipality of New Lambton do, by virtue of the authority vested in them by the Act to establish Municipalities, 31 Vic. No. 12, hereby make and establish the following By-laws for the regulation and control of public vehicles within the Municipality of New Lambton:—

*Interpretation.*

In the construction of these By-laws, unless the context shall otherwise indicate, the following terms in inverted commas shall bear the meaning and include the things hereinafter severally assigned or set against them.

"Council"—The Mayor and Aldermen of the Municipality of New Lambton.

"Inspector"—The Inspector of Vehicles, or Sub-inspectors now or hereafter to be appointed by the said Council.

"Vehicles"—shall include all vehicles hereafter defined in this By-law.

"Omnibus"—A vehicle used for the purpose of standing or plying for passengers to be carried for hire at separate fares in any public street or place, and including the following description:—Vehicle on four wheels drawn by two or more horses.

"Carriage"—Any vehicle used for the purpose of standing or plying for hire in any public street or place, and including the following descriptions:—Hackney carriages or vehicles on four wheels drawn by one or two horses, cab or vehicle on two wheels drawn by one horse.

"Dray"—Dray, wain, waggon, cart, van, or vehicle of any construction standing or plying for hire, and drawn by one or more horses.

"Owner"—Every person who alone or in partnership with any other person shall keep any vehicle for which a license shall, may, or ought to be obtained by or of which the license shall or may be transferred to him under these By-laws.

"Conductor"—Every person other than the driver engaged or employed in attending upon passengers in or upon any omnibus.

"Driver"—Every person engaged or employed in driving any vehicle.

"Passenger"—Every person carried in or upon any omnibus or carriage other than the driver or conductor.

"Horse"—Horse, mare, gelding.

And in the construction of these By-laws any word importing the singular number shall be understood to include several persons or things as well as one person or thing, and any word importing the plural number shall be applied to one person or thing, and every word importing the masculine gender shall extend and be applied to a female as well as a male.

*Public vehicles generally.*

No vehicle to ply or person to drive or conduct without a license.

2. No vehicle shall ply for hire, nor shall any person act as the driver or conductor of any such vehicle within the Municipality of New Lambton, unless licensed in the manner hereinafter mentioned, nor during the suspension or after cancellation of such license as hereinafter provided. The owner of any such vehicle shall not permit the same so to ply for hire until he shall have taken out the license therefor, and paid the fee provided in the Schedule hereto annexed marked C, applicable to the description of vehicle intended to be licensed.

*A requisition must be sent for licenses.*

3. Before any licenses shall be granted to the owner, driver, or conductor of any vehicle, the person requiring such license shall obtain from the Inspector, free of charge, a requisition in the form of the Schedule hereto annexed marked A, or to the like effect, and shall duly fill up and sign the same, and deliver it with a certificate from two respectable persons, stating that he is of good character, of the required age, and competent for the position under license applied for, to the Inspector, at his office, or such other place as may be appointed for that purpose.

No license to be granted for vehicle in bad condition.

4. No license for any vehicle shall be granted or renewed unless the vehicle, horse or horses, and harness shall have been examined by the Inspector, or other person appointed by the Council, and by him found to be in a fit state to be licensed; and no license shall be granted in respect of any vehicle which, in the opinion of the Council, shall be unsafe, in bad repair, or otherwise unfit for the accommodation and conveyance of passengers, or for the conveyance of goods or merchandise.

## Form of license.

5. Licenses for owners, drivers, or conductors shall be in the form provided in Schedule B for each such license respectively, or to the like effect.

## Licenses to continue in force until 31st December.

6. Every license granted under these By-laws shall be under the hand of the Mayor, and countersigned by the Council Clerk, and shall be in force from the date of such license up to and including the 31st day of December then next ensuing; and no such license shall include more than one vehicle: Provided that if by accident any vehicle shall become unfit for use it shall be lawful for the owner thereof, during such reasonable time as it shall be undergoing repairs, to use another vehicle as a substitute, but the substitute shall in all respects, except as to a license, be subject to these By-laws in the same manner as if a license had been granted for it, and the owner using it shall be liable for any non-compliance with these By-laws in respect thereof as if it had been licensed. In order to entitle an owner to the benefit of the above provision he shall, before using such substitute, give notice in writing of his intention to do so to the Inspector, stating the true cause of his being compelled to use such substitute, and the period during which it will be necessary to do so; and no such substitute shall be used until it shall have been inspected and approved of by the Inspector, or for a longer period than fixed by a certificate, to be signed by the Inspector, and delivered to the owner.

## Licenses—by whom made out.

7. Licenses shall be made out in duplicate by the Inspector or his assistant, and numbered in such order as the Council shall from time to time direct.

## Fee for license.

8. For every such license or annual renewal thereof there shall be paid to the Council Clerk the several rates set forth in the Schedule hereunto annexed marked C.

## Renewal of license.

9. Licenses may be renewed at the end of every year by endorsement, under the hand of the Council Clerk, provided that the applicant for such renewal shall have been reported by the Inspector as having conducted his business creditably and satisfactorily.

Owner not to part with license or licensed vehicle without the approval of the Council.

10. No owner shall be at liberty to part with or lend his license. Any owner transferring or selling his licensed vehicle shall immediately give notice thereof to the Inspector, and the transferee or purchaser shall thereupon apply to have the license transferred to him, and shall sign his name in the books of the Inspector and on the license, and until this By-law shall have been complied with the transferrer or seller shall remain liable as owner for the breach of any of these By-laws, and no transferee or purchaser shall use the vehicle or allow it to be used to ply for hire.

## Who deemed owner.

11. The person or persons in whose name or names a license shall appear on the books of the Inspector shall be deemed the owner of the vehicle in respect of which such license shall have been issued.

## Change of residence to be notified.

12. Whenever any person named as the owner, or one of the owners, driver, or conductor of a licensed vehicle shall change his place of abode, he shall, within two days next after any such change, give notice thereof in writing signed by him to the Inspector, specifying his new place of abode, and the same shall be endorsed upon the license granted to such owner, driver, or conductor, and entered in the Inspector's book.

13. Any holder of a license under these By-laws who, since the license shall have been issued to him, shall have been convicted of any felony or misdemeanour, or of having been intoxicated while in charge of a licensed vehicle, or of any two breaches of these By-laws within a period of six months, shall be liable to have his license cancelled or suspended by the Council, and no person shall, during the suspension or cancellation of his license, act as driver or conductor of any licensed vehicle.

14. The Council shall have power to suspend or cancel the license of any driver or conductor who shall have been guilty of any breach of these By-laws, notwithstanding the provisions of the next preceding By-law, and no person shall, during the suspension of his license, act as driver or conductor of any licensed vehicle.

## Driver and conductor not to part with license.

15. Every driver or conductor shall deliver to the owner employing him the duplicate of his license, but he shall not lend or otherwise part with his original license on any pretence whatsoever. No owner of any such vehicle shall employ an unlicensed person as the driver or conductor thereof, or without receiving from such licensed driver or conductor the duplicate of the license held by him, which duplicate the said owner shall hold during the time of such person's employment by him, and on discharging any such person he shall return to him the said duplicate.

16. The Council may, as often as they shall deem it necessary, cause an inspection to be made of all or any licensed vehicles, and of the harness and horse and horses, animal or animals, used in drawing the same, and if any vehicle, horse or horses, animal or animals, or harness shall be found by them, in their opinion, unfit for public use, notice in the form or to the effect contained in the Schedule annexed, marked K, shall be given to the owner of such vehicle, and no owner, after such notice, shall use or let for hire, or suffer to be used or let for hire, such vehicle, horse or horses, animal or animals, or harness, as the case may be, before the same shall, in the opinion of the Inspector, be in condition fit for public use. And the Council may suspend, for such time as they may deem proper, the license of such vehicle. And in case the owner shall neglect or refuse to attend with his licensed vehicle, horse or horses, animal or animals, and harness before the Council, when he shall be called upon for that purpose, the Council may suspend the license of such vehicle, and no owner of any such vehicle shall permit or suffer the same to ply for hire during the suspension of such license.

## Lamps to be lighted.

17. Every licensed vehicle shall be provided with a lamp on each side of the same outside, and the driver of same, when plying for hire between sunset and sunrise, shall light and keep such lamps lighted, and the conductor of an omnibus shall also, between the hours of sunset and sunrise, light and keep lighted the lamp inside such omnibus.

## No vehicle to be withdrawn without notice.

18. No owner of any licensed vehicle shall withdraw the same from hire for two successive days, or for any two days in one week, without leave from the Inspector, except in case of accident. Provided that any owner may obtain such leave to withdraw his vehicle on giving five days' notice in writing to the Inspector of his desire to do so.

## To ply from stands.

19. The owner or driver of any licensed vehicle shall not permit the same to stand or ply for hire except at or from an appointed stand.

## Stands in Schedule.

20. The places specified in the Schedule H, hereunto annexed, are hereby respectively appointed public stands for licensed vehicles, and the said Council may by resolution from time to time, as they may see fit, alter the position of such stands.

## Mode of driving on stands.

21. The driver of every vehicle shall, on its arrival at any public stand, drive the same to the end of the rank of any vehicle that may be on such stand, and be the last of the same, and at every public stand all vehicles shall be arranged in single rank only, and shall draw up in succession in order of arrival to the place vacated on such stand.

## Space to be left between every fourth vehicle.

22. At every fourth vehicle on every stand there shall be left a space of at least 8 feet for passengers to pass through.

## Driver and conductor to be in attendance.

23. The driver and conductor of any vehicle shall be constantly in attendance on the same when standing on a public stand or plying for hire, and no driver or conductor, when standing on a public stand or plying for hire, shall be at such a distance from the horse or horses attached thereto as to prevent his having control over the same, nor shall the driver or conductor at any time stand by or remain on the footway or pavement of any of the streets, lanes, or public places next adjoining any public stand, but every driver and conductor when not actually employed in or about his vehicle, or in feeding or watering his horses, shall remain on the driving box or step of his vehicle, and not elsewhere.

## Taking up or setting down passengers.

24. The driver of any vehicle taking up or setting down passengers at any place of public worship, or public amusement, or at any public meeting within the Municipality of New Lambton, or who is waiting for any of those purposes, shall obey the direction of the Inspector or other officer of the Council who may be on duty at such place or places, as to the taking up or setting down, or waiting for passengers, and as to the order and place in which any vehicle shall stand, and every driver shall perform his duty in a careful and quiet manner, and shall not push into or get out of the line or position fixed for the vehicle, so as to endeavour to arrive at his place of destination before any other vehicle, the driver whereof, from its position, would have a prior right to take up or set down passengers.

## Mode of feeding horses.

25. The driver of every vehicle shall place a muzzle upon the head of any vicious horse while on the stand, and whilst feeding his horse or horses shall use nose-bags to contain the forage, and shall not remove his horses' blinkers during the time of feeding.

*No loitering.*

26. No driver of any vehicle shall suffer the same to stand or loiter in any street, or alongside of any other vehicle, in taking up or setting down any person, or wilfully, wrongfully, or forcibly prevent or endeavour to prevent the driver of any other vehicle from taking a fare.

27. Any owner, driver, or conductor who shall, whilst driving, loading, or unloading, or attending any vehicle, or whilst on any public stand, wilfully or negligently do or suffer or cause any damage to be done to the person or property of any one, shall upon conviction forfeit or pay to the person whose person or property shall have been damaged such sum for compensation not exceeding £10 (ten pounds) as the Justices hearing the case may award.

28. No driver or conductor shall, whilst acting as driver or conductor, be guilty of any breach of the peace, misconduct, or misbehaviour, or to be intoxicated, or make use of any threatening, obscene, filthy, indecent, blasphemous, profane, abusive, or insulting language, sign, or gesticulation, but shall at all times be sober and careful in the discharge of his duties.

29. No person using any licensed vehicle shall be guilty of any breach of the peace, misconduct, or misbehaviour, or be intoxicated, or make use of any threatening, obscene, filthy, indecent, blasphemous, profane, abusive, or insulting language, sign, or gesticulation, or wilfully or negligently injure or damage such vehicle or the driver or conductor thereof.

30. The driver of any carriage shall immediately upon any person entering the same, give to such person a table of the fares payable for the hire of licensed vehicles, printed in clear and legible characters.

*Not to stand longer than necessary for loading, &c.*

31. No driver shall, except whilst standing on an appointed stand, permit his vehicle, with or without a horse or horses, to stand in any part of the Municipality longer than may be absolutely necessary for loading or unloading, or for taking up or setting down passengers, nor shall he cause any obstruction in any part of the Municipality of New Lambton.

*Driver to keep on near side of the road.*

32. Every driver of any vehicle shall keep the same on the left or near side of the road, except in case of actual necessity, and shall permit any other vehicle to pass, having the right so to do, and when about to stop shall raise his whip straight up, so as to warn the driver of any vehicle that may be behind.

*Driver to turn vehicle at a walk, &c.*

33. The driver of every vehicle requiring to turn for the purpose of proceeding in an opposite direction on any street, road, or lane in the Municipality of New Lambton, shall bring the horse or horses to a walking pace before commencing to turn, and shall go at the same pace in turning the corner of any street.

*Pace for omnibus and carriages, &c.*

34. No vehicle, except a dray, shall be drawn through any part of the Municipality of New Lambton at a walking pace, except as before provided, or on Sunday, when all shall be so drawn when passing places of public worship during divine service, or whilst in a funeral procession, nor at a pace faster than that of a trot, which shall not be at a less rate than six miles an hour nor more than seven, at which rate all carriages shall be drawn, except when otherwise ordered by the hirer.

*Condition of vehicle.*

35. The owner of every vehicle shall at all times, when the same is plying for hire, make and keep it clean, strong, and in good order in all respects, and if with windows they shall be sound and unbroken, with the leathers or lifts suitably attached to the frames. The horse or horses shall be able and sufficient for their work, free from disease, and properly broken in to harness. The harness for each horse shall be perfect, good, and sufficient for the purpose. And every driver and conductor shall be clean in his person, and wear a good hat and other clean and respectable clothes, and conduct himself in a proper and decorous manner.

*Who shall be carried.*

36. No person suffering from an infectious or contagious disease shall ride in or upon any licensed vehicle, and no driver or conductor shall knowingly carry or permit to be carried any such person or (except to some police office or watch-house) any corpse, or any person in a state of intoxication, or who is so noisily or violently conducting himself, or otherwise so misbehaving as to occasion any annoyance, or to disturb the public peace; and no passenger shall carry inside any vehicle, except a dray, any animal or any substance of an offensive character, or that might soil or damage the vehicle or the apparel of other passengers; and no driver or conductor shall sleep in or upon any licensed vehicle, or use the same for eating his meals therein.

37. No driver or conductor shall smoke tobacco or other thing whilst driving or conducting any licensed vehicle engaged on any fare, nor shall any passenger smoke on any vehicle without the consent of the driver, or against the wish of any other passenger, and in no case shall any smoking be allowed inside any omnibus. No conductor shall enter any omnibus nor mount on the top of it whilst performing his journey for the purpose of collecting any fares, or for any other purpose, or permit any person to stand on the steps or monkey-board whilst he shall be conducting.

*No person to drive without consent of owner.*

38. No person, except the driver or conductor of a licensed vehicle (authorised by the owner of such vehicle) shall drive or conduct the same; no driver or conductor shall suffer or permit any other person to act as driver or conductor of such vehicle without the consent of the owner; neither shall the driver or conductor of any vehicle leave the same when plying for hire, and no person shall tout or solicit passengers for him.

*Not to neglect to take a fare agreed for.*

39. No owner or driver of any licensed vehicle having agreed to take a fare from any place at any time shall delay, neglect, or refuse to do so.

*Vehicle whilst loading to be placed near side of street.*

40. Every driver whilst engaged in loading or unloading his vehicle shall place it as near as conveniently may be to the near or left-hand side of the street parallel to the footway.

*By-laws to be given to licensed persons.*

41. Every person obtaining a license under these By-laws shall, at the time of registering his license, have given to him without charge a copy of these By-laws; each such copy to be signed by the Inspector, and to have the name of the owner, driver, or conductor, to whom the same shall be delivered, with the number of the license written distinctly thereupon, and each owners, drivers, and conductors respectively shall at all times have such copy of By-laws ready for production, and shall upon request produce the same for any person using or hiring any vehicle, and every driver and conductor shall at all times have his original license, and produce the same when required by any person as aforesaid, or to the Inspector or his assistants, or to any Justice of the Peace, or Inspector of Police requiring same.

*The register of license.*

42. Every owner, driver, and conductor receiving his license, shall sign a copy purporting to be such, and acknowledging the receipt of the original license, which copy shall be kept by the Inspector, and the production of which on any proceeding for breach of the By-laws shall be sufficient evidence that the person so signing is in fact the person to whom such original license was issued, and of his being so licensed, without any notice to produce the original.

*Omnibus and Omnibus-car Regulations.*

*Construction of omnibus furnishing—Necessary particulars to be painted.*

43. Every omnibus and omnibus-car for which a license shall hereafter be applied for shall be of the dimensions herein directed, and shall be provided by the owner with the fittings and furniture, and have painted on it the words, figures, and notices detailed and described as follows:—

*Dimensions.*

From floor to roof, in line with front of each seat, not less than five feet.

From top of seat of cushion to roof, not less than three feet six inches.

Each seat shall not be less than fourteen inches wide; space from seat to seat, between the inside seats, not less than two feet.

*Fittings and furniture.*

The outside seats, when not of the rustic pattern, and all inside seats, shall be furnished with good cushions.

Springs shall be provided to all window frames of an improved pattern, effective to prevent noise.

Waterproof aprons shall be provided sufficient to cover the legs of all outside passengers, which aprons the drivers shall offer for use.

A bell or checkstring to warn the driver to stop when required.

Two lamps outside—one on each side of the omnibus or omnibus-car, of the colour prescribed for the line of road on which it shall ply—one lamp inside.

The number of license in black on the outside lamps.

The number of the license, four inches long, and of proportionate width, upon or near the driver's seat, and upon the panel of the door on the outer side.

The fare and name of the owner, the licensed number of passengers, on the outside of the door.

The name of the stands between which it shall be licensed to ply, on each external side clear of the wheels; also

On the end of the panel inside, in a conspicuous place, the names of stands between which it shall be licensed to ply, the licensed number of passengers, the time of journey, the fare, and the name of the owner; except where otherwise directed. All the above words and figures to be not less than two inches in length, free from flourishes or intricate designs, and of a colour opposite to, contrasting with, the ground on which they shall be painted. No alteration shall be made in any of the above without notice to the Inspector and approval of the Council: Provided that no alteration in the colour of the body of any omnibus or omnibus-car shall be enforced until it shall require to be painted. Provided also, that it shall not be lawful for the owner, driver, or conductor of any omnibus or omnibus-car, to suffer any notice, advertisement, or printed bill, or any names, letters, or numbers to appear upon the outside or inside thereof without the consent of the Inspector previously obtained.

Not to carry a greater number than licensed for.

44. No driver or conductor shall admit to the inside, or allow on the outside of any omnibus at any one time, a greater number of passengers than the number it shall be licensed to carry inside or outside, as the case may be; and no omnibus shall be licensed for more passengers than the same will accommodate upon fixed seats, properly cushioned, allowing for each passenger a space of eighteen inches, measuring in a straight line lengthwise on the front of each seat, nor shall any vehicle be taken off the line of road for which it shall be licensed: Provided that no child under five years of age sitting on the lap shall be deemed to be a passenger within the meaning of these By-laws: No passenger to carry more than one child without paying its fare. No omnibus shall be taken off its line of road except as herein provided.

Ombuses to start in rotation.

45. The time of starting shall be according to the tables issued by the Council, or at such other times as may be appointed from time to time by resolution of the Council. The first omnibus to start on one day shall be the last on the next, and the others in their order, starting earlier by the interval appointed between any two omnibuses on such stand, unless arrangements have been made for the alteration of the order of starting from the stand in the morning between the owners of such vehicles, with the consent of the Inspector; and each owner shall furnish an omnibus to perform the journeys in every turn that falls to him, so as to keep a continuous rotation daily: Provided that at such stands as do not appear in Schedule II, there shall be an interval of ten minutes between the starting of every two omnibuses from any stand to the same place, or such other special cases as the Council may direct.

Line of road and time to be kept.

46. The driver of every omnibus or other vehicle shall on each line of road start with his vehicle from its stand and complete its journey and the parts thereof to its other stand (if any) for such road in the times shown in Schedule issued by the Council, or at such other times as may be appointed from time to time by resolution of the Council, without turning round or leaving the proper line of road from one stand to the other, as shown in Schedule J and in the license of such omnibus or other vehicle.

Extraordinary occasions.

47. The Inspector of licensed vehicles for the time being shall be at liberty to grant permission to the owner or driver of any licensed vehicle to leave the line of road for which such vehicle is licensed, and ply the same from any place not being an appointed stand; and no owner or driver of any licensed vehicle shall permit or suffer the same to leave the line of road for which such vehicle is licensed.

No blowing of horns, &c.

48. No driver or conductor of any omnibus, whilst standing at a public stand or plying for hire in any part of the Municipality of Lambton, shall endeavour to attract notice by ringing of bells, blowing of horns or other instruments, nor deceive any person in respect of the route or destination thereof by word or sign; nor shall the driver or conductor of any vehicle endeavour to attract notice by shouting on Sunday whilst standing at a public stand, or in any part of the said Municipality. Provided that the Inspector may in certain cases give the driver permission to blow a whistle or sound a horn.

Passing.

49. The driver of any omnibus shall not permit his vehicle to pass any other omnibus in the Municipality of New Lambton, proceeding in the same direction from or to the same stand, if the latter be proceeding on its journey at a pace faster than a walk.

Eligible passengers not to be refused.

50. No owner, driver, or conductor of any omnibus or other vehicle licensed to ply for hire from stand to stand, shall demand, receive, or take from any passenger a larger fare than shall be shown in large immovable figures in some conspicuous place,

both inside and outside the omnibus, as the fare for which such omnibus or other vehicle plies: Provided that no fare shall be increased except between the hours of 10 o'clock at night and 5 in the morning. And no driver or conductor of an omnibus or other vehicle as aforesaid shall neglect or refuse to admit and carry any person for whom there is room and to whom no reasonable objection can be made under these By-laws, nor, except in cases of accident or other unavoidable cause, shall any driver or conductor stop such vehicle upon any place where foot passengers usually cross the carriage-way.

51. Any person having taken his seat in or upon an omnibus or other vehicle as aforesaid shall pay the fare, as shown in Schedule G, when demanded after the commencement of his journey. And any person who shall refuse to pay the same shall be liable on conviction to a penalty of 10s.

#### Carriage and Cab Regulations.

Carrying capacity of hackney carriages, &c.

52. No license shall be hereafter granted for any vehicle to be used as a hansom cab, unless the said vehicle shall be of the following dimensions: Height inside, from bottom of floor thereof to roof (in front of seat), four feet ten inches; height inside, from top of seat to roof, three feet six inches; width of seat room, three feet; depth of seat, one foot two inches; space from front of seat to inside of door, eleven inches; width outside, immediately over door, not less than three feet seven inches. The number of the license granted for every hackney carriage or cab shall be painted in figures not less than two inches in height, and of proportionate breadth, of a colour to contrast with the colour of the ground on which it shall be painted, outside on the panel of each door on any hackney carriage, and on the sides of the boot of any cab, and upon each lamp on any of the aforesaid vehicles the same number of the same size shall be painted black, and all the aforesaid numbers shall be kept legible and undefaced during all the time such vehicle shall ply or be used for hire. The drivers of such vehicles respectively shall be bound to take, if required, exclusive of the driver, four persons inside and one person outside a hackney carriage, or two persons inside a hansom cab. The driver shall not be obliged to take any luggage exceeding fifty pounds in weight, being clean and of such a description as may be placed inside or outside the vehicle without injuring the same, and the driver shall be entitled to claim one shilling for every additional fifty pounds weight or portion thereof so carried; but the person hiring such vehicle shall be allowed eighty-four pounds weight of luggage when the number of persons is short of the number aforesaid. Whenever the number of persons carried shall exceed that named for each vehicle respectively, the driver shall be entitled to charge—by time or distance, as the hiring may be—one-third more for each adult or two children over five and under fifteen years of age. Further, the driver shall not allow any person to ride, drive, or be carried in or upon such vehicle without the consent of the hire.

Number of carriage and table of fares to be affixed inside.

53. The number of the license of every carriage on a card, six inches by three, printed in clear legible figures, and the table of fares to be fixed by the Council, shall be affixed at the back of the panel of such carriage, or in such other place as the Council may direct; and such card shall be kept so affixed, legible and undefaced, during all the time the carriage shall ply or be used for hire. No owner or driver of a licensed hackney carriage or cab shall demand, receive, or take more than the several fares set forth in the Schedule hereunto annexed, marked F.

Driver to draw to near side to put down, &c.

54. Every driver of a carriage whilst engaged in taking up or setting down any passengers shall, during such taking up or setting down, place his vehicle as near as conveniently may be to that side of the street, and in a line parallel with the kerbstone at which the taking up or setting down is required: Provided that he shall put down or take up on his near side.

Fares to be paid for vehicles sent for but not used.

55. Any person calling or sending for a carriage or cab and not further employing the same shall pay as follows:—For a hackney carriage, one shilling; for a cab, nine pence, or the fare from the stand or place from which the carriage or cab was engaged, at the driver's option. And if the person calling the carriage or cab shall detain the same more than five minutes, he shall pay for any time it may be detained not exceeding a quarter of an hour,—if a hackney carriage, nine pence; if a cab, six pence, and any further time in the same proportion, which amounts may be recovered in a summary way, together with costs.

56. Any person having hired a licensed carriage shall pay the legal fare when demanded; and any person refusing or neglecting to pay the same shall, on conviction before two Justices of the Peace, forfeit and pay the same with such amount of over damages, costs, and charges, for loss of time, or otherwise, as the said Justices shall think fit.

*Dray Regulations.*

No person to ride on dray without reins

57. No owner, driver, or any other person having the care and charge of any dray drawn by one or more horses, or other animals, shall ride thereon, unless he shall be provided with sufficient reins, or if such dray be loaded; and no block dray shall be allowed to proceed out of a walking pace.

Property left on dray.

58. In every case of goods or merchandise being left on any licensed dray, or with the driver thereof, by any person having hired or used the same, such property shall be delivered up to such person, or shall within eighteen hours be taken, in the state in which it shall have been found, to the Council's office, and there deposited with the Inspector.

Not to carry more than one ton on dray.

59. No owner or driver shall at any one time carry on any licensed dray, having only two wheels and drawn by one horse, a greater weight than one ton.

Detention.

60. Whenever any dray, hired by the load or distance, having taken up a load, shall be detained with the same more than fifteen minutes, the hirer shall pay for every fifteen minutes after the first, six pence, and so in proportion for any longer period.

How numbers placed on dray.

61. The number of the license granted for every dray shall be painted white on a ground of black, or the reverse, on the sides thereof, in a conspicuous place in figures not less than three inches in height and of proportionate breadth, with the letters N.L.B.C. of the same colour immediately above the figures, and the driver or owner of such dray shall at all times keep the same legible and undefaced.

Not to demand more than legal fare.

62. No owner or driver of any dray shall demand, receive, or take more than the several fares or amounts fixed by the Council by these By-laws, as shown in Schedule D, and no owner or driver of any dray shall permit or suffer any person to be carried therein as a passenger.

Fares for sending for but not using dray

63. Any person calling or sending for any licensed dray, and not further employing the same, shall pay the sum of two shillings, or the fare or hire from the stand or place where the dray was engaged, at the driver's option; he shall further, for any time the dray may be detained not exceeding a quarter of an hour, pay the sum of one shilling, and for any time not exceeding a second quarter of an hour the sum of six pence, and for any further time at the rate of six pence for every quarter of an hour.

To pay legal fare.

64. Any person having hired a licensed dray shall pay the legal fare when demanded, as shown in Schedule D.

Distance—how computed.

65. The distance shall be computed from the stand or place where the dray was hired.

Council appoint stands.

66. The places enumerated in the Schedule hereto marked E are hereby appointed public stands for drays.

Drays not to stand across street.

67. No driver of any licensed dray shall suffer the same to stand for hire across any street, except so directed by the Inspector, or alongside any other vehicle, nor obstruct the driver of any other dray in loading or unloading any goods or merchandise, or wilfully, wrongfully, or forcibly prevent, or endeavour to prevent, the driver of any vehicle from taking a fare or hiring.

*Miscellaneous Regulations.*

Property found in vehicles.

68. The driver of every vehicle and conductor of every omnibus shall carefully examine his vehicle immediately after setting down his fares, and in every case of property having been left in any vehicle by any person having used or hired the same, such property, if found by another passenger or other person, shall be delivered to the driver or conductor, who shall deliver the same, with any other property found by him, within eighteen hours after such finding to the Inspector's office, and there deposit it; and no owner shall detain any property delivered to him by any driver or conductor in his employment longer than the time before mentioned, but shall deposit it at the Inspector's office with the Inspector.

28—B

Additional fare after 10 p.m. and before 5 a.m.

69. For as much of every drive by time or distance as may be performed by any vehicle not an omnibus, after 10 o'clock at night and before 5 o'clock in the morning, an addition of one-half the ordinary fare shall be paid with such ordinary fare, and in case of an omnibus the charge shall be double the ordinary fare between the above-mentioned hours.

Information may be made on behalf of the complainant.

70. It shall be lawful for the Inspector on receiving a complaint from the owner, driver, or conductor of any licensed vehicle, or from any person using or intending to use, or hiring or intending to hire, any such vehicle, that any of these By-laws have been disobeyed, to cause the person against whom the said complaint shall have been made to be summoned to appear before the Justices.

Vehicles on a stand bound to take a fare.

71. Every vehicle, except an omnibus, standing or being on any public stand shall be deemed to be plying for hire, and the driver thereof shall be bound to take immediately any fare notwithstanding any pre-engagement: Provided, however, that no person shall be bound to take such fare unless the person requiring the same shall upon demand tender and pay the legal fare for the required hiring there and then. Further, if at any other place than a public stand the owner or driver shall solicit engagement by word or sign, he shall be bound to take a fare immediately, under the same conditions as before-mentioned as to the hirer.

Inspector may be appointed.

72. Such person or persons as may from time to time be in that behalf appointed by the Council shall be Inspector or Sub-inspectors, during the pleasure of the Council, of all licensed vehicles plying for hire in the Municipality of New Lambton, and such Inspector or Sub-inspectors shall every three months examine all such vehicles and report to the Council on the same, and shall at all times see that as far as possible the By-laws are duly observed; and any such Inspector or Sub-inspectors shall have power to order from any stand, or from being driven or used for hire, any vehicle, horse or horses, and harness attached thereto, which upon examination shall not be in a proper and cleanly state, and in all respects in accordance with the By-laws fit for work; and every owner, driver, or conductor shall comply with the orders and directions so given.

No persons to obstruct Inspector.

73. No owner, driver, or conductor, or other person shall obstruct or hinder any such Inspector or Sub-inspectors in the execution of his duties, or refuse to comply with any lawful order or direction to be given by him in relation to these By-laws.

74. For any offence against the provisions of these By-laws the offender shall be liable to and shall pay a penalty not exceeding £10 nor less than 5s.

**SCHEDULE A.****A requisition of license to**

To the Borough Council of New Lambton.

I, \_\_\_\_\_, residing in \_\_\_\_\_ street, do hereby request that license be granted to me to No. \_\_\_\_\_ within the said Municipality.

**SCHEDULE B.**

This is to certify that \_\_\_\_\_ is hereby licensed to \_\_\_\_\_ a certain number \_\_\_\_\_ No. \_\_\_\_\_ within the Municipality of New Lambton, from the date thereof to the thirty-first day of December next, subject, nevertheless, to all and every one of the By-laws, rules, and regulations in force relating thereto.

Given under my hand at New Lambton, this \_\_\_\_\_ day of \_\_\_\_\_, in the year of our Lord one thousand eight hundred and \_\_\_\_\_

Mayor of the Municipality of New Lambton.

Build—  
Colour—  
Lining—  
Name—  
Stand—  
Line of road—

Licensed to carry \_\_\_\_\_ inside passengers and \_\_\_\_\_ outside.

SCHEDULE C.

Licenses.

Proprietors of.	On and after 1st January in each year.		On and after 1st April in each year.		On and after 1st July in each year.		On and after 1st October in each year.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Omnibuses ..... each	2	0 0	1	10 0	1	0 0	0	10 0
Omnibus-cars ..... "	2	0 0	1	10 0	1	0 0	0	10 0
Cars ..... "	2	0 0	1	10 0	1	0 0	0	10 0
Hackney carriages .. "	2	0 0	1	10 0	1	0 0	0	10 0
Cabs ..... "	2	0 0	1	10 0	1	0 0	0	10 0
Drays, carts, & vans .. "	1	0 0	0	15 0	0	10 0	0	5 0

'Bus and cab drivers, yearly ..... s. d. 5 0  
 Dray, cart, and van drivers, yearly..... 2 6  
 The Council shall have power to raise or reduce the above fees in cases where vehicles are plying within the Municipality of New Lambton, or through more than one Municipality.

SCHEDULE D.

Dray Fares.

From any wharf, standing, or place in the Municipality of New Lambton to a distance not exceeding half-a-mile ..... 3 0  
 For every additional half-mile or part of half-mile ..... 1 0  
 The above fares are for merchandise and goods delivered to the driver at his dray, and not to exceed in weight twenty-five hundred.

The removal of household furniture shall be by the hour :—  
 For the first hour or part thereof ..... 2 6  
 For every additional half-hour or part thereof ..... 1 3

SCHEDULE E.

Dray stands duly appointed.

In Oldham-street, on the west side.

SCHEDULE F.

Rates and fares to be paid for every hackney carriage (not an omnibus) within the limits of this By-law :—

Fares by time.		s.	d.
Carriage—for any time not exceeding half-an-hour ...	2	3	
And for every additional half-hour or part thereof	2	3	
Cab—for any time not exceeding half-an-hour ...	1	6	
And for every additional half-hour.....	1	6	

Fares by distance.  
 From any public stand to any distance not exceeding one mile :—

	s.	d.
Hackney carriage .....	1	6
Cab .....	1	0

All fares beyond a distance of two miles from any stand to be paid by distance.

SCHEDULE G.

From the stand to the following places, and returning therefrom :—

	s.	d.
New Lambton to Hamilton .....	0	3
New Lambton to Newcastle .....	0	6
New Lambton to Lambton .....	0	3
New Lambton to Jesmond .....	0	6
New Lambton to Plattsburg.....	0	9
New Lambton to Adamstown .....	0	3
New Lambton to Glebe.....	0	6

SCHEDULE H.

Carriage, cab, omnibus, and omnibus-car stands.

On the north side of Church-street, east end. Omnibuses proceeding to Newcastle, on north side of Lambton Road, near Railway-street. Omnibuses proceeding to Lambton on Plattsburg, on the south side of Lambton Road, near Church-street.

SCHEDULE J.

Showing the lines of road to and from the same.

From Newcastle, on the Hamilton and Lambton Road, to the stand, thence to Lambton and Plattsburg by the same road.  
 From Plattsburg and Lambton, by the same route.  
 From Adamstown or Glebe, by Regent-street, along Church-street to the stand, thence to Newcastle, Lambton, or Plattsburg by the Hamilton and Lambton Road.

SCHEDULE K.

To Mr. \_\_\_\_\_, owner of the \_\_\_\_\_ numbered \_\_\_\_\_  
 Take notice that I, the duly appointed Inspector of Public Vehicles for the Borough of New Lambton, have this day examined your \_\_\_\_\_ and find it defective, it being \_\_\_\_\_, and I therefore prohibit the same from being used or hired again until the repairs above noted are made, and approved of by me.

Lambton, 18 . \_\_\_\_\_  
 Inspector.

Made and passed by the Borough Council of the New Lambton Municipality, this nineteenth day of November, one thousand eight hundred and ninety.

(L.S.) JOSEPH W. OLDHAM,  
 Mayor.

JAMES HANN, Council Clerk.

1891.

## NEW SOUTH WALES.

# MUNICIPALITIES.

(BOROUGH OF DRUMMOYNE—BY-LAWS.)

Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 153.

Colonial Secretary's Office,  
Sydney, 12th February, 1891.

## BOROUGH OF DRUMMOYNE.—BY-LAWS.

THE following By-laws, made by the Council of the Borough of Drummoyne, under the "Municipalities Act of 1867," having been confirmed by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

## BOROUGH OF DRUMMOYNE.—BY-LAWS.

PROCEEDINGS of the Council and Committees; preservation of order at Council Meetings; duties of officers and servants, &c.

*Meetings of the Council.**Ordinary meetings.*

1. Unless otherwise ordered the Council shall meet for dispatch of business on every alternate Wednesday, at the hour of 8 p.m., unless such day shall happen to be a public holiday. In the latter case the meeting shall be held on such other day as the Mayor may appoint.

*Business of ordinary meetings.*

2. The following shall be the order of business at all meetings of the Council, other than special meetings:—
1. The minutes of the last preceding meeting to be read, corrected if erroneous, and signed by the Mayor or other Chairman. No discussion to be permitted on such minutes, except as to whether they are correct.
  2. Correspondence to be read, and order made thereon if expedient.
  3. Petitions (if any) to be read and dealt with.
  4. Reports from Committees and minutes from the Mayor (if any) to be presented, and orders made thereon.
  5. Questions as to matters under the jurisdiction, or within the official cognizance of the Council, to be put and replied to; and statements as to any facts, matters, or circumstances requiring attention by the Council, or any of the Committees or officers, to be made.
  6. Motions, of which notice has been given, to be dealt with in the order in which they stand on the business paper.
  7. Orders of the day to be disposed of as they stand on the business paper: Provided that it shall be competent for the Council at any time to entertain any particular motion, or to deal with any particular matter of business out of its regular order on the business paper without any formal suspension of this section; and also in like manner to direct that any particular motion or matter of business shall have precedence at a future meeting.

*Business at special meetings.*

3. At special meetings of the Council the business shall be taken in such order as the Mayor or Aldermen at whose instance the special meeting shall be called may have directed.

*Business paper for ordinary meeting, how prepared.*

4. The business paper for every meeting of the Council other than a special meeting shall be made up by the Council Clerk not more than four days nor less than one day before the day appointed for such meeting. He shall enter on such business paper a copy or the substance of every notice of motion, and of every requisition or order as to the business proposed to be transacted at such meeting, which he shall have received, or shall have been required or directed so to enter in due course of law, and as hereinafter provided. Every such entry shall be made (subject to the provisions of section 4 of this Part of these By-laws) in the same order as such notice, requisition, or direction shall have been received.

*Summons to Members.*

5. The summons to members of the Council for every meeting thereof shall be prepared from the business paper for such meeting, and shall embody the substance of such business paper.

*How business paper is to be disposed of.*

6. The business paper for each meeting of the Council shall, at such meeting, be laid before the Mayor or Chairman, who shall make a note upon such business paper of the mode in which each matter entered thereon has been dealt with, and such business paper so noted shall be a record of the Council.

Notice of motion, &c., to be numbered as received and preserved until disposed of, unless withdrawn before the business paper is made up.

7. All notices of motion, and all requisitions from Aldermen, and directions from the Mayor as to the entry of any particular matters of business for the consideration of the Council at the then next or any future meeting, shall be numbered by the Council Clerk as they are received; and each such notice, requisition, and direction shall be preserved by such clerk until after the matter to which it relates shall have been disposed of, and the record in the Minute-book of the manner

*How business paper is to be disposed of.*

8. The business paper for each meeting of the Council shall, at such meeting, be laid before the Mayor or Chairman, who shall make a note upon such business paper of the mode in which each matter entered thereon has been dealt with, and such business paper so noted shall be a record of the Council.

Notices of motion, &c., to be numbered as received and preserved until matter disposed of unless withdrawn before business paper made up.

9. All notices of motion and all requisitions from Aldermen and directions from the Mayor as to the entry of any particular matter of business for the consideration of the Council at its then, next, or any future meeting, shall be numbered by the Council Clerk as they are received; and each such notice, requisition, and direction shall be preserved by such clerk until after the matter to which it relates shall have been disposed of, and the record in the Minute-book of the manner in which such matter has been so disposed of shall have been duly verified, as required by section 3 of this Part of these By-laws: Provided, however, that the person giving or forwarding any such notice of motion, requisition, or direction to the Council Clerk shall be at liberty to withdraw the same at any time before the making up of the business paper.

After business paper made up, all notices, &c., to be the property of the Council.

10. After the business paper shall have been made up as aforesaid all the said notices of motion, requisitions, and directions as to which entries have been made thereon shall be the property of the Council, and shall not be withdrawn, altered, or amended without leave having been first obtained from the Council for such withdrawal, alteration, or amendment.

*Motions and Amendments.*

*Motions—how to be moved.*

11. Except by leave of the Council, motions shall be moved in the order in which they stand on the business paper, and if not so moved or postponed shall be struck out and considered to have lapsed.

*Absence of proposed mover.*

12. No motion of which notice shall have been entered on the business paper shall, except as hereinafter provided, be proceeded with in the absence of the Alderman by whom such notice shall have been given unless by some other Alderman producing a written authority for that purpose from such first-named Alderman.

*Motion to be seconded.*

13. No motion in Council shall be discussed until it has been seconded.

*Amendments may be moved.*

14. When a motion shall have been made and seconded, any Alderman shall be at liberty to move an amendment thereon, but no such amendment shall be discussed until it has been seconded.

*Motions and amendments to be in writing.*

15. No motion or amendment shall be discussed until it has been reduced into writing.

*Only one amendment at a time.*

16. No second or subsequent amendment shall be discussed until the previous amendment or amendments shall have been disposed of.

*Amended question—further amendment may be moved thereon.*

17. If an amendment be carried, the question as amended thereby shall become itself the question before the Council, whereupon any further amendment upon such question may be moved.

*How subsequent amendments may be moved.*

18. If any amendment, either upon an original question or upon any amended question, shall be negatived, a further amendment may be moved to the question to which such first-mentioned amendment was moved, and so on: Provided that not more than one question and one proposed amendment thereof shall be before the Council at any one time.

*Motions for adjournment.*

19. No discussion shall be permitted on any motion for adjournment of the Council; and if, upon the question being put on any such motion, the same be negatived, the subject then under consideration, or the next in order on the business paper, or any other on such paper that may be allowed precedence, shall be discussed before any subsequent motion for adjournment shall be receivable.

*Requisitions from Aldermen—how to be dealt with.*

20. Every requisition by an Alderman, that any particular matter of business be brought before the Council, shall be treated as a notice of motion by such Alderman that such business be taken into consideration by the Council. And he shall be called upon in due order to move that such business be so considered or to make any other motion which he may

think fit in reference thereto which shall be consistent with the notice of such business and with good order. And if any such Alderman be absent, or if, being present and so called upon, he shall make no such motion, then it shall be open to any other Alderman to make such motion. And when any such motion shall have been made it shall be dealt with in the same manner as if notice thereof had been given, subject, however, to any objection which may exist as to its not being in accordance with the notice actually given of such business or with good order. And if no motion shall be made in reference to such business, the entry relating thereto shall be struck out of the business paper.

*Orders of the Day.*

*Of what orders of the day shall consist.*

21. The orders of the day shall consist of any matter other than motions on notices which the Council shall at a previous meeting thereof have directed to be taken into consideration or which the Mayor or any Committee of the Council shall have directed to be entered on the business paper for consideration.

*How they are to be dealt with.*

22. Section 19 of this Part of these By-laws shall be considered applicable to orders of the day; and the Alderman who has the usual charge of, or who has previously moved in reference to, the particular business to which any such order of the day relates shall be the person called upon to move: Provided that as to any order of the day entered as aforesaid by direction of the Mayor, such Mayor may arrange with any Alderman to move, and may in such case call upon the Alderman with whom he has so arranged.

*Petitions.*

*Petitions to be respectfully worded.*

23. It shall be incumbent on every Alderman presenting a petition to acquaint himself with the contents thereof and to ascertain that it does not contain language disrespectful to the Council. The nature and prayer of every such petition shall be stated to the Council by the Alderman presenting the same.

*Petitions—how received.*

24. All petitions shall be received only as the petitions of the parties signing the same.

*How petitions are to be dealt with.*

25. No motion shall, unless as hereinafter provided, be permissible on the presentation of a petition, except that the same be received, or that it be received and referred to one of the permanent Committees hereinafter mentioned; or that it may be received, and that its consideration stand an order of the day for some future meeting: Provided, however, that if any Alderman shall have given due notice of a motion in reference to any petition, and such petition shall have been presented before such Alderman shall have been called upon to move such motion, the said motion shall, if otherwise unobjectionable, be considered in order.

*Correspondence.*

*Duties of the Mayor as to correspondence.*

26. The Mayor shall have the same duty in reference to letters addressed to the Council, before directing the same to be read, as by section 23 of this Part of these By-laws is imposed upon Aldermen presenting petitions. The Mayor shall direct as to the order in which all correspondence shall be read, and no letter addressed to the Council shall be presented or read by any Alderman. If the Mayor be absent, and shall not have examined such letters addressed to the Council, or have given any such directions as aforesaid, then the duties imposed by this section shall devolve upon the presiding Alderman.

*Section 26 to apply to letters.*

27. Section 25 of this Part of these By-laws shall be equally applicable to letters addressed to the Council.

*Letters sent not to be discussed, but every letter may be subject of motion.*

28. No discussion shall be permitted in reference to any letters which have been written and sent by the Mayor, or by any officer of the Council, though copies may be read to such Council: Provided, however, that any notice of motion, consistent with good order, may be entertained with reference to any such letters whether read or not, or with reference to any letters addressed to the Council, which the Mayor or presiding Alderman may not have ordered to be read as aforesaid.

*Reports from Committees and minutes from the Mayor—Form of report*

29. All reports from Committees shall be written on foolscap paper, with a margin of at least one fourth of the width of such paper, and shall be signed by the Chairman of such Committee, or in his absence, by some other member of the same.

*Mayor's minute.*

30. The Mayor shall have the right of directing the attention of the Council to any matter or subject within its jurisdiction or official cognisance, by a minute in writing. Every such minute shall be written upon paper of the same kind, and with the same margin as a report from a Committee, and shall be signed by such Mayor.

How reports, &c., are to be dealt with.—Duties of Chairman, &c., in certain cases.

31. No motion shall (unless as hereinafter provided) be permissible on the presentation of a report from a Committee or a minute from the Mayor, except the same be received, or that it be received and that its consideration stand an order of the day for some future meeting: Provided, however, that if any Alderman shall have given due notice in reference to any such report or minute, or if an order for the consideration of such report or minute shall have been entered among the orders of the day, it may, if otherwise unobjectionable, be moved or considered in due course. And when any such report or minute embodies any recommendation which cannot legally be carried out without such due notice, and it is nevertheless desirable that such report or minute shall be definitely ordered upon during the meeting of the Council at which it is presented, it shall be the duty of the Chairman, or member of such Committee signing such report, or of the Mayor, as the case may be, to give or transmit to the Council Clerk such a notice of motion, requisition, or direction as aforesaid, as will enable the Council Clerk to make the necessary entry on the business paper and to give due notice.

*Questions and Statements.*

Limitations as to question and statements.

32. No question or statement shall be allowed to be put or made which is inconsistent with good order, or is not in strict accordance with the requirements of section 3 of this Part of these By-laws.

Notice to be given.

33. Sufficient notice of every question shall be given to the person who is expected to reply thereto, to allow for the consideration of such reply, and if necessary, for a reference to other persons or to documents.

Answer not compulsory.

34. It shall not be compulsory upon any person questioned as aforesaid to answer the question so put to him.

Question to be put without argument, &c.

35. Every such question must be put categorically, without any argument or statement of fact.

Similar provision as to statements.

36. Every such statement must be made without argument. No discussion or question &c., rights of objection, and of subsequent motion reserved.

37. No discussion shall be permitted as to any such question or as to any reply or refusal to reply thereto, or as to any such statement, at the time when such question is put, or such reply or refusal to reply is given, or such statement is made: Provided, however, that nothing herein contained shall prevent the taking of any objection as to any such question or statement being out of order, or shall prevent the discussion, after due notice, as hereinbefore provided, of any matters properly arising out of or relating to any such question, or reply, or refusal to reply, or any such statement as aforesaid.

*Order of Debate.*

Mode of addressing the Council &c.

38. Every Alderman who shall make or second any motion, or shall propose or second any amendment, or shall take any part in any debate or discussion, or shall put or reply to any question, or shall make any statement, or shall in any other way, or for any other purpose, address observations to the Council, shall while so doing stand up in his customary place (unless he shall be prevented from so doing by reason of some bodily infirmity), and shall address himself to the Mayor or other Chairman then presiding: Provided that in the case of a question, such question may, by permission of such Mayor or Chairman, be put directly to the Alderman or officer to be questioned, and may be replied to in like manner; but in every such case the question so put and the answer thereto shall be subject to objection on the ground of disorder or irrelevancy, and all members of the Council shall, on all occasions, when in such Council, address and speak of each other by their official designation, as Mayor, Chairman, or Alderman as the case may be.

Speaker not to be interrupted if in order.

39. No Alderman shall be interrupted while thus speaking, unless for the purpose of calling him to order, as hereinafter provided.

Offensive language.

40. If any Alderman uses, whilst in Council, any offensive or insulting language, the words shall be written down, and he shall be asked to withdraw them. If he refuse to withdraw such language, and apologise, he shall be deemed guilty of misconduct, and be liable to a fine of not less than twenty shillings nor more than five pounds.

Limitation as to number of speeches, &c.

41. Every mover of an original motion shall have a right of general reply to all observations which may have been made in reference to such motion, or to any amendments moved thereon, as well as a right to speak upon every such amendment. Every Alderman, other than the mover of such original motion, shall have a right to speak once upon such motion, and on every amendment thereon. No Alderman shall speak oftener than once upon any question other than a question of order, unless when misrepresented or misunderstood, in which case he shall be permitted to explain, without adding any further observations than may be necessary for the purpose of such explanation.

Mover and seconder.

42. An Alderman who has moved any motion or amendment shall be considered to have spoken thereon. But an Alderman who shall have seconded any such motion or amendment without any further observation than that he seconded the same shall be at liberty to speak on such motion or amendment.

Speaker not to digress, &c.

43. No Alderman shall digress from the subject under discussion or shall make personal reflections on, nor impute improper motives to, any other Alderman.

Adjournment of debate.

44. A debate may be adjourned to a later hour of the day, or to any other day specified; and the Alderman upon whose motion such debate shall have been so adjourned shall be entitled to precedence on the resumption of the debate.

Mayor to decide as to precedence.

45. If two or more Alderman rise to speak at the same time, the Mayor or Chairman shall decide which of such Alderman shall be first heard.

Alderman may require questions to be stated, &c., under certain restrictions.

46. Any Alderman may request the question or matter under discussion to be read or stated for his information, or may require the production of any records of the Council bearing upon such question or matter which are readily accessible: Provided, however, that no such request or requisition shall be so made as to interrupt any other Alderman when speaking, or materially to interrupt the discussion. Also, that if any such request or requisition shall appear to the Mayor or Chairman not to have been made bona fide it shall not be complied with.

Mayor or Chairman may move or second motion, &c., and may address Council thereon.

47. The Mayor or Chairman may move or second any motion or amendment, or put any question. And such Mayor or Chairman shall have the same right as any other Alderman to speak once upon every such subject or amendment. The Mayor or Chairman shall rise when so speaking (unless prevented by some bodily infirmity from so doing) but shall be considered as still presiding.

*Questions of order.*

Mayor or Chairman to decide points of order.

48. The Mayor or Chairman shall preserve order and his decision on disputed points of order or practice shall be final, except in so far as the same may be questioned, as in manner hereinafter provided.

Acts of disorder.

49. Every member of the Council who shall commit a breach of any section of this Part of these By-laws, or who shall move or attempt to move any motion or amendment embodying any matter as to which the Council has no legal jurisdiction, or who shall in any other way raise or attempt to raise any question, or shall address or attempt to address the Council upon any subject which the said Council has no legal right to entertain or to discuss, or who shall use any other language which according to the common usage of gentlemen would be held disorderly, or who shall say or do anything calculated to bring the Council into contempt, shall be deemed to be out of order.

Mayor, &c., may call member to order.

50. The Mayor or Chairman may without the interposition of any other member of the Council call any Alderman to order, whenever, in the opinion of such Mayor or Chairman, there shall be a necessity for so doing.

Any member may raise question of order.

51. Every member of the Council shall have the right of calling the attention of the Mayor or Chairman to any motion, amendment, statement, argument, or observation, moved, used, or made by any other member which such first-named member may consider out of order.

Mode of proceeding thereon.

52. A member called to order shall withdraw while the question of order is being discussed or decided on, unless specially permitted to offer an explanation, retraction, or apology; but on obtaining such special permission such mem-

against any other person, except upon the order of the Council, or of the Mayor, or of the By-law Committee. And no such suit shall be directed to be brought, nor shall any such information be directed to be laid as aforesaid, except on an express resolution of the Council, in any case where the bringing of such suite or the laying of such information will be adverse to any previous direction by such Council, or where on trial or hearing of any such suit or information the same shall have been dismissed on the merits: Provided that in any such case the conduct or prosecution of any such suit or information may, on the order of the Council, be entrusted to an attorney.

*Levying Rates, &c.*  
Collection of rates.

56. All rates levied or imposed by the Council, under sections 165, 166, and 167 of the said "Municipalities Act of 1867" and "Amending Act of 1873," and for the purposes mentioned in the said sections, or under the provisions of any of the said sections, or for any of the purposes mentioned therein, shall be collected in such manner and shall be held to be due and payable on and after such day or days as the Council may by resolution at the time of making or imposing such rates or any of them have appointed.

Council Clerk to furnish list of defaulters.

57. It shall be the duty of the Council Clerk to furnish the Mayor and Council, or any Committee as directed, with lists of all persons so in default.

Mayor to enforce payment.

58. It shall be the duty of the Mayor to cause such defaulters to be sued for the amount of such rates in any Court of competent jurisdiction, or to issue distress warrants against all such persons, and to cause such warrants to be enforced.

Enforcement of distress.

59. The Bailiff shall be appointed by resolution of the said Council, and shall be at any time removable by a like resolution.

60. The Bailiff shall find two sureties to the satisfaction of the Mayor, to the extent of fifty pounds sterling each, for the faithful performance of his duties.

61. It shall be the duty of the Bailiff to make all levies by distress for the recovery of rates, in the manner hereinafter provided.

62. All levies and distress shall be made under warrant in the form of Schedule A hereto, under the hand of the Mayor or any Alderman who may for the time being be duly authorised to perform the duties of that office.

63. If the sum for which any such distress shall have been made shall not be paid with costs, as hereinafter provided, on or before the expiration of five days, the Bailiff shall sell the goods so distrained, or a sufficient portion thereof, by public auction, either on the premises, or at such other place within the Borough as the said Bailiff may think proper to remove them to for such purposes, and shall pay over the surplus (if any) that may remain after deducting the amount of the sum distrained for and costs as hereinafter provided, to the owner of the goods so sold, on demand of such surplus by such owner.

64. At the time of making a distress, the Bailiff shall make out a written inventory in the form of Schedule B hereto, which inventory shall be delivered to the occupant of the land or premises, or the owner of the goods so distrained, or to some person on his or her behalf resident at the place where the distress shall be made; and in case there shall be no person at such place with whom such inventory can be left as aforesaid, then such inventory shall be posted on some conspicuous part of the land or premises on which the distress is made; and the Bailiff shall give a copy of the inventory to the ratepayer on demand, at any time within one month after making such distress.

SCHEDULE A.

Warrant of distress.

I, **Mayor of the Borough of Drummoyno**, do hereby authorise you, **Bailiff of the said Borough**, to distrain the goods and chattels in the dwelling-house, or in and upon the land and premises of **\_\_\_\_\_** situated at **\_\_\_\_\_** for the sum of **\_\_\_\_\_** being the amount of Municipal rates due to the said Borough to the day of **\_\_\_\_\_** for the said dwelling-house, land, or premises, as the case may be, and to proceed thereon for the recovery of the said rates according to law.  
Dated this **\_\_\_\_\_** day of **\_\_\_\_\_** 18**\_\_\_\_\_** Mayor.

SCHEDULE B.

Inventory.

I have this day in virtue of a warrant under the hand of the Mayor of the Borough of Drummoyno, dated **\_\_\_\_\_** distrained the following goods and chattels in the dwelling-house, or in and upon the land and premises of **\_\_\_\_\_** situated at **\_\_\_\_\_** within the said Borough, for the sum of **\_\_\_\_\_** being the amount of rates due to the said Borough to the day of **\_\_\_\_\_** 18**\_\_\_\_\_**.  
Dated this **\_\_\_\_\_** day of **\_\_\_\_\_** 18**\_\_\_\_\_** Bailiff.

SCHEDULE C.

Costs.

	s.	d.
For every warrant of distress . . . . .	2	0
For serving every warrant and making levy— where the same is not more than £20 . . . .	2	0
Above that sum in addition for every £10 . . . .	1	0
For making and furnishing copy of inventory	2	0
For man in possession each day, or part of a day . . . . .	5	0
For sale, commission, and delivery of goods— per pound on proceeds of sale . . . . .	1	0

*Streets and Public Places, &c.*

New roads to be reported upon.

65. No new public road, street, way, park, or other place proposed to be dedicated to the public shall be taken under the charge and management of the Council until after such road, street, way, or park shall have been examined by a Committee for Works, and reported upon to the Council by such Committee.

Plans of proposed new roads, &c., to be deposited.

66. Whenever any proprietor or proprietors of land within the said Borough shall open any road, street, or way, or lay out any park or other place for public use or recreation through or upon such land, and shall be desirous that the Council shall undertake the care and management of such road, street, way, park, or other place, he or they shall furnish the Council with a plan or plans signed by himself or themselves, showing clearly the position and extent of such road, street, way, park, or other place as aforesaid. And he or they shall execute any instrument dedicating such road, street, way, park, or other place, as the Council may consider necessary.

67. The Surveyor of the Borough or other officer or person duly authorised by the Council in that behalf, shall be the proper officer for marking out, and shall fix, mark, and lay out the levels of all public roads, streets, lanes, and thoroughfares, and the carriage and foot ways thereof, which now are or shall hereafter be under or subject to the control, construction, care, or management of the Council. In marking out such roads, streets, lanes, and thoroughfares, recourse shall be had when practicable to the plans under which the land with frontage to the road, street, lane or thoroughfare in question shall have been sold or let. And it shall be the duty of such surveyor or officer to place posts at the corners or intersections of such streets, roads, lanes, and thoroughfares whenever the same may be deemed necessary or desirable by the Council, so as to give a width of 42 feet for the carriage-way and 12 feet for the foot-way on each side where the road, streets, lane, or thoroughfare shall be 66 feet wide, and in proportion, and in the discretion of the Council, in any such road, street, lane, or thoroughfare, or other public place of other width than 66 feet: Provided that there shall be no change of level in any such public road, street, lane, or thoroughfare, or public place, until the same shall have been submitted to and adopted by the Council as hereinafter provided: Provided further that this By-law shall be read subject in all respects to "The Width of Streets and Lanes Act of 1861."

Change of street levels.

68. Whenever it may be deemed necessary to alter the level of any such public road, street, or way as aforesaid, the Committee for Works shall cause a plan and section showing the proposed alteration to be exhibited at the Council Chambers for fourteen days, for the information and inspection of rate-payers, and shall notify by advertisement in some newspaper circulating in the Borough that such plan is so open to inspection. At a subsequent meeting of the Council the said plan and section shall, if adopted be signed by the Mayor or Chairman and the proposer and seconder of the motion for such adoption, and countersigned by the Council Clerk; and such plan and section so signed and countersigned shall be a record of the Council.

Footways may be levelled.

69. When any footway shall have been marked out in manner hereinbefore directed, the Surveyor or such officer or person so authorised as hereinbefore mentioned may cause the same to be levelled and made as nearly as practicable of equal height and breadth, with an equal slope and inclination, and for this purpose may remove any flagging, steps, or other matter, thing, or obstruction that may injure or obstruct the said footway or render it unequal or inconvenient, and which now is or may hereafter be erected or placed on the space marked out for any of the said footways.

Temporary stoppage of traffic for repairs, &c.

70. The Mayor may at any time cause the traffic of any street, lane, or thoroughfare, or any portion thereof to be stopped for the purpose of repairing the same or for any necessary purpose; and any person who shall travel on such street, lane, or thoroughfare, or remove or destroy any obstruction that may be placed thereon for the purpose of suspending the traffic, shall forfeit and pay a penalty of any sum not exceeding five pounds nor less than two pounds for every such offence.

## No encroachment allowed on streets, &amp;c.

71. Whenever any road, street, or lane has been marked out in manner herein provided, no house, shop, fence, or other structure shall, except as hereinafter mentioned, be allowed to project or encroach on any part thereof. And it shall not be lawful for any person to erect or put up any building, erection, obstruction, fence, or enclosure, or to make any excavation, hole, or opening in, under, upon, or near to any such road, street, lane, or thoroughfare, unless the consent of the Council or Mayor has been obtained to the erecting or making of any such building, erection, obstruction, fence, or enclosure, excavation, hole, or opening as aforesaid; and every person offending against this By-law shall forfeit and pay for the first offence a sum not exceeding five pounds nor less than two pounds, and for the second and every subsequent offence a sum not exceeding ten pounds nor less than three pounds.

## Laying gas, water, and sewerage pipes, &amp;c.

72. That a uniform charge of 2s. 6d. be made in every case where, for laying gas, water, and sewerage pipes, or any other purpose, the kerbing, asphaltting, or paving of any footpath within the Borough, or any roadway within the Borough, requires to be cut into, broken, or disturbed; that permission be first obtained in writing from the Council Clerk for the time being, and the said fee of 2s. 6d. be paid before any such work is commenced, the Council undertaking the repair of such kerbing, asphaltting, paving, or roadway; that a uniform charge of 10s. be made in every case where, for building or other purposes, it is necessary to cart material over the kerbing, asphaltting, or paving, a width of not more than 3 feet; that permission be first obtained from the Council Clerk for the time being, and the said fee of 10s. be paid before such carting is commenced, the Council undertaking the proper repair of such kerbing, asphaltting, or paving. Any person failing to comply with any of the provisions of this By-law shall upon conviction forfeit and pay a sum not exceeding forty shillings, in addition to the fees herein imposed.

## Obstructing public footways.

73. If the owner or occupier of any land situated on the side of any street or road in this Borough shall permit any tree, shrub, or plant, kept for ornament or otherwise, to overhang any footpath or footway on the side of any such street or road, and on demand made by the Council shall not cut, lop, or cause to be lopped, all such trees, shrubs, or plants, to the height of 8 feet at least, the said Council, by their servants, labourers, and workmen, may cut, or cause to be cut or lopped, all such overhanging trees, plants, or shrubs, and to remove or burn any such trees, plants, or shrubs, so cut or lopped without being deemed a trespasser or trespassers; and in case any person or persons shall resist or in any manner forcibly oppose the said Council or their servants, labourers, or workmen in the due execution of the powers given in this behalf by virtue of the "Municipalities Act of 1867," every person so offending shall on conviction of every such offence forfeit and pay any sum not exceeding ten pounds.

## No balcony, &amp;c., to project.

74. With regard to buildings hereafter to be built or rebuilt, it shall not be lawful for any awning, verandah, portico, balcony, or window forming part of or attached to any external wall to project beyond the building line of any street or road, except with the consent of the Council first obtained; nor shall any balcony or any other external projection as aforesaid, which may hereafter be added to any existing building, be allowed to project as aforesaid, under a penalty not exceeding twenty pounds nor less than five pounds, except with the consent of the Council first obtained: Provided that no such awning, verandah, portico, or balcony shall be permitted to be erected in any street less than 30 feet wide: Provided also that any person desiring to erect any such structure shall first submit a plan for the approval of the Council.

## Encroachments must be removed on notice.

75. The Surveyor or other such officer or person may at any time, on the order of the Council, and upon due notice of thirty days, direct the removal of any building, fence, or other obstruction or encroachments in and upon any road, street, lane, or thoroughfare under the charge of the Council. Notice shall in this be served either personally or at the usual last known place of abode of the person to whom such obstruction or encroaching structure belongs, or who has erected the same, or caused it to be erected.

## Council may remove encroachments.

76. In any case where after service of notice for the removal of any obstruction or encroachment as aforesaid, the person causing the same shall not remove it within thirty days, it shall be lawful for the Council to direct the removal of the same, under the superintendence of its own proper officer, and at the cost of the person so offending: Provided that the expenses thereby incurred shall in no case exceed the sum of ten pounds, or at the Council's option, to proceed against the offender for breach of By-law, the penalty not to exceed twenty-five pounds nor less than five pounds; and in case of every successive offence the penalty on conviction not to be less than five pounds.

## Or may proceed by action.

77. In every case where the obstruction or encroachment cannot be removed unless at a greater cost than ten pounds, it shall be open to the Council either to direct such removal, and to pay all the cost thereof above ten pounds from the funds of the Council, or to proceed by action for trespass against the person causing such obstruction or encroachment, or to proceed as for a breach of such By-laws as aforesaid.

## To apply also to obstruction by digging, &amp;c.

78. The foregoing provisions shall be equally applicable to obstructions by digging or excavation; and any person who shall wilfully obstruct or interfere with the Surveyor or other officer as aforesaid, or any person acting for or under him, or either of them, in the exercise of any of the duties or powers by these By-laws imposed or cast on the said Surveyor or officer shall on conviction forfeit and pay a penalty of not more than twenty pounds nor less than two pounds.

## Hoards or fences to be erected.

79. Every person intending to build or take down any building within the limits of the Borough of Drummoyne, or to cause the same to be so done, or to alter or repair the outward part of any such building, or to cause the same to be done where any street or footway will be obstructed or rendered inconvenient by means of such work, shall, before beginning the same, cause sufficient hoards or fences to be put up, in order to separate the building where such works are being carried on from the street, with a convenient platform and handrail, if there be room enough to leave as a footway for passengers outside of such hoard or fence, with such platform and handrail as aforesaid standing in good condition, to the satisfaction of the officer of the Council of the said Borough, during such time as the public safety or convenience requires, and shall, in all cases in which it is necessary, in order to prevent accidents, cause the same to be sufficiently lighted during the night; and every such person who shall fail to put up such fence, or hoard, or platform, with such handrail as aforesaid, or to continue the same respectively, standing in good condition as aforesaid during the period of such building or taking down, or who shall not, while the said hoard or fence is standing, keep the same sufficiently lighted in the night, or who shall not remove the same when directed by the officer of the Council of the said Borough within a reasonable time afterwards, shall for every such offence be liable to a penalty not exceeding two pounds for every day such default is continued.

## Offences.—Nuisances.—General good order of the Borough.—Damaging public buildings, &amp;c.

80. Any person who shall damage any public building, wall, parapet, sluice, bridge, road, street, footway, sewer, water-course, or other property of the Borough, shall pay the cost of repairing the same; and if the same be wilfully done, shall also forfeit and pay a sum not exceeding twenty pounds nor less than five pounds: Provided that such cost and penalty shall not exceed in the whole the sum of fifty pounds.

## Injuring public fountains, &amp;c.

81. Any person who shall injure any public fountain, pump, cock, or waterpipe, or any part thereof, shall pay the cost of repairing the same; and if the injury be wilfully done, shall also forfeit a sum not exceeding twenty pounds nor less than one pound; and any person who shall have in his possession any private key for the purpose of opening any cock, or who shall in any manner clandestinely or unlawfully appropriate to his own use any water from any public fountain or pipe, shall forfeit a sum not exceeding twenty pounds nor less than five pounds; and any person who shall open or leave open any cock of any public fountain or pump, so that the water shall or may run to waste, shall forfeit a sum not exceeding two pounds nor less than five shillings; and any person who shall wash any clothes, omnibus, carriage, cart, or other vehicle, or any horse or animal, at any public fountain or pump, shall forfeit and pay a sum not exceeding five pounds nor less than one pound.

## Injuring or extinguishing lamps.

82. Any person who shall wantonly or maliciously break or injure any lamp or lamp-post, or extinguish any lamp set up for public convenience in the said Borough shall, over and above the necessary expense of repairing the injury committed, forfeit and pay for such offence a sum not more than one pound nor less than five shillings.

## Damaging trees.

83. Any person who shall wilfully, or without the authority of the Council, cut, break, bark, root up, or otherwise destroy or damage the whole or any part of any tree, sapling, shrub, or underwood, growing in or upon any street or place under the management of the Council, or in or upon any public reserve or park, shall forfeit a sum not exceeding ten pounds nor less than two pounds.

## Throwing dead animals, &amp;c., into any water-course, &amp;c.

84. Any person who shall throw or cast any filth, rubbish, or dead animal, or any animal with intent to drown the same, into any water-course, water-hole, creek, or canal, or who shall

All claims to be examined and reported on by Finance Committee.

81. All accounts and demands of money against or from the Council shall be examined and reported on by the Finance Committee before any order shall be made for payment of such accounts or demands.

*Certificate required with each claim.*

82. No payment shall be so ordered unless there shall be a certificate or memorandum from the Committee, from the Mayor, or from the officer of the Council to whom the direction or guardianship of such expenditure properly belongs, showing that the demand is a legitimate one and has been duly authorised and inquired into.

*Common Seal and records of the Council.*

*Common Seal and press how secured—care of same.*

83. The Common seal and the press to which the same is attached shall be covered by a cover or box, except when such seal or press are in use, shall be kept locked. There shall be duplicate keys to the lock of this cover or box, of which keys one shall be kept by the Mayor and the other by the Council Clerk. Such common seal and press shall be in the custody and care of the Council Clerk.

*When and how common seal to be used.*

84. The common seal shall not be attached to any document without an express order of the Council. In every case when such common seal has been ordered to be attached to any document such document shall also be signed by the Mayor, or in case of the absence or illness of such Mayor, by two Aldermen, and countersigned by the Council Clerk.

*How books of account are to be kept and inspected.*

85. The Treasurer shall keep such books of account and such records, statements, and memoranda of receipts and expenditure in such manner and form as the Council may from time to time direct. It shall be the duty of the Finance Committee to inspect all such books of account, records, statements, and memoranda from time to time to ascertain that the same are properly kept and to report at once to the Council any act of neglect or appearance of inefficiency which they may have discovered in the keeping of the same. Also, to report to the Council from time to time any changes which such Committee may think advisable in the mode of keeping the accounts.

*Impression of seal not to be taken, &c., without the leave of the Council—Penalties.*

86. No member or officer of the Council shall be at liberty to take any impression of the Corporate Seal, or to show, lay open, or expose any of the books or records of the Council to any person other than a member of the same, without leave from such Council, except as otherwise provided by law. Any member or officer of the Council who shall be guilty of a breach of this section shall be liable on conviction for the first offence to a penalty of not less than five shillings nor more than two pounds, for a second offence to a penalty of not less than one pound nor more than ten pounds, and for a third and every subsequent offence to a penalty of not less than five pounds nor more than twenty-five pounds.

*Records not to be removed, &c.—Penalties.*

87. Any person removing any such book or other record of the Council as aforesaid from the Council Chamber, or the place where by direction of the Council such book or other record is usually kept, without leave for such removal having been first obtained from such Council, or without other lawful cause for such removal having been first obtained from such Council, or without other lawful cause for such removal as hereinafter provided, shall for every such offence be liable to a penalty of not less than ten shillings nor more than ten pounds.

*Penalty for defacing or destroying records.*

88. Any person destroying, defacing, or altering any record of the Council shall for every such offence be liable to a penalty of not less than five pounds nor more than fifty pounds.

*Officers and Servants.*

*Notice to candidates in certain cases.*

89. No appointment to any permanent office at the disposal of the Council to which a salary of fifty pounds per annum, or a salary or allowance of more than that amount is attached, shall be made until public notice shall have been given, as hereinafter provided, inviting applications from qualified candidates for the same; the salary or allowance attached to such office shall in every case be fixed before such notice is given, and shall be stated in such notice.

*Mode of appointment.*

90. Every such appointment shall be made by ballot, in such mode as may at the time be determined on, whenever there is more than one candidate for such permanent office.

*Exceptional cases.*

91. Nothing herein contained shall be held to prevent the employment as may be from time to time found necessary, and as may be ordered by the Council, of any workmen or labourers on the public works of the Municipality.

*Bonds for good conduct.*

92. All bonds given by officers or servants of the Council for the faithful performance of their duties shall be deposited with the attorney or bankers of the Corporation as the Council may order, and no officer or servant of the Council shall be received as surety for any other officer or servant of the Council.

*Duties of Council Clerk.*

93. The Council Clerk, in addition to the duties which by the Municipalities Act of 1867, or by the present or any other By-laws thereunder he may be required to perform, shall be the Clerk of all Revision Courts held in the district under the provisions of the said Municipalities Act. He shall also, under the direction of the Mayor, conduct all correspondence which may be necessary on the part of the Council. He shall likewise have charge of all the records of such Council, except such books or documents as may (as hereinafter provided) be intrusted to any other officer, and shall be responsible for the safe keeping of such records. He shall generally assist the Mayor in the performance of his duties, and in carrying out the orders of the Council.

*Duties of Treasurer, &c.*

94. The Treasurer shall have charge of such books of account and other records of the Council as are mentioned in section 87 of these By-laws, and shall be responsible for the safe keeping of the same; any other officer of the Council may have any other records thereof committed to his charge by an order of Council, and in such case shall be responsible for the safe keeping of such records.

*Duties of other officers and servants.*

95. The duties of all officers and servants of the Corporation shall be defined by such regulations as may from time to time, and in accordance with law be made.

*Special powers of Mayor.*

96. The Mayor shall exercise a general supervision over all officers and servants of the Corporation, and may order the preparation of any such return or statement, or the giving of any such explanation or information by any such officer or servant as he may think necessary, unless such return or statement shall have been already prepared, or such explanation or information already given, and such return, statement, explanation, or information is on record, or hereinbefore provided, or unless the Council shall have expressly forbidden or dispensed with the preparation of such return or statement, or the giving of such explanation or information. All such returns or statements shall be in writing, and shall be recorded. All such explanation or information may, except as hereinafter provided, be either rendered viva voce, or put into writing as the Mayor may direct.

*How complaints against officers, &c., are to be dealt with.*

97. All complaints against officers or servants of the Corporation must be in writing, and addressed to the Mayor, and must in every case be signed by the person or persons complaining. And no notice whatever will be taken of any complaint which is not in writing or is anonymous. All such complaints as aforesaid shall be laid by the Mayor before the Council at the next meeting thereof, which shall be holden after the Mayor shall have received the same, and shall be duly recorded.

*Miscellaneous.*

*Leave of absence.*

98. No leave of absence shall be granted to the Mayor or to any Alderman otherwise than by a resolution of the Council, adopted after due notice.

*Motion for rescission of previous orders, &c.*

99. Whenever a motion for the rescission of any order, resolution, or vote of the Council shall have been negatived, no other motion to the same effect shall be permissible until a period of three months shall have elapsed from the time of negativing such first-mentioned motion: Provided that nothing herein contained shall be held to prohibit the reconsideration and amendment of any proposed By-law which may have been submitted to the Governor for confirmation, and may have been recommitted to the Council with suggested amendments of the same, or the passage, after due notice as hereinbefore provided, and in due course of law of any By-law, for the repeal or amendment of any other By-law.

*Lapsed business.*

100. Whenever the consideration of any motion or matter of business shall have been interrupted by reason of a quorum not having been present, the resumption of such consideration may be ordered by resolution of the Council after due notice, and such consideration shall in such case be resumed at the point where it was so interrupted as aforesaid.



*Notices not to be painted on pavement, &c.*

109. Any person who shall stamp, stain, paint, write, or post any advertisement or notice upon any footway or kerb-stone, waiting-rooms, wharves, or other property of the Council within the Borough, shall be liable to a penalty not exceeding two pounds nor less than ten shillings.

*Offensive or indecent placards.*

110. Any person who shall in any street or place within the Borough post, expose to view, or distribute any placard, hand-bill, or other document whatever of an offensive or indecent character, shall be liable to a penalty not exceeding ten pounds nor less than two pounds.

*Musicians to move on.*

111. Any street musician or vocalist who shall not when requested by any householder within the Borough of Drummoyne or his servant, or by any officer or servant of the Council of the Borough aforesaid, or by any police officer, depart from the neighbourhood of the premises of such householder shall be liable to a penalty not exceeding two pounds nor less than five shillings.

*Persons not to stand or loiter in the streets.*

112. All persons standing or loitering upon any of the carriage-ways, footways, or other public places in the Borough of Drummoyne, to the inconvenience of passers-by, or in any way interrupting the traffic who shall not discontinue to do so on being required by any officer or servant of the Council of the said Borough, or by any police officer, shall be liable to a penalty not exceeding two pounds nor less than ten shillings.

*Holes made for cellars, &c., to be enclosed.*

113. If any person shall dig or make, or cause to be dug or made, any hole, or leave or cause to be left any hole in or adjoining any street, road, lane, or public place for the purpose of making any cellar or cellars, or the foundation or foundations to any other house or other building, or for any other purpose whatsoever, and shall not forthwith enclose the same in a good or sufficient manner and keep up or cause to be kept up and continued any such enclosure, or shall not when thereunto required by the said Council or officer thereof, well and sufficiently fence or enclose any such hole within the time and in the manner provided by the preceding By-laws, and shall not place a light upon the said enclosure and keep the same constantly burning from sunset to sunrise during the continuance of such enclosure; then, and in every such case, any person so offending shall forfeit and pay for every such offence and for every such refusal or neglect any sum not exceeding five pounds nor less than ten shillings, and on conviction for every subsequent offence not less than one pound.

*Excavations, &c., to be protected by fence or wall.*

114. It shall not be lawful for any person to make any quarry, excavation, or opening in the ground on any property adjoining or near to any public road or footpath within the limits of this Borough until the owner or occupier of the said property shall have erected a good substantial fence or wall, at least four feet high, around such parts of the said property as adjoin such public road or footpath, and any person neglecting or refusing to enclose any premises upon which any such quarry or excavation shall be made shall forfeit and pay for every such offence a sum not exceeding five pounds nor less than ten shillings; and all existing quarries, excavations, or precipices situated within the limits of this Borough shall be closed and protected in the manner aforesaid within one week after due notice to that effect shall have been given by the said Council; and in the event of the failure or neglect of the owner or occupier of any such last-mentioned property to enclose the same, after such notice as aforesaid, such persons so offending shall be subject to the penalty before mentioned.

*Damaging hand-rail, &c.*

115. Any person who shall damage any hand-rail, wharf, waiting room, or any portion thereof, or other property of the Council, shall on conviction forfeit and pay the amount of the damage so caused, in addition to a penalty of not more than two pounds nor less than five shillings.

*Various obstructions and annoyances.*

116. Every person who, in any street or other public place or passage within the said Borough, shall commit any of the following offences, shall on conviction for any and for every such offence, forfeit and pay a penalty of not more than two pounds nor less than five shillings:—

Every person who shall hoist, or cause to be hoisted, or lower, or cause to be lowered, goods of any description from any opening in any house fronting any street or public place, and close to the footway thereof, without sufficient and proper ropes and tackling.

Every person who shall carry or convey, or cause to be carried or conveyed, in any street or public place the carcase, or any part of the carcase of any slaughtered animal without a sufficient and proper cloth covering the same for the concealment from public view, or shall hawk or carry about butchers' meat for sale without covering the same as aforesaid.

Every person who shall place any line, cord, or pole across any street, lane, or passage, or hang or place clothes thereon to the danger or annoyance of any person.

Every person who shall place any flower-pot in any upper window near to any street or public place without sufficiently guarding the same from being thrown down.

Every person who shall throw or cast from the roof or any part of any house or other building any slate, brick, wood, rubbish, or other material or thing (unless within a hoard or enclosure, when any house or building is being erected, pulled down, or repaired).

Every blacksmith, metal founder, limeburner, brick-maker, potter, or other person using a forge, furnace, or kiln, and having a door, window, or aperture fronting or opening into or towards any street, lane, or passage, and not enclosing such door, or not fastening the shutters or other fastenings of such window, and closing such aperture, or placing a screen before the same every evening within one hour after sunset, so as to effectually prevent the light from showing through the doorway, window, or aperture next or upon such street, lane, or passage.

Every person who shall, within the distance of one hundred yards from any dwelling-house, burn any rags, bones, cork, or other offensive substances (garden refuse excepted), to the annoyance of any inhabitant.

Every person who shall carry goods, tools, implements, ladders, scaffolding, or any frame, upon any footway to the annoyance of any person.

Every person who shall be the keeper of, or have any dog or other animal which shall attack or endanger the life or limb of any person in any street or public place within the said Borough.

No noisome or offensive trades to be carried on to the injury of any inhabitants.

117. No person shall carry on any noisome or offensive trade within the said Borough, so as to injure or be a nuisance as hereinbefore stated to the inhabitants thereof.

Mode of proceeding when a noisome and offensive trade is about to be commenced.

118. The like proceedings as mentioned in By-laws 102 and 103 shall be taken whenever there shall be a complaint as aforesaid that any manufacture, trade, calling, or operation is about to be commenced or entered upon, which is likely to prove "noisome or offensive" within the meaning of these By-laws, and the notice to be given as aforesaid shall be given to the person or persons about to commence or enter upon such manufacture, trade, calling, or operation, and shall require him, her, or them not to commence or enter upon the same; and the Council shall take such measures as shall effectually and permanently prevent the same from becoming noisome or offensive within the meaning of these By-laws to any resident within the Borough. And any person who shall in any such case commence, enter upon, or continue any such manufacture, trade, calling, or operation, so that the same shall be in any way "noisome or offensive" within the meaning of these By-laws, shall for every such offence forfeit and pay a sum not exceeding fifty pounds nor less than five pounds.

*Service of notice.—Liabilities.*

119. Service of any such notice as aforesaid upon the occupier or owner of any premises or land wherein or whereon any such manufacture, trade, calling, or operation is being conducted, followed, or carried on, or is about to be commenced or entered upon, or at the last known place of abode of such occupier or owner, or upon any person upon the said premises or land, shall be a good and sufficient service of such notice for all the purposes of these By-laws; and every person who shall be actually engaged in superintending, directing, or managing, or who shall be in any other way actually engaged or employed in any such manufacture, trade, calling or operation as aforesaid, shall be liable to be regarded and treated as a person conducting, following, or carrying on such manufacture, trade, calling, or occupation within the meaning and for all the purposes of these By-laws.

*Public Health.*

Houses to be purified on certificate of two medical practitioners.

120. If upon the certificate of any duly qualified medical practitioner it appears to the Council that any house, or part thereof, or the premises occupied in connection therewith, within the limits of the Borough, is in such a filthy or unwholesome condition that the health of any person is or may be liable to be affected or endangered thereby, and that the whitewashing, cleansing, purifying, or fumigating of any house, or part thereof, or the premises occupied in connection therewith, would tend to prevent or check infectious or contagious disease, the said Council shall give notice in writing to the owner or occupier or part thereof, or the premises occupied in connection therewith, to whitewash, cleanse, purify, or fumigate the same, as the case may require; and if the person to

whom notice is so given shall fail to comply therewith within the time specified in the said notice, he or she shall be liable to a penalty of not less than forty shillings nor more than ten pounds: Provided that each day during which such house shall, after such notice as aforesaid, remain uncleansed or unfumigated, shall be a separate offence: Provided also that no such penalties shall collectively amount to any greater sum than fifty pounds.

*Sale or letting of infected premises or goods.*

121. If any person shall sell, let, or cause to be sold or let, any dwelling-house or part thereof, or premises occupied in connection therewith, in the said Borough, which then is, or shall have been within thirty days prior to the date of such sale or letting, occupied by any person suffering from any infectious or contagious disease, without giving due notice thereof to the person or persons purchasing, renting, or hiring any such house or premises, the person so selling, letting, or causing to be sold or let, shall be liable to a penalty not exceeding fifty pounds nor less than ten pounds; and any person who shall sell, let, or cause to be sold in the said Borough, any article of furniture, bedding, household or personal effects, knowing the same to have been, within three months prior to the date of such sale or letting, used by any person or persons suffering from any infectious or contagious disease, shall forfeit and pay a sum not exceeding fifty pounds nor less than ten pounds.

*Exposing infected articles.*

122. Any person who shall expose or cause to be exposed in any road, street, public place, or enclosed land adjacent to any dwelling, road, street, or public place, any article whatsoever, knowing the same to have been in use or occupation of any person suffering from any infectious or contagious disease within thirty days prior to the date of such exposure as aforesaid, shall forfeit and pay a sum not exceeding fifty pounds nor less than ten pounds.

*Rubbish or offensive matter.*

123. No kind of rubbish or offensive matter shall be thrown upon any public or private property within the Borough without permission first obtained from the Borough Council and the owner or owners of such property. Persons found guilty of a breach of this by-law shall forfeit and pay for every such offence a sum not exceeding two pounds nor less than ten shillings.

*Sewerage and Drainage.*

No private sewers to be made to communicate with the public sewers without notice.

124. It shall not be lawful for any person, without notice to the Council or otherwise than according to such plans and directions as such Council make and give, to make or branch any private drain or sewer into any of the public drains or sewers, or into any drain or sewer communicating therewith; and in case any person or persons shall make or branch any private drain or sewer communicating or to communicate therewith without such notice, or otherwise than aforesaid, every person so offending shall for every such offence forfeit and pay any sum not exceeding fifty pounds, and shall at his own expense make good all roads, streets, kerbing, &c., which shall have been injured by or through any such work; and all such repairs shall be performed to the satisfaction of such officer as the Council shall appoint to superintend such work; and any person who shall do or perform anything contrary to this clause, or shall neglect to make good all such damage as aforesaid, shall on conviction thereof forfeit and pay a sum not exceeding fifty pounds nor less than one pound.

*Proprietors of private sewers, &c., repair and cleanse same.*

125. All private drains or sewers communicating with any public drain or sewer shall from time to time be repaired and cleansed under the inspection and direction of the Council or officer thereof, at the cost and charge of the occupiers of the houses, buildings, lands, and premises to which the said private sewers or drains shall respectively belong; and in case any person shall neglect to repair and cleanse, or cause any such private drain or sewer to be repaired and cleansed, according to the direction of the Council, he shall forfeit and pay for every such offence any sum not exceeding five pounds nor less than ten shillings.

*Water from roofs, &c.*

126. Every owner or occupier of any dwelling-house, shop, or other building who shall permit rain-water to fall from any roof, balcony, or other projection, upon any street, road, lane, or footway, or to flow over the pathway of any such street, road, or lane, or shall cause or permit any such roof or rain water to be discharged by any pipe upon any such street, road, lane, or footway, shall, if such nuisance be not abated within seven days after notice to abate the same shall have been given by the Council, forfeit and pay for every such offence a sum not exceeding five pounds nor less than one pound.

*Drains in footpaths.*

127. No surface drain shall be made in any footpath, nor any pipes laid under or across the same, without the authority of the Council; and no such pipe or drain shall be used for the discharge into any street or roadway of any offensive liquid or matter of any kind whatsoever; and any person who shall so offend shall forfeit and pay a sum not exceeding fifty pounds nor less than one pound.

*Drains for discharging surface water from land.*

128. Every owner or occupier of land so situated that the surface or storm water from or upon the same shall overflow or shall tend naturally, if not otherwise discharged, to overflow any road, lane, or footway, shall within seven days next after the service of notice by the Council abate such nuisances where possible, and in default of compliance with any such notice within the period aforesaid, such owner or occupier shall forfeit any sum not exceeding five pounds; and if within seven days after such conviction such owner or occupier shall still have failed to comply with such notice, or be otherwise in default as aforesaid, he shall forfeit and pay a sum not less than two pounds nor more than twenty pounds; and every such owner or occupier who shall still have made defaults as aforesaid for more than seven days after such second or any future conviction, shall be held guilty of a further offence within the meaning of this section.

*Natural water-courses.*

129. Any person who shall close or intercept any natural water-course, by building or otherwise, shall provide another outlet for the surface water with pipes and sewers of a size and in a manner to be approved by the Council; and any person failing to comply with the provisions of this by-law shall forfeit and pay a sum not exceeding fifty pounds nor less than five pounds.

*Preventing and extinguishing fires—Fires and combustible materials, &c.*

130. Every person who shall place, or knowingly permit to be placed, in any house, yard, or workshop, out-offices, or other premises, fire, gunpowder, or combustible or inflammable article of any kind, in such a manner as to endanger contiguous buildings (except with the consent of the owners or occupiers thereof) shall on conviction for every such offence forfeit and pay a penalty of not more than five pounds nor less than one pound, and shall forthwith remove such fire, gunpowder, or combustible or inflammable article; and every such person who shall suffer any such fire, gunpowder, or combustible or inflammable article to remain as aforesaid for forty-eight hours after any such conviction, shall be deemed guilty of a further offence against this by-law.

*Inflammable fences, &c.*

131. Every person who shall erect any fence of brushwood, bushes, or other inflammable material, or shall make or place any stack of hay, corn, straw, or other produce, or place as or for the covering of any such stack any inflammable material, or shall place, keep, or store any hay, straw, or other inflammable material in any building so as to endanger contiguous buildings or properties, shall forfeit on conviction for every such offence a penalty of not more than five pounds nor less than one pound, and also remove such fence, stack, covering, or inflammable material within forty-eight hours after such conviction; and any person failing to remove such fence, stack, covering, or inflammable material within a reasonable time after any such conviction as aforesaid, shall be deemed guilty of a further offence against this by-law.

*Subsidy reserves to fire brigades.*

132. For the purpose of protecting life and property in the Borough, the Council may from time to time pay to the funds of any fire brigade established in the Borough such sum or sums of money as shall be determined by resolution of the Council. And, further, the Council shall pay to any fire brigade as shall with any engine have first and second in order attended at any fire within the Borough, such sums of money by way of reward as the Council may by similar resolution have fixed.

*Burning shavings, &c., in the streets.*

133. Any person burning any shavings or other things in any street, road, or public place shall forfeit and pay a sum not exceeding two pounds nor less than five shillings.

*Fireworks.*

134. Every person who shall light any bonfire, tar barrel, or firework upon or within sixty feet of any building, or public or private street, or any public place, or shall sell gunpowder, fireworks, or other combustible matter by any artificial light other than gas or electric light, shall forfeit a sum not exceeding five pounds nor less than ten shillings.

*Willfully setting fire to chimneys.*

135. Every person who willfully sets fire, or causes to be set on fire, any chimney, flue, smoke-vent, or stove-pipe, herein called in common a "chimney," shall forfeit a sum not exceeding five pounds.

*Public Amusements.**Unlawful games.*

136. No games of dice or other games of chance for money, prize-fighting, or any dog-fighting, cock-fighting, or other entertainment opposed to public morality, or involving cruelty to animals, or likely to cause a breach of the peace, shall be established, held, or given within this Borough; and any person or persons who shall establish, hold, give, or cause to be established, held, or given any such game, exhibition, or entertainment, shall for every such offence forfeit and pay a sum of not less than ten pounds nor more than fifty pounds.

*Places of amusement to be licensed.*

137. No dancing saloon, bowling or skittle alley, shooting gallery, or similar place of amusement (other than entertainments requiring to be licensed by law) shall exist or be established within the Borough, unless and until such place of amusement shall have been licensed by the Council as hereinafter provided; and in the event of any such licensed place of amusement being improperly conducted, or becoming a nuisance or an annoyance to any inhabitant, or violating public decency, or endangering the public peace, the Mayor shall, on representation to that effect being made, forthwith suspend the said license, and the Council at its next meeting shall, by resolution, cause the said license to be cancelled, or otherwise, as may appear necessary or desirable; and any person or persons having already established such places of amusement who shall not, within thirty days after these By-laws come into force, apply for such license, or any person or persons who shall open, establish or maintain any such place of amusement as aforesaid, without having obtained such license, shall forfeit and pay a sum of not more than twenty-five pounds nor less than ten pounds.

*Mode of granting license.*

138. Applications for licenses as aforesaid must be in writing, addressed to the Mayor and Aldermen, and must be indorsed by two householders, testifying to the respectability of the applicant. The application must describe clearly the nature of the entertainment for which the license is sought, and the premises in which it is to be held.

*License fees.*

139. License shall be granted by resolution of the Council, upon payment of license fees as follows:—For every license granted between the 1st January and 31st December, one pound one shilling. All licenses shall expire on the 31st December in each year, and may be renewed by resolution of the Council upon written application, and on payment of the annual fee of one pound one shilling.

*Polluting water reservoirs, &c.*

140. Whosoever shall bathe in any stream, reservoir, conduit, aqueduct, or other water works belonging to or under the management or control of the Council, or shall wash, cleanse, throw, or cause to enter therein any animal, whether

alive or dead, or any rubbish, filth, or thing of any kind whatsoever, or shall cause or permit, or suffer to run, or to be brought therein the water of any sink, sewer, drain, engine, or boiler, or other filthy, unwholesome, or improper liquid, or shall wash any clothes at the public fountains or pumps, or in or at any such stream, reservoir, conduit, aqueduct, or other water works as aforesaid, or shall do any thing whatsoever whereby any water or water works belonging to the said Council, or under their management or control, shall be fouled, obstructed, or damaged, shall, for the first offence, forfeit and pay any sum not exceeding five pounds; for second offence any sum not less than one pound nor more than ten pounds; and for a third and every subsequent offence a sum not more than twenty pounds nor less than five pounds.

*Supply of water in time of drought.*

141. In time of drought or scarcity of water the Council may, by resolution to that effect, cause water to be supplied to the inhabitants of the Borough by water-carts or otherwise, and shall, by such resolution as aforesaid, fix a price to be charged for water so supplied.

*Trees in streets.*

142. The Council shall have power to plant trees in the streets or public ways of the Borough, and any person wilfully injuring or destroying any such trees, or any railing or fence protecting the same, shall on conviction forfeit and pay a penalty of not more than ten pounds nor less than two pounds, in addition to the value of the tree, railing, or fence so injured or destroyed.

143. For the purposes of these By-laws, summer months shall mean and be taken to be the months from October to March inclusive, and winter months shall mean and be taken to be the remaining months of the year.

*Construction of terms.*

144. In the construction of the foregoing By-laws, the provisions of the Act 16 Victoria No. 1 shall be applied, so far as the same shall be applicable.

Made and passed by the Municipal Council of the Borough of Drummoyne, this third day of December, A.D. 1890.

(L.S.) MARK ANNESLEY WILLIAMSON,  
Mayor.

W. JOHNSON,  
Council Clerk.

1891.

## NEW SOUTH WALES.

## MUNICIPALITIES.

(BOROUGH OF MURRUMBURRAH—BY-LAWS.)

Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 153.

Colonial Secretary's Office.

Sydney, 10th March, 1891.

## BOROUGH OF MURRUMBURRAH.—BY-LAWS.

The following By-laws, made by the Council of the Borough of Murrumburrah, under the "Municipalities Act of 1867," having been confirmed by His Excellency the Lieutenant-Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

## MURRUMBURRAH MUNICIPALITY.—BY-LAWS.

By-Laws made by the Council of the Borough of Murrumburrah, under the "Municipalities Act of 1867."

## SECTION I.

## Meetings of Council.

1. The Council shall meet at the Council Chambers every alternate Tuesday, at the hour of 7.30 p.m., but if such day be a public holiday, then on such day and hour as the Mayor may determine.

## Chairman in Mayor's absence.

2. If the Mayor shall be absent at the expiration of fifteen minutes after the time appointed for the holding of any meeting, the Aldermen present shall choose a Chairman, provided always that if the Mayor shall attend, such Alderman shall leave the chair to be taken by the Mayor.

## No quorum.

3. Whenever any meeting shall lapse or be adjourned for want of a quorum, the names of the members present shall be recorded by the Town Clerk, and such record shall be read at the next meeting of the Council.

## Order of business.

4. The business of each ordinary meeting shall be transacted in the following manner, viz. :—

1. Reading and confirming of minutes of last meeting.
2. Reading correspondence, and reception of reports and petitions.
3. Questions.
4. Adjourned motions, and motions of which notice has been given.
5. Such other business as may lawfully be brought before the Council.
6. Tenders.

Provided that the Council may, by resolution, take any particular matter out of the regular order on the paper.

## Power to suspend by-law.

5. The Council shall have power to suspend pro tem. one or more of the By-laws: Provided that no such suspension shall be allowed for the purpose of voting money, and that two-thirds of the members present consent.

## Postponement of debate or motion.

6. Any debate or order of the day when called on may be postponed to another time to be duly specified: Provided that no discussion shall be allowed upon such motion for postponement, and the Alderman upon whose motion any debate shall be adjourned shall be entitled to open the debate on resumption.

## Motions to be in writing and seconded.

7. All resolutions shall be in writing, and no motion or amendment shall be discussed unless and until it be seconded.

## Motion not to be withdrawn.

8. No motion of which notice has been given shall be withdrawn if any Alderman object; and if any Alderman who has given notice of motion fail, or decline to move it, the Mayor or any other Alderman may move the same.

## Questions—Twenty-four hours' notice to be given

9. No question shall be put to the Mayor, unless twenty-four hours' notice in writing shall have been given thereof to the Town Clerk.

## Amendments—Order of.

10. When any motion of Council shall have been made and seconded, any Alderman may move an amendment thereon; and if an amendment be carried, the question as amended thereby, becomes itself the question before the Council, whereupon any further amendment upon such question may be moved. If any amendment shall be negatived, then a further amendment may be moved to the question on which such first-mentioned amendment was moved, and so on: Provided that not more than one question and one proposed amendment thereof, shall be before the Council at any one time.

## Motions for adjournment.

11. Any motion for adjournment shall be put immediately without discussion. If such motion be negatived, the business then under consideration, or the next in order on the business paper, shall be discussed before any notice for adjournment may be moved.

## Alderman may call for division.

12. Any Alderman may call for a division. In such case the question shall be put first in the affirmative and then in the negative, and the Aldermen shall vote by show of hands;

and the names and votes of the Alderman present shall be recorded; and any Alderman present when a division is called for, who shall not vote (not being disabled by law from so doing), shall be liable, for every such offence, to a penalty not less than ten shillings nor more than forty shillings.

Motions which would rescind motions previously passed.

13. No motion, the effect of which, if carried, would be to rescind any resolution passed by the Council during the current municipal year, shall be entertained, unless at a special meeting of the Council called for that purpose; and no such motion, if negatived by the Council at such special meeting, shall be again entertained during the same municipal year.

Aldermen not to speak twice, nor longer than ten minutes, on any motion or amendment.

14. No Alderman shall speak twice on any motion or amendment, except in Committee, or in explanation where he shall have been misrepresented or misunderstood. The mover of every question shall have the right of reply: Provided that no Alderman shall speak upon any motion or amendment for a longer period than ten minutes, without the consent of the Council.

Aldermen to stand and address the Chair.

15. Every Alderman shall stand when speaking, and shall address the Chair.

Offensive personal reflections not to be permitted.

16. No Alderman shall make offensive personal reflections, upon, or impute discreditable motives to, any other Alderman. Any Alderman so offending shall, immediately upon being thereto required by the Mayor or presiding Aldermen, withdraw the offensive expressions, and retract any such imputation of motive, and make an apology satisfactory to the Council. Any Alderman declining so to apologise and withdraw the offensive expressions, or to retract the imputation of motive, shall be liable on conviction to a fine or penalty not less than one pound nor more than five pounds for every such first offence, and on a second conviction for a like offence he shall be liable to a fine or penalty of not less than two pounds nor more than ten pounds.

Committees.

17. The Rules of the Council shall be observed in Committee of the Whole, except the rule as to standing, and that limiting the number of times of speaking.

Points of order.

18. Any Alderman may at any time call the attention of the Mayor or Chairman to any Alderman being out of order; and every point of order shall be taken into consideration immediately upon its arising, and the decision of the Mayor or Chairman thereon shall be conclusive.

Speaking.

19. Any Alderman who has moved any motion or amendment shall be considered to have spoken thereon; but an Alderman who shall have seconded any such motion or amendment without any further observation than that he seconded the same, shall be at liberty to speak on such motion or amendment.

Petitions to be examined before being presented.

20. Any Alderman presenting a petition shall satisfy himself that the wording thereof is unexceptionable. All petitions shall be received only as the petitions of the persons signing the same, and no debate shall take place upon the presentation of a petition until notice has been given in the usual manner.

Motions for rescission of previous order, &c.

21. Wherever motion for the rescission of any order, resolution, or vote of the Council shall have been negatived no other motion to the same effect shall be permissible until a period of three months shall have elapsed from the time negativing such first-mentioned motion: Provided that nothing herein contained shall be held to prohibit the reconsideration and amendment of the proposed By-law which may have been remitted to the Governor for confirmation, and may have been remitted to the Council with suggested amendments of the same, or the passage, after due notice as hereinbefore provided, and in due course of law, of any By-law for the repeal or amendment of any other By-law.

Lapsed business.

22. Whenever the consideration of any motion or matter of business shall have been interrupted by reason of a quorum not having been present, the resumption of such consideration shall in such case be resumed at the next meeting at the point where it was interrupted.

Suits and prosecutions for penalties, &c.

23. Such suits or informations for the enforcement of penalties for or in respect of breach of the "Municipalities Act of 1867," or of any By-law made thereunder, or of any statute, the operation of which may have been extended to the Municipality, as may have been directed by the Council, shall be so commenced or laid by the solicitor of the Municipality, or by any officer named by the Council for that purpose imposing the penalty sought to be enforced. And no such

suit shall be brought or information laid as aforesaid against any member of the Council, or Auditor, or servant, except on an express resolution of the Council.

How notices are to be published.

24. In all cases where the public notice is or shall be required to be given by any By-law, such notice shall be given and published by advertising the same in some newspaper circulating in the Municipality.

Mode of proceeding in cases not provided for.

25. In all cases not herein provided for resort shall be had to the rules and usages of the Legislative Assembly of New South Wales, so far as the same are applicable to the proceedings of the Council.

Business at Special Meetings.

26. At special meetings of the Council the business, after the minutes shall have been read and verified, which shall be done in the same manner as at an ordinary meeting, shall be taken in such order as the Mayor or the Alderman at whose instance such special meeting shall have been called, may have directed.

Business paper at ordinary meeting—how prepared.

27. The business paper for every meeting of the Council other than a special meeting, shall be made up by the Council Clerk or other person acting as his substitute not less than forty-eight hours before the day appointed for such meeting. He shall enter upon such business paper a copy to the substance of every notice of motion and of every requisition or order as to business proposed to be transacted at such meeting which he shall have received, or shall have been required or directed so to enter in due course of law, and as hereinafter provided. Every such entry shall be made subject to the provisions of section 4 of this Part of these By-laws in the same order as such notice, requisition, or direction, shall have been received.

Business paper for special meeting.

28. The business paper for each special meeting shall contain only such matters as shall have been specially ordered to be entered thereon by the Mayor or Alderman calling such meeting.

Summons to Members.

29. The summons to members of the Council of every meeting thereof shall be prepared from the business paper for such meeting, and shall embody the substance of such business paper.

How business paper is to be disposed of.

30. The business paper for each meeting of the Council shall at such meeting be laid before the Mayor or Chairman, who shall cause a note to be made upon such business paper of the mode in which each matter entered thereon has been dealt with, and such business paper so noted shall be a record of the Council.

After business paper made up all notices, &c., to be the property of the Council.

31. After the business paper shall have been made up as aforesaid, all the said notices of motion, requisitions, and directions as to which entries have been made thereon shall be the property of the Council, and shall not be withdrawn, altered, or amended, without leave having been first obtained from the Council for such withdrawal, alteration, or amendment.

Standing and Special Committees.

Standing Committee

32. There shall be three Standing Committees, namely, a Works, and a Finance. These Committees shall be reappointed every year, at the first meeting of the Council, which shall be holden after the election of the Mayor.

Mode of reappointing Standing Committees.

33. The reappointment of the three Standing Committees may, on resolution of the Council, be made by ballot. In such case a list or lists of the members shall be handed to each then present, who shall mark against the name of each such member the title of the Committee to which, in his opinion, such member ought to belong; and the Mayor or Chairman shall thereupon examine such lists so marked, and shall declare the result, and if there shall be an equal number of votes for the appointment of any two or more members to any one of such Committees, such Mayor or Chairman shall decide which of such members shall be appointed.

By-law Committee

34. The By-law Committee shall prepare for the consideration of the Council, drafts of all such By-laws as may be required for the good Government of the Municipality.

Works Committee

35. The Committee for Works shall have the general direction of all works ordered or sanctioned by the Council, and the general inspection of all streets, roads, ways, bridges, public reserves, and other public places under the care and management of the Council; they shall also inquire and report from time to time as to such improvements or repairs as they may think necessary, or as they may be directed by resolution of the Council to inquire and report upon.

## Finance Committee.

36. The Finance Committee shall examine and check all accounts, and shall watch generally over the collection and expenditure of the municipal revenues. They shall inquire and report from time to time as to all matters which they may consider to affect or to be likely to affect the finances of the Municipality, and as to such matters or subjects of the like nature as they may be directed by resolution of the Council to inquire and report upon.

## Records of transactions in Committee.

37. The Chairman of each Standing Committee shall make, or cause to be made, in a book kept by him for that purpose, memoranda of all the transactions of such Committee, which book he shall, on ceasing to be such Chairman, hand over to his successor.

## Reports to lie on table twenty-four hours.

38. All reports of Standing Committees shall lie on the table, for inspection of Aldermen, at least twenty-four hours prior to the meeting at which such reports shall be received.

## Probable cost of work to be ascertained before expenditure.

39. No work affecting the funds of the Municipality shall be determined upon until the probable expense shall have been first ascertained by the Council, on the report of some officer nominated for the purpose, or the report of the Works Committee.

## Works to be let by tender.

40. Works undertaken by the Council, and estimated to cost over (5) five pounds, shall be let by tender; and no tender shall be entertained unless it be accompanied by an agreement, signed by one or more respectable parties as sureties, for due performance of the contract. All tenders shall be accompanied by a cash deposit of ten per cent. of the amount of tender.

## Members of Council or its officers not to be surety.

41. It shall not be competent for the Council, when surety is required for officers, servants, or contractors, to accept as such surety any of its members, or any person holding office under the Council.

## Urgent works may be ordered to be done.

42. In cases of emergency arising between meetings of the Council, it shall be lawful for necessary works to be ordered without vote of the Council, viz.:—By the Mayor to the extent of five pounds; and with the consent of three Aldermen, any sum not exceeding twenty pounds.

## Vacancies—appointments to be advertised.

43. No appointment to any office shall be made until public notice be given inviting applications for the same, and stating the salary affixed to such office; and every appointment may be by ballot or show of hands; and all officers shall give bonds for the faithful discharge of their duties, in such sums as the Council may determine.

## Cash balance.

44. The Treasurer shall produce the cash-book and bank pass-book, balanced, at the regular meetings of the Council.

## Payments to be certified.

45. No money shall be paid by the Council until the account for the same shall have been examined and reported upon by the Finance Committee, except in case of men employed daily or weekly, and cases of emergency.

## Rates to be collected half-yearly.

46. The rates of the Municipality shall be collected half-yearly, and shall be due and payable on such days as the Council shall determine.

## Rates to be paid to the Town Clerk.

47. All persons liable to pay rates or assessments shall pay the same to the Town Clerk, in the Municipal Council Chambers, during office hours, or in such other manner as the Council may from time to time direct.

## Bailliff.

48. The Bailliff shall be appointed by the Council or the Mayor, and shall find two sureties to the extent of ten pounds each for the faithful performance of his duties.

49. The Bailliff shall make all levies and distress under warrant, in the form of the Schedule hereunto annexed and marked with the letter A, under the hand of the Mayor or any Alderman who may for the time being be duly authorised to perform the duties of that office.

50. The Bailliff shall be paid for every entry and levy made under these By-laws, according to the Schedule hereunto annexed and marked with the letter B.

51. The Bailliff, and such assistants as he may take with him, shall enter into any part of the land, building or tenement in respect of which a warrant has been issued for the recovery of any rate or rates as aforesaid, and to distrain the goods therein or thereon, and to remain in such building, tenement, or other property, in charge thereof; and if the

sum for which such distress shall have been made or taken shall not be paid on or before the expiration of two days, it shall be lawful for the Bailliff to sell the goods so distrained, or a sufficient portion thereof, and if the party distrained upon shall so require, by public auction, either on the premises or at such other place within the Municipality as the Bailliff may think proper to remove thereto, such party consenting in writing to pay the charges of the auctioneer, if sold; and the surplus, if any remain after deducting the amount distrained for, together with the expenses attendant upon such distress and sale, shall be paid over to the owner of the goods so sold: Provided that nothing herein contained shall apply to the sale of any produce whatever which may be growing upon the land at the time of making the distress: Provided always, that no distress shall be made on the goods of any casual visitor, or on the goods of any lodger in any house or apartment ordinarily let or used as a lodging-house or apartment.

52. At the time of making a distress, the Bailliff shall make out a written inventory in the form of the Schedule hereto annexed and marked with the letter C, which inventory shall be delivered to the occupant of the land or premises, or the owner of the goods so distrained, or to some person for his or her behalf, resident at the place where the distress has been made; and in case there shall be no person at such place with whom such inventory can be left as aforesaid, then such inventory shall be posted on some conspicuous part of the land or premises on which the distress has been made.

53. The Bailliff, in making a distress as aforesaid, may impound or otherwise secure the distress so made of what nature or kind soever it may be, in such place or part of the land or premises chargeable with the rate as shall be most fit or convenient for this purpose; and it shall be lawful for any person whatsoever, after the expiration of the two days hereinbefore mentioned, to come and go to and from such place or part of the said land or premises where any distress shall be impounded, in order to view or buy, and in order to carry off and remove the same on account of the purchaser thereof.

54. The owner of any goods so distrained upon may, at his or her option, direct and specify the order in which they shall be offered for sale; and the said goods and chattels shall in such case be sold according to such direction.

55. The Bailliff shall hand over to the Council Clerk, or the Treasurer, all proceeds of such distress, immediately after having received the same, with the particulars of the goods distrained, and of the sale thereof.

56. The Bailliff, with the sanction of the Mayor of the Municipality, may authorise any person to act temporarily as his deputy, and the person thus authorised shall have and exercise for the time being, all the powers of the Bailliff himself; but the Bailliff and his sureties shall, in every case, be held responsible for the acts of his deputy.

## Receipt for documents

57. Every person removing any document or record with such consent as aforesaid, shall give a receipt under his hand for every such document, which receipt shall be carefully preserved among the records until the document or other record to which it refers shall have been returned, when such receipt shall be destroyed.

## Penalty for destroying or defacing records.

58. Any person destroying or defacing, or wilfully or improperly altering any books, papers, or records, shall for every such offence be liable to a penalty of not less than five pounds nor more than twenty pounds.

## Officers and Servants.

## Notice to candidates.

59. No appointment to any permanent office at the disposal of the Council shall take place until notice shall have been given as hereinafter provided, inviting applications from qualified candidates for the same. The salary or allowance attached to the office shall in every case be fixed before such advertisement is published, and shall be stated in such advertisement.

## Mode of appointment.

60. Every such appointment shall be made by ballot, in such mode as may at the time be determined upon.

## Appointment of officers, &amp;c.

61. The officers of the Council shall be appointed, and the engagement of any officer may be determined at any time by a vote of a majority of the whole Council: Provided that one month's notice shall be given to every such officer whose services are to be so dispensed with, and that any officer may resign his appointment by giving to the Council one month's notice in writing of his desire and intention to do so: And provided further, that nothing herein contained shall be taken or construed in any way to affect the powers of suspending officers, and of dismissing men for misconduct, vested in the Council by the 152nd section of the "Municipalities Act of 1867," 31 Vic. No. 12.

**Exceptional cases.**

62. Nothing herein contained shall be held to prevent the employment, as may be from time to time found necessary, and as may be ordered by the Council, of any workmen or labourers on the public works of the Municipality.

**Bonds for good conduct.**

63. All bonds given by officers or servants of the Council for the faithful performance of their duties, shall be deposited with the Attorney or Bankers of the Corporation, as the Council may order; and no officer or servant of the Council shall be received as surety for any other such officer or servant.

**Duties of Council Clerk.**

64. The Council Clerk, in addition to the duties which by the "Municipalities Act of 1867," and the "Municipalities Act of 1867 Amendment Act of 1874," or by the present or any other By-laws thereunder he may be required to perform, shall be the Clerk of all Revision Courts held in the Municipality under the provisions of the said Municipalities Acts. He shall also, under the direction of the Mayor, conduct all correspondence which may be necessary on the part of the Council. He shall likewise have charge of all the records of such Council, except such books or documents as may be intrusted to any other officer, and shall be responsible for the safe keeping of such records. He shall generally assist the Mayor in carrying out the orders of the Council and the duties of the Mayor, and shall make a half-yearly return of the revenue and expenditure.

**Duties of other officers or servants.**

65. The duties of all officers and servants of the Corporation, in addition to the duties which by the present or any other By-laws thereunder may be required to perform shall be defined by such regulations as may from time to time and in accordance with law be made.

**Special powers of Mayor.**

66. The Mayor shall exercise a general supervision over all officers and servants of the Corporation, and may order the preparation of any such return or statement, or the giving of any such explanation or information by any such officer or servant as he may think necessary, unless such return or statement, shall have been already prepared or such return or statement, explanation, or information, already given and on record, or unless the Council shall have expressly forbidden and dispensed with the preparation of such return or statement, or the giving of such explanation or information. All such returns or statements as aforesaid shall be in writing, and shall be recorded. All such explanations or information may be either rendered viva voce, or put into writing as the Mayor may direct.

**Complaints against officers.**

67. All complaints against officers or servants of the Corporation must be in writing, addressed to the Mayor, and must in every case be signed by the person or persons complaining. And no notice whatever shall be taken of any complaint which is not in writing, or which is anonymous. And such complaint as aforesaid shall be laid by the Mayor before the Council at the next meeting thereof, which shall be holden after the Mayor shall have received the same, and shall be duly recorded.

**Public Amusements.****Places of amusement to be licensed.**

68. No dancing saloon, bowling or skittle alley, shooting gallery, public billiard or bagatelle table, or similar place of amusement (other than entertainments requiring to be licensed by law), shall exist or be established within the Municipality, unless and until such place of amusement shall have been licensed by the Council as hereinafter provided; and in the event of any such licensed place of amusement being improperly conducted or becoming a nuisance, or an annoyance to any inhabitant, or violating public decency, or endangering the public peace, the Mayor shall, on representation to that effect being made, forthwith suspend the said license, and the Council at its next meeting shall, by resolution, cause the said license to be cancelled or otherwise as may appear necessary or desirable; and any person or persons having already established such places of amusement who shall not within thirty days after these By-laws come into force apply for such license, or any person or persons who shall open, establish, or maintain any such place of amusement as aforesaid, without having obtained such license, shall forfeit and pay a sum of not less than ten pounds and not more than fifty pounds.

**Mode of granting licenses.**

69. Applications for licenses as aforesaid must be in writing, addressed to the Mayor and Aldermen, and must be endorsed by two responsible householders, testifying to the respectability of applicant. The application must describe clearly the nature of the entertainment for which the license is sought, and the premises in which it is to be held.

**License fees.**

70. Licenses shall be granted by resolution of the Council upon payment of license fees, as follows:—For every license granted between the 1st of January and 1st of July, one pound one shilling, and between the 1st July and 31st December, ten shillings and six pence. All licenses shall expire on the 31st December in each year, and may be renewed by resolution of the Council upon written application, and on payment of the annual fee of one pound one shilling.

71. Licenses shall be issued by the Town Clerk to every person applying to be licensed to hawk or vend with a cart, dray, waggon truck, or other vehicle, on payment for the same of a fee of ten shillings; and to every person applying to be licensed to hawk or vend with a pack or basket, on payment of a fee of two shillings and six pence; and every such license shall be in force until the 31st day of December then next following the date thereof; and the Town Clerk shall keep a register of the names of all such licensed hawkers. But if any such license shall be issued after the 30th June in any year only half of the above fees shall be charged.

**No exhibition, &c., on Sundays, &c.**

72. No such exhibition or place of public amusement as aforesaid shall be held or kept open or used for the purposes of such public amusements on Sunday, Christmas Day, or Good Friday; and every person offending against this By-law in this behalf shall, on conviction, forfeit and pay a sum not exceeding five pounds nor less than two pounds for every such offence.

**Procession, parades, &c.**

73. Any person desiring to organise or carry out any procession or parade, in any street within the Municipality, shall first apply to the Mayor for the time being for permission for such purpose; and if any person shall organise or head any procession or parade of any kind within or along any of the said streets, for which the permission, in writing, of the Mayor has not been obtained, he shall be liable to a penalty not exceeding five pounds, and any person who shall join, or take part in any such procession, shall be liable to a penalty not exceeding two pounds. This By-law shall not apply to any Volunteer Military Corps or Fire Brigade, the members whereof shall be in uniform and in charge of an officer of such corps or brigade.

**Public exhibitions, &c., to be licensed.**

74. No exhibition, otherwise than hereinafter provided for, shall be held or kept for hire or profit within the said Municipality, nor shall any bowling-alley, or other place of public amusement other than licensed as hereinafter provided be held or kept within the Municipality, unless and until the same shall be duly registered, as hereinafter prescribed.

75. It shall and may be lawful for the Mayor, by writing under his hand, and without charge, to permit any such exhibition other than those required to be licensed as hereinafter provided, and which shall not be held or kept for more than one week; and in like manner, to allow any land belonging to the Council to be used for public amusement other than entertainments required to be licensed as hereinafter provided, for one week: Provided always that no such permission shall be given to the injury of any property of the Council, and that it shall be incumbent on such Mayor to inquire strictly into the nature of such exhibitions seeking the permission aforesaid before granting the same, and, in case of any exhibition or amusement being held to be opposed to public decency or endangering the peace of the public, the Mayor shall have power to peremptorily order the nuisance to be abated, under a penalty of forty shillings for every day such exhibition shall be so held; and it shall be lawful for the Mayor to levy a tax of not more than one pound per diem upon any temporary exhibition or amusement which, in his opinion, should contribute to the Municipal revenue.

76. Every occupier of any building or ground in which any exhibition is held or kept, or any public amusement conducted as aforesaid, shall in each year register at the office of the Council such building or ground, together with the situation and description thereof, and of the exhibition proposed to be held or kept, or the public amusements proposed to be conducted as aforesaid in or upon such building or ground, and the name of such occupier; and every person who causes, and every occupier of any such building or land, who permits any such exhibition to be held or kept, or any public amusement to be conducted for a longer period than one week in or on any such building or land not being registered for the purpose, or without such certificate of registration, as hereinafter mentioned, having been obtained for the same, shall forfeit for every such offence not less than one pound nor more than twenty pounds.

**Registration Fee.**

77. For every such registration as aforesaid the occupier of the building or land so registered shall pay to the Town Clerk, for the benefit of the said Municipality a fee of one pound; and every such registration, whenever the same may be made, shall be in force until the 31st day of December then next ensuing, and no longer.

*Change of occupancy.—Transfer fee.*

78. The person in whose name the building or ground as aforesaid shall be registered, or the person to whom the Mayor shall grant a temporary license, shall be deemed the occupier of such building or land for all purposes of these By-laws; and any change of occupancy shall be forthwith notified to the Town Clerk, and the Council may sanction the transfer of the license to the new occupier, and shall charge for such transfer the fee of five shillings.

*Swine, &c., not to wander about the streets.*

79. Any person who shall breed, feed, or keep any kind of swine in any house, yard, or enclosure, situate and being in or within forty yards of any street or public place within the Municipality, or shall suffer any kind of swine, or any horse, ass, cattle, mule, sheep, goat, or any other animal of the like nature belonging to him or her, or under his or her charge, to stray or go about, or to be tethered or depastured in any street, road or public place within the said Municipality shall forfeit and pay for every such offence a sum not exceeding forty shillings, and to be made liable for damages.

*Stables, cow-sheds, and pig-styes.*

80. The occupier of any land within the Municipality of Murrumburrah on which there shall be erected any stable, cow-yard, cattle-shed, or pig-stye, shall cause such premises to be kept in such a state, in respect of cleanliness, as not to be a nuisance or injurious to health, and shall cause all dung, soil, or manure produced or accumulated thereon to be collected in a place (to be approved of by the Inspector of Nuisances) in the yard of such premises, and to be there in an inoffensive condition, and so as not to be productive of any nuisance; and shall cause such dung, soil, or other manure to be, from time to time, removed from such premises, as often as the quantity of the same so collected or accumulated shall amount to two cubic yards. And if at any time the owner or occupier of any such premises, shall neglect or fail to have such dung, soil, or other manure removed therefrom as aforesaid, the same shall be removed by the Inspector of Nuisances, at the expense of such occupier.

*Water Closets.*

*Cleansing of privy cesspools.*

81. The occupier of every house, building, or tenement within the Municipality of Murrumburrah shall cause every privy cesspool thereon to be emptied and cleansed from time to time, so soon as any portion of the contents of such cesspool shall have so accumulated therein as to be within a distance of one foot from the top of the wall, side-, or lining of such cesspool: Provided that the contents of any privy shall not be removed or discharged therefrom except between the hours of ten (10) p.m. and five (5) a.m.: And provided also that the contents of any privy or cesspool shall not be removed or discharged therefrom until such contents shall have had mixed therewith a quantity of chloride of zinc, carbolic acid, common salt, or some other efficient deodoriser sufficient to effectually deodorise and disinfect the same.

*Where cesspools are not provided*

82. The occupier of every house, building, or other tenement on or in which the privy or closet belonging thereto shall not be provided with a cesspool, constructed in accordance with the provisions of the preceding By-law (No. 81), shall at all times cause to be kept in such privy or closet a supply of dry powdered earth, ashes, charcoal, lime, or other material efficient for deodorising night-soil; and shall cause all night-soil which may be deposited in any box, pan, bucket, or other receptacle in such privy or closet to be immediately, on the deposit thereof, covered with a quantity of dry powdered earth, or other deodorising material as aforesaid, sufficient to thoroughly and effectually deodorise the contents of such bucket, pan, or other receptacle.

83. No closet shall be erected except in such position as shall be approved of by the Council, or by the Inspector of Nuisances, or other officer appointed by the Council.

*Deposit of rubbish, manure, &c.*

84. No person shall deposit, or cause or suffer to be deposited in or by the side of any street, or on any road, street, or right-of-way, lane, passage, water-channel, or gutter, or in any creek, river, or reservoir, or in any other public place within the Municipality of Murrumburrah (not being a manure depot duly appointed by the Municipal Council of Murrumburrah as a place for the deposit of manure, rubbish, or other such refuse matter) any dust, mud, ashes, rubbish, filth, offal, manure, liquid manure, dung, or soil; and no person shall deposit, or cause or suffer to be deposited on any land, field, or garden within the Municipality of Murrumburrah any night-soil, blood, offal, or other offensive matter or thing without the written consent of the Mayor or Council, and any such offensive matter or thing which shall with such consent of the said Mayor or Council be so deposited, shall be immediately on the deposit thereof covered over by the person depositing the same with such a quantity of earth as will at once prevent the escape of any

noxious or offensive effluvia from any such manure, soil, or other offensive matter before mentioned: Provided that nothing contained in this By-law shall be construed or taken to prevent the use as manure, for any garden or land, of the contents of any earth closet, or any other privy or closet where such contents are deposited on any such field or land in a perfectly deodorised state, and so as not to cause nuisance or offence either at the time of the deposit of such contents or afterwards.

*Stables and nuisances not removed on complaint, &c.*

85. In case any privy, stable, cow-yard, pig-stye, or any other enclosure, place, or thing within the said Municipality shall be or become a nuisance, or shall be so close to a dwelling-house as to become a nuisance or injurious to the health of the inhabitants, it shall be lawful for the Council, by notice in writing, to order that such privy, stable, cow-yard, pig-stye, or other place or thing, being a nuisance or injurious to health, be remedied or removed off the premises within seven days after such notice shall have been given to the owner or occupier of the premises wherein such nuisance shall exist, or shall have been left for such owner or occupier at his or her last or usual place of abode, or on the said premises; and every such owner or occupier neglecting to remedy or remove such nuisance shall, for every such offence, forfeit and pay a penalty not exceeding five pounds.

*Drains, &c.*

86. All drains whatsoever, and the water-closets, earth-closets, urines, cesspools, and ash-pits within the Municipality of Murrumburrah, shall be constructed so as not to be a nuisance or injurious to health, and so as that there shall be no overflow, soakage, or leakage therefrom, and every cesspool within the said Municipality, which shall be formed or made below the surface of the ground, shall be also constructed so as that the water-tight walls or sides thereof shall project on all sides at least six inches above the surface of the ground in which such cesspools shall be formed or made.

*Drains in footpaths and slopes, &c.*

87. No surface drain shall be made in any footpath, nor any pipes laid under or across the same, without the authority of the Council; and no such drain shall be used for the discharge into any street or roadway of any offensive liquid or matter of any kind whatsoever; and any person who shall offend against this By-law, or any owner, occupier, or tenant from whose premises suds, offensive matter, slops, or filth shall flow over or on any footway, water-course, street, or lane shall forfeit and pay any sum not exceeding twenty pounds nor less than one pound.

*Natural water-courses.*

88. Any person who shall close or intercept, or keep closed or intercepted, any natural water course, by building or otherwise, shall provide another outlet for the surface water with pipes or sewers of a size and in a manner to be approved of by the Council; and any person closing or intercepting any such water-course, and failing to comply with the provisions of this By-law, shall forfeit and pay a sum not exceeding ten pounds nor less than two pounds, and each day that such water-course shall be closed or intercepted shall be a new offence.

*Stacking hay or straw*

89. No person shall stack any hay or straw, otherwise than in an enclosed building, nearer than two hundred feet to any building or public way, under a penalty not exceeding (£10) ten pounds.

*Live coals or hot ashes.*

90. Any person throwing hot ashes or live coals adjacent to any buildings or fences shall be liable to a penalty not exceeding twenty pounds and not less than one pound.

*Setting fire to chimneys.*

91. Every person who wilfully sets or causes to be set on fire any chimney, flue, smoke-vent, or stove-pipe, herein called in common chimney, shall forfeit a sum not exceeding five pounds.

*Burning shavings, &c., in the street.*

92. Any person who shall burn any shavings, rubbish, or any other matter or thing, in any road, street, lane, or public place within the said Municipality, or who shall, within ten yards of any dwelling-house, burn rags, bones, corks, or other offensive substance, shall for every such offence forfeit and pay a sum not exceeding forty shillings nor less than five shillings.

*Placards not to be affixed on walls without consent.*

93. It shall not be lawful for any person to paste or otherwise affix any placard or other paper upon any wall, house, fence, or other erection, or deface any such wall, house, fence, or erection, with chalk, paint, or other matter, unless with the consent of the owner thereof; and every person who shall be guilty of any such offence shall pay a sum not exceeding twenty shillings nor less than five shillings.

**Water-carts to be kept full.**

94. Every owner of a cart or carts supplying water to the citizens for payment shall in each year take out a license for each cart, at the office of the Town Clerk, such license to be signed by the Mayor, and to be in force until the 31st December in each year. A register to be kept by the Town Clerk of all licenses issued, and a fee of five shillings per annum for each registration to be paid upon application.

95. Every owner and driver of a licensed water-cart shall keep such cart loaded with water during all times after sunset and before sunrise, and shall, if any building, premises, or property be on fire within the Municipality, attend at the place of such fire with such cart loaded with water; and failing to comply with the provisions of this section, shall forfeit a sum not less than five shilling and not exceeding five pounds.

**Licensed water-carts.**

96. Any person hawking or carrying water for sale or hire, otherwise than in a licensed water-cart as aforesaid, shall upon conviction be liable to a penalty not exceeding one pound.

**Vehicles to be licensed.**

The following shall be the regulations for public vehicles :

97. All carriers and owners of vehicles plying or carrying passengers or goods for hire or reward within the said Municipality shall have their vehicles licensed by the Council, and the owners shall have their names painted in legible letters with the word "licensed" on some conspicuous part of such vehicles respectively. The license fee shall be at the rate of ten shillings per wheel, and be in force until the 31st December in each year. And every person driving any unlicensed vehicle with passengers, goods, or loading of any description for hire or reward, or who shall omit or fail to comply with the provisions of this By-law, shall forfeit a sum not exceeding forty shillings.

98. No person shall act as the driver or the conductor of any such vehicle, within the Municipality of Murrumburrah, unless licensed in the manner hereinafter described, and paying the fee for such license as provided for in Schedule D.

99. Before any license for plying a vehicle, or to drive or conduct the same, shall be granted, the party requiring such license shall obtain from the Council Clerk, free of charge, requisition in form or Schedule I hereto, or to the like effect, and shall duly fill up and sign the same, and deliver it to the Council Clerk.

100. No license shall be granted in respect of any vehicle which, in the opinion of the Mayor and By-law Committee shall be unsafe, or in bad repair, or otherwise unfit for the accommodation and conveyance of passengers.

101. Licenses for proprietors and drivers of vehicles shall be in form of Schedule H hereto, or to the like effect.

102. When a licensed vehicle shall be under repair, if the proprietor shall so desire, he may be permitted to substitute another for a period to be hereby specified by endorsement on the license under the hand of the Council Clerk.

103. No license shall be granted to any person to drive any vehicle unless he be 16 years of age or over.

104. All licenses shall be made out by the Council Clerk, and numbered consecutively.

105. No proprietor shall be at liberty to part with or lend his license, nor to part with his licensed vehicle, to any person without the knowledge and approval of the Mayor and By-law Committee, and the registry of the name of the purchaser in the books of the Council.

106. The person or persons in whose name or names a license shall appear to have been obtained shall be deemed the owner of the vehicle in respect of which the same shall have been taken out.

107. The Mayor and By-law Committee may revoke any license to the proprietor or driver of any vehicle granted under this Part of these By-laws whenever they shall think fit: Provided, however, such proprietor or driver shall have an opportunity to show cause against such revocation.

108. The Mayor and By-law Committee shall, as often as they deem it necessary, cause an inspection to be made of all licensed vehicles of any such vehicles, and of the harness and horse or horses used in drawing the same; and if any such vehicle, horse or horses, or harness, shall at any time be found by them unfit for public use, notice of the same shall be given by the Inspector of Vehicles to the proprietor of such vehicle, and if after such notice he shall use or let to hire such vehicle, or suffer the same to be used or let, until the same or the harness or horse or horses used in drawing the same, as the case may require, shall be in a fit condition for public use, the said Committee may suspend, for such time as they may deem proper, the license of such vehicle; and in case any person shall neglect or refuse to attend with his licensed vehicle before the said Committee when called upon for the purpose of having the same inspected, the said Committee may suspend the license of such vehicle.

109. The number of the license granted for every omnibus or car, in figures not less than three inches in height, and for every carriage or cab in figures not less than two inches in height, white upon a black ground, shall be painted outside on a panel of the door of such vehicles, or on a plate or plates affixed thereon.

110. No omnibus shall ply for hire within the said Municipality, unless there shall be painted the number of the license of such vehicle, and the number of persons such vehicle is licensed to carry according to these By-laws in words at length, in the following form, that is to say--Licensed to carry inside and outside.

111. Any person having taken his or her seat in any licensed vehicle, and not paying the fare when demanded at the beginning of the ride, shall on conviction forfeit and pay to the owner or driver of such omnibus or car such amount of over damages, cost and expenses for loss of time or otherwise, as the convicting Justices shall in their discretion think proper.

112. Every driver, whilst engaged in taking up or setting down any passenger, shall, during such taking up or setting down, place his vehicle as near as conveniently may be to that side of the street, and at a line with the kerb-stone or edge of the footpath, at which the taking up or setting down is required.

113. The driver of every licensed vehicle shall be constantly attendant upon the same when standing, or whilst plying or engaged for hire.

114. Every licensed vehicle plying or engaged after sunset shall be provided with a light on each side, and shall keep the same lighted until sunrise, if so long plying or engaged.

115. The owner of every licensed vehicle at the time of obtaining the license for the same, and every driver of any such vehicle at the time of registering his license, shall, without any charge, have a printed copy of this Part of these By-laws delivered to him, certified by the signature of the Council Clerk.

116. Such person or persons as may from time to time be in that behalf appointed by the Council shall be Inspector or Inspectors, during the pleasure of the said Council, of all licensed vehicles plying for hire within the Municipality, and such Inspector or Inspectors shall every three months examine all such vehicles, and report to the Mayor and By-law Committee, and shall at all times see that, as far as possible, these By-laws are duly observed.

117. No person suffering from any infectious disease shall ride in or upon any licensed vehicle, and no driver or conductor shall knowingly carry or permit to be carried any such person, or (except to some police office or watchhouse) any corpse, or any person in a state of intoxication, or who is so noisily or violently conducting himself or otherwise so misbehaving as to occasion any annoyance or to disturb the public peace; and no passenger shall carry on any licensed passenger-carrying vehicle any animal or any substance of any offensive character, or that might soil or damage the vehicle or the apparel of other passengers; and no driver or conductor shall sleep in or upon any licensed vehicle, or use the same for eating his meals therein.

118. All hackney-carriages and cabs carrying passengers shall (except when turning street corners, or going over crossings) proceed at a speed of not less than six miles an hour, unless when attending funerals, or when otherwise ordered by the hirer.

119. The driver of any licensed vehicle shall not stand or loiter at any place in any public street within the said Municipality excepting he be bona fide waiting for a passenger.

120. The places specified in Schedule G hereto annexed are hereby respectively appointed public stands for licensed vehicles. The Council may, by resolution, from time to time as they may see fit, alter the position of such stands or increase their number.

121. The fares payable by persons hiring licensed vehicles shall be those provided for in Schedule E hereto annexed.

122. The fees payable by persons hiring van or dray shall be those provided for in Schedule F hereto annexed.

123. Copies of Schedule E shall be placed in each licensed vehicle by the proprietors thereof, in such a position to be easily seen by passengers.

124. For every offence against the provisions of this Part of these By-laws to which no specific penalty has been attached herein, the offender shall pay a penalty not exceeding ten pounds nor less than five shillings.

125. Whenever the word "vehicle" shall be used in this Part of these By-laws, the same shall be understood to apply to either an omnibus, car, hackney-carriage, or cab; and an omnibus shall be meant to be a vehicle upon four wheels drawn by one or more horses; and a car is a vehicle upon two wheels drawn by one horse, and for which omnibus licenses have been taken out; and a hackney-carriage shall mean a vehicle upon four wheels, drawn by two or more horses; and a cab, a vehicle upon two wheels for which hackney-carriage licenses have been taken out.

**Vehicles to carry lights after dark.**

126. Every carriage, cart, dray, buggy, or other wheeled vehicle usually drawn by horses, which shall be in or upon any street, thoroughfare, or public place within the said Municipality earlier in the daytime than one hour before sunrise or later in the nighttime than one hour after sunset shall have attached to it one or more sufficient lights which shall be kept burning conspicuously in order to prevent collisions and accidents.

*Signboards and other obstructions.*

127. It shall not be lawful for any signboard or other obstruction of any kind to be erected across the footpaths, except with the consent of the Council, under a penalty not exceeding five pounds and not less than one pound.

*Public Health.**Houses to be purified on certificate of two medical practitioners.*

128. If upon the certificate of any duly qualified medical practitioner it appears to the Council that any house, or part thereof, or the premises occupied in connection therewith, within the limits of the said Municipality, is in such filthy or unwholesome condition that the health of any person is or may be liable to be affected or endangered thereby, and that the white-washing, cleansing, purifying, or fumigating of any house, or part thereof, or the premises occupied in connection therewith, would tend to prevent or check infectious or contagious disease, the said Council shall give notice, in writing, to the owner or occupier of such house, or part thereof, or the premises occupied in connection therewith, to white-wash, cleanse, purify, or fumigate the same, as the case may require; and if the person to whom the notice is so given shall fail to comply therewith within the time specified in the said notice he or she shall be liable to a penalty of not less than forty shillings first offence nor more than ten pounds: Provided that each day during which such house shall, after such notice as aforesaid, remain uncleaned or unfumigated shall be a separate offence. Provided also that no such penalties shall collectively amount to any greater sum than ten pounds.

*Exposing infected articles.*

129. No kind of rubbish or offensive matter shall be thrown upon any public or private property within the Municipality without permission first obtained from the Municipal Council and the owner or owners of such property. Persons found guilty of a breach of this By-law shall forfeit and pay for every such offence any sum not exceeding two pounds nor less than ten shillings.

*Cleansing butchers' shambles, &c.*

130. For preserving the cleanliness of the said Municipality, and the health of the inhabitants thereof, it shall be lawful for the Inspector of Nuisances, or for any other officer or officers appointed by the Council from time to time, and when and as often as he or either of them shall see occasion to visit and inspect the butchers' shambles, slaughter-houses, boiling down establishments, tanneries, fellmongering establishments, and manufactories in the said Municipality, and to give such directions concerning the cleansing of the said shambles, slaughter houses, tanneries, and establishments and manufactories, both within and without, as to him shall seem needful; and any butcher, or the owner or occupier of any such shamblic, slaughter-house, tannery establishment, or manufactory, who shall refuse or neglect to comply with such directions within a reasonable time, shall forfeit and pay a sum not exceeding ten pounds nor less than ten shillings.

*Slaughter-houses.**Inspection of animals, &c.*

131. Every Inspector of Slaughter-houses shall, upon receiving information of any cattle having been slaughtered, or of any cattle being intended to be slaughtered, and also in all cases in which notice shall have been given to him, or left at his usual place of residence, of the intention to slaughter any cattle, repair without delay to the place where such slaughtering has taken place, or is intended to be done, and shall examine and inspect the said cattle slaughtered or intended to be slaughtered, and shall take a particular description thereof, with the colour, mark or marks, brand or brands, sex, and apparent age, together with the name or names of owner or owners thereof, and of the time and place of slaughter, which particulars he shall carefully enter, or cause to be entered, in a book to be kept by him for that purpose, which book such inspector shall, when required, produce for examination by the Council, or by any person or persons deputed by the Council to make examination thereof.

*Notice of intention to slaughter, &c.*

132. Every person intending to slaughter any cattle within the limits of the said Municipality shall first give twelve hours, notice in writing to the Inspector of Slaughter-houses of the cattle intended to be so slaughtered, specifying the place and time, under the penalty of five pounds for each and every head of cattle which shall be so slaughtered without such notice having been given as last mentioned, unless it shall be made to appear to the Justices before whom such fine shall be sought to be recovered that such notice could not have been given, and that owing to some unforeseen accident it was necessary that such cattle should have been immediately slaughtered; and in all cases in which any cattle shall have been slaughtered within the said Municipality without having been previously inspected as aforesaid notice thereof shall be immediately given to the said Inspector, and the skins of such cattle shall be kept or preserved for three days, and be produced upon demand at the place of slaughter to the Inspector for the Municipality, under the penalty of five pounds for every skin so neglected to be preserved and produced.

*Where inspection to be made.*

133. Every inspection of cattle or sheep shall be made in the yards adjoining a licensed slaughter-house; and the owner or occupier of any such licensed slaughter-house shall keep the melts or spleens and lungs of all animals slaughtered therein for twelve hours after the same have been slaughtered, unless the Inspector shall have previously examined such melts, spleens, or lungs, and every owner or occupier as aforesaid who shall neglect or refuse to comply with these provisions, or any of them, shall forfeit and pay a penalty not exceeding five pounds for every such offence.

*Slaughter of diseased animals*

134. If the owner or occupier of any such slaughter-house shall knowingly cause, permit, or suffer any animal infected with any disease affecting the melt, or spleen, or lungs to be slaughtered in any such slaughter-house, or if after the slaughter of any animal, it shall be found to be diseased, and such owner or occupier, as soon as the animal is inspected and condemned, shall not immediately thereupon cause the entire carcase to be destroyed by fire in the presence of the Inspector, such owner or occupier shall, for every such offence, forfeit and pay any sum not exceeding fifty pounds, nor less than ten pounds: Provided, however, that should the owner of any animal which may be condemned by the Inspector object to the decision of that officer, such owner shall be at liberty to appoint some veterinary surgeon or other competent person as arbitrator in his behalf; and in the event of the Inspector and such veterinary surgeon or other competent person not agreeing, it shall be lawful to appoint a referee.

*Inspector may enter shops, &c., for certain purposes.*

135. Any such inspector may, and he is hereby empowered, at all reasonable times, with or without assistants, to enter into and inspect any shop, building, stall, or place kept or used for the sale of butchers' meat, or as a slaughter-house, and to examine any animal, carcase, meat, or flesh which may be therein; and in case any animal, carcase, meat, or flesh appear to him to be intended for the food of mankind, and to be unfit for such food, the same may be seized; and if it appear to a Justice of the Peace, upon the evidence of a competent person, that any such animal, carcase, meat, or flesh is unfit for the food of mankind, he shall order the same to be destroyed or to be so disposed of as to prevent its being exposed for sale or used for such food; and the person to whom such animal, carcase, meat, or flesh belongs, or in whose custody the same is found, shall be liable to a penalty not exceeding ten pounds for every animal or carcase, piece of meat or flesh, as found.

*Cleansing of slaughter-houses.*

136. Every slaughter-house within the said Municipality shall be thoroughly washed and cleansed within one hour after any animal shall have been slaughtered therein; and the blood, offal, and filth of all such animals as may be slaughtered in any slaughter-house, or in the premises or appurtenances thereto belonging shall be removed once at least in every twenty-four hours: and any owner or occupier of any slaughter-house who shall neglect to comply with this By-law shall forfeit and pay, on conviction for every such offence before any two or more Justices of the Peace in a summary way, any sum not exceeding ten pounds.

*Slaughtering in unlicensed premises.*

137. If any person or persons shall slaughter or cause to be slaughtered any animal in any house or place not licensed for such purpose according to law, such person or persons shall forfeit and pay any sum not exceeding ten pounds nor less than two pounds for each and every animal so slaughtered.

*Animals slaughtered for home consumption.*

138. Nothing in these By-laws contained shall extend to or affect any person or persons slaughtering at his or her or their own residences within the said Municipality, animals for the personal consumption of himself, herself, or themselves, or of his, her, or their family, servants or labourers: Provided that the place where any such animal so slaughtered be not less than fifty yards from any street or other public place, or from any residence other than the residence of such person or persons so slaughtering, as in the By-law aforesaid.

*Streets and public places &c.**New roads to be reported upon.*

139. No new public road, street, way, park, or other place proposed to be dedicated to the public shall be taken under the charge and management of the Council until after such road, street, way, or park shall have been examined by the Works Committee, and reported upon to the Council by such Committee.

*Plans of proposed new roads, &c., to be deposited*

140. Whenever any proprietor or proprietor of land within the said Municipality shall open any road, street, or way, or lay out any park or other place for public use or recreation through or upon such land, and shall be desirous that the Council shall undertake the care and management of such road, street, way, park or other place, he or they shall furnish the Council with a plan or plans signed by himself or them-

selves, showing clearly the position and extent of such road, street, way, park, or other place as aforesaid. And he or they shall execute an instrument dedicating such road, street, way, park, or other place as the Council may consider necessary.

*Roads and streets, encroachments thereon, &c.*

141. The surveyor of the Municipality, or other proper officer or person duly authorised by the Council in that behalf, shall be the proper officer for making out, and shall fix, mark, and lay out, when and where necessary in the opinion of the Council or Works Committee, the levels of all public roads, streets, lanes, and thoroughfares, and the carriage and foot ways thereof which now are, or shall hereafter, be under or subject to the control, construction, care or management of the Council. And it shall be the duty of such surveyor or officer to place posts at the corners or intersections of such streets, roads, lanes, and thoroughfares whenever the same may be deemed necessary or desirable by the Council, so as to give a width of 42 feet for the carriage, and 12 feet for the footway on each side, where the road, street, lane, or thoroughfare shall be 66 feet wide, and in proportion, and in the discretion of the Council, of any such road, street, lane, or thoroughfare, or other public place of other width than 66 feet: Provided that there shall be no change of level in any such public road, street, lane, thoroughfare, or public place until the same shall have been submitted to and adopted by the Council as hereinafter provided.

*Change of street levels.*

142. Whenever it may be deemed necessary to alter the street level of any such public road, street, or way as aforesaid, the Committee for Works shall cause a plan and section showing the proposed cuttings to be exhibited at the Council Chambers for fourteen days, for the information and inspection of ratepayers, and shall notify by advertisement in some newspaper circulating in the Municipality that such plan is so open to inspection, and no objection thereto shall be entertained by the Council unless made within twenty-one days after such notice shall have been given. At a subsequent meeting of the Council the said plan and section shall, if adopted, be signed by the Mayor or Chairman and the proposer and seconder of the motion for such adoption, and countersigned by the Council Clerk, and such plan and section so signed and countersigned shall be a record of the Council.

*Footways may be levelled.*

143. The surveyor may cause all footways to be levelled, and made as nearly as practicable of equal height and breadth and with an equal slope and inclination; and for this purpose may remove any flagging, steps, or other matter, thing, or obstruction that may injure or obstruct the said footway, or render it unequal or inconvenient, and which now is or may hereafter be erected or placed on the space marked out for any of the said footways.

*Temporary stoppage of traffic for repairs.*

144. The Committee for Works, or any officer or person acting under the authority of such Committee, may at any time cause the traffic of any street, lane, or thoroughfare, or any portion thereof, to be stopped for the purpose of repairing the same, or for any necessary purposes; and any person or persons offending against this By-law, either by travelling on street, lane, or thoroughfare, or by removing or destroying any obstruction that may be placed thereon for the purpose of suspending the traffic, shall forfeit and pay a penalty of any sum not exceeding five pounds for every such offence.

*No encroachment allowed on streets, &c.*

145. Whenever any road, street, lane, or thoroughfare has been marked out in manner herein provided, no house, shop, fence, or other structure shall be allowed, except as hereinafter mentioned, to project or encroach on any part thereof; and it shall not be lawful for any person, unless for any temporary or other purpose permitted by the Council, to erect or put up any building, erection, obstruction, fence, or enclosure, or make any excavation, or hole, on or near such road, street, lane, or thoroughfare, unless due notice of the same shall have been given to the Council of the Municipality at least one week before any such building, erection, obstruction, fence, or enclosure, excavation, or hole as aforesaid, shall be commenced to be erected or put up or made, and the assent of the Council first obtained. Any person or persons offending against this By-law shall forfeit and pay for every such offence a sum not exceeding five pounds nor less than forty shillings; and on every successive conviction for a similar offence shall forfeit and pay a penalty of not less than five pounds.

*Encroachments must be removed on notice.*

146. The surveyor or other officer of the Council may at any time, on the order of the Council, give seven days' notice in writing, directing the removal of any building, fence, sign-board, obstruction, encroachment, or erection of any kind, in and upon any reserve, road, street, lane, footway, thoroughfare, or place, under the charge of the Council, and such notice shall be served either personally or at the usual or last known place of abode of the person to whom such erection,

obstruction, or encroachment belongs, or who has erected the same, or caused it to be erected; and shall state that in the event of such notice not being complied with within ten days the work will be done at the risk and expense of the person served with such notice. And in any case where, after service of notice as aforesaid, the person served shall not comply therewith it shall be lawful for the Council to direct the removal of the same under the superintendence of its officer, and the cost thereof to be recovered from the person so served as aforesaid; and the person neglecting to comply with such notice shall, in addition to the cost of removal, be liable to a penalty not exceeding twenty-five pounds nor less than one pound; and in case of every successive offence the penalty on conviction shall not be less than five pounds.

*No balcony, &c., to project more than 18 inches.*

147. It shall not be lawful for any awning, verandah, portico, balcony, coping, parapet, overhanging eaves, cornice, windows, string-course dressing, or other erection or construction of any kind, to project more than eighteen inches beyond the alignment of any street, road, or thoroughfare, except with the consent of the Council first obtained, under a penalty not exceeding five pounds nor less than one pound.

*Or may proceed by action.*

148. Notwithstanding the above By-law the Council shall be at liberty to proceed by action for trespass in respect of any such excavation, obstruction, or encroachment.

*To apply also to obstructions by digging, &c.*

149. The provisions, remedies, and penalties contained in the last two By-laws shall apply in all cases of obstruction, injuries, or encroachments by excavating under, digging, or taking away any portion of any reserves, road, fence, street, lane, footway, thoroughfare, or place within the Municipality or under the charge of the Council.

*Persons obstructing overseer, &c.*

150. Any person who shall wilfully obstruct or interfere with the surveyor or other officers of the Council, or any person acting for or under him or them, in the exercise of any of the duties or powers by these By-laws imposed, shall on conviction forfeit and pay a penalty of not less than two pounds nor more than twenty pounds.

*Public Property.*

*Injuring or extinguishing lamps.*

151. Any person who shall wantonly or maliciously break or injure any lamp or lamp-post, or extinguish any lamp set up for public convenience in the said Municipality, shall over and above the necessary expense of repairing the injury committed, forfeit and pay for every expense any sum not less than one pound nor more than five pounds.

*As to damaging buildings.*

152. Any person who shall damage any building, toll-gate, toll-bar, toll-board, wall, parapet, fence, sluice-bridge, culvert, sewer, water-course, or other public property within the said Municipality, shall pay the cost for repairing the same, and if such damage be wilfully done shall forfeit and pay a sum not exceeding twenty pounds nor less than five pounds.

*Planting trees.*

153. Upon any ratepayer applying to the Council to have trees planted opposite his or her premises, on any street or road within the Municipality, and such ratepayer paying to the Council the sum of ten shillings for each tree, the Council may direct the Works Committee to have such trees planted at the cost of the Council.

*Damaging trees.*

154. Any person who shall wilfully and without the authority of the Council, cut, break, bark, root up, or otherwise destroy or damage the whole or any part of any tree, sapling, shrub, or underwood, growing in or upon any street or place under the management of the Council, shall forfeit any sum not exceeding ten pounds nor less than one pound.

*Obstructing public pathways.*

155. That the owner or occupier of any land situate on the side of any street or road in this Municipality who shall permit any tree, shrub, or plant, kept for ornament or otherwise, to overhang any path or footway on the side of any such street or road, so as to obstruct the passage thereof, and who, on demand made by the Council, or their overseer or inspector, shall not cut, or cause to be cut, lop, or cause to be lopped, all such trees, shrubs, or plants to the height of eight feet at least, the said Council and their servants, labourers, and workmen may cut, or cause to be cut or lopped, all such overhanging trees, plants, and shrubs, and to remove or burn any portion of such trees, plants, or shrubs so cut or lopped, without being deemed a trespasser or trespassers; and in case any person or persons shall resist, or in any manner forcibly oppose, the said Council or their servants, labourers, or workmen in the due execution of the powers given in this behalf by virtue of the "Municipalities Act of 1867," every person so offending, shall on conviction for every such offence forfeit and pay any sum not exceeding ten pounds.

*Preventing and Extinguishing Fires.**Fire or combustible materials &c.*

156. Every person who shall place, or knowingly permit to be placed, in any house, yard, work-shop, out-offices, or other premises, fire gunpowder, or combustible or inflammable materials of any kind, in such a manner as to endanger contiguous buildings, shall on conviction for every such offence forfeit and pay a penalty of not more than five pounds, and shall forthwith remove such fire, gunpowder, or combustible or inflammable materials, and every person who shall suffer any such fire, gunpowder, or combustible or inflammable materials to remain as aforesaid for twenty-four hours after any such conviction shall be deemed guilty of a second offence against this By-law.

*Inflammable fences, &c.*

157. Every person who shall erect any fence of brushwood, bushes, or other inflammable material, or shall make or place any stack of hay, corn, straw, or other produce, or place as for the covering of any such stack any inflammable material, so as to endanger contiguous buildings or properties, or any trees, shrubs, or other produce of such properties, or any chattels in or upon such buildings or properties, shall forfeit on conviction for every such offence a penalty of not more than five pounds, and fails to remove such fence, stack, or covering, within a reasonable time after such conviction as aforesaid, shall be deemed guilty of a second offence against this By-law.

*Setting fire to matter without notice.*

158. Any person who shall wilfully set fire to any inflammable matter whatever in the open air, within five yards of any dwelling-house or other building or boundary or dividing fence within the said Municipality, without having given notice in writing to the occupiers of the land adjoining the land upon which such matter is, that it is his or her intention so to do, or between the hours of six in the afternoon of any day, and six in the morning of the following day, shall for every such offence forfeit a sum not exceeding five pounds.

*Wilful trespass.*

159. Every person who shall wilfully let in or knowingly suffer to enter upon the reserves or public recreation ground any animals without due authority shall be deemed guilty of wilful trespass and shall be liable for every such offence to a penalty not exceeding twenty pounds nor less than two pounds.

*Penalty for destroying boundary marks.*

160. Any person pulling down, destroying, defacing, or injuring any marks, or any fence, or other erection without the authority of the Council, shall forfeit and pay any sum not exceeding ten pounds or less than one pound.

*Erection of houses, &c.*

161. No person shall be permitted to erect any house, shop or other building in any street, lane or place in the Borough without first serving notice, in writing, on the Mayor or Council Clerk, on any lawful day, between the hours of eight o'clock a.m. and eight o'clock p.m., stating such intention, and describing the proposed situation of the building or erection, and without having received an authority from the Mayor or Council Clerk, who will give the required level and alignment, if in a proclaimed street, on a payment of a fee of ten shillings. No person shall be at liberty to encroach beyond the building line in any street, or lane, by the erection of houses, verandahs, doorsteps, fences, or any other obstruction whatever.

*Houses &c., to be spouted*

162. All proprietors of houses within the Municipality having a frontage to any main thoroughfare shall be bound to have the same sufficiently spouted with down pipe, to be carried under the surface of the footpath into the gutter, under a penalty of ten shillings on conviction; and if not remedied at the expiration of seven days after such conviction the offender shall be again liable to a like conviction and penalty also for every succeeding seven days.

*Using bark for building in the main thoroughfares.*

163. No person shall erect any building of bark or roofed with that material or with calico within the populous parts of the town, except by express permission of the Council, and then for a temporary purpose only; any person so offending shall on conviction be liable to a penalty not exceeding ten pounds.

*Offences against public decency.**Bathing prohibited within certain limits.*

164. Any person who shall bathe near or within view of any inhabited house, or of any public wharf, quay, bridge, street, road, or other place of public resort within the limits of the said Municipality, between the hours of seven in the morning and eight in the evening, shall on conviction forfeit and pay a sum not exceeding one pound for every such offence.

*Penalty on indecent exposure of person.*

165. Any individual who shall offend against decency, by exposure of his or her person in any street or public place within the said Municipality, or in view thereof, shall on conviction forfeit and pay for every such offence a sum not exceeding ten pounds nor less than two pounds.

*Blasting Rock**No rock to be blasted without notice to the Council Clerk.*

166. Any person who shall be desirous of blasting any rock within one hundred yards of any street or public place or dwelling-house in the said Municipality, shall give notice in writing, twenty-four hours previously to the Council Clerk, who shall appoint a time when the same shall take place, and give such other directions as he may deem necessary for the public safety; and if any person shall blast or cause to be blasted any rock within the limits aforesaid without giving such notice, or shall not conform to the directions given to him by the said Council Clerk, he or she shall on conviction forfeit and pay for every such offence any sum not less than one pound nor more than five pounds.

*Expenditure.**Except in emergent matters, cost of all work to be estimated before undertaken.*

167. With the exception of emergent matters hereinafter especially provided for, no work affecting the funds of the Municipality shall be undertaken until the probable expense thereof shall have been first ascertained by the Council.

*Emergent matters and necessary current expenses—Expenses authorised to be reported—Outlay to be in accordance with the orders of the Council.*

168. For emergent matters, and for necessary current expenses during the intervals which may elapse between the meetings of the Council, outlay to the following extent may be incurred:—

1. By order of the Committee for works, or of the Mayor and one member of such Committee, for repairs or emergent works, to the extent of five pounds.
2. By order of the Mayor, for necessary current expenses, to the extent of ten pounds.

Provided that in every case, a detailed report in writing of every such outlay shall be laid before the Council at its next meeting, such report to be signed by the Chairman of the Committee for Works, or the Mayor.

All claims to be examined and reported upon by Finance Committee.

169. All accounts and demands of money against or from the Council shall be examined and reported on by the Finance Committee, before any order shall be made for payment of such accounts or demands.

*Certificate required with each claim—Salaries and wages to be payable on Mayor's order—Certificates to be attached to report.*

170. No payment shall be so ordered unless there shall be a certificate or memorandum from the Committee or Mayor, showing that the demand is a legitimate one, and has been duly authorised or inquired into. It shall be the imperative duty of the Finance Committee to see that this requirement is fulfilled, or to report specially as to the reasons for its non-fulfilment, before recommending payment. And provided further, that in regard to salaries and wages of labour for officers, servants, and labourers, employed at fixed rates of payment by order of the Council, the certificate of the Mayor of the amount due to such officer, servant, or labourer, and the order of such Mayor for payment of such amount shall be a sufficient authorisation for such payment.

*Common seal and records of the Council—Common seal and press, how secured—Care of same.*

171. The common seal, and the press to which the same is attached, shall be secured by a cover or box, which—except when such seal and press are in use—shall be kept locked. There shall be duplicate keys to the lock of this cover or box, of which keys one shall be kept by the Mayor, and the other by the Council Clerk. Such common seal and press shall be in the custody and care of the Council Clerk.

*When and how common seal to be used.*

172. The common seal shall not be attached to any document without an express order of the Council. In every case when such common seal has been ordered to be attached to any document, such document shall also be signed by the Mayor, or in case of the absence or illness of such Mayor, by two Aldermen, and countersigned by the Council Clerk.

*How books of account, &c., be kept.*

173. All books, deeds, memorials, letters, documents, and other records of the Council, except as hereinafter mentioned, shall be kept at the Council Chambers, in the custody and care of the Council Clerk, who shall be responsible for the safe custody of the same, but the Mayor or Council Clerk may for any special purpose authorise their removal.

*Books, &c., not to be shown or exposed to view without leave.*

174. No member or officer of the Council shall be at liberty to show, lay open, or expose any of the books, papers, or records of the Council to any person not a member of the Council, without the written permission of the Mayor. Any member or officer who shall commit a breach of this section shall be liable on conviction to a penalty of not less than ten shillings nor more than two pounds: Provided always that the rate-books shall at all reasonable times be open for inspection by ratepayers.

Records not to be removed.

175. Any person removing any such book, paper, or record from the Council Chambers, without leave from the Mayor or Council Clerk, in writing first had and obtained, shall be subject to a penalty of not less than ten shillings nor more than ten pounds. And nothing herein contained shall be held to affect the further liability of any person who shall have received such book, paper, or record, and shall not have returned the same, to prosecution for stealing such book, paper, or record, or to an action at law for detention of the same, as the circumstances of the case may warrant.

GENERAL BY-LAWS.

Cellars, or openings, &c.

Cellars or openings beneath footways prohibited.

176. It shall not lawful for any person to make any cellar or any opening, door, or window in or beneath the surface of the footway of any road, street, lane, thoroughfare, or other public place within the said Municipality; and if any person shall offend in the premises he shall forfeit and pay any sum not exceeding five pounds over and above the expense of remedying or removing any such cellar, opening, door, or window, such expense to be assessed and allowed by the convicting Justice or Justices, provided that such expense and penalty shall not together exceed fifty pounds.

Wells to be covered.

177. Every person who shall have a well situated between his or her dwelling-house or the appurtenances thereof and any street or footway within the limits of the Municipality, or at the side thereof, or in any yard or place open and exposed to such street or footway, shall, within the space of three calendar months from 1st February, 1891, cause such well to be securely and permanently covered over; and if any person having such well as aforesaid, shall fail to cover and secure the same within twenty-four hours after notice in writing shall have been given to him or her by any officer of the said Council, or shall have been left for such person at his or her usual or last known place of abode, or on the said premises, shall on conviction forfeit and pay the sum of ten shillings; and for every day after such notice that such well shall remain open or uncovered, contrary to the provisions hereof, such person shall be deemed guilty of a separate offence against this By-law.

Throwing of orange-peel or other substances on the footpaths.

178. Any person who shall cast, or throw orange-peel, or any other vegetable substances, or any offensive or noxious substance, upon any footpath within the Municipality shall forfeit and pay for each offence a fine not exceeding ten shillings.

For preventing obstructions of any streets or footways.

179. Any person congregating with others in any street or footway within the Borough so as to obstruct the free passage and traffic through, along, or upon the same, who shall refuse or neglect to move on so as to cease from and discontinue such obstruction upon being requested so to do by any police constable or officer, or by any inspector or other officer of the Corporation, such person so offending shall forfeit and pay a penalty of not less than five shillings and not exceeding forty shillings.

Driving or riding on footway.

180. Any person who shall run, roll, drive, draw, place or cause, permit or suffer to be run, rolled, driven, drawn, or placed upon any footway any waggon, omnibus, cart, dray, stage, bicycle, tricycle, carriage, wheelbarrow, truck, cask, or any other vehicle, or shall lead, drive, ride, or place any horse, cattle, or other beast upon any footway, shall forfeit and pay a penalty not exceeding five pounds nor less than ten shillings.

Driving carriages, &c., on footways, and throwing filth, &c.

181. Any person who shall throw, cast, or lay, or shall cause, permit, or suffer to be thrown, cast or laid, or to remain, any ashes, rubbish, offal, dung, soil, dead animal, blood, or other filth or annoyance, or any matter or thing, in or upon the carriage-way or footway of any street or other public place in the said Municipality, or shall kill, slaughter, dress, scald, or cut up any beast, swine, calf, sheep, lamb, or other animal, in or so near to any such street or other public place as that any blood or filth shall run or flow upon or over or be on any or either of any such carriage or foot way, or shall run, roll, drive, draw, place, or cause, permit, or suffer to be run, rolled, driven, drawn or placed upon any of the said footways of any such street or public place, any waggon, cart, dray, sledge, or other carriage, or any wheelbarrow, handbarrow, or truck, or any hoghead, cask, or barrel, or shall wilfully lead, drive, or ride any horse, ass, mule, or other beast upon any such footway, shall upon conviction forfeit and pay for the first offence a sum not exceeding forty shillings nor less than five shillings, for the second offence a sum not exceeding five pounds nor less than ten shillings, and for a third and every subsequent offence a sum not exceeding ten pounds nor less than one pound for each such offence.

Riding and driving round corners, &c.

182. Any person who shall ride or drive round the corner of any road, street, or lane within the said Municipality at a faster pace than a walk shall on conviction forfeit and pay any sum not exceeding twenty shillings nor less than five shillings.

Injuring or extinguishing lamps.

183. Any person who shall wantonly and maliciously break or injure any lamp or lamp-post, or extinguish any lamp set up for public convenience in the said Municipality, shall, over and above the necessary expense of repairing the injury committed, forfeit and pay for such offence any sum not less than one pound nor more than five pounds.

Placarding or chalking on walls, &c.

184. It shall not be lawful for any person to paste or otherwise affix any placard or other paper upon any wall, house, footpath, fence, or building within the limits of the said Municipality, nor to deface any such wall, house, or building by chalk, or paint or in any other manner; and any person who shall be guilty of any such offence shall, upon the complaint of the owner or occupier of any such wall, house, or building, forfeit and pay on conviction the sum of ten shillings.

Trees in streets.

185. The Council shall have power to plant trees, shrubs, and plants in the streets and public ways of this Municipality and any person wilfully injuring or destroying any of such trees, or any railing, fence, or thing protecting the same, shall on conviction forfeit and pay a penalty of not more than ten pounds nor less than one pound, in addition to the value of the trees, railing, fence, or thing so injured.

Fireworks.

186. Every person who, without leave of the Council previously had and obtained, shall light any bonfire, tar-barrel, or firework upon or within sixty yards of any public or private street or any public place; or who shall sell gunpowder, squibs, rockets, or other combustible matter, by gas, candle, or other artificial light, shall forfeit for every such offence a sum not less than ten shillings nor more than ten pounds.

Stacking or storing empty cases in the open air.

187. Every person who, being the occupier of, or having the control and use of any vacant land, yard, right-of-way, or passage of whatsoever description within the Borough shall place, or cause or permit to be placed, or suffer to remain after being placed in the open air on any vacant land, or in any yard, street, right-of-way, or passage, any cases, paper, shavings or crates whether containing merchandise or not, packed with straw or other inflammable substance, shall forfeit and pay a penalty of not less than one pound and not exceeding ten pounds; and each day's continuance of the same unabated or unremoved shall be deemed a separate offence, and every person so offending shall forfeit and pay a penalty of one pound for every day the nuisance shall remain and continue.

Miscellaneous.

Leave of absence.

188. No leave of absence shall be granted to the Mayor or to any Alderman otherwise than by a resolution of Council adopted after due notice.

Mode of calling for tenders.

189. Whenever it is decided that any work shall be executed or any material supplied by contract, tenders for the execution of such work, or the supply of such material, shall be called for by public notice as hereinafter provided.

SCHEDULE A.

Warrant of Distress.

I, Mayor of the Municipal Council of Murrumburrah, do hereby authorise you the Bailiff of the said Municipality to distrain the goods and chattels in the dwelling-house (or in and upon the land and premises) of situate at for being the amount of rates due to the said Municipality to the day of for the said dwelling-house (or land or premises, as the case may be), and to proceed for the recovery of the said rates according to law.

Dated this day of 18 .

Mayor.

SCHEDULE B.

Costs.

	s.	d.
For every warrant of distress .....	2	6
For every warrant and making levy where the sum is not more than £20 .....	3	0
Above that sum, in addition for every £1 .....	1	0
For making and furnishing copy of inventory .....	3	0
For man in possession each day, or part of day .....	6	0
For sale, commission, and delivery of goods, per pound on proceeds of sale .....	1	0

SCHEDULE C.

*Inventory.*

I HAVE this day, in virtue of the warrant under the hand of the Mayor of the Municipal Council of Murrumburrah, dated \_\_\_\_\_, distrained the following goods and chattels in the dwelling-house (or in and upon the land and premises) of \_\_\_\_\_ situate at \_\_\_\_\_ within the said Municipality, for being the amount of rates due to the said Municipality to the \_\_\_\_\_ day of \_\_\_\_\_

Dated \_\_\_\_\_ day of \_\_\_\_\_ 18 .

Bailiff.

SCHEDULE D.

Table of license fees payable by proprietors, drivers, and conductors of licensed vehicles.

Proprietors of	On and after 1st January.	On and after 1st April.	On and after 1st July.	On and after 1st October.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Omnibuses and coaches.	0 10 0	0 10 0	0 5 0	0 5 0
Cars .....	1 10 0	1 2 6	0 15 0	0 7 6
Hackney carriages	2 0 0	1 10 0	1 0 0	0 10 0
Cabs .....	1 10 0	1 2 6	0 15 0	0 7 6
Water-carts, drays, carts, or vans.	0 2 6	0 2 6	0 2 6	0 2 6
For every driver's license for a vehicle to carry passengers.			0 5 0	
For every conductor's license for a vehicle to carry passengers.			0 5 0	

SCHEDULE E.

Table of maximum fares chargeable by drivers or proprietors of licensed hackney carriages and cabs within the Municipality of Murrumburrah.

For a cab to carry one or two persons, as required by hirer,—

For not exceeding quarter of an hour .....	s. d.
For every subsequent quarter of an hour or part thereof within the first hour of hiring .....	1 0
For every quarter of an hour or part thereof after the first hour .....	0 9

For a hackney carriage to carry five persons, if required by hirer.

For not exceeding half an hour .....	s. d.
For exceeding half an hour, but not exceeding one hour .....	2 6
For every quarter of an hour or part thereof after the first hour .....	5 0
For every quarter of an hour or part thereof after the first hour .....	1 0

SCHEDULE F.

Any van or dray used for the removal of household furniture shall be paid as follows:—

For the first hour or part thereof .....	s. d.
For every additional half-hour or part thereof .....	2 6
	1 3

SCHEDULE H.

*Form of license for proprietors and drivers.*

THIS is to certify that \_\_\_\_\_ is hereby licensed to No. \_\_\_\_\_ within the Municipality of Murrumburrah, from the date hereof to the thirty-first day of December next, subject nevertheless, to all and every the By-laws, Rules, and Regulations in force relating thereto.

Given under our hand at Murrumburrah, this \_\_\_\_\_ day of \_\_\_\_\_ in the year of our Lord one thousand eight hundred and \_\_\_\_\_

Build.  
Colour.  
Lining.  
Name.  
Stand.  
Line of road.

Licensed to carry \_\_\_\_\_ inside passengers and \_\_\_\_\_ outside.  
Mayor.

Council Clerk.

SCHEDULE I.

*A requisition for license.*

To the Council Clerk of the Municipality of Murrumburrah.

I, \_\_\_\_\_ residing in \_\_\_\_\_ street, within the Municipality of Murrumburrah, do hereby request that a license may be granted to me, \_\_\_\_\_, within the limits of the said Municipality.

Dated at Murrumburrah, this \_\_\_\_\_ day of \_\_\_\_\_ A.D. 18 .

We certify that \_\_\_\_\_ is above the age of eighteen, of good character, and capable of driving.

Passed by the Council of the Borough of Murrumburrah, on the twentieth day of August, in the year of our Lord one thousand eight hundred and ninety.

(L.S.) THOMAS ALLSOP,

ROB. B. WALLACE, Council Clerk. Mayor.



1891.

NEW SOUTH WALES.

**MUNICIPALITIES.**

(MUNICIPAL DISTRICT OF CONDOBOLIN—BY-LAWS.)

**Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 158.**

Colonial Secretary's Office,  
Sydney, 14th January, 1891.

CONDOBOLIN MUNICIPALITY.—BY-LAWS.

THE following By-laws, made by the Council of the Municipal District of Condobolin under the "Municipalities Act of 1867," having been confirmed by His Excellency the Lieutenant-Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

BY-LAWS OF THE MUNICIPALITY OF CONDOBOLIN.

PART I.

*Meetings of the Council.*

*Ordinary Meetings.*

1. The Council shall meet for the dispatch of business at the hour of eight o'clock p.m. the first Monday in each month, unless such day shall happen to be a public holiday. In the latter case, the meeting shall be held on such other day as the Mayor may appoint.

Election of Chairman in the absence of the Mayor—Adjournment for want of quorum.

2. If at any meeting of the Council the Mayor be absent at the expiration of fifteen minutes after the time appointed for holding such meeting, the Aldermen then present shall proceed to elect from among themselves a Chairman for such meeting. Whenever there shall be an adjournment of any such meeting for want of a quorum, the names of the members present shall be recorded in the Minute-book.

*Order of business.*

*Business of ordinary meetings.*

3. The following shall be the order of business at all meetings of the Council other than special meetings,—

1st. The minutes of the last preceding meeting to be read, corrected if erroneous, and verified by the signature of the Mayor or other Chairman. No discussion to be permitted on such minutes, except as to whether they are correct.

2nd. Petitions (if any) to be presented and dealt with.

3rd. Correspondence to be read, and, if necessary, dealt with.

4th. Reports from Committees and minutes from the Mayor to be dealt with.

5th. Questions as to any matters under the jurisdiction or within the official cognisance of the Council to be put and replied to; and statements as to any facts, matters, or circumstances requiring attention by the Council or any of its committees or officers, to be made.

6th. Motions of which notice has been given to be dealt with in the order in which they stand on the business paper.

7th. Orders of the day to be disposed of as they stand on the business paper: Provided it shall be competent for the Council at any time, by resolution, without notice, to entertain any particular motion, or to deal with any particular matter of business, out of its regular order on the business paper, without any formal suspension of this section; also, and in like manner, to direct that any particular motion or matter of business shall have precedence at a future meeting.

*Business at special meetings.*

4. At special meetings of the Council, the business, after the minutes have been read and confirmed, which shall be done in the same manner as at an ordinary meeting, shall be taken in such order as the Mayor or the Alderman at whose instance such special meeting shall have been called may have directed.

*Business paper for ordinary meeting—how prepared.*

5. The business paper for every meeting of the Council other than a special meeting shall be made up by the Council Clerk not less than two nor more than seven days before the day appointed for such meeting. He shall enter on such business paper a copy or the substance of every notice of motion, and of every requisition or order as to business proposed to be transacted at such meeting which he shall have received or shall have been directed or required so to enter; and as hereinafter provided, every such entry shall be made subject to the provisions of section 3 of this Part of these By-laws in the order in which such notice, requisition, or direction shall have been received.

*Business paper for special meeting.*

6. The business paper for a special meeting shall contain only such matters as shall have been specially ordered to be entered thereon by the Mayor or Alderman calling such meeting.

*Summons to members.*

7. The summons to members of the Council for every meeting thereof shall be prepared from the business paper for such meeting and shall embody the substance of such business paper.

in which such matter has been disposed of shall have been duly verified as required by section 4 of this Part of the By-laws; Provided, however, that the person giving or forwarding any such notice of motion, requisition, or direction to the Council Clerk shall be at liberty to withdraw the same at any time before the making up of such business paper.

*Motions and Amendments.*

*Motions—How to be moved.*

8. Except by leave of the Council motions shall be moved in the order in which they stand on the business paper, and if not so moved or postponed shall be struck from such business paper and be considered to have lapsed.

*Absence of proposed mover.*

9. No motion, of which notice shall have been entered on the business paper, shall be proceeded with in the absence of the Alderman by whom such notice shall have been given, unless by some other Alderman producing a written authority for that purpose from such first-named Alderman.

*Motions to be seconded.*

10. No motion in Council shall be discussed, unless and until it be seconded.

*Motions to be in writing and not withdrawn without leave.*

11. Every notice of motion shall be in writing, dated and signed by the Alderman proposing the same; and no motion shall be withdrawn without leave of the Council. No motion, the effect of which if carried would be to rescind any motion which has already been passed by the Council, shall be entered upon the business paper, unless a call of the whole Council has been duly made and granted for that purpose.

*Amendments may be moved.*

12. When a motion in Council shall have been made and seconded, any Alderman shall be at liberty to move an amendment thereon, but no such amendment shall be discussed unless and until it be seconded.

*How amendments to be put.*

13. No motion or amendment shall be discussed until it shall have been reduced into writing. If an amendment be carried, the question as amended thereby shall become itself the question before the Council, whereupon any further amendment upon such question may be moved. If any amendment, either upon an original question or upon any question amended as aforesaid, shall be negatived, then a further amendment may be moved to the question to which such first-mentioned amendment was moved, and so on: Provided that not more than one question and one proposed amendment thereof shall be before the Council at any one time.

*Aldermen presenting petitions to make themselves acquainted with contents.*

14. It shall be incumbent on every Alderman presenting a petition to acquaint himself with the contents thereof, and to ascertain that it does not contain language disrespectful to the Council. The nature and prayer of every such petition shall be stated to the Council by the Alderman presenting the same.

*Petitions and correspondence.*

15. The Council may at any meeting resolve, without previous notice, that any petition be received, and that the same or any correspondence read be referred to a Committee to report, or that the request contained therein be granted.

*Mayor to preserve order.*

16. The Mayor or Chairman shall preserve order, and may at any time call to order any Alderman who may appear to him to be out of order.

*Calls to order.*

17. Any Alderman may at any time call the attention of the Mayor to any Alderman being out of order, or to any point of order.

*Mayor's decision on points of order final.*

18. Every point of order shall be taken into consideration immediately upon its arising, and the decision of the Mayor or Chairman thereon shall be conclusive, except as hereinafter provided. Any Alderman who leaves any meeting without permission shall not be allowed to take part in any subsequent proceedings at such meeting.

*Mayor may take part in proceedings.*

19. The Mayor may take part in all proceedings of the Council or Committees thereof.

*Questions put by Mayor.*

20. The Mayor shall put all questions first in the affirmative and then in the negative (provided that where an amendment is moved to any motion the amendment shall be first put) and may do so as often as may be necessary to enable him to determine the sense of the Council thereon, and thereupon he shall declare his decision, which shall be final, unless a division be called for.

*Mayor to decide as to precedence of Aldermen.*

21. If two or more Aldermen rise to speak at the same time, the Mayor shall decide which of them shall be entitled to precedence.

*Aldermen to stand, while speaking, &c.*

22. Every Alderman shall stand while speaking, and shall address the chair.

*No Alderman to speak twice on the same question or amendment except in Committee.*

23. No Alderman shall speak twice on the same question unless in Committee, or in explanation where he shall have been misrepresented or misunderstood: Provided that any Alderman although having previously spoken, may speak once on every amendment, and that the mover of every question shall always have a right of final reply.

*No Alderman to make personal reflections.*

24. No Alderman shall digress from the matter under discussion, or make personal reflections on, or impute motives to, any other Alderman, or speak on any question more than twenty minutes.

*Aldermen using offensive expressions to apologise.*

25. When any member of the Council shall make use of any language or expression offensive, or capable of being applied offensively to any Alderman, the member so offending shall be required to withdraw such language or expression, and to make an apology satisfactory to the Council.

*Debate may be adjourned.*

26. A debate may be adjourned to a later hour of the same day or to another day.

*Aldermen adjourning debate entitled to precedence on resumption.*

27. The Alderman upon whose motion any debate shall be adjourned, shall be entitled to precedence on resumption of the debate.

*Adjournments.*

28. Any motion for adjournment, if seconded, shall immediately be put without discussion; but if such motion be negatived, it shall not be competent for any Alderman to make a similar motion until thirty minutes shall have elapsed.

*Division—Penalty for refusing to vote.*

29. Any Alderman shall be at liberty to call for a division; in such case the question shall be put first in the affirmative and then in the negative; and the Aldermen shall vote by show of hands, and the names and votes of the Aldermen present shall be recorded. Any Alderman who shall be present when a division is called for, and shall not vote on such division, not being disabled by law from so voting, shall be liable for every such offence to a penalty of not less than five shillings nor more than forty shillings.

*Divisions to be entered on minutes.*

30. All divisions of the Council shall be entered on the minutes of the proceedings.

*Questions to be read when required.*

31. Any Alderman may require the question or matter under discussion to be read once for his information, and upon such request the question or matter under discussion shall be read.

*Suspension of By-laws.*

32. Any of these By-laws relating to or affecting proceedings at meetings of the Council may be suspended pro tempore in cases of emergency, by resolution of the Council.

*Mode of proceeding in cases not provided for.*

33. In all cases not herein provided for, resort shall be had to the rules, forms, and usages of the Legislative Assembly of New South Wales, so far as the same are applicable to the proceedings of the Council.

*Standing and Special Committees.*

*Standing Committees.*

34. There shall be a Works Committee, a Finance Committee, a Lighting Committee, a Hall Committee, and Library Committee. These Committees shall be reappointed every year, after the first meeting of the Council which shall be holden after the election of the Mayor.

*Works Committee.*

35. The Works Committee shall have the general direction of all roads, ways, bridges, public reserves, and other places under the care and management of the Council. They shall also inquire and report from time to time upon such improvements, repairs, or other matters as they think necessary, or as they may be directed by resolution of the Council to inquire into and report upon.

*Finance Committee.*

36. The Finance Committee shall examine and check all accounts, and shall watch generally over the collection and expenditure of the Municipal revenue; they shall inquire and report from time to time as to all matters which they may consider to affect the finances of the Borough, and as to such matters or subjects of the like nature, as they may be directed by resolution of the Council to inquire into and report upon.

*Lighting Committee.*

37. The Lighting Committee shall once at least in each Municipal year make an inspection of the Borough, and shall recommend the erection of any additional public lamps they may consider necessary, or the removal of any existing lamps, and shall submit their report to the Council in writing.

*Hall Committee.*

38. The Hall Committee shall have charge of the Council Chambers Hall, and shall prepare a tariff of charges for the use of the hall, and shall also recommend in writing any repairs, alterations, or additions they may consider necessary.

*Library Committee.*

39. The Library Committee shall have general control of the Public Library, and shall once at least in each year submit to the Council a written report upon the same, as to its efficacy, usefulness, and the manner in which it is conducted; and may also recommend the purchase of additional books, or any other matter or thing they have reason to consider will be of benefit.

*Special Committee.*

40. Special Committees may consist of any number of members, and may be appointed for the performance of any duty which may be lawfully intrusted to a Committee, and for which, in the opinion of the Council, a special Committee ought to be appointed. And no Standing Committee shall interfere with the performance of any duty which may for the time have been intrusted to any such special Committee. The appointment of every such special Committee shall be made by resolution; and it shall be incumbent on the mover of such resolution to embody therein a statement of the duties proposed to be intrusted to such special Committee. The mover of any such resolution may name therein any such members as in his opinion ought to constitute such Committee; or he may propose that such Committee consist of a certain number of members, to be appointed by ballot; or an amendment to the effect that such special Committee be appointed by ballot may be carried.

*Rules to be observed in Committee.*

41. The rules of the Council shall be observed in a Committee of the whole Council, except the rule limiting the number of times of speaking.

*Reports of Committee to be signed.*

42. Every report of a Committee shall be signed by the Chairman thereof.

*Protection of Funds and Records.**Member or officer of Council not to be surety.*

43. In cases where surety is required by the Municipalities Act, it shall not be competent for the Council to accept as surety any of their members, or any person holding office under the Council.

*Duties of Council Clerk.*

44. The Council Clerk shall attend at the office of the Council, at the Council Chambers, for the purpose of receiving payment of rates, and transacting the ordinary business of the Council, every Monday and Friday afternoon, from 2 to 4, and every Tuesday and Thursday evening, from 7 to 9.

45. The Council Clerk, in addition to the duties which, by the "Municipalities Act of 1867," or by the present or any other By-laws thereunder, he may be required to perform, shall be the Clerk of all Revision Courts held in the Borough under the provisions of the said Municipalities Act; he shall also, under the direction of the Mayor, conduct all correspondence which may be necessary on the part of the Council; he shall generally assist the Mayor in carrying out the orders of the Council and the duties of such Mayor.

*Custody of records, seal, &c.*

46. The common seal and all charters, books, papers, and records of the Council, shall be kept in the Council Chambers or office of the Council, in the custody of the Council Clerk, unless the Council shall otherwise order for any purpose; and the common seal shall not be used, except with the signature of the Mayor.

*Bonds for good conduct, and deeds of real and personal estate.*

47. All bonds given by officers and servants of the Council for the faithful performance of their duties, and deeds of real and personal estate, shall be deposited with the bankers of the Corporation, as the Council may order; and no officer or servant of the Council shall be received as surety for any other such officer or servant.

*Records, &c., not to be defaced or altered.*

48. Any person who shall deface, alter, or destroy, or attempt to deface, alter, or destroy any such common seal, charter, deed, muniment, book, paper, or record, shall, on conviction thereof, forfeit and pay for the first offence a penalty not exceeding fifty pounds nor less than five pounds, and upon every subsequent conviction a penalty of not less than twenty pounds.

*Nor remove.*

49. Any person who shall remove or attempt to remove (except for the purpose of legal proceedings) any such seal, charter, deed, muniment, book, paper, or record from the Council Chambers, without leave from the Council first had and obtained, shall, on conviction thereof forfeit and pay a penalty of not more than twenty pounds nor less than two pounds, and for every subsequent offence a penalty not less than five pounds nor more than fifty pounds.

*Expenses of proposed works to be first ascertained—Accounts to be examined by Finance Committee.*

50. No work shall be undertaken until a probable expense thereof shall have been ascertained by the Council's Overseer, and all accounts to be paid by the Council shall be examined by the Finance Committee and reported on by them before any warrant shall be issued for the payment thereof.

*Outlay in urgent cases.*

51. In cases of emergency arising between meetings of the Council, it shall be lawful for the necessary work to be ordered without vote of the Council, viz., by the Mayor, to the extent of £20, provided that in the absence of the Mayor any four Aldermen shall have that power.

*Duties of officers and servants.*

52. The duties of all officers and servants of the Corporation shall be defined by such regulations as may from time to time be moved by the Council.

*Special powers of the Mayor.*

53. The Mayor shall exercise a general supervision over all the officers and servants of the Corporation, and may order the preparation of any such return or statement, or the giving of any such explanation or information by any such officer or servant as he may think necessary, unless such return or statement shall have already been prepared or such explanation or information already given, and such return, statement, or explanation, or information is on record, as hereinbefore provided; or unless the Council shall have expressly forbidden or dispensed with the preparation of such return or statement, or the giving of such explanation or information. All such returns or statements shall be in writing, and shall be recorded. All such explanation or information may, except as hereinafter provided, be either recorded viva voce or put into writing, as the Mayor may direct.

*How complaints against officers, &c., are to be dealt with.*

54. All complaints against officers or servants of the Corporation must be in writing, and must in every case be signed by the person or persons complaining; and no notice whatever shall be taken of any complaint which is not in writing or is anonymous. All such complaints must be addressed to the Mayor, who immediately upon the receipt of any such complaint, and without laying the same before the Council, shall have power to investigate the same. And if any such complaint be made to the Council, or any member or officer thereof, it shall be referred to and investigated by the Mayor before it shall in any way (otherwise than by such reference) be ordered upon or dealt with by such Council: Provided that every report, explanation, and information which may be made or rendered in reference to every such complaint shall be in writing. And such Mayor shall state in writing the result of every such investigation. And such complaint, with all reports, explanations, and information as aforesaid, in connection therewith, shall be laid before the Council at the next meeting thereof, which shall be held after the Mayor shall have made such statement and shall be duly recorded, and shall be dealt with at the next succeeding ordinary meeting of the Council. Provided further, that nothing herein contained shall be held to affect in any way the special powers conferred on the Mayor by section 152 of the "Municipalities Act of 1867," or any other special power which now is or hereafter may be conferred by statute upon such Mayor.

*Suits and prosecutions for penalties, &c.*

55. Such suits or information for the enforcement of penalties for or in respect of breaches of the "Municipalities Act of 1867," or of any By-law made thereunder, or of any statute, the operation of which may have been extended to the Borough, as may have been directed by the Council, or by the By-law Committee, or by the Mayor, to be commenced or laid, shall be so commenced or laid as follows, viz.:—When against a member of the Council or an Auditor, or any other officer of the Corporation—by the Council Clerk, unless such Council Clerk shall be the officer to be proceeded against, and in such case by any other officer named by the Council for that purpose. When against any other person—by the officer to whom the carrying out of the statutory provision or By-law imposing the penalty sought to be enforced has been entrusted; and if there shall be no such officer, then by any such officer or person as shall be appointed for that purpose by the Council or the By-law Committee, or the Mayor, as the case may be, on directing such suit or information. And no such suit shall be brought or information laid as aforesaid against any member of the Council or Auditor, except by the order of such Council; nor shall any similar proceeding be taken against any officer of the Council, except on the order of such Council or of the Mayor; nor

her may explain, retract, or apologise for the matter or remark alleged to have been out of order. And if such explanation, retraction, or apology be deemed satisfactory, no further discussion on the question of order shall be permitted. If any member on being called to order shall ask such permission to explain, retract, or apologise, as aforesaid, the Mayor or Chairman may, of his own authority, grant or refuse such permission as he may think fit, unless any member shall require the sense of the Council to be taken on this question. In such case it shall be the duty of the Mayor or Chairman to take the sense of the Council at once and without discussion, as to whether such permission shall be granted. And when any such explanation, retraction, or apology shall have been made or offered by permission of the Mayor or Chairman, the latter shall in like manner decide, or, if required so to do, shall take the sense of the Council as to whether such explanation, retraction, or apology is considered sufficient. If such permission be refused, or if such explanation, retraction, or apology be considered insufficient, the question of order shall be considered and decided before any further business is proceeded with: Provided that if such Mayor or Chairman shall have decided the question of order before any member shall have required the sense of the Council to be taken in reference thereto, such question of order shall not be reopened; and provided further that nothing herein contained shall be held to affect the right of such Mayor or Chairman to decide finally, as hereinbefore provided, upon any such point of order, after the same shall have been discussed.

*Decision of points of order.*

53. The Mayor or Chairman when called upon to decide points of order or practice, shall state the provision, rule, or practice which he shall deem applicable to the case, without discussing or commenting upon the same.

*Motions out of order to be rejected—Members to explain, retract, or apologise, &c.*

54. Whenever it shall have been decided as aforesaid that any motion, amendment, or other matter before the Council is out of order, the same shall be rejected; and whenever anything said or done in Council by any Alderman shall be similarly decided to be out of order, such Alderman shall be called upon by the Mayor or Chairman to make such explanation, retraction, or apology, as the case may require.

*Penalties for persisting in disorderly conduct.*

55. Any members of the Council who shall have been called to order and who, after having been twice requested to withdraw as aforesaid, shall refuse to do so, or who shall persist in any line of conduct or argument, or of observations, which shall have been decided as aforesaid to be disorderly, or who shall refuse to make such explanation, retraction, or apology as aforesaid, when required so to do, or who shall be guilty of any other act or disorder, as defined in section 49 of this Part of these By-laws, and shall refuse to make such explanation, retraction, or apology as the majority of the Aldermen then present shall consider satisfactory, shall be liable on conviction for the first offence to a penalty of not less than ten shillings nor more than five pounds, and on a second conviction for the like offence he shall be liable to a penalty of not less than one pound or more than ten pounds; and on the third conviction, and for every further conviction, for the like offence he shall be liable to a penalty of not less than two pounds nor more than twenty pounds.

*Power of Council as to altering rules on points of order.*

56. Any Alderman who is dissatisfied with the decision of the Mayor or Chairman on any such question of order or of practice, may by motion or notice respectfully worded, invite the Council to lay down a different rule or principle for the determination of any similar questions of order or of practice which may thereafter arise. Any rule or principle thus laid down shall be binding upon all parties unless and until it be rescinded, but shall have no retrospective operation.

*Mode of voting.*

*How questions are to be put.*

57. The Mayor or Chairman shall put to the Council all questions on which it shall be necessary that a vote be taken, and shall declare the sense of such Council thereon; and he shall be at liberty to put any such question as often as may be necessary to enable him to form and declare his opinion as to the opinion of the majority.

*Divisions—Penalty for refusing to vote.*

58. Any Alderman shall be at liberty to call for a division, in such case the question shall be put first in the affirmative and then in the negative; and the Aldermen shall vote by show of hands, and the names and votes of the Aldermen present shall be recorded. Any Alderman who shall be present when a division is called for and shall not vote on such division, not being disabled by law from so voting, shall be liable for every such offence to a penalty of not less than ten shillings nor more than five pounds.

*Protests.*

*Mode of protesting—Protest to be recorded, but may under certain circumstances be expunged.*

59. Every member of the Council (the Mayor included) may protest against any resolution or vote by the Council; notice of the intention so to protest must however be given at the meeting when such resolution is passed, or such vote is arrived at, and the protest itself must be handed or sent to the Council Clerk not later than seven days after such notice. The Council Clerk shall enter every such protest in the Minute-book, but if, in the opinion of the Council, it be inconsistent with the truth, or disrespectfully worded, it may (by resolution or notice) be ordered to be expunged. In such case the expunction shall be made by drawing a perpendicular line with the pen through the entry of such protest, with reference in the margin to the resolution ordering such expunction.

*Committees of the whole Council.*

*Business in Committee.*

60. The business Committees of the whole Council shall be conducted in accordance with the rules hereinbefore provided for meetings of the Council as nearly as the same shall apply, except that it shall not be necessary that any motion or amendment in Committee shall be seconded.

*Disorderly conduct in Committee—Refusal to vote.*

61. Whenever any member of the Council shall, while the Council is in Committee of the whole, be considered guilty of any offence against good order within the meaning of section 49 of this Part of these By-laws, it shall be competent to any Alderman to move that the Council resume its sitting, and that such matter be reported; and if such motion be carried such matter shall be reported accordingly, and an entry of such report shall be made in the Minute-book; and whenever any Alderman shall have failed to vote on any occasion in Committee of the whole Council as required by section 58 of this Part of these By-laws, the fact shall be reported to the Council, and such report on such facts shall be duly recorded in the Minute-book: Provided that in the case of an Alderman failing to vote as aforesaid, no special motion that the Council resume its sitting shall be necessary, but it shall be the duty of the Chairman of such Committee of the whole, in making his report of the proceedings in such Committee, whenever such report be made, to include in such report a statement of such failure to vote as aforesaid, and of the question as to which such Alderman has so failed to vote.

*Decisions in Committee on points of order may be reported.*

62. Whenever a decision upon any question of order shall have been given by the Chairman of a Committee of the whole Council, under the provisions of section 48 of this Part of these By-laws, any Alderman may move that such decision be embodied in the report to the Council of the proceedings in such Committee; and if such motion be carried, such decision shall be so embodied in such report, whenever the same shall be made.

*How progress may be reported, &c.*

63. Any Alderman may at any time during the sitting of a Committee of the whole Council move that the Chairman report progress (or no progress as the case may be), and leave be asked to sit again at a later period of the same day, or on some other day, or that no leave be asked to sit again; and if any such motion be carried the Council shall resume its sitting, and a report shall be made accordingly; but no discussion shall be permitted on any such motion, and if the same be negatived, the subject then under consideration shall be discussed before another such motion shall be receivable.

*Reports of proceedings in Committee—Want of quorum in Committee.*

64. All reports of proceedings in Committee of the whole Council shall be made to the Council viva voce by the Chairman of such Committees, and a report of such proceedings shall be made in every case, except when it shall be found, on counting the number of members during the sitting of any such Committee, that there is not a quorum present. In the latter case the sitting of the Council shall be resumed without any motion for that purpose, and the proceedings in Committee shall be considered to have lapsed: Provided, that in making any such report as aforesaid, it shall not be necessary to report any such proceedings in extenso, but only to state the result, general effect, or substance of such proceedings.

*How reports are to be dealt with.*

65. All such reports of proceedings in Committee of the whole Council shall be recorded in the Minute-book; but except as hereinafter mentioned, no such report shall be considered as adopted by the Council, nor shall any such application as aforesaid for leave to sit again be considered to have been granted by such Council, until the motion shall have been made and passed for such adoption, or for the granting of such leave. And every such motion for the adoption of a report or for the granting of leave as aforesaid, and the order of debate on such motion, shall be subject to all the same rules as other

motions in Council, and the order of debate on such other motions: Provided, however, that where a report shall have been made under section 61 of this Part of these By-laws, of disorderly conduct in Committee, or under section 58 of this Part of these By-laws, of failure to vote at division, or of any decision in Committee upon any question of order, such report shall, so far as it relates to such facts, be regarded and recorded as a statement thereof; and to that extent shall not, unless for the correction of a manifest error, be interfered with on any pretext whatever.

#### *Calls of the Council.*

How call may be ordered.

66. A call of the Council may be order by any resolution of which due notice shall have been given for the consideration of any motion or matter of business before such Council.

Such call compulsory in certain cases.

67. There shall, without any order to that effect be a call of the Council for the consideration of every motion which may be made under section 56 of this Part of these By-laws, and of every motion for the rescission of any resolution, order, or decision of such Council.

Mode of proceeding.

68. The call shall be made immediately before the motion or business for which such call has been ordered, or is required to be made by the last preceding section, shall be moved or considered, such call shall be made as follows:—The Council Clerk shall call the names of all the members in their alphabetical order; each member present shall answer to his name as so called; and if any members are absent a record shall be made of such absence; but if leave of absence to any such member shall have previously been granted, or if such an excuse in writing shall have been forwarded to the Mayor or Council Clerk, as a majority of the Council then present shall consider satisfactory, such absent member shall stand excused, and a record shall be made of such excuse and of the reasons for the same.

#### *Penalty for absence without legal excuse.*

Further call when question adjourned.

69. Any member of the Council who, having had notice of such call of the Council, shall not answer to his name as aforesaid, or who, being absent, shall not be legally excused as aforesaid, or who, if absent, and not so excused, shall fail to show that by reason of extreme illness or any other sufficient cause he has been unable to send an excuse in writing as aforesaid, or who, having answered to his name as aforesaid, shall not be present when a vote is taken on the motion or business as to which such call has been made as aforesaid, shall for every such offence be liable to a penalty of not less than ten shillings nor more than five pounds: Provided that if the consideration of every such motion or matter of business be adjourned to a future day, there shall be a further call on the resumption of such consideration; and the provisions herein as to penalties for absence shall have reference to such further call. And if there shall be more than one adjournment this proviso shall be taken to extend to the resumption of the consideration of such motion or matter of business after every such adjournment.

#### *Standing and Special Committees.*

\* Standing Committees.

70. Besides any such special Committees as may from time to time be found necessary, there shall be three standing Committees, namely,—A By-law Committee, a Committee for Works, a Finance Committee, each consisting of not less than three members. These Committees shall be reappointed every year at the first meeting of the Council which shall be holden after the election of the Mayor.

Mode of reappointing standing Committees.

71. The reappointment of the three said first-named Committees may, on resolution of the Council, be made by ballot. In such case a list or lists of the members shall be handed to each member then present, who shall mark against the name of each such member the title of the committee to which, in his opinion, such member ought to belong, and the Mayor or Chairman shall thereupon examine such lists so marked, and shall declare the result. And if there shall be an equal number of votes for the appointment of any two or more members to any one of such first-named Committees, such Mayor or Chairman shall decide which of such members shall be appointed to such Committee.

By-law Committee.

72. The By-law Committee shall prepare for the consideration of the Council drafts of such By-laws as may be required for the good government of the district. They shall also watch over the administration of the By-laws, and of any statute of which the operation has been or may be extended to the district; and shall take such steps as may be necessary for the prevention or punishment of offences against such By-laws or statutes, and for the preservation of public health, order, and decency.

\* Standing Committees may be appointed as required for improvement, lighting, water, hall, library, or general purposes.

Committee for Works.

73. The Committee for Works shall have the general direction of all works ordered or sanctioned by the Council, and the general inspection of all streets, roads, ways, bridges, public reserves, and other public places under the care and management of the Council. They shall also inquire and report from time to time as to such improvements or repairs as they may consider necessary, or as they may be directed by resolution of the Council to inquire and report upon.

Finance Committee.

74. The Finance Committee shall examine and check all accounts, and shall watch generally over the collection and expenditure of the municipal revenues. They shall inquire and report from time to time as to all matters which they may consider to affect, or to be likely to affect the finances of the district, and as to such matters or subjects of the like nature as they may be directed by resolution of the Council to inquire and report upon.

Special Committees.

75. Special Committees may consist of any number of members, and may be appointed for the performance of any duty which may be lawfully intrusted to a Committee, and for which, in the opinion of the Council, a special Committee ought to be appointed; and no standing Committee shall interfere with the performance of any duty which may for the time being have been intrusted to any such special Committee. The appointment of every such special Committee shall be made by resolution, after due notice, and it shall be incumbent on the mover of such resolution to embody therein a statement of the duties proposed to be intrusted to such special Committee. The mover of any such resolution may name therein such members as, in his opinion, ought to constitute such Committee, or he may propose that such committee consist of a certain number of members, to be appointed by ballot; and in the latter case, or if an amendment to the effect that such special Committee be appointed by ballot be carried, each member then present shall receive a list of all the members of the Council, from which list he shall strike out all names but those of the persons of whom, in his opinion, such special Committee ought to be composed, and the Mayor or Chairman shall examine such list and shall declare the result. And in the event of its becoming necessary, through an equality of votes, to decide as to which of two or more Aldermen shall serve on such Committee, such Mayor or Chairman shall so decide.

Chairman of Committee.

76. Every Committee of which the Mayor shall not be a member shall elect a permanent Chairman of such Committee within seven days after their appointment.

Committee meeting—how called.

77. The Council Clerk shall call a meeting of any Committee when requested so to do by the Chairman or any two members of such Committee.

Records of transactions in Committee.

78. The Chairman of each standing Committee shall make, or cause to be made, in a book to be kept by him for that purpose, memoranda of all the transactions of such Committee, which book he shall, on ceasing to be such Chairman, hand over to his successor.

Expenditure.

Except in emergent matters cost of all work to be estimated before undertaken.

79. With the exception of emergent matters hereinafter specially provided for, no work affecting the funds of the district shall be undertaken until the probable expense thereof shall have been first ascertained by the Council.

Emergent matters and necessary current expenses—Expenses authorised to be reported—Outlay to be in accordance with order of the Council.

80. For emergent matters and for necessary current expenses during the intervals which may elapse between the meetings of the Council outlays to the following extent may be incurred:—

1. By order of the Committee of Works or of the Mayor and one member of such Committee for repairs or emergent works, to the extent of five pounds.
2. By order of the Mayor for necessary current expenses, to the extent of two pounds.
3. By order of the Mayor and any two Aldermen, or, without the Mayor, of any four Aldermen, for any emergent purpose, to the extent of five pounds.

Provided that in every case a detailed report in writing of every such outlay shall be laid before the Council at its next meeting, such report to be signed by the Chairman of the Committee of Works or the Mayor, or the Mayor and Aldermen, or the Aldermen without the Mayor, as the case may be, by whom such outlay shall have been authorised; also, that such outlay shall only be permissible in reference to matters coming strictly within the jurisdiction or functions of the Council, and that no outlay involving a disobedience of any order or resolution of such Council shall on any pretence be thus authorised.

permit or suffer slops, suds, night-soil, sewerage matter, or filth of any kind to flow or be cast from his or her premises into any such water-course, water-hole, creek, or canal, or who shall permit or suffer any such slops, suds, night-soil, sewerage matter or filth to flow from his or her premises over any of the footways or streets of the Borough, or shall permit or cause by means of pipes, shoots, channels, or other contrivances, night-soil, sewerage matter, slops, suds, or filth of any kind whatsoever to flow or be cast into any water-course, water-hole, creek, or canal, or shall obstruct or divert from its channel any sewer or water-course, creek, or canal, shall forfeit any sum not exceeding five pounds nor less than one pound, and shall in addition to any such forfeiture, pay the cost of removing such filth or obstruction, or of restoring such water-course or canal into its proper channel.

**Throwing filth on roadways, &c.**

55. If any person shall, in any street, road, lane, or public place, throw, cast, or lay, or shall cause, permit, or suffer to be cast, thrown, or laid, any ashes, rubbish, offal, dung, soil, dead animal, blood, or other filth, or shall kill, slaughter, dress, scald, or cut up any beast, swine, calf, sheep, lamb, or other animal, in or so near to any of the said streets or roads as that any blood or filth shall run or flow upon or over, or be on any carriage or foot way, or shall run, roll, drive, draw, place, or cause, permit, or suffer to be run, rolled, or driven, drawn, or placed upon any footway, any waggon, cart, dray, sledge, or other carriage, or any wheelbarrow, or truck, or any cask, or shall wilfully lead, drive, or ride any horse, or other beast upon any footway aforesaid, shall forfeit and pay a sum not exceeding five pounds.

**Placing goods, &c., on roadways, &c.**

56. If any person shall set or place, or cause or permit to be set or placed, any stall, showboard, basket, or goods of any kind whatsoever, or shall hoop, place, wash, or cleanse, or caused to be hooped, placed, washed or cleansed, any cask or vessel in or upon or over any road, footway, or any public place within the said Borough, or shall set out, lay, or place, or shall cause or procure, permit or suffer, to be set out, laid or placed, any coach, cart, dray, harrow, truck, or other carriage, upon any footway, or if any person shall set or place, or cause to be set or placed, in, upon, or over any of the said carriage or foot ways, any timber, stone, bricks, lime or other materials or things for building whatsoever (unless the same shall be enclosed as hereinafter directed), or any other materials or things whatsoever, or shall hang out or expose, or shall cause or permit to be hung out or exposed, any meat or offal, or other thing or matter whatsoever, from any house or premises over any part of such footways or carriage-ways, or over any area of any house or premises, or any other matter or thing from and on the outside or any part of any house or premises over or next to any such street or road, and shall not immediately remove all or any such matter or things being thereto required by the Council or any officer thereof, and shall not continue and keep the same so removed, or if any person having in pursuance of any requisition as aforesaid, removed, or caused to be removed, any such stall, showboard, basket, goods, coach, cart, dray, harrow, truck, carriage, timber, stone, brick, lime, meat, offal, or other matter or things, and shall at any time thereafter again set, lay, or place, expose, or cause, procure, permit, or suffer to be set, laid, placed or exposed the same or any of them, or any other article or thing whatsoever (save and except as aforesaid) in, upon, or over any of the carriage or foot ways of or next unto any streets or roads as aforesaid, in every such case every person so offending shall forfeit a sum not exceeding two pounds nor less than ten shillings.

**Drawing or trailing timber, &c.**

57. If any person shall haul or draw, or cause to be hauled or drawn upon any part of any street, road, or public place, any timber, stone, or other thing, otherwise than upon wheeled carriages, or shall suffer any timber, stone, or other thing which shall be carried principally or in part upon wheeled carriages, to drag or trail upon any part of such carriage-way, so as to occupy or obstruct the street or road beyond the breadth of the said carriage, every such person so offending shall forfeit and pay for every such offence the sum of two pounds over and above the damage occasioned thereby: Provided that such penalty and damages shall not together exceed the sum of five pounds nor be less than one pound.

No turf, gravel, &c., to be removed from streets without leave, &c.

58. Any person who from any part of the roads, streets, thoroughfares, or public places, shall remove or cause to be removed any turf, clay, sand, soil, gravel, stone, or other material, without leave first had and obtained from the officers or persons having lawful charge of such roads, streets, thoroughfares, or public places, or who shall wantonly break up or otherwise damage a part of the said roads, streets, thoroughfares, or public places, shall on conviction forfeit and pay for every such offence any sum not exceeding five pounds nor less than five shillings, and for every subsequent offence shall forfeit and pay a sum of not less than one pound.

No driver to ride on vehicle without a person to guide his beast (vehicle with reins excepted), or to go to a distance from his vehicle, or drive on the wrong side, &c.

59. If the driver of any waggon, cart, dray, or vehicle of any kind, shall ride upon the same in any street, road or thoroughfare, not having some person on foot to guide the animals drawing the same (such vehicles as are drawn by horses, driven or guided with reins only excepted), or if the driver of any carriage or vehicle whatsoever shall be at such a distance from such carriage or vehicle, or in such a situation whilst it shall be passing upon such street, road, or thoroughfare, that he cannot have the direction or government of the horse or horses, or cattle drawing the same, or if the driver of any waggon, cart, dray, coach, carriage, or other vehicle, shall not drive on the left or near side of any such road, street, or thoroughfare; or if any person shall in any manner wilfully prevent any other person or persons from passing him or her, on any vehicle under his or her care, upon such road, street, or thoroughfare; or by negligence or misbehaviour prevent, hinder, or interrupt the free passage of any person, or vehicle, or carriage, in or upon the same, every such driver or person so offending shall forfeit and pay for every such offence a sum not exceeding two pounds nor less than ten shillings.

**Name and place of abode, &c.**

60. The owner of every such waggon, cart, dray, or vehicle of any kind as last above mentioned, who shall allow the same to be driven through the said Borough without having his name and place of abode painted in full length on the off side legibly, the driver or person in charge of any such waggon, cart, or dray as aforesaid, who shall refuse to give his and the owner's name and address, shall forfeit and pay for every such offence a sum not exceeding two pounds nor less than ten shillings.

**Lights on vehicles.**

61. Every person whilst driving, leading, or riding upon any cart, carriage, wain, waggon, luggy, or other vehicle whatsoever, drawn by any horse, ass, mule, or other animal, through any part of the Borough, between the hours of sunset and sunrise, shall carry a lighted lamp affixed in a conspicuous place on the off side of such cart, wain, carriage, buggy, waggon, or other vehicle, under a penalty not exceeding two pounds.

**As to riding or driving improperly through streets, &c.**

62. Any person who shall ride or drive through any road, street, or public place negligently, carelessly, or furiously, or so as to endanger the life or limb of any person, or to the common danger of the passengers, shall forfeit and pay a sum not exceeding ten pounds nor less than one pound.

**Riding or driving round corners, &c.**

63. Any person who shall ride or drive round the corner of any street, road, or public place within the said Borough at a pace faster than a walk, shall on conviction forfeit and pay a sum not exceeding two pounds nor less than ten shillings for every such offence.

**Loading or unloading vehicles, &c.**

64. All vehicles standing in the streets to load or unload goods shall stand parallel with the kerb, and every driver so offending shall forfeit and pay for every such offence a sum not exceeding one pound nor less than five shillings.

**Erection of houses, &c.—Fee for permission.**

65. No person shall be permitted to erect any house, shop, or other building in any street, lane, or place within the Borough, without having first served notice in writing to the Mayor or Council Clerk before commencing the same, stating his intention and describing the proposed situation of the building or erection, and shall at the time the said notice is given as aforesaid, pay to the Council Clerk a fee of five shillings for permission to erect any such fence, house, shop, or building in any street, lane, or other place within the said Borough, and every owner thereof, and every contractor for such house, shop, or building, or any part thereof, commencing to build or work thereon without such notice having been given, shall forfeit and pay for every such offence any sum not exceeding two pounds nor less than ten shillings.

**Affixing placards on walls, and chalking thereon.**

66. It shall not be lawful for any person to paste or otherwise affix any placard or other paper upon any wall, fence, house, or building, nor to deface any such wall, fence, house, or building, by chalk or paint, or in any manner, unless with the consent of the owner thereof; and any person who shall be guilty of any such offence shall forfeit and pay a sum not exceeding ten shillings.

**Swine, &c., not to wander about streets.**

67. Any person who shall feed, breed, or keep any kind of swine in any house, yard, or enclosure, situated and being in or within forty yards of any street or public place, or any dwelling-house in the Borough, or who shall suffer any kind of swine, or any horse, ass, cattle, mule, sheep, goat, or any other animal of like nature belonging to him or her, or under his or her charge, to stray or to go about, or to be tethered or depastured in any street, road, or public place within the Borough, shall forfeit and pay for every such offence a sum not exceeding two pounds nor less than ten shillings.

## Restrictions on certain trades, &amp;c.

93. It shall not be lawful for the business of a soap boiler, tallow melter, tripe boiler, tanner, currier, pig keeper, or any other occupation, trade, or manufacture of an obnoxious or unwholesome nature, prejudicial to the health of, or otherwise offensive, to any of the inhabitants thereof, to be commenced or established within the limits of this Borough without consent of the Council first had and obtained; and whosoever shall offend against this By-law shall forfeit and pay on conviction a penalty not exceeding fifty pounds nor less than ten pounds, and a further sum of two pounds for each and every day during which he continues to offend.

## Hours for removing night-soil, &amp;c.

99. Any person who shall remove any night-soil ammoniacal liquor, bones, or other offensive matter, or shall come with carts or carriages for that purpose, between the hours of eleven o'clock at night and five o'clock in the morning, or shall at any time remove any such night-soil or ammoniacal liquor, otherwise than in properly covered and water-tight carts or vehicles, or in such a manner so as to upset, cast, spill, or strew any of the said night-soil, ammoniacal liquor, slops, urine, or filth, in or upon or near to any of the streets, roads, public places, or footways of the Borough; or shall deposit or throw night-soil, ammoniacal liquor, bones, or other offensive matter nearer to any street, road, or dwelling-house, than shall from time to time be directed by the Council, or by the Inspector of Nuisances, or shall allow vehicles used for this purpose to stand on any premises nearer to any road, street, dwelling-house, other than shall from time to time be directed by the Council or Inspector, shall upon conviction forfeit and pay for every such offence a sum not exceeding five pounds nor less than one pound; and in case the person or persons so offending cannot be found, then the owner or owners of such carts, carriages, or other vehicles employed in or about employing or removing such night-soil, bones, or other offensive matter, and also the employer or employers of person or persons so offending shall be liable to and forfeit and pay such penalty as aforesaid.

100. If any person shall take away night-soil from any house or premises within the said Borough, or shall come with carts or carriages for that purpose, except between the hours of eleven at night and five in the morning, or if any person or persons shall cast, or permit to leak or slop out of any cart or tub, or otherwise, any night-soil in or near any of the streets or public places, he shall forfeit and pay a penalty of five pounds for every such offence, and in case the person or persons so offending cannot be found, then the owner or owners of such cart, carriage, or other vehicle employed in and about emptying and removing such night-soil, and also the employer or employers of the person or persons so offending, shall be liable to and forfeit and pay such penalty as aforesaid.

## Inspection of premises, yards, &amp;c.—To be kept clean.

101. Upon the reasonable complaint of any householder that the house, premises, yards, closets, or drains of the neighbouring or adjoining premises are a nuisance or offensive, the Inspector of Nuisances, or other person appointed by the Council, shall make an inspection of the premises complained of; and the officers of the Council shall have full power, without any other authority than this By-law, to go upon such premises for the aforesaid purpose. Any owner or occupier of any house, place, or land within the said Borough who shall neglect to keep clean all private avenues, passages, yards, paddocks, and ways, within, attached to, or occupied in conjunction with the said house or place, so as by such neglect to cause a nuisance by offensive smell or otherwise shall forfeit a sum not exceeding two pounds and not less than ten shillings.

## Definition of "noisome and offensive trades."

102. Any manufacture, trade, calling, or operation in the conducting, following, or carrying on of which, or in consequence of or in connection therewith, or from the premises where the same is conducted, followed, or carried on, any gas, vapour, or effluvia, or any large quantities of smoke shall be evolved or discharged, which gas, vapour, effluvia, or smoke shall be calculated to injure or be a nuisance to the inhabitants of the said Borough, shall be considered a "noisome and offensive trade" within the meaning of these By-laws.

Complaint.—Inquire and report.—Order of Council thereon.—Notice to discontinue, &c.—Penalty.

103. Upon complaint in writing by any householder that any noisome or offensive trade is being so followed or conducted, or carried on in the vicinity of his or her residence or property as to injure his or her health, or the health of any member of his or her family, or to be a nuisance to such householder, and to his or her family, the Inspector of Nuisances, or any other person or persons appointed by the Council, shall make an inspection of the premises where such trade is alleged to be so conducted, followed, or carried on as aforesaid, and of the premises or property of the complainant, and shall inquire into the grounds for such complaint, and shall report thereon to the said Council. And if the said Council shall, on the consideration of such report, or after any further inquiry as may be deemed necessary, be of opinion that the said complaint is well founded, and that any manufacture, trade, calling, or operation so complained of, and so being conducted,

followed, or carried on as aforesaid, is a "noisome and offensive trade" within the meaning of these By-laws, notice shall be given to the person or persons conducting, following, or carrying on such trade to cease and discontinue the same within such reasonable time, not less than fourteen days nor more than twenty-eight days, as the Council may direct, or so to conduct, follow, or carry on his, her, or their manufacture, trade, calling, or operation, as that within such reasonable time as aforesaid, the same shall wholly and permanently cease to be noisome and offensive within the meaning of these By-laws, either to the said complainant or to any other resident within the said Borough. And if such trade shall not be discontinued as aforesaid, or shall not be so conducted as that it shall wholly cease to be noisome and offensive as aforesaid, within the time named in such notice as aforesaid, any person conducting, following, or carrying on such trade as aforesaid shall for the first offence forfeit and pay a sum not less than forty shillings nor more than five pounds, for a second offence a sum of not less than five pounds nor more than twenty-five pounds, and for a third and every subsequent offence a sum of not less than ten pounds nor more than fifty pounds.

## Discharging firearms, &amp;c.

104. Any person who shall discharge any firearms without lawful cause, or let off any fireworks or other explosive matter, in or near to any road or street, shall forfeit and pay a sum not exceeding five pounds nor less than one pound.

No rock to be blasted without giving notice to the Surveyor, &c.

105. Any person who shall be desirous of blasting any rock within a distance of fifty yards of any dwelling-house, street, road, or other public place, shall give notice in writing twenty-four hours previously to the said Council or Surveyor thereof, who shall appoint in writing a time when the same may take place, and give such other directions as they or he may deem necessary for the public safety; and if any person shall blast, or cause to be blasted, any rock within the limits aforesaid without giving such notice, or shall not conform to the directions given to him by the said Council or Surveyor, he shall forfeit and pay for every such offence a sum not exceeding twenty pounds nor less than one pound.

## Entrance to cellars, &amp;c.—To be covered, &amp;c.

106. If the owner or occupier of any premises having any rails or bars over the areas or openings to any kitchen or cellars, or other part of the said premises beneath the surface of the footway of any streets or public places, or having any doorway or entrance into the basement or cellar story thereof, shall not either keep the same or the rails of such kitchen, cellars, or other parts in sufficient and good repair, or constantly keep the same securely guarded by rails, or cover the same over with a strong flap or trap door, according to the nature of the case, and so as to prevent danger to persons passing and repassing; or if such owner or occupier shall leave open or not sufficiently or substantially keep covered and secured any coal or other hole, funnel, trap-door, or cellar-flap belonging to or connected with his premises (save and except only during reasonable time for use, alteration, or repair), or if such owner or occupier shall not repair, and from time to time keep in good and substantial repair, all and every or any such rails, guard-rails, flaps, trap-doors, and other coverings, then, and in every such case, the person neglecting so to do shall for every such offence forfeit and pay a sum not exceeding five pounds nor less than two pounds.

## Cellars or openings beneath footways prohibited.

107. It shall not be lawful for any person to make any cellar or any opening, door, or window in or beneath the surface of the footway of any road, street, or public place within the said Borough except by permission of the Council; and if any person shall so offend he shall forfeit and pay any sum not exceeding five pounds over and above the expense of remedying or removing any such cellar, opening, door, or window, such expense to be assessed and allowed by the convicting Justices; Provided that such expense and penalty shall not together exceed fifty pounds.

## Wells to be covered over, &amp;c.

108. Every person who shall have a well situated between his dwelling-house or the appurtenances thereof and any public place, road, street, or footway within the limits of the said Borough or at the side of such public place, road, street, or footway, or in any yard or place open and exposed to such public place, road, or footway shall cause such well to be securely and permanently covered over; and if any person having such well as aforesaid shall fail to cover and secure the same within twenty-four hours after notice in writing shall have been given him or her by any officer of the said Council, or shall have been left at such person's usual or last known abode or at the said premises, in the manner and with such materials as the Council or its officer shall direct, and to their satisfaction, such person shall forfeit and pay a sum not exceeding ten shillings nor less than five shillings for every day that such well shall remain open or uncovered contrary to the provisions hereof: Provided that with respect to wells open at the time when this By-law shall come into operation such penalty shall not be recoverable if the same be properly covered within one week thereafter.

## PART III.

## Preventing or extinguishing fires.

1. If any chimney accidentally catch or be on fire, the person occupying or using the premises in which such chimney is situated shall forfeit a sum not exceeding forty shillings: Provided always that such forfeiture shall not be incurred if such person prove to the satisfaction of the Justices before whom the case is heard, that such fire was in no wise owing to the omission, neglect, or carelessness, whether with respect to cleansing such chimney or otherwise, of himself or his servant.

## Setting fire to matter without notice.

2. Every person who shall wilfully set fire to any inflammable matter whatsoever in the open air within five yards of any dwelling-house or other building or boundary or dividing fence within the said Municipality, without having given notice in writing to the occupiers of the land adjoining to the land upon which such matter shall be, of his intention so to do, or between the hours of six in the afternoon of any day and six in the morning of the following day, shall for every such offence forfeit a sum not exceeding five pounds.

## Fireworks.

3. Every person who, without leave of the Council previously had and obtained, shall light any bon-fire, tar-barrel, or fireworks upon or within sixty yards of any public or private street, or any public place, or who shall sell gunpowder, squibs, rockets, or other combustible matter by gas, candle, or other artificial light, shall forfeit for every such offence a sum not less than ten shillings nor more than ten pounds.

## PART IV.

## Notices, streets, and public places—Public health and decency, &amp;c.—Mode of calling for tenders.

1. Whenever it is decided that any work shall be executed or any materials supplied by contract, tenders for the execution of such work or the supply of such material shall be called for by public notice as hereinafter provided.

## Drafts of intended By-laws.

2. A draft of every intended By-law shall lie in the office of the Council for at least seven days before such draft shall be taken into consideration by such Council, and shall be open to the inspection of any ratepayer who may desire to inspect the same; and public notice shall be given as hereinafter provided that such draft is so lying for inspection.

## How notices are to be published.

3. In all cases where public notice is or shall be required to be given by any By-law of any appointment, resolution, act, order, or regulation of the Council, or any Committee thereof, or by the Mayor or any officer of the said Council, such notice shall be given and published by posting the same on or near the outer door of the Council Chambers for the space of seven days, and by advertising the same twice in some newspaper circulating in the Municipality.

## Persons obstructing officers of the Council.

4. Any person or persons who shall obstruct any officer of the said Council while in the performance of his duty, or who shall interfere with any officer of the said Council, doing or performing, or going to perform, or returning from the performance of any duty or act under these By-laws by using any threats, offensive language, hindrance, or insulting language towards the said officer in any street, road, or other place within the said Municipality, shall forfeit and pay for every such offence a penalty not exceeding twenty pounds nor less than two pounds.

## Kerbing to be fixed.

5. In all cases where owners of property apply for kerbing to be fixed on edge of footpath such kerbing shall not be done by the Council until all rates due by such owners of property, together with one-half the estimated cost of such kerbing is paid.

## Injury to kerb-stones, guttering, &amp;c., &amp;c.

6. No driver, carter, or other person shall wilfully or negligently do or suffer or cause to be done any damage or injury to the kerb-stones, guttering, or pathways of any street or roadway, and no person shall be at liberty to ride on horseback or drive a wheeled vehicle of any kind on the footways.

## Careless riding or driving.

7. No person shall ride or drive through or upon the streets or any public place so negligently, carelessly, or furiously that the safety of any other person shall or may be endangered, any person infringing this By-law shall on conviction forfeit and pay a sum not exceeding ten pounds nor less than two pounds.

## Erection of house.

8. No person shall be permitted to erect any house, shop, or other building in any street, lane, or place within the said Municipality, without first serving seven days' notice in writing on the Mayor or Council Clerk or other duly authorised officer before commencing the same, stating his intention and giving particulars of the proposed building; and every owner of, and

every contractor for such house, shop, or other building, or any part thereof commencing to build or work thereon without such notice having been given shall forfeit and pay for every such offence any sum not exceeding forty shillings nor less than five shillings.

## Pipes, gutters, &amp;c.

9. It shall not be lawful for any person to carry by means of pipes, gutters or other contrivances any rain-water from the roof of his or her premises or house upon any of the footways of any street or public place within the said Municipality; and any owner or occupier of any such house or premises who shall refuse or neglect to remedy or remove any such pipes, gutters, or contrivances when required to do so by any officer of the said Council shall on conviction forfeit and pay any sum not exceeding two pounds nor less than five shillings: Provided that the owner or occupier of any such premises or house may convey any such rain-water by means of pipes laid under the surface of any such footways into the gutter adjoining the same, subject to the approval of the Committee for Works or other duly authorised officer.

## No balcony, &amp;c., to project.

10. With regard to buildings hereafter to be built or rebuilt, it shall not be lawful for any awning, verandah, portico, balcony, coping, parapet, overhanging eaves, cornice, windows, string-cornice, string-course, dressing, or other architectural decoration forming part of, or attached to, any external wall to project beyond the building line of any street or road except with the consent of the Council first obtained; nor shall any balcony or any other external projection as aforesaid which may hereafter be added to any existing building be allowed to project as aforesaid under a penalty not exceeding five pounds nor less than one pound, except with the consent of the Council first obtained: Provided that no such awning, verandah, portico, or balcony shall be permitted to be erected in any street less than thirty feet wide: Provided also that any person desiring to erect any such structure shall first submit a plan for the approval of the Council.

## Encroachments must be removed on notice.

11. The surveyor or other such officer or person may at any time, on the order of the Council and upon due notice of thirty days, direct the removal of any building, fence, or other obstruction or encroachment in and upon any road, street, lane, or thoroughfare under the charge of the Council. Notice shall in this case be served either personally or at the usual or last known place of abode of the person to whom such obstruction or encroachment in structure belongs or who has erected the same or caused it to be erected.

## Council may remove encroachments.

12. In any case where, after service of notice for the removal of any obstruction or encroachment as aforesaid, the person causing the same shall not remove it within a reasonable time, it shall be lawful for the Council to direct the removal of the same under the superintendence of its own proper officer and at the cost of the person so offending: Provided that the expenses thereby incurred shall in no case exceed the sum of ten pounds, or, at the Council's option, to proceed against the offender for breach of By-law,—the penalty not to exceed twenty-five pounds nor be less than one pound; and in case of every successive offence the penalty on conviction not to be less than five pounds.

## Or may proceed by action.

13. In every case where the obstruction or encroachment cannot be removed unless at a greater cost than ten pounds, it shall be open to the Council, either to direct such removal and to pay all the costs thereof above ten pounds from the funds of the Council, or to proceed by action for trespass against the person causing such obstruction or encroachment, or to proceed as for a breach of such By-laws as aforesaid.

## No turf, gravel, &amp;c., to be removed from streets without permission.

14. Any person who shall form, dig, or open any drain or sewer, or remove or cause to be removed, any turf, clay, sand, soil, gravel, stone, or other material, in or from any part of the carriage or foot way of any street or other public place within the said Municipality, without leave first had and obtained from the Council, or who shall wantonly break up or otherwise damage any such carriage or foot way, shall on conviction forfeit and pay for every such offence any sum not exceeding five pounds nor less than one pound.

## Holes to be enclosed.

15. Any person or persons who shall dig or make, or cause to be dug or made, any hole, or leave or cause to be left any hole, adjoining or near to any street or public place within the said Municipality, for the purpose of making any vault or vaults, or foundation to any house or building, or for any other purpose whatsoever, or shall erect or pull down any building and shall not first enclose the same and keep the same enclosed in a good and sufficient manner, to the satisfaction of the Committee for Works of the said Municipality, or shall keep up or cause to be kept up and continued any such enclosure for

any time which shall be longer than shall be absolutely necessary in the opinion of the said Committee, and shall not place lights upon each side of the said enclosure, and keep the same constantly burning from sunset to sunrise during the continuance of such enclosure, shall forfeit and pay for every such refusal or neglect any sum not being less than forty shillings nor exceeding five pounds.

*Temporary stoppage of traffic for repairs, &c.*

16. The Committee for Works, or any officer or person acting under the authority of such Committee, may at any time cause the traffic of any street, lane, or thoroughfare, or any portion thereof, to be stopped for the purpose of repairing the same, or for any necessary purpose; and any person or persons offending against this By-law, either by travelling on such street, lane, or thoroughfare, or by removing or destroying any obstruction that may be placed thereon for the purpose of suspending the traffic, shall forfeit and pay a penalty of any sum not exceeding five pounds for every such offence.

*Drawing or trailing timber, &c.*

17. Any person who shall haul or draw, or cause to be hauled or drawn, upon any part of any street or public place within the said Municipality, any timber, stone, or other things otherwise than upon wheeled vehicles or barrows, or shall suffer any timber, stone, or other thing which shall be carried principally or in part upon any wheeled vehicle or barrow, to drag or trail upon any part of such street or public place, to the injury thereof, or to hang over any part of any such vehicle or barrow, so as to occupy or obstruct the street beyond the breadth of the said vehicle or barrow, shall upon conviction forfeit and pay for every such offence a sum of not more than forty shillings nor less than five shillings over and above the damages occasioned thereby.

*Driving carriages, &c., on footways, and throwing filth, &c.*

18. Any person who shall throw, cast, or lay, or shall cause, permit, or suffer to be thrown, cast, or laid, or to remain any ashes, rubbish, offal, dung, soil, dead animal, blood, or other filth or annoyance, or any matter or thing, in or upon the carriage-way or footway of any street or other public place in the said Municipality, or shall kill, slaughter, dress, scald, or cut up any beast, swine, calf, sheep, lamb, or other animal, in or so near to any such street or other public place as that any blood or filth shall run or flow upon or over, or be on any or either of any such carriage or foot way; or shall run, roll, drive, draw, place, or cause, permit, or suffer to be run, rolled, driven, drawn, or placed upon any of the said footways of any such street or public place, any waggon, cart, dray, or other carriage, or any wheel, wheel-barrow, hand-barrow, or truck, or any hoghead, cask or burrel, or shall wilfully lead, drive, or ride any horse, ass, mule, or other beast upon any footway shall upon conviction forfeit and pay for the first offence a sum not exceeding forty shillings nor less than five shillings; for the second offence a sum not exceeding five pounds nor less than ten shillings; and for the third and every subsequent offence a sum not exceeding ten pounds nor less than one pound for each such offence; and should the person in charge of such waggon, cart, dray, or other vehicle refuse to give his name and address, the owner of the same may be prosecuted under this By-law for causing a breach of the same.

*Riding on drays, careless driving, camping on roads, streets, &c.*

19. If the driver of any waggon, cart, or dray of any kind shall ride upon any such carriage in any street as aforesaid, not having some person on foot to guide the same (such carts as are drawn by one horse and driver, or guided with reins only, excepted), or if the driver of any carriage whatsoever shall wilfully be at such distance from such carriage, or in such situation whilst it shall be passing upon such street that he cannot have the direction and government of the horse or horses, or cattle drawing the same; or if the driver of any waggon, cart, dray, or coach, or carriage whatsoever meeting any other carriage shall not keep his waggon, cart, dray, or coach, or other carriage, on the left or near side of the road, street, or thoroughfare; or if any person shall in any manner wilfully prevent any other person or persons from passing him or her, or any carriage under his or her care upon such street; or by negligence or misbehaviour prevent, hinder, or interrupt the free passage of any carriage or person in and upon the same; or any person or persons camping with teams or otherwise in and upon any street, road, or public thoroughfare so as to obstruct the traffic thereon,—every such driver or person so offending shall upon conviction forfeit and pay any sum not exceeding forty shillings.

*Public Property.*

*Damaging trees.*

20. Any person who shall wilfully, and without the authority of the Council, cut, break, bark, root up, or otherwise destroy or damage the whole or any part of any tree, sapling, shrub, or underwood growing in or upon any street or place under the management of the Council, shall forfeit any sum not exceeding ten pounds nor less than one pound.

*Nuisances.*

Dead animals, &c., not to be thrown into any public water-course, &c.

21. Any person who shall cast any filth, rubbish, or dead animal, or any animal, with intent of drowning, into any public water-course, sewer, waterhole, river, creek, road, or pathway, or who shall suffer slops, suds, or filth of any kind to flow from his or her premises into any such water-course, waterhole, river, creek, or canal, or who shall permit or suffer any such slops, suds, or filth to flow from his or her premises over any of the footways or streets of the Municipality, or shall permit or cause by means of pipes, shoots, channels, or other contrivances, filth of any kind whatsoever to flow into any public water-course, waterhole, river, creek, or canal, or shall obstruct or divert from its channel any sewer, or water-course, river, creek, or canal shall forfeit any sum not exceeding five pounds nor less than two pounds.

*Dead animals—Mode of removal.*

22. If any animal shall die in any part of the said Municipality, and the owner of such animal, or the occupier of the place, if private property, where such animal shall have died, shall not cause such animal to be immediately destroyed by fire, or so effectually removed and disposed of that no nuisance can possibly result therefrom in any part of the said Municipality, he shall for every such offence forfeit and pay any sum not exceeding fifty pounds nor less than two pounds.

*Hog-sties to be one hundred feet from streets, and animals suffered to stray, &c.*

23. Any person who shall breed or keep so as to be a nuisance any kind of swine in any house, building, yard, garden, or other place situated and being within one hundred feet of any street or public place in the said Municipality, or shall suffer any kind of swine, or any horse, ass, mule, sheep, goat, cow, or any other animal of a like nature belonging to him or her or under his or her charge to stray or go about, or to be tethered or depastured in any street, road, or public place shall on conviction forfeit and pay any sum not exceeding forty shillings nor less than five shillings for such and every animal so bred, kept, suffered to stray or go about, or to be tethered or depastured in any street, road, or public place as aforesaid, and the owner or occupier of any house or premises or other place within the said Municipality, wherein any such swine, horse, ass, mule, sheep, goat, cow, or other animal is kept, fed, milked, or used in any way whatsoever shall, within the meaning of these By-laws, be deemed the owner of every such animal so bred, kept, suffered to stray, or to be tethered or depastured in any such street or public place as aforesaid. And the words any "house," "building," "yard," "garden," or "other place" wherein any kind of swine shall be bred or kept as aforesaid shall, respectively, be deemed hog-sties within the meaning of these By-laws; and word "horses" shall be sufficient designation for any entires, geldings, mares, or foals; and the word "cattle," for any bulls, oxen, cows, or calves when more than one is the subject of any information and summons under the provisions of these By-laws.

*Complaints respecting dirty premises.*

24. Upon the complaint of any householder that the house, premises, yards, closets, or drains of the neighbouring or adjoining premises are a nuisance or offensive, the Inspector of Nuisances or any other officer appointed by the said Council shall make an inspection of the premises complained of; and the officer of the said Council shall have the full power, without any other authority than this By-law, to go upon such premises for the aforesaid purpose; and any person who shall personally, or by any person in his employment or under his control, suffer any waste or stagnant water, or any muck, filth, soil, or other offensive matter in any cellar or place within any dwelling-house or premises within the said Municipality, or shall in like manner suffer the contents of any water-closet, privy, or cesspool to overflow or soak therefrom, shall for every such offence forfeit and pay a sum not exceeding five pounds nor less than one pound.

*Various obstructions and annoyances.*

25. Every person who, in any street or other public place or passage within the said Municipality, to the obstruction, annoyance, or danger of the residents or passengers, shall commit any of the following offences, shall on conviction for any and every such offence forfeit and pay a penalty of not more than two pounds:—

- (1.) Every person who shall hoist, or cause to be hoisted, or lower, or cause to be lowered, goods of any description from any opening in any house fronting any street or public place, and close to the footway, without sufficient and proper ropes and tackling.
- (2.) Every person who shall carry or convey, or cause to be carried or conveyed, in any street or public place, the carcase or any part of the carcase of any newly-slaughtered animal without a sufficient and proper cloth covering the same, for the concealment from public view, or shall hawk or carry about butcher's meat without covering the same as aforesaid.

- (3.) Every person who shall place any line, cord, or pole across any street, lane, or passage, or hang or place clothes thereon, or allow any tree or shrub overhanging the footpath, to the danger or annoyance of any person.
- (4.) Every person who shall throw or cast from the roof, or any part of any house or other building, any slate, brick, part of a brick, wood, rubbish, or other material or thing (unless within a hoard or enclosure when any house or building is being erected, pulled down, or repaired).
- (5.) Every person who shall, within the distance of one hundred yards from any dwelling-house, burn any rags, bones, or other offensive substance, to the annoyance of any inhabitant.
- (6.) Every person who shall carry goods or any frame to the annoyance of any person upon the footway of any street or other public footway.
- (7.) Every person who shall be the keeper of, or have any dog or other animal which shall attack or endanger the life or limb of any person who may have the right-of-way or use of any private yard, alley, street, or any other place within the said Municipality.

*Offences against public decency.*

*Bathing prohibited within certain limits.*

26. Any person who shall bathe near or within view of any inhabited house, or of any public bridge, street, road, or other place of public resort within the limits of the said Municipality, between the hours of six o'clock in the morning and eight in the evening, shall on conviction forfeit and pay a sum not exceeding one pound for every such offence.

*Penalty for indecent exposure of the person.*

27. Any individual who shall offend against decency by exposure of his or her person in any street or public place within the said Municipality, or in the view thereof, shall on conviction forfeit and pay for every such offence a sum not exceeding ten pounds nor less than five pounds.

*Rubbish or offensive matter.*

28. No kind of rubbish or offensive matter shall be thrown upon any public or private property within the town without permission first obtained from the Municipal Council, and the owner or owners of such property. Persons found guilty of a breach of this By-law shall forfeit and pay for every such offence a sum not exceeding two pounds nor less than ten shillings.

**PART V.**

*Noisome and offensive trades.*

No noisome or offensive trades to be carried on to injury of any inhabitants.

1. No person shall carry on any noisome or offensive trade within the said Municipality so as to injure or be a nuisance as hereinafter stated to the inhabitants thereof.

*Definition of noisome and offensive trades.*

2. Any manufacture, trade, calling, or operation in the conducting, following, or carrying on of which, or in consequence of or in connection wherewith, or from the premises where the same is conducted, followed, or carried on, any gas, vapour, or effluvia, or any large quantities of smoke shall be evolved or discharged, which gas, vapour, effluvia or smoke shall be calculated to injure animal or vegetable life, or in any other way to injure or to be a nuisance to the inhabitants of the said Municipality shall be considered a noisome and offensive trade within the meaning of these By-laws.

*Complaint—Inquire and report—Order of Council thereon—Notice to discontinue, &c.—Penalty.*

3. Upon complaint, in writing by any householder, that any noisome or offensive trade is being so followed, conducted, or carried on in the vicinity of his or her residence or property as to injure his or her health, or the health of any member of his or her family, or to be a nuisance to such householder, and to his or her family, the Inspector of Nuisances, or any other person or persons appointed by the Council, shall make an inspection of the premises where such trade is alleged to be so conducted, followed, or carried on as aforesaid, and of the premises or property of the complainant, and shall inquire into the grounds for such complaint, and shall report thereon to the said Council. And if the said Council shall on the consideration of report, after any further inquiry as may be deemed necessary, be of opinion that the said complaint is well founded, and that any manufacture, trade, calling, or operation so complained of, and so being conducted, followed, or carried on as aforesaid is a noisome and offensive trade within the meaning of these By-laws, notice shall be given to the person or persons conducting, following, or carrying on such trade to cease and discontinue the same within such reasonable time, not being less than thirty days nor more than sixty days as the said Council may direct, or so to conduct, follow, or carry on his, her, or their manufacture, trade, calling, or operation, as

that within such reasonable time as aforesaid the same shall wholly and permanently cease to be noisome and offensive, within the meaning of these By-laws, either to the said complainant or to any other resident within the said Municipality; and if such trade shall not be discontinued as aforesaid, or shall not be so conducted as that it shall wholly cease to be noisome and offensive as aforesaid, within the time named in such notice as aforesaid, any person conducting, following, or carrying on such trade as aforesaid, shall for the first offence forfeit and pay a sum not less than forty shillings nor more than five pounds, for a second offence a sum of not less than five pounds nor more than twenty-five pounds, and for the third and every subsequent offence a sum of not less than ten pounds nor more than fifty pounds.

*Mode of proceeding when noisome and offensive trade is about to be commenced—Penalty.*

4. The like proceeding shall be taken as aforesaid whenever there shall be a complaint as aforesaid that any manufacture, trade, calling, or operation is about to be commenced or entered upon which is likely to prove noisome and offensive within the meaning of these By-laws, save and except the notice to be given as aforesaid shall be given to the person or persons about to commence or enter upon such manufacture, trade, calling, or operation, and shall require him, her, or them not to commence or enter upon the same, or to take such measures as shall effectually and permanently prevent the same from becoming noisome and offensive within the meaning of these By-laws to any resident within the Municipality; and any person who shall in any case commence, enter upon, or continue any such manufacture, trade, calling, or operation, so that the same shall be in any way noisome and offensive within the meaning of these By-laws, shall for every such offence forfeit and pay a sum of not less than ten pounds nor more than fifty pounds.

*Inspector of Nuisances may take legal proceedings.*

5. The Inspector of Nuisances or other person appointed by the Council may take legal proceedings against any person or persons committing any offence or offences against any of the By-laws of the said Municipality.

*Penalties to be paid to Treasurer.*

6. All penalties under any of these By-laws shall be paid over to the Treasurer of the said Municipality, to be appropriated as the Council may direct.

*Interpretation of "Mayor" and "Municipality."*

7. Whenever in any of these By-laws the word "Mayor" is made use of, it shall, unless the context shall indicate a contrary intention, be construed also to signify and include any Alderman lawfully acting for the time being in the place or stead of the Mayor; and whenever the word "Municipality" is made use of in the said By-laws it shall be understood to signify the "Municipality of Condobolin."

**PART VI.**

*Public exhibitions, &c.*

*Exhibitions, &c., to be licensed.*

1. No exhibition other than exhibitions licensed by the Colonial Secretary under the provisions of the Act 14 Victoria No. 23, or exhibitions of a temporary character hereinafter specially provided for, shall be held or kept for hire or profit within the said Municipality, nor shall any bowling-alley, dancing saloon, or other place of public amusement other than a place licensed as aforesaid, or a place for temporary amusement hereinafter specially provided for, be used as such, for hire or profit, within the said Municipality, unless and until permission in writing be granted by the Mayor.

*Penalty for exhibiting, &c., without license.*

2. Every person holding or keeping any such exhibition, or using any place within the said Municipality for public amusement as aforesaid, or causing or permitting such place to be so used, without such permission of such Mayor, shall forfeit and pay a sum not less than five shillings nor more than forty shillings for every day that such exhibitions shall be so held or kept, or such place shall be so used for public amusement as aforesaid.

*No exhibitions, &c. on Sundays.*

3. No such exhibition or place of public amusement as aforesaid shall be held or kept open or used for the purposes of such public amusements on Sunday, Christmas Day, or Good Friday; and every person offending against this By-law in this behalf, shall on conviction forfeit and pay a sum not exceeding five pounds nor less than two pounds for every such offence.

Passed by the Municipal Council of Condobolin, on the 8th day of September, 1890.

JAMES TOUGH,  
Council Clerk.

(I.S.) H. W. GREY INNES,  
Mayor.

1891.

## NEW SOUTH WALES.

**MUNICIPALITIES.**

(MUNICIPAL DISTRICT OF WINGHAM—BY-LAWS.)

Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 153.

Colonial Secretary's Office,  
Sydney, 24th February, 1891.

## WINGHAM MUNICIPALITY.—BY-LAWS.

THE following By-laws, made by the Council of the Municipal District of Wingham, under the "Municipalities Act of 1867," having been confirmed by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

*Regulating and Licensing Timber Carriages.*

No timber-carriage, truck, trolley, or other vehicle used for a like purpose, or dray attached for the conveyance of timber or other material, will be allowed to ply or work within the Municipal District of Wingham unless the same be licensed. No timber-carriage, as heretofore mentioned, shall be licensed unless the tires of the wheels be at least five inches in width, and anyone who shall omit or fail to comply with the provisions of this By-law shall forfeit a sum not exceeding five pounds nor less than two pounds.

Made and passed by the Council of the Municipal District of Wingham, this fourteenth day of October, one thousand eight hundred and ninety.

W. H. ELSB, Council Clerk.

(L.S.) HENRY LAMBERT, Mayor.

Existing By-laws No. 31, section 4, and No. 16, section 7, are hereby rescinded.

17th October, 1890.

W. H. ELSB, Council Clerk.

HENRY LAMBERT, Mayor.

## AMENDED BY-LAW.

*Regulating the Keeping of Swine, Straying of Animals, &c.*

ANY person who shall breed, feed, or keep any kind of swine in any house, yard, or enclosure, situated and being within thirty feet of any street or public place in the Municipal District of Wingham, or who shall suffer any kind of swine, or any horse, ass, cattle, mule, sheep, goat, or any other animal of like nature belonging to him or under his charge to stray, or go about, or to be tethered or depastured in any street, road, or other public place within the Municipal District of Wingham between sunset and sunrise (except in the case of swine, which will not be allowed to stray at any hour), shall forfeit and pay for every such offence a sum not exceeding two pounds nor less than five shillings.

Nothing in the above rule will prevent pigs being driven through the Municipal District of Wingham for shipment.

Amended in accordance with opinion of Attorney-General.

26th November, 1890.

W. H. ELSB, Council Clerk.

(L.S.) HENRY LAMBERT, Mayor.



1891.

## NEW SOUTH WALES.

**MUNICIPALITIES.**

(BOROUGH OF WEST MAITLAND—BY-LAW.)

Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 158.Colonial Secretary's Office,  
Sydney, 14th January, 1891.

## BOROUGH OF WEST MAITLAND.—BY-LAW.

THE following By-law, made by the Council of the Borough of West Maitland under the "Municipalities Act of 1887," having been confirmed by His Excellency the Lieutenant-Governor, with the advice of the Executive Council, is published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

## BOROUGH OF WEST MAITLAND.

WHEREAS the Borough of West Maitland has established bathing places in the Hunter River within the said Borough, and whereas it has been deemed expedient to make provision for the accommodation of persons bathing therein, the Borough Council of West Maitland, in pursuance of the powers vested in them under the provisions of the Municipalities Act of 1867, have made and adopted the following By-law in reference thereto:—

No person shall be permitted to bathe at any of the places in the Hunter River provided by the Borough Council of West Maitland for that purpose excepting between the hours of five o'clock a.m. and eight a.m., and between five p.m. and ten p.m., on ordinary week days, and not later than nine o'clock a.m. on Sundays.

Any person bathing in the said river at the places before appointed within hours other than those mentioned shall be liable to a penalty not exceeding twenty shillings.

Made and passed by the Borough Council of West Maitland, this twenty-seventh day of November, in the year of our Lord one thousand eight hundred and ninety.

THOS. HUGHES, Council Clerk.

(l.s.) R. A. YOUNG,  
Mayor.



1891.

NEW SOUTH WALES.

**MUNICIPALITIES.**

(BOROUGH OF WAVERLEY—ADDITIONAL BY-LAW.)

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Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 153.

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Colonial Secretary's Office,  
Sydney, 30th April, 1891.

**WAVERLEY MUNICIPALITY.—ADDITIONAL BY-LAW.**

THE following Additional By-law, made by the Council of the Borough of Waverley under the "Municipalities Act of 1867," having been confirmed by His Excellency the Governor, with the advice of the Executive Council, is published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

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**BOROUGH OF WAVERLEY.—ADDITIONAL BY-LAW.***Council may kerb and gutter.*

THE Council may cause the footway in front of any house or land in any street or lane within the Borough to be kerbed and guttered and asphalted in such manner as the Council may deem fit, and charge one-half the cost of said work to the owner of the property benefited thereby.

Should the owner of any property thus benefited neglect, after receipt of notice signed by the Council Clerk, to pay into the office of the Council the amount payable under this By-law within one month from date of such notice, the Council may proceed for recovery of the said amount in a summary manner before any Court of competent jurisdiction.

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By virtue of the powers and authority of the "Municipalities Act of 1867," the Council of the Borough of Waverley passed the foregoing By-law, on the second day of February, 1891.

ROBERT T. ORR,  
Council Clerk.

(L.S.) W. H. SIMPSON,  
Mayor.



1891.

## NEW SOUTH WALES.

**MUNICIPALITIES.**

(BOROUGH OF ALBURY—ADDITIONAL BY-LAWS.)

Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 153.Colonial Secretary's Office,  
Sydney, 19th May, 1891.

## ALBURY MUNICIPALITY.—ADDITIONAL BY-LAWS.

The following Additional By-laws, made by the Council of the Borough of Albury, under the "Municipalities Act of 1867," having been confirmed by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

ADDITIONAL BY-LAWS made by the Borough Council of Albury under the "Municipalities Act of 1867,"  
for the formation of Pathways, &c.

No. 1. The Council may cause the footway or pathway in front of any house or land along any street or way within the Municipality to be kerbed, guttered, flagged, paved, or asphalted in such manner as the Council may think fit; and half the amount of expense thereof shall be borne and paid by the owner of such house or land, and may be recovered from such owner or from the occupier of such house or land in a summary way before any two Justices.

No. 2. No proceeding for the recovery of such amount shall be taken until at least one month after a requisition for payment of the amount, together with an account of the total expenditure, signed by the Council Clerk, has been sent or delivered to such owner or occupier.

No. 3. Nothing in this By-law shall extend to the maintenance or repair of such kerbing, guttering, flagging, paving, or asphaltting.

No. 4. Notwithstanding anything contained in the last preceding section of this By-law, owners of houses or land within the Municipality shall only be liable as compulsory contributors towards the cost of kerbing, guttering, flagging, paving, or asphaltting any footway or pathway in front of any house or land along any street or way, or any portion thereof, when a notice published in a local newspaper shall have declared the intention of the Council to make or repair such street or way (unless it be already formed), and to kerb, gutter, flag, pave, or asphalt the same or any portion thereof. But nothing in this By-law shall affect agreements between owners of property and the Council.

Made and passed by the Municipal Council of the Borough of Albury, this fifth day of November,  
one thousand eight hundred and ninety.

Jno. H. PAINE, Council Clerk.

(L.S.) G. ARTHUR THOMPSON,  
Mayor.



1891.

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 NEW SOUTH WALES.
 

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## MUNICIPALITIES.

(BOROUGH OF YOUNG.—AMENDED BY-LAW.)

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Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 153.

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Colonial Secretary's Office.

Sydney, 14th January, 1891.

### BOROUGH OF YOUNG.—AMENDED BY-LAW.

THE following Amended By-law, made by the Council of the Borough of Young, under the Municipalities Act of 1867, having been confirmed by His Excellency the Lieutenant-Governor, with the advice of the Executive Council, is published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

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#### AMENDED BY-LAW OF THE BOROUGH COUNCIL OF YOUNG.

ALL owners or occupiers of property within this Borough shall remove and burn all kinds of Thistles, Bathurst Burr, or other noxious weeds upon lands owned, rented, or occupied by them; and any owner, tenant, or occupier neglecting to comply with this By-law after fourteen days notice from any officer of the said Borough requiring him to remove and burn such weeds as aforesaid, shall be liable to a penalty of not less than twenty shillings and not exceeding five pounds.

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Passed by the Borough Council of Young on the 20th day of November, 1890.

(i.s.) CHRISTOPHER HOURN,  
Mayor.

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1891.

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 NEW SOUTH WALES.
 

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## MUNICIPALITIES.

(MUNICIPAL DISTRICT OF KATOOMBA—AMENDED BY-LAW.)

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Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 153.

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Colonial Secretary's Office,  
Sydney, 19th March, 1891.

### KATOOMBA MUNICIPALITY.—AMENDED BY-LAW.

THE following Amended By-law, made by the Council of the Municipal District of Katoomba under the "Municipalities Act of 1867," having been confirmed by His Excellency the Governor, with the advice of the Executive Council, is published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

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#### REPEAL OF BY-LAW NO. 1.

THAT By-law No. 1 of the code of By-laws adopted on 18th September, 1890, be and the same is hereby rescinded.

That the following By-law be adopted by this Council:—"The Council shall meet for the despatch of business at the hour of half-past seven p.m. on every alternate Monday, unless such day shall happen to be a public holiday. In the latter case the meeting shall be held on such other day as the Mayor may appoint."

(L.S.) ALFRED A. SMITH,  
Mayor.

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The Corporate Seal of the Municipal District of Katoomba was authorised to be affixed hereto, at a duly convened meeting of the said Municipal Council, held on Thursday, 30th October, 1890, in the presence of,—

W. F. OYDER, Council Clerk.

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1891.

NEW SOUTH WALES.

## MUNICIPALITIES.

(MUNICIPAL DISTRICT OF SOUTH SINGLETON—AMENDED AND ADDITIONAL BY-LAWS.)

Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 153.

Colonial Secretary's Office,  
Sydney, 5th February, 1891.

## MUNICIPAL DISTRICT OF SOUTH SINGLETON.—AMENDED AND ADDITIONAL BY-LAWS.

The following Amended and Additional By-laws, made by the Council of the Municipal District of South Singleton, under the "Municipalities Act of 1867," having been confirmed by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

By-law No. 106. Every person driving any vehicle within the Municipal District between sunset and sunrise, shall carry a light on each side of such vehicle, in a conspicuous place. Anyone offending against this By-law shall be liable to a penalty not exceeding ten shillings nor less than two shillings and sixpence.

*Licensing Vehicles.*

By-law No. 112. All water-carters, firewood carters, and owners of two-wheeled vehicles plying or carrying passengers, goods, or other materials for hire, shall be licensed by the Council, and the owners shall have their names painted in legible letters with the word "Licensed" on some conspicuous part of such vehicle. The license fee shall be at the rate of ten shillings per annum, and all such licenses shall be issued for a period of twelve months, terminable on the thirty-first day of December in each year; and every owner who shall omit, or fail to comply with the provisions of this By-law, shall forfeit a sum not exceeding twenty shillings nor less than five shillings.

By-law No. 113. All timber carriages, buses, wains, waggons, or other four-wheeled vehicles, hauling or drawing material, or otherwise plying for hire through the Municipality, shall be licensed by the Council, and the owners shall have their names painted in legible letters with the word "Licensed" on some conspicuous part of such vehicle. The license fee shall be at the rate of seven shillings and sixpence per wheel per annum, and all such licenses shall expire on the thirty-first day of December in each year; and every owner who shall omit or fail to comply with the provisions of this By-law shall forfeit a sum not exceeding forty shillings nor less than twenty shillings.

Passed at meeting of Council, on 19th August, 1890.

(L.S.) H. DE COURCY,  
Mayor.



1891.

NEW SOUTH WALES.

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**NUISANCES PREVENTION ACT, 1875.**

(MUNICIPAL DISTRICT OF GUNNEDAH—ADDITIONAL BY-LAW.)

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 Presented to Parliament, pursuant to Act 39 Vic. No. 14, sec. 18.
 

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 Colonial Secretary's Office,  
 Sydney, 8th April, 1891.
**GUNNEDAH MUNICIPALITY.—ADDITIONAL BY-LAW.**

THE following additional By-law, made by the Council of the Municipal District of Gunnedah, under the "Nuisances Prevention Act, 1875," having been approved by His Excellency the Governor, with the advice of the Executive Council, is published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

**MUNICIPAL DISTRICT OF GUNNEDAH.—BY-LAW.**

No person shall be permitted to abandon, to cover up, or cause to be covered up, any existing cesspit with earth or other material, unless and until the same shall be properly emptied.

Any person offending against this By-law shall be liable to a penalty not exceeding five pounds nor less than one pound.

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 Passed by the Municipal Council of Gunnedah, on the 17th day of February, 1891.

JAMES EVANS, Council Clerk.

 (L.S.) E. J. A. HAYNES,  
 Mayor.



1891.

## NEW SOUTH WALES.

# NUISANCES PREVENTION ACT, 1875.

(BOROUGH OF JUNEE—BY-LAWS.)

Presented to Parliament, pursuant to Act 39 Vic. No. 14, sec. 13.

Colonial Secretary's Office,  
Sydney, 5th February, 1891.

## BOROUGH OF JUNEE.—BY-LAWS.

THE following By-laws, made by the Council of the Borough of Junee, under the "Nuisances Prevention Act, 1875," having been approved by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

BY-LAWS of the Borough of Junee, made under and for carrying into effect the provisions of the "Nuisances Prevention Act."

1. On and after the 14th day of November, 1890, no person or persons shall be permitted to have on any premises within the Municipal Borough of Junee any open closet or cess-pit for the deposit of faecal matter, and any person or persons allowing any such closet or cess-pit to remain after receiving from the Inspector of Nuisances for the said Borough seven days notice to remove the same shall forfeit a sum not exceeding five pounds nor less than one pound; and after conviction, if not removed within a further period of seven days, shall forfeit a further sum not exceeding two pounds nor less than five shillings for each day that the same shall remain unaltered or unremoved.

2. No person or persons shall be permitted to cover up or cause to be covered up any existing cess-pit with earth or other material unless and until the same shall be emptied by the Council's contractor. Any person or persons offending against this By-law shall be liable to a penalty not exceeding five pounds nor less than one pound.

3. Every cess-pit to be constructed within the Borough shall not be less than 3 feet by 4 feet and 5 feet deep inside measurement, and shall be built of not less than 4½-inch brick work set in cement floor as well as walls unless in the opinion of the Inspector of Nuisances it shall be unnecessary, and the top of such cess-pit shall be at least 6 inches higher than the highest part of the surface of the ground immediately adjoining such cess-pit. In no case where practicable shall any cess-pit or closet be situated within 20 feet of a dwelling and 10 feet from the street, and any person being guilty of a breach of this By-law shall be liable to a penalty of not more than five pounds nor less than one pound.

4. A separate closet shall be provided for each tenement, in schools or factories where a number of persons shall be employed, separate closets shall be provided for each sex, with a door to fasten on the inside; where two or more closets shall adjoin each other there shall be a dividing wall between each to effect a complete separation, and any person or persons offending against the provisions of this By-law shall be liable to a penalty not exceeding ten pounds nor less than two pounds.

5. If in the opinion of the Inspector of Nuisances for the said Borough any alteration be required in existing closets, upon

the report of the said Inspector the said Council shall determine what alteration may be necessary for the preservation of health or decency, and such alteration shall forthwith be made by the owner or owners of the premises after receiving from the said Inspector seven days notice to that effect, and such owner or owners shall be liable to a penalty not exceeding five pounds nor less than one pound for each week's neglect or delay in effecting such alteration.

6. No pan, bucket, or other receptacle used as such in a dry-earth closet shall exceed in measurement 14 inches in depth and shall not exceed 14 inches in diameter.

7. Every householder shall employ the Council's contractor for the removal of refuse from all cess-pits or dry-earth closets, and shall provide a galvanized iron pan or bucket in such dry-earth closets to hold such refuse with a handle on each side.

8. The night-soil shall be removed by the Council's contractor in properly constructed water-tight carts between such hours as the Council shall determine, and the contractor shall be held responsible for the careful conveyance of the night-soil to the depot appointed by the Council, and shall dispose of the same by burying it in the earth a sufficient distance and covering it with earth so as to prevent any nuisance arising therefrom, under a penalty for neglect not exceeding twenty pounds nor less than five pounds.

9. The Inspector of Nuisances shall have power to visit and inspect any premises on any lawful day between the hours of 10 a.m. and 4 p.m., and any person or persons refusing admittance or obstructing or hindering the said Inspector in the discharge of his duty shall be liable to a penalty not exceeding five pounds nor less than one pound.

10. The Council shall from time to time fix the charges to be made for emptying and removing night-soil from closets which shall be emptied as often as may be considered necessary to the Inspector of Nuisances.

11. If the night-soil or any portion thereof shall be sold or given away by the Council, the person removing the same shall do so only at such times and in such manner as the Council may direct, and shall dispose of the same so as not to cause a public nuisance, and the person purchasing or obtaining it shall be held responsible for the same, under a penalty not exceeding ten pounds nor less than two pounds.

12. No closet shall be erected, or commenced to be erected, except in such place and in such position as shall be approved of by the Inspector of Nuisances, and shall be built with walls not less than 7 feet in height and not less than 4 feet 6 inches in length, with a width of not less than 3 feet 6 inches, and shall be provided with a door capable of being fastened in the inside. And any person being guilty of a breach of this By-law shall be liable to a penalty of not less than one pound nor more than five pounds.

13. Any person placing or causing to be placed any obstruction in the way of the Council's contractor entering upon any premises for the removal of night-soil at least once in each week from any dry-earth closet, or from any cess-pit when required, shall be liable to a penalty not exceeding ten pounds nor less than two pounds.

14. No person shall be permitted to connect any closet with any drain, watercourse, or sewer without the sanction of the Council; and any person so offending shall be liable to a penalty not exceeding twenty pounds nor less than five pounds.

15. Any person or persons about to construct new or to alter existing closets shall forward to the Council written notice to that effect so that the Inspector of Nuisances may visit and report thereon, and in default of such notice shall be liable to a penalty not exceeding five pounds nor less than one pound; and closets constructed or altered without such notice being given may be removed or altered as may be judged necessary by the Council, and the owner or owners thereof for each day they shall remain unaltered or unremoved after due notice to that effect shall have been received from the Council shall be liable to a penalty not exceeding ten pounds nor less than two pounds.

16. All expenses incurred by the Council in emptying any cess-pit or earth-closet shall be repaid to the Council by the owner or occupant of the premises whereon such cess-pit or earth-closet is situated within one week after a written demand of the amount made by the Council or Inspector of Nuisances shall have been served upon him, otherwise the same may be recovered in a summary way before any two Justices of the Peace.

17. The Inspector of Nuisances or other person authorised by the Council shall furnish the Council with a monthly return showing the number of cesspits emptied, the amount due and payable for each cesspit, and the amount of arrears due for emptying cesspits; he shall collect the amounts so due and payable and account therefor to the Council at least once in every month, as may be determined upon by such Council.

18. The maximum penalty for a breach of any of these By-laws shall in each case be ten pounds, and the minimum penalty one pound, unless otherwise provided for.

Made and passed by the Council of the Municipal Borough of Junee, this the fourteenth day of November, in the year of our Lord one thousand eight hundred and ninety.

(L.S.) T. C. HUMPHRYS,  
Mayor.

1891.

## NEW SOUTH WALES.

## NUISANCES PREVENTION ACT, 1875.

(MUNICIPAL DISTRICT OF MOSS VALE—AMENDED BY-LAWS.)

Presented to Parliament pursuant to Act 39 Vic. No. 14, sec. 18.

Colonial Secretary's Office,  
Sydney, 6th February, 1891.

## MUNICIPAL DISTRICT OF MOSS VALE.—AMENDED BY-LAWS.

THE following Amended By-Laws, made by the Council of the Municipal District of Moss Vale, under the "Nuisances Prevention Act, 1875," having been approved by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

## MOSS VALE MUNICIPALITY.

AMENDED By-laws passed on the 27th day of October, 1890, by the Municipal Council of Moss Vale, under the "Nuisances Prevention Act, 1875."

1. Every person about to erect a closet shall, before commencing any such work, give to the Council Clerk seven days' notice in writing of his intention, and of the proposed position of such closet; and in default thereof, or in case of his commencing such work without such notice, he shall be liable to a penalty not exceeding ten pounds (£10) nor less than ten shillings.

2. No closet shall be erected except in such position as shall be approved of by the Council or by the Inspector of Nuisances, or other person appointed by the Council.

3. Every closet shall be built with walls 7 feet high, and shall not be less than 3 feet 6 inches wide and 4 feet 6 inches long, and shall be provided with a door capable of being fastened from the inside, and shall have ventilating holes 4½ inches wide.

4. When two or more closets adjoin each other, there shall be a brick, stone, or wooden dividing wall of not less than 4½ inches in thickness between every two closets, and each wall shall extend from the floor of the closet to the roof, so as to effect a complete separation.

5. A separate closet shall be provided for every tenement, and a breach of this By-law shall make the owners or occupiers of any premises upon which there shall be a joint closet liable to a penalty not exceeding five pounds or less than one pound.

6. In schools or in factories, or other places of business where a number of persons exceeding twelve shall reside or be occupied or employed, one pan shall be provided for every twelve persons, with a capacity of not less than one cubic foot or more than two cubic feet; and separate closets shall be provided for each sex.

7. All persons shall use the closets solely for the deposit of fecal matter and human excrement, and shall cover such deposit with sand, lime, ashes, earth, or other such material. In case of any infectious disease occurring in the house of persons using the said closets, a sufficient quantity of some efficient disinfectant shall be used in a manner to be directed by the Inspector of Nuisances; and any person who shall

wilfully deposit or cause to be deposited any fecal matter or excrement in such closet without duly disinfecting the same shall be liable to a penalty of not more than three pounds nor less than one pound.

8. If any alteration shall be requisite in the opinion of the Inspector of Nuisances, or any other officer appointed by the Council on that behalf, for preserving public health or decency in the case of any existing closet, the owner or occupier of such premises shall receive seven days' notice to remove or alter the same; and if he fail to do so, and the Council shall adjudge such closet to be either injurious to the health or opposed to decency by exposure or otherwise, the same shall be altered by the Inspector of Nuisances or other officer, and the cost of such alteration shall be paid for by the owner or occupier of the premises whereon the same shall be.

9. When any new building is about to be erected, the builder or builders thereof shall first erect or cause to be erected on the premises a temporary closet not less than 3 feet by 2 feet 6 inches and 6 feet high (where such convenience does not already exist or is deemed necessary by the Council or Inspector of Nuisances), for the use of the workmen employed in the construction of the new building; and any person neglecting to conform to this By-law shall be liable to a penalty not exceeding five pounds nor less than one pound.

10. The place of deposit for night-soil shall be in such locality as may be from time to time determined upon by the Council, with the approval of the Governor; and no night-soil shall be deposited in any other locality within the Municipality except as allowed by By-laws.

11. Until otherwise provided by the Council, all night-soil shall be removed from closets by the servants of or contractors with the Council in water-tight covered vehicles, between the hours of 11 o'clock in the evening and 5 o'clock in the morning.

12. Until and unless otherwise provided by the Council, all night-soil shall be disposed of by burying it in the earth.

13. In case the Council shall sell or give away any night-soil, the same shall be removed in the same manner as above provided, and on being removed from the vehicles in which it is carried it shall be deodorized by chemicals, or in some other manner, or covered with earth, so as to prevent any offensive smell arising therefrom.

14. The Inspector of Nuisances, or other officer appointed by the Council, may visit and inspect any premises, or do any work authorized by the "Nuisances Prevention Act, 1875," on all days except Sundays and public holidays, between the hours of 10 o'clock in the morning and 4 o'clock in the evening.

15. All night-soil shall be removed at least once in every two weeks, or as often as deemed necessary by the Inspector of Nuisances, and buried in the earth.

16. No person shall be allowed to use any night-soil collected on his premises unless he has at least one acre of land attached thereto, and if any nuisance shall arise therefrom he shall be liable to a penalty not exceeding five pounds (£5) nor less than one pound (£1).

17. No person shall be at liberty to use on his premises any night-soil brought from elsewhere.

18. After the expiration of three months from the date of passing these By-laws, no person or persons shall be permitted to have on their premises any open closet or cesspit for the deposit of faecal matter, and any person or persons allowing any such closet or cesspit to remain after receiving sixty days notice to remove the same shall forfeit a sum not exceeding five pounds (£5) nor less than one pound (£1); and after such conviction, if not removed within a further period of twenty-one days, shall upon conviction forfeit a further sum of not less than five shillings nor more than two pounds for every day that the same shall remain unaltered or removed.

19. All closets shall be supplied with one or more iron pans with two side-handles or one over-handle, and shall not be more than fourteen inches in depth nor more than fourteen inches in diameter, and shall be kept in good order to the satisfaction of the Inspector of Nuisances. Breach of this By-law to carry a penalty of not less than ten shillings nor more than forty shillings.

20. No person shall be permitted to cover up or cause to be covered up any existing cesspit with earth or any other material prior to giving notice to the Inspector of Nuisances until the same shall have been properly emptied by the Council's contractor. Any person offending against this By-law shall be liable to a penalty not exceeding five pounds nor less than one pound.

21. The owner or occupier of any house, building, passage, yard, or premises within the Municipality, shall cause the yard and ground adjoining or belonging thereto to be kept in a cleanly condition, and so as not to be a nuisance or injurious to health.

22. Any person allowing night-soil from any closet to fall into any street, right-of-way, water-channel, gutter, creek, river, or reservoir, or in any other public place, shall forfeit and pay a sum not exceeding twenty pounds (£20) nor less than five pounds (£5).

23. If at any time the cesspit in any premises shall overflow or cease to be water-tight, the owner or occupier shall, within twenty-four hours, give notice to the Inspector of Nuisances, otherwise such owner or occupier shall be liable to a penalty not exceeding ten pounds.

24. The Council may recover, and the owner or occupier shall pay, such sum for the emptying of cesspits, earth-pans or boxes, as may be decided upon from time to time by resolution of the Council.

25. The owner or occupier of any premises within the Municipality, or any other person who shall have or erect upon his premises any closet otherwise than in accordance with these By-laws, or who shall refuse or neglect to comply with the provisions of any of the preceding By-laws, or who shall commit any breach thereof, shall (in cases where no special penalty is provided) forfeit and pay a penalty not exceeding five pounds.

26. The Inspector of Nuisances, so far as relates to these By-laws, and in all other cases the said Inspector of Nuisances or any other officer duly appointed by the Council, shall be the person to see the foregoing By-laws carried into effect, and to institute and prosecute all legal proceedings thereunder.

27. All the words occurring in these By-laws, and which also occur in the "Nuisances Prevention Act, 1875," shall have the like meaning assigned to them as are provided in the 4th section of the same Act.

(t. s.) N. HERBERT THROSBY,  
Mayor.

Sealed with the Seal of the Municipal Council of Moss  
Vale, on this 11th day of November, 1890, in the  
presence of,—

DAVID CLIFFORD,  
Council Clerk.

1891.

## NEW SOUTH WALES.

**MUNICIPALITIES ACT OF 1867, AND NUISANCES  
PREVENTION ACT, 1875.**  
(BOROUGH OF STOCKTON—BY-LAWS.)

Presented to Parliament, pursuant to Acts 31 Vic. No. 12, sec. 158, and 39 Vic. No. 14, sec. 18.

Colonial Secretary's Office,  
Sydney, 15th April, 1891.

STOCKTON MUNICIPALITY.—BY-LAWS.

The following By-laws, made by the Council of the Borough of Stockton, under the "Municipalities Act of 1867" and the "Nuisances Prevention Act, 1875," having been respectively confirmed and approved by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Acts.

HENRY PARKES.

BOROUGH OF STOCKTON.

By-Laws for regulating the proceedings of the Council of the Borough of Stockton, and the duties of the officers and servants of such Council; for preserving order at meetings of the said Council; for determining the times and modes of collecting and enforcing payment of rates; for preventing and extinguishing fires; for suppressing nuisances and houses of ill-fame; for preventing or regulating and licensing exhibitions held or kept for hire or profit, bowling-alleys and other places of amusement; compelling residents to keep their premises free from offensive or unwholesome matters; opening new public roads, ways, and parks; aligning and cleansing roads and streets; regulating the supply and distribution of water, sewerage, and drainage; preserving trees and shrubs; regulating free libraries; preventing or regulating the bathing or washing the person in any public water near a public thoroughfare; preserving public decency; providing for the health of the Municipality and against the spreading of contagious or infectious diseases, restraining noisome and offensive trades, and generally maintaining the good rule and government of the said Borough.

PART I.

*Proceedings of the Council and Committees.—Duties of Officers and Servants, &c.*

Ordinary meetings.

1. The Council shall meet for the transaction of business on such days and at such hours as the Council may from time to time appoint.

Election of Chairman in absence of Mayor.—Adjournment for want of quorum.

2. If at any meeting of the Council the Mayor be absent at the expiration of fifteen minutes after the time appointed for holding such meeting the Aldermen then present shall proceed to elect from among themselves a Chairman for such meeting. Whenever there shall be an adjournment of any meeting for want of a quorum the names of the members present shall be recorded in the Minute-book.

Business of ordinary meetings.

3. The following shall be the order of business at all meetings of the Council other than special meetings:—

(1.) The minutes of the last preceding meeting to be read, corrected if erroneous, and signed by the Mayor or other Chairman. No discussion to be permitted on such minutes except as to whether they are correct,

(2.) Correspondence to be read, and order made thereon if expedient.

(3.) Petitions, if any, to be read and dealt with.

(4.) Reports from committees and minutes from the Mayor, if any, to be presented and orders made thereon.

(5.) Questions as to any matters under the jurisdiction or within the official cognizance of the Council to be put and replied to, and statements of any facts, matters, or circumstances requiring attention by the Council or any of the committee or officers, to be made.

(6.) Motions of which notice has been given to be dealt with in the order in which they stand on the business paper.

(7.) Orders of the day to be disposed of as they stand on the business paper.

Business may be taken out of regular order.

Provided that the Council may by resolution, without notice, entertain any particular motion or deal with any particular matter of business out of its regular order on the business paper without any formal suspension of this section, and may in like manner direct that any particular matter of business may have precedence at a future meeting.

Business at special meetings.

4. At special meetings of the Council the business shall be taken in such order as the Mayor or the Alderman at whose instance such meeting shall have been called, may have directed.

Business paper of ordinary meeting—how prepared.

5. The business paper for every meeting of the Council, other than a special meeting, shall be made up by the Council Clerk not less than two nor more than four days before the day appointed for such meeting. He shall enter on such business paper a copy, or the substance of every notice of motion, and of every requisition or order as to business proposed, to be transacted at such meeting which he shall have received or shall have been required or directed so to enter, and as herein-after provided. Every such entry shall be made subject to the provisions of section 3 of this Part of these By-laws in the order in which such notice, requisition, or direction shall have been received.

**Business paper for special meetings.**

6. The business paper for a special meeting shall contain only such matters as shall have been specially ordered to be entered thereon by the Mayor or Alderman calling such meeting.

**Summons to members.**

7. The summons to members of the Council for every meeting thereof shall be prepared from the business paper for such meeting, and shall embody the substance of such business paper.

After business paper made up, all notices, &c., to be the property of the Council.

8. After the business paper shall have been made up, all the notices of motion, requisitions, and directions as to which entries have been made thereon, shall be the property of the Council, and shall not be withdrawn, altered, or amended without leave having been first obtained from the Council for such withdrawal, alteration, or amendment.

**Motions—how to be moved.**

9. Except by leave of the Council, motions shall be moved in the order in which they stand on the business paper, and if not so moved or postponed shall be struck out and considered to have lapsed.

**Absence of proposed mover.**

10. No motion of which notice shall have been entered on the business paper shall, except as hereinafter provided, be proceeded with in the absence of the Alderman by whom such notice shall have been given, unless by some other Alderman producing a written authority for that purpose from such first-named Alderman.

**Motion to be seconded.**

11. No motion in Council shall be discussed until it has been seconded.

**Amendments may be moved.**

12. When a motion shall have been made and seconded, any Alderman shall be at liberty to move an amendment thereon; but no such amendment shall be discussed until it has been seconded.

**Motions and amendments to be in writing.**

13. No motion or amendment shall be discussed until it has been reduced into writing.

**Only one amendment at a time.**

14. No second or subsequent amendment shall be discussed until the previous amendment or amendments shall have been disposed of.

**Amended question—further amendment may be moved thereon.**

15. If an amendment be carried, the question as amended thereby shall become itself the question before the Council, whereupon any further amendment upon such question may be moved.

**How subsequent amendments may be moved**

16. If any amendment, either upon an original question or upon any amended question, shall be negatived, a further amendment may be moved to the question to which such first-mentioned amendment was moved, and so on: Provided that not more than one question and one proposed amendment thereof shall be before the Council at any one time.

**Motions for adjournment.**

17. No motion for adjournment of the Council shall be discussed. If seconded, such notice shall be put at once. If negatived, no similar motion will be permitted to be made until half an hour has elapsed after putting the one that has been negatived, and the subjects on the business paper shall be proceeded with in order.

**Orders of the Day.****Of what orders of the day shall consist.**

18. The orders of the day shall consist of any matter other than motions or notice which the Council shall at a previous meeting thereof have directed to be taken into consideration, or which the Mayor, or Chairman, or any Committee of the Council shall have directed to be entered on the business paper for consideration; and all such matters may be dealt with by the Council as if due notice of motion had been given in respect thereof.

19. Section 17 of this Part of these By-laws shall be considered applicable to orders of the day; and the Alderman who has the usual charge of, or who has previously moved in reference to the particular business to which any such order of the day relates, shall be the person called upon to move: Provided that, as to any order of the day entered as aforesaid, by direction of the Mayor, such Mayor may arrange with any Alderman to move, and may in such case call upon the Alderman with whom he has so arranged.

**Petitions.****Petitions to be respectfully worded.**

20. It shall be incumbent upon every Alderman presenting a petition to acquaint himself with the contents thereof, and to ascertain that it does not contain language disrespectful to the Council. The nature and prayer of every such petition shall be stated to the Council by the Alderman presenting the same.

**Petitions—how received.**

21. All petitions shall be received only as the petitions of the parties signing the same.

**How petitions are to be dealt with.**

22. No motion shall, unless as hereinafter provided, be permissible on the presentation of a petition, except that the same be received, or that it be received and referred to one of the permanent Committees hereinafter mentioned; or that it be received, and that its consideration stand an order of the day for some future meeting: Provided, however, that if any Alderman shall have given due notice of a motion in reference to any petition, and such petition shall have been presented before such Alderman shall have been called upon to move such motion, the said motion shall, if otherwise unobjectionable, be considered in order.

**Correspondence.****Duties of Mayor as to correspondence.**

23. The Mayor shall have the same duty in reference to letters addressed to the Council, before directing the same to be read, as by section 20 of this Part of these By-laws is imposed upon Aldermen presenting petitions. The Mayor shall direct as to the order in which all correspondence shall be read, and no letter addressed to the Council shall be presented or read by any Alderman. If the Mayor be absent, and shall not have examined any such letter addressed to the Council or have given any such directions as aforesaid, then the duties imposed by this section shall devolve upon the presiding Alderman.

**Section 22 to apply to letters.**

24. Section 22 of this Part of these By-laws shall be equally applicable to letters.

Letters sent not to be discussed, but every letter may be subject of motion.

25. No discussion shall be permitted in reference to any letters which have been written and sent by the Mayor or by any officer of the Council, though copies may be read to such Council: Provided, however, that any notice of motion consistent with good order, may be entertained with reference to any such letter whether read or not, or with reference to any letters addressed to the Council, which the Mayor or presiding Alderman may not have ordered to be read as aforesaid.

**Reports from Committees and minutes from the Mayor.****Form of report.**

26. All reports from Committees shall be written on foolscap paper, with a margin of at least one-fourth of the width of such paper and shall be signed by the Chairman of such Committee, or in his absence, some other member of the same.

**Mayor's minute.**

27. The Mayor shall have the right of directing the attention of the Council to any matter or subject within its jurisdiction or official cognizance by a minute in writing. Every such minute shall be written on paper of the same kind, and with the same margin as a report from a Committee, and shall be signed by such Mayor.

How reports, &c., are to be dealt with—Duties of Chairman, &c., in certain cases.

28. No motion shall (unless as hereinafter provided) be permissible on the presentation of a report from a Committee or a minute from the Mayor, except that the same be received, or that it be received and that its consideration stand an order of the day for some future meeting: Provided, however, that if any Alderman shall have given due notice in reference to any such report or minute, or if an order for the consideration of such report or minute shall have been entered among the orders of the day, it may, if otherwise unobjectionable, be moved or considered in due course; and whenever any such report or minute embodies any recommendation which cannot legally be carried out without such due notice, and it is nevertheless desirable that such report or minute shall be definitely ordered upon during the meeting of the Council at which it is presented, it shall be the duty of the Chairman or member of such Committee signing such report, or of the Mayor as the case may be, to give or transmit to the Council Clerk such a notice of motion, requisition, or direction as aforesaid, as will enable the Council Clerk to make the necessary entry on the business paper, and to give due notice.

**Questions and statements.****Limitations as to questions and statements.**

29. No question or statement shall be allowed to be put or made which is inconsistent with good order, or is not in strict accordance with the requirements of section 3 of this Part of these By-laws.

**Notice to be given.**

30. Twenty-four hours notice of every question shall be given to the person who is expected to reply thereto, to allow for the consideration of such reply, and, if necessary, for a reference to other persons or to documents.

**Answer not compulsory.**

31. It shall not be compulsory upon any person questioned as aforesaid to answer the question so put to him.

Questions to be put without argument, &c.

32. Every such question must be put categorically without any argument or statement of fact.

Similar provisions as to statements.

33. Every such statement must be made without argument.

No discussion on question, &c. Rights of objection and of subsequent motion reserved.

34. No discussion shall be permitted as to any such question, or as to any reply or refusal to reply thereto, or as to any such statement, at the time when such question is put, or such reply or refusal to reply is given, or such statement is made: Provided, however, that nothing herein contained shall prevent the taking of any objection as to any such question or statement being out of order, or shall prevent the discussion after due notice, as hereinbefore provided, of any matters properly arising out of or relating to any such question, or reply, or refusal to reply, or any such statement as aforesaid.

#### Order of Debate.

Mode of addressing the Council, &c.

35. Every Alderman who shall make or second any motion, or shall propose or second any amendment, or shall take any part in any debate or discussion, or shall put or reply to any question, or shall make any statement, or shall in any other way or for any other purpose address observations to the Council shall, while so doing, stand up in his customary place (unless he shall be prevented from so doing by reason of some bodily infirmity), and shall address himself to the Mayor or other Chairman then presiding: Provided that in the case of a question such question may, by permission of such Mayor or Chairman, be put directly to the Alderman or officer to be questioned, and may be replied to in like manner; but in every such case the question so put and the answer thereto shall be subject to objection on the ground of disorder or irrelevancy; and all members of the Council shall on all occasions when in such Council address and speak of each other by their official designations, as Mayor, Chairman, or Alderman, as the case may be.

Speaker not to be interrupted if in order.

36. No Alderman shall be interrupted while thus speaking, unless for the purpose of calling him to order as hereinafter provided.

Offensive language.

37. If any Alderman uses whilst in Council any offensive or insulting language, the words shall be written down and he shall be asked to withdraw them. If he refuses to withdraw such language and apologise, he shall be deemed guilty of misconduct, and be liable to a fine of not less than (.0s.) twenty shillings nor more than five pounds.

Limitation as to number of speeches.

38. Every mover of an original motion shall have a right of general reply to all observations which may have been made in reference to such motion, and to any amendments moved thereon, as well as a right to speak upon every such amendment. Every Alderman, other than the mover of such original motion, shall have a right to speak once upon such motion and on every amendment thereon. No Alderman shall speak longer than fifteen minutes nor oftener than once upon any question other than a question of order, unless when misrepresented or misunderstood, in which case he shall be permitted to explain, without adding any further observations than may be necessary for the purpose of such explanation.

Mover and seconder.

39. An Alderman who has moved any motion or amendment shall be considered to have spoken thereon, but an Alderman who shall have seconded any such motion or amendment without any further observation than that he seconded the same shall be at liberty to speak on such motion or amendment.

Speaker not to digress, &c.

40. No Alderman shall digress from the subject under discussion, or shall make personal reflections on, nor impute improper motives to, any other Alderman.

Adjournment of debate.

41. A debate may be adjourned to a later hour of the day or to any other day specified, and the Alderman upon whose motion such a debate shall have been so adjourned shall be intitled to preaudience on the resumption of the debate.

Mayor to decide as to preaudience.

42. If two or more Aldermen rise to speak at the same time the Mayor or Chairman shall decide which of such Aldermen shall be first heard.

Alderman may require question to be stated, &c., under certain restrictions.

43. Any Alderman may request the question or matter under discussion to be read or stated for his information, or may require the production of any records of the Council bearing upon such question or matter which are readily accessible: Provided, however, that no such request or requisition shall

be so made as to interrupt any other Alderman when speaking or materially to interrupt the discussion, also that if any such request or requisition shall appear to the Mayor or Chairman not to have been made bona fide it shall not be complied with.

Mayor or Chairman not to move or second motion, &c., but may address Council thereon.

44. The Mayor or Chairman shall not move or second any motion or amendment nor put any question as provided for by section 3 of this Part of these By-laws, except as is further provided for by section 35 of the same. But such Mayor or Chairman shall have the same rights as any other Alderman to speak once upon every such subject or amendment. The Mayor or Chairman shall rise when so speaking (unless prevented by some bodily infirmity from so doing), but shall be considered as still presiding.

#### Questions of Order.

Mayor or Chairman to decide points of order.

45. The Mayor or Chairman shall preserve order, and his decisions on disputed points of order or practice shall be final, except in so far as the same may be questioned, as in the manner hereinafter provided.

The Mayor may call member to order.

46. The Mayor or Chairman for the time being may, without the interposition of any other member of the Council, call any Alderman to order whenever in the opinion of such Mayor or Chairman there shall be a necessity for so doing, and if any Alderman shall so persist as to interfere with the proper conduct of the business of the Council, the Mayor or Chairman may at once adjourn the said Council meeting to another day.

Any member may raise question of order.

47. Every member of the Council shall have the right of calling the attention of the Mayor or Chairman to any motion, amendment, statement, argument, or observation, moved, used, or made by any other member which such first-named member may consider out of order.

Mode of proceeding thereon.

48. A member called to order shall withdraw while the question of order is being discussed and decided upon, unless specially permitted to offer an explanation, retraction, or apology; but obtaining such special permission, such member may explain, retract, or apologise for the matter or remark alleged to have been out of order, and if such explanation, retraction, or apology be deemed satisfactory, no further discussion upon the question of order shall be permitted. If any member on being called to order, shall ask such permission to explain, retract, or apologise as aforesaid, the Mayor or Chairman may of his own authority grant or refuse such permission as he may think fit, unless any member shall require the sense of the Council to be taken on this question. In such case it shall be the duty of the Mayor or Chairman to take the sense of the Council at once, and without discussion, as to whether such permission shall be granted, and when any such explanation, retraction, or apology shall have been made or offered by permission of the Mayor or Chairman, the latter shall in like manner decide, or if required to do so, shall take the sense of the Council as to whether such explanation, retraction, or apology is considered sufficient. If such permission be refused, or if such explanation, retraction or apology be considered insufficient, the question of order shall be considered and decided before any further business is proceeded with: Provided that if such Mayor or Chairman shall have decided the question of order before any member shall have required the sense of the Council to be taken in reference thereto, such question of order shall not be reopened: And provided further that nothing herein contained shall be held to affect the right of such Mayor or Chairman to decide finally, as hereinbefore provided, upon any such point of order, after the same shall have been discussed.

Decision of points of order

49. The Mayor or Chairman when called upon to decide points of order or practice shall state the provision, rule, or practice, which he shall deem applicable to the case without discussing or commenting upon the same.

Motions out of order to be rejected.

Members to explain, retract, or apologise, &c.

50. Whenever it shall have been decided as aforesaid that any motion, amendment, or other matter before the Council is out of order, the same shall be rejected, and whenever anything said or done in Council by any Alderman shall be similarly decided to be out of order, such Alderman shall be called upon by the Mayor or Chairman to make such explanation, retraction, or apology, as the case may require.

Penalties for persisting in disorderly conduct.

51. Any member of the Council who shall have been called to order, and who, after having been twice directed to withdraw as aforesaid, shall refuse to do so, or who shall persist in any line of conduct or argument, or of observations which shall have been decided as aforesaid to be disorderly, or who shall refuse to make such explanation, retraction, or apology as aforesaid, when required so to do, or who shall be guilty of any other act of disorder, and shall refuse to make such ex-

planation, retraction, or apology, as the majority of the Aldermen then present shall consider satisfactory, shall be liable on conviction for the first offence to a penalty of not less than ten shillings nor more than five pounds; and on a second conviction for a like offence he shall be liable to a penalty of not less than one pound nor more than ten pounds; and on the third conviction and for every further conviction for the like offence, he shall be liable to a penalty of not less than two pounds nor more than twenty pounds.

*Power of Council as to altering Rules on points of order.*

52. Any Alderman who is dissatisfied with the decision of the Mayor or Chairman on any such question of order or practice may, by motion on notice, respectfully worded, invite the Council to lay down a different rule or principle for the determination of any similar questions of order or of practice which may thereafter arise. Any rule or principle thus laid down shall be binding upon all parties unless and until it be rescinded; but shall have no retrospective operation.

#### *Mode of Voting.*

*How questions are to be put.*

53. The Mayor or Chairman shall put to the Council all questions on which it shall be necessary that a vote be taken, and shall declare the sense of such Council thereon; and he shall be at liberty to put any such question as often as may be necessary to enable him to form and declare his opinion as to the opinion of the majority.

*Divisions.—Penalty for refusing to vote.*

54. Any Alderman shall be at liberty to call for a division; in such case the question shall be put first in the affirmative and then in the negative; and the Aldermen shall vote by show of hands, and the names and votes of the Aldermen present shall be recorded. Any Alderman who shall be present when a division is called for, and shall not vote on such division, not being disabled by law from so voting, shall be liable for every such offence to a penalty of not less than ten shillings nor more than five pounds.

#### *Protests.*

*Mode of protesting.—Protest to be recorded but may, under certain circumstances, be expunged.*

55. Every member of the Council (the Mayor included) may protest against any resolution or vote by the Council; notice of the intention so to protest must, however, be given at the meeting when such resolution is passed or such vote is arrived at, and the protest itself must be handed or sent to the Council Clerk not later than seven days after such notice. The Council Clerk shall enter every such protest in the Minute-book, but if in the opinion of the Council it be inconsistent with the truth, or disrespectfully worded, it may (by resolution on notice) be ordered to be expunged. In such case the expunction shall be made by drawing a perpendicular line with the pen through the entry of such protest, with reference in the margin to the resolution ordering such expunction.

*Committee of the whole Council.—Business in Committee.*

56. The business Committees of the whole Council shall be conducted in accordance with the rules hereinbefore provided for meetings of the Council as nearly as the same shall apply, except that it shall not be necessary that any motion or amendment in Committee shall be seconded.

*Disorderly conduct in Committee.—Refusal to vote.*

57. Whenever any member of the Council shall, while the Council is in Committee of the whole, be considered guilty of an offence against good order, it shall be competent to any Alderman to move that the Council resume its sitting and that such matter be reported, and if such motion be carried such matter shall be reported accordingly and an entry of such report shall be made in the minute-book; and whenever any Alderman shall have failed to vote on any occasion in Committee of the whole Council as required by section 54 of this Part of these By-laws, the facts shall be reported to the Council and such report on such facts shall be duly recorded in the Minute-book: Provided that in the case of an Alderman failing to vote as aforesaid no special motion that the Council resume its sitting shall be necessary; but it shall be the duty of the Chairman of such Committee of the whole in making his report of the proceedings in such Committee whenever such report may be made, to include in such report a statement of such failure to vote as aforesaid and of the question as to which such Alderman has so failed to vote.

*Decisions in Committee on points of order may be reported.*

58. Whenever a decision upon any question of order shall have been given by the Chairman of a Committee of the whole Council, under the provisions of section 45 of this Part of these By-laws, any Alderman may move that such decision be embodied in the report to the Council of the proceedings in such Committee; and if such motion be carried such decision shall be so embodied in such report whenever the same shall be made.

*How progress may be reported, &c.*

59. Any Alderman may at any time during the sitting of a Committee of the whole Council move that the Chairman report progress (or no progress as the case may be), and that leave be asked to sit again at a later period of the same day, or on some other day, or that no leave be asked to sit again; and if any such motion be carried, the Council shall resume its sitting and a report shall be made accordingly; but no discussion shall be permitted on any such motion, and if the same be negatived the subject then under consideration shall be discussed before another such motion shall be receivable.

*Report of proceedings in Committee.—Want of quorum in Committee.*

60. All reports of proceedings in Committee of the whole Council shall be made to the Council, viva voce, by the Chairman of such Committee, and a report of such proceedings shall be made in every case, except when it shall be found on counting the number of members during the sitting of any such Committee that there is not a quorum present. In the latter case, the sitting of the Council shall be resumed without any motion for that purpose, and the proceedings in Committee shall be considered to have lapsed: Provided that in making any such report as aforesaid, it shall not be necessary to report any such proceedings in extenso, but only to state the result, general effect, or substance of such proceedings.

*How reports are to be dealt with.*

61. All such reports of proceedings in Committee of the whole Council shall be recorded in the Minute-book; but except as hereinafter mentioned, no such report shall be considered as adopted by the Council, nor shall any such application as aforesaid for leave to sit again be considered to have been granted by such Council until a motion shall have been made and passed for such adoption or the granting of such leave, and every such motion for the adoption of a report or for the granting of leave as aforesaid, and the order of debate on such motion shall be subject to all the same rules as other motions in Council, and the order of debate on such other motions: Provided, however, that where a report shall have been made under section 57 of this Part of these By-laws of disorderly conduct in Committee, or under section 54 of this Part of these By-laws of failure to vote on division, or of any decision in Committee upon any question of order, such report shall so far as it relates to such facts be regarded and recorded as a statement thereof, and to that extent shall not, unless for the correction of a manifest error, be interfered with upon any pretext whatever.

#### *Calls of the Council*

*How calls of Council are to be made.*

62. A call of the Council may be ordered by any resolution which may be moved without previous notice, for the consideration of any motion or matter of business before the Council.

*Such call compulsory in certain cases.*

63. There shall, without any special order to that effect, be a call of the Council for the consideration of every motion which may be made under section 52 of this Part of these By-laws, and of every motion for the rescission of any resolution, order, or decision of the Council.

*Mode of proceeding.*

64. The call shall be made immediately before the motion or business for which such call has been ordered shall be moved or considered, and all absent members shall be liable to a penalty of five shillings for such absence, recoverable in a summary manner, provided that the said Council may excuse such absence for any reasonable cause.

#### *Standing and Special Committees.*

*Standing Committees.*

65. There shall be three Standing Committees, namely, a By-law, an Improvement, and a Finance, but the Council shall have power to appoint such further or other Committees as may from time to time be considered necessary. These Committees shall be reappointed every year at the first meeting of the Council which shall be holden after the election of Mayor.

*Mode of reappointing Standing Committees.*

66. The reappointment of such Committees shall be made by ballot; a list or lists of the members shall be handed to each then present, who shall mark against the name of each such member the title of the Committee to which in his opinion such member ought to belong; and the Mayor or Chairman shall thereupon examine such lists so marked and shall declare the result, and if there shall be an equal number of votes for the appointment of any two or more members to any one of such Committees, such Mayor or Chairman shall decide which of such members shall be appointed.

*By-law Committee.*

67. The By-law Committee shall prepare for the consideration of the Council drafts of all such By-laws as may be required for the good government of the Borough. They shall also watch over the administration of the By-laws and of any

statute of which the operation has been or may be extended to the Borough; and shall take such steps as may be necessary for the prevention or punishment of offences against such By-laws or statutes, and for the preservation of public health, order, and decency.

*Improvement Committee.*

63. The Improvement Committee shall have the general direction of all works ordered or sanctioned by the Council, and the general inspection of all streets, roads, ways, bridges, public reserves, and other public places under the care and management of the Council. They shall also inquire and report from time to time as to such improvements or repairs as they may think necessary, or as they may be directed by resolution of the Council to inquire and report upon.

*Finance Committee.*

69. The Finance Committee shall examine and check all accounts, and shall watch generally over the collection and expenditure of the Municipal revenues. They shall inquire and report from time to time as to all matters which they may consider to affect, or to be likely to affect, the finances of the Borough and as to such matters or subjects of the like nature, as they may be directed, by resolution of the Council to inquire and report upon.

*Chairman of Committee.*

70. Every Committee of which the Mayor shall not be a member, shall elect a permanent Chairman of such Committee within seven days after their appointment.

*Records of transaction in Committee.*

71. The Chairman of such Committee shall make or cause to be made, in a book to be kept by him for that purpose, memoranda of all the transactions of such Committee, which book he shall on ceasing to be such Chairman, hand over to his successor.

*Expenditure.*

Except in emergent matters, cost of all work to be estimated before undertaken.

72. With the exception of emergent matters hereinafter specially provided for, no work affecting the funds of the Borough shall be undertaken until the probable expense thereof shall have been first ascertained by the Council.

Emergent matters and necessary current expense—Expenses authorized to be reported—Outlay to be in accordance with orders of the Council.

73. For emergent matters and for necessary current expenses during the intervals which may elapse between the meetings of the Council, outlays to the following extent may be incurred:—

- (1.) By order of the Improvement Committee, or of the Mayor and one member of such Committee, for repairs or emergent works to the extent of five pounds.
- (2.) By order of the Mayor for necessary current expenses, to the extent of two pounds.
- (3.) By order of the Mayor and any two Aldermen, or without the Mayor of any four Aldermen, for any emergent purpose to the extent of five pounds.

Provided, that in every case a detailed report in writing of such outlay shall be laid before the Council at its next meeting; such report to be signed by the Chairman of the Improvement Committee or the Mayor, or the Mayor and Alderman or the Aldermen without the Mayor, as the case may be, by whom such outlay shall have been authorised—also that such outlay shall only be permissible in reference to matters coming strictly within the jurisdiction or functions of the Council, and that no outlay involving a disobedience or evasion of any order or resolution of such Council shall on any pretence be thus authorised.

Claims to be examined and reported upon by the Finance Committee.

74. All accounts and demands of money against or from the Council shall be examined and reported upon by the Finance Committee before any order shall be made for payment of such accounts or demands.

*Certificate required with each claim.*

75. No payment shall be so ordered unless there shall be a certificate or memorandum from the Committee, from the Mayor, or from the officer of the Council to whom the direction or guardianship of such expenditure properly belongs, showing that the demand is a legitimate one and has been duly authorised or required into.

Common seal and records of the Council—Common seal and press how secured—Care of same.

76. The common seal and the press to which the seal is attached shall be secured by a cover or box, which, except when such seal and press are in use, shall be kept locked. There shall be two locks of different construction to this cover or box, and of these two locks the Mayor shall keep one key and the Council Clerk the other, such common seal and press shall be in the custody and care of the Council Clerk.

*When and how common seal to be used.*

77. The common seal shall not be attached to any document without the express order of the Council. In every case when such common seal has been ordered to be attached to any document, such document shall also be signed by the Mayor, or in case of the absence or illness of such Mayor, by two Aldermen and countersigned by the Council Clerk.

*How Books of Account are to be kept and inspected.*

78. The Council Clerk shall keep such books of account and such records, statements, and memoranda of receipts and expenditure in such manner and form as the Council may from time to time direct. It shall be the duty of the Finance Committee to inspect all such books of account, records, statements, and memoranda from time to time, to ascertain that the same are properly kept, and to report at once to the Council any act of neglect or appearance of inefficiency which they may have discovered in the keeping of the same; also to report to the Council from time to time any changes which such Committee may think advisable in the mode of keeping the accounts.

*Impression of seal not to be taken, &c., without leave of Council—Penalties.*

79. No member or officer of the Council shall be at liberty to take any impression of the corporate seal, or to show, lay open, or expose any of the books or records of the Council to any person other than a member of the same without leave from such Council except as otherwise provided by law. Any member or officer of the Council who shall be guilty of a breach of this section, shall be liable on conviction for the first offence to a penalty of not less than five shillings nor more than two pounds; for a second offence to a penalty of not less than one pound nor more than ten pounds; and for a third and every subsequent offence to a penalty of not less than five pounds nor more than twenty-five pounds.

*Records not to be removed, &c.—Penalties.*

80. Any person removing any such book or other record of the Council as aforesaid from the Council Chamber, or the place where, by direction of the Council, such book or other record is usually kept, without leave for such removal having been first obtained from such Council, or without other lawful cause for such removal as hereinafter provided, shall for every such offence be liable to a penalty of not less than ten shillings nor more than ten pounds.

*Penalty for defacing or destroying record.*

81. Any person destroying, defacing, or altering any record of the Council, shall for every such offence be liable to a penalty of not less than five pounds nor more than fifty pounds.

*Officers and servants.*

*Notice to candidates in certain cases.*

82. No appointment to any permanent office at the disposal of the Council to which a salary or allowance of fifty pounds per annum, or a salary or allowance exceeding that amount, is attached, shall be made until public notice shall have been given, as hereinafter provided, inviting applications from qualified candidates for the same. The salary or allowance attached to such office shall in every case be fixed before such notice is given, and shall be stated in such notice.

*Mode of appointment.*

83. Every such appointment shall be made by ballot in such mode as may at the time be determined on.

*Exceptional cases.*

84. Nothing herein contained shall be held to prevent the employment, as may be from time to time found necessary, and as may be ordered by the Council, of any workmen or labourers on the public works of the Municipality.

*Bonds for good conduct.*

85. All bonds given by officers or servants of the Council for the faithful performance of their duties, shall be deposited with the attorney or the bankers of the corporation, as the Council may order, and no officer or servant of the Council shall be received as surety for any other such officer or servant.

*Duties of Council Clerk.*

86. The Council Clerk, in addition to the duties which by the Municipalities Act of 1867, or by the present, or any other By-laws thereunder, he may be required to perform, shall be the Clerk of all Revision Courts held in the Borough, under the provisions of the said Municipalities Act. He shall also, under the direction of the Mayor, conduct all correspondence which may be necessary on the part of the Council; he shall likewise have charge of all the records of such Council, except such books or documents as may (as hereinafter provided) be entrusted to any other officer, and shall be responsible for the safe keeping of such records; he shall generally assist the Mayor in the performance of his duties and in carrying out the orders of the Council; the Council Clerk shall also have charge of such books of account and other records of the Council, as are mentioned in sections 78, 79, 80, and 81 of these

By-laws, and shall be responsible for the safe keeping of the same; any other officer of the Council may have any other records thereof committed to his charge by an order of the Council, and in such case shall be responsible for the safe keeping of such records.

**Duties of other officers and servants.**

87. The duties of all officers and servants of the corporation shall be defined by such regulations as may from time to time, and in accordance with law, be made.

**Special powers of Mayor.**

88. The Mayor shall exercise a general supervision over all officers and servants of the corporation, and may order the preparation of any such return or statement, or the giving of any such explanation or information by any such officer or servant as he may think necessary, unless such return or statement shall have been already prepared, or such explanation or information already given; and such return, statement, explanation, or information is on record or hereinbefore provided; or unless the Council shall have expressly forbidden or dispensed with the preparation of such return or statement, or the giving of such explanation or information; all such returns or statements as aforesaid shall be in writing, and shall be recorded; all such explanation or information may, except as hereinafter provided, be either rendered *viva voce*, or put into writing as the Mayor may direct.

**How complaints against officers, &c., are to be dealt with.**

89. All complaints against officers or servants of the corporation must be in writing and addressed to the Mayor, and must in every case be signed by the person or persons complaining; and no notice whatever shall be taken of any complaint which is not in writing, or is anonymous; all such complaints as aforesaid shall be laid by the Mayor before the Council, at the next meeting thereof, which shall be holden after the Mayor shall have received the same, and shall be duly recorded.

**Miscellaneous.**

**Leave of absence.**

90. No leave of absence shall be granted to the Mayor or to any Alderman otherwise than by resolution of the Council, adopted after due notice.

**Motions for rescission of previous orders, &c.**

91. Whenever a motion for the rescission of any order, resolution, or vote of the Council shall have been negatived, no other motion to the same effect shall be permissible until a period of three months shall have elapsed from the time of negativing such first-mentioned motion: Provided that nothing herein contained shall be held to prohibit the reconsideration and amendment of any proposed By-laws which may have been submitted to the Governor for confirmation, and may have been remitted to the Council with suggested amendments of the same, or the passage, after due notice as hereinbefore provided, and in due course of law, of any By-law, for the repeal or amendment of any other By-law.

**Lapsed business.**

92. Whenever the consideration of any motion or matter of business shall have been interrupted, by reason of a quorum not having been present, the resumption of such consideration may be ordered by resolution of the Council, after due notice; and such consideration shall in such case be resumed at the point where it was so interrupted as aforesaid.

**Suits and prosecutions for penalties, &c.**

93. Such suits or informations for the enforcement of penalties for or in respect of breach of the Municipalities Act of 1867, or of any By-law made thereunder, or of any statute, the operation of which may have been extended to the Municipality as may have been directed by the Council, shall be so commenced or laid by the solicitor of the Municipality, or by any officer named by the Council for that purpose, imposing the penalty sought to be imposed; and no such suit shall be brought or information laid as aforesaid against any member of the Council, or auditor, or servant, except on an express resolution of the Council.

**How to suspend temporarily certain portions of these By-laws.**

94. Any of the foregoing By-laws, or any portion thereof that relate to or affect the proceedings at meetings of the Council, may be suspended *pro tempore* without notice, in cases of emergency, if all the members of the Council then present deem such suspension necessary.

**PART II.**

**Collection and enforcement of rates.—Rates when due and payable.**

1. All rates levied and imposed by the Council shall be held to be due and payable on and after such day or days as the Council shall by resolution, without any notice of motion, from time to time appoint.

**Office hours.**

2. All rates shall be paid at the Council Chambers during the hours appointed by the Council for that purpose.

**Defaulters.**

3. Every person not paying his or her rates as aforesaid upon the day or days so appointed for payment thereof, shall be deemed a defaulter, and it shall be the duty of the Council Clerk to furnish the Mayor from time to time with a list of the names of all persons so in default.

**Mayor to enforce payment.**

4. It shall be the duty of the Mayor to take proceedings to enforce payment of all rates in default, either by action at law or by issuing warrants of distraint upon the goods and chattels of the defaulter.

**Enforcement by distress.—Bailiff.**

5. A Bailiff shall, when found necessary, be appointed by the Mayor.

**Bailiff's sureties.**

6. The Bailiff shall find two sureties to the satisfaction of the Mayor, to the extent of twenty-five pounds each, for the faithful performance of his duty.

**Duty of Bailiff.**

7. It shall be the duty of the Bailiff to make all levies by distress for the recovery of rates in the manner hereinafter provided.

**Warrant of distress.**

8. All levies and distresses shall be made under warrant, in the form of Schedule A hereto, under the hand of the Mayor, or any Alderman who may for the time being be duly authorised to perform the duties of that office.

**Distress and sale, &c.**

9. If the sum for which any such distress shall have been made shall not be paid, with costs as hereinafter provided, on or before the expiration of five days, the Bailiff shall sell the goods so distrained, or a sufficient portion thereof, by public auction, either on the premises or at such other place within the said Municipality as the Bailiff may think proper to remove them to for such purposes; and shall pay over the surplus (if any) that may remain, after deducting the amount of the sum distrained for and costs, as hereinafter provided, to the owner of the goods so sold, on demand of such surplus by such owner.

**Inventory.**

10. At the time of making a distress the Bailiff shall make out a written inventory in the form of Schedule B hereto, which inventory shall be delivered to the occupant of the land or premises or the owner of the goods so distrained, or to some person on his or her behalf, resident at the place where the distress shall be made, and in case there shall be no person at such place with whom such inventory can be left as aforesaid, then such inventory shall be posted on some conspicuous part of the land or premises on which the distress is made, and the Bailiff shall give a copy of the inventory to the ratepayer on demand, at any time within one month after making such distress, and shall give a copy of the inventory to the Council Clerk.

**Goods may be impounded.**

11. The Bailiff on making a distress as aforesaid, may impound or otherwise seize the goods or chattels so distrained, of what nature or kind soever, in such place or places, or in such part of the land or premises chargeable with rates, as shall be most fit and convenient for this purpose; and it shall be lawful for any person whomsoever after the expiration of the five days, as hereinbefore mentioned, to come and go to and from such place, or part of the said land or premises where such goods or chattels shall be impounded or secured as aforesaid, in order to view and buy, and in order to carry off and remove the same, on account of the purchaser thereof.

**Owner to direct order of sale.**

12. The owner of any goods or chattels so distrained upon may at his or her option direct and specify the order in which they shall be successively sold, and the said goods or chattels shall in such case be put up for sale according to such direction.

**Proceeds of distress.**

13. The Bailiff shall hand over to the Council Clerk all proceeds of every such distress within forty-eight hours after having received the same.

**Costs.**

14. There shall be payable to the Bailiff for the use of the Council, for every levy and distress made under this By-law, the costs and charges in the Schedule hereunto annexed marked C.

**Deputy.**

15. The Bailiff may, with the sanction in writing of the Mayor, or in his absence with the sanction of any two Aldermen of the Municipality, authorise by writing under his hand any person to act temporarily as his deputy, and the person so authorised shall have and exercise all the powers of the Bailiff himself, but the Bailiff and his sureties shall in every case be responsible for the acts of such deputy.

**SCHEDULE A.**

**Warrant of distress.**

I, Mayor of the Borough of Stockton, do hereby authorise you, the Bailiff of the said Borough, to distrain the goods and chattels in the dwelling-house (or in and upon the land and premises) of situated in street, Stockton, for being the amount of rates due to the said Borough, to the day of for the said dwelling-house (or land or premises) and to proceed thereon for the recovery of the said rates according to law.

**SCHEDULE B.**

**Inventory.**

I have this day in virtue of the warrant under the hand of the Mayor of the Borough of Stockton, dated distrained the following goods and chattels in the dwelling-house (or in and upon the land and premises) of situated in street, Stockton, within the said Borough for being the amount of rates due to the said Borough to the day of

Dated this day of Bailiff.

**SCHEDULE C.**

**Costs.**

	s.	d.
For every warrant of distress .....	2	6
For every levy .....	2	6
For man in possession each day or part of a day .....	6	0
Inventory, sale, commission, and delivery of the goods, 5 per cent. on the net proceeds of the sale.		

**PART III.**

**Preventing and extinguishing fires, fire or combustible materials, &c.**

1. Every person who shall place, or knowingly permit to be placed, in any house, yard, work shop, out-offices, or other premises, fire, gunpowder, or combustible or inflammable materials of any kind, in such manner as to endanger contiguous buildings, shall on conviction for every such offence forfeit and pay a penalty of not more than five pounds, and shall forthwith remove such fire, gunpowder, or combustible or inflammable materials, and every such person who shall suffer any such fire, gunpowder, or combustible or inflammable materials to remain as aforesaid for forty-eight hours after any such conviction, shall be deemed guilty of a further offence against this By-law.

**Inflammable fences, &c**

2. Every person who shall erect any fence of brushwood, bushes, or other inflammable materials, or shall make or place any stack of hay, corn, straw, or other produce or place as for the covering of any such stack, any inflammable material, so as to endanger contiguous buildings or properties, or any trees, slumps, or other produce of such properties, or any chattels in or upon such buildings or properties shall forfeit on conviction for every such offence a penalty of not more than five pounds, and also shall remove such fence, stack, or covering within a reasonable time after such conviction, and any person failing to remove such fence, stack, or covering within a reasonable time after any such conviction as aforesaid, shall be deemed guilty of a further offence against this By-law.

**Fireworks &c.**

3. Every person who shall light any bon-fire, tar barrel, or firework upon or within 60 yards of any public or private street or any public place, or shall discharge any firearms without lawful cause within the boundaries of the Borough shall forfeit a sum not exceeding five pounds.

**Wilfully setting fire to chimneys.**

4. Every person who wilfully sets or causes to be set on fire any chimney, flue, smoke vent, or stove-pipe herein called in common a chimney, shall forfeit a sum not exceeding five pounds: Provided always that nothing herein contained shall exempt the person so setting or causing to be set on fire any chimney, from liability to be informed against or prosecuted before any Criminal Court for such act as for an indictable offence.

**Setting fire to matter without notice.**

5. Every person who shall wilfully set fire to any inflammable matter whatsoever in the open air within five yards of any dwelling-house, or other building, or boundary or dividing fence within the said Borough without having given notice in writing to the occupiers of the land adjoining to the land upon which such matter shall be, of his intention so to do, or between the hours of six in the afternoon of any day and six in the morning of the following day, shall for every such offence forfeit a sum not exceeding five pounds.

**Water-carts to attend at fires.**

6. Every owner and driver of a licensed water-cart shall keep such cart loaded with water during all times after sunset and before sunrise, and shall if any building, premises, or property shall be on fire within the Municipality attend at the place of such fire with such cart loaded with water, and shall continue to cart water by full loads to such place and shall deliver such water in such manner as may be required by the Mayor or by any Alderman or officer or person duly authorised by the Council in that behalf, and then present for extinguishing such fire; and every such owner or driver who shall without reasonable excuse fail to comply with the provisions of this section, shall forfeit a sum not exceeding ten pounds.

**Compensation for attendance at fires—Rewards.**

7. There shall be paid out of the Municipal funds to the owner of every licensed water-cart who shall have attended with any water at the place of any fire as herein provided and delivered the same as required for extinguishing such fire such reasonable compensation as the Council shall by resolution have appointed in that behalf, and also to the owners of such carts as shall have first and second attended with loads of water such further sums, by way of reward, as the Council may by similar resolution have fixed.

**PART IV.**

**Mode of calling for Tenders.**

1. Whenever it is decided that any work shall be executed or any materials supplied by contract, tenders for the execution of such work or the supply of such material shall be called for by public notice as hereinafter provided.

**Drafts of intended By-laws.**

2. A draft of every intended By-law shall lie in the office of the Council for at least seven days before such draft shall be taken into consideration by such Council and shall be open to the inspection of any ratepayer who may desire to inspect the same, and public notice shall be given as hereinafter provided that such draft is so lying for inspection.

**How notices are to be published.**

3. In all cases where public notice is or shall be required to be given by any By-law of any appointment, resolution, act, order, or regulation of the Council or any Committee thereof, or by the Mayor or any officer of the said Council, such notice shall be given and published by posting the same on or near the outer door of the Council Chambers for the space of seven days and by advertising the same in some newspaper circulating in the Municipality.

**Persons obstructing officers of the Council.**

4. Any person or persons who shall obstruct any officer or the said Council while in the performance of his duty, or who shall interfere with any officer of the said Council doing, or performing, or going to perform, or returning from the performance of any duty or act under these By-laws by using any threats, offensive language, hindrance, or insulting language towards the said officer in any street, road, or other place within the said Municipality shall forfeit and pay for every such offence a penalty not exceeding twenty pounds nor less than two pounds.

**Plans of proposed new road, &c. to be deposited.**

5. Whenever any proprietor or proprietors of land within the said Municipality shall open any road, street, or way or lay out any park or other place for public use or recreation through or upon such land and shall be desirous that the Council shall undertake the care and management of such road, street, way, reserve, or other place, he or they shall furnish the Council with a plan or plans signed by himself or themselves, showing clearly the position and extent of such road, street, way, reserve, or other place as aforesaid.

**Dedications of new roads, &c.**

6. If the Council determine to take charge of any such road, way, or other place as aforesaid, the plan or plans, so signed as aforesaid, shall be preserved as a record or records of the Council, and the proprietor or proprietors aforesaid shall execute such further instrument dedicating such road, way, reserve, or other place, to public use or recreation as aforesaid, as may be considered necessary by the Improvement Committee, and such further instrument of dedication shall also be preserved as a record of the Council.

**Change of street levels.**

7. Whenever it may be deemed necessary to alter the level of any such public road, street, or way as aforesaid, the Council shall cause a plan and section showing the proposed cuttings to be exhibited at the Council Chamber for fourteen days, for the information and inspection of ratepayers, and shall notify by advertisement in some newspaper circulating in the Municipality, that such plan is so open to inspection; at a subsequent meeting of the Council the said plan and section shall, if adopted, be signed by the Mayor or Chairman, and the proposer and seconder of the motion for such adoption, and countersigned by the Council Clerk, and such plan and section so signed and countersigned, shall be a record of the Council.

## Improvement Committee to fix street levels, &amp;c.

8. The Improvement Committee, or any officer or person acting under the supervision of such Committee, shall, subject to such orders as shall from time to time be made by the Council in that behalf, fix and lay out the levels of the public roads, streets, and ways within the Municipality, and the carriage and foot ways thereof; and it shall be the duty of such Committee, officer, or person, to place posts at the corners or intersections of any such public roads and streets, and of the carriage-ways and footways of such roads and streets, whenever the same may be considered necessary or desirable by the Council: Provided that there shall be no change of levels in any such public road, street, or way, until the same shall have been submitted to and adopted by the Council as hereinafter directed.

## Kerbing, flagging, and tar-paving.

9. The Council may cause the footway or pathway in front of any house or ground along any street, private street, or lane within the Municipality, to be kerbed and flagged or asphalted in such manner as the Council may think fit, that one-half the amount of the cost of kerbing be borne and paid by the owner of such house or ground, and one-half the expense of asphalted be borne and paid by the said owner of such house or ground; such costs may be recovered from the owner of such house or ground in a summary way before any two Justices of the Peace: Provided also, that no proceeding for the recovery thereof shall be taken until at least one month after a requisition for payment of the amount, together with an account of the total expenditure, signed by the Council Clerk, has been delivered to such owner.

## Erection of house—fee for permission, &amp;c.

10. No person shall be permitted to erect any house, shop, or other building, in any street lane, or place within the said Municipality without first serving seven days notice in writing on the Mayor or Council Clerk, or other duly authorised officer, before commencing the same, stating his intention, setting out a plan, and giving particulars of the proposed building, and, at the time the said notice is given, paying to the Council Clerk, or other duly authorised officer, a fee of five shillings for permission to erect such house, shop, or other building, and every owner of, every contractor for, such house, shop, or other building, or any part thereof, commencing to build or work thereon without such notice having been given, shall forfeit and pay for every such offence any sum not exceeding forty shillings nor less than five shillings.

## Pipes, gutters, &amp;c.

11. It shall not be lawful for any person to carry by means of pipes, gutters, or other contrivances, any rain-water from the roof of his or her premises or house upon any of the footways of any street or public place within the said Municipality, and any owner or occupier of any such house or premises who shall neglect or refuse to remedy or remove any such pipes, gutters or contrivances when required to do so by any officer of the said Council, shall on conviction forfeit and pay any sum not exceeding two pounds nor less than five shillings: Provided that the owner or occupier of any such premises or house may convey any such rain-water by means of pipes laid under the surface of any such footways into the gutter adjoining the same, subject to the approval of the Improvement Committee or other duly authorised officer.

## No balcony, &amp;c., to project.

12. With regard to buildings hereafter to be built or rebuilt, it shall not be lawful for any awning, verandah, portico, coping, parapet, overhanging eaves, cornice, windows, string-cornice, string-course dressing, or other architectural decoration forming part of or attached to any external wall to project beyond the building line of any street or road, except with the consent of the Council first obtained, nor shall any balcony, or any other external projection as aforesaid, which may hereafter be added to any existing building, be allowed to project as aforesaid, under a penalty not exceeding five pounds nor less than one pound, except with the consent of the Council first obtained: Provided that no such awning, verandah, portico, or balcony shall be permitted to be erected in any street less than thirty feet wide: Provided also that any person desiring to erect any such structure shall first submit a plan for the approval of the Council.

## Encroachments must be removed on notice.

13. The Surveyor or any other such officer or person may, at any time on the order of the Council, and upon due notice of thirty days, direct the removal of any building, fence, or other obstruction or encroachment in and upon any road, street, lane, or thoroughfare under the charge of the Council. Notice shall in this case be served either personally or at the usual or last known place of abode of the person to whom such obstruction or encroachment in structure belongs, or who has erected the same, or caused it to be erected.

## Council may remove encroachments.

14. In any case where, after service of notice for the removal of any obstruction or encroachment as aforesaid, the person causing the same shall not remove it within a reasonable time, it shall be lawful for the Council to direct the removal of the same, under the superintendence of its own proper officer, and at the cost of the person so offending: Provided that the expense thereby incurred shall in no case exceed the sum of ten pounds, or at the Council's option to proceed against the offender for breach of By-law, the penalty not to exceed twenty-five pounds nor be less than one pound, and in case of every successive offence the penalty on conviction not to be less than five pounds.

## Or may proceed by action.

15. In every case where the obstruction or encroachment cannot be removed unless at a greater cost than ten pounds, it shall be open to the Council either to direct such removal, and to pay all the costs thereof above ten pounds from the funds of the Council, or to proceed by action for trespass against the person causing such obstruction or encroachment, or to proceed as for a breach of such By-law as aforesaid.

## To apply also to obstructions by digging, &amp;c.

16. The foregoing provisions shall be equally applicable to all obstructions by digging or excavations, and any person who shall wilfully obstruct or interfere with the Surveyor or other officer as aforesaid, or any person acting for or under him, or either of them, in the exercise of any of the duties or powers by these By-laws imposed or cast on the said Surveyor or officer, shall on conviction forfeit and pay a penalty of not less than two pounds or more than twenty pounds.

## Hoards or fences to be erected.

17. Every person intending to build or take down any building within the limits of the Municipality, or to cause the same to be so done, or to alter or repair the outward part of any such building, or to cause the same to be done, where any street or footway will be obstructed or rendered inconvenient by means of such work, shall, before beginning the same, cause sufficient hoards or fences to be put up in order to separate the building where such works are being carried on from the street with a convenient platform and handrail, if there be room enough to leave as a footway for passengers outside of such hoard or fence, and shall continue such hoard or fence with such platform and handrail as aforesaid standing in good condition to the satisfaction of the officer of the Council of the said Borough during such time as the public safety or convenience requires, and shall in all cases in which it is necessary in order to prevent accidents cause the same to be sufficiently lighted during the night; and any such person who shall fail to put up such fence, or hoard, or platform, with such handrail as aforesaid, or to continue the same respectively standing in good condition as aforesaid during the period of such building or taking down, or who shall not while the said hoard or fence is standing keep the same sufficiently lighted in the night, or who shall not remove the same when directed by the officer of the Council of the said Municipality within a reasonable time afterwards, shall for every such offence be liable to a penalty not exceeding forty shillings for every day such default is continued.

## No turf, gravel, &amp;c., to be removed from the streets without permission.

18. Any person who shall form, dig, or open any drain or sewer, or remove or cause to be removed any turf, clay, sand, soil, gravel, stone, or other material in or from any part of the carriage or foot way of any street or public place within the said Municipality without leave first had and obtained from the Council, or who shall wantonly break up or otherwise damage any such carriage or foot way, shall on conviction forfeit and pay for every such offence any sum not exceeding five pounds nor less than one pound.

## Holes to be enclosed.

19. Any person or persons who shall dig or make, or cause to be dug or made, any hole, or leave or cause to be left any hole adjoining or near to any street or public place within the said Municipality, for the purpose of making any vault or vaults, foundation, or to any house or other building, or for any other purpose whatsoever, or shall erect or pull down any building, and shall not first enclose the same, and keep the same enclosed in a good and sufficient manner, to the satisfaction of the Improvement Committee or authorised officer of the said Municipality, or shall keep up or cause to be kept up and continued any such enclosure for any time which shall be longer than shall be absolutely necessary in the opinion of the said Improvement Committee or authorised officer, and shall not place lights upon each side of the said enclosure, and keep the same constantly burning from sunset to sunrise during the continuance of such enclosure, shall forfeit and pay for every such refusal or neglect any sum not being less than forty shillings nor exceeding five pounds.

Open spaces and steps adjoining the footways to be enclosed under penalty.

20. Every owner or occupier of any house, building, premises, or land within the said Municipality having any entrance, area, garden, or other open space, or any vacant building lot, water-hole, or excavated space, adjoining the footway of any street or public place in such Municipality, shall protect and guard the same by good and sufficient paling fence so as to prevent danger to persons passing and repassing; and every such owner or occupier of any such house, building, premises, or land, having any steps adjoining the footway of any such street or public place shall in like manner protect and guard the same by fences, rails, or other enclosures, so as to prevent the like danger to persons passing and repassing, and on failure thereof every such owner or occupier shall, as often as he shall be convicted of such offence, forfeit and pay any sum not being less than forty shillings nor more than five pounds; and every such owner or occupier as aforesaid who shall fail to erect such rails, fences, or other enclosures as aforesaid, within seven days after any such conviction as aforesaid, shall be deemed guilty of a further offence against this By-law.

Wells to be covered over—Penalty.

21. Every person who shall have a well or underground tank, used for domestic or other purposes, situated between his or her dwelling-house or the appurtenances thereof, and any road, street, or footway within the limits of the said Municipality, or at the side of or in any yard or place open or exposed to such road, street, or footway, shall cause such well to be securely and permanently covered over, and if any person having such well or underground tank as aforesaid shall fail to cover over and secure the same within twenty-four hours after notice in writing shall have been given to him or her by any officer of the said Council, or shall have been left for such person at his or her usual or last known place of abode, or on the said premises, shall on conviction forfeit and pay the sum of ten shillings, and for every day after such notice that such well shall remain open or uncovered contrary to the provisions hereof, such person shall be deemed guilty of a separate offence against this By-law.

Temporary stoppage of traffic for repairs, &c.

22. The Improvement Committee or any officer or person acting under the authority of such Improvement Committee may at any time cause the traffic of any street, lane, or thoroughfare, or any portion thereof to be stopped for the purpose of repairing the same, or for any necessary purpose, and any person or persons offending against this By-law, either by travelling on such street, lane, or thoroughfare, or by removing or destroying any obstruction that may be placed thereon for the purpose of suspending the traffic, shall forfeit and pay a penalty of any sum not exceeding five pounds for every such offence.

Drawing or trailing timber, &c.

23. Any person who shall haul or draw, or cause to be hauled or drawn upon any part of any street or public place within the said Municipality any timber, stone, or other things otherwise than upon wheeled vehicles or barrows, or shall suffer any timber, stone, or other thing which shall be carried principally or in part upon any wheeled vehicle or barrow to drag or trail upon any part of such street or public place, to the injury thereof, or to hang over any part of any such vehicle or barrow, so as to occupy or obstruct the street beyond the breadth of the said vehicle or barrow, shall upon conviction forfeit and pay for every such offence a sum of not more than forty shillings nor less than five shillings over and above the damages occasioned thereby.

Driving carriages, &c., on footways, and throwing stones, &c.

24. Any person who shall throw, cast, or lay, or shall cause, permit, or suffer to be thrown, cast, or laid, or to remain, any ashes, rubbish, offal, dung, soil, dead animal, blood, or other filth or annoyance, or any matter or thing in or upon the carriage-way or footway of any street or other public place in the said Municipality, or shall kill, slaughter, dress, scald, or cut up any beast, swine, calf, sheep, lamb, or other animal in or so near to any such street or other public place as that any blood or filth shall run or flow upon or over, or be on any or either of any such carriage or foot way, or shall run, roll, drive, draw, place, or cause, permit, or suffer to be run, rolled, driven, drawn, or placed upon any of the said footways of any such street or public place any waggon, cart, dray, sledge or other carriage or any wheel, wheelbarrow, handbarrow, or truck, or any hogs-head, cask, or barrel, or shall wilfully lead, drive, or ride, any horse, ass, mule or other beast upon any such footway, shall upon conviction forfeit and pay for the first offence a sum not exceeding forty shillings nor less than five shillings; for the second offence: a sum not exceeding five pounds nor less than ten shillings; and for a third and every subsequent offence, a sum not exceeding ten pounds nor less than one pound for each such offence; and should the person in charge of such waggon, cart, dray, or other vehicle refuse to give his name and address the owner of the same may be prosecuted under this By-law for causing a breach of the same.

Placing carriages, goods, &c., on footways, &c.—Not removing when required.—Replacing the same after removal.—Not to prevent awnings being erected in front of shops.

25. Any person who shall set or place, or cause or permit to be set or placed, any stall, board, chopping-block, show-board (on hinges or otherwise), basket, wares, merchandise, casks, or goods of any kind whatsoever, or shall hoop, place, wash, or cleanse, or shall cause to be hooped, placed, washed, or cleansed any pipe, barrel, cask, or vessel in or upon or over any carriage or foot way in any street or public place within the said Municipality, or shall set out, lay, or place, or shall cause or procure, permit or suffer to be set out, laid, or placed any coach, cart, wain, waggon, dray, wheelbarrow, handbarrow, sledge, truck, or other carriage upon any such carriage-way, except for the necessary time of loading or unloading such cart, wain, waggon, dray, sledge, truck, or other carriage, or taking up or setting down any fare, or waiting for passengers when actually hired, or harnessing or unharnessing the horses or other animals from such coach, cart, wain, waggon, dray, sledge, truck, or other carriage; or if any person shall set or place, or cause to be set or placed in or upon or over any such carriage or foot way any timber, stones, bricks, lime, or other materials or things for building whatsoever (unless the same shall be enclosed as herein directed), or any other matters or things whatsoever, or shall hang out or expose, or shall cause or permit to be hung out or exposed, any meat or offal or other things or matter whatsoever from any house or other building or premises over any part of any such footway or carriage-way, or over any area of any house or other building or premises or any other matter or thing from and on the outside of the front or any other part of any house or other building or premises, or over or next unto any such street or public place, and shall not immediately remove all or any such matters or things, being thereto required by the Inspector of Nuisances or other proper officer of the Council; or if any person who, having in pursuance of any such requisition as aforesaid, removed or cause to be removed any such stall, board, show-board, chopping-block, basket, wares, merchandise, casks, goods, coach, cart, wain, waggon, dray, wheelbarrow, handbarrow, sledge, truck, carriage, timber, stones, bricks, lime, meat, offal, or other matters or things, shall at any time thereafter again set, lay, or place, expose or put out, or cause, procure, permit, or suffer to be set, laid, placed, exposed, or put out the same or any of them, or any other stall, board, show-board, chopping-block, basket, wares, merchandise, goods, timber, stones, bricks, lime, coach, cart, wain, waggon, dray, truck, wheelbarrow, handbarrow, sledge, meat, offal, or other things or matters whatsoever, save and except as aforesaid, in, upon, or over any such carriage or foot way of or next unto any such street or public place as aforesaid, shall upon conviction for every such offence forfeit and pay for the first offence a sum not exceeding forty shillings nor less than five shillings; for the second offence, a sum not exceeding five pounds nor less than ten shillings; and for a third and every subsequent offence a sum not exceeding ten pounds nor less than one pound: Provided that nothing herein contained shall be deemed to prevent any person from placing an awning in front of his or her shop or house in such a manner as that such awning shall be at least seven feet above the height of the footway, and that the posts be placed close to the kerbstone or outer edge of such footway.

Obstructing public pathways.

26. If the owner or occupier of any land situate on the side of any street or road in this Municipality shall permit any tree, shrub, or plant kept for ornament or otherwise, to overhang any footpath or footway on the side of any such street or road, and, on demand made by the Council, shall not cut, lop, or cause to be lopped, all such trees, shrubs, or plants, to the height of ten feet at the least, the said Council, by their servants, labourers, and workmen, may cut or cause to be cut or lopped all such overhanging trees, plants, or shrubs, and to remove or burn any such trees, plants, or shrubs so cut or lopped without being deemed a trespasser or trespassers, and in case any person or persons shall resist or in any manner forcibly oppose the said Council, or their servants, labourers, or workmen in the due execution of the powers given in this behalf by virtue of the Municipalities Act of 1867, every person so offending shall on conviction for every such offence forfeit and pay any sum not exceeding ten pounds nor less than one pound.

Slop, night-soil, &c., to be conveyed away only at certain hours.

27. Any person or persons who shall drive or cause to be driven any cart or other carriage with any night-soil or ammoniacal liquor therein through or in any street or public place within the said Municipality between the hours of five o'clock in the morning and ten o'clock at night, or shall fill any cart or other carriage so as to turn over or cast any night-soil, ammoniacal liquor, slop, mire, or channel dirt or filth, in or upon any such street or public place, or shall deposit night-soil, ammoniacal liquor, or other offensive matter nearer to any street, road, or dwelling-house, than shall be directed by the said Council, or by the Inspector of Nuisances, or shall remove night-soil or other offensive matter otherwise than in

properly covered and watertight carts or other vehicles, or shall cause any vehicle used for this purpose to stand on any premises nearer to any road, street, or dwelling-house than shall be directed by the said Council or the said Inspector of Nuisances, shall for every such offence forfeit and pay any sum not exceeding five pounds; and in case the person so offending shall not be known to the said Council or Inspector, then the owner of such cart or carriage in which such night-soil or other offensive matter shall be put or placed, and also the employer of the person so offending, shall be liable to and forfeit and pay such penalty as aforesaid.

*Riding on drays, carelessly driving, &c.*

28. If the driver of any waggon, wain, cart, or dray of any kind, shall ride upon any such carriage in any street as aforesaid, not having some person on foot to guide the same (such carts as are drawn by one horse and driver, or guided with reins only, excepted), or if the driver of any carriage whatsoever shall wilfully be at such a distance from such carriage, or in such a situation whilst it shall be passing upon such street that he cannot have the direction and government of the horse or horses or cattle drawing the same, or if the driver of any waggon, cart, dray, or coach, or other carriage whatsoever, meeting any other carriage, shall not keep his waggon, cart, dray or coach, or other carriage, on the left or near side of the road, street, or thoroughfare, or if any person shall in any manner wilfully prevent any other person or persons from passing him or her, or any carriage under his or her care, upon such street, or by negligence or misbehaviour prevent, hinder, or interrupt the free passage of any carriage or person in or upon the same, every such driver of person so offending shall upon conviction forfeit and pay any sum not exceeding forty shillings.

*Riding or driving furiously, &c.*

29. Any person who shall ride or drive through or upon any street or public place within the said Municipality so negligently, carelessly, or furiously that the safety of any other person shall or may be endangered, shall on conviction forfeit and pay a sum not exceeding ten pounds nor less than two pounds.

*Breaking in horses, &c.*

30. Any person or persons who shall in any road or public place within the said Municipality drive any carriage or carriages for the purpose of breaking in, exercising, or trying horses, or shall ride, drive, or lead, any horse, mare, or gelding, for the purpose of airing, exercising, trying, breaking, or showing, or exposing for sale any such horse, mare, or gelding, otherwise than by passing quietly through such streets or public places, shall forfeit and pay any sum not exceeding forty shillings; and any person who shall within the said Municipality furiously or carelessly drive any horse, mare, or gelding to or from any public watering place, creek, or river, or pasturage, or elsewhere, shall forfeit and pay any sum not exceeding forty shillings.

*Blasting rock—No rock to be blasted without notice to the Council Clerk.*

31. Any person who shall be desirous of blasting any rock within one hundred yards of any street or public place, or dwelling house, in the said Municipality, shall give notice in writing twenty-four hours previously to the Council Clerk, who shall appoint a time when the same may take place, and give such other directions as he may deem necessary for the public safety, and if any person shall blast, or cause to be blasted, any rock within the limits aforesaid without giving such notice or shall not conform to the directions given to him by the said Council Clerk, he or she shall on conviction forfeit and pay for every such offence, any sum not less than five pounds nor more than twenty pounds.

*Public Property.*

*Toujuring or extinguishing lamps.*

32. Any person who shall wantonly or maliciously break or injure any lamp or lamp-post, or extinguish any lamp set up for public convenience in the said Municipality, shall over and above the necessary expense of repairing the injury committed, forfeit and pay for every such offence any sum not less than one pound nor more than five pounds.

*As to damaging buildings*

33. Any person who shall damage any public building, toll-gate, toll-bar, toll-board, wall, parapet, fence, sluice, bridge, culvert, sewer, water-course, or other public property within the said Municipality, shall pay the costs of repairing the same, and if such damage be wilfully done, shall forfeit and pay a sum not exceeding twenty pounds nor less than five pounds.

*Affixing placards on walls, &c.*

34. If any person or persons shall paste, or cause to be pasted, or otherwise affix any placard or other paper, or chalk, or paint, upon any wall, fence, culvert, kerbstone pathway, handrail, or other property of the Council, shall forfeit and pay for every such separate offence, a sum not exceeding five pounds nor less than one pound.

*Damaging trees*

35. Any person who shall wilfully and without the authority of the Council, cut, break, bark, root up, or otherwise destroy or damage the whole or any part of any tree, sapling, shrub, or underwood, growing in or upon any street or place under the management of the Council, shall forfeit any sum not exceeding ten pounds nor less than one pound.

*Nuisances.*

*Dead animals, &c., not to be thrown into any public water-courses, &c.*

36. Any person who shall cast any filth, rubbish, or any dead animal, or any animal, with intent of drowning, into any public water-course, sewer, water-hole, river, creek, road, or pathway, or who shall suffer slops, suds, or filth of any kind to flow from his or her premises, into any such water-course, water-hole, river, creek, or canal, or who shall permit or suffer any such slops, suds, or filth, to flow from his or her premises over any of the footways or streets of the Municipality, or shall permit or cause by means of pipes, shotts, channels, or other contrivances, filth of any kind whatsoever to flow into any public water course, water-hole, river, creek, or canal, or shall obstruct or divert from its channel any sewer or water-course, river, creek, or canal, shall forfeit any sum not exceeding five pounds nor less than two pounds.

*Dead animals—Mode of removal.*

37. If any animal shall die in any part of the said Municipality, and the owner of such animal, or the occupier of the place, if private property, where such animal shall have died, shall not cause such animal to be immediately destroyed by fire or so effectively removed and disposed of that no nuisance can possibly result therefrom in any part of the said Municipality, he shall for every such offence, forfeit and pay any sum not exceeding fifty pounds nor less than two pounds.

*Hog-sties to be one hundred feet from streets, and animals suffered to stray, &c.*

38. Any person who shall breed or keep so as to be a nuisance, any kind of swine, in any house, building, yard, garden or other place situated and being within one hundred feet of any street or public place in the said Municipality, or shall suffer any kind of swine, or any horse, ass, mule, sheep, goat, cow, or any other animal of a like nature, belonging to him or her, or under his or her charge, to stray or go about or to be tethered or depastured in any street, road, or public place, shall on conviction forfeit and pay any sum not exceeding forty shillings nor less than five shillings for such and every animal so bred, kept, suffered to stray or go about, or to be tethered or depastured in any such street, road, or public place as aforesaid; and the owner or occupier of any house or premises or other place within the said Municipality wherein any such swine, horse, ass, mule, sheep, goat, cow, or other animal is kept, fed, milked, or used in any way whatsoever, shall, within the meaning of these By-laws be deemed the owner of every such animal, so bred, kept, suffered to stray, or to be tethered or depastured in any such street or public place as aforesaid; and the words "any house," "building," "yard," "garden," "or other place," wherein any kind of swine shall be bred or kept as aforesaid, shall respectively be deemed hog-sties, within the meaning of these By-laws; and the word "horses" shall be sufficient designation for any entire, geldings, mares, or foals; and the word "cattle" for any bulls, oxen, cows, or calves, when more than one is the subject of any information and summons under the provisions of these By-laws.

*Cleansing butchers shambles, slaughter-houses, &c.*

39. For preserving the cleanliness of the said Municipality and the health of the inhabitants thereof, it shall be lawful for the Inspector of Nuisances, or any other officer or officers appointed by the Council from time to time, and when and as often as he or either of them shall see occasion to visit and inspect the butchers shambles, slaughter-houses, boiling-down establishments, tanneries, and felmonger establishments, in the said Municipality, and to give such directions concerning the cleansing the said shambles, slaughter-houses, tanneries, and establishments, both within and without, as to him shall seem needful; and any butcher or the owner or occupier of any such shambles, slaughter-house, tannery, or establishment, who shall refuse or neglect to comply with such directions within a reasonable time, shall forfeit and pay a sum not exceeding ten pounds nor less than ten shillings.

*Complaints respecting dirty premises, &c.*

40. Upon the complaint of any householder that the house, premises, yards, closets, or drains of the neighbouring or adjoining premises are a nuisance or offensive, the Inspector of Nuisances, or any other officer appointed by the said Council, shall make an inspection of the premises complained of, and the officer of the said Council shall have the full power without any other authority than this By-law to go upon such premises for the aforesaid purpose; and any person who shall personally or by any person in his employment, or under his control, suffer any waste or stagnant water, or any muck, filth, soil, or other offensive matter, in any cellar or place within any dwelling-house or premises within the said Muni-

cipality, or shall in the like manner suffer the contents of any water-closet, privy, or cesspool to overflow or soak therefrom, shall for every such offence, forfeit and pay a sum not exceeding five pounds nor less than one pound.

**Various obstructions and annoyances.**

41. Every person who, in any street or other public place or passage within the said Municipality, to the obstruction, annoyance, or danger of the residents or passengers, shall commit any of the following offences, shall on conviction for any and every such offence forfeit and pay a penalty of not more than two pounds:—

- (1) Every person who shall hoist or cause to be hoisted, or lower or cause to be lowered, goods of any description from any opening in any house fronting any street or public place, and close to the footway thereof, without sufficient and proper ropes and tackling.
- (2) Every person who shall carry or convey, or cause to be carried or conveyed, in any street or public place, the carcass or any part of the carcass, of any newly-slaughtered animal without a sufficient and proper cloth covering the same for the concealment from public view, or shall hawk or carry about butchers' ment for sale without covering the same as aforesaid.
- (3) Every person who shall place any line, cord, or pole across any street, lane, or passage, or hang or place clothes thereon, or allow any tree or shrub overhanging the footpath to the danger or annoyance of any person.
- (4) Every person who shall place any flower-pot in any upper window near to any street or public place without sufficiently guarding the same from being thrown down.
- (5) Every person who shall throw or cast from the roof, or any part of any house or other building, any slate, brick, part of a brick, wood, rubbish, or other material or thing, unless within a hoard or enclosure, when any house or building is being erected, pulled down, or repaired.
- (6) Every blacksmith, whitesmith, or anchormith, nailmaker, metal-founder, limeburner, brickmaker, potter, or other person using a forge, furnace, or kiln, and having a door, window, or aperture fronting or opening into or toward any street, lane, or passage, and not enclosing such door, or not fastening the shutters or other fastenings of such window, and closing such aperture, or placing a screen before the same every evening within one hour after sunset, so as effectually to prevent the light from showing through the doorway, window, or aperture next or upon such lane, street, or passage.
- (7) Every person who shall within the distance of one hundred yards from any dwelling house, burn any rag, hay, cork, or other offensive substance, to the annoyance of any inhabitant.
- (8) Every person who shall carry goods, or any frame, to the annoyance of any person upon the footway of any street, or other public footway.
- (9) Every person who shall be the keeper of or have any dog or other animal which shall attack or endanger the life or limb of any person who may have the right of way or use of any private yard, alley, street, or any other place within the said Municipality.

**Premises in state to endanger public health.—Houses to be purified on certificate of two medical practitioners.**

42. If upon the certificate of any two duly qualified medical practitioners, it appear to the Council that any house or part thereof, or the premises occupied in connection therewith within the said Municipality is or are in such a filthy or unwholesome condition that the health of any person is or may be liable to be affected or endangered thereby, and that the whitewashing, cleansing, or purifying of any house or part thereof, or the premises occupied in connection therewith, would tend to prevent or check infectious or contagious disease, the said Council shall give notice in writing to the owner or occupier of such house or part thereof, or the premises occupied in connection therewith, to whitewash, cleanse, or purify the same, as the case may require, and if the person to whom no ice is so given shall fail to comply therewith within such time as shall be specified in the said notice, he shall be liable to a penalty not exceeding ten shillings for every day during which he continues to make default: Provided that no such penalties shall collectively amount to a greater sum than twenty pounds.

**Offences against public decency.—Bathing prohibited within certain limits.**

43. Any person who shall bathe near to or within view of any inhabited house, or of any public wharf, quay, bridge, street, road, or other place of public resort within the limits of the said Municipality, between the hours of six o'clock in the morning and eight in the evening shall on conviction forfeit and pay a sum not exceeding one pound for every such offence.

**Penalty on indecent exposure of the person.**

44. Any individual who shall offend against decency by exposure of his or her person in any street or public place within the said Municipality, or in the view thereof, shall on conviction forfeit and pay for every such offence a sum not exceeding ten pounds nor less than five pounds.

**PART V.**

**Noisome and offensive Trades.**

No noisome or offensive trades to be carried on to injury of any inhabitants.

1. No person shall carry on any noisome or offensive trade within the said Municipality, so as to injure or be a nuisance, as hereinafter stated, to the inhabitants thereof.

**Definition of noisome and offensive trades.**

2. Any manufacture, trade, calling, or operation, in the conducting, following, or carrying on of which, or in consequence of, or in connection therewith, or from the premises where the same is conducted, followed or carried on, any gas, vapour, or effluvia, or any large quantities of smoke shall be evolved or discharged, which gas, vapour, effluvia, or smoke, shall be calculated to injure animal or vegetable life, or in any other way to injure or to be a nuisance to the inhabitants of the said Municipality, shall be considered a noisome and offensive trade within the meaning of these By-laws.

**Complaint—Inquire and Report—Order of Council thereon—Notice to discontinue, &c.—Penalty.**

3. Upon complaint, in writing, of any householder, that any noisome or offensive trade is being so followed, conducted, or carried on in the vicinity of his or her residence or property, so as to injure his or her health, or the health of any member of his or her family, or to be a nuisance to such householder, and to his or her family, the Inspector of Nuisances, or any other person or persons appointed by the Council, shall make an inspection of the premises where such trade is alleged to be so conducted, followed, or carried on as aforesaid, and of the premises or property of the complainant, and shall inquire into the grounds for such complaint, and shall report thereon to the said Council, and if the said Council shall, on consideration of such report, or after any such further inquiry as may be deemed necessary, be of opinion that the said complaint is well founded, and that any manufacture, trade, calling, or operation so complained of, so being conducted, followed, or carried on as aforesaid, is a noisome and offensive trade within the meaning of these By-laws, notice shall be given to the person or persons conducting, following, or carrying on such trade, to cease and discontinue the same within such reasonable time not being less than thirty days nor more than sixty days, as the said Council may direct, or so to conduct, follow, or carry on his or her or their manufacture, trade, calling, or operation, so that within such reasonable time as aforesaid the same shall wholly and permanently cease to be noisome and offensive within the meaning of these By-laws, either to the said complainant or to any other resident within the said Municipality, and if such trade shall not be discontinued as aforesaid, or shall not be so conducted as that it shall wholly cease to be noisome and offensive as aforesaid, within the time named in such notice as aforesaid, any person conducting, following, or carrying on such trade as aforesaid, shall for the first offence forfeit and pay a sum not less than forty shillings nor more than five pounds, for a second offence a sum of not less than five pounds nor more than twenty-five pounds, and for the third and every subsequent a sum of not less than ten pounds nor more than fifty pounds.

**Mode of proceeding when noisome and offensive trade is about to be commenced.—Penalty.**

4. The like proceedings shall be taken as aforesaid whenever there shall be a complaint as aforesaid that any manufacture, trade, calling, or operation is about to be commenced or entered upon which is likely to prove noisome and offensive, within the meaning of these By-laws, save and except the notice to be given as aforesaid shall be given to the person or persons about to commence or enter upon such manufacture, trade, calling, or operation, and shall require him, her, or them not to commence or enter upon the same, or to take such measures as shall effectually and permanently prevent the same from becoming noisome and offensive, within the meaning of these By-laws, to any resident within the Municipality, and any person who shall in any such case commence, enter upon, or continue any such manufacture, trade, calling, or operation, so that the same shall be in any way noisome and offensive, within the meaning of these By-laws, shall for every such offence forfeit and pay a sum of not less than ten pounds nor more than fifty pounds.

**Inspector of Nuisances may take legal proceedings.**

5. The Inspector of Nuisances or other person appointed by the Council may take legal proceedings against any person or persons committing any offence or offences against any of the By-laws of the said Municipality.

**Penalties to be paid over to Treasurer.**

6. All penalties under any of these By-laws shall be paid over to the Treasurer of the said Municipality, to be appropriated as the Council may direct.

**Interpretation of "Mayor" and "Municipality."**

7. Whenever, in any of these By-laws, the word "Mayor" is made use of, it shall, unless the context shall indicate a contrary intention, be construed also to signify and include any Alderman lawfully acting for the time being in the place or stead of the Mayor; and whenever the word "Municipality" is made use of in the said By-laws, it shall be understood to signify the Borough of Stockton.

## PART VI.

*Public Exhibitions, &c.*

Exhibitions, &amp;c., to be licensed.

1. No exhibition, other than exhibitions licensed by the Colonial Secretary, under the provisions of the Act 14 Victoria, No. 23, or exhibitions of a temporary character, hereinafter specially provided for, shall be held or kept for hire or profit within the said Municipality, nor shall any bowling-alley, dancing saloon, or other place of public amusement other than a place licensed as aforesaid, or a place for temporary amusement hereinafter specially provided for, be used as such for hire or profit, within the said Municipality, unless and until permission in writing be granted by the Mayor.

Penalty for exhibiting, &amp;c., without license.

2. Every person holding or keeping any such exhibition, or using any place within the said Municipality for public amusement as aforesaid, or causing or permitting such place to be so used without such permission of such Mayor shall forfeit and pay a sum not less than five shillings nor more than forty shillings for every day such exhibition shall be so held or kept, or such place shall be so used for public amusement as aforesaid.

No exhibitions, &amp;c., on Sundays, &amp;c.

3. No such exhibition or place of public amusement as aforesaid shall be held or kept open or used for the purposes of such public amusements on Sunday, Christmas Day, or Good Friday, and every person offending against this By-law in this behalf, shall on conviction forfeit and pay a sum not exceeding five pounds nor less than two pounds for every such offence.

## PART VII.

Water supply—Polluting water, reservoirs, &amp;c.

1. Whosoever shall bathe in any stream, reservoir, conduit, aqueduct, or other waterworks belonging to or under the management or control of the Council, or shall wash, cleanse, throw or cause to enter therein any animal, whether alive or dead, or any rubbish, filth, stuff, or thing of any kind whatsoever, or shall cause or permit or suffer to run or to be brought therein the water of any sink, sewer, drain, engine, or boiler, or other filthy, unwholesome, or improper water, or shall wash any clothes at any public fountain or pump, or in or at any such stream, reservoir, conduit, aqueduct, or other waterworks as aforesaid, or shall do anything whatsoever whereby any water or waterworks belonging to the said Council or under their management or control shall be fouled, obstructed, or damaged, shall, for the first offence, forfeit and pay any sum not exceeding five pounds, for a second offence any sum not less than ten shillings nor more than five pounds, and for the third and every subsequent offence any sum not less than one pound nor more than twenty pounds.

Willful waste of water.

2. Whosoever being supplied with water by the Council from any waterworks, fountain, or reservoir, or belonging to or under the control or management of the said Council, or having access to any such waterworks, fountain, or reservoir for taking of water therefrom, shall wilfully or negligently suffer any water to run to waste from any pipe, pump, or conduit from or by which he shall be so supplied, or to which he shall have such access, shall forfeit and pay for the first offence any sum not exceeding five pounds, for a second offence any sum not less than one pound nor more than twenty pounds, and for a third and every subsequent offence any sum not less than five pounds nor more than forty pounds.

Damming up water without consent.

3. Whosoever shall, without the consent in writing of the Council, construct or place any dam or embankment, or allow any accumulation of drift or silt to accumulate in or across any river, creek, or natural water-course, shall forfeit and pay any sum not less than one pound nor more than twenty pounds, and shall remove such dam or embankment within a reasonable time after such conviction, or shall forfeit and pay any sum not less than five pounds nor more than fifty pounds, and if after such second conviction such person shall fail to remove such dam or embankment within a further reasonable time he shall forfeit and pay a sum of not less than twenty pounds nor more than fifty pounds; and if within a reasonable time after a third or any further conviction he shall still fail to remove such dam or embankment, he shall for every such offence forfeit and pay a sum of fifty pounds.

Diverting water from reservoirs

4. In any case in which the Council shall have the exclusive right of collecting for the supply of any reservoir or waterworks belonging to the said Council or under their management or control, the storm water having fallen on any gathering ground, whosoever shall by any means whatsoever divert any such water from the course of its natural flow, so that the same shall tend to flow elsewhere than to such reservoir or waterworks, or some water-course leading thereto, or shall flow to the same respectively in a foul state, shall forfeit and pay for the first offence any sum not less than one

pound nor more than twenty pounds, for a second offence any sum not less than two pounds nor more than forty pounds, and for a third and every subsequent offence any sum not less than five pounds nor more than fifty pounds.

## PART VIII.

*Sewerage and Drainage.*

No private sewers to be made to communicate with the public sewers without notice.

1. It shall not be lawful for any person without notice to the Council, or otherwise than according to such plans and directions as such Council may make and give, to make or branch any private drain or sewer into any other public drains, sewers, or channels, or into any drain or sewer communicating therewith; and in case any person or persons shall make or branch any private drain or sewer into any of the said public drains or sewers, or into any drain or sewer communicating or to communicate therewith without such notice or otherwise than as aforesaid, every person so offending shall for every such offence forfeit and pay any sum not exceeding fifty pounds.

Occupiers to repair and cleanse private sewers.

2. All drains or sewers communicating with any public drain or sewer shall from time to time be repaired and cleansed under the inspection and direction of the Council, at the costs and charges of the occupiers of the houses, buildings, lands, and premises to which the said private sewers or drains shall respectively belong, and in case any person shall neglect to repair and cleanse, or cause any such private drain or sewer to be repaired and cleansed according to the direction of the said Council, he shall forfeit and pay for every such offence any sum not exceeding five pounds.

Drains for discharge of surface water from lands.

3. Every owner or occupier of land in, adjoining to, or near any street, if such lands shall be so situated that surface or storm water from or upon the same shall overflow or shall tend naturally, if not otherwise discharged to overflow any footway of such street, shall within seven days next after the service of notice by the Council for that purpose construct and lay from such point upon such land being near to the footway as shall be specified in such notice by plan appended or otherwise, and higher in level than the bottom of the channel at the outer edge of the footway to the said channel, and through, under, and transversely to the footway, and keep to good condition such covered drain or trunk, as, and subject in the inspection of the Council or its proper officers; and in default of compliance with any such notice within the period aforesaid, or with the provisions of this section, such owner, or occupier shall forfeit any payment not exceeding five pounds and if within seven days after such conviction such owner or occupier shall still have failed to comply with such notice or be otherwise in default as aforesaid, he shall forfeit and pay any sum not less than one pound nor more than ten pounds, and for every further such offence he shall forfeit and pay any sum not less than two pounds nor more than twenty pounds, and every such owner or occupier who shall still have made default as aforesaid for more than seven days after such second or any further conviction, shall be held guilty of a further offence within the meaning of this section.

## PART IX.

*For the Regulation of Public Vehicles.*

BY-LAWS for the regulation and licensing of public carriers, carts, water-drawers, and public vehicles, omnibuses, cars, hackney-carriages, cabs, water-carts, drays, carts, or vans, and the drivers or conductors of passenger carrying vehicles.

All vehicles to be licensed.

1. No vehicle shall ply or be used for hire within the Municipality unless the same be duly licensed in the manner herein described.

Requisition to be made for license.

2. Before any license for plying a vehicle, or to drive or to conduct the same shall be granted, the party requiring such license shall obtain from the Council Clerk, free of charge, a requisition in the form of the Schedule A hereto, or to the like effect, and duly fill up and sign the same and deliver it to the Council Clerk, and in the case of drivers or conductors, shall also obtain a certificate from two respectable householders, to the effect, that the applicant is of good character and competent to act as such driver or conductor, as the case may be.

Condition under which licenses to be granted.

3. No license shall be granted in respect of any vehicle which in the opinion of three Aldermen, who shall be appointed by a resolution of the Council of the said Municipality, is unsafe, or in bad repair, or otherwise unfit for the accommodation and conveyance of passengers therein; nor until the number of such vehicle be painted thereon, on a plate or plates affixed

thereon, outside on the panel of each door of such vehicle, or on such other place or places, and in such manner as the said three Aldermen may direct.

**Licenses, and how to be issued.**

4. Licenses for proprietors, drivers, and conductors of vehicles, shall be in the form contained in the Schedule hereto annexed, marked with the letter B, or the like effect; and any person plying, driving, or conducting any vehicle for hire with passengers without such license, shall be deemed guilty of a breach of these By-laws.

**Licenses to be under Corporate Seal.**

5. Every license granted under these By-laws shall be under the Common Seal of the Council, and signed by the Mayor, and countersigned by the Council Clerk, upon production of a certificate signed by the Aldermen who shall be appointed as aforesaid, and shall be in force from the date of such license until the 31st day of December next ensuing, subject to the conditions in section 10 of this Part of these By-laws; and no such license shall include more than one vehicle: Provided that where the licensed vehicle shall be under repair, if the proprietor shall so desire, he may be permitted to substitute another for a period to be then specified and endorsed on the license, signed by the Mayor and countersigned as aforesaid.

**Age of drivers.**

6. No license shall be granted to any person to drive any passenger carrying vehicle, who shall be under the age of eighteen years.

**Licenses to be made out by the Council Clerk.**

7. All licenses shall be made out by the Council Clerk and numbered consecutively.

**Owner of vehicles.**

8. The person in whose name a license shall appear to have been obtained, shall be prima facie deemed to be the owner of the vehicle in respect of which the same shall have been taken out.

**Inspection of vehicles**

9. The three Aldermen aforesaid shall, as often as they may deem it necessary, cause an inspection to be made of all or any licensed vehicles, and of the harness, horse or horses, and if any such vehicle, harness, horse, or horses, shall at any time be found by the said Aldermen to be unfit for use, the Mayor may cancel the license of such vehicle on the written report of the said Aldermen.

**Number of license to be painted on vehicle.**

10. The number of the license granted to every omnibus or car, in figures not less than 4 inches in height, and for every hackney-carriage or cab, in figures not less than 2 inches in height, of proportionable breadth, white upon a ground of black, shall be painted outside on the panel of the door or doors of such vehicle, or on such other part or parts thereof as the Aldermen aforesaid shall direct, and such numbers shall be kept legible and undefaced during all the time such vehicle shall ply or be used for hire.

**Table of fares, &c., to be fixed to vehicles.**

11. The number of the license of every hackney-carriage or cab, on a card or plate 6 inches by 3 inches, painted or printed in clear legible figures, and the table of fares fixed by the Council, shall be affixed at the upper part of the front panel, or in such other place or places inside of such carriage or cab as the three Aldermen aforesaid may direct, and such card or plate shall be kept so affixed and legible and undefaced during all the time the carriage or cab shall ply or be used for hire.

**Term applied to vehicles.**

12. So far as concerns fares in these By-laws, any vehicle of whatever form or construction for which a hackney-carriage license has been taken out, if drawn upon four wheels shall be deemed to be a hackney-carriage, and if drawn upon two wheels a cab.

**Water-carts.**

13. The Council shall from time to time license to ply within the Municipality such carts for the sale and carrying of water as shall upon inspection be found fit for that purpose. Every such cart shall be or shall contain or carry a vessel or tank capable of containing not less than fifty gallons, and shall have the name of the owner, and the words "Licensed Water-cart" painted on such cart in legible letters.

**Water licenses, how obtained, &c.**

14. Every such license shall be issued on the written application of the owner thereof, in which application shall be set forth the name and surname and place of abode of the applicant; and for every such license there shall be paid to the Council the sum of two shillings and sixpence, and every such license shall be in force until the 31st day of December next ensuing after the granting of the said license.

**Hawking water.—Penalty.**

15. Any person hawking or carrying water for sale or hire, otherwise than in a licensed water-cart as aforesaid, shall upon conviction be liable to a penalty not exceeding one pound.

**Name and place of abode to be painted on licensed cart, &c.**

16. The name and place of abode, number of license, and the words "Licensed cart, dray, or van," as the case may be, are to be painted in letters one inch long upon the right or off side of such cart, dray, or van.

**Vehicles to carry lights.**

17. All vehicles licensed to carry passengers shall be provided with suitable carriage-lamps to burn candles, one to be fixed on each side of the driver's box and a third one inside of all omnibuses and closed coaches, and the same shall be lighted not later than one hour after sundown and be kept burning while the vehicles are on the stand or running in the streets, either with or without passengers.

**Number of passengers to be carried.**

18. When any carriage is submitted for inspection by the owner or other applicant, with a view to obtain a license, the Aldermen appointed by the Council for that duty shall then determine upon the number of passengers the vehicle shall be permitted to carry, and give a certificate to that effect, such number to be mentioned in the license.

**Legal fare, &c., to be painted on vehicles.**

19. The number of passengers the vehicle is licensed to carry and the legal fare shall be painted or printed in legible characters, and affixed within and without the vehicle in such places as the inspecting Aldermen shall direct.

**Penalty for breaking By-laws.**

20. For every offence against the provisions of these By-laws the offender shall upon conviction forfeit and pay a penalty of not more than twenty pounds nor less than ten shillings.

**Vehicles not to be drawn faster than a walk past places of worship on Sunday.**

21. No licensed vehicle shall be drawn by any animal or animals past a place of public worship on Sundays, during divine service, at a faster pace than a walk; and no bugle, horn, whistle, or other instrument shall be used on that day for the purpose of attracting the attention of passengers.

**Description of persons not allowed to travel in vehicles.**

22. No person suffering from an infectious or contagious disease shall ride in or upon any licensed vehicle, and no driver or conductor shall knowingly carry or permit to be carried any such person or (except to some police office or watch-house) any corpse, or any person in a state of intoxication, or who is so noisily or violently conducting himself or otherwise so misbehaving as to occasion any annoyance or to disturb the public peace, and no passenger shall carry inside any vehicle, except a dray, any animal or any substance of an offensive character, or that might soil or damage the vehicle or the apparel of other passengers, and no driver or conductor shall sleep in or upon any licensed vehicle nor use the same for eating his meals therein.

**Vehicle not to carry greater number of passengers than licensed for.**

23. No driver or conductor shall admit to the inside or allow on the outside of any omnibus at one time a greater number of passengers than the number it shall be licensed to carry inside or outside, as the case may be; and no omnibus shall be licensed for more passengers than the same will accommodate upon fit seats properly arranged, allowing for each passenger a space of 18 inches measuring in a straight line lengthwise on the front of each seat, nor shall any vehicle be taken off the line of road for which it shall be licensed: Provided that no child under five years of age sitting on the lap shall be deemed to be a passenger within the meaning of these By-laws; no passenger to carry more than one child.

**Fares not to be increased until 10 p.m.—Driver, &c., not to refuse to carry passengers.**

24. No owner, driver, or conductor of any omnibus shall demand, receive, or take from any passenger a larger fare than shall be shown in large immovable figures in some conspicuous place inside and outside the omnibus as the fare for which such omnibus plies: Provided that no fare shall be increased except between the hours of 10 o'clock at night and 5 o'clock in the morning, and no driver or conductor of an omnibus shall neglect or refuse to admit and carry any person for whom there is room and to whom no reasonable objection can be made under these By-laws, nor in cases of accident or other unavoidable cause shall any driver or conductor stop such vehicle upon any place where foot passengers usually cross the carriage-way.

**Fare to be paid upon taking seats, driver and conductor to be provided.**

25. Any person having taken his seat in or upon an omnibus shall pay the fare when demanded after the commencement of his journey. The owner of every omnibus plying for hire shall provide the same with a licensed driver and a licensed conductor.

**Property found in vehicles to be delivered at Council Clerk's Office.**

26. The driver of any carriage and conductor of every omnibus shall carefully examine his vehicle immediately after setting down his fare, and in every case of property having been left in any vehicle by any person having used or hired the

the same, such property, if found by another passenger or person, shall be delivered to the driver or conductor who shall deliver the same with any other property found by him within eighteen hours after such finding to the Council Clerk's Office, and there shall deposit it; and no owner shall detain any property delivered to him by any driver or conductor in his employment longer than the time before mentioned, but shall deposit it at the office at the Council Chambers with the Council Clerk or his assistant.

**License fees to be paid to Council Clerk.**

27. For every license issued under the By-laws in force for the time being in that behalf within the said Municipality there shall be paid to the Council of the said Municipality, by delivering the same to the Council Clerk or other person authorized to receive the same, the several sums mentioned or set forth in Schedule C to these By-laws for the general purposes of the said Borough.

**Terms to be applied to licensed vehicles.**

28. Whenever the word "vehicle" shall be used in these By-laws the same shall be construed to extend and apply to any omnibus, car, hackney carriage, or cab. The word "omnibus" shall extend and apply to any vehicle upon four wheels drawn by two or more horses, having seat accommodation for more than ten passengers and a driver. The word "car" shall extend and apply to any vehicle upon two or four wheels drawn by one or more horses, having seat accommodation for not more than ten or less than five passengers and a driver. The word "hackney-carriage" shall extend and apply to any vehicle upon four wheels drawn by two or more horses and having seat accommodation for not more than five passengers and a driver, and in respect of which a hackney-carriage license within the said Municipality shall have been obtained. The word "cab" shall extend and apply to any vehicle upon two wheels having seat accommodation for not more than two passengers and a driver in respect of which a cab license within the said Municipality shall have been obtained. The word "cart" shall extend and apply to any cart, dray, van, or waggon, drawn by one or more horses or other animals used wholly and for the carriage of goods and parcels. The word "water-cart" shall extend and apply to any cart used for the carriage of water within the said Municipality in respect of which a water-cart license shall have been obtained.

**Fares to be charged.**

29. No proprietor or driver of any hackney-carriage or cab, within the said Municipality shall demand, receive, or take, more than the several fares or sums mentioned or set forth in the Schedule D to these By-laws or such other sums as the Council of the said Municipality shall from time to time determine or appoint in substitution thereof as hereinafter provided; and every proprietor, driver, or conductor failing to comply with this By-law shall for every such offence forfeit and pay a penalty or sum of not exceeding five pounds nor less than five shillings.

**Power of Council to amend scale of fares, &c.**

30. The Council of the said Municipality may from time to time by resolution passed in that behalf, alter and vary, or amend the said Schedule D and the respective sums chargeable thereunder, or any of them, and such alterations, variations or amendments shall become in full force and effect so soon as the same shall have been publicly notified by advertisement in the New South Wales Government Gazette and at least one newspaper circulating in the said Municipality; and the Council of the Municipality shall not be responsible for any loss which such alterations or amendments may have or may be alleged to have occasioned to the holders of licenses for the time being or any of them.

**Toll to be paid by hirer.**

31. All tolls to be paid by the hirer of any hackney-carriage or cab in addition to the ordinary fare.

**Passengers to be taken up, &c.**

32. No driver of any hackney-carriage or cab shall refuse to take up any passenger or passengers unless already engaged for hire, nor refuse to convey such passenger or passengers to such place or places within the said Municipality as he or he or they may reasonably desire, and every person failing to comply with this By-law shall forfeit and pay a penalty or sum not exceeding five pounds for every such offence.

**Cab-stands, &c.**

33. The Council shall by resolution, to be publicly notified as in By-law 30 of this Part, from time to time appoint any place or places within the said Municipality as stands for licensed hackney-carriages and cabs within the said Municipality.

34. No vehicle shall be allowed to stand or remain stationary on any street within the said Municipality, except on the duly appointed cab-stands for the time being, for a longer period than the time reasonably necessary to take up or set down any passenger or passengers for the time being requiring or using

the same, or for loading or unloading, or receiving, or delivering the goods or parcels which the driver of such vehicle shall have been employed to carry, and any driver or proprietor of any such vehicle remaining stationary contrary to this By-law shall for every such offence forfeit and pay a penalty or sum of not exceeding five pounds nor less than five shillings.

**Driver not to leave his horse or horses.**

35. No driver of any licensed vehicle shall be or remain at such a distance from his horse or horses while attached to his vehicle anywhere within the said Municipality as not to have immediate and full control over the same, and every person so doing shall for every such offence forfeit and pay a penalty or sum not exceeding five pounds nor less than five shillings.

**Speed at which to travel.**

36. All hackney-carriages and cabs carrying passengers shall (except when turning street corners), proceed at a speed of not less than six miles an hour, unless when attending funerals or when otherwise ordered by the hirer, and every driver of any such carriage or cab failing to comply with this By-law shall forfeit and pay a sum not exceeding forty shillings nor less than five shillings.

**Copies of Schedule D to be printed and fixed at cab stands.**

37. Copies of said Schedule D hereto shall be printed or written in legible characters, and exhibited on boards placed in conspicuous positions, one at each cab-stand within the Municipality, and one at the Railway Station in such place as the Commissioners for Railways may approve.

**Copies of By-laws to be given with license.**

38. Copies of these and all other By-laws passed by the Council of the said Municipality for the regulation of licensed vehicles and still remaining in force, shall be delivered with each license issued, unless the person shall have previously received copies thereof.

**Penalty to be enforced for breach of By-laws.**

39. All proprietors and drivers of licensed vehicles shall at all times be amenable to and observe and comply with the By-laws for the time being in force for the care and management of the public roads, public streets, and public thoroughfares within the said Municipality, and for every breach thereof shall incur the same penalties as other persons.

40. Any person offending against any of these By-laws shall, except when otherwise expressly provided, forfeit and pay a sum not exceeding two pounds nor less than five shillings for every such offence.

**SCHEDULE A.**

**A Requisition for license.**

To the Municipal Council of the Borough of Stockton,  
I, \_\_\_\_\_, residing at \_\_\_\_\_ street, within the Borough, do hereby request that a license may be granted to me to \_\_\_\_\_ within the limits of the said Borough.  
Dated at \_\_\_\_\_, this \_\_\_\_\_ day of \_\_\_\_\_, A.D. 18 \_\_\_\_.  
Description of vehicle. \_\_\_\_\_

**SCHEDULE B.**

**Form of license for driver or conductor.**

This is to certify that \_\_\_\_\_ of \_\_\_\_\_ street, is hereby licensed to \_\_\_\_\_ from the \_\_\_\_\_ day of \_\_\_\_\_, to the 31st day of December, 18 \_\_\_\_, inclusive, within the Borough of Stockton, subject nevertheless to all and every the By-laws, Rules and Regulations in force relating thereto.

**SCHEDULE C.**

**TABLE of License Fees payable by Proprietors, Drivers, and Conductors of Licensed Vehicles.**

Proprietors of	On and after 1st January.		On and after 1st April.		On and after 1st July.		On and after 1st October.					
	£	s. d.	£	s. d.	£	s. d.	£	s. d.				
Omnibus and coaches..	0	10	0	0	0	5	0	0	5	0		
Carts .....	1	10	0	1	2	6	0	15	0	7	6	
Hackney-carriages ....	2	0	0	1	10	0	1	0	0	0	10	0
Cabs .....	1	10	0	1	2	6	0	15	0	0	7	6
Water-carts, drays, carts, &c.	0	2	6	0	2	6	0	2	6	0	2	6
For every driver's license for a vehicle to carry passengers.										0	5	0
For every conductor's license for a vehicle to carry passengers.										0	5	0

## SCHEDULE D.

TABLE of maximum fares charged by Drivers or Proprietors of Licensed Hackney-carriages and Cabs within the Borough of Stockton.

	s.	d.
For a cab to carry one or two passengers, for not exceeding quarter of an hour	1	0
For every subsequent quarter of an hour or part thereof within the first hour of hiring	1	0
For every quarter of an hour or part thereof after the first hour	0	9
For hackney-carriage to carry five persons, for any time not exceeding half an hour	2	6
For any time exceeding half an hour, but not exceeding one hour	5	0
For every quarter of an hour or part thereof after the first hour	1	0

## PART X.

## Hawkers to be licensed.

1. No person shall sell, offer, or expose for sale in any part of the Borough of Stockton, except in the house or premises of the person so selling, offering, or exposing for sale, or in the markets or open spaces adjoining, any poultry, fish, vegetables, garden produce, game, tripe, bacon, cheese, eggs, fruit, pastry, icecream, or green fodder, or any other commodity without a license authorising him to do so, signed by the Mayor, Clerk of the Market, or other duly appointed officer of the said Municipality; and every such license shall be numbered and registered, and shall be in the form contained in the Schedule hereto, and shall be in force for the term therein stated, and no longer.

## Hawkers to carry license.

2. Every person licensed as a hawker shall whilst engaged in hawking carry the license so granted with them, and upon being required by an officer of the Municipal Council or police officer produce and show the same.

## Name to be painted on vehicle.

3. Every licensed hawker shall whilst hawking have affixed on some conspicuous part of his cart, barrow, basket, vehicle, or tray a board or plate bearing his name and the words "Licensed Hawker" legibly painted thereon in letters not less than 1 inch in length.

## License fees.

4. The following fees shall be paid for such license for hawking with hand basket or tray, the sum of one shilling per week; with wheelbarrow, the sum of two shillings and six pence per week; with vehicle drawn by horses or other animals, the sum of four shillings per week.

5. Any person offending against these By-Laws shall for each offence upon conviction forfeit and pay a sum not exceeding ten pounds.

## SCHEDULE.

## Form of Hawker's License.

Borough of Stockton, Hawker's License No.

Name  
Address

This license entitles the holder to hawk with hand-basket or tray [or with wheelbarrow, vehicle drawn by horses, &c., as the case may be], for the week ending the \_\_\_\_\_ day of \_\_\_\_\_

Given under my hand this \_\_\_\_\_ day of \_\_\_\_\_  
A. B., Mayor [or &:]

## PART XI.

## Under Nuisances Prevention Act, 1875.

By-laws of the Borough of Stockton, made under and for carrying into effect the provisions of the "Nuisances Prevention Act, 1875."

1. Every person who shall be about to erect a closet, or form, excavate, or make a cesspit, shall before he shall commence to erect such closet, or to form, excavate, or make any such cesspit, deliver to the Council Clerk a notice in writing of the intention of such person to erect such closet or form, excavate, or make such cesspit, and of the place or position in which it is intended that such closet shall be erected, or such cesspit formed, excavated, or made, and if any person shall commence to erect any closet, or to form, excavate, or make any cesspit within the Borough without having given such notice in writing as aforesaid, and before the expiration of seven days after the delivery of such notice (except by the written authority of the Inspector of Nuisances or other officer for the time being appointed by the Council in that behalf, he shall forfeit and pay a penalty of not more than five pounds nor less than one pound.

2. No person shall erect or commence to erect any closet, or to form, excavate, or make any cesspit, except in such place or position as shall be approved by the Inspector of Nuisances or other officer as aforesaid; and any person who shall erect, or commence to erect any closet, or to form, excavate, or make any such cesspit without having obtained the approval of the said Inspector or other officer, or in any place or position other than the place or position approved of by the said Inspector or other officer as aforesaid, shall forfeit and pay a penalty of not less than ten shillings nor more than forty shillings. But any person who shall feel aggrieved by the decision of such Inspector or other officer, may appeal against the same to the Council.

3. Every cesspit to be constructed within the Borough shall be built of 9-inch brickwork set in cement, floor as well as walls, and the top of such cesspit shall be at least 6 inches higher than the highest part of the surface of the ground immediately adjoining such cesspit; and no cesspit shall be formed, excavated, or made under any dwelling house, nor at a less distance than 20 feet therefrom, area permitting. If any person shall so form, excavate, or make any cesspit which shall not be in accordance with the provisions of this By-law, or shall form, excavate, or make any cesspit under any dwelling-house, or at a less distance than 20 feet, area permitting, shall forfeit and pay a penalty of not more than five pounds nor less than two pounds.

4. For houses containing not more than four rooms and out-offices, the cesspit shall not be less than 3 feet by 4 feet, and 5 feet deep inside measurement; for houses containing more than four rooms and out-offices, the cesspit shall not be less than 3 feet 6 inches by 4 feet, and 5 feet deep inside measurement.

5. Every closet shall be built with walls 7 feet high, and shall not be less than 3 feet 6 inches wide and 4 feet 6 inches long, and shall be provided with a door capable of being fastened inside, and with a manhole in the floor not less than 2 feet square, clear internal measurement, to be covered with a trap door; and every person who shall build or erect any closet which shall not be in accordance with this By-law shall forfeit and pay a penalty of not more than two pounds nor less than ten shillings.

6. When two or more closets adjoin each other, there shall be a sufficient dividing wall, not less than 9 inches in thickness, between every two closets, and such wall shall extend from the bottom of the cesspit up to the roof of the closet, so as to effect a complete separation; and if any person shall erect any two or more closets adjoining each other, and not in accordance with this By-law, he shall forfeit and pay a penalty of not more than two pounds nor less than ten shillings.

7. A separate closet shall be provided for each tenement; and any person offending against the provisions of this By-law shall forfeit and pay a penalty of not more than five pounds nor less than two pounds.

8. In schools, factories, or other places of business where a number of persons exceeding twelve shall ordinarily reside or be occupied or employed, one closet shall be provided for every twenty persons, with a cesspit of a capacity of not less than 80 cubic feet, and separate closets shall be provided for each sex, and every owner, occupier, or tenant of such school, factory, or other place of business, and every other person who shall offend against this By-law, or fail to provide the number of closets, and of the capacity in this By-law mentioned, shall forfeit and pay a penalty of not more than five pounds nor less than one pound.

9. If any alterations shall be requisite in the opinion of the Inspector of Nuisances or other officer appointed by the Council in their behalf for preserving public health or decency, in case of any existing cesspit or closet, and the Council shall adjudge such cesspit or closet to be injurious to the health or opposed to decency, by exposure or otherwise, and the owner or occupier shall not make the necessary alterations after receiving fourteen days' notice from the Council Clerk, it shall be lawful for the Inspector of Nuisances or other officer appointed by the Council, to remove the said nuisance, and any expense incurred thereby may be sued for and recovered in a summary way before any two or more Justices of the Peace.

10. Owners of existing closets and soil-pits may be required to alter or improve them in such manner as may be necessary, in order to bring them into conformity with these regulations, on notice being given by the Inspector of Nuisances to that effect; persons failing to make such alterations or improvements within one month after the receipt of such notice, shall be liable to a penalty of not less than one pound nor exceeding the sum of three pounds for each and every week or portion of a week, during which they shall fail to comply with the terms of the said notice.

11. The night-soil shall be removed by contract, in properly constructed watertight covered vehicles, between the hours of 10 p.m. and 5 a.m., from the 1st day of October to the last day of March; and between the hours of 10 p.m. and 6 a.m., from the 1st day of April to the last day of September.

12. Persons desirous of using earth-closets may be permitted to do so on making written application to the Council, and intimating the arrangements to be made for their construction and management, provided that such arrangements shall be approved by the Council.

13. The Inspector of Nuisances or other officer appointed by the Council may visit and inspect any premises, or do any work authorised by the Nuisance Prevention Act, 1875, therein, on all days except Sundays and holidays, and any person who shall hinder or obstruct any Inspector of Nuisances or other officer as aforesaid, upon any such visitation or inspection, or in the doing or performing of any work, shall forfeit and pay a penalty of not more than two pounds nor less than ten shillings.

14. All expenses incurred by the Council in emptying any cess-pit shall be paid to the Council by the owner or occupier of the premises whereon such cesspit is situated, within one week after a written demand of the amount made by the Council or Inspector of Nuisances shall have been served upon him, otherwise the same may be recovered in a summary way before any two Justices of the Peace.

15. The Inspector of Nuisances shall furnish the Council with a monthly return showing the number of cesspits emptied, the amount due and payable for each cesspit, and the amount of arrears due for emptying cesspits; he shall collect the amounts so due and payable, and account therefore to the Council at least once in every month or as may be determined upon by such Council.

By-laws under Municipalities Act of 1867, confirmed by the adfixure of the corporate seal of the Borough, as authorised by resolution in Council, 29th August, 1890—

(I.S.) JOHN BEVERIDGE,  
H. A. GRAHAM, Council Clerk. Mayor.

By-laws under Nuisances Prevention Act, 1875, confirmed by the adfixure of the corporate seal of the Borough, as authorised by resolution in Council, 21st November, 1890—

(I.S.) JOHN BEVERIDGE,  
H. A. GRAHAM, Council Clerk. Mayor.

1891.

## NEW SOUTH WALES.

# MUNICIPALITIES ACT OF 1867, AND NUISANCES PREVENTION ACT, 1875.

(MUNICIPAL DISTRICT OF ADAMSTOWN—BY-LAWS.)

Presented to Parliament, pursuant to Acts 31 Vic. No. 12, sec. 153, and 39 Vic. No. 14, sec. 18.

Colonial Secretary's Office,  
Sydney, 11th March, 1891.

## ADAMSTOWN MUNICIPALITY.—BY-LAWS.

THE following additional By-laws under the "Municipalities Act of 1867" and By-laws under the "Nuisances Prevention Act, 1875," made by the Council of the Municipal District of Adamstown, having been respectively confirmed and approved by His Excellency the Lieutenant-Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Acts.

HENRY PARKES.

## BY-LAWS.

THE following additional By-laws for the regulation and licensing public carriers' carts, water drawers, and public vehicles, omnibuses, cars, hackney carriages, cabs, water carts, drays, carts, or vans, and the drivers and conductors of passenger-carrying vehicles, within the Municipal District of Adamstown.

## All vehicles to be licensed.

1. No vehicle shall ply or be used for hire within the Municipality unless the same be duly licensed in the manner herein described.

## Requisition to be made for license.

2. Before any license for plying a vehicle, or to drive or to conduct the same, shall be granted, the party requiring such license shall obtain from the Council Clerk, free of charge, a requisition in the form of Schedule A hereto, or to the like effect, and duly fill up and sign the same, and deliver it to the Council Clerk; and, in the case of drivers or conductors, shall also obtain a certificate from two respectable householders to the effect that the applicant is of good character and competent to act as such driver or conductor, as the case may be.

## Conditions under which licenses to be granted.

3. No license shall be granted in respect of any vehicle which, in the opinion of the persons who shall be appointed by resolution of the Council of the said Municipality, is unsafe or in bad repair, or otherwise unfit for the accommodation and conveyance of passengers therein, nor until the number of such vehicle be painted thereon on a plate or plates affixed thereon outside on the panel of each door of such vehicle, or any such other place or places and in such manner as the said person appointed may direct.

## Licenses, and how to be issued.

4. Licenses for proprietors, drivers, and conductors of vehicles shall be in the form contained in the Schedule hereto annexed marked with the letter B, or the like effect; and any person plying, driving, or conducting any vehicle for hire with passengers without such license shall be deemed guilty of a breach of these By-laws.

## Licenses to continue in force until 31st December.

5. Every license granted under these By-laws shall be under the hand of the Mayor, countersigned by the Council Clerk, and shall be in force from the date of such license up to and including the 31st day of December then next ensuing; and no such license shall include more than one vehicle: Provided that if by accident any vehicle shall become unfit for use, it shall be lawful for the owner thereof, during such reasonable time as it shall be undergoing repair, to use another vehicle as a substitute; but the substitute shall, in all respects except as to a license, be subject to these By-laws in the same manner as if a license had been granted for it, and the owner using it shall be liable for any non-compliance with these By-laws in respect thereof as if it had been licensed. In order to entitle an owner to the benefit of the above provision, he shall, before using such substitute, give notice of his intention to do so in writing to the Inspector, stating the true cause of his being compelled to use such substitute, and the period during which it will be necessary to do so; and no such substitute shall be used until it shall have been inspected and approved of by the Inspector, or for a longer period than fixed by a certificate to be signed by the Inspector and delivered to the owner.

## Change of residence to be notified.

6. Whenever any person named as the owner, or one of the owners, driver, or conductor of a licensed vehicle, shall change his place of abode, he shall, within two days next after any such change, give notice thereof in writing signed by him to the Council Clerk, specifying his new place of abode; and the same shall be endorsed upon the license granted to such owner, driver, or conductor, and entered in the Register of Licenses. Any holder of a license who, since the license shall have been issued to him, shall have been convicted of any felony or misdemeanour, of having been intoxicated while in charge of a licensed vehicle, or of any two breaches of these By-laws within a period of six months, shall be liable to have his license cancelled or suspended by the Council; and no person shall, during the suspension or cancellation of his license, act as driver or conductor of any licensed vehicle. The

Council shall have power to suspend or cancel the license of any driver or conductor who shall have been guilty of any breach of these By-laws; and no person shall, during the suspension of his license, act as driver of any licensed vehicle.

*Who deemed owner.*

7. The person or persons in whose name or names a license shall appear on the books of the Council shall be deemed the owner of the vehicle in respect of which such license shall have been issued.

*No vehicle to be withdrawn without notice.*

8. No owner of any licensed vehicle shall withdraw the same from hire without leave from the Inspector, except in case of accident.

*To ply from stands.*

9. The owner or driver of any licensed vehicle shall not permit the same to stand or ply for hire, except at or from an appointed stand.

*Mode of driving on stands.*

10. The driver of every vehicle shall, on its arrival at any public stand, drive the same to the end of the rank of any vehicles that may be on such stand, and be last on the same; and at every public stand all vehicles shall be arranged in single rank only.

*Driver and conductor to be in attendance.*

11. The driver and conductor of every vehicle shall be constantly attendant on the same when standing on a public stand, or whilst plying for hire; and no driver or conductor shall, when standing on a public stand or plying for hire, be at such a distance from the horse or horses attached thereto as to prevent his having control over the same, nor shall the driver or conductor at any time stand by or remain on the footway or pavement of any of the streets, lanes, or public places next adjoining any public stand; but every driver and conductor when not actually employed in or about his vehicle, or in feeding or watering his horses, shall remain on the driving-box or step of his vehicle, and not elsewhere.

*Taking up or setting down passengers.*

12. The driver of any vehicle taking up or setting down passengers at any place of public worship or public amusement, or at any public meeting within the Municipality, or who is waiting for any of those purposes, shall obey the direction of the Inspector or other officer who may be on duty at such place or places, as to the taking up or setting down or waiting for passengers, and as to the order and place in which any vehicle shall stand; and every driver shall perform his duty in a careful and quiet manner, and shall not push into or get out of the line or position fixed for the vehicles, so as to endeavour to arrive at his place of destination before any other vehicle, the driver whereof from its position would have a prior right to take up or set down passengers.

*Vehicles to carry lights, &c.*

13. All vehicles shall be provided with suitable carriage lamps to burn candles, one to be fixed on each side of the driver's box, and a third on inside of all omnibuses and closed coaches; and the same shall be lighted not later than one hour after sundown, and be kept burning while the vehicles are on the stand or running in the streets, either with or without passengers.

*No loitering.*

14. No driver of any vehicle shall suffer the same to stand or loiter in any street or alongside any other vehicle, in taking up or setting down any person, or wilfully, wrongfully, or forcibly prevent, or endeavour to prevent, the driver of any other vehicle from taking a fare.

*Wilfully or negligently damaging property.*

15. Any owner, driver, or conductor who shall, whilst driving, loading, unloading, or attending any vehicle, or whilst upon any public stand, wilfully or negligently do or suffer, or cause any damage to be done to the person or property of any one, shall upon conviction forfeit and pay to the person whose person or property shall have been damaged, such sum for compensation not exceeding ten pounds as the Justices hearing the case may award.

*Drivers and conductors guilty of misconduct.*

16. No driver or conductor shall, whilst acting as driver or conductor, be guilty of any breach of the peace, misconduct, or misbehaviour, or be intoxicated, or make use of any threatening, obscene, filthy, indecent, blasphemous, profane, abusive, or insulting language, sign, or gesticulation, but shall at all times be sober and careful in the discharge of his duties. And no license shall be granted to any person to drive any passenger-carrying vehicle who shall be under the age of eighteen years.

*Space to be left between every fourth vehicle.*

17. At every fourth vehicle on every stand there shall be left a space of at least 8 feet for passengers to pass through.

*No blowing of horns, &c.*

18. No driver or conductor of any omnibus or other vehicle, whilst standing at a public stand or plying for hire in any part of the Municipality, shall endeavour to attract notice by ringing of bells, blowing of horns, or other instruments, nor deceive any person in respect of the route or destination thereof by word or sign, nor shall the driver or conductor of any vehicle endeavour to attract notice by shouting on Sunday whilst standing at a public stand, or in any part of the Municipality: Provided that the Inspector may in certain cases give the driver permission to sound a horn or blow a whistle.

*Driver to keep on the near side of the road.*

19. Every driver of any vehicle shall keep the same on the left or near side of the road except in case of actual necessity, and shall permit any other vehicle to pass having the right so to do, and when about to stop shall raise his whip straight up, so as to warn the driver of any vehicle that may be behind.

*Driver to turn vehicle at a walk, &c.*

20. The driver of every vehicle shall bring the horse or horses to a walking pace before commencing to turn, and shall also go at the same pace in turning the corner of any street.

21. No driver or conductor of any licensed vehicle shall lend his license, nor shall the proprietor of any such vehicle employ any unlicensed person as the driver or conductor thereof.

22. No driver or conductor shall smoke tobacco or other thing whilst driving or conducting any licensed vehicle engaged on any fare, nor shall any passenger smoke on any vehicle without the consent of the driver, or against the wish of any other passenger, and in no case shall any smoking be allowed inside any omnibus or other vehicle. No conductor shall enter any omnibus nor mount on the top of it whilst performing his journeys, for the purpose of collecting any fares or for any other purpose, or permit any person to stand on the steps or monkey-board whilst he shall be conducting.

23. Any driver who shall stop short of the distance for which he is licensed to ply shall, on representation of the circumstances to the Inspector, be temporarily suspended from driving, and such suspension shall be reported to the Council, who shall have power to further suspend in proportion to the offence, or to dismiss the offender altogether, and shall notify the same to the other Municipalities.

*Line of road and time to be kept.*

24. The driver of every vehicle shall on each line of road start with his vehicle from its stand, and complete the journey and the parts thereof to its other stand without turning the same round or leaving the proper line of road from one stand to the other.

*Extraordinary occasions.*

25. The Inspector of Licensed Vehicles for the time being shall be at liberty to grant permission to the owner or driver of any licensed vehicle to leave the line of road for which such vehicle is licensed, and ply the same from any place not being an appointed stand; and no owner or driver of any licensed vehicle shall permit or suffer the same to leave the line of road for which such vehicle is licensed without such permission.

*Vehicles to stand alongside footpath.*

26. No person shall permit or suffer any vehicle under his or her charge or control to stand or remain in any street or roadway in the Municipality of Adamstown, without causing such vehicle to be placed alongside of and parallel with the footway of such street or roadway.

*Driver to be in attendance.*

27. No person having charge of a vehicle whilst the same is standing in any street or roadway in the said Municipality shall be at such a distance from such vehicle as to prevent him or her having control of the horse or horses attached thereto.

*Driving around corners, &c.*

28. No person shall drive any vehicle, or ride any horse, while crossing the intersection of any streets within the Municipality of Adamstown, or turn the corners of any streets, at a pace faster than a walk.

*Omnibus and Omnibus Car Regulations.*

Construction of omnibus and omnibus car.—Furnishing.—Necessary particulars to be painted.

29. Every omnibus and omnibus car for which a license shall hereafter be applied for shall be of the dimensions herein directed, and shall be provided by the owner with the fittings and furniture, and have painted on it the words, figures, and notices detailed and described, as follows:—

*Dimensions.*

From floor to roof, in line with front of each seat, not less than 5 feet.

From top of seat of cushion to roof, not less than 3 feet 6 inches.

Each seat shall not be less than 14 inches wide. Space from seat to seat between the inside seats not less than 2 feet.

**Fittings and furniture**

The outside seats, when not of the rustic pattern, and all inside seats, shall be furnished with good cushions.

Springs shall be provided to all window frames, of an approved pattern, effective to prevent noise.

Words, &c., to be painted.

The number of the the license, 4 inches long, and of proportionate width, upon or near the driver's seat, and upon the panel of the door on the outer side.

The fare and the name of the owner, on the outside of the door.

The name of the stands between which it shall be licensed to ply, on each external side clear of the wheels; also,

On the end panel inside, in a conspicuous place, the names of the stands between which it shall be licensed to ply, the licensed number of passengers, the time of journey, the fare, and the name of the owner, except where otherwise directed. All the above words and figures to be not less than 1/2 inches in length, free from flourishes or intricate designs, and of a colour opposite to, contrasting with the ground on which they shall be painted. No alteration shall be made in any of the above without notice to the Inspector and the approval of Council: Provided that no alteration in the colour of the body of any omnibus shall be enforced until it shall be required to be painted: Provided also that it shall not be lawful for the owner, driver, or conductor of any omnibus or omnibus car to suffer any notice, advertisement, or printed bill, or any names, letters, or numbers, to appear upon the outside or inside thereof without the consent of the Inspector previously obtained.

Not to carry a greater number than licensed for.

30. No driver or conductor shall admit to the inside, or allow on the outside, of any vehicle, at any one time, a greater number of passengers than the number it shall be licensed to carry inside or outside, as the case may be; and no vehicle shall be licensed for more passengers than the same will accommodate upon fit seats properly cushioned, allowing for each passenger a space of 18 inches, measuring in a straight line lengthwise, on the front of each seat: Provided that no child under five years of age sitting on the lap shall be deemed to be a passenger under these By-laws. No passenger shall carry more than one child without paying its fare.

31. No omnibus shall be taken off the line of road for which it shall be licensed excepting as is herein provided.

**Cancellation or suspension of license.**

32. Any holder of a license who, since the license shall have been issued to him, shall have been convicted of any felony or misdemeanour, or, having been intoxicated while in charge of a licensed vehicle, or of any two breaches of these By-laws within a period of six months, shall be liable to have his license cancelled or suspended by the Council; and no person shall, during the suspension or cancellation of his license, act as driver of or conductor of any licensed vehicle.

Further power of the Council to suspend or cancel license.

33. The Council shall have power to suspend or cancel the license of any driver or conductor who shall have been guilty of any breach of these By-laws, notwithstanding the provisions of the next preceding By-law; and no person shall, during the suspension of his license, act as driver of any licensed vehicle.

**Time of starting.**

34. One licensed vehicle shall start from the appointed stand at Adamstown every morning at 8 a.m. (Sundays, Christmas Days, and Good Fridays excepted), the second one to leave at 8.30, and one every ten minutes till 10 p.m.

**Mode of starting.**

35. All omnibuses and omnibus cars, &c., plying to and from Adamstown and Newcastle shall start from the Adamstown Stand every morning in rotation, the first vehicle to start on one day shall be the last on the next, and follow in rotation from day to day.

36. No vehicle shall be allowed to remain in any public street or any public stand without horse or horses attached, unless in case of accident, when permission may be granted by the Council or the Inspector for a sufficient time to remove the same.

**Fee of licenses.**

37. For every such license or annual renewal thereof, there shall be paid to the Council Clerk the several rates set forth in the Schedule hereunto annexed marked C.

**Renewal of licenses.**

38. Licenses may be renewed at the end of every year by endorsement under the hand of the Council Clerk: Provided that the applicant for such renewal shall have been reported by the Inspector as having conducted his business creditably and satisfactorily.

**Legal fares to be paid.**

39. Any person having hired a licensed carriage shall pay the legal fare when demanded; and any person refusing or neglecting to pay the same shall, on conviction before two Justices of the Peace, forfeit and pay the same, with such amount of over damages, costs, and charges for loss of time or otherwise as the said Justices shall think fit.

Additional fare after 10 p.m. and before 5 a.m.

40. For as much of every drive by time or distance as may be performed by any vehicle not an omnibus, after 10 o'clock at night and before 5 o'clock in the morning, an addition of one-half the ordinary fare shall be paid with such ordinary fare; and in case of an omnibus, the charge shall be double the ordinary fares between the abovementioned hours.

No license to be granted for vehicle in bad condition.

41. No license for any vehicle shall be granted or renewed unless the vehicle, horse, or horses, and harness shall have been examined by the Inspector or other person appointed by the Council and found by him to be in a fit state to be licensed; and no license shall be granted in respect of any vehicle which, in the opinion of the Inspector, shall be unsafe, in bad repair, or otherwise unfit for the accommodation and conveyance of passengers, or for the conveyance of goods or merchandise. The person or persons appointed by the Council shall then determine upon the number of passengers the vehicle shall be permitted to carry, and give a certificate to that effect, such number to be mentioned in the license.

Legal fares, &c., to be painted on vehicles.

42. The number of passengers the vehicle is licensed to carry, and the legal fare, shall be painted or printed in legible characters, and affixed within and without the vehicle in such places as the inspecting Aldermen shall direct.

43. Such person or persons as may from time to time be in that behalf appointed by the Council shall be Inspector or Sub-Inspector, during the pleasure of the Council, of all licensed vehicles plying for hire in the Municipality, and such Inspector or Sub-Inspectors shall every three months examine all such vehicles and report to the Council on the same, and shall at all times see that as far as possible the By-laws are duly observed; and such Inspector or Sub-Inspectors shall have power to order from any stand or from being driven or used for hire any vehicle which, with horse or horses and harness attached thereto, upon examination shall not be in a proper and cleanly state, and in all respects in accordance with the By-laws fit for work; and every owner, driver, or conductor shall comply with the orders and directions so given.

No person to obstruct Inspector

44. No owner, driver, or conductor, or other person, shall obstruct or hinder any such Inspector or Sub-Inspector in the execution of his duties, or refuse to comply with any lawful order or direction to be given by him in relation to these By-laws.

45. For any offence against the provisions of these By-laws the offender shall be liable to and shall pay a penalty not exceeding £10 nor less than 5s.

**Dray Regulations.**

No person to ride upon dray without reins.

46. No owner, driver, or other person having the care and charge of any dray drawn by one or more horses, or other animals, shall ride thereon, unless he shall be provided with sufficient reins, nor in any case if such dray be loaded; and no block dray shall be allowed to proceed out of a walking pace.

Property left on dray.

47. For every case of goods or merchandise being left on any licensed dray, or with the driver thereof, by any person having hired or used the same, such property shall be delivered up to such person, or shall within eighteen hours be taken, in the state in which it shall have been found, to the Inspector's office and there deposited with the Inspector.

Not to carry more than one ton on dray.

48. No owner or driver shall at any one time carry on any licensed dray, having only two wheels and drawn by one horse, a greater weight than one ton.

Detention.

49. Whenever any dray, hired by the load or distance, having taken up a load, shall be detained with the same more than fifteen minutes, the hirer shall pay for every fifteen minutes after the first, six pence, and so in proportion for any longer period.

How numbers placed on dray.

50. The number of the license granted for every dray shall be painted white on a ground of black, or the reverse, on the sides thereof, in a conspicuous place in figures not less than three inches in height and of proportionate breadth, with the letters H.M.C. of the same colour immediately above the figures, and the driver or owner of such dray shall at all times keep the same legible and undefaced.

Not to demand more than legal fare.

51. No owner or driver of any dray shall demand, receive, or take more than the several fares or amounts fixed by the Council by these By-laws, and no owner or driver of any dray shall carry for hire any persons as passengers.

Fares for sending for, but not using dray.

52. Any person calling or sending for any licensed dray and not further employing the same, shall pay the sum of two shillings, or the fare or hire from the stand or place where the dray was engaged, at the driver's option; he shall further pay for any time the dray may be detained, not exceeding a quarter of an hour, the sum of one shilling, and for any time not exceeding a second quarter of an hour the sum of six pence, and for any further time at the rate of six pence for every quarter of an hour.

Distance—how computed.

53. The distance shall be computed from the stand or place where the dray was hired.

To pay legal fare.

54. Any person having hired a dray shall pay the legal fare when demanded.

Drays not to stand across streets.

55. No driver of any licensed dray shall suffer the same to stand for hire across any street, except so directed by the Inspector, or alongside any other vehicle, nor obstruct the driver of any other dray in loading or unloading any goods or merchandise, or wilfully, wrongfully, or forcibly prevent, or endeavour to prevent, the driver of any vehicle from taking a fare or hiring.

56. Any person or persons riding or driving into or out of any yard or alley abutting on any street or road within the Municipality shall do so at a walking pace.

57. For any offence against the provisions of these By-laws the offender shall be liable to and shall pay a penalty not exceeding £10 nor less than 5s.

#### MUNICIPALITY OF ADAMSTOWN.

BY-LAWS for the Municipality of Adamstown, for carrying into effect the provisions of the "Nuisances Prevention Act, 1875."

1. No person shall erect or commence to erect any closet except in such place or position, and of such dimensions and description as contained in By-law No. 2 of these By-laws, unless by the written authority of the Inspector of Nuisances or other officer appointed by the Council. Any person or persons violating this By-law shall forfeit and pay a penalty of not more than two pounds nor less than ten shillings. But any person who shall feel aggrieved by the decision of such Inspector or other officer may appeal against the same to the Council.

2. The dimensions of each closet shall be 4 feet deep, and not less than 3 feet wide (inside measurement) and 6 feet 6 inches high from sole plate to wall plate, and to be built of material approved of by the Council or the Inspector of Nuisances.

3. A separate closet shall be provided for every tenement. In schools and factories, where a number of persons shall attend or be employed, separate closets, with a door to fasten on the inside, shall be provided for each sex; and a separate closet shall be provided for every twenty persons so attending or employed. All closets hereafter to be built shall be constructed of 4½-inch brickwork or approved sawn timber. Where two or more closets adjoin each other, there shall be a dividing brick wall between each of not less than 4½ inches in thickness to effect a complete separation; and any person offending against any of the provisions of this By-law shall incur a penalty not exceeding ten pounds nor less than two pounds, and a like penalty for every succeeding seven days.

4. Every closet, whether already built or hereafter to be built, shall be provided by the occupier or owner with a galvanized iron pan not exceeding 18 inches in depth nor more than 17 inches in diameter, and of a pattern to be approved of by the Council or their authorised officer, the Nuisance Inspector. Any owner or occupier committing a breach of this By-law shall forfeit and pay a penalty of not less than ten shillings or more than two pounds (£2), such pans to be kept in good order to the satisfaction of the Nuisance Inspector.

5. No person or persons shall bury or cause to be buried on his or her premises or any other persons premises any night-soil collected therefrom without the sanction of the Council or Inspector of Nuisances; any person or persons committing a breach of this By-law shall be liable to a penalty of not less than one pound or more than ten pounds.

6. If, in the opinion of the Inspector of Nuisances, any alteration is required in existing cesspits or closets, he shall report the same to the Council, which shall determine what alteration is necessary for the preservation of health or decency, and such alteration shall forthwith be made by the owner or occupier of the premises after receiving seven days' notice to that effect, under a penalty of not exceeding five pounds nor less than two pounds.

7. If at any time the earth-closet pan in any premises shall overflow or become a nuisance, the owner or occupier shall be liable to a penalty not exceeding two pounds nor less than ten shillings.

8. No person shall be permitted to connect any closet with any drain, water-course, or sewer without the sanction of the Council; and any person so offending shall be liable to a penalty not exceeding twenty pounds nor less than one pound.

9. The night-soil shall be removed by contract in properly constructed carts, between such hours as the Council may determine, and the contractor will be held responsible for the careful conveyance of the night-soil to the appointed depot, and shall dispose of the same as directed. For any breach of the conditions of this By-law he shall be liable to a penalty not exceeding twenty pounds nor less than five pounds.

10. If the night-soil or any portion thereof shall be sold or given away by the Council, the person removing the same shall do so only at such times and in such manner as the Council may direct, and shall dispose of the same so as not to cause a public nuisance; and the person purchasing or obtaining it, and so dealing with or disposing of it as to cause a nuisance, shall be liable to a penalty not exceeding ten pounds nor less than two pounds.

11. The Inspector of Nuisances shall have power to visit and inspect any premises on any lawful day, between the hours of 10 a.m. and 4 p.m.; and any person refusing admittance or obstructing or hindering such Inspector in the discharge of his duty shall incur a penalty not exceeding five pounds nor less than one pound.

12. The place of deposit shall be in such locality as may from time to time be determined upon by the Council, with the approval of the Governor.

13. Written notice must be given to the Council or the Inspector of Nuisances, by all persons about to construct new or alter existing closets, to enable the Inspector to visit and report on the same, under a penalty for neglect not exceeding five pounds nor less than one pound; and closets constructed without such notice being given must be removed or altered, if judged necessary by the Council, under a further penalty not exceeding ten pounds nor less than five shillings.

14. The Council shall from time to time fix the charges to be made for emptying and removing night-soil from closets, which shall be emptied every fourteen days or oftener as may be necessary in the opinion of the Inspector of Nuisances.

#### *Removal and Disposal of Night-soil and Payments for the same.*

##### *Interpretation.*

1. In these By-laws night-men means and includes any and every person employed by the Council to remove or assist in removing night-soil, whether as servants of the Council or as contractors thereunder, or as servants of such contractor. Night-cart means any vehicle used by any person for the purposes aforesaid. Depot means a depot for the deposit of night-soil.

##### *Night-soil depôts.*

2. Such depôts as shall from time to time be named by resolution of Council, with the approval of the Governor, shall be depôts for the disposal of night-soil.

3. No person shall be employed in the removal of night-soil, or in driving any cart for that purpose, within the limits of the Municipality of Adamstown, unless such person be authorised so to do by the said Council.

##### *Certificate.*

4. Such authority shall be evidenced by a certificate, under the hand of the Mayor and Council Clerk, which shall contain the name and place of abode of the holder, and shall be duly numbered and registered; such certificate shall be according to the form in the schedule to these By-laws.

##### *Revocation of certificate.*

5. Any such certificate may be revoked, cancelled, or suspended, at the will of the said Council, and thereupon such authority shall cease.

##### *Change of abode to be notified.*

6. Any authorised night-man or person engaged in the removing of night-soil changing his place of abode, shall within three days after so doing attend the Council Clerk, who shall note the change upon his certificate and register the same.

##### *Certificate to be carried and produced.*

7. Every night-man whilst engaged in removing night-soil, or in driving any vehicle for that purpose shall carry with him his certificate, and shall produce same when required by any officer of the Council or member of the Police Force of New South Wales. No night-man shall on any pretence part with or lend his certificate to any other person.

##### *Night-carts to be made water-tight and covered.*

8. Every night-cart or vessel used in the business of a night-man shall be kept by the owner thereof water-tight and free from leakage, and shall be provided with a proper covering, so as to effectually prevent the dropping, splashing, slopping, or spilling of anything carried therein.

Hours for emptying cesspits, &c.

9. No person shall empty any privy, cesspool, or remove any night-soil within the Municipality, or shall permit or suffer such to be done, or shall use or drive, or permit, or suffer to be used or driven, any night-cart or other vehicle for that purpose, except between the hours of 6 a.m. and 6 p.m.; or shall put, place, leave, spill, or cast out any night-soil in or upon any of the streets or public places of the said Municipality, or shall not carefully sweep up and cleanse every place in which any offensive matter is slopped or spilled: Provided that before commencing such work it shall be the duty of the night-man to report his intention so to do to the Inspector at least twelve hours before commencing such work.

Night-soil not to be brought into the Municipality.

10. No person shall bring or convey any night-soil to any depot within the limits of the said Municipality from any place beyond the said limits.

11. For every certificate under these By-laws, there shall be paid to the Council Clerk the following fees:—

	s.	d.	
For every cart .....	10	0	per annum.
For every master's certificate .....	5	0	do
For every driver's certificate .....	2	6	do
For every labourer's certificate ...	2	6	do

Inspection of carts, &c.

12. All night-carts, vessels, or pans used for the carrying of night-soil shall be kept in proper order, and shall be under the inspection of any person or persons appointed by the Council for that purpose.

Payments, and how made.

13. The removal of all night-soil shall be paid for quarterly in advance, the sum to be paid for as herein described. Where one pan is used, the sum of two shillings and nine pence shall be paid to the Inspector, at the Council Chambers, on the 1st day of January, 1st day of April, 1st day of July, and 1st day of October respectively; but in case of the aforesaid 1st day of January, April, July, and October falling on a Sunday, the same shall be paid on the 2nd of the aforesaid months; and if not paid for in twenty-one days from the above dates, the same may be recovered in a Court of law; the owner in all cases to be held responsible.

14. Any person requiring two or more pans at the same time shall pay for emptying the same in accordance with By-law 13, for the removal and payments of night-soil; and all persons requiring their pans emptied oftener than the ordinary appointments for the same shall pay seven pence halfpenny for each pan so emptied.

Breach of By-laws.

15. Every person guilty of a breach of any of the provisions of the foregoing By-laws shall be liable for every such offence (when not otherwise expressly mentioned) to a fine or penalty not exceeding twenty pounds nor less than five shillings.

SCHEDULE A.

A Requisition for License.

To the Adamstown Municipal Council.

I, \_\_\_\_\_, residing in \_\_\_\_\_ street, do hereby request that a license be granted to me to \_\_\_\_\_ within the said Municipality.

Signed, \_\_\_\_\_ street.

Recommendation for Driver's License.

We, the undersigned, do hereby certify that Mr. \_\_\_\_\_, the applicant for a driver's license, is a person over the age of 18 years, and is a sober, respectable person, and one that we can safely recommend for the position of a 'bus-driver.

Signed,—  
 {  
 \_\_\_\_\_ street.  
 \_\_\_\_\_ street.

SCHEDULE B.

Form of Certificate.

Municipal District of Adamstown.

This is to certify that \_\_\_\_\_ is hereby licensed to an omnibus \_\_\_\_\_ within the Municipal District of Adamstown, from the date hereof to the thirty-first day of December next, subject nevertheless to all and every one of the By-laws and Regulations in force relating thereto.

Build : \_\_\_\_\_ Stand : \_\_\_\_\_  
 Colour : \_\_\_\_\_ Line of road : \_\_\_\_\_  
 Lining : \_\_\_\_\_ Fare : \_\_\_\_\_  
 Name : \_\_\_\_\_

Licensed to carry \_\_\_\_\_ inside passengers \_\_\_\_\_ outside.

Given under my hand, at Adamstown, this \_\_\_\_\_ day of \_\_\_\_\_, in the year of our Lord one thousand eight hundred and ninety-\_\_\_\_\_.

\_\_\_\_\_  
 Mayor.  
 Council Clerk.

SCHEDULE C.

License Fees.

	On and after the first day of January.			On and after the first day of July.		
	£	s.	d.	£	s.	d.
Omnibuses..... each	1	10	0	0	15	0
Omnibus cars .....	1	10	0	0	15	0
Cars .....	1	10	0	0	15	0
Hackney carriages .....	1	10	0	0	15	0
Cabs .....	1	10	0	0	15	0
Drays, carts, and vans.....	.....	.....	.....	.....	.....	.....
Drivers of cabs, carriages, and omnibuses .....	0	5	0	0	2	6
Conductors .....	0	2	6	0	1	3
Drivers of drays .....	0	2	6	.....	.....	.....

Schedule.

This is to certify that \_\_\_\_\_ of \_\_\_\_\_ is hereby licensed to \_\_\_\_\_ No. \_\_\_\_\_ within the Municipal District of Adamstown, from the date hereof to the thirty-first day of December next, subject, nevertheless, to all and every the By-laws, Rules, and Regulations in force relating thereto.

Given under our hand, at Adamstown, this \_\_\_\_\_ day of \_\_\_\_\_, in the year of our Lord one thousand eight hundred and \_\_\_\_\_.

Licensed to carry \_\_\_\_\_ inside passengers and \_\_\_\_\_ outside passengers.

\_\_\_\_\_  
 Mayor.  
 Council Clerk.

Made and passed by the Municipal Council of Adamstown, this tenth day of October, in the year of our Lord one thousand eight hundred and ninety-\_\_\_\_\_.

(L.S.) THOMAS FRITH,  
 Mayor.

WILLIAM LEE, Council Clerk.



1891.

## NEW SOUTH WALES.

## MUNICIPALITIES ACT OF 1867, AND NUISANCES PREVENTION ACT, 1875.

(MUNICIPAL DISTRICT OF TUMUT—BY-LAWS.)

Presented to Parliament, pursuant to Acts 31 Vic. No. 12, sec. 158, and 39 Vic. No. 14, sec. 18.

Colonial Secretary's Office,  
Sydney, 14th January, 1891.

## TUMUT MUNICIPALITY.—BY-LAWS.

THE following By-laws, made by the Council of the Municipal District of Tumut, under the "Municipalities Act of 1867," and the "Nuisances Prevention Act, 1875," having been respectively confirmed and approved by His Excellency the Lieutenant-Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Acts.

HENRY PARKES.

SUPPLEMENTARY BY-LAWS of the Municipal District of Tumut,  
Part VII, under the "Nuisances Prevention Act, 1875."

1. Every person about to erect a closet shall, before commencing any such work, give to the Council Clerk seven days' notice in writing of his intention and of the proposed position of such closet; and in default thereof, or in case of his commencing such work without such notice, he shall be liable to a penalty not exceeding £5 (five pounds), or less than 10s. (ten shillings).

2. No closet shall be erected except in such position as shall be approved of by the Council or by the Inspector of Nuisances, or other person appointed by the Council.

3. Every closet shall be built with walls (7) seven feet high, and shall not be less than 3 feet 6 inches wide and 4 feet 6 inches long, and shall be provided with a door capable of being fastened from the inside, and shall have ventilating holes 4½ inches wide.

4. When two or more closets adjoin each other there shall be a brick, stone, or wooden dividing wall of not less than 4½ inches in thickness between every two closets, and each wall shall extend from the floor of the closet to the roof so as to effect a complete separation.

5. In schools or in factories, or other places of business where a number of persons exceeding twenty shall reside, or be occupied, or employed, one pan or closet shall be provided for every twenty persons with a capacity of not less than one cubic foot or more than two cubic feet, and separate closets shall be provided for each sex.

6. All persons shall use the closets solely for the deposit of fecal matter and human excrement, and shall cover such deposit with sand, lime, ashes, earth, or other suitable material. In case of any infectious disease occurring in the household of persons using the said closets, a sufficient quantity of some efficient disinfectant shall be used in a manner to be directed by the Inspector of Nuisances; and any person who shall wilfully deposit, or caused to be deposited any fecal matter or excrement in such closet without duly disinfecting the same, shall be liable to a penalty of not more than three pounds nor less than one pound.

7. If any alteration shall be requisite, in the opinion of the Inspector of Nuisances, or any other officer appointed by the Council on that behalf for preserving public health or decency, in the case of any existing closet, the owner or occupier of such premises shall receive seven days' notice to remove or alter the same; and if he fail to do so, and the Council shall adjudge such closet to be either injurious to the health or opposed to decency by exposure or otherwise, the same shall be altered by the Inspector of Nuisances or other officer, and the cost of such alteration shall be paid by the owner or occupier of premises whereon the same shall be.

8. When any new building is about to be erected, the builder or builders thereof shall first erect or cause to be erected on the premises a temporary closet not less than 3 feet by 2 feet 6 inches, and 6 feet high (where such convenience does not already exist or is deemed necessary by the Council or Inspector of Nuisances), for the use of the workmen employed in the construction of the new building; and any person neglecting to conform to this By-law shall be liable to a penalty not exceeding five pounds nor less than one pound.

9. The place of deposit for night-soil shall be in such locality as may be from time to time determined upon by the Council, with the approval of the Governor, and no night-soil shall be deposited in any other locality within the said Municipality except as allowed by By-laws.

10. Until otherwise provided by the Council, all night-soil shall be removed from closets, cesspits, boxes, pans, or other receptacles by the servants of or contractors with the Council, in water-tight covered vehicles, between the hours of 11 o'clock in the evening and 5 o'clock in the morning.

11. Until and unless otherwise provided by the Council, all night-soil shall be disposed of by burying it in the earth.

12. In case the Council shall sell or give away any night-soil, the same shall be removed in the same manner as above provided, and on being removed from the vehicles in which it is carried, it shall be deodorized by chemicals or in some other manner, or covered with earth so as to prevent any offensive smell arising therefrom.

13. The Inspector of Nuisances or other officer appointed by the Council may visit and inspect any premises or do any work authorised by "The Nuisances Prevention Act, 1875," on all days except Sundays and public holidays, between the hours of 10 o'clock in the morning and 4 o'clock in the evening.

14. All night-soil shall be removed from pans, boxes, or other receptacles excepting cesspits, once a week or oftener, and buried in the earth.

15. Every person shall be at liberty to use all night-soil collected on his premises in any garden attached thereto, as mentioned in By-law 34, Part IV; but if any nuisance shall arise therefrom, he shall be liable to a penalty not exceeding five pounds nor less than one pound.

16. No person shall be at liberty, without the permission of the Council or Inspector of Nuisances, or other officer appointed in that behalf, to use on his premises any night-soil brought from elsewhere.

17. No person shall be permitted to cover up, or cause to be covered up, any existing cesspit with earth or any other material prior to giving notice to the Inspector of Nuisances, until the same shall have been properly emptied by the Council's Contractor. Any person offending against this By-law shall be liable to a penalty not exceeding five pounds nor less than one pound.

18. The Council may recover, and the owner or occupier shall pay, such sum for the emptying of cesspits, earth-pans, or boxes, as may be decided upon from time to time by resolution of the Council.

19. The owner or occupier of any premises within the Municipality, or any other person who shall have or erect upon his premises any closet otherwise than in accordance with these By-laws, or who shall refuse or neglect to comply with the provisions of any of the preceding or following By-laws, or who shall commit any breach thereof, shall (in cases where no special penalty is provided), forfeit and pay a penalty not exceeding five pounds.

20. The servants of or contractors with the Council, appointed for the removal of night-soil, shall, under the direction of the Inspector of Nuisances or other authorised officer, make a trench or trenches on the depot or depôts appointed for night-soil, which shall from time to time be taken to such depot or depôts, and shall cover the whole of such night-soil with earth to a depth of 2 feet, and with disinfectants, approved by the Council, so as to prevent any nuisance or offensive effluvia from arising therefrom, and any servant of, or contractor with the Council or other person, who shall deposit night-soil or other offensive matter on any such depot or depôts otherwise than in such trench or trenches, or without covering and deodorising the same in manner aforesaid, shall be liable to a penalty not exceeding five pounds.

21. Any person or persons committing any breach of By-law No. 11, referring to the removal of night-soil by the Council's servants or contractors, shall be liable to pay to the said Council the charges payable for the removal of night-soil by such servants or contractors as if the work had been done by such servants or contractors, and shall also be liable to a penalty of not exceeding ten pounds.

22. The Inspector of Nuisances, so far as relates to these By-laws, and in all other cases the said Inspector of Nuisances or any other officer duly appointed by the Council, shall be the person to see the foregoing By-laws carried into effect, and to institute and prosecute all legal proceedings thereunder.

23. All the words recurring in these By-laws, and which also occur in the Nuisances Prevention Act, 1875, shall have the like meaning assigned to them as are provided in the 4th section of the same Act.

#### *Regulations.*

1. Whenever the Council shall enter into a contract with any person or persons for the removal of night-soil, the Mayor shall notify the same by publishing an announcement to that effect at least twice in the newspaper printed and regulated in the town of Tamut, giving the name and residence of the contractor. This shall be deemed sufficient notice to the householders or residents within the Municipal District of Tamut of the appointment of the said contractor.

2. Any householder or resident within the Municipal District of Tamut who shall require the contents of any closet, cesspit, pan, or other receptacle for night-soil removed, shall sign and give to the Inspector of Nuisances (by delivering the same to him personally, or by leaving the same addressed to him at the Council Chambers) a notice in the form approved by the Council.

3. This form shall be supplied on application to the Council Clerk. Upon receiving the form the applicant shall deposit with the Council Clerk the sum of one pound as security for payment of the fees appointed by the Council for the removal of night-soil, for which deposit of one pound the Council Clerk shall give the applicant a printed receipt.

4. The following shall be the charges to be paid by householders and residents within the Municipal District of Tamut for the removal of night-soil, as hereunder mentioned:—

For emptying a cesspit as often as may be required, four pence per cubic foot each time.

For emptying one pan once a week in each month, one shilling and eight pence per month.

For emptying one pan twice a week in each month, three shillings and four pence per month.

5. Should the contractor dissent from the dimensions of the contents of a cesspit, as stated by the applicant in the form above referred to, the question shall, unless it be amicably arranged between the contractor and the applicant, be referred to the Inspector of Nuisances, whose decision shall be final and binding on all parties concerned.

6. Upon the appointment of a contractor for the removal of night-soil under the By-laws aforesaid, the Inspector of Nuisances shall immediately thereupon, or within a reasonable time thereafter, accompany the said contractor on a tour of inspection of the closets, cesspits, pans or receptacles for night-soil within the said Municipal District of Tamut, and shall point out the same to the said contractor and shall at the same time intimate to the householders or residents concerned the necessity of delivering the notice aforesaid, and of complying with the requirements of these regulations.

7. In the event of default being made by any householder, or resident, or other person who may become liable under the promise contained in the above form, or under any By-law made in that behalf, in payment of the cost of the removal of night-soil, the Council may forthwith proceed to recover payment of the said cost without any further notice.

#### **PART VIII.**

##### *By-laws for regulating the traffic in the streets of the Municipal District of Tamut.*

###### *Vehicles to be driven on near side.*

1. All persons driving any vehicle through any street or roadway in the said Municipality shall, except in crossing for the purpose of setting down or taking up goods or passengers, keep such vehicle as near as practicable to the left-hand or near side of the street.

###### *Vehicles to stand on near side of footpath.*

2. No person shall permit or suffer any vehicle under his or her charge or control to stand or remain in any street or roadway in the said Municipality (except for the purpose of loading or unloading) without causing such vehicle to be placed alongside of and parallel with the footway of such street or roadway, and the wheels securely locked.

###### *Lights to be carried on vehicles, &c.*

3. No person shall use, drive, or conduct any vehicle along any street or roadway within the said Municipality between sunset and sunrise without carrying a light upon some conspicuous part of such vehicle, in such manner as that the same shall be distinctly visible to persons either meeting or following such vehicle.

###### *Placing fruit-skins, &c., on roadway.*

4. No person shall throw or place upon any street-crossing or footpath in the said Municipality any fruit-skin, rind, or peel.

###### *Penalty.*

Any person offending against any of the provisions in this part of the said By-laws shall for each offence upon conviction forfeit and pay a penalty not exceeding ten pounds nor less than one pound.

#### **PART IX.**

##### *By-laws relating to public vehicles.*

1. No vehicle shall ply for hire, nor shall any person act as the driver or conductor of any such vehicle within the said Municipal District of Tamut, unless licensed in the manner hereinafter described.

2. Before any license for plying a vehicle or to drive or conduct the same shall be granted the party requiring such license shall obtain from the Council Clerk, free of charge, a requisition in Form of Schedule A hereto, or to the like effect, and shall duly fill up and sign the same and deliver it to the Council Clerk; and the Mayor, or the By-law Committee, may grant a license for such vehicle, specifying the number of passengers such vehicle is licensed to carry, or to drive or to conduct a vehicle, upon payment of the license fee as prescribed in Schedule C hereto.

3. No license shall be granted in respect of any vehicle which, in the opinion of the Mayor, shall be unsafe or in bad repair, or otherwise unfit for the accommodation and conveyance of passengers.

4. Licenses for proprietors and drivers of vehicles shall be in the Form of Schedule B hereto, or the like effect.

5. Every license granted under these By-laws shall be in force from date of such license until the thirty-first day of December, or the thirtieth of June then next ensuing, and no such license shall include more than one vehicle: Provided that where the licensed vehicle shall be under repair, if the proprietor shall so desire, he may be permitted to substitute another for a period to be specified by indorsement on the license, under the hand of the Mayor or Council Clerk.

6. Licenses may be renewed each year or half-year by indorsement thereon, under the hand of the Mayor or Council Clerk, if the person applying for the renewal of such license be approved of by the Mayor, and the vehicle for which such renewal is required is in good repair and approved by the Mayor.

7. For every such license and renewal thereof there shall be paid to the Council Clerk, for the benefit of the Municipal District of Tumut, the several rates set forth in Schedule C hereto.

8. No license shall be granted to any person who shall be under the age of eighteen years.

9. All licenses shall be made out by the Council Clerk, or an officer of the Council, and numbered consecutively.

10. No proprietor shall be at liberty to part with or lend his license to any person without the knowledge and approval of the Mayor or the By-law Committee, and the registry of the name of the purchaser in the books of the Council.

11. The proprietor or person in whose name a license shall appear to have been obtained shall be deemed to be the owner or owners of the vehicle in respect of which the same shall have been taken out.

12. The license of the proprietor or driver of any vehicle may be suspended by the Mayor, who shall report such suspension at the next regular meeting of the Council, and such license then by resolution of the Council may be revoked.

13. The By-law Committee, or the Mayor, shall as often as they or he may deem it necessary cause an inspection to be made of all licensed vehicles, or of any such licensed vehicles, and of the harness and horse or horses used in drawing the same; and if any such vehicle, horse or horses, or harness shall at any time be found by them or by him to be unfit for public use, notice of the same shall be given by the Inspector of Vehicles to the proprietor of such vehicle; and if after such notice he shall use or let to hire such vehicle, or suffer the same to be used until the same, or the harness, or the horse or horses used in drawing the same, as the case may require, shall be in fit condition for public use. The By-laws Committee or the Mayor may suspend for such time as they or he may deem proper the license of such vehicle, and in case any person shall neglect or refused to attend with his licensed vehicle before the said Committee or Mayor at such time and place as he may be called, upon either by letter or notice in one of the local papers for the purpose of having the same inspected, the said Committee or Mayor may suspend the license of such vehicle.

14. The number of the license granted for every licensed vehicle shall be affixed thereon, in figures not less than two inches in height, white upon a black ground, in some conspicuous part of such vehicle.

15. No vehicle shall ply for hire within the Municipal District of Tumut unless there shall be painted the number of the license of such vehicle, and number of persons such vehicle is licensed to carry according to these By-laws, in words at length, in the following form, that is to say, Licensed to carry inside and outside.

16. No vehicle shall be allowed to carry at one time a greater number of passengers in the inside or upon the outside thereof than the same shall be licensed to carry. The driver of any vehicle infringing this By-law shall be liable to a penalty not exceeding five shillings for each passenger carried in excess of the number which the vehicle is licensed to carry.

17. Any person having taken his or her seat in any licensed vehicle, and not paying the fare when demanded during the ride, shall on conviction forfeit or pay to the owner or driver of such vehicle, an amount equal to three times the fare chargeable, in addition to such fine as the convicting Justices may inflict not exceeding forty shillings.

18. Every driver whilst engaged in taking up or setting down any passenger shall, during such taking up or setting down, place his vehicle as near as conveniently may be on that side of the street, and at a line with the kerbing or edge of the foot-path, at which the taking up or setting down is required.

19. The driver of every licensed vehicle shall be constantly attendant upon the same when standing, or whilst plying or engaged for hire.

20. Every licensed vehicle plying or engaged after sunset shall be provided with a light on each side, and shall keep the same lighted until sunrise, if so long plying or engaged.

21. The owner of every licensed vehicle at the time of obtaining the license for the same, and every driver of any such vehicle at the time of registering his license shall without charge have a printed copy of this part of these By-laws delivered to him, certified by the signature of the Council Clerk.

22. Such person or persons as may from time to time be in that behalf appointed by the Council shall be Inspector or Inspectors, during the pleasure of the said Council, of all licensed vehicles plying for hire within the Municipal District of Tumut; and such Inspector or Inspectors shall every three months examine all such vehicles, and shall at all times see that as far as possible these By-laws are duly observed.

23. For every offence against the provisions of this part of these By-laws, to which no specific penalty has been attached herein, the offender shall pay a penalty not exceeding five pounds.

#### SCHEDULE A.

To the Municipal Council of Tumut.  
I, \_\_\_\_\_ residing in \_\_\_\_\_ street, do hereby request that a license may be granted to me for \_\_\_\_\_ within the Municipal District of Tumut.  
Dated \_\_\_\_\_ 189 .

#### SCHEDULE B.

This is to certify that \_\_\_\_\_ is hereby licensed to \_\_\_\_\_ within the Municipal District of Tumut, from the date hereof to the \_\_\_\_\_ next, subject, nevertheless, to all and every of the By-laws, rules, and regulations in force relating hereto.  
Given under the seal of the Council for the Municipal District of Tumut, this \_\_\_\_\_ 189 .  
Council Clerk. Mayor.

#### SCHEDULE C.

	£	s.	d.
For every 4-wheeled vehicle, per annum	2	0	0
For every 2-wheeled vehicle, per annum	1	0	0
For every 4-wheeled vehicle for six months	1	0	0
For every 4-wheeled vehicle for three months	0	10	0
For every 2-wheeled vehicle for six months	0	10	6
For every 2-wheeled vehicle for three months	0	5	0
Licenses to drive per annum	1	0	0
Licenses to drive for six months	0	10	6

#### PART X.

##### By-laws relating to carters.

1. No cart or other vehicle shall be permitted to cart, draw, or carry for hire, merchandise, produce, wood, sand, earth, bricks, gravel, stone, or other material for building or other purposes, within the Municipal District of Tumut, unless licensed in the manner hereinafter described.

2. The Mayor shall from time to time license such carts, waggons, or drays as respectively after inspection by the By-law Committee or the Mayor, shall be found fit for public use, and also such carts to be used in carting wood for sale, and also for carts carting sand, gravel, stone, earth, bricks, or any other building material for sale, or carting for hire, or any person carting any of the above under contract, or any carts to be employed as night-carts within the Municipal District of Tumut, as shall after the like inspection be found fit for such purposes respectively, and for every such license there shall be paid to the Council Clerk such sum, as with respect to each kind of cart aforesaid, as set out in Schedule A hereto.

3. Every such license shall be numbered and registered by the Council Clerk, and shall be in force until the 31st day of December or 30th of June next ensuing, and the owners named in any license shall cause to be painted or marked, and to be kept so painted or marked, on the off or right-hand side of the cart thereby so licensed, the name of the Municipality, with the number of such license, in legible letters; and every such owner who shall omit or fail to comply with the provisions of this section, shall forfeit and pay a sum not exceeding forty shillings.

4. The driver of every licensed cart, waggon, or other vehicle, shall hold the license of such cart, waggon, or other vehicle, and shall when required by the Inspector of Licensed Vehicles, or by any other person wishing to hire, or having hired, such cart, waggon, or vehicle, produce for the inspection of the person so requiring such license. Any driver declining to produce such license when required shall be liable to a penalty not exceeding twenty shillings.



1891.

## NEW SOUTH WALES.

MUNICIPALITIES ACT OF 1867, AND NUISANCES  
PREVENTION ACT, 1875.

(MUNICIPAL DISTRICT OF DENILIKUIN—AMENDED AND ADDITIONAL BY-LAWS.)

Presented to Parliament, pursuant to Acts 31 Vic. No. 12, sec. 158 and 39 Vic. No. 14, sec. 18.

Colonial Secretary's Office,  
Sydney, 28th April, 1891.

## MUNICIPAL DISTRICT OF DENILIKUIN.—AMENDED AND ADDITIONAL BY-LAWS.

THE following Amended and Additional By-laws, made by the Council of the Municipal District of Deniliquin, under the "Municipalities Act of 1867" and "Nuisances Prevention Act, 1875," having been confirmed and approved respectively, by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Acts.

HENRY PARKES.

## MUNICIPAL DISTRICT OF DENILIKUIN.

By a resolution passed by the Municipal Council of Deniliquin, at a Meeting held on the 15th day of December, 1890, the following clauses Nos. 35 and 37 of Part 1, made under the Municipalities Act of 1867, are hereby repealed, viz. :—

35. There shall be four standing Committees, namely, a By-law Committee, a Committee for Works, a Committee for General Purposes, and a Finance Committee—the three first to consist of the whole Council, three to form a quorum; the Finance Committee to consist of three Aldermen, two to form a quorum.

37. In cases of emergency any one of the standing orders may be suspended, provided the whole of the Aldermen present consider it necessary.

The seal of the Municipal District of Deniliquin was hereto attached.

(L.S.) W. J. DAVIES,  
Mayor.

In the presence of—  
THOMAS C. GILLIES, Council Clerk.

## MUNICIPAL DISTRICT OF DENILIKUIN.—ADDITIONAL BY-LAWS.

By a resolution of the Municipal Council of Deniliquin, the following Additional By-laws, made under the "Municipalities Act of 1867," were ordered to be inserted in the places respectively of repealed By-laws 35 and 37, Part 1, and to be in lieu thereof :—

## PART 1.

35. There shall be four standing Committees, namely, a By-law Committee, a Committee for General Purposes, a Committee for Works, and a Finance Committee. The two former to consist of the whole Council, three to form a quorum. The Committee for Works to consist of five Aldermen, three to form a quorum; and the Finance Committee, to consist of three Aldermen, two to form a quorum.

37. The Council shall have power to suspend pro tem. one or more of the By-laws: Provided that no such suspension shall be allowed for the purpose of voting money and that two-thirds of the members present consent.

Made and passed by the Municipal Council of Deniliquin, this 17th day of December, 1890.

(L.S.) W. J. DAVIES,  
THOMAS C. GILLIES, Council Clerk. Mayor.

ADDITIONAL BY-LAWS, made by the Municipal Council of Deniliquin, under "The Municipalities Act, 1867," and "The Nuisances Prevention Act, 1875."

## PART 1.

## Committees of the whole Council.

39. The business in Committees of the whole Council shall be conducted in accordance with the rules hereinbefore provided for meetings of the Council as nearly as the same shall apply, except that it shall not be necessary that any motion or amendment in Committee shall be seconded.

## Conduct in Committee.

40. Whenever any member of the Council shall, while the Council is in Committee of the whole, be considered guilty of an offence against good order within the meaning of section 20 of this Part of these By-laws it shall be competent for any Alderman to move that the Council resume its sitting and that such matter be reported; and if such motion be carried such matter shall be reported accordingly, and an entry of such report shall be made in the Minute-book; and whenever any Alderman shall have failed to vote on any occasion in Committee of the whole Council as required by section 25 of this Part of these By-laws, the facts shall be reported to the Council, and such report on such facts shall be duly recorded in the Minute-book: Provided that in the case of an Alderman failing to vote as aforesaid, no special motion that the Committee resume its sitting shall be necessary; but it shall be the duty of the Chairman of such Committee of the whole in making his report of the proceedings in such Committee, whenever such report may be made, to include in such report a statement of such failure to vote as aforesaid and of the question as to which such Alderman has failed to vote.

## Committee—Report of progress, &amp;c.

41. Any Alderman may at any time during the sitting of a Committee of the whole Council move that the Chairman report progress, or no progress as the case may be, and that leave be asked to sit again at a later period of the same day, or on some other day, or that no leave be asked to sit again, and if any such motion be carried the Council shall resume its sitting and a report shall be made accordingly; but no discussion shall be permitted on any such motion, and if the same be negatived the subject then under discussion shall be discussed before another such motion shall be receivable.

Report of proceedings.—Want of quorum in Committee.

42. All reports of proceedings in Committee of the whole Council shall be made to the Council *viva voce* by the Chairman of such Committee, and a report of such proceedings shall be made in every case except when it shall be found on counting the number of members during the sitting of any such Committee that there is not a quorum present. In the latter case the sitting of the Council shall be resumed without any motion for that purpose, and the proceedings in Committee shall be considered to have lapsed: Provided that in making any such report as aforesaid it shall not be necessary to report any such proceedings in extenso, but only to state the result, general effect, or substance of such proceedings.

How reports are to be dealt with.

43. All such reports of proceedings in Committee of the whole Council shall be recorded in the Minute-book; but, except as hereinafter mentioned, no such report shall be considered adopted by the Council, nor shall any such application as aforesaid for leave to sit again be considered to have been granted by such Council until a motion shall have been made and passed for such adoption, or for the granting of such leave. And every such motion for the adoption of a report or the granting of such leave as aforesaid, and the order of debate on such motion shall be subject to all the same rules as other motions in Council and the order of debate on such other motions: Provided, however, that where a report shall have been made, under section 40 of this Part of these By-laws, of disorderly conduct in Committee, or under section 25 of this Part of these By-laws, of failure to vote in division, or of any decision in Committee, or of any question of order, such report shall as far as it relates to such facts be regarded and recorded as a statement thereof; and to that extent shall not, unless for the correction of a manifest error, be interfered with upon any pretence whatever.

The Committee for Works—Duties of.

44. The Committee for Works shall have the general direction of all works ordered or sanctioned by the Council, and the general inspection of all streets, roads, ways, bridges, public reserves, and other public places under the care and management of the Council. They shall also inquire and report from time to time as to such improvements and repairs as they may think necessary, or as they may be directed by resolution of the Council to inquire and report upon.

Record of transactions in Committee.

45. The Chairman of each standing Committee shall make or cause to be made in a book to be kept by him for that purpose, memoranda of all the transactions of such Committee, which book he shall, on ceasing to be such Chairman, hand over to his successor.

How complaints against Officers, &c., are to be dealt with.

46. All complaints against officers or servants of the Council must be in writing and addressed to the Mayor, and must in every case be signed by the person or persons complaining. And no notice whatever shall be taken of any complaint which is not in writing or is anonymous. All such complaints as aforesaid shall be laid by the Mayor before the Council at the next meeting thereof, which shall be holden after the Mayor shall have received the same and shall be duly recorded.

Leave of absence to Officers.

47. No leave of absence shall be granted to any officer otherwise than by a resolution of the Council, except in cases of emergency when leave may be granted by the Mayor, who shall report the same at next meeting of the Council.

PART 3.

Dead animals—Mode of removal.

12. If any animal shall die in any part of the said Municipality, and the owner of such animal, or the occupier of the place (if private property) where such animal shall have died, shall not cause such animal to be immediately destroyed by fire, or so effectually removed and disposed of that no nuisance can possibly result therefrom in any part of the said Municipality, he or she shall for every such offence forfeit and pay any sum not exceeding twenty pounds nor less than one pound.

Animals dying in public places.

13. If any animal shall die in any public place or street within the said Municipality, and the owner or any person having charge of such animal cannot at the time be found or ascertained, it shall be immediately removed by the Inspector of Nuisances or other officer appointed by the said Council, and destroyed in the manner aforesaid at the cost of the Municipality; but should the owner or person in charge be found or ascertained subsequently, he or she shall recoup to the Municipality any expense the said Municipality shall have been put to in connection with the said animal, such sum or sums to be recoverable by process of law or otherwise.

Where swine are to be kept.

14. No person shall breed or keep any kind of swine in any house, building, yard, garden, or other place situated within the following boundaries: Commencing at the bridge on the north side of the River Edwards; thence along the said river in a north-westerly direction to the north side of Short-street; thence along the north side of Short-street to Charlotte-street; thence along the north side of Charlotte-street to Russell-street; thence along the west side of Russell-street to Henry-street; thence along the north side of Henry-street to Dick-street; thence easterly along Dick-street to Tarangile Creek; thence northerly along Tarangile Creek to its junction with the Edwards River; and thence northerly along the Edwards River to the point of commencement, under a penalty upon conviction of a sum not exceeding ten pounds nor less than one pound.

Pigs may be kept outside boundaries under certain conditions.

15. No person shall keep or breed any kind of swine in any house, building, yard, garden, or other place within the Municipality, situated outside of the boundaries fixed by By-law 14 of this Part, being within 150 feet of any road, street, public place, or residence under a penalty upon conviction of any sum not exceeding ten pounds nor less than ten shillings. And any person keeping or breeding any kind of swine within the Municipality in accordance with the above restrictions shall at all times keep their styes in a clean and healthy state, and shall at all times permit the Inspector of Nuisances access to see that they are kept in such state; and it shall be lawful for the said Inspector of Nuisances to give such instruction concerning the cleansing of the said styes within and without as to him shall seem needful; and any person refusing or neglecting to comply with such directions within a reasonable time shall upon conviction forfeit and pay any sum not exceeding ten pounds nor less than ten shillings.

Cleansing butchers' shambles, slaughter-houses, &c.

16. For preserving the health of the inhabitants of the said Municipality and the cleanliness thereof, it shall be lawful for the Inspector of Nuisances or any other officer or officers appointed by the Council from time to time, and when and as often as he or either of them shall see occasion to visit and inspect the butchers' shambles, slaughter-houses, boiling-down establishments, tanneries, and fellmongering establishments in the said Municipality, and to give such directions concerning the cleansing the said shambles, slaughter-houses, tanneries, and establishments both within and without as to him shall seem needful; and any butcher or the owner or occupier of any such shamble, slaughter-house, tannery, or establishment who shall refuse or neglect to comply with such directions within a reasonable time shall forfeit and pay a sum not exceeding ten pounds nor less than ten shillings.

Complaints respecting dirty premises, &c.

17. Upon the complaint of any householder that the house, premises, yards, closets, or drains of the neighbouring or adjoining premises are a nuisance or offensive, the Inspector of Nuisances or any other officer appointed by the said Council shall make an inspection of the premises complained of, and the officer of the said Council shall have full power without any other authority than this By-law to go upon such premises for the aforesaid purpose; and any person who shall personally or by any person in his employment or under his or her control suffer any waste or stagnant water, or any muck, filth, soil, or other offensive matter in any cellar or place within any dwelling-house or premises within the said Municipality, or shall in like manner suffer the contents of any water-closet, privy, or cesspool to overflow or soak therefrom, shall for every such offence forfeit and pay a sum not exceeding five pounds nor less than one pound.

Premises in a state to endanger public health.

18. If, upon the certificate of any two duly qualified medical practitioners, or of the Government Health Officer, it appears to the said Council that any house or part thereof, or of the premises occupied in connection therewith, within the said Municipality is or are in such a filthy or unwholesome condition that the health of any person is or may be liable to be affected thereby, and that the white-washing, cleansing, or purifying of any house or part thereof, or the premises occupied in connection therewith, would tend to prevent or check infectious or contagious disease, the said Council shall give notice in writing to the owner or occupier of the said premises to whitewash, cleanse, or purify the same, as the case may require; and if the person to whom notice is so given shall fail to comply therewith within such time as shall be specified in the said notice, he or she shall be liable to a penalty not exceeding ten shillings for every day during which he or she continues to make default: Provided that no such penalties shall collectively amount to any greater sum than twenty pounds.

Water for other than Domestic Purposes.

32. No person shall use water supplied by the Council for other than domestic purposes, except the supply is by meter, or excepted in the manner hereinbefore provided. No person shall sell or give any water for use off the premises he occupies.

Meters.

33. No person shall affix a meter until it shall have been tested and approved by the Council or its duly appointed officers, and, except with special consent of the Council, the dial of every such meter must be capable of registering not less than (1,000,000) one million gallons. All water-meters to be enclosed in a strong wooden box; all keys of both meters and boxes to be lodged at the Town Clerk's Office immediately after the meters are fixed. The Council reserves the right of affixing their own locks to the meters and boxes; twenty-four hours' notice to be given of the day on which it is intended to connect meters, in order that the proper officer may attend and see them fixed correctly. On no account are plumbers or other persons to take off, alter, or otherwise interfere with meters or pipes connecting the same, unless by permission of the Town Clerk, and in the presence of an authorised officer of the Council.

Meters Registering Incorrectly.

34. If any meter shall not correctly indicate the water passing through it the Council may charge for the supply according to the average daily consumption for any month preceding the date upon which such meter shall have been examined and found to be in order; or at the request of the consumer, or by direction of the Council, the said meter shall be tested and the charge for water supplied regulated accordingly.

Steam Boilers to have Self-acting Valve.

35. If any person shall connect any service-pipe or branch service-pipe, with any steam boiler for the purpose of feeding or supplying the same with water, without first affixing a self-acting valve for preventing the pressure of the steam reversing or affecting the dial of the meter, he shall be liable to a penalty not exceeding five pounds; and a further penalty of two pounds for each day after notice of the offence from the Council to each offender.

Hose-taps and hoses.

36. No person shall, without the consent in writing of the Council, place any tap in any garden, or screw-tap in any yard, or to or outside of any dwelling or premises supplied with water of the Council to which a hose could be attached, and no person shall use a hose attached to any tap or pipe for watering any garden, laying dust, or for any other purpose whatsoever, unless a meter is fixed or he obtain permission from the Council and pay the charges which may be demanded under these By-laws; and any person offending against this By-law shall be liable for each offence to a penalty not exceeding five pounds.

Pipes to be kept in repair.

37. The owner of the premises or the person using water supplied by the Council, shall keep all pipes and other appliances in connection with the supply of water to such person in a proper state of repair.

Inspection of work.

38. All work at any time done or to be done on private lands or premises in connection with the water supply, whether such work consist in the laying and fixing of new services, or in the extension or alteration of existing services and fittings, shall be inspected by the proper officer of the Council, and no such work shall be commenced until after the expiration of two days' notice thereof first given to the Council. In no case shall the water be turned on to any lands or premises where any such work shall have been executed until the said work shall have been inspected by the said officer, and certified by him on the prescribed form hereinafter mentioned. No underground or enclosed work shall on any account be covered up or concealed from view until the same shall have been duly inspected and passed by the inspector; and any person offending against this By-law shall be liable to a penalty not exceeding five pounds.

Supply and use of water open to inspection.

39. The supply and use of water, whether for domestic purposes or under special agreement, shall be open to inspection and admeasurement whenever required; and such information must from time to time be afforded as will be sufficient to enable the Council to obtain a satisfactory account of the quantity of water actually consumed and of the pipes, taps, cisterns, and other apparatus and conveniences for receiving

and delivering such water. Any officer of the Council may at all reasonable times in the daytime enter on the premises of any person using water supplied by the Council for the purpose of inspecting the service-pipes or other appliances of such person.

Council may repair.

40. If the service-pipes or other appliances of any such person shall on any inspection be found to be out of repair, the Council may forthwith, without notice, repair the same in such manner as may be deemed necessary, and the cost of any such repairs may be recovered by the Council from the owner or occupier of such premises.

Council may discontinue supply.

41. The Council shall be at liberty to discontinue the supply of water immediately on the discovery of any breach of these By-laws and Regulations.

Notices and applications to be made on printed forms.

42. All notices, applications, and certificates required by these By-laws are to be made upon printed forms to be obtained at the Town Clerk's Office.

Interpretation of Terms.

43. In the construction of these By-laws the word "person" shall be deemed to extend to and include a corporation or any body or number of persons, and the masculine shall include the feminine gender.

Penalty for using unauthorised fittings.

44. Any person who, being an owner or occupier of lands or premises supplied with water under this Act, for the purpose of taking, in a manner not authorised by this Act, any such water, uses in or places on or affixes or attaches to such land or premises or to any prescribed fitting, or wilfully permits to be used in or placed on or affixed or attached to such lands or premises or to any prescribed fitting any fitting, instrument or thing not authorised in that behalf by the Council, or who alters, misuses, injures, or removes any prescribed fitting, except for the purpose of necessary repair, shall upon conviction thereof forfeit and pay to the Council a sum not greater than ten pounds, without prejudice to the right of the Council to recover from him damages in respect to any injury by such owner or occupier done, or wilfully permitted to be done, to the Council's property, and without prejudice to the Council's right to recover from him the value of any water wasted, misused, or unduly consumed.

Sample fittings.

45. A set of standard fittings, such as are at present approved, is exhibited in the Town Clerk's office; but the Council will give due consideration to the claims of any other fitting which may be presented for approval, and if considered satisfactory the same will be purchased and placed among and become one of the standard approved fittings.

Reward for information as to fittings.

46. The Council will pay a reward of not less than ten shillings to any persons who shall give such information as shall lead to the conviction of any person or persons who shall wrongfully attach (temporarily or otherwise) any pipe to any of the mains or services of the Council or to any pipe, cistern, or apparatus connected therewith, or to or into which the water of the Council shall flow, or who shall wrongfully draw off, use, or take the water of the Council, or who shall knowingly permit the said water to be wrongfully drawn off, used, or taken.

Reward for information as to waste.

47. The Council will also adequately reward any person (not being the person in fault) who shall communicate timely information to the Council of any leakages or waste of water, whether the same be negligently or wilfully occasioned or suffered, and who shall give such information as shall lead to the conviction of any person or persons who shall have negligently or wilfully occasioned or suffered such leakage or waste, or to the conviction of such person or persons who shall have stolen or caused to be stolen, or improperly appropriated, the water of the Council.

General penalties.

48. Any person committing a breach of any By-law to which no specific penalty is attached or who shall refuse or neglect to obey any injunction or direction in any such By-law, shall upon conviction be liable to pay a penalty not exceeding twenty pounds, and, in case of a continuing offence, a further penalty not exceeding five pounds for each day after notice of such offence shall have been given by the Council to such offender.



1891.

## NEW SOUTH WALES.

MUNICIPALITIES ACT OF 1867, AND NUISANCES  
PREVENTION ACT, 1875.

(MUNICIPAL DISTRICT OF WICKHAM—ADDITIONAL BY-LAWS.)

Presented to Parliament pursuant to Acts 31 Vic. No. 12, sec. 158, and 39 Vic. No. 14, sec. 18.

Colonial Secretary's Office,  
Sydney, 18th March, 1891.

## MUNICIPAL DISTRICT OF WICKHAM.—ADDITIONAL BY-LAWS.

THE following additional By-laws, made by the Council of the Municipal District of Wickham, under the "Municipalities Act of 1867" and the "Nuisances Prevention Act, 1875," having been confirmed and approved respectively by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Acts.

HENRY PARKES.

ADDITIONAL BY-LAWS made by the Municipal Council of  
Wickham under the Nuisances Prevention Act, 1875.

## Construction of privies, cesspits, pans, &amp;c.

1. All existing privies, cesspits, and pans in use in the Municipality must be constructed or altered in such a manner as will conform to the system adopted by the Municipal Council of Wickham under their contract or contracts for the removal of night-soil.

## Regulation size of pans.

2. All pans used as receptacles for holding night-soil must be of a regulated size and pattern approved of by the Council or their Inspector of Nuisances, and such pans may be obtained from the Council's contractor, through the Council, at a minimum charge of six shillings and six pence per pair of duplicate pans without separators, and eight shillings and six pence per pair of duplicate pans with separators. Pans without separators in any privy or closet must be emptied at least once in each fortnight, and pans with separators must be emptied at least once in every four weeks, and where practicable such removals to be carried on between the periods of sunrise and sunset, under the supervision of the Municipal Council's appointed Inspector of Nuisances or other authorised person, and in accordance with By-law No. 13 of Council's existing By-laws under the Nuisances Prevention Act of 1875.

## Compelling owners to have pans emptied.

3. It shall be lawful for the Inspector of Nuisances or other authorised person by the Council to compel the owner of any privy or closet or cesspit (or in the absence of the owner, the agent, or occupier), to have such cesspits emptied and all night-soil therein removed, and the said cesspit filled up with clean ashes or other approved material; and also to have such closets fitted up in such a manner as will conform to the dry earth and ash system with all necessary doors, traps, and other appurtenances necessary for the removal and treatment of all pans used in such closets: Provided always that nothing herein contained shall prevent the Municipal Council, with the advice and approval of the Inspector of Nuisances, from granting permission to the owners or occupiers of any approved ashpits used as a

receptacle for night-soil from depositing in an approved manner the contents of such ashpits in and about any farm, garden, or other land of sufficient area to admit of such deposition without injury or nuisance to the inhabitants in the vicinity; and provided also that any person or persons having such privilege granted them shall pay the said Municipal Council an annual fee of seven shillings and six pence as a cesspit rate, and any person violating the provisions of this By-law or any of the preceding ones shall forfeit and pay a penalty not exceeding five pounds and not less than one pound sterling.

## Cost emptying pans, &amp;c.

4. All expenses incurred by the Council in emptying and removing the contents of any cesspits or pans containing night-soil shall be paid by the owner or occupier of the premises where such cesspits or pans are situated, and if payment be not made within seven days after the rendering of an account for the same payment may be recovered in a summary way before any two Justices of the Peace.

## Depositing in parks.

5. In case the Council shall require the contents of any cesspit pans to be deposited and used in their parks or reserves for fertilifying purposes, the contractor for removal of such pans shall only deposit in such places selected by the Inspector of Nuisances; and only pans whose contents have been thoroughly mixed with a sufficiency of earth or ashes or decolorised by chemicals shall be allowed in any such park or reserve, and the said contents of such pans must be properly buried, treated, or covered up to the entire satisfaction of the Inspector of Nuisances.

## Not to convey night-soil from beyond limits.

6. No person shall bring or convey by vehicle or otherwise any night-soil to any land, street, or water-course, or depot for night-soil from any place beyond the limits of the Municipal District of Wickham for the purpose of depositing such night-soil within the limits of the said Municipal District, and any person or persons offending against the provisions of this By-law shall be liable on conviction to a penalty not less than five pounds and not greater than twenty pounds.

Only licensed persons to remove night-soil.

7. No person or persons other than the Municipal Council's licensed contractor and licensed nightmen shall remove or convey away from any cesspit or closet within the Municipality any night-soil whatsoever, without the consent of the Inspector of Nuisances; and all night-soil conveyed to any appointed dépôt by any licensed nightmen must be disposed of in such a manner and be well covered up with sufficient ashes or earth to prevent any nuisance arising therefrom, and the work of emptying the cesspits or pans and the removal of night-soil must be done to the entire satisfaction of the Council's Inspector of Nuisances.

Damages.

8. All damage done to any closet, cesspit, fences, or gates, or other property of the ratepayers or Council in the removal of night-soil by the contractor or his servants shall be made good by the said contractor within twelve hours after damage to same, failing which the work will be performed by the Council at the risk of the contractor; and in the event of any contractor for removal of night-soil failing to perform the work of removing and emptying the contents of any cesspit or pans in accordance with any contract or specifications in existence such work may be performed by the Municipal Council at the risk and cost of the contractor or the bondsmen responsible for the carrying out of any contract for removal of night-soil.

Not to hinder nightmen.

9. No ratepayer or other person shall hinder or obstruct any nightman, licensed to remove night-soil, whilst engaged in the work of removing night-soil or earth pans from any premises within the Municipal boundaries, and any person refusing admission to any such licensed nightman during the hours appointed by the Council and in the execution of the duties attached to the removal of night-soil shall forfeit and pay on conviction a penalty not less than five shillings and more than twenty shillings in addition to any loss that may be sustained by such nightmen or the contractor employing them.

Collection of fees.

10. The collection of fees or rates for attendance and emptying pans under the pan system at any premises within the Municipality shall be half-yearly unless otherwise ordered by the Council, and the Council may issue notices of account for a half-year's services three months previous to the end of any half-year, and in default of payment may recover the same with all costs in any competent Court of Jurisdiction: Provided always that in the event of the Council failing to fulfil the necessary services of emptying in any half-year after payment has been made by any ratepayer the Council shall refund an amount equal to unfulfilled services.

Made and passed by the Municipal Council of Wickham, this tenth day of September, one thousand eight hundred and ninety.

T. W. HOGUE,  
Council Clerk.

(L.S.) JAMES MYERS,  
Mayor.

ADDITIONAL BY-LAWS made by the Municipal Council of Wickham under the Municipalities Act of 1867.

Smoke nuisance.

1. All chimney stacks used for the conveyance of smoke from any furnace or boiler used in or at any pits, works, or factories must be carried up to such a height as will effectually prevent the smoke therefrom being a nuisance in the immediate vicinity; and, in the event of any complaint being made in writing by any householder that any such smoke is a nuisance, the mode of procedure for the abatement of the alleged nuisance shall be in accordance with the By-law No. 2, Part 6 of the Council's By-laws "Noisome and offensive trades."

Drivers of public vehicles.

2. Any driver or conductor of any licensed vehicle shall be deemed to be on duty and plying for hire from such time that such driver or conductor takes charge of his vehicle at any road, street, or bus-stand within the Municipality, and shall be liable for all breaches of the Council's By-laws for the regulation of vehicle traffic, or for any breach of the By-laws or other offence committed by any substitute who may at any time be driving for any licensed driver; and no drivers or conductors shall use obscene language or otherwise misconduct themselves whilst on duty, such person or persons so offending against the provisions of this By-law shall on conviction forfeit and pay a sum not less than five shillings and not more than forty shillings.

Breach of By-laws.

3. Every person guilty of a breach of any of the provisions of the foregoing By-laws where no specific penalty is provided for shall be liable for every offence thereof to a fine or penalty not exceeding five pounds and not less than five shillings.

Legal standing Mayor and officers.

4. In all cases where any breach of the Municipal Council's By-laws has been committed or where there is good grounds for believing that a breach of the said By-laws has been committed it shall be lawful for the Mayor, Council Clerk, Inspector of Nuisances, or other authorised officer of the Municipal Council of Wickham to appear at any Court of competent jurisdiction on behalf of the said Council, and to plead, conduct, and appear in any case against any defendant or defendants: Provided always that in the case of any officer of the Council appearing in such cases on behalf of the said Council, an authority signed by the Mayor or, in his absence, any two Aldermen of the said Council, shall be produced, or production of the Government Gazette will suffice.

Made and passed by the Municipal Council of Wickham, this tenth day of September, one thousand eight hundred and ninety.

T. W. HOGUE,  
Council Clerk.

(L.S.) JAMES MYERS,  
Mayor.

1891.

## NEW SOUTH WALES.

MUNICIPALITIES ACT OF 1867, AND NUISANCES  
PREVENTION ACT, 1875.

(BOROUGH OF YOUNG—BY-LAWS.)

Presented to Parliament, pursuant to Acts 31 Vic. No. 12, sec. 158, 39 Vic. No. 14, sec. 18.

Colonial Secretary's Office,  
Sydney, 4th April, 1891.

## YOUNG MUNICIPALITY.—BY-LAWS.

The following By-laws, made by the Council of the Borough of Young under the "Municipalities Act of 1867," and the "Nuisances Prevention Act, 1875," having been respectively confirmed and approved by His Excellency the Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Acts.

HENRY PARKES.

By-Laws made by the Borough Council of Young for regulating the proceedings of the Council and the duties of the officers and servants of such Council; for preserving order at meetings of said Council; for determining the times and modes of collecting and enforcing payment of rates; for preventing and extinguishing fires; for suppressing nuisances and houses of ill-fame; for preventing or regulating and licensing exhibitions held or kept for hire or profit, bowling or skittle alleys, and other places of amusement; compelling residents to keep their premises free from offensive or unwholesome matters; opening new public roads, streets, ways, and reserves; for protection of public fountains and water-courses; aligning and cleansing roads and streets; for regulating and licensing public vehicles; the slaughtering of cattle; for the collection of rates; for regulating the supply and distribution of water, sewerage, and drainage; for regulating as to the blasting of any rock or rocks; preventing trees from overhanging public pathways and preserving trees, shrubs, and other public property; to extirpate weeds; for preventing or regulating the bathing or washing the person in any public water near a public thoroughfare; for preserving public decency; for providing for the health of the Municipality and for the prevention of contagious or infectious diseases; and generally for maintaining the good rule and government of the said Municipality.

*Meetings of the Council.**Ordinary Meetings.*

1. The Council shall meet for the dispatch of business at the hour of 7:30 p.m. every alternate Thursday, unless such day shall happen to be a public holiday. In the latter case the meeting shall be held on such other day as the Mayor may appoint.

Election of Chairman in absence of Mayor. Adjournment for want of quorum.

2. If at any meeting of the Council the Mayor be absent at the expiration of fifteen minutes after the time appointed for holding such meeting, the Aldermen then present shall proceed to elect, from among themselves, a Chairman for such

meeting, to give place to the Mayor if he should arrive at any later hour during the meeting. Whenever there shall be an adjournment of any such meeting for want of a quorum, the names of the members present shall be taken down, and shall be recorded in the Minute book.

*Order of Business.**Business of Ordinary Meetings.*

3. The following shall be the order of business at all meetings of the Council other than special meetings:—

1. The minutes of the last preceding meeting to be read, corrected if erroneous, and verified by the signature of the Mayor or other Chairman. No discussion to be permitted on such minutes, except as to whether they are correct.
2. Correspondence to be read, and, if necessary, ordered upon.
3. Petitions (if any) to be presented and dealt with.
4. Reports from Committees, and minutes from the Mayor (if any) to be presented and ordered upon.
5. Questions as to any matters under the jurisdiction or within the official cognizance of the Council, to be put and replied to; and statements as to any facts, matters, or circumstances, requiring attention by the Council or any of its Committee or officers, to be made.
6. Motions of which notice has been given to be dealt with in the order in which they stand on the business paper.
7. Orders of the day to be disposed of as they stand on the business paper.

Business may be dealt with out of regular order.

4. It shall be competent to the Council at any time by resolution, without notice, to entertain any particular motion or to deal with any particular matter of business, out of its regular order on the business paper, without any formal suspension of this section; also, and in like manner, to direct that any particular motion or matter of business shall have precedence at a future meeting.

**Business at Special Meetings.**

5. At Special Meetings of the Council the business, after the minutes shall have been read and verified, which shall be done in the same manner as at an ordinary meeting, shall be taken in such order as the Mayor or the Alderman at whose instance such Special Meeting shall have been called, may have directed.

**Business paper for Special Meeting.**

6. The business paper for each special meeting shall contain only such matters as shall have been specially ordered to be entered thereon by the Mayor or Alderman calling such meeting.

**Business Paper for Ordinary Meeting—how prepared.**

7. The business paper for every meeting of the Council, other than a special meet, shall be made up by the Council Clerk or other person acting as his substitute not less than forty-eight hours before the day appointed for such meeting. He shall enter upon such business paper a copy of the substance of every notice of motion and of every requisition or order as to business proposed to be transacted at such meeting which he shall have received, or shall have been required or directed so to enter in due course of law and as hereinafter provided. Every such entry shall be made subject to the provisions or section 4 of this "Part" of these By-laws in the same order as such notice, requisition, or direction, shall have been received.

**Summons to Members.**

8. The summons to Members of the Council of every meeting thereof shall be prepared from the business paper for such meeting, and shall embody the substance of such business paper.

**How business paper is to be disposed of.**

9. The business paper for each meeting of the Council shall at such meeting be laid before the Mayor or Chairman, who shall cause a note to be made upon such business paper of the mode in which each matter entered thereon has been dealt with, and such business paper so noted shall be a record of the Council.

After business paper made up all notices, &c., to be the property of the Council.

10. After the business paper shall have been made up as aforesaid, all the said notices of motion, requisitions, and directions as to which entries have been made thereon shall be the property of the Council, and shall not be withdrawn, altered, or amended, without leave having been first obtained from the Council for such withdrawal, alteration, or amendment.

**Motions and Amendments.****Motions—How to be moved.**

11. Except by leave of the Council motions shall be moved in the order in which they stand on the business paper, and if not so moved or postponed shall be struck from such business paper and be considered to have lapsed.

**Absence of proposed mover.**

12. No motion, of which notice shall have been entered on the business paper, shall as hereinafter provided be proceeded with in the absence of the Alderman by whom such notice shall have been given, unless by some other Alderman producing a written authority for that purpose from such first-named Alderman.

**Motions to be seconded.**

13. No motion in Council shall be discussed, unless and until it be seconded.

**Amendments may be moved.**

14. When a motion in Council shall have been made and seconded, any Alderman shall be at liberty to move an amendment thereon, but no such amendment shall be discussed unless and until it be seconded.

**How amendments to be put.**

15. Any number of amendments may be proposed on the motion before the Council, and when more than one amendment shall have been moved and seconded, the question shall first be put on the last amendment, then on the next preceding the last, and so on in inverse order to that in which they shall have been moved, unless when such motion or amendment shall relate to the fixing of salaries, rates, or other matters of finance, in which case the lowest sum shall be put first, and then the next lowest, and so on to the highest.

**Motions for adjournment.**

16. No motion for adjournment of the Council shall be discussed. If seconded, such motion shall be put at once. If negatived, no similar motion will be permitted to be made until half an hour has elapsed after putting the one that has been negatived, and the subjects on the business paper shall be proceeded with in order.

17. The Town Clerk shall put every motion into writing when requested to do so by the Mayor, which shall be signed by the mover, and every motion when seconded, and read by the Clerk, shall be considered the property of the Council, and shall not be withdrawn without leave of the Council.

**Orders of the Day.****Of what Orders of the Day shall consist.**

18. The Orders of the Day shall consist of any matters other than motions, on notice which the Council shall at a previous meeting thereof have directed to be taken into consideration, or which the Mayor or Chairman or any Committee of the Council shall have directed to be entered on the business paper for consideration.

**How they are to be dealt with.**

19. The Alderman who has the usual charge of, or who has previously moved in reference to, the particular business to which any such Order of the Day relates, shall be the person called upon to move: Provided that the Mayor or Chairman for the time being may, as to any Order of the Day entered by his direction, arrange with and call upon any Alderman to move the same.

**Petitions.****Petitions to be respectfully worded.**

20. It shall be incumbent on every Alderman presenting a petition to acquaint himself with the contents thereof, and to ascertain that it does not contain language disrespectful to the Council. The nature and prayer of every such petition shall be stated to the Council by the Alderman presenting the same.

**Petitions—how received.**

21. All petitions shall be received only as the petitions of the parties signing the same.

**How petitions are to be dealt with.**

22. No motion shall, unless as hereinafter provided, be permissible on the presentation of a petition, except that the same be received and referred to one of the permanent Committees hereinafter mentioned, or that it be received and that its consideration stand an Order of the Day for some future meeting: Provided however that if any Alderman shall have given due notice of a motion in reference to any petition, and such petition shall have been presented before such Alderman shall have been called upon to move such motion, the said motion shall, if otherwise unobjectionable, be considered in order.

**Correspondence.****Duties of Mayor as to correspondence.**

23. The Mayor shall have the same duty in reference to letters addressed to the Council before directing the same to be read, as by section 23 of this Part of these By-laws is imposed on Aldermen presenting petitions. The Mayor shall direct as to the order in which all correspondence shall be read, and no letter addressed to the Council shall be presented or read by any Alderman. If the Mayor be absent and shall not have examined any such letters addressed to the Council, or have given any such directions as aforesaid, then the duties imposed by this section shall devolve upon the presiding Alderman.

**Reports from Committees and Minutes from Mayor.****Form of Report.**

24. All reports from Committees shall be written on foolscap paper with a margin of at least one-fourth of the width of such paper, and shall be signed by the Chairman of such Committee, or in his absence by some other member of the same.

**Mayor's Minute.**

25. The Mayor shall have the right of directing the attention of the Council to any matter or subject within its jurisdiction or official cognizance by a minute in writing. Every such minute shall be written on paper of the same kind and with the same margin as a report from a Committee, and shall be signed by such Mayor.

How Reports, &c., are to be dealt with: duties of Chairman, &c., in certain cases.

26. No motion shall (unless as hereinafter provided) be permissible on the presentation of a report from a Committee, or a minute from the Mayor, except that the same be received, and that it stand an Order of the Day: Provided however that if any Alderman shall have given due notice in reference to any such report or minute, or if any order for the consideration of such report or minute shall have been entered among the orders of the day, such motion or order may, if otherwise unobjectionable, be moved or considered in due course.

**Questions and Statements.****Limitations as to Questions and Statements.**

27. No question or statement shall be allowed to be put or made which is inconsistent with good order, or is not in strict accordance with the requirements of section 4 of this Part of these By-laws.

*Notice to be given.*

28. Twenty-four hours notice of every question shall be given to the person who is expected to reply thereto, to allow for the consideration of such reply, and if necessary for a reference to other persons or to documents.

*Answer not compulsory.*

29. It shall not be compulsory upon any person questioned as aforesaid to answer the question so put to him.

*Question to be put without argument, &c.*

30. Every such question must be put categorically, without any argument or statement of fact.

*Similar provision as to statements.*

31. Every such statement must be made without argument.

No discussion on question, &c., rights of objection, and of subsequent motion reserved.

32. No discussion shall be permitted as to any such question, or as to any reply or refusal to reply thereto, or as to any such statement, at any time when such question is put, or such reply or refusal to reply is given, or such statement is made: Provided, however, that nothing herein contained shall prevent the taking of any objection as to any such question or statement being out of order, or shall prevent the discussion after due notice, as hereinbefore provided, of any matters properly arising out of, or relating to, any such question or reply, or refusal to reply, or any such statement as aforesaid.

*Order of Debate.**Mode of addressing the Council.*

33. Every Alderman who shall make or second any motion, or shall propose or second any amendment, or shall take any part in any debate or discussion, or shall put or reply to any question, or shall make any statement, or shall in any other way or for any other purpose address observations to the Council, shall while so doing stand up in his customary place (unless he shall be prevented from so doing by reason of some bodily infirmity), and shall address himself to the Mayor or other Chairman then presiding: Provided that in the case of a question, such question may by permission of such Mayor, or Chairman, be put directly to the Alderman or Officer to be questioned, and may be replied to in like manner; but in every such case the question so put, and the answer thereto, shall be subject to every legal objection on the ground of disorder or irrelevancy. And all members of the Council shall on all occasions when in such Council, address and speak of each other by their official designations, as Mayor, Chairman, or Alderman, as the case may be.

*Speaker not to be interrupted if in order.*

34. No Alderman shall be interrupted while thus speaking, unless for the purpose of calling him to order as hereinafter provided; and any Alderman using, whilst in Council, any offensive or insulting language, the same to be written down, and on being asked to do so, withdrawn; and if any Alderman shall refuse to withdraw such language and apologise, he shall be deemed guilty of misconduct, and be liable to a fine of not less than 20s. nor more than £5.

*Limitation as to number of speeches, &c.*

35. Every mover of an original motion shall have a right of general reply to all observations which may have been made in reference to such motion, and to any amendments moved thereon, as well as a right to speak upon every such amendment. Every Alderman other than the mover of such original motion, shall have a right to speak once upon such motion, and on every amendment thereon. No Alderman shall speak longer than fifteen minutes, nor oftener than once upon any question other than a question of order, unless when misrepresented or misunderstood, in which case he shall be permitted to explain without adding any further observations than may be necessary for the purposes of such explanation.

*Mover and seconder.*

36. An Alderman who has moved any motion or amendment shall be considered to have spoken thereon; but an Alderman who shall have seconded any such motion or amendment without any further observation than that he seconded same, shall be at liberty to speak on such motion or amendment.

*Speaker not to digress, &c.*

37. No Alderman shall digress from the subject under discussion, or shall make any personal reflection on, or impute improper motives to any other Alderman.

*Adjournment of debate.*

38. A debate may be adjourned to a later hour of the day, or to any other day specified; and the Alderman upon whose motion such debate shall have been so adjourned, shall be entitled to preaudience on the resumption of the same.

*Mayor to decide as to preaudience.*

39. If two or more Aldermen rise to speak at the same time, the Mayor or Chairman shall decide which of such Aldermen shall be first heard.

Alderman may require questions to be stated, &c., under certain restrictions.

40. Any Alderman may request the matter or question under discussion to be stated or read for his information, or may require the production of any records of the Council bearing upon any such question or matter. No such request or requisition shall be made so as to interrupt any Alderman when speaking.

Mayor or Chairman not to move or second motion, &c., but may address Council thereon.

41. The Mayor or Chairman shall not move any motion or amendment, nor put any question as provided for by section 14 of this Part of these By-laws, except as is further provided for by section 35 of the same; but such Mayor or Chairman shall have the same right as any other Alderman to speak once upon every subject or amendment. The Mayor or Chairman shall rise when so speaking (unless as in section 35) but shall be considered as still presiding.

*Questions of Order.*

Mayor may call Member to order.

42. The Mayor or Chairman for the time being may, without the interposition of any other member of the Council, call any Alderman to order whenever in the opinion of such Mayor or Chairman there shall be a necessity for so doing.

*Decision of Points of Order.*

43. The Mayor or Chairman for the time being, when called upon to decide points of order or practice, shall state the provision, rule, or practice, which he shall deem applicable to the case, without discussing or commenting on the same.

*Mode of Voting.*

How questions to be put.

44. The Mayor or Chairman for the time being shall put to the Council all questions on which it shall be necessary that a vote be taken, and declare the sense of the Council thereon.

*Divisions—penalty for refusing to vote.*

45. Any Alderman may call for a division, and the votes shall be taken by a show of hands. In such case the question shall be put first in the affirmative, and then in the negative, and the names and votes of the Aldermen present shall be recorded. Any Alderman present when a division is called for, who shall not vote on such division, not being disabled by law from so voting, shall be liable for every such offence to a penalty of not less than 5s. nor more than £2.

*Committee of the whole Council.*

Business in Committee.

46. The business Committees of the whole Council shall be conducted in accordance with the rules hereinafter provided, as near as the same shall apply, except that it shall not be necessary that any motion or amendment in Committee shall be seconded.

*Calls of the Council.*

How call of Council to be made.

47. A call of the Council may be ordered by any resolution of which due notice shall have been given for the consideration of any motion, or matter of business before the Council.

Such call to be compulsory in certain cases.

48. No motion, the effect of which if carried would be to rescind any resolution, order, or decision of the Council, shall be entered on the business paper unless a call of the Council has been duly made and granted for such purpose.

*Mode of proceeding.*

49. The call shall be made immediately before the motion or business for which such call has been ordered shall be moved or considered.

*Standing and Special Committees.*

50. There shall be five Standing Committees, each consisting of three members, namely,—a By-law, Works, Finance, Town Hall, and Lighting. These Committees shall be reappointed every year at the first meeting of the Council, which shall be holden after the election of the Mayor.

51. The reappointments of the five standing Committees may on resolution of the Council be made by ballot, and if there shall be an equal number of votes for the appointments of any members to any one of such Committee, the Mayor or Chairman shall decide which of such members shall be appointed.

*By-law Committee.*

52. The By-law Committee shall prepare for the consideration of the Council drafts of all such By-laws as may be required for the good government of the Municipality.

*Works Committee.*

53. The Committee for Works shall have the general direction of all works ordered or sanctioned by the Council, and the general inspection of all streets, roads, ways, bridges, public reserves, and other public places under the care and management of the Council; they shall also inquire and report from time to time as to such improvements or repairs as they may think necessary, or as they may be directed by resolution of the Council to inquire and report upon.

*Finance Committee.*

54. The Finance Committee shall examine and check all accounts, and shall watch generally over the collection and expenditure of the municipal revenues. They shall inquire and report from time to time as to all matters which they may consider to affect or to be likely to affect the finances of the Municipality, and as to such matters or subjects of the like nature as they may be directed by resolution of the Council to inquire and report upon.

*Lighting Committee.*

55. The Lighting Committee shall exercise a general supervision over the whole of the lighting plant, and the employees connected therewith of the Borough, and shall recommend the addition or removal of public lamps, and shall furnish a fortnightly report to the Council.

*Town Hall Committee.*

56. The Hall Committee shall have charge of the Council Chambers, hall, residence, and library, and shall prepare a tariff of charges for the use of the hall, and recommend in writing to the Council any repairs, alterations, or additions that may be deemed necessary.

*Records of transactions in Committee.*

57. The Chairman of each Standing Committee shall make, or cause to be made, in a book kept by him for that purpose, memoranda of all the transactions of such Committee, which book he shall, on ceasing to be such Chairman, hand over to his successor.

*Expenditure.*

Except in emergent matters, cost of all work to be estimated before undertaken.

58. With the exception of emergent matters hereinafter especially provided for, no work affecting the funds of the Municipality shall be undertaken until the probable expense thereof shall have been first ascertained by the Council.

Emergent matters and necessary current expenses—Expenses authorised to be reported—Outlay to be in accordance with the Orders of the Council.

59. For emergent matters, and for necessary current expenses during the intervals which may elapse between the meetings of the Council, outlay to the following extent may be incurred:—

1. By order of the Committee for Works, or of the Mayor and one member of such Committee, for repairs or emergent works, to the extent of five pounds.
2. By order of the Mayor, for necessary current expenses, to the extent of ten pounds.
3. The Lighting Committee for necessary expenses to the extent of twenty-five pounds.

Provided that in every case, a detailed report in writing of every such outlay shall be laid before the Council at its next meeting, such report to be signed by the Chairman of the Committee of Works, or the Mayor.

All claims to be examined and reported upon by Finance Committee.

60. All accounts and demands of money against or from the Council shall be examined and reported on by the Finance Committee, before any order shall be made for payment of such accounts or demands.

Certificate required with each claim—Salaries and wages to be payable on Mayor's order—Certificates to be attached to report.

61. No payment shall be so ordered unless there shall be a certificate or memorandum from the Committee or Mayor, showing that the demand is a legitimate one, and has been duly authorised or inquired into. It shall be the imperative duty of the Finance Committee to see that this requirement is fulfilled, or to report specially as to the reasons for its non-fulfilment, before recommending payment. And provided further, that in regard to salaries and wages of labour for officers, servants, and labourers, employed at fixed rates of payment by order of the Council, the certificate of the Mayor of the amount due to such officer, servant, or labourer, and the order of such Mayor for payment of such amount shall be a sufficient authorisation for such payment.

Common seal and records of the Council—Common seal and press, how secured—Care of same.

62. The common seal, and the press to which the same is attached, shall be secured by a cover or box, which—except when such seal and press are in use—shall be kept locked. There shall be duplicate keys to the lock of this cover or box, of which keys one shall be kept by the Mayor, and the other by the Council Clerk. Such common seal and press shall be in the custody and care of the Council Clerk.

When and how common seal to be used.

63. The common seal shall not be attached to any document without an express order of the Council. In every case when such common seal has been ordered to be attached to any document, such document shall also be signed by the Mayor, or in case of the absence or illness of such Mayor, by two Aldermen, and countersigned by the Council Clerk.

*How books of account, &c., be kept.*

64. All books, deeds, memorials, letters, documents, and other records of the Council, except as hereinafter mentioned, shall be kept at the Council Chambers, in the custody and care of the Council Clerk, who shall be responsible for the safe custody of the same, but the Mayor or Council Clerk may for any special purpose authorise their removal.

*Records not to be removed.*

65. Any person removing any such book, paper, or record from the Council Chambers, without leave from the Mayor or Council Clerk, in writing first had and obtained, shall be subject to a penalty of not less than ten shillings nor more than ten pounds. And nothing herein contained shall be held to affect the further liability of any person who shall have received such book, paper, or record, and shall not have returned the same, to prosecution for stealing such book, paper, or record, or to an action at law for detention of the same, as the circumstances of the case may warrant.

*Receipt for documents.*

66. Every person removing any document or record with such consent as aforesaid, shall give a receipt under his hand for every such document, which receipt shall be carefully preserved among the records until the document or other record to which it refers shall have been returned, when such receipt shall be destroyed.

*Penalty for destroying or defacing records.*

67. Any person destroying or defacing, or wilfully or improperly altering any books, papers, or records, shall for every such offence be liable to a penalty of not less than five pounds nor more than twenty pounds.

*Officers and Servants.**Notice to candidates.*

68. No appointment to any permanent office at the disposal of the Council shall take place until notice shall have been given as hereinafter provided, inviting applications from qualified candidates for the same. The salary or allowance attached to the office shall in every case be fixed before such advertisement is published, and shall be stated in such advertisement.

*Mode of appointment.*

69. Every such appointment shall be made by ballot, in such mode as may at the time be determined upon.

*Appointment of officers, &c.*

70. The officers of the Council shall be appointed annually; and the engagement of any officer may be determined at any time by a vote of a majority of the whole Council: Provided that one month's notice shall be given to every such officer whose services are to be so dispensed with, and that any officer may resign his appointment by giving to the Council one month's notice in writing of his desire and intention to do so: And provided further, that nothing herein contained shall be taken or construed in any way to affect the powers of suspending officers, and of dismissing men for misconduct, vested in the Council by the 152nd section of the "Municipalities Act of 1867," 31 Vic. No. 12.

*Exceptional cases.*

71. Nothing herein contained shall be held to prevent the employment, as may be from time to time found necessary, and as may be ordered by the Council, of any workmen or labourers on the public works of the Municipality.

*Bonds for good conduct.*

72. All bonds given by officers or servants of the Council for the faithful performance of their duties, shall be deposited with the Attorney or Bankers of the Corporation, as the Council may order; and no officer or servant of the Council shall be received as surety for any other such officer or servant.

*Duties of Council Clerk.*

73. The Town Clerk in addition to the duties which by the Municipalities Act of 1867, and the Municipalities Act of 1867 Amendment Act of 1874, or by the present or any other By-laws thereunder he may be required to perform, shall be the Clerk of all Revision Courts held in the Municipality under the provisions of the said Municipalities Acts. He shall also, under the direction of the Mayor, conduct all correspondence which may be necessary on the part of the Council. He shall likewise have charge of all the records of such Council, except such books or documents as may be entrusted to any other officer, and shall be responsible for the safe keeping of such records. He shall generally assist the Mayor in carrying out the orders of the Council and the duties of the Mayor, and shall make a half-yearly return of the revenue and expenditure. He shall collect all rates and moneys belonging to the Council. He shall have general care and management of the Town Hall, Chambers, Rooms, Library, and all other property belonging to same; letting Hall and rooms (and receiving all revenues from same), subject to advice and approval of the Town Hall Committee. He shall act as Librarian, have charge of all books, and see that the reading-room is kept in proper order.

*Duties of other officers or servants.*

74. The duties of all officers and servants of the Corporation, in addition to the duties which by the present or any other By-laws thereunder he may be required to perform, shall be defined by such regulations as may from time to time and in accordance with law be made.

*Special powers of Mayor.*

75. The Mayor shall exercise a general supervision over all officers and servants of the Corporation, and may order the preparation of any such return or statement, or the giving of any such explanation or information by any such officer or servant as he may think necessary, unless such return or statement shall have been already prepared, or such return or statement, explanation, or information, already given and on record, or unless the Council shall have expressly forbidden and dispensed with the preparation of such return or statement, or the giving of such explanation or information. All such returns or statements as aforesaid shall be in writing, and shall be recorded. All such explanations or information may be either rendered viva voce, or put into writing as the Mayor may direct.

*Complaints against officers.*

76. All complaints against officers or servants of the Corporation must be in writing, addressed to the Mayor, and must in every case be signed by the person or persons complaining. And no notice whatever shall be taken of any complaint which is not in writing, or which is anonymous. And such complaint as aforesaid shall be laid by the Mayor before the Council at the next meeting thereof which shall be holden after the Mayor shall have received the same, and shall be duly recorded.

*Miscellaneous.**Leave of absence.*

77. No leave of absence shall be granted to the Mayor or to any Alderman otherwise than by a resolution of Council, adopted after due notice.

*Mode of calling for tenders.*

78. Whenever it is decided that any work shall be executed, or any material supplied by contract, tenders for the execution of such work, or the supply of such material, shall be called for by public notice as hereinafter provided.

*Draft of intended By-laws.*

79. A draft of every intended By-law shall lie in the office of the Council for at least seven days before such draft shall be taken into consideration by the Council, and shall be open to the inspection of any ratepayer who may desire to inspect the same; and public notice shall be given as hereinafter provided, that such draft is so lying for inspection.

*Motions for rescission of previous orders, &c.*

80. Whenever a motion for the rescission of any order, resolution, or vote of the Council shall have been negatived no other motion to the same effect shall be permissible until a period of three months shall have elapsed from the time negativing such first-mentioned motion. Provided that nothing herein contained shall be held to prohibit the reconsideration and amendment of any proposed By-law which may have been remitted to the Governor for confirmation, and may have been remitted to the Council with suggested amendments of the same, or the passage, after due notice as hereinbefore provided, and in due course of law, of any By-law for the repeal or amendment of any other By-law.

*Lapsed business.*

81. Whenever the consideration of any motion or matter of business shall have been interrupted by reason of a quorum not having been present, the resumption of such consideration shall in such case be resumed at the next meeting at the point where it was so interrupted.

*Suits and prosecutions, for penalties, &c.*

82. Such suits or informations for the enforcement of penalties for or in respect of breach of the Municipalities Act of 1867, or of any By-law made thereunder, or of any statute, the operation of which may have been extended to the Municipality, as may have been directed by the Council, shall be so commenced or laid by the solicitor of the Municipality, or by any officer named by the Council for that purpose imposing the penalty sought to be enforced. And no such suit shall be brought or information laid as aforesaid against any member of the Council, or Auditor, or servant, except on an express resolution of the Council.

*How notices are to be published.*

83. In all cases where the public notice is or shall be required to be given by any By-law such notice shall be given and published by advertising the same in some newspaper circulating in the Municipality.

*Mode of proceeding in cases not provided for.*

84. In all cases not herein provided for resort shall be had to the rules and usages of the Legislative Assembly of New South Wales, so far as the same are applicable to the proceedings of the Council.

*Power to suspend temporarily any portion of these By-laws.*

85. Any of the foregoing By-laws which relate to or affect the proceedings at meetings of the Council may be suspended pro tempore without notice in cases of emergency if all the members of the Council then present shall deem such suspension necessary.

**PART II.***Collection and enforcement of rates.**Rates when due and payable.*

1. All rates levied and imposed by the Council shall be held to be due and payable on and after such day or days as the Council shall by resolution from time to time appoint.

*Time and place of payment.*

2. All such rates shall be paid at the Town Hall, to the Town Clerk, between the hours of 10 a.m. and 3 p.m., except on Saturdays, when the office closes at 1 o'clock.

*Defaulters.*

3. Every person not paying his or her rates as aforesaid within thirty days after the day so appointed for payment thereof shall be deemed a defaulter, and it shall be the duty of the Council Clerk to furnish the Mayor from time to time with a list of the names of all persons so in default.

*Mayor to enforce payment.*

4. It shall be the duty of the Mayor to take proceedings to enforce the payment of all rates in default, either by action at law or by issuing warrants of distress upon the goods and chattels of the defaulter.

*Bailiff, how appointed.*

5. The Bailiff of the Municipality shall be appointed by the Council and may from time to time be removed by them.

*Bailiff to find sureties.*

6. The Bailiff shall find two sureties to the satisfaction of the Mayor to the extent of fifty pounds (£50) each for the faithful performance of his duty.

*Duties of Bailiff.*

7. It shall be the duty of the Bailiff to make levies by distraint for the recovery of rates in manner hereinafter provided.

*Warrant of distress.*

8. All levies and distresses shall be made under warrant in the form of Schedule A hereto under the hand of the Mayor or any Alderman who may for the time being be duly authorised to perform the duties of that office.

*Distress and sale, &c.*

9. It shall be lawful for the Bailiff, or his deputy, and such assistants as he may take with him, to enter into any part of the land, building, tenement, or other property, in respect of which such rate or rates shall have been made as aforesaid, and to distrain therein or thereon, and to remain in such building, tenement, or other property in charge thereof. And if the sum for which any distress shall have been made or taken, together with the costs of such distraint, shall not have been paid on or before the expiration of three clear days, the Bailiff or his deputy may, between the hours of eleven in the morning and two in the afternoon, on the next day thereafter, cause the goods so distrained, or a sufficient portion thereof, to be sold by public auction, either on the premises or at such other place within the Municipality as the Bailiff may think proper to remove them for such purpose, and shall pay over the surplus (if any) that may remain after deducting the amount of the sum distrained for, and the costs of such distraint, to the owner of such goods so sold on demand by such owner.

*Inventory.*

10. At the time of making a distress the Bailiff shall make out a written inventory in the form of Schedule B hereto, which inventory shall be delivered to the occupant of the land or premises, the owner of the goods so distrained, or to some person on his or her behalf, resident at the place where the distress shall be made; and in case there shall be no person at such place with whom such inventory can be left as aforesaid, then such inventory shall be posted on some conspicuous part of the land or premises on which the distress is made, and the Bailiff shall give a copy of the inventory to the Council Clerk.

*Goods may be impounded.*

11. The Bailiff making a distress as aforesaid may impound or otherwise secure the goods or chattels so distrained, of what nature or kind soever, in such place or places, or in such part of the land or premises chargeable with rates as shall be most fit and convenient for this purpose; and it shall be lawful for any person whomsoever, after the expiration of three days as hereinbefore mentioned, to come and go to and from such place or part of the land or premises where such goods or chattels shall be impounded and secured as aforesaid in order to view and buy and in order to carry off and remove the same on account of the purchaser thereof.

**Owner direct order of sale.**

12. The owner of the goods or chattels so distrained upon may at his or her option direct and specify the order in which they shall be successively sold, and the said goods or chattels shall in such case be put up for sale according to such direction.

**Proceeds of distress.**

13. The Bailiff shall hand over to the Council Clerk all proceeds of every such distress within forty-eight hours after having received the same.

**Deputy.**

14. The Bailiff may, with the sanction in writing of the Mayor, or in his absence with the sanction of any two Aldermen of the Municipality, authorise, by writing under his hand, any person to act temporarily as his deputy; and the person so authorised shall have and exercise all the powers of the Bailiff himself, but the Bailiff and his sureties shall in every case be responsible for the acts of such deputy.

**Costs.**

15. There shall be payable to the Bailiff for the use of the Council, for every levy and distress made under this By-law, the costs and charges in the Schedule hereunto annexed marked C.

**SCHEDULE A.**

*Warrant of Distress.*

I, Mayor of the Borough Council of Young, do  
 hereby authorise you the Bailiff of the said Borough,  
 to distrain the goods and chattels in the dwelling-house (or in  
*and upon the land and premises*) of situate at  
for, being the amount of rates due to the said Borough  
 to the day of, for the said dwelling-house (or  
*land or premises, as the case may be*), and to proceed for the  
 recovery of the said rates according to law.  
 Dated this day of 18 Mayor.

**SCHEDULE B.**

*Inventory.*

I HAVE this day, in virtue of the warrant under the hand of the Mayor of the Borough Council of Young, dated distrained the following goods and chattels in the dwelling-house (or in and upon the land and premises) of situate at within the said Borough, for, being the amount of rates due to the said Borough to the day of.  
 Dated day of 18 Bailiff.

**SCHEDULE C.**

*Costs.*

	s.	d.
For every warrant of distress .....	2	6
For every warrant and making levy where the sum is not more than £20 .....	3	0
Above that sum, in addition for every £1 .....	1	0
For making and furnishing copy of inventory .....	3	0
For man in possession each day, or part of day .....	6	0
For sale, commission, and delivery of goods, per pound on proceeds of sale .....	1	0

**PART III.**

*Preventing and Extinguishing Fires.*

*Fire or combustible materials, &c.*

1. Every person who shall place, or knowingly permit to be placed, in any house, yard, workshop, out-offices, or other premises, fire, gunpowder, or combustible or inflammable materials of any kind, in such a manner as to endanger contiguous buildings, shall on conviction for every such offence forfeit and pay a penalty of not more than five pounds, and shall forthwith remove such fire, gunpowder, or combustible or inflammable materials; and every person who shall suffer any such fire, gunpowder, or combustible or inflammable materials to remain as aforesaid for twenty-four hours after any such conviction shall be deemed guilty of a second offence against this By-law.

*Inflammable fences, &c.*

2. Every person who shall erect any fence of brushwood, bushes, or other inflammable material, or shall make or place any stack of hay, corn, straw, or other produce, or place as or for the covering of any such stack any inflammable material, so as to endanger contiguous buildings or properties, or any trees, shrubs, or other produce of such properties, or any chattels in or upon such buildings or properties, shall forfeit on conviction for ever such offence a penalty of not more than five pounds, and fails to remove such fence, stack, or covering, within a reasonable time after such conviction as aforesaid, shall be deemed guilty of a second offence against this By-law.

*Setting fire to matter without notice.*

3. Any person who shall wilfully set fire to any inflammable matter whatever in the open air, within five yards of any dwelling-house or other building or boundary or dividing fence within the said Borough, without having given notice in writing to the occupiers of the land adjoining the land upon which such matter is, that it is his or her intention so to do or between the hours of six in the afternoon of any day and six in the morning of the following day, shall for every such offence forfeit a sum not exceeding five pounds.

*Fireworks.*

4. Every person who shall light any bonfire, tar barrel, or firework, upon or within ten yards of any public or private street, or any public place, or shall discharge any firearms without lawful cause within one hundred yards of any dwelling within the boundaries, shall forfeit a sum not exceeding five pounds.

*Wilfully setting fire to chimneys.*

5. Every person who wilfully sets, or causes to be set on fire, any chimney-flue, smoke-vent, or stove-pipe herein called a "chimney," shall forfeit a sum not exceeding five pounds.

*Burning shavings, &c., in the street.*

6. Any person who shall burn any shavings, rubbish, or any other matter or thing, in any road, street, lane, or public place within the said Municipality, or who shall, within ten yards of any dwelling-house, burn rags, bones, corks, or other offensive substance, shall for every such offence forfeit and pay a sum not exceeding forty shillings nor less than five shillings.

*Placards not to be affixed on walls without consent.*

7. It shall not be lawful for any person to paste or otherwise affix any placards or other paper upon any wall, house, fence, or other erection, or deface any such wall, house, fence, or erection with chalk, paint, or other matter, unless with the consent of the owner thereof; and every person who shall be guilty of any such offence shall pay a sum not exceeding twenty shillings nor less than five shillings.

**PART IV.**

*Streets and Public Places.—Public health and decency, &c.—Streets, &c.*

*New roads to be reported on.*

1. No new public road, street, way, reserve, or other place proposed to be dedicated to the public, shall be taken under the charge and management of the Council until after such road, street, way, or reserve shall have been examined by the Committee for Works and reported upon to the Council by such Committee.

*Plans of proposed new road, &c., to be deposited.*

2. When any proprietor or proprietors of land within the said Borough shall open any road, street, or way, or lay out any park or other place for public use or recreation, through or upon such land, and shall be desirous that the Council shall undertake the care and management of such road, street, way, reserve, or other place, he or they shall furnish the Council with a plan or plans signed by himself or themselves, showing clearly the position and extent of such road, street, way, reserve, or other place as aforesaid.

*Dedications of new roads, &c.*

3. If the Council determine to take charge of any such road, way, or other place as aforesaid, the plan or plans, so signed as aforesaid, shall be preserved as a record or records of the Council, and the proprietor or proprietors aforesaid shall execute such further instrument dedicating such road, way, reserve, or other place to public use or recreation as aforesaid as may be considered necessary by the Committee for Works, and such instrument of dedication shall also be preserved as a record of the Council.

*Committee for Works to fix street levels, &c.*

4. The Committee for Works or any officer or person acting under the supervision of such Committee, shall, subject to such orders as shall from time to time be made by the Council in that behalf, fix and lay out the levels of all public roads, streets, and ways within the Borough, and the carriage and foot ways thereof; and it shall be the duty of such Committee, officer, or person to place posts at the corners or intersections of any such public roads and streets, and of the carriage-ways and footways of such roads and streets wherever the same may be considered necessary or desirable by the Council: Provided that there shall be no change of level in any such public road, street, or way until the same shall have been submitted to and adopted by the Council as hereinafter directed.

*Change of street levels.*

5. Whenever it may be deemed necessary to alter the level of any such public road, street, or way as aforesaid, the Committee for Works shall cause a plan and section showing the proposed cuttings to be exhibited at the Council Chamber for fourteen days for the information and inspection of rate-payers, and shall notify by advertisement in some newspaper

circulating in the Borough, that such plan is so open to inspection, and no objections thereto shall be entertained by the Council unless made within twenty-one days after such notice shall have been given. At a subsequent meeting of the Council the said plan and section shall, if adopted, be signed by the Mayor or Chairman, and the proposer and seconder of the motion for such adoption, and countersigned by the Council Clerk, and such plan and section so signed and countersigned shall be a record of the Council.

No turf, gravel, &c., to be removed from streets without permission.

6. Any person who shall form, dig, or open any drain or sewer, or remove or cause to be removed any turf, clay, sand, soil, gravel, stone, or other material, or any road scrapings or sweepings, in or from any part of the carriage or foot way of any street or any other public place within the said Borough, without leave first had and obtained from the Council, or who shall wantonly break up or otherwise damage any such carriage or foot way, shall on conviction forfeit and pay for every such offence any sum not exceeding five pounds nor less than one pound.

#### Holes to be enclosed

7. Any person or persons who shall dig or make, or cause to be dug or made, any hole, or leave or cause to be left any hole adjoining or near to any street or public place within the said Borough for the purpose of making any vault or vaults, or the foundation or foundations to any house or building, or for any other purpose whatsoever, or shall erect or pull down any building, and shall not forthwith enclose the same and keep the same enclosed in a good and sufficient manner to the satisfaction of the Committee for Works of the said Borough, or shall keep up or cause to be kept up and continued any such enclosure for any time which shall be longer than shall be absolutely necessary in the opinion of the said Committee and shall not place lights upon each side of the said enclosure and keep the same constantly burning from sunset to sunrise during the continuance of such enclosure, shall forfeit and pay for every such refusal or neglect any sum not being less than forty shillings nor exceeding five pounds.

Open spaces and steps adjoining footways to be enclosed, under penalty.

8. Every owner or occupier of any house, building, or premises, or land, within the said Municipality, having any entrance area, garden, or other open space, or any vacant building lot, water hole, or excavated space, adjoining the footway of any street or public place in such Borough, shall protect and guard the same by good and sufficient rails, fences, or other enclosures, so as to prevent danger to persons passing and repassing; and every such owner or occupier of any such house, building, premises, or land having any steps adjoining the footway of any such street or public place, shall in like manner protect and guard the same by fences, rails, or other enclosure, so as to prevent the like danger to persons passing and repassing; and on failure thereof every such owner or occupier shall, as often as he or she shall be convicted of such offence, forfeit and pay a sum not being less than forty shillings nor more than five pounds. And every such owner or occupier as aforesaid who shall fail to erect such fences or other enclosures as aforesaid shall be deemed guilty of a further offence against this By-law.

9. It shall not be lawful for any person to make any cellar or any opening door or window, in or beneath the surface of the footway of any road, street, or public place within the said Borough without the consent of the Council; and if any person shall so offend he shall forfeit and pay any sum not exceeding five pounds over and above the expense of remedying or removing any such cellar, opening, or door, such expense to be assessed and allowed by the convicting Justice or Justices; Provided that such expense and penalty shall not together exceed fifty pounds.

#### Wells to be covered over—Penalty.

10. Every person who shall have a well situated in any yard or place open or exposed to any road, street, or footway, within the limits of the said Borough, shall cause such well to be securely and permanently covered over; and if any person having such well as aforesaid shall fail to cover over and secure the same within twenty-four hours after notice in writing shall have been given to him or her by any officer of the said Council, or shall have been left for such person at his or her usual or last known place of abode, or on the said premises, shall on conviction forfeit and pay a sum of twenty shillings, and for every day after such notice that such well shall remain open or uncovered contrary to the provisions thereof, such person shall be deemed guilty of a separate offence against this By-law.

#### Temporary stoppage of traffic for repairs.

11. The Committee for Works, or any officer or person acting under the authority of such Committee, may at any time cause the traffic of any street, lane, or thoroughfare, or any portion thereof, to be stopped for the purpose of repairing the same, or for any necessary purpose; and any person or persons offending against this By-law, either by travelling on street, lane, or thoroughfare, or by removing or destroying any obstruction that may be placed thereon for the purpose of suspending the traffic, shall forfeit and pay a penalty of any sum not exceeding five pounds for every such offence.

#### Drawing or trailing timber, &c.

12. Any person who shall haul or draw, or cause to be hauled or drawn, upon any part of any street or public place within the said Borough, any timber, stone, or other thing, otherwise than upon wheeled vehicles or barrow, or shall suffer any timber, stone, or other thing which shall be carried principally or in part upon any wheeled vehicle or barrow, to drag or trail upon any part of such street or public place to the injury thereof, or to hang over any part of any such vehicle or barrow, so as to occupy or obstruct the street beyond the breadth of the said vehicle or barrow, shall upon conviction forfeit and pay for every such offence a sum not more than forty shillings nor less than five shillings over and above the damage occasioned thereby.

#### Driving carriages, &c., on footways, and throwing filth, &c.

13. Any person who shall throw, cast, or lay, or shall cause, permit, or suffer to be thrown, cast, or laid, or to remain, any ashes, rubbish, offal, dung, soil, dead animal, blood, or other filth or annoyance, or any matter or thing, in or upon the carriage-way or footway of any street or other public place in the said Borough, or shall kill, slaughter, dress, scald, or cut up any beast, swine, calf, sheep, lamb, or other animal, in or so near to any such street or other public place as that any blood or filth shall run or flow upon or over or be on any or either of any such carriage or foot way, or shall run, roll, drive, draw, place, or cause, permit, or suffer to be run, rolled, driven, drawn, or placed upon any of the said footways of any such street or public place, any waggon, cart, dray, sledge, or other carriage, or any wheelbarrow, handbarrow, or truck, or any hogshead, cask, or barrel, or shall wilfully lead, drive, or ride any horse, ass, mule, or other beast upon any such footway, shall upon conviction forfeit and pay for the first offence a sum not exceeding forty shillings nor less than five shillings, for the second offence a sum not exceeding five pounds nor less than ten shillings, and for a third and every subsequent offence a sum not exceeding ten pounds nor less than one pound for each such offence.

#### Rain not to be carried on to footpaths.

14. It shall not be lawful for any person whomsoever to carry, by means of pipes, gutters, or other contrivances, any rain-water from the roof of his or her premises or house upon any of the footways or any street or public place within the said Borough, or any owner or occupier of such house or premises who shall neglect or refuse to remedy or remove any such pipes, gutters, or contrivances when required to do so by any officer of the Council, shall on conviction forfeit and pay any sum not exceeding ten shillings, and a like sum for every day or part of a day that the same shall not be remedied or removed; Provided that the owner or occupier of any such house or premises may convey any such rain-water by means of pipes laid under the surface of such footways into the gutters adjoining the same; And provided also that such pipes shall be laid down to the satisfaction and under the superintendence of the officer appointed by the Council.

Placing carriages, goods, &c., on the footways—Not removing when required—Replacing the same after removal—Not to prevent awnings being erected in front of shops

15. Any person who shall set or place, or cause or permit to be set or placed, any stall-board, chopping-block, show-board (on hinges or otherwise), basket, wares, merchandise, casks, or goods of any kind whatsoever; or shall hoop, place, wash, or cleanse, or shall cause to be hooped, placed, washed, or cleansed, any pipe, barrel, cask, or vessel, in or upon or over any carriage or foot way in any street or public place within the said Borough, or shall set out, lay, or place, or shall cause or procure, permit, or suffer to be set out, laid, or placed, any coach, cart, wain, waggon, dray, wheelbarrow, handbarrow, sledge, truck, or other carriage, or on any such carriage-way, except for the necessary time of loading and unloading such cart, wain, waggon, dray, sledge, truck, or other carriage, or taking up or setting down any fare, or waiting for passengers when actually hired, or harnessing or unharnessing the horses or other animals from such coach, cart, wain, waggon, dray, sledge, truck, or other carriage; or if any person shall set or place, or cause to be set or placed, in or upon or over any such carriage or foot way any timber, stones, bricks, lime, or other materials or things for building whatsoever (unless the same shall be enclosed as herein directed), or any other matters or things whatsoever; or shall hang out or expose, or shall cause or permit to be hung out or exposed, any meat or offal, or other thing or matter whatsoever, from any house or other building or premises, or any other matter or thing from and on the outside of the front or any other part of any house or other buildings or premises, over or next unto any such street or public place, and shall not immediately remove all or any such matters or things, being thereto required by the Inspector of Nuisances or other proper officer of the Council; or if any person who having, in pursuance of any such requisition as aforesaid, removed or caused to be removed, any such stall-board, show-board, chopping-block, basket, wares, merchandise, casks, goods, coach, cart, wain, waggon, dray, wheelbarrow, sledge, truck, carriage, timber, stones, bricks, lime, meat, offal, or

other matters or things, shall at any time thereafter again set, lay, or place, expose, or put out, or cause, procure, permit, or suffer to be set, laid, placed, exposed, or put out, the same or any of them, or any other stall-board, show-board, chopping-block, basket, wares, merchandise, goods, timber, stones, bricks, lime, coach, cart, wain, waggon, dray, truck, wheelbarrow, handbarrow, sledge, meat, offal, or other things or matters whatsoever (save and except as aforesaid), in, upon, or over such carriage or foot way of or next unto any such street or public place as aforesaid, shall upon conviction for every such offence forfeit and pay for the first offence a sum not exceeding forty shillings nor less than five shillings; for the second offence a sum not exceeding five pounds nor less than ten shillings; and for a third and every subsequent offence a sum not exceeding ten pounds nor less than one pound: Provided that nothing herein contained shall be deemed to prevent any person from placing an awning in front of his or her shop or house in such manner as that such awning shall be at least seven feet above the height of the footway, and that the posts be placed close to the curb-stone or outer edge of such footway, and a plan must be submitted to the Council prior to its erection.

*Riding on drays, careless driving, &c.*

16. If the driver of any waggon, wain, cart, or dray of any kind, shall ride upon any such carriage in any street as aforesaid, not having some person on foot to guide the same (such carts as are drawn by one horse or driver, or guided with reins, only excepted); or if the driver of any carriage whatsoever shall wilfully be at such a distance from such carriage, or in such a situation whilst it shall be passing upon such street, that he cannot have the direction and government of the horse or horses, or cattle drawing the same; or if the driver of any waggon, cart, dray, or coach, or other carriage whatsoever, meeting any other carriage, shall not keep his waggon, cart, dray, or coach, or other carriage, on the left or near side of the road, street, or thoroughfare; or if any person shall in any manner wilfully prevent any other person or persons from passing him or her, or any carriage under his or her care upon such street; or by negligence or misbehaviour prevent, hinder, or interrupt the free passage of any carriage or person in or upon the same, every driver or person so offending shall upon conviction forfeit and pay any sum not exceeding fifty shillings.

*Riding or driving furiously, &c.*

17. Any person who shall ride or drive through or upon any street or public place within the said Borough, so negligently, carelessly or furiously, that the safety of any other person shall be endangered, shall on conviction forfeit and pay a sum not exceeding ten pounds nor less than one pound.

*Swine, &c., not to wander about the streets.*

18. Any person who shall breed, feed, or keep any kind of swine in any house, yard, or enclosure, situate and being in or within forty yards of any street or public place within the Borough, or shall suffer any kind of swine, or any horse, ass, cattle, mule, sheep, goat, or any other animal of the like nature, belonging to him or her, or under his or her charge, to stray or go about, or to be tethered or depastured in any street, road, or public place within the said Borough, shall forfeit and pay for every such offence a sum not exceeding forty shillings, and to be made liable for damages.

*Blasting rock.*

No rock to be blasted without notice to the Council Clerk.

19. Any person who shall be desirous of blasting any rock within one hundred yards of any street or public place or dwelling-house in the said Borough, shall give notice in writing twenty-four hours previously to the Council Clerk, who shall appoint a time when the same shall take place, and give such other directions as he may deem necessary for the public safety; and if any person shall blast or cause to be blasted any rock within the limits aforesaid without giving such notice, or shall not conform to the directions given to him by the said Council Clerk, he or she shall on conviction forfeit and pay for every such offence any sum not less than one pound nor more than five pounds.

*Public Property.*

*Injuring or extinguishing lamps.*

20. Any person who shall wantonly or maliciously break or injure any lamp or lamp-post, or extinguish any lamp set up for public convenience in the said Borough shall, over and above the necessary expense of repairing the injury committed, forfeit and pay for every offence any sum not less than one pound nor more than five pounds.

*As to damaging buildings.*

21. Any person who shall damage any building, wall, parapet, fence, sluice, bridge, culvert, sewer, water-course, or other public property within the said Borough, shall pay the cost of repairing the same, and if such damage be wilfully done shall forfeit and pay a sum not exceeding twenty pounds nor less than five pounds.

*Damaging trees.*

22. Any person who shall wilfully and without the authority of the Council, cut, break, bark, root-up, or otherwise destroy or damage the whole or any part of any tree, sapling, shrub, or underwood, growing in or upon any street or place under the management of the Council, shall forfeit any sum not exceeding ten pounds nor less than one pound.

*Obstructing public pathways.*

23. That the owner or occupier of any land situate on the side of any street or road in this Borough, who shall permit any tree, shrub, or plant kept for ornament or otherwise, to overhang any path or footway on the side of any such street or road, so as to obstruct the passage thereof, and who on demand made by the Council, or their overseer or inspector, shall not cut, or cause to be cut, lopped, or cause to be lopped, all such trees, shrubs, or plants, to the height of eight feet at least, the said Council and their servants, labourers, and workmen may cut, or cause to be cut or lopped all such overhanging trees, plants, and shrubs, and to remove or burn any portion of such trees, plants, or shrubs so cut or lopped, without being deemed a trespasser or trespassers; and in case any person or persons shall resist or in any manner forcibly oppose the said Council, or their servants, labourers, or workmen, in the due execution of the powers given in this behalf by virtue of the "Municipalities Act of 1867," every person so offending shall on conviction for every such offence forfeit and pay any sum not exceeding ten pounds.

*Obstructions.*

*Dead animals, &c., not to be thrown into any public places, reserves, water-courses.*

24. Any person who shall cast any filth, rubbish, or any dead animal, or any animal with intent of drowning, into any public water-course, sewer, water-hole, creek, or canal, or who shall suffer slops, suds, or any filth of any kind to flow from his or her premises over any of the footways or streets within the Borough of Young, or shall cause or permit, or cause by means of pipes, shoots, channels, or other contrivances, filth of any kind whatever to flow into any public water-course, water-hole, river, creek, or canal, or shall obstruct or divert from its channel any sewer or water-course, river, creek, or canal, shall forfeit any sum not exceeding five pounds.

25. No cesspit, cesspool, or other receptacle for night-soil shall be of greater depth than 5 feet, 4 feet 6 inches in length, and 3 feet 6 inches in width, and shall be built of 9-inch brick work set in cement, and rendered half an inch with cement mixed in the proportion of one of cement to three of clean sharp sand, so that no soakage can escape therefrom, and that the contents thereof may be readily removed; and any person violating the provisions of this By-law shall be liable to a penalty not exceeding £10 nor less than £2.

26. Every closet shall be built in such a position that the same may be emptied without the contents being carried through any dwelling-house; and any person having or building a closet contrary to this By-law shall be liable to a penalty of not less than £2 and not more than £10.

27. If any alteration shall be requisite in the opinion of the Inspector of Nuisances, or any other officer appointed by the Council in that behalf, for preserving public health or decency in case of any existing cesspit or closet, and such Council shall adjudge such cesspit or closet to be injurious to the health or opposed to decency by exposure or otherwise, and the owner or occupier shall not make the necessary alterations after receiving 14 days' notice so to do from the Council Clerk, it shall be lawful for the Inspector of Nuisances, or other officer appointed by the Council, to make the necessary alterations, and the costs of such alterations shall be paid by the owners or occupiers of the premises whereon the same shall be.

28. Any person desirous of erecting an earth-closet must deliver to the Council Clerk seven days previous notice in writing of his intention so to do.

29. The Inspector of Nuisances or other officer appointed by the Council may visit and inspect any premises or do any work authorised by the Nuisances Prevention Act, 1875 therein, on all days except Sundays and holidays, and any person who shall hinder or obstruct any Inspector of Nuisances or other officer as aforesaid, upon any such visitation or inspection, or in the doing or performing of any work, shall forfeit and pay a penalty of not less than ten shillings nor more than forty shillings.

30. The Inspector of Nuisances shall furnish the Council with a monthly return, showing the number of cesspits emptied and earth-closets attended to, the amount due and payable for each cesspit and earth-closet attended upon, and the amount of arrears due for emptying cesspits and attending on earth-closets. He shall collect the amounts so due and payable and account therefor to the Council at the least once in every month, or as may be determined upon by such Council.

31. Any person or persons requiring their cesspits emptied shall send written notice to the Council or the Inspector of Nuisances; and any person or persons emptying or causing to be emptied any closet without the sanction of the Council shall be liable to a penalty not exceeding £10 nor less than £1.

32. The Council may charge such sum for the emptying of cesspits or attendance upon earth-closets, as may be decided

upon from time to time by resolution of the Council, and the Council or the Inspector of Nuisances on their behalf may, at any time after seven days, previous notice of their or his intention so to do shall have been left upon the premises, in respect of which such sums are payable, sue for and recover the same.

33. Every earth-closet hereafter to be built shall be provided with a galvanized iron pail of the following dimensions, namely, fifteen inches in diameter and fourteen inches in depth, such pails to be provided by the Council and sold at cost price.

34. Every earth-closet, whether already built or hereafter to be built, shall be provided with a box or earth compartment, such box or earth compartment to be without lid, and provided with a pint scoop for each occupant to throw in a pint of the stored dry earth or dry ashes through the seat into the galvanized iron pail.

35. The Inspector of Nuisances shall not take any legal proceedings under these By-laws without informing the Mayor of his intention so to do.

#### Removal of house refuse.

36. The occupier of any house, building, or premises within the Borough of Young shall cause the yard and ground adjacent or belonging thereto to be kept in a cleanly condition, and so as not to be a nuisance or injurious to health; and shall cause all dust, mud, ashes, rubbish, filth, or other such refuse matter produced or accumulated on such premises, to be collected in one place, in such yard or ground; and if at any time the occupier of any premises shall neglect or fail to have such rubbish or refuse matter so removed before it becomes a nuisance, the Inspector of Nuisances shall cause the same to be removed at the expense of such occupier. Nothing contained in this By-law shall be construed or taken to prevent the occupier of any premises from causing any manure, ashes, or other refuse matter as aforesaid, produced or accumulated thereon, to be kept for the purpose of being used for manure on any garden, or on any land contiguous to such premises: Provided such manure, ashes, or other refuse matter shall not previous to the removal thereof for use as manure on any garden or land as aforesaid, be kept not less than fifty yards from any dwelling-house, shop, or other building, or so as to be a nuisance or injurious to health.

#### Cleansing of privy cesspools.

37. The occupier of every house, building, or tenement within the Borough of Young, shall cause every privy cesspool thereon to be emptied and cleansed from time to time, so soon as any portion of the contents of such cesspool shall have so accumulated therein as to be within a distance of one foot from the top of the wall, sides, or lining of such cesspool: Provided that the contents of any privy shall not be removed or discharged therefrom except between the hours of eleven (11) p.m. and five (5) a.m.

#### Where cesspools are not provided.

38. The occupier of every house, building, or other tenement on or in which the privy or closet belonging thereto shall not be provided with a cesspool, constructed in accordance with the provisions of the preceding By-law (No. 1), shall at all times cause to be kept in such privy or closet a supply of dry powdered earth, ashes charcoal, lime, or other material efficient for deodorising night-soil; and shall cause all night-soil which may be deposited in any box, pan, bucket, or other receptacle in such privy or closet to be immediately, on the deposit thereof, covered with a quantity of dry powdered earth, or other deodorising material as aforesaid, sufficient to thoroughly and effectually deodorise the contents of such bucket, pan, or other receptacle, and such receptacle shall be emptied at least once every fortnight. Any person violating the provisions of this By-law shall be liable to a penalty not exceeding £5 nor less than 10s.

#### Stables, cow-sheds, and pig-styes.

39. The occupier of any land within the Borough of Young on which there shall be erected any stable, cow-yard, cattle-shed, or pig-stye, shall cause such premises to be kept in such a state, in respect of cleanliness, as not to be a nuisance or injurious to health, and shall cause all dung, soil, or manure produced or accumulated thereon to be collected in a place (to be approved of by the Inspector of Nuisances) in the yard of such premises, and to be there in an inoffensive condition, and so as not to be productive of any nuisance; and shall cause such dung, soil, or other manure to be from time to time removed from such premises, as often as the quantity of the same so collected or accumulated shall amount to two cubic yards. And if at any time the owner or occupier of any such premises shall neglect or fail to have such dung, soil, or other manure removed therefrom as aforesaid, the same shall be removed by the Inspector of Nuisances, at the expense of such occupier. Any person violating the provisions of this By-law shall be liable to a penalty not exceeding £5 nor less than 10s.

#### Deposit of rubbish, manure, &c.

40. No person shall deposit, or cause or suffer to be deposited in or by the side of any street, or on any road, street, or right-of-way, lane, passage, water-channel, or gutter, or in any creek, river, or reservoir, or in any other public place within

the Borough of Young (not being a manure depôt duly appointed by the Borough Council of Young as the place for the deposit of manure, rubbish, or other such refuse matter) any dust, mud, ashes, rubbish, filth, offal, manure, liquid manure, dung, or soil, and no person shall deposit, or cause or suffer to be deposited on any land, field, or garden within the Borough of Young, any night-soil, blood, offal, or other offensive matter or thing without the written consent of the Mayor or Council, and any such offensive matter or thing which shall with such consent of the said Mayor or Council be so deposited, shall be immediately on the deposit thereof covered over by the person depositing the same with such a quantity of earth as will at once prevent the escape of any noxious or offensive effluvia from any such manure, soil, or other offensive matter before mentioned: Provided that nothing contained in this By-law shall be construed or taken to prevent the use as manure, for any garden or land, of the contents of any earth-closet, or any other privy or closet where such contents are deposited on any such field or land in a perfectly deodorised state, and so as not to cause nuisance or offence either at the time of the deposit of such contents or afterwards.

#### Notice to proprietors.

41. Upon complaint being lodged at the Council Chambers that the yards, closets, or drains of any premises is or are a nuisance or offensive, and after inspection such shall be found to be the case, notice shall be given in writing to the proprietor or tenant of such premises to remove or abate such nuisance within forty-eight hours after such notice. And if after such notice the nuisance shall not be removed or abated, the proprietor or tenant of the said premises shall be liable to a penalty not exceeding twenty shillings nor less than ten shillings.

42. Upon complaint being lodged at the Town Hall, the Inspector of Nuisances may at all reasonable hours, with or without assistants, enter into and inspect any buildings, stall, or place kept or used for the sale of butchers' meat, and examine any carcase, meat, flesh, fish, or other perishable article of food which may be therein, and in case any such articles shall appear to him to be intended for human food, but unfit, the same may be seized by him. And if it shall appear to a Justice of the Peace (upon evidence taken before such Justice) to be unwholesome he shall order it to be destroyed, and the owner thereof, or other person in whose custody it was found, shall be liable to a penalty not exceeding forty shillings nor less than ten shillings.

43. All persons standing or loitering upon any of the streets, footways, or other public places in the Borough of Young to the inconvenience of the passers-by, or in any way interrupting the traffic, shall discontinue to do so on being required by any officer or servant of the Municipal Council of the Borough of Young or any police officer. Any street musician or vocalist shall when requested by any householder, or his servant, or by any officer or servant of the Municipal Council of the Borough of Young, or by any police officer depart from the neighbourhood of the premises of such householder; any person offending against either of the foregoing By-laws shall for each offence upon conviction forfeit and pay a penalty or sum not less than ten shillings nor exceeding ten pounds.

#### Cleansing butchers' shambles, slaughter-houses, &c.

44. For preserving the cleanliness of the said Borough and the health of the inhabitants thereof, it shall be lawful for the Inspector of Nuisances, or for any other officer or officers appointed by the Council from time to time, and when and as often as he or either of them shall see occasion to visit and inspect the butchers' shambles, slaughter-houses, boiling-down establishments, tanneries, fellmongering establishments, and manufactories in the said Borough, and to give such directions concerning the cleansing of the said shambles, slaughter-houses, tanneries, and establishments and manufactories, both within and without, as to him shall feel needful; and any butcher, or the owner or occupier of any such shamble, slaughter-house, tannery establishment, or manufactory, who shall refuse or neglect to comply with such directions within a reasonable time shall forfeit and pay a sum not exceeding ten pounds nor less than ten shillings.

#### Various obstructions and annoyances.

45. Every person who in any street or other public place or passage within the said Borough, to the obstruction, annoyance, or danger of the residents or passengers, shall commit any of the following offences, shall on conviction for any and every such offence forfeit and pay a penalty of not more than two pounds—

Every person who shall hoist, or caused to be hoisted, or lower, or cause to be lowered, goods of any description from any opening in the house fronting any street or public place, and close to the footway thereof, without sufficient and proper ropes and tackling.

Every person who shall carry or convey, or cause to be carried or conveyed, in any street or public place, the carcase, or any part of the carcase, of any newly slaughtered animal without a sufficient and proper cloth covering the same for the concealment from public view, or shall hawk or carry about butcher's meat for sale without covering the same as aforesaid.

Every person who shall place any line, cord, or pole across any street, lane, or passage, or hang or place clothes thereon, to the danger or annoyance of any person.

Every person who shall place any flower-pot in any upper window near to any street or public place without sufficiently guarding from being thrown down.

Every person who shall throw or cast from the roof, or any part of any house or other building, any slate, brick, part of a brick, wood, rubbish, or other material or thing (unless within a hoard or enclosure when any house or building is being erected, pulled down, or repaired).

Every blacksmith, whitesmith, anchormith, nail maker, metal-founder, lime-burner, brickmaker, potter, or other person using a forge, furnace, or kiln, and having a door, window, or aperture fronting or opening into or towards any street, lane, or passage, and not enclosing such door, or not fastening the shutters or other fastenings of such window, and closing such aperture, and placing a screen before the same every evening, within one hour after sunset, so as effectually to prevent the light from showing through the doorway, window, or aperture next or upon such street, lane, or passage.

Every person who shall be the keeper of, or have any dog or other animal which shall attack or endanger the life or limb of any person who may have the right-of-way or use of any private yard, alley, street, or any other place within the said Borough.

*Premises in state to endanger public health.*

Houses to be purified on certificate by two medical practitioners.

46. If, upon the certificate of any two duly qualified medical practitioners, it appears to the Council that any house, or part thereof, or the premises occupied in connection therewith, within the limits of the said Borough, is in a filthy or unwholesome condition that the health of any person is or may be liable to be affected or endangered thereby, and that the white-washing, cleansing, or purifying of any house, or part thereof, or the premises occupied in connection therewith, would tend to prevent or check infectious or contagious disease, the said Council shall give notice in writing to the owner or occupier of such house or part thereof, or the premises occupied in connection therewith, to white-wash, cleanse, or purify the same, as the case may require; and if the person to whom such notice is so given shall fail to comply therewith within such time as shall be specified in the said notice he shall be liable to a penalty not exceeding ten shillings for every day during which he continues to make default: Provided that no such penalties shall collectively amount to any greater sum than twenty pounds.

Penalty on indecent exposure of person.

47. Any individual who shall offend against decency by exposure of his or her person in any street or public place within the said Borough, or in the view thereof, shall on conviction forfeit and pay for every such offence a sum not exceeding ten pounds nor less than two pounds.

PART VI.

MISCELLANEOUS.

*Public Exhibitions, &c.*

Exhibitions, &c., to be licensed.

1. No exhibition other than exhibitions licensed by the Colonial Secretary under the provisions of the Act 14 Victoria No. 23, or exhibitions of a temporary character specially provided for, shall be held or kept for hire or profit within the said Borough, nor shall any bowling-alley, skittle-alley, or other place of public amusement other than a place licensed as aforesaid, or a place for temporary amusement, be used as such for hire or profit within the said Borough unless and until permission in writing be granted by the Mayor.

No exhibition, &c., on Sundays, &c.

2. No such exhibition or place of public amusement as aforesaid shall be held or kept open or used for the purposes of such public amusement on Sunday, Christmas Day, or Good Friday; and every person offending against this By-law in this behalf shall on conviction forfeit and pay a sum not exceeding five pounds nor less than two pounds for every such offence.

Wilful trespass.

3. Every person who shall wilfully let in or knowingly suffer to enter upon the reserves or public recreation ground any animals without due authority shall be deemed guilty of wilful trespass and shall be liable for every such offence to a penalty not exceeding twenty pounds nor less than two pounds.

Penalty for destroying boundary marks.

4. Any person pulling down, destroying, defacing, or injuring any marks, or any fence, or other erection without the authority of the Council, shall forfeit and pay any sum not exceeding ten pounds nor less than one pound.

Erection of houses, &c.

5. No person shall be permitted to erect any house, shop, or other building in any street, lane, or place in the Borough without first serving notice in writing on the Mayor or Council Clerk, on any lawful day, between the hours of eight o'clock a.m. and eight o'clock p.m., stating such intention, and describing the proposed situation of the building or erection, and without having received an authority from the Mayor or Council Clerk, who will give the required level and alignment, if in a proclaimed street. No person shall be at liberty to encroach beyond the building-line in any street, or lane, by the erection of houses, verandahs, door-steps, fences, or any other obstruction whatever.

Houses, &c., to be spouted.

6. All proprietors of houses within the Municipality having a frontage to any main thoroughfare shall be bound to have the same sufficiently spouted with down pipe, to be carried under the surface of the footpath into the gutter, under a penalty of ten shillings on conviction; and if not remedied at the expiration of seven days after such conviction, the offender shall be again liable to a like conviction and penalty also for every succeeding seven days.

Using bark for building in the main thoroughfares.

7. No person shall erect any building of bark or roofed with that material or with calico within the Borough, except by express permission of the Council, and then for a temporary purpose only; any person so offending shall on conviction be liable to a penalty not exceeding ten pounds, to be recovered in a summary way; and shall be bound to remove the aforesaid building within such period as the Council may determine.

BY-LAWS FOR REGULATION OF PUBLIC VEHICLES.

By-laws for the regulation and licensing of public carriers, carters, water-drawers, and public vehicles, omnibuses, cars, hackney-carriages, cabs, water-carts, drays, carts, or vans, and the drivers and conductors of passenger-carrying vehicles.

Vehicles to be licensed.

1. No vehicle shall ply or be used for hire within the Borough of Young, unless the same be duly licensed in the manner herein described.

Requisition to be made for license.

2. Before any license for plying a vehicle, or to drive, or to conduct the same, shall be granted, the party requiring such license shall obtain from the Council Clerk, free of charge, a requisition in the form of the Schedule hereunto annexed, marked with the letter A, or to the like effect, and duly fill up and sign the same, and deliver it to the Council Clerk; and in the case of drivers or conductors shall also obtain a certificate from two respectable householders, to the effect that the applicant is of good character, and competent to act as such driver or conductor, as the case may be.

Condition under which licenses to be granted.

3. No license shall be granted in respect of any vehicles which in the opinion of three Aldermen, who shall be appointed by a resolution of the Council of the said Borough, is unsafe, or in bad repair, or otherwise unfit for the accommodation and conveyance of passengers therein; nor until the number of such vehicle be painted thereon on a plate or plates affixed thereon outside on the panel of each door of such vehicle, or on such other place or places, and in such manner as the said three Aldermen may direct.

Licenses, and how to be issued.

4. Licenses for proprietors, drivers, and conductors of vehicles shall be in the form contained in the Schedule hereunto annexed, marked with the letter B, or the like effect; and any person plying, driving, or conducting any vehicle for hire with passengers without such license, shall be deemed guilty of a breach of these By-laws.

Licenses to be under Corporate seal.

5. Every license granted under these By-laws shall be under the common seal of the Borough Council of Young, and signed by the Mayor and countersigned by the Council Clerk, upon production of a certificate signed by the Aldermen who shall be appointed as aforesaid, and shall be in force from the date of such license until the 31st day of December next ensuing, subject to the conditions in section 10; and no such license shall include more than one vehicle: Provided that where the licensed vehicle shall be under repair, if the proprietor shall so desire, he may be permitted to substitute another for a period to be then specified, and endorsed on the license signed by the Mayor and countersigned as aforesaid.

Age of drivers.

6. No license shall be granted to any person to drive any passenger-carrying vehicle who shall be under the age of eighteen years.

Licenses to be made out by the Council Clerk.

7. All licenses shall be made out by the Council Clerk and numbered consecutively.

**Owner of vehicle**

8. The person in whose name a license shall appear to have been obtained shall be *prima facie* deemed to be the owner of the vehicle in respect of which the same shall have been taken out.

**Inspection of vehicles.**

9. The three Aldermen aforesaid shall, as often as they may deem it necessary, cause an inspection to be made of all or any licensed vehicles, and of the harness, horse, or horses; and if any such vehicles, harness, horse, or horses, shall at any time be found by the said Aldermen to be unfit for use, the Mayor may cancel the license of such vehicle on the written report of the said Aldermen.

**Number of license to be painted on vehicle**

10. The number of the license granted to every omnibus or car, in figures not less than four inches in height, and for every hackney carriage or cab in figures not less than two inches in height, of proportionate breadth, white upon a ground of black, shall be painted outside on the panel of the door or doors of such vehicle, or on such other part or parts thereof as the Aldermen aforesaid shall direct; and such numbers shall be kept legible and undefaced during all the time such vehicle shall ply or be used for hire.

**Water-carts.**

11. The Council shall from time to time license to ply within the Borough such carts for the sale and carrying of water as shall upon inspection be found fit for that purpose. Every such cart or vessel contained therein for the holding of water for sale shall be capable of containing not less than 100 gallons, and shall have the name of the owner, and the words "licensed water-cart" painted on such cart in legible letters.

**Water license, how obtained, &c.**

12. Every such license shall be issued on the written application of the owner thereof, in which application shall be set forth the name and surname and place of abode of the applicant; and for every such license there shall be paid to the Council the sum of two shillings and sixpence; and every such license shall be in force until the 31st day of December next ensuing, after the granting of the said license.

**Hauling water—penalty.**

13. Any person hauling or carrying water for sale or hire, otherwise than in a licensed water-cart as aforesaid, shall upon conviction be liable to a penalty not exceeding one pound.

**Name and place of abode to be painted on licensed cart, &c**

14. The name and place of abode, number of license, and the words "licensed cart, dray, or van," as the case may be, are to be painted, in letters one inch long, upon the right or off side of such cart, dray, or van.

**Vehicles to carry lights.**

15. All vehicles shall be provided with suitable lamps, to burn candles, one to be fixed on each side of the driver's box, and a third one inside of all omnibuses and closed coaches; and the same shall be lighted not later than one hour after sundown and be kept burning while the vehicles are on the stand or running in the street, either with or without passengers.

**Number of passengers to be carried.**

16. When any carriage is submitted for inspection by the owner or other applicant, with a view to obtain a license, the Aldermen appointed by the Council for that duty shall then determine upon the number of passengers the vehicle shall be permitted to carry and give a certificate to that effect, such number to be mentioned in the license.

**Legal fare, &c., to be painted on vehicle.**

17. The number of passengers the vehicle is licensed to carry shall be painted or printed in legible characters and affixed within and without the vehicle in such places as the inspecting Aldermen shall direct.

**Penalty for breaking By-laws.**

18. For every offence against the provisions of these By-laws the offender shall be liable to and pay a penalty of not more than twenty pounds nor less than ten shillings.

**License fees to be paid to Council Clerk.**

19. For every license issued under the By-laws in force for the time being in that behalf within the said Borough, there shall be paid to the Council of the said Borough, by delivering the same to the Council Clerk or other person authorised to receive the same, the several sums mentioned or set forth in Schedule C to these By-laws for the general purposes of the said Borough.

**Terms to be applied to licensed vehicles.**

20. Whenever the word "vehicle" shall be used in these By-laws, the same shall be construed to extend and apply to any omnibus, car, hackney carriage, or cab. The word "omnibus" shall extend and apply to any vehicle upon four wheels drawn by two or more horses, having seat accommo-

ation for more than ten passengers and a driver. The word "car" shall extend and apply to any vehicle upon two or four wheels drawn by one or more horses, having seat accommodation for not more than ten nor less than five passengers and a driver. The word "hackney carriage" shall extend and apply to any vehicle upon four wheels drawn by two or more horses, and having seat accommodation for not more than five passengers and a driver, and in respect of which a hackney carriage license within the said Borough shall have been obtained. The word "cab" shall extend and apply to any vehicle upon two wheels, having seat accommodation for not more than two passengers and a driver, in respect of which a cab license within the said Borough shall have been obtained. The word "cart" shall extend and apply to any cart, dray, van, or waggon, drawn by one or more horses or other animals, used wholly and for the carriage of goods and parcels. The word "water-cart" shall extend and apply to any cart, used for the carriage of water within the said Borough in respect of which a water-cart license shall have been obtained.

**Driver to have full control over his horse or horses.**

21. No driver of any licensed vehicle shall be or remain at such a distance from his horse or horses, while attached to his vehicle, anywhere within the said Borough, as not to have immediate and full control over the same, and every person so doing shall, for every such offence, forfeit and pay a penalty or sum not exceeding five pounds nor less than five shillings.

25. No vehicle shall be allowed to stand or remain stationary on any street within the said Borough for a longer period than the time reasonably necessary to take up or set down any passenger or passengers for the time being requiring or using the same, or for loading or unloading or receiving or delivering the goods or parcels which the driver of such vehicle shall have been employed to carry; and any driver or proprietor of any such vehicle remaining stationary contrary to this By-law shall, for every such offence, forfeit and pay a penalty or sum of not exceeding five pounds nor less than five shillings.

**Penalty to be enforced for breach of By-laws.**

22. All proprietors and drivers of licensed vehicles shall at all times be amenable to, and observe and comply with, the By-laws for the time being in force for the care and management of the public roads, public streets, and public thoroughfares within the said Borough, and for every breach thereof shall incur the same penalties as other persons.

23. Any person offending against any of these By-laws shall, except when otherwise expressly provided, forfeit and pay a sum not exceeding two pounds nor less than five shillings for every such offence.

**SCHEDULE A.**

*A Requisition for license.*

To the Municipal Council of the Borough of Young—  
I, \_\_\_\_\_, residing at \_\_\_\_\_ street, within the Borough of Young, do hereby request that a license may be granted to me to \_\_\_\_\_ within the limits of the said Borough.

Dated at Young, this \_\_\_\_\_ day of \_\_\_\_\_ A.D. 18 \_\_\_\_\_.

Description of \_\_\_\_\_

**SCHEDULE B.**

*Form of License for Driver or Conductor.*

This is to certify that \_\_\_\_\_ of \_\_\_\_\_ street, Young, is hereby licensed to \_\_\_\_\_ (an omnibus, cart, hackney carriage, or cab, as the case may be) from \_\_\_\_\_ to 31st December, 18 \_\_\_\_\_ inclusive, within the Borough of Young, subject nevertheless to all and every the By-laws, Rules and Regulations in force relating thereto.

**SCHEDULE C.**

**TABLE of license fees payable by proprietors, drivers, and conductors of licensed vehicles**

Proprietors of	On and after 1st January		On and after 1st April		On and after 1st July		On and after 1st October.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Omnibuses and coaches.....	0	10 0	0	10 0	0	5 0	0	6 0
Cars.....	1	10 0	1	2 6	0	15 0	0	7 6
Hackney carriages.....	2	0 0	1	10 0	1	0 0	0	10 0
Cabs.....	0	10 0	1	2 6	0	15 0	0	7 6
Water-carts, drays, carts, or vans	0	2 6	0	2 6	0	2 6	0	2 6
For every driver's license for a vehicle to carry passengers.....							0	5 0
For every conductor's license for a vehicle to carry passengers.....							0	5 0

Passed by the Borough Council of Young, on the 15th day of September, 1890.

(L.S.) CHRISTOPHER HOURN,  
Mayor.

W. M. BARBER, Town Clerk.



1891.

## NEW SOUTH WALES.

**MAITLAND CATTLE DRIVING ACT AMENDMENT ACT, 1880.**  
(BOROUGH OF WEST MAITLAND—BY-LAWS.)

Presented to Parliament, pursuant to Act 43 Vic. No. 20, sec. 2.

Colonial Secretary's Office,  
Sydney, 14th January, 1891.

**BOROUGH OF WEST MAITLAND.—BY-LAWS.**

THE following By-laws, made by the Council of the Borough of West Maitland, under the "Maitland Cattle Driving Act Amendment Act 1880," for regulating within the boundaries of that Municipality the passage of cattle intended for sale, slaughter, or shipment or conveyance by rail, having been confirmed by His Excellency the Lieutenant-Governor, with the advice of the Executive Council, are published in accordance with the requirements of the above-cited Act.

HENRY PARKES.

**BOROUGH OF WEST MAITLAND.**

BY-LAWS for the purpose of regulating within the boundaries of the Borough of West Maitland, the passage of cattle intended for sale, slaughter, or shipment or conveyance by rail, in pursuance of the "Maitland Cattle Driving Act Amendment Act, 1880," 43 Vict. No. 20.

The Council of the Borough of West Maitland do, by virtue of the power and authority vested in such Council, hereby repeal the By-laws made and passed by the said Council on the eighteenth day of June, 1880, for the regulating within the boundaries of the said Borough, the passage of cattle intended for sale, slaughter, or shipment or conveyance by rail, and published in the Supplement to the Government Gazette, No. 418, of Saturday, 30th October, 1880, and make the following By-laws in the place of and instead of such repealed By-laws.

**Hours for cattle driving.**

No person shall drive through any street or public thoroughfare of the Borough except as hereafter mentioned, any cattle intended for sale, slaughter, or shipment or conveyance by rail, between the hours of eight o'clock a.m. and two o'clock p.m., nor between the hours of four p.m. and five p.m. during the months of April, May, June, July, August, and September, nor between the hours of eight o'clock a.m. and two o'clock p.m., nor between the hours of four o'clock p.m. and six o'clock p.m. during the other months of the year, except milch cows, cattle in teams, or working cattle; and such cattle shall only be driven as aforesaid between the hours aforesaid, and then only to and from the sale-yards at Campbell's Hill, via Regent-street, along the bank of Fishery Creek to Park-street; thence along Park-street to Louth Park Road, at its junction with Trappaud Road; thence to the bridge at Wallis Creek, and from the said bridge along Trappaud Road to its junction with Louth Park Road, thence to its junction with Park-street; thence along Park-street and the creek, to and along Regent-street to the sale-yards as aforesaid at Campbell's Hill;

and from and to Campbell's Hill Sale-yards by side road underneath the Long Bridge and High-street to the junction of High-street with St. Andrew-street to Belmore Bridge.

Cattle intended for trucking at the West Maitland Railway Station and taken from the sale-yards at Campbell's Hill, shall proceed along Regent-street; thence along the bank of Fishery Creek into Walker-street to the trucking yards at Elgin-street Railway Station; and from the bridge at Wallis Creek as aforesaid shall proceed along Trappaud Road to Louth Park Road; thence along Park-street to Elgin-street; thence along Elgin-street to the trucking yard at Elgin-street Railway Station aforesaid.

Any and every person or persons who shall drive or cause to be driven, any cattle, except those above enumerated, through any street or public thoroughfare of the said Borough, or by any routes other than those specified aforesaid during such prohibited hours, shall on conviction before any two Justices of the Peace forfeit and pay any sum not exceeding twenty shillings for each and every head of cattle so driven as aforesaid.

All penalties imposed by these By-laws for offences committed thereunder; and all sums of money ordered to be paid thereby may be recovered; and all complaints heard in a summary way before any two Justices according to the provisions of the Act fourteenth Victoria number forty-three, and the English Statutes thereby adopted, and shall when recovered be paid over to the said Council to be applied in aid of its expenses under the Act.

Made and passed by the Borough Council of West Maitland, this thirteenth day of November, one thousand eight hundred and ninety.

THOS. HUGHES,  
Council Clerk.

(L.S.) R. A. YOUNG,  
Mayor.



1891.

## NEW SOUTH WALES.

## MUNICIPALITIES.

(WINDSOR WATER SUPPLY—BY-LAWS.)

Presented to Parliament, pursuant to Act 31 Vic. No. 12, sec. 153.

Department of Public Works,  
Sydney, 31st December, 1890.

It is hereby notified that His Excellency the Lieutenant-Governor, with the advice of the Executive Council, has been pleased to approve of the following By-laws in connection with the Water Supply of the Borough of Windsor, which have been prepared by the Municipal Council in accordance with the Municipalities Act of 1867.

BRUCE SMITH.

WHEREAS by the Municipalities Act of 1867 the Council of the Borough of Windsor is authorised and empowered from time to time to make, alter, and repeal By-laws.

Now the Council of the Borough of Windsor, under and by virtue of the powers contained in the Municipalities Act of 1867, do hereby make the By-laws following, that is to say :—

1. The following rates and charges are those which the owners and occupiers of lands and tenements shall pay in respect of water supplied by the Council, that is to say :—

(1.) For water supplied for domestic purposes, otherwise than by measure, the rate as fixed by the Council annually.

For water supplied by measure.

(2.) The rates to be charged for water supplied from the mains by measure shall be one shilling and six pence per one thousand gallons.

(3.) Water-troughs will be charged for at the rate of twenty-two shillings and six pence per annum each.

(4.) Water for steam boilers will be charged for by measure, at the rate of one shilling and six pence per one thousand gallons.

Payment of rates.

2. Assessed rates must be paid half-yearly in advance, whether a meter is used or not. In the case when a meter is used for domestic purposes, the meter account will be rendered only when it is in excess of the assessment. Cheques and post office orders will be received in payment of rates, but if the cheque tendered by any person as payment for rates due is dishonored, the Council may cut off his service, and proceed for the recovery of the amount by warrant for distress, or otherwise. Cheques and Post Office Orders must be crossed in favour of the Council.

Minimum charge by meter or otherwise is the assessed rate.

3. The minimum charge for water, whether supplied through meter or otherwise, for domestic purposes and for purposes other than domestic, is the assessed annual rate. If the water is supplied by meter, and the meter account exceeds the assess-

ment, "calculated at the rate of one shilling and six pence per one thousand gallons," then such excess shall be charged in addition to the assessment.

Building charges, &c.

4. The Council may supply water for building purposes at the rate of five shillings per room, or by meter at two shillings per one thousand gallons. The Council may supply water for the making and mixing of concrete for foundations of wooden blocks, stone cubes, or other form of permanent roadway or pavement, at the rate of one pound fifteen shillings per one thousand square yards by superficial measurement of road surface; and for all other concrete, brickwork, or masonry, at the rate of four pence per cubic yard, as measured on the work.

Horse and cow.

5. Any person who maintains horses or cows may be supplied with water without meter from the domestic service for the sum of two shillings and six pence per annum each animal in addition to the assessed annual rate of the premises on which such animal is maintained or supplied with water.

Gardens.

6. The Council may supply water for gardens, "and for such purpose may permit a hose or stand-pipe to be used," without meter, at the rate of ten shillings per annum for every one thousand square feet superficial area or part thereof, in addition to the assessed annual rate of the premises to which such garden belongs or is attached.

Before affixing service pipes, &c., license to be obtained from Council.

7. Before any person shall affix any service-pipe to any pipe of the Council, or alter, repair, or in any manner interfere with, any pipe of the Council, or any service-pipe, cock, or fitting connected with any pipe of the Council, he shall obtain from the Council a license in that behalf to execute any such work, and shall give a written guarantee in the sum of two pounds to the Council to properly complete such connection and to leave, and keep any opening in any roadway, street, or footpath with regard to such connection in proper repair for a period of two months from the date of such connection; and any unlicensed person affixing, altering, repairing, or in any manner interfering with any such pipe, cock, or fitting as aforesaid shall be liable to a penalty not exceeding ten pounds.

## Licensed plumber.

8. Before any such license shall be granted by the Council, the person applying for the same shall satisfy the Council that he is a competent plumber. His competency must be certified to by two master plumbers.

Before pipes can be uncovered two days' notice must be given to Council.

9. Any person, whether licensed as aforesaid or not, who shall offend by opening any ground so as to uncover any pipe or pipes the property of the Council, without giving two days' notice to the Mayor of his intention so to do, or shall in any way tamper with, interfere with, or alter any pipe the property of the Council, without the permission of the Mayor in writing being first obtained, or who shall wilfully or negligently break, injure, or open any lock, cock, valve, pipe, work, or engine, the property of the Council, shall be liable for each such offence to a penalty not exceeding twenty pounds.

Council or licensed plumber only empowered to tap mains, &c.

10. The Council only, or a plumber duly licensed by the Council, under the superintendence and according to the directions of the officer appointed by the Council for that purpose, is empowered to tap the main in the streets or elsewhere and attach service pipes thereto, or extend the same generally as the case may be. Any person infringing this clause shall be liable to a penalty not exceeding twenty pounds.

Penalty for communicating with pipes of the Council without notice.

11. Any person, whether licensed as aforesaid or not, who shall lay any pipe to communicate with the pipe of the Council without giving two days' notice of the day and hour when such pipe is intended to be made to communicate with the pipe of the Council, or who shall make such communication, except under the superintendence and according to the directions of some officer of the Council, or who shall lay any leaden or other pipe to communicate with a pipe of the Council of a strength and material not sanctioned by the Council, shall be liable for each such offence to a penalty not exceeding five pounds; and in the event of continuing the offence, to a further penalty of two pounds for each day after the notice of the offence from the Council.

Fee for tapping main.

12. Every application for water must be accompanied by the payment of a fee of three shillings for the tapping of any main.

Penalty for using unauthorised fittings.

13. Any person who, being an owner or occupier of lands or premises supplied with water under this Act, for the purpose of taking, in a manner not authorised by this Act, any such water, uses in or places on, or affixes or attaches to, such land or premises, or to any prescribed fittings, or wilfully permits to be used in or placed on, or affixed or attached to, such lands or premises, or to any prescribed fitting, instrument, or thing not authorised in that behalf by the Council, or who alters, misuses, injures, or removes any prescribed fitting, except for the purpose of necessary repair, shall upon conviction thereof forfeit and pay to the Council a sum not greater than ten pounds, without prejudice to the right of the Council to recover from him damages in respect to any injury by such owner or occupier done, or wilfully permitted to be done, to the Council's property, and without prejudice to the Council's right to recover from him the value of any water wasted, misused, or unduly consumed.

Owner to lay and maintain services.

14. The owner or occupier must, at his own expense, lay down and maintain all the pipes and apparatus from the main to and upon his premises. All pipes must be of galvanized wrought iron, where possible, and where lead pipes are used they must be of equal thickness throughout, and of at least the respective weights following, viz :

$\frac{3}{4}$ inch, 5lb. per yard		1 inch, 12lb. per yard.
$\frac{1}{2}$ " 6lb. "		1 $\frac{1}{4}$ " 16lb. "
$\frac{3}{8}$ " 9lb. "		1 $\frac{1}{2}$ " 20lb. "

Where wrought iron pipes are used, they must be of the kind known as galvanized wrought iron lap-welded steam tubes.

Defective fittings to be removed.

15. Any consumer's pipe, cock, cistern, or other fitting laid, fixed, or used otherwise than in accordance with these regulations and with the provisions of the Act, or which shall in the opinion of the Mayor be or become of bad or defective quality, or shall conduce to waste, misuse, or contamination of the water, shall, upon the Mayor giving notice in writing, be discontinued and disused; and the Mayor may require the same to be removed, replaced, or repaired, and may stop the supply of water to the said consumer until such pipe, cock, cistern, or other fitting shall have been removed, replaced, or repaired to the satisfaction of the Mayor.

## Quality of fittings for iron pipe

16. No person shall use, in connection with the water of the Council, any iron pipe, tee, thimble, bend, reducing coupling, plug, &c., unless it be of the best manufacture, true in section, straight, and of equal thickness, properly and truly cut with Whitworth's standard gas thread, and perfectly sound and new, and free from all defects. Every such tee, bend, tube, &c., shall be capable of withstanding a hydrostatic pressure equal to a column of water 400 feet in height.

## Joints.

17. Every person shall make all joints between tees, bends, thimbles, couplings, elbows, cocks, &c., with white or red lead and flux. All joints on lead pipes, and lead pipes with brass unions shall be of the kind known as wiped joints.

## Depth of pipe.

18. No person shall lay any service pipe on private property, below the ground service, at a less depth than 10 inches.

Pipes through drains to be properly protected.

19. No person shall lay any pipe or other apparatus through any sewer, drain, ashpit, cistern, or manure tank, or through, in, or into any place where, in the event of the pipe becoming unbound, the water of the Council conveyed through such pipe would be liable to be fouled or to escape without observation unless such pipe or apparatus be laid through an exterior cast-iron pipe or box of sufficient length and strength to afford due protection to the same, and to bring any leakage or waste within easy detection.

## Approved fittings.

20. No person shall use any taps, stop-cock, bib-cock, ball-cock, valve, closet-cistern, service-box, waste-not regulator, bath-tap or valve, or other fitting in connection with the supply of water of the Council, which is not of the best quality and approved by the Council.

## Cocks.

21. No person shall use any stop or bib-cock which is not a loose-valve, screw-down, high-pressure cock, made of hard brass or gun-metal, and in every respect of the best quality and workmanship.

## Cisterns.

22. No person shall use any cistern or tank that is not provided with an equilibrium ball-valve, and the overflow pipe laid and fixed in a suitable manner, open to inspection, and in a position approved by the Council.

Service not to communicate with rain water receptacles or underground tanks.

23. No person shall fix or use any service-pipe which communicates with any cistern, tank, or vessel intended or used for the reception of rain water, or made or used below the surface of the ground, except with express permission of the Council.

## Baths.

24. The Council will not supply any water to any bath the outlet of which is not distinct from and unconnected with the inlet or inlets, and the inlet or inlets shall be placed above the highest water-level of the bath; the outlet of such bath shall be provided with a perfectly water-tight plug-valve, or cock; no such bath shall have any overflow waste-pipe that is not laid and fixed in a suitable manner, open to inspection, and in a position approved by the Council; no bath shall exceed in dimensions 6 feet 6 inches long by 2 feet 6 inches wide by 2 feet deep, unless supplied by meter. The Council will not supply water to any bath unless the same shall be so constructed as to prevent the waste of water.

## Service connection.

25. Except by the permission of the Council, every tenement shall have an independent service-pipe connected with the main of the Council; and no person shall connect more than one tenement with the main of the Council from one service, except by permission of the Council.

## Urinal.

26. No person shall fix a service-pipe so as to communicate directly with any urinal, and every urinal shall be supplied only through a cistern or service-box, fitted with waste-preventing apparatus approved by the Council.

Water for other than domestic purposes.

27. No person shall use water supplied by the Council for other than domestic purposes except the supply is by meter, or except in the manner hereinbefore provided.

Meter to be affixed.

28. No person, except with special consent of the Council, shall affix a meter the dial of which is not capable of registering five hundred thousand gallons.

## Meters registering incorrectly.

29. If any meter shall not correctly indicate the water passing through it, the Council may charge for the supply according to the average daily consumption for any month preceding the date upon which such meter shall have been examined and found to be in order; or, at the request of the consumer, by direction of the Council, the said meter shall be tested and the charge for water supplied regulated accordingly.

## Meters not to be interfered with.

30. No person not duly authorised by the Council shall disconnect any meter, or other apparatus, from the service-pipe, or in any way interfere with the same.

## Steam-boiler to have self-acting valve.

31. If any person shall connect any service-pipe, or branch service-pipe, with any steam-boiler for the purpose of feeding or supplying the same with water, without first affixing a self-acting valve for preventing the pressure of the steam reversing or affecting the dial of the meter, he shall be liable to a penalty not exceeding five pounds, and a further penalty of two pounds for each day after notice of the offence from the Mayor to such offender.

No hose to be attached to any pipe for watering garden, &c., without meter.

32. Except as hereinbefore provided, no person shall use a hose attached to any tap or pipe used for the purpose of supplying the water of the Council for domestic purposes to any house or premises for watering any garden, laying dust, or for any purpose whatsoever, unless where a water-meter is fixed and the water supplied by measure, and any person offending against this By-law shall be liable to a penalty not exceeding five pounds.

## No tap to be in garden without meter.

33. Except as hereinbefore provided, no person shall place any tap in any garden, or sewer tap in any yard, or outside of any dwelling or premises supplied with the water of the Council to which a hose could be attached, unless a meter is fixed and the water supplied by measure; and any person offending against this By-law shall be liable to a penalty not exceeding five pounds.

## Pipes, &amp;c., to kept in repair.

34. Any person using the water supplied by the Council shall keep all pipes and other appliances in connection with the supply of water to such person in a proper state of repair.

## Inspection of work.

35. All works at any time done or to be done on private lands or premises in connection with the water supply, whether such work consists in the laying and fixing of new services, or in the extension or alteration of existing services and fittings, shall be inspected by the proper officer of the Council, and no such work shall be commenced until after the expiration of two days' notice thereof first given to the Mayor. In no case shall the water be turned on to any lands or premises when any such work shall have been executed until the said work shall have been inspected by the said officer, and certified by him on the prescribed form. No underground or enclosed work shall on any account be covered up or concealed from view until the same shall have been duly inspected and passed by the Inspector; and any person offending against this By-law shall be liable to a penalty not exceeding five pounds.

## Supply and use of water open to inspection.

36. The supply and use of water, whether for domestic purposes or under special agreement, shall be open to inspection and admeasurement whenever required; and such information must from time to time be afforded as will be sufficient to enable the Council to obtain a satisfactory account of the quantity of water actually consumed, and of the pipes, taps, cisterns, and other apparatus, and conveniences for receiving and delivering such water; any officer of the Council may at all reasonable times in the daytime enter on the premises of any person using water supplied by the Council, for the purpose of inspecting the service-pipes or other appliances of such person.

## Council may repair.

37. If the service-pipes or other appliances of any such person shall on any inspection be found to be out of repair, the Mayor may forthwith without notice repair the same in such manner as may be deemed necessary, and the cost of any such repairs may be recovered by the Council from the owner or occupier of such premises.

## Council have control of water supplied to public parks, &amp;c.

38. The water supply to public parks and gardens shall be exclusively under the control and direction of the officers of the Council, and any person turning on the water or otherwise interfering with such water supply shall be liable to a penalty not exceeding five pounds.

## Notice and application to be made on printed forms.

39. All notices and applications required by these By-laws are to be made upon printed forms to be obtained at the Council's office. Notices sent by post must be prepaid. Any sums paid by the Council on account of notices sent by post and not prepaid will be charged against and recovered from the sender.

## Council may discontinue supply.

40. The Council shall be at liberty to discontinue the supply of water immediately on the discovery of any breach of these regulations.

## Interpretation of terms.

41. In the construction of these By-laws the word "person" shall be deemed to extend to and include a corporation or any body or number of persons; the masculine shall include the feminine gender; and the word "Council" shall mean the Council of the Borough of Windsor.

## Penalties to which offenders are liable.

42. Any person committing a breach of any By-law to which no specific penalty is attached, or who shall refuse or neglect to obey any injunction in any such By-laws, shall upon conviction be liable to a penalty not exceeding twenty pounds, and in case of continuing the offence, a further penalty of not less than one pound, and not exceeding five pounds for each day after notice of such offence shall have been given by the Mayor to such offender.

Made and passed by the Municipal Council of the Borough of Windsor, this thirtieth day of August, in the year of our Lord one thousand eight hundred and ninety.

(L.S.) F. J. MORTLEY,  
Mayor.  
F. W. LINSLEY,  
Council Clerk.



1891.

## NEW SOUTH WALES.

## COUNTRY TOWNS WATER AND SEWERAGE ACT.

(GOULBURN WATER SUPPLY—BY—LAWS.)

Presented to Parliament, pursuant to Act 44 Vic. No. 14.

Department of Public Works,  
Sydney, 31st December, 1890.

It is hereby notified that His Excellency the Lieutenant-Governor, with the advice of the Executive Council, has been pleased to approve of the following By-laws in connection with the Water Supply of the Borough of Goulburn, which have been prepared in accordance with the provisions of the Country Towns Water and Sewerage Act of 1880, 44 Vic., No. 14.

BRUCE SMITH.

WHEREAS by the Country Towns Water and Sewerage Act, 44 Victoria, No. 14, the Council of the Borough of Goulburn is authorized and empowered to make and alter and repeal By-laws, they do here repeal all existing Water Supply By-laws and make the following By-laws for raising revenue and for regulating and maintaining the Water Supply of the Borough of Goulburn, to take effect from 1st January, 1891, until repealed:—

1. The following shall be the Rates and Charges for water, which shall be paid by and recoverable from the owner of the premises or the occupier or person requiring, receiving, or using the supply of water, and all such Rates and Charges may be enforced and recovered in respect of any premises situate within one hundred and fifty feet of any street or public highway along which a main water-pipe belonging to the Council is laid, although such premises are not actually supplied with water from such main (vide Clause 60 of the Act 44 Victoria, No. 14), and in respect to premises situate beyond the said one hundred and fifty feet from the main which are supplied with water (vide Sec. 4 of Clause 13):—

BY RATE ON THE ANNUAL VALUE AS ASSESSED FOR GENERAL RATES.

2. On every allotment of land and tenement of £10 assessed value and under, 10s. per annum.

3. On all lands and tenements (other than unimproved vacant land) above £10, at 1s. per £ per annum.

4. On all unimproved vacant land of the assessed annual value of £20 and over, the rate shall be 6d. per £ per annum.

BY MEASURE.

The following charges to be in addition to the charge by any of the above rates (vide clause 24 of Act 44 Vic., No. 14):—

5. Manufactories, boilers, motive power, public baths, street troughs, 1s. 6d. per 1,000 gallons.

6. Irrigation, 1s. 6d. per 1,000 gallons.

7. For water supplied to lands and tenements which, under section 163 of the Municipalities Act of 1887, are exempted from general rates—

(a) The property of Her Majesty, or in the occupation of the Imperial Government or the Government of New South Wales, or occupied as schools subject to the provisions of the Public Schools Act of 1866, 1s. 6d. per 1,000 gallons.

(b) Hospitals, benevolent institutions, and buildings used exclusively for public charitable purposes, churches, chapels, and buildings used exclusively for public worship, 1s. per 1,000 gallons.

8. The minimum charge for water, whether supplied through meter or otherwise, for domestic purposes and for other than domestic purposes, is the assessed annual rate. If the water is supplied by meter and the meter account exceeds the assessment then such excess shall be charged in addition to the assessment at the rate of 1s. 6d. per 1,000 gallons.

GENERAL PROVISIONS.

9. The Council may enter into an agreement to supply water for any purpose other than the above, or upon premises not otherwise liable for water rates, at a rate not less than 1s. 6d. per thousand gallons, and for a not less quantity than 1,000 gallons.

10. All lands or tenements becoming liable by the extension of a main, or other cause, to be charged for water during the currency of a year, or to have its previous charge increased, shall immediately pay the proportionate amount of charge or increase due to 31st December of the current year.

11. All new buildings shall be assessed from the time that notice of intention to build is lodged as if they were then erected; and the proportionate amount of charge or increase to 31st December of the current year, or to the subsequent 30th June, if the period would have been less than six months, shall be paid before permission to build can be issued.

12. All rates and charges shall be payable half-yearly in advance, whether a meter is used or not. In cases where a meter is used the meter account will be rendered only when it is in excess of the assessment.

13. Any person who maintains horses or cows may, with the consent of the Council, be supplied with water without meter from the domestic service for the sum of 5s. per annum for each animal, in addition to the assessed annual rate of the premises in which such animal is maintained or supplied with water.

14. The Council may supply water for gardens (and for such purpose may permit a hose and stand-pipe to be used) without meter at the rate of 10s. per annum for every 750 square feet superficial area, or part thereof, of such garden, in addition to the assessed annual rate of the premises to which such garden belongs, or is attached, except in respect of the premises mentioned in sub section A of clause 8 of these By-laws.

15. No person shall use water supplied by the Council for other than domestic purposes, unless the supply is by meter or except in the manner herein provided.

**REGULATIONS FOR THE GUIDANCE OF PERSONS LICENSED TO LAY ON WATER, USERS OF WATER, AND OTHERS.**

Licensed Persons only to fix Service-pipe, &c.

16. Before any person shall affix any service-pipe to any pipe of the said Council, or alter, repair, or in any manner interfere with any pipe of the said Council, or any service-pipe, cock, or fitting connected with the pipes of the said Council, he shall obtain from the said Council a license in that behalf to execute such works; and any unlicensed person affixing, altering, repairing, or in any manner interfering with such pipe, service-pipe, cock, or fitting as aforesaid shall be liable to a penalty not exceeding ten pounds.

Before pipes can be uncovered, two day's notice to Council must be given

17. Any person, whether licensed as aforesaid or not, who shall offend by opening any ground so as to uncover any pipe or pipes, the property of the Council, without giving two days' notice to the Council of his intention so to do, or who shall in any way tamper, interfere with, or alter any pipe, the property of the Council, without the permission in writing of the Council being first obtained, or who shall willfully or negligently break, injure, or open any lock, cock, valve, pipe, work, or engine, the property of the Council, shall be liable for each such offence to a penalty not exceeding twenty pounds.

Penalty for communicating with pipes of the Council without notice.

18. Any person, whether licensed as aforesaid or not, who shall lay any pipe to communicate with the pipes of the Council without giving two days' notice of the day and hour when such pipe is intended to be made to communicate with the pipes of the Council and obtaining permission, or who shall make such communication, except under the superintendence and according to the directions of some officer of the Council, or who shall lay any leaden or other pipe to communicate with a pipe of the Council of a strength and material not sanctioned by the Council, shall be liable for each such offence to a penalty not exceeding five pounds; and, in the event of continuing the offence, to a further penalty of two pounds for each day after the notice of the offence from the Council.

Council or officers only empowered to tap mains, &c.

19. The Council and its officers only are empowered to tap the main in the streets or elsewhere and attach service-pipes thereto, or extend the same generally as the case may be. Any person infringing this clause shall be liable to a penalty not exceeding twenty pounds.

Payments with application.

20. Every application for water must be accompanied by the payment of a fee of 4s. for each tapping of a main and the amount of rates and charges for water supply which may be demanded under these By-laws.

Notice of alteration and repairs.

21. In every case of repairs to service-pipe, or where it may be wished to transfer service-pipes from one main to another, or where any change or alteration to them may be required in any way, notice of such repair or alteration, &c., must be given in writing to the Town Clerk at least twenty-four hours before any such work shall be commenced, except in cases of great waste of water, when immediate steps must be taken to stop the leak, and notice given to the Town Clerk of the same forthwith.

Service-pipes.

22. All service-pipes must be laid 18 inches below the surface of roadway and gutters, and meters, where required, fixed in accordance with the direction of the Town Clerk or other authorised officer of the Council; and on each service-pipe connected with the mains must be fixed two stop-cocks—one at the junction of the main and the other on the footpath, 1 foot 6 inches from the building lines, enclosed in an iron box with proper lid, and no person shall lay any service-pipe on private property at a less depth than 10 inches below the ground surface. All service-pipes, taps, stop-cocks, valve, &c., shall be equal in quality to samples kept in the Town Clerk's office or be approved of by the Town Clerk or other authorised officer of the Council. The Council's workmen are to open the trench, bore the mains, and insert the stop-cock, the stop-cock being of the kind a sample of which is on view at the Town Clerk's office, the same being left at the Town Clerk's office along with the notice to connect. By the time these operations are completed the plumber who has been employed to lay on the service must have taken all his measurements, prepared all the pipes to the exact length complete, with the lead connections of approved length and weight per yard, properly jointed to cap linings, barrel union, &c., ready for attachment to the stop cock, so as to avert any delay in the re-filling of the trench. In the event of the articles above named not being ready for fixing at the period named the trench may be filled in again by the Council's workmen, and the re-opening and filling of the same shall be paid for by the plumber, in addition to whatever other payments which may accrue under these By-laws and Regulations. All expenses of labour in drilling, inserting stop-cock, opening and filling trenches, and charges for all cocks, materials, &c., shall be borne by the plumber,

the account for the same to be delivered without delay and paid by him to the Town Clerk immediately on receipt of the account. Failing due attention to the latter directions, the Council may cancel the license of the said plumber.

Service Connections.

23. Except by the permission of the Council every tenement shall have an independent service-pipe connected with the water main, and no person shall connect more than one tenement with the water main from one service except by permission of the Council.

Approved Fittings.

24. All service-pipes connected with the water mains shall have a length of at least two feet of  $\frac{3}{4}$ -inch lead pipe weighing nine pounds per lineal yard between the stop-cock in the main and the service-pipes, and such service-pipes shall be 1 $\frac{1}{2}$ -inch galvanised wrought iron pipe to within 1ft. 6in. of the building lines. All joints with lead pipes shall be of a kind known as "wiped" joints. The lead pipe above referred to shall be jointed to the stop-cock at the main and to the galvanised iron service-pipe by means of a barrel union similar to that on view in the Town Clerk's office or other approved fittings. All wrought iron pipes used in connection with the supply of water shall be of the kind known as galvanised wrought iron lap welded steam tubes. No person shall use any water meter, tap, stop-cock, bib-cock, ball-cock, valve, cistern, service-box, waste-not regulator, bath tap or valve or other fittings in connection with supply of water of the Council which is not of the best quality and approved by the Council.

Defective fittings to be removed.

25. Any consumer's pipe, cock, cistern, or other fitting laid, fixed, or used otherwise than in accordance with these Regulations and with the provisions of the Act, or which shall, in the opinion of the Council, be or become bad or defective quality, or shall conduce to the waste, misuse, or contamination of the water, shall, upon the Council giving notice in writing, be discontinued and disused; and the Council may require the same to be removed, replaced, or repaired, and may stop the supply of water to the said consumer until such pipe, cock, cistern, or other fitting shall have been removed, replaced, or repaired to the satisfaction of the Council.

Pipes through drains to be properly protected.

26. No person shall lay any pipe or other apparatus through any sewer, drain, ash-pit, cistern, or manure-tank, or through, in, or into any place where, in the event of the pipe becoming unsound, the water of the Council conveyed through such pipe would be liable to be fouled, or to escape without observation, unless such pipe or apparatus be laid through an exterior cast-iron pipe or box of sufficient length and strength to afford due protection to the same and to bring any leakage or waste within easy detection.

Cisterns.

27. No person shall use any cistern or tank connected with any service pipe or pipe of the Council that is not provided with an equilibrium ball-valve, and the overflow-pipe laid and fixed in a suitable manner, open to inspection, and in a position approved by the Council.

Service not to communicate with rain water receptacles or underground tanks.

28. No person shall fix or use any service-pipe which communicates with any cistern, tank, or vessel intended or used for the reception of rain water, or made or used below the surface of the ground, except with the express permission of the Council.

Water-closets.

29. No person shall, without the consent in writing of the Council first obtained, construct or use any water-closet fitting not supplied from the service pertaining to the tenement through a proper closet-cistern, or service-box, fitted with approved waste-preventing apparatus. No person shall without such consent as aforesaid fix or use any service-pipe which communicates directly or indirectly with the basin or trap, or otherwise than with the cistern of a water-closet.

Urinals.

30. No person shall fix a service-pipe so as to communicate directly with any urinal, and every urinal shall be supplied only through a cistern, or service-box, fitted with waste-preventing apparatus approved by the Council.

Baths.

31. The Council will not supply any water to any bath the outlet of which is not distinct from and unconnected with the inlet or inlets; and the inlet or inlets shall be placed above the highest water-level of the bath. The outlet of such bath shall be provided with a perfectly water-tight plug, valve, or cock. No such bath shall have any overflow waste-pipe that is not laid and fixed in a suitable manner, open to inspection, and in a position approved by the Council. No such bath shall exceed in dimensions 6 feet 6 inches long by 2 feet 6 inches wide by 2 feet deep unless supplied by meter. The Council will not supply water to any bath unless the same shall be so constructed as to prevent a waste of water.

Occupiers or owners to repair and cleanse private sewers.

19. All drains and sewers communicating with any public drains or sewer shall from time to time be repaired and cleansed, subject to the supervision of the Inspector of Nuisances, at the costs and charges of the occupiers or owners of the houses, buildings, lands, and premises to which the said private sewers or drains shall respectively belong, and in case any person shall neglect to repair and cleanse, or cause any such private sewer or drain to be repaired or cleansed under the supervision of the said Inspector, he or she shall forfeit and pay for every such offence any sum not exceeding five pounds nor less than ten shillings.

Bathing.

20. Any person bathing in the Edward's River within a distance of one mile above the water works shall for every such offence forfeit and pay any sum not exceeding two pounds nor less than five shillings.

PART 4.

*By-laws regulating streets and public places.*

Persons obstructing officers of the Council.

1. Any person or persons who shall obstruct any officer of the Council while in the performance of his duty, or who shall interfere with any officer of the said Council doing or performing, or going to perform, or returning from the performance of any duty or act under these By-laws, by using any threats, offensive language, hindrance, or insulting language towards the said officer in any street, road, or other place within the said Municipality, shall forfeit and pay for every such offence a penalty not exceeding ten pounds or less than one pound.

Regulations of streets, public places, &c.

2. No new public road, street, way, park, or other place, proposed to be dedicated to the public, shall be taken under the charge and management of the Council until such road, street, way, or park, shall have been examined by a committee of works, and reported to the Council by such committee.

3. Whenever any proprietor or proprietors of land within the said Municipality shall open any road, street, or way, or lay out any park or other place for public use or recreation through or upon such land, and shall be desirous that the Council shall undertake the care and management of such street, road, way, park, or other place, he or they shall furnish the Council with a plan or plans signed by himself or themselves showing clearly the extent and position of such road, street, way, park, or other place as aforesaid, and he or they shall execute any instrument dedicating such road, street, way, park, or other place as the Council may consider necessary.

Footways may be levelled.

4. When any footway shall have been marked out, the surveyor or such other officer or person so authorised may cause the same to be levelled, and made as nearly as practicable of equal height and breadth, and with an equal slope and inclination, and for this purpose may remove any flaggings, steps, or other matter, thing, or obstruction that may injure or obstruct the said footway, or render it unequal or inconvenient, and which now is or may hereafter be erected or placed on the space marked out for any of the said footways; and the Council may after seven days notice has been given in writing to the occupier or owner of any property, remove, or cause to be removed, any asphalt or tar pavement, flagging, or brick pitching, or any material used for paving fronting the said property, which may, in the opinion of the Council or its authorised officer, be in a dangerous or dilapidated state; all expenses of such removal shall be recovered from the said occupier or owner by process of law or otherwise.

Obstructing streets, &c., by exposing goods.

5. No person shall place or expose on the footways or streets carts, parcels, packages, or produce of any kind whatever to the obstruction of the public, and every person so offending shall for such offence forfeit and pay on conviction a fine not less than ten shillings or greater than five pounds.

Guttering and down pipes.

6. Every owner or occupier of any dwelling-house, shop, or other building who shall permit rain-water to fall down from any roof, spout, balcony, or other projection upon or over any street, road, lane, or footway, or shall cause or permit any such roof or rain-water to be discharged by any pipe upon any such street, road, lane, or footway, shall if such nuisance be not abated within seven days after written notice to abate the same shall have been given by the Council or its officer, on conviction forfeit and pay for every such offence a sum not exceeding five pounds nor less than one pound: Provided that any tenant of such premises who shall erect any spouting or pipe in accordance with any such notice may deduct the cost thereof from the rent of the said premises.

Drains in footways and slops.

7. No surface drain shall be made in any footway nor any pipes laid under or across the same without the authority of the Council, and no such drain shall be used for the discharge into any street, roadway, or water-table of any offensive liquid, or matter of any kind whatever; and any person who shall offend against this By-law, or any occupier, owner, or tenant from whose premises suds, offensive matter, slops, or filth shall flow over or on any footway, water-course, street, lane, or water-table shall forfeit and pay any sum not exceeding twenty pounds or less than one pound.

Various obstructions and annoyances.

8. Every person who, in any street or other public place or passage within the said Municipality, to the obstruction, annoyance, or danger of the residents or passers-by shall commit any of the following offences shall, on conviction for any and for every such offence, forfeit and pay a penalty not exceeding two pounds or less than ten shillings:—

- (1.) Every person who shall hoist, or cause to be hoisted, or lower, or cause to be lowered, goods of any description from any opening in any house or premises fronting any street or public place, and close to the footway thereof, without sufficient and proper ropes and tackling.
- (2.) Every person who shall carry and convey, or cause to be carried and conveyed in any street or public place, the carcase, or any part of the carcase, of any newly slaughtered animal without a sufficient and proper cloth covering the same for concealment from public view, or shall hawk or carry about butcher's meat for sale without covering the same as aforesaid.
- (3.) Every person who shall place any line, cord, or pole across any street, lane, or passage, or hang or place clothes thereon, or allow any tree or shrub to overhang the footpath to the danger or annoyance of any person.
- (4.) Every person who shall throw or cast from the roof, or any part of any house or other building, any slate, brick, part of a brick, wood, rubbish, or other material or thing, unless within a hoard or enclosure when any house or building is being erected, pulled down, or repaired.
- (5.) Every person who shall, within the distance of one hundred yards from any dwelling-house, burn any rags, bones, corks, or other offensive substance to the annoyance of any inhabitant.
- (6.) Every person who shall be the keeper of or have any dog or other animal which shall attack or endanger the life or limb of any person who may have the right-of-way or use of any private yard, alley, street, or any other place within the said Municipality.

Persons loitering.

9. Any person or persons standing or loitering upon any of the footways or other public places in this Municipality, to the inconvenience or annoyance of the inhabitants or passers-by, or in any way interrupting the traffic, and shall not discontinue to do so on being requested by any officer or servant of the Municipal Council of this Municipality or any police officer, shall on conviction forfeit and pay a penalty not exceeding two pounds nor less than ten shillings.

Indecent exposure.

10. Any individual who shall offend against decency by exposure of his or her person in any street or public place within the Municipality, or in view thereof, shall on conviction forfeit and pay for every such offence a sum not exceeding ten pounds nor less than ten shillings.

Stoppage of traffic.

11. The Committee for Works, or any officer or person acting under the authority of such Committee, may at any time cause the traffic of any street, lane, or thoroughfare, or any portion thereof, to be stopped for the purpose of repairing the same, or for any necessary purpose; and any person or persons offending against this By-law, either by travelling on such street, lane, or thoroughfare, or by removing or destroying any obstruction that may be placed thereon for the purpose of suspending the traffic, shall forfeit and pay a penalty of any sum not exceeding twenty pounds nor less than two pounds for every such offence.

Drawing or trailing timber, &c.

12. Any person who shall haul or draw, or cause to be hauled or drawn upon any part of any street or public place within this Municipality any timber, stone, or other thing otherwise than upon wheeled vehicles or barrows, or shall suffer any timber, stone, or other thing which shall be carried principally or in part upon any wheeled vehicle or barrow to drag or trail upon any part of such street or public place to the injury thereof, or to hang over any part of any such vehicle or barrow so as to occupy or obstruct the street beyond the breadth of the said vehicle or barrow shall upon conviction forfeit and pay for every such offence a sum of not more than forty shillings or less than five shillings over and above the damage caused thereby.

## Breaking horses.

13. It shall not be lawful for any person or persons in any street, road, or other public place within the Municipal District of Deniliquin to drive any carriage or other vehicle for the purpose of breaking horses, or ride, drive, or lead any horse, mare, or gelding for the purpose of breaking such horse, mare, or gelding; and every person so offending shall forfeit and pay for every such offence any sum not exceeding three pounds nor less than ten shillings.

## Leaving vehicles unattended.

14. If the driver of any cart, waggon, dray, omnibus, car, carriage, or any other vehicle drawn by horse or horses, or by bullock or bullocks, shall leave the same unattended in any street, whether public or private, or shall go for a distance of more than two yards from the side of such cart or waggon or other vehicle, being in any street without passing through the rear wheel thereof a suitable chain or strap so as effectually to prevent the rotation of such wheel; such driver shall in every case forfeit a sum not less than twenty shillings nor more than three pounds.

## Vehicles to carry lights.

15. Any person who shall not carry a light upon any vehicle whilst driving through any road, street, or public place within the Municipality, between the hours of an hour after sundown and daylight, shall forfeit and pay any sum not exceeding five pounds nor less than ten shillings.

## Driving over bridges.

16. No person shall drive or ride across any bridge within this Municipality at a greater pace than walking, and for every such offence shall on conviction pay a penalty not exceeding five pounds nor less than five shillings.

## Driving stock not under control.

17. Any person who shall drive within the Municipality any cattle or horses to any yard or premises except by the route authorised in By-law eighteen of this Part without having the same coupled, led, or otherwise under control, shall for every such offence forfeit and pay any sum not exceeding five pounds nor less than five shillings.

## Stock route.

18. Any person or persons who shall drive any sheep, cattle, or horses for sale, or delivery from the Edwards River Bridge towards the south shall, unless by the express permission of the Council, follow the route hereinafter described, namely:— Along Napier-street to Charlotte-street; thence along Charlotte-street to Hardinge-street; thence along Hardinge-street on to the travelling stock route by any street south of Harleux-street and vice versa for any stock coming from the south and travelling northwards; and any person or persons offending against this By-law shall on conviction forfeit and pay any sum not exceeding ten pounds nor less than ten shillings.

## Horses, &amp;c., straying.

19. Any person who shall permit or suffer any horse, bullock, cow, calf, swine, or goat belonging to him or her or under his or her charge, to stray or go about, or to be tethered or depastured in any street, road, or public place within the Municipality, shall upon conviction forfeit and pay a penalty not exceeding two pounds nor less than two shillings and six pence.

## Public property.

20. Any person who shall wantonly or maliciously break or injure any lamp or lamp post, or extinguish any lamp set up for public convenience in the said Municipality, or who shall damage any public building, wall, fence, bridge, culvert, water-course, or other public property within the said Municipality, or who shall wilfully, and without the consent or authority of the Council, cut, break, root up, or otherwise destroy or damage the whole or any part of any tree, sapling or shrub growing upon any street or place under the management of the Council, shall forfeit and pay for every such offence any sum not less than one pound nor more than ten pounds over and above the necessary expense of repairing the injury committed.

## Affixing placards

21. Any person who shall paste or otherwise affix any placard or other paper upon any bridge, fence, or other property of the Council, or upon any wall, fence, house, or building, or deface any such bridge, fence, or other property of the Council, or any such wall, house, fence or building by chalk, paint, or in any other manner, unless with the consent of the owner thereof, shall forfeit and pay a sum not exceeding forty shillings nor less than ten shillings.

## PUBLIC GARDENS.

## Hours.

1. The Waring gardens and other public places of recreation under the management or control of the Council shall be open every day.

## Injury to things in gardens.

2. No person shall pluck any of the flowers, or walk on the beds, or borders, or climb upon or get over the fences, or remove any of the tallies, or disturb, damage, or destroy any property or thing in the gardens.

## Shooting, &amp;c.

3. No person shall carry firearms through the gardens, or shoot, snare, or destroy any wild or tame fowl either in the gardens, or in or on any water adjacent thereto, or bathe or fish in any such water.

## Driving carts.

4. No cart or other vehicle used for the conveyance of goods shall, without the authority of the proper officer of the Council, be driven through the gardens.

## Supplying plants, &amp;c.

5. Such plants, seeds, or cuttings, as are commonly purchasable at nurseries in New South Wales shall not be supplied to any person unless in exchange or for public institutions or for benevolent purposes.

## Behaviour, &amp;c.

6. No visitor shall interrupt the gardeners or labourers by conversation or otherwise, or shall use any abusive, improper, or unbecoming language to any person in such gardens, or otherwise annoy any such person, or behave in an indecent, improper, or unbecoming manner in such gardens, or sit or lie on the borders or walks except on seats provided by the Council.

## Children.

7. Children under the age of ten years not being under the control of some competent person may be removed from the gardens.

## Penalties.

8. Any person offending against any provision of the foregoing By-laws shall for the first offence forfeit and pay any sum not exceeding five pounds; for a second offence, any sum not less than ten shillings nor more than ten pounds; and for a third, and every subsequent offence, any sum not less than one pound nor more than twenty pounds; and any person may on committing such offence be forthwith removed from the gardens by the proper officer of the Council, or by any of the gardeners or labourers employed in such gardens, without affecting the liability of such person so offending to be subsequently prosecuted for such offence.

The foregoing additional By-laws were made and passed by the Municipal Council of Deniliquin, and the seal of the said Council was hereunto affixed the seventeenth day of December, one thousand eight hundred and ninety.

(L.S.) W. J. DAVIES,  
Mayor.

THOMAS O. GILLIES,  
Council Clerk.

1891.

## NEW SOUTH WALES.

## POLICE DEPARTMENT.

(REPORT FOR 1890.)

Printed in accordance with Resolutions of both Houses of Parliament.

## The Inspector-General of Police to The Principal Under Secretary.

Sir, Police Department, Inspector-General's Office, Sydney, 9 January, 1891.

In accordance with Police Regulations, and special instructions, I have the honor to make the following General Report to the Colonial Secretary regarding the operations of the Police Department for the past year.

The return showing the strength and distribution of the Establishment on the 31st December is appended hereto as usual.

The thirty-one additional constables provided on the Estimates for 1890 admitted of some small addition to the force in the Metropolis, also of the establishment of the new stations hereunder named, and for augmentation of the force at the stations at Peak Hill, Broken Hill, Newcastle, &c. :—

District.	New Stations.
Metropolitan ... ..	Greenwich.
Northern... ..	Woolgoolga.
Western ... ..	{ Manildra.
	{ East Orange.
	{ Lewis Ponds.
North-eastern ... ..	Catherine Hill Bay.
North-western ... ..	Pallamallawa.
Bourke ... ..	Coolabah.
South-western ... ..	Pinnacles.
Murray ... ..	Jiundera.

153 appointments were made during the year to fill vacancies occasioned as under, and for the increase voted :—

Resignations ... ..	68
Discharges ... ..	25
Dismissals ... ..	12
Superannuations ... ..	10
Deaths ... ..	7

The condition of the Police Reward and Superannuation Funds continues each year to become more unsatisfactory. It is much to be regretted that the pressure of public business prevented the consideration of a measure for legislative enactment to place the funds on a proper basis, but I shall not fail to bring the matter specially under the Colonial Secretary's notice before the next Session of Parliament.

Six police pensioners died in 1890, who had been in receipt of pensions amounting in the aggregate to £663 1s. 8d. per annum, and one widow of a member of the force died who had been in receipt of a pension of £50 per annum.

Ten members of the force of various ranks were superannuated during the year, five receiving pensions at rates varying between £75 and £325 per annum, aggregating to £963 15s. 5d. per annum; and five members were granted gratuities upon their discharge on certificate of unfitness for further service, which entailed a charge of £780 10s. upon the fund.

Five widows of members of the force received gratuities amounting in all to £780, and two were granted pensions of £75 and £40 per annum respectively.

The charges for the year (on the combined funds) exceeded the revenue by £2,148.

*Crime.*

As usual, in anticipation of the publication of the annual statistics, I have caused the number of apprehensions by the police for various offences during the year to be extracted from the station records in the Metropolitan District, as the figures afford an indication of the nature and extent of crime for the year. They are so far satisfactory, as they exhibit no increase on those for the previous year, notwithstanding the increase in the population.

The total number of arrests for all offences amounts to 10,732. There is an apparent increase in the number this year of 763; but deducting the Water Police return, 829, which was not included in the Metropolitan return last year, there is a total decrease of 66.

In cases of drunkenness and other offences connected therewith, the figures for 1890 show a decrease of 30 as compared with the previous year.

From an examination of the reports of crime from the Colony generally, I judge there has been a marked decrease in the more serious offences, such as murder and rape, whilst only two cases occurred of robbery under arms, one being at a Chinaman's store, and the other at a bank, when the offender shot himself dead. There has also been a decrease in the number of children found abandoned, from 25 in 1889 to 11 in 1890.

The prevalence of acts of violence to persons and property, committed in concert by bands of disorderly young men and youths in the city and suburbs, has been under the special consideration of the Colonial Secretary. The inadequacy of the means provided under the existing law to enable the magistracy and the police to repress this seriously-growing evil will probably result in some enactment being passed at an early date to deal with the matter.

There are other directions in which legislation would be of great public advantage, as tending to the moral and social improvement of the community, and I trust I may not be travelling beyond my province in taking this opportunity of referring to them:—

1. The supervision and regulation of dancing saloons and other places of resort by the young.
2. The regulation of common lodging houses.
3. The more effective inspection and regulation to secure decent accommodation for families of the poorer classes.
4. For the better protection of young girls, and for extending the age under which they may be dealt with under the Industrial Act to 18.
5. To extend the scope of the Industrial Schools' Act, to enable the magistracy to deal with "neglected children."
6. To supervise and control all factories and workshops where the young of both sexes are employed.

I am, of course, well aware that these subjects are not new to the Colonial Secretary, and that he has had them constantly under his consideration. I merely take the liberty of recalling his attention thereto.

The ordinary routine of police duties during a portion of the year was considerably interfered with by the necessity for withdrawing a large number of police from stations in the country during the strike. Notwithstanding, however, that some few complaints were made of inconvenience suffered by the residents in various districts owing to the absence of police, it was satisfactory to find that no marked increase of crime resulted therefrom.

The facilities with which police can now be moved from one post to another by railway, telegraph lines being also available in every direction, afford material aids to promptitude in concentrating police wherever required on emergency.

The use of the telephone for police purposes has been made more generally available in the city and suburbs during the year. Besides the twenty-five instruments at police stations, the telephones of the Fire Brigade Department are all available to the police, and, in addition, no less than 139 instruments in convenient situations, belonging to private citizens, have been kindly placed at my disposal for use when required. A list of the same has been printed and issued to each member of the force in the district.

The number of publicans' licenses issued throughout the Colony in 1890 was, approximately, 3,428, as compared with 3,405 in 1889. The increase was confined to the country districts, the metropolitan returns showing a decrease of three, the numbers being 855 in 1889, and 852 in 1890.

I regret that I am unable to make a favourable report regarding the working of the Licensing Act, or the control thereunder of the traffic in intoxicating drink. The limitation clauses of the Act are not observed, nor indeed can they be efficiently enforced. The prosecutions by the police in the Metropolitan District, however, increased from 337 in 1889 to 431 in 1890.

Sunday trading is not exceptional, and the difficulties in the way of securing convictions are enhanced as the licensees become more adept in the means they adopt to evade detection. The evil resulting is of considerable magnitude, as the police have good reason to know that numerous families are rendered destitute, and ruined morally, by unprincipled publicans seducing the breadwinners into their dens, where they are induced to remain Sunday after Sunday till their wages are spent, and they are rendered more than half unfit for their week's labour.

I believe (though my opinion is not shared by all of my own officers) that less evil would result were public-houses permitted to be opened during certain hours on Sunday, when what occurred would be open to public view, and to the supervision of the police.

It was confidently expected when the Licensing Boards were constituted, that many licenses would be withdrawn in country towns and villages from premises wholly unfit for public accommodation, and not required for that purpose; but wherever I go, in reply to my inquiries to the inspectors why such and such houses, obviously not required and unfit, still retain their licenses, I am informed that the Board has not seen fit to refuse to continue the licenses.

Certain amendments in the Act are, I understand, now under consideration, which, it is to be hoped, will be passed into law, and be productive of some public benefit. At present the respectable trader is absolutely at a disadvantage as compared with his less scrupulous competitor.

There were 1,263 inquests held during the year, and the reports show that in 102 cases death was attributable, either directly or indirectly, to intemperance. These figures exhibit a decrease on the previous year of 112 and 37 respectively.

The watchhouse accommodation in Sydney is at present—since the old Central Police Station was removed—very far below the requirements; but votes having been granted for new buildings for a Central Police Station (in progress), and for new lockups in Clarence-street and Regent-street, I hope to be in a position at no distant date to report that the watchhouse accommodation of Sydney fulfils all modern requirements, and equal, if not superior, to any city in the world.

Ambulance instructions to the police has been continued during the year in Sydney and at some of the more important country towns, though interfered with by the strike and other urgent duties, and I entertain a hope that in course of time a large proportion of the men will obtain certificates of qualification.

The correspondence in the department is very considerably on the increase. It has now to be maintained with Police Establishments, not only in the United Kingdom but with India, Canada, and other



District.	Station.	MOUNTED.						FOOT.				
		Super-intendents.	Inspectors.	Sub-inspectors.	Senior-sergeants.	Sergeants.	Senior-constables.	Constables.	Senior-sergeants.	Sergeants.	Senior-constables.	Constables.
Metropolitan— <i>continued.</i>	Homebush .....	...	...	...	...	...	...	...	...	...	...	1
	Strathfield .....	...	...	...	...	...	...	...	...	...	...	1
	Hurstville .....	...	...	...	...	...	...	...	...	...	...	1
	Belmore .....	...	...	...	...	...	...	...	...	...	...	1
	Croydon .....	...	...	...	...	...	...	...	...	...	...	1
	Mortlake .....	...	...	...	...	...	...	...	...	...	...	1
	Annandale .....	...	...	...	...	...	...	...	...	...	...	3
	Birkenhead .....	...	...	...	...	...	...	...	...	...	...	2
	St. Peter's .....	...	...	...	...	...	...	...	...	...	1	2
	Helsarmel .....	...	...	...	...	...	...	...	...	...	...	1
	Rockdale .....	...	...	...	...	...	...	...	...	...	...	1
	Peakhurst .....	...	...	...	...	...	...	...	...	...	...	1
	Arncliffe .....	...	...	...	...	...	...	...	...	...	...	1
	Dulwich Hill .....	...	...	...	...	...	...	...	...	...	...	1
	Rosedale .....	...	...	...	...	...	...	...	...	...	...	1
	North Sydney .....	...	...	1	...	...	...	...	2	...	5	15
	North Willoughby .....	...	...	...	...	...	...	...	...	...	1	1
	Neutral Bay .....	...	...	...	...	...	...	...	...	...	...	2
	Lane Cove .....	...	...	...	...	...	...	...	...	...	1	1
	Mossman's Bay .....	...	...	...	...	...	...	...	...	...	1	1
	Greenwich .....	...	...	...	...	...	...	...	...	...	...	1
Water Police .....	...	...	1	...	...	...	...	...	1	7	18	
Northern .....	Armidale .....	1	...	...	...	...	4	1	1	...	...	4
	Do West .....	...	...	...	...	...	...	...	...	...	...	1
	Uralla .....	...	...	...	...	1	1	...	...	...	...	...
	Walcha Road .....	...	...	...	...	1	1	...	...	...	...	...
	Walcha .....	...	...	...	...	1	1	...	...	...	...	1
	Bendemeer .....	...	...	...	...	...	1	...	...	...	...	...
	Guyra .....	...	...	...	...	...	1	...	...	...	...	...
	Glen Innes .....	...	...	...	...	1	2	...	...	...	...	3
	Kookabookra .....	...	...	...	...	...	1	...	...	...	...	...
	Deepwater .....	...	...	...	...	...	1	...	...	...	...	...
	Emmaville .....	...	...	...	...	1	1	...	...	...	...	1
	Tenterfield .....	...	...	1	...	...	1	...	...	...	...	2
	Wilson's Downfall .....	...	...	...	...	1	1	...	...	...	...	...
	Drake .....	...	...	...	...	1	1	...	...	...	...	...
	Bundarra .....	...	...	...	...	1	1	...	...	...	...	...
	Tingha .....	...	...	...	1	...	1	...	...	...	...	3
	Inverell .....	...	...	...	1	...	2	...	...	...	...	3
	Ashford .....	...	...	...	...	...	1	...	...	...	...	...
	Melrose .....	...	...	...	...	...	1	...	...	...	...	2
	Hillgrove .....	...	...	...	...	...	1	...	...	...	...	2
	Grafton .....	1	...	...	...	...	2	1	...	...	...	5
	Do South .....	...	...	...	...	...	1	...	...	...	1	...
	Woogoolga .....	...	...	...	...	...	1	...	...	...	...	...
	Ulmarra .....	...	...	...	...	...	1	...	...	...	...	...
	Brushgrove .....	...	...	...	...	...	1	...	...	...	...	...
	Lawrence .....	...	...	...	...	...	1	...	...	...	...	...
	Macleay .....	...	...	...	...	...	...	1	...	...	...	1
	Harwood Island .....	...	...	...	...	...	...	...	...	...	...	1
	Chatsworth .....	...	...	...	...	...	...	...	...	...	1	1
	Palmer's Island .....	...	...	...	...	...	...	...	...	...	1	1
	Yamba .....	...	...	...	...	...	...	...	...	...	...	1
	Copmanhurst .....	...	...	...	...	...	1	...	...	...	...	...
	Dalmorton .....	...	...	...	...	...	1	...	...	...	...	...
	Blick's River .....	...	...	...	...	...	1	...	...	...	...	...
	Lismore .....	...	...	1	...	1	1	...	...	...	...	3
	Casino .....	...	...	...	...	1	1	...	...	...	...	1
	Coraki .....	...	...	...	...	...	1	...	...	...	...	1
	Woodburn .....	...	...	...	...	...	1	...	...	...	...	...
	Broadwater .....	...	...	...	...	...	...	...	...	...	...	2
	Wardell .....	...	...	...	1	...	...	...	...	...	...	1
	Ballina .....	...	...	...	...	1	...	...	...	...	...	1
Woodenbong .....	...	...	...	...	...	1	...	...	...	...	...	
Brunswick .....	...	...	...	...	...	1	...	...	...	...	...	
Murwillumbah .....	...	...	...	...	...	1	1	...	...	...	...	
Tumbulgum .....	...	...	...	...	...	1	...	...	...	...	...	
Cudgen .....	...	...	...	...	...	1	...	...	...	...	...	
Southern .....	Goulburn .....	1	...	1	...	2	3	...	2	1	12	
	Collector .....	...	...	...	...	1	1	...	...	...	...	
	Bungonia .....	...	...	...	...	1	...	...	...	...	...	
	Marulan .....	...	...	...	...	...	1	...	...	...	...	
	Crookwell .....	...	...	...	...	1	2	...	...	...	...	
	Taralga .....	...	...	...	...	1	1	...	...	...	...	
	Yass .....	1	...	...	...	1	1	...	...	1	2	
	Gunning .....	...	...	...	...	1	...	...	...	...	1	
	Dalton .....	...	...	...	...	1	...	...	...	...	...	
	Gundaroo .....	...	...	...	...	1	...	...	...	...	...	
	Ginninderra .....	...	...	...	...	1	...	...	...	...	...	
	Burrowa .....	...	...	1	...	...	1	...	...	...	1	
	Binalong .....	...	...	...	...	1	...	...	...	...	...	
	Frogmore .....	...	...	...	...	...	1	...	...	...	...	
	Reid's Flat .....	...	...	...	...	...	1	...	...	...	...	
	Pudman Creek .....	...	...	...	...	...	1	...	...	...	...	
	Wee Jasper .....	...	...	...	...	...	1	...	...	...	...	
	Bowning .....	...	...	...	...	...	1	...	...	...	1	
	Young .....	1	...	...	...	1	1	...	...	1	3	

District:	STATION.	MOUNTED.						FOOT.					
		Super-intendents.	Inspectors.	Sub-inspectors.	Senior-sergeants.	Ser-geants.	Senior-con-stables.	Con-stables.	Senior-ser-geants.	Ser-geants.	Senior-con-stable	Con-stables:	
Southern— <i>continued.</i>	Cootamundra .....	...	...	...	1	...	...	2	...	...	...	4	
	Temora .....	...	...	...	...	1	...	1	...	...	...	2	
	Murrumburrah .....	...	...	...	...	...	1	1	...	...	...	1	
	Marungo .....	...	...	...	...	...	1	...	...	...	...	...	
	Wombat .....	...	...	...	...	...	1	...	...	...	...	...	
	Wallendbeen .....	...	...	...	...	...	1	...	...	...	...	...	
	Morangarell .....	...	...	...	...	...	1	1	...	...	...	...	
	Barnedman .....	...	...	...	...	...	1	1	...	...	...	...	
	Harden .....	...	...	...	...	...	...	...	...	...	...	1	
	Braidwood .....	...	...	1	...	...	1	2	...	...	...	2	
	Queanbeyan .....	...	...	...	1	...	1	1	...	...	...	3	
	Moruya .....	...	...	...	...	1	1	1	...	...	...	1	
	Araluen .....	...	...	...	...	...	1	...	...	...	...	1	
	Bungendore .....	...	...	...	...	...	1	1	...	...	...	...	
	Tarago .....	...	...	...	...	...	...	1	...	...	...	...	
	Bateman's Bay .....	...	...	...	...	...	...	1	...	...	...	...	
	Nelligen .....	...	...	...	...	...	...	1	...	...	...	...	
	Major's Creek .....	...	...	...	...	...	...	1	...	...	...	...	
	Eurobodalla .....	...	...	...	...	...	...	...	1	...	...	...	
	Emu Flat .....	...	...	...	...	...	...	1	...	...	...	...	
	Mongarlowe .....	...	...	...	...	...	...	...	1	...	...	...	
	Captain's Flat .....	...	...	...	...	...	...	...	1	...	...	...	
	Nerrigundah .....	...	...	...	...	...	...	...	...	...	...	1	
	Cooma .....	...	...	1	...	...	...	2	...	...	...	3	
	Bega .....	...	...	...	...	1	...	1	...	...	...	3	
	Bombala .....	...	...	...	...	1	...	1	...	...	...	1	
	Pambula .....	...	...	...	...	...	1	1	...	...	...	...	
	Eden .....	...	...	...	...	...	1	1	...	...	...	...	
	Candelo .....	...	...	...	...	...	...	1	1	...	...	...	
	Colargo .....	...	...	...	...	...	...	1	1	...	...	...	
	Buckley's Crossing .....	...	...	...	...	...	...	1	1	...	...	...	
	Michelago .....	...	...	...	...	...	...	1	1	...	...	...	
	Adaminahy .....	...	...	...	...	...	...	1	1	...	...	...	
	Kiandra .....	...	...	...	...	...	...	...	1	...	...	...	
	Delegate .....	...	...	...	...	...	...	...	2	...	...	...	
	Nimitybelle .....	...	...	...	...	...	...	1	1	...	...	...	
	Jindabyne .....	...	...	...	...	...	...	...	1	...	...	...	
	Wolumla .....	...	...	...	...	...	...	...	1	...	...	...	
	Wynndham .....	...	...	...	...	...	...	...	1	...	...	...	
	Animbo .....	...	...	...	...	...	...	...	1	...	...	...	
	Colombo .....	...	...	...	...	...	...	...	1	...	...	...	
	Merimbula .....	...	...	...	...	...	...	...	...	...	...	1	
	Eastern .....	Depôt .....	1	...	...	...	1	...	...	...	...	...	...
		Parramatta .....	...	...	1	...	...	1	1	...	1	1	11
		Granville .....	...	...	...	...	...	...	...	...	...	...	2
		Rookwood .....	...	...	...	...	...	...	...	...	...	...	1
		Prospect .....	...	...	...	...	...	...	...	...	...	...	1
		Auburn .....	...	...	...	...	...	...	...	...	...	...	1
Potts' Hill .....		...	...	...	...	...	...	...	...	...	...	1	
Ryde .....		...	...	...	...	...	1	1	...	...	...	1	
Hunter's Hill .....		...	...	...	...	...	...	...	...	...	...	1	
Hornsby .....		...	...	...	...	...	...	...	...	...	...	1	
Gladesville .....		...	...	...	...	...	...	...	...	...	...	1	
Peat's Ferry .....		...	...	...	...	...	...	...	...	...	...	1	
Penrith .....		...	...	...	...	1	...	1	...	...	...	1	
Emu Plains .....		...	...	...	...	...	...	...	...	...	...	1	
St. Mary's .....		...	...	...	...	...	...	...	...	...	...	1	
Springwood .....		...	...	...	...	...	...	...	...	...	...	1	
Katoomba .....		...	...	...	...	...	...	...	...	...	...	1	
Windsor .....		...	...	...	1	...	...	1	...	...	...	3	
Wilberforce .....		...	...	...	...	...	...	1	1	...	...	...	
Richmond .....		...	...	...	...	...	...	1	1	...	...	...	
St. Alban's .....		...	...	...	...	...	...	...	1	...	...	...	
Rouse Hill .....		...	...	...	...	...	...	...	...	...	...	1	
Riverstone .....		...	...	...	...	...	...	...	1	...	...	1	
Liverpool .....		...	...	...	...	...	...	1	1	...	...	1	
Smithfield .....		...	...	...	...	...	...	...	1	...	...	1	
Sutherland .....		...	...	...	...	...	...	...	...	...	...	1	
Campbelltown .....		...	...	...	...	...	1	...	...	...	...	1	
Appin .....		...	...	...	...	...	...	1	1	...	...	1	
Camden .....		...	...	...	...	...	...	1	1	...	...	1	
Picton .....		...	...	...	...	...	...	1	1	...	...	1	
Beirima .....		...	...	...	1	...	...	1	1	...	...	1	
Moss Vale .....		...	...	...	...	...	...	...	1	...	...	1	
Bowral .....		...	...	...	...	...	...	...	1	...	...	2	
Mittagong .....		...	...	...	...	...	...	...	1	...	...	1	
Robertson .....		...	...	...	...	...	...	...	1	...	...	...	
Wollongong .....		...	...	...	1	...	...	1	1	...	...	3	
Dapto .....		...	...	...	...	...	...	...	1	...	...	1	
Fig-tree .....		...	...	...	...	...	...	...	1	...	...	1	
Bulli .....		...	...	...	...	...	...	...	1	...	...	1	
Clifton .....		...	...	...	...	...	...	...	1	...	...	1	
Cawley's Creek .....		...	...	...	...	...	...	...	...	...	...	1	
Kiama .....		...	...	...	...	1	...	...	...	...	...	3	
Shellharbour .....		...	...	...	...	...	...	...	1	...	...	1	
Jamberoo .....		...	...	...	...	...	...	...	1	...	...	1	
Albion Park .....		...	...	...	...	...	...	...	...	...	...	1	
Gerringong .....		...	...	...	...	...	...	1	1	...	...	1	
Nowra .....		...	...	...	...	1	...	...	...	...	...	1	

DISTRICT.	STATION.	MOUNTED.						FOOT.				
		Super-intendents.	Inspectors.	Sub-inspectors.	Senior-sergeants.	Sergeants.	Senior-constables.	Constables.	Senior-Sergeants.	Sergeants.	Senior-constables.	Constables.
Eastern— <i>continued.</i>	Terrara .....	...	...	...	...	...	1	1	...	...	...	...
	Berry .....	...	...	...	...	...	1	1	...	...	...	...
	Kangaroo Valley .....	...	...	...	...	...	1	1	...	...	...	...
	Milton .....	...	...	...	...	...	1	1	...	...	...	...
Western .....	Bathurst .....	1	...	...	...	...	2	4	2	...	2	10
	Kelso .....	...	...	...	...	...	...	...	...	...	...	1
	Milltown .....	...	...	...	...	...	...	...	...	...	...	1
	Oberon .....	...	...	...	...	...	1	1	...	...	...	1
	Sunny Corner .....	...	...	...	...	...	1	1	...	...	...	1
	Rydal .....	...	...	...	...	...	...	1	...	...	...	...
	Wallerawang .....	...	...	...	...	...	1	...	...	...	...	...
	Lithgow .....	...	...	...	1	...	...	1	...	...	...	2
	Hartley Vale .....	...	...	...	...	...	...	1	...	...	...	...
	Hartley .....	...	...	...	...	...	...	...	...	...	...	1
	Mount Victoria .....	...	...	...	...	...	...	1	...	...	...	...
	Hill End .....	...	...	...	...	...	...	1	...	...	...	1
	Sofala .....	...	...	...	...	...	...	1	1	...	...	...
	Wyagdon .....	...	...	...	...	...	...	1	1	...	...	...
	Rockley .....	...	...	...	...	1	...	1	...	...	...	...
	Burraga .....	...	...	...	...	...	...	2	...	...	...	...
	O'Connell .....	...	...	...	...	...	...	1	...	...	...	...
	Mudgee .....	...	...	...	...	...	...	3	...	1	1	3
	Gulgong .....	...	...	...	...	1	...	1	...	...	...	1
	Coolah .....	...	...	...	...	...	...	1	1	...	...	...
	Mundooran .....	...	...	...	...	...	...	1	1	...	...	...
	Denison Town .....	...	...	...	...	...	...	1	1	...	...	...
	Rylstone .....	...	...	...	1	...	...	1	1	...	...	1
	Iford .....	...	...	...	...	...	...	2	...	...	...	...
	Hargraves .....	...	...	...	...	...	...	1	1	...	...	...
	Windeyer .....	...	...	...	...	...	...	1	1	...	...	...
	Wollar .....	...	...	...	...	...	...	1	1	...	...	...
	Cobborah .....	...	...	...	...	...	...	1	1	...	...	...
	Orange .....	...	1	...	...	...	...	1	2	...	1	6
	Do East .....	...	...	...	...	...	...	...	...	...	...	1
	Molong .....	...	...	...	...	...	...	1	1	...	...	1
	Cowra .....	...	...	...	1	...	...	1	1	...	...	2
	Blayney .....	...	...	...	...	1	...	1	...	...	...	1
	Carecar .....	...	...	...	...	1	...	1	...	...	...	1
	Canowindra .....	...	...	...	...	...	...	1	1	...	...	...
	Cudal .....	...	...	...	...	...	...	1	1	...	...	...
	Toogong .....	...	...	...	...	...	...	1	1	...	...	...
	Mount McDonald .....	...	...	...	...	...	...	1	1	...	...	...
	Goolagong .....	...	...	...	...	...	...	1	1	...	...	...
	Trunkey Creek .....	...	...	...	...	...	...	1	...	...	...	...
	Cargo .....	...	...	...	...	...	...	1	...	...	...	...
	Mandurama .....	...	...	...	...	...	...	1	1	...	...	...
	Tuena .....	...	...	...	...	1	...	1	1	...	...	...
	Manildra .....	...	...	...	...	...	...	1	1	...	...	...
	Forbes .....	...	...	...	...	1	...	1	1	...	1	3
	Condobolin .....	...	...	...	...	1	...	1	1	...	...	1
	Eugowra .....	...	...	...	...	...	...	1	1	...	...	...
Parkes .....	...	...	...	...	...	...	1	1	...	...	2	
Grenfell .....	...	...	...	...	1	...	1	1	...	...	2	
Marsden .....	...	...	...	...	...	...	2	1	...	...	...	
Wollongough .....	...	...	...	...	...	...	1	1	...	...	...	
Alectown .....	...	...	...	...	...	...	1	1	...	...	...	
Dubbo .....	...	...	1	1	...	...	3	...	...	1	5	
Wellington .....	...	...	...	1	...	...	1	...	...	...	2	
Coonamble .....	...	...	...	...	1	...	1	...	...	...	3	
Obley .....	...	...	...	...	...	...	1	1	...	...	...	
Warren .....	...	...	...	...	...	...	1	1	...	...	1	
Tomingley .....	...	...	...	...	...	...	1	1	...	...	...	
Dandaloo .....	...	...	...	...	...	...	1	1	...	...	...	
Nevertire .....	...	...	...	...	...	...	1	1	...	...	...	
Narramine .....	...	...	...	...	...	...	1	1	...	...	...	
Collie .....	...	...	...	...	...	...	1	1	...	...	...	
Gilgandra .....	...	...	...	...	...	...	1	1	...	...	...	
Quambone .....	...	...	...	...	...	...	1	1	...	...	...	
Stuart Town .....	...	...	...	...	...	...	1	1	...	...	...	
Cumnock .....	...	...	...	...	...	...	1	1	...	...	...	
Peak Hill .....	...	...	...	...	...	...	...	...	...	...	2	
Trangie .....	...	...	...	...	...	...	...	...	...	...	...	
Bourke .....	Bourke .....	1	...	1	...	...	4	...	...	1	4	
	Brewarrina .....	...	...	...	1	...	1	2	...	...	1	
	Cobar .....	...	...	...	1	...	1	1	...	...	2	
	Byrock .....	...	...	...	...	1	1	...	...	...	...	
	Gongolgon .....	...	...	...	...	1	1	...	...	...	...	
	Louth .....	...	...	...	...	1	1	...	...	...	...	
	Curranyalpa .....	...	...	...	...	1	1	...	...	...	...	
	Enngonia .....	...	...	...	...	1	1	...	...	...	1	
	Nymagce .....	...	...	...	...	1	1	...	...	...	2	
	Nyngan .....	...	...	...	1	...	1	1	...	...	...	
	Cannonbar .....	...	...	...	...	...	1	1	...	...	...	
	Yantabulla .....	...	...	...	...	...	1	1	...	...	...	
Barrington .....	...	...	...	...	1	...	1	...	...	...		
Wanaaring .....	...	...	...	...	1	...	1	...	...	...		

DISTRICT.	STATIOS.	MOUNTED.							FOOT.				
		Super-intendents.	Inspectors.	Sub-inspectors.	Senior-sergeants.	Ser-geants.	Senior-con-stables.	Con-stables.	Senior-ser-geants.	Ser-geants.	Senior con-stables.	Con-stables.	
Bourke— <i>continued.</i>	Walgett .....			1				3				2	
	Collarendabri .....						1						
	Mogil Mogil .....							2					
	Mungindi .....							1					
	Angledool .....							1					
	Goodooga .....							1	2				
	Grawin .....							1	1				
	Pilliga .....							1	1				
Carinda .....								1					
Coolabah .....								1					
North-eastern	West Maitland .....	1		1	1			3		1	2	10	
	Branxton .....										1		
	Lochinvar .....							1					
	Greta .....											2	
	Cessnock .....							1					
	East Maitland .....					1			2			3	
	Mulbring .....								1				
	Cooranbong .....								1				
	Swansea .....								1				
	Catherine Hill Bay .....											1	
	Largs .....											1	
	Morpeth .....											2	
	Hinton .....											1	
	Paterson .....							1					
	Gresford .....								1				
	Raymond Terrace .....							1				1	
	Clarence Town .....								1				
	Dungog .....								1			1	
	Stroud .....								1				
	Gloucester .....								1				
	Copeland .....								1				
	Bullahdelah .....								1				
	Bungwall Flat .....								1				
	Tea Gardens .....								1				
	Forster .....								1				
	Wyang .....								1				
	Gosford .....								1			1	
	Newcastle .....		1	1					1	1	3	3	24
	Point Road .....											1	
	Lake Road .....											1	
	The Glebe .....											1	
	Charlestown .....											1	
	Teralba .....											1	
	Hamilton .....											1	
	Adamstown .....											2	
	Waratah .....											2	
	Carrington .....											1	
	Lambton .....						1					2	
	New Lambton .....											1	
	Wallsend .....										1	3	
	West Wallsend .....											1	
	Stockton .....											1	
	Wickham .....											1	
	Islington .....											1	
	Tighe's Hill .....											1	
	Miumi .....											1	
	Wollombi .....							1	1				
Ellalong .....											1		
Howe's Valley .....								1					
Singleton .....					1			1			4		
Goorangoola .....								1					
Broke .....								1					
Muswellbrook .....					1			1			1		
Jerry's Plains .....								1					
Denman .....								1					
Merriwa .....								1			1		
Kerrabee .....								1					
Cassilis .....								1					
Scone .....					1			1			1		
Stewart's Brook .....								1					
Kempsey .....				1				1			2		
Gladstone .....								1					
Frederickton .....								1					
Arakoon .....								1					
Macksville .....								1					
Bowraville .....								1					
Taree .....								1			2		
Cundletown .....								1					
Wingham .....								1					
Tinonee .....								1					
Coopernook .....								1					
Port Macquarie .....							1	1			1		
Wauchope .....								1					
Camden Haven .....								1					
Fernmount .....								1					
Smithtown .....											1		
Bellinger .....								1					

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North-western	Tamworth .....	1	..	..	..	..	1	3	1	1	1	5
	Do West .....	..	..	..	..	..	..	..	..	..	..	1
	Murrumbidgee .....	..	..	..	..	..	1	..	..	..	..	..
	Blackville .....	..	..	..	..	..	1	..	..	..	..	..
	Gunnedah .....	..	..	..	..	..	1	..	..	..	..	..
	Barraba .....	..	..	..	..	..	1	..	..	..	..	..
	Manilla .....	..	..	..	..	..	1	..	..	..	..	..
	Nundle .....	..	..	..	..	..	1	..	..	..	..	..
	Quirindi .....	..	..	..	..	..	1	..	..	..	..	..
	Somerton .....	..	..	..	..	..	1	..	..	..	..	..
	Moonbi .....	..	..	..	..	..	1	..	..	..	..	..
	Carroll .....	..	..	..	..	..	1	..	..	..	..	..
	Werris Creek .....	..	..	..	..	..	1	..	..	..	..	..
	Boggabri .....	..	..	..	..	..	1	..	..	..	..	..
	Tambar Springs .....	..	..	..	..	..	1	..	..	..	..	..
	Baradine .....	..	..	..	..	..	1	..	..	..	..	..
	Coonabarabran .....	..	..	..	..	..	1	..	..	..	..	..
	Narrabri .....	..	..	1	..	..	..	2	..	..	..	..
	Do West .....	..	..	..	..	..	..	..	..	..	..	..
	Wee Waa .....	..	..	..	..	..	1	..	..	..	..	..
	Kerangby .....	..	..	..	..	..	..	1	..	..	..	..
	Meroo .....	..	..	..	..	..	..	1	..	..	..	..
	Moree .....	..	..	..	..	..	1	..	..	..	..	..
	Eulowrie .....	..	..	..	..	..	..	1	..	..	..	..
	Bingera .....	..	..	..	..	..	1	..	..	..	..	..
	Warialda .....	..	..	..	..	..	..	1	..	..	..	..
	Yetman .....	..	..	..	..	..	..	1	..	..	..	..
Boggabilla .....	..	..	..	..	..	..	1	..	..	..	..	
Pallamallawa .....	..	..	..	..	..	..	1	..	..	..	..	
Kunopua .....	..	..	..	..	..	..	1	..	..	..	..	
South-western	Deniliquin .....	1	..	..	..	1	..	2	1	..	1	4
	Mathoura .....	..	..	..	..	..	1	..	..	..	..	..
	Moama .....	..	..	..	..	..	1	..	..	..	..	..
	Jerilderie .....	..	..	..	..	..	..	1	..	..	..	..
	Tocumwal .....	..	..	..	..	..	..	1	..	..	..	..
	Hay .....	..	..	1	..	1	..	1	..	..	..	..
	Maudsley .....	..	..	..	..	..	..	1	..	..	..	..
	Oxley .....	..	..	..	..	..	..	1	..	..	..	..
	Carathool .....	..	..	..	..	..	..	1	..	..	..	..
	Darlington Point .....	..	..	..	..	..	..	1	..	..	..	..
	Whitton .....	..	..	..	..	..	..	1	..	..	..	..
	Booligal .....	..	..	..	..	..	..	1	..	..	..	..
	Mossiel .....	..	..	..	..	..	..	1	..	..	..	..
	Ivanhoe .....	..	..	..	..	..	..	1	..	..	..	..
	Hillston .....	..	..	..	..	..	..	1	..	..	..	..
	Enabalong .....	..	..	..	..	..	..	1	..	..	..	..
	Gilgannia .....	..	..	..	..	..	..	1	..	..	..	..
	Mount Hope .....	..	..	..	..	..	..	1	..	..	..	..
	Cudgellico .....	..	..	..	..	..	..	1	..	..	..	..
	Moulamein .....	..	..	..	..	..	..	1	..	..	..	..
	Balranald .....	..	..	..	..	..	..	1	..	..	..	..
	Hatfield .....	..	..	..	..	..	..	1	..	..	..	..
	Clare .....	..	..	..	..	..	..	1	..	..	..	..
	Euston .....	..	..	..	..	..	..	1	..	..	..	..
	Wentworth .....	..	..	..	..	..	..	1	..	..	..	..
	Salt Creek .....	..	..	..	..	..	..	1	..	..	..	..
	Pooncarie .....	..	..	..	..	..	..	1	..	..	..	..
	Menindie .....	..	..	..	..	..	..	1	..	..	..	..
	Thackaringa .....	..	..	..	..	..	..	1	..	..	..	..
	Silverton .....	..	..	..	..	..	..	1	..	..	..	..
	Barourie .....	..	..	..	..	..	..	1	..	..	..	..
	Purnameota .....	..	..	..	..	..	..	1	..	..	..	..
Broken Hill .....	..	..	1	..	..	..	2	..	..	1	10	
Pinnacles .....	..	..	..	..	..	..	1	..	..	..	..	
South Broken Hill .....	..	..	..	..	..	..	1	..	..	..	..	
Round Hill .....	..	..	..	..	..	..	1	..	..	..	..	
Wilcannia .....	..	..	1	..	..	..	2	..	..	..	..	
Milparinka .....	..	..	..	..	..	..	1	..	..	..	..	
Tibooburra .....	..	..	..	..	..	..	1	..	..	..	..	
Murray .....	Albury .....	1	..	..	..	1	..	3	1	1	1	5
	Bowna .....	..	..	..	..	..	..	1	..	..	..	..
	Germanton .....	..	..	..	..	..	..	1	..	..	..	..
	Walbundrie .....	..	..	..	..	..	..	1	..	..	..	..
	Corowa .....	..	..	..	..	1	..	1	..	..	..	..
	Howlong .....	..	..	..	..	..	..	1	..	..	..	..
	Mulwala .....	..	..	..	..	..	..	1	..	..	..	..
	Tumbarumba .....	..	..	..	..	..	..	1	..	..	..	..
	Welaragang .....	..	..	..	..	..	..	2	..	..	..	..
	Gerogery .....	..	..	..	..	..	..	1	..	..	..	..
	Jundera .....	..	..	..	..	..	..	1	..	..	..	..
	Gundagai .....	..	..	1	..	..	..	1	..	..	1	3
	Tumut .....	..	..	..	..	1	..	1	..	..	..	..
	Yarrangobilly .....	..	..	..	..	..	..	1	..	..	..	..
Adelong .....	..	..	..	1	..	..	1	..	..	..	..	

DISTRICT.	STATION.	MOUNTED.						FOOT.					
		Super-intendents	Inspectors.	Sub-inspectors	Senior-sergeants	Ser-geants.	Senior-con-stables	Con-stables.	Senior-ser-geants	Ser-geants.	Senior-con-stables.	Con-stables.	
Murray—con- tinued.	Shepherdstown ..	...	...	...	...	...	...	1	...	...	...	1	
	Batlow .....	...	...	...	...	...	...	1	...	...	...	...	
	Jugiong .....	...	...	...	...	...	...	1	...	...	...	...	
	Coolac .....	...	...	...	...	...	...	1	1	...	2	6	
	Wagga Wagga .....	...	1	...	...	...	...	1	3	1	...	1	
	Junee .....	...	...	...	...	...	...	1	1	...	...	1	
	Urana .....	...	...	...	...	1	...	1	1	...	...	1	
	Narrandera.....	...	...	...	1	...	...	2	...	...	...	2	
	Tarcutta .....	...	...	...	...	...	...	1	...	...	...	...	
	Kyamba .....	...	...	...	...	...	...	1	...	...	...	...	
The Rock .....	...	...	...	...	...	...	1	...	...	...	...		
Coolaman .....	...	...	...	...	...	...	1	...	...	...	...		
BELMORE BARRACKS.													
Constables in course of instruction, under orders for transfer .....		...	...	1	1	...	...	32	...	...	1	36	
Onderlies to His Excellency the Governor .....		...	...	...	1	...	1	2	...	1	...	...	
Armourer .....		...	...	...	...	...	...	...	...	1	...	...	
Police Storekeeper .....		...	...	1	...	...	...	...	...	...	...	...	
DETECTIVES.													
Inspector in charge .....		...	1	...	...	...	...	...	...	...	...	...	
Sub-Inspector .....		...	...	1	...	...	...	...	...	...	...	...	
First-class Detectives... 3		...	...	...	...	...	...	...	...	...	...	...	
Second-class do. .... 6		...	...	...	...	...	...	...	...	...	...	...	
Third-class do. .... 4		...	...	...	...	...	...	...	...	...	...	...	
TOTAL .....		13	9	11	28	24	51	121	386	27	45	123	813
							Total of all ranks. .... 1,651.						

Police Department, Inspector-General's Office.



1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**POLICE FORCE.**

(ALLOWANCE TO MEMBERS OF, IN SYDNEY, FOR EXTRA DUTY IN CONNECTION WITH LATE STRIKE.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

[Laid upon the Table of the House in answer to Question No. 31, of Tuesday, 26 May, 1891.]

Question.

(31.) MR. McCOURT asked THE COLONIAL SECRETARY,—

(1.) Have any extra payments been made to Police Officers on account of services rendered in connection with the late strike?

(2.) If so, will he state name and amount paid to each Officer?

Answer.

THE following allowances were paid to members of the Police Force, in Sydney, for extra duties and expenses incurred during the Strike:—

Name.	Rank.	Amount.
Read, George .....	Superintendent .....	£ s. d. 50 0 0
Ryeland, James .....	do .....	50 0 0
Mackay, Alexander .....	Inspector .....	25 0 0
Larkins, Nicholas .....	do .....	25 0 0
Lenthall, Walter E. ....	do .....	25 0 0
Atwill, Alexander.....	Sub-Inspector .....	25 0 0
Bremner, James.....	do .....	25 0 0
Cotter, Stephen J. ....	do .....	25 0 0
Lawless, Edmund .....	do .....	25 0 0
Potter, Alfred .....	do .....	25 0 0
Barry, Robert .....	do .....	25 0 0
Bell, John .....	do .....	25 0 0
Hyem, George H. ....	do .....	25 0 0
Long, William .....	do .....	25 0 0
Scott, William .....	do .....	25 0 0
Camphin, William .....	Inspector of Detectives .....	25 0 0
M'Dowell, Giles .....	Sub-Inspector of Detectives.....	25 0 0
Sutherland, John .....	Sub-Inspector .....	25 0 0

The sergeants and constables in the Metropolitan District who performed extra duties in Sydney received 2s. per diem.

The sergeants and constables belonging to the Metropolitan and Country Districts, who were detailed for duty at the Collieries, received 6s. per diem when not supplied with rations, and 3s. per diem when supplied.

The detectives, for the extra labor entailed on them, received 3s. per diem.

The officers in the Country Districts on special service received the usual travelling allowances when not supplied with rations.



1891.

## NEW SOUTH WALES.

## PRISONS.

(AMENDED REGULATIONS.)

Presented to Parliament, pursuant to Act 37 Vic. No. 14, sec. 9.

Department of Justice, Sydney, 22 December, 1890.

His Excellency the Lieutenant-Governor, with the advice of the Executive Council, has been pleased to approve of the following Regulation being substituted for amended Regulation No. 21 of the Gaol Regulations made under the Prisons Regulation Act, 4 Victoria No. 29, and which Amended Regulation was published in the *Government Gazette* of the 23rd May last, viz. :—

21.—*Hair-cutting, Shaving.*

1. All male convicted prisoners shall have their hair cut upon admission, and afterwards monthly, in a manner not to disfigure them; and, except in the case of prisoners serving sentences not exceeding three months, shall be shaved once a week. If thought necessary on the ground of health or cleanliness, any convicted prisoner may be shaved, no matter what the term of his sentence may be. Prisoners under committal shall not have their hair cut or be shaved, save so far as may be necessary to preserve their appearance as at the period of their examination.

2. Prisoners who, under this regulation, are shaved, may be permitted to grow their hair and beard as they may desire for three months before the expiration of their sentences, or of the time when, according to their conduct under the Remission Regulations, they may be eligible for discharge. Under very special circumstances the shaving may be dispensed with at any time by the Gaoler, who will report the facts to the Comptroller-General of Prisons.

ALBERT J. GOULD.

Department of Justice, Sydney, 3 March, 1891.

His Excellency the Governor, with the advice of the Executive Council, has been pleased to approve of the following Regulation being substituted for No. 26 of the Gaol Regulations, made under the Prisons Regulations Act, 4 Victoria No. 29, viz. :—

*Classification.*

26. Prisoners shall be classified as below stated; and the several classes shall, so far as the construction of the building and the necessities of the works and trades will admit, be kept apart. But any prisoner may, for special reasons, be reported in each case to the Comptroller-General, be associated with a class other than his own :—

1. Prisoners under sentences to the roads and public works, of five years and upwards.
2. Prisoners convicted of felony or misdemeanour, and sentenced to lesser periods, either to the roads and public works or to imprisonment with hard labour.
3. Prisoners under sentence of imprisonment only, and persons detained during Her Majesty's pleasure.
4. Prisoners awaiting trial, or under examination.
5. Lunatics, comprising persons supposed to be of unsound mind.
6. Debtors, comprising persons confined for contempt upon civil process.

ALBERT J. GOULD.



1891.

## NEW SOUTH WALES.

## COAST HOSPITAL, LITTLE BAY.

(REPORT ON, FOR 1890.)

Presented to Parliament by Command.

The Medical Adviser to the Government to The Colonial Secretary.

Sir,

Sydney, 22 April, 1891.

I do myself the honor to submit the Annual Report on the working of the Coast Hospital at Little Bay for the year 1890, with appendices containing the usual returns.

With a view of bringing the statistics of the Hospital into accord with those of similar institutions, the system under which they have been prepared during the last six years has been departed from, and the figures in the present report show the work of the Hospital from 1st January to 31st December. As the figures in the report for the year 1889 included the discharges up to the 31st March, 1890, a number of the cases are dealt with in the statistics for both years, and a comparison of the results will be difficult and more or less misleading.

The following general statement shows the number of patients under treatment during the year with results :—

Remaining in Hospital on 31st December, 1889	...	...	...	...	159
Admitted during the year	...	...	...	...	1,529
Total	...	...	...	...	1,688
Discharged well or convalescent...	...	...	...	...	1,186
"    relieved	...	...	...	...	183
"    unrelieved	...	...	...	...	101
Died	...	...	...	...	67
Total	...	...	...	...	1,537
Remaining in Hospital on 31st December, 1890	...	...	...	...	151
Average number resident daily throughout the year	...	...	...	...	178*
Mean resident of each patient in days	...	...	...	...	42
Rate of mortality over all cases...	...	...	...	...	430

The number of admissions was less by 280, and the daily average number in Hospital 20 less than during the previous year, the falling off being chiefly in cases of typhoid fever.

The channel through which the patients admitted during the year reached the Hospital is shown in the following short return :—

	Hospital Admission Depot.	Medical Adviser's Office.	Medical Superintendent.	Total.
General cases .....	1,257	94	38	1,389
Typhoid fever cases .....	28	103	9	140
Total .....	1,285	196	47	1,529

The following returns deal with the statistics of typhoid fever. In the first these cases are shown distributed under age and sex. The total number was 140 as against 312 in the previous year. The death-rate was 15.0, being much higher than usual, and the average stay in Hospital was 34 days, whilst it reached 39 days in the previous year.

TABLE I.—Showing the number of cases of Typhoid Fever distributed under sex and age, and the deaths at each age, which were admitted during 1890:—

(Average stay in Hospital, 34.6 days; mortality, per cent., 15.0.)

	0-5.		5-10.		10-15.		15-20.		20-30.		30-40.		40-50.		50-60.		60-70.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Admissions.....	4	...	5	4	9	6	13	16	38	17	17	4	4	1	2	..	...	...	140
Deaths .....	..	...	...	...	...	...	2	1	11	2	2	1	2	...	...	...	...	...	21

The number of cases of typhoid fever under treatment was smaller than during any previous year, but the type of disease was severe, the complication serious, and the mortality unusually high.

No cases occurred among members of the Hospital staff, nor did the disease spread from patient to patient in Hospital. Every care was taken to prevent infection, and the solution of corrosive sublimate, in the proportions recommended by the Board of Health, freely used.

In the second table the districts from which the typhoid fever patients were received is shown. It will be seen that these include most of the metropolitan and suburban area.

TABLE II.—Showing the number of persons suffering from Typhoid Fever who were removed to the Coast Hospital for treatment from each district during the twelve months ending 31st December, 1890, and the deaths occurring therein during the same period.

District.	Admission.	Deaths.	District.	Admission.	Deaths.
<b>METROPOLIS—</b>			<b>SUBURBS—</b>		
Sydney .....	46	9	Eastern. { Paddington .....	6	.....
			{ Randwick .....	5	.....
<b>SUBURBS—</b>			{ Waverley .....	8	2
North. { Balmain .....	12	2	{ Woollahra .....	10	2
Western. { Glebe .....	2	.....	Western & { Ashfield .....	1	.....
			Southern. { Canterbury .....	1	.....
West { Newtown .....	3	.....	North { North Sydney .....	5	.....
Central. { Macdonaldtown .....	1	.....	Shore. { Willoughby .....	1	.....
			{ Manly .....	1	.....
East { Redfern .....	15	3	COUNTRY.....	2	1
Central. { Waterloo .....	9	2	ADDRESS NOT FIXED .....	1	.....
{ Alexandria .....	2	.....			
{ Botany .....	6	.....	Total .....	140	21
{ Botany, North .....	3	.....			

Return No. III. deals with infectious diseases, and shows the form of disease, the number of cases of each disease admitted, and the localities from which the cases were received. The total number of cases of infectious diseases, exclusive of erysipelas, received during the past seven years, was as follows:—1884, 12; 1885, 17; 1886, 50; 1887, 63; 1888, 89; 1889, 76; 1890, 46. In 1890 19 cases of erysipelas were also received.

Though there has been a falling off in the number of cases of infectious diseases admitted, owing to these diseases being but little prevalent during the period under consideration, the hospital has done good work in this direction, and by receiving cases from crowded houses and streets, and also from public institutions, has prevented the spread of very dangerous maladies. It is in this direction, as pointed out in previous reports, that the future utility of the institution must mainly be. When the Bill for the notification of infectious diseases which has been prepared by the Board of Health, and is now under the consideration of the Government, becomes law, this Hospital should be ready to receive all cases notified to the authorities in which it is found that proper provision for the care and treatment of patients and for preventing the spread of the disease cannot be made in the houses where the disease occurs. Without insisting on the removal of cases of infectious disease the Government should be in a position to offer in every case the benefits of efficient hospital treatment under circumstances best calculated for the recovery of the patient, and at the same time the best chance of preventing the spread of disease in households and in public institutions by removing cases in an early stage.

TABLE

TABLE III.—Showing localities, whence and how many cases of Infectious Fevers, &amp;c., were admitted in 1890:—

Locality.	Erysipelas.		Measles.		Scarlet Fever.		Diphtheria.		Chicken-pox.		Whooping-cough	
	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.
Sydney.....	15	...	...	...	8	...	...	...	2	...	18	...
Shipping.....	...	...	5	...	...	...	...	...	...	...	...	...
Paddington.....	...	...	...	...	...	...	...	...	2	...	1	...
Balmain.....	...	...	...	...	...	...	1	...	1	...	...	...
St. Peters.....	...	...	...	...	...	...	...	...	2	...	...	...
Woollahra.....	1	...	...	...	1	...	...	...	...	...	...	...
Botany.....	...	...	...	...	1	...	...	...	...	...	...	...
Concord.....	1	...	...	...	1	...	...	...	...	...	...	...
Glebe.....	...	...	...	...	1	...	...	...	...	...	...	...
Macdonaldtown.....	1	...	...	...	...	...	...	...	...	...	...	...
Newtown.....	1	...	...	...	...	...	...	...	...	...	...	...
North Sydney.....	...	...	...	...	1	...	...	...	...	...	...	...
North Botany.....	...	...	...	...	1	...	...	...	...	...	...	...
Not fixed.....	1	...	...	...	...	...	...	...	...	...	...	...
Redfern.....	1	...	...	...	...	...	...	...	...	...	...	...
Waverley.....	...	...	...	...	1	...	...	...	...	...	...	...
Total.....	19	...	5	...	14	...	1	...	7	...	19	...
Mortality.....	5.00 %		0.00 %		0.00 %		0.00 %		0.00 %		0.00 %	

Return No. IV shows the age, sex, and other particulars of the General Hospital cases under treatment during the year. The total number of these was 1,389, and the deaths 46, giving a mortality of 3.31, which is lower than during any former years. The average number of days in Hospital was 43.

TABLE IV.—Showing the general cases distributed under sex and age, and the deaths at each age, during the year 1890.

(Average stay in Hospital in days, 43.7; mortality, 3.31 per cent)

	0-5.		5-10.		10-15.		15-20.		20-30.		30-40.		40-50.		50-60.		60-70.		70-80.		80-90.		90-100.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Admissions.....	12	14	12	14	14	7	41	34	250	87	290	69	220	62	134	45	62	13	8	2	...	...	...	...	1,389
Deaths.....	...	...	1	...	...	1	...	1	7	4	9	1	6	3	5	2	4	...	2	...	...	...	...	...	46

Return No. V deals with the cases of leprosy, of which two were admitted, and two died during the year, the number not having increased during this period.

An Act for the detention and isolation of lepers was passed at the close of the year, and a site set apart for this purpose was gazetted under the provisions of the Act. Owing to various delays, among which the rainy season was prominent, the new buildings were not completed so soon as was anticipated, and the leper patients remained in their old and unsatisfactory quarters to the close of the year. They have now however been removed to the new buildings, which are pleasantly situated, have an abundant water supply, and all necessary arrangements for care and treatment.

TABLE V.—Showing the number of Lepers who remained in Hospital at the end of 1889, who were admitted and discharged, and who died in 1890.

Number remaining in on 31st December, 1889.	Admitted.	Discharged.	Died.	Number remaining in on 31st December, 1890.
13	2	.....	2	13

Returns Nos. VI and VII show the expenditure of the Hospital for the year in detail; although the total expenditure is somewhat less than during the year 1889, the cost per head has very greatly increased. This has been due to the following circumstances:—

- 1st. The daily average number of patients has been 20 less, so that practically one ward has been closed throughout the year, whilst it was not found advisable to reduce the staff which should always be in readiness to meet emergencies, or a sudden outbreak of typhoid fever or other epidemic ailment.
- 2nd. Advantage was taken of the smaller number of patients to repaint the wards throughout at a considerable expense.
- 3rd. A large amount of refurnishing has been necessary, the bedsteads and many other articles being worn out and needing renewal.
- 4th. The contract rates for provisions, especially during the strike, have been much higher than during former years.

TABLE VI.—Working expenses of the Coast Hospital for the year 1890:—

1890.	Total.		Average per head per annum.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<b>MAINTENANCE AND TREATMENT OF PATIENTS.</b>				
Salaries:—				
Hospital Staff .....	3,114 1 11	3,114 1 11	17 9 10 $\frac{1}{2}$	17 9 10 $\frac{1}{2}$
Provisions:—				
Meat .....	1,059 16 2		5 19 1	
Bread .....	413 16 7		2 6 6	
Butter .....	241 11 1		1 7 1 $\frac{1}{2}$	
Vegetables .....	187 6 8		1 1 0 $\frac{1}{2}$	
Potatoes .....	102 10 3		0 11 6	
Groceries .....	710 1 9		3 19 9 $\frac{1}{2}$	
Milk .....	664 10 0		3 14 8	
Eggs .....	394 12 0		2 4 4	
Poultry .....	13 7 11		0 1 6	
Wine, beer, and spirits .....	52 12 9		0 5 11	21 11 5 $\frac{1}{2}$
Sundries:—		3,840 5 2		
Drugs .....	577 15 5		3 4 11	
Fuel and lighting .....	400 13 0		2 5 0 $\frac{1}{2}$	
Disinfectants .....	10 7 6		0 1 2	
Drapery, bedding, uniforms, &c. ....	556 14 1		3 2 6 $\frac{3}{4}$	
Ironmongery .....	393 2 1		2 4 2	
Brush, glass, and crockery ware .....	95 14 1		0 10 9	
Coffins .....	52 13 0		0 5 11	
Stationery, printing .....	87 18 1		0 9 10 $\frac{1}{2}$	
Petty expenses .....	55 5 0		0 6 2 $\frac{1}{2}$	
		2,230 2 3		12 10 7
<b>Total, Maintenance and Treatment of Patients..</b>		<b>9,184 9 4</b>		<b>51 11 11<math>\frac{1}{2}</math></b>
Ambulance:—				
Salaries and rations .....	463 17 6		2 12 1 $\frac{1}{2}$	
Forage .....	439 13 9		2 9 4 $\frac{1}{2}$	
Repairs, remounts, &c. ....	381 16 7		2 2 10 $\frac{1}{2}$	
Repairs:—		1,285 7 10		7 4 5
Salaries and rations .....	446 16 6		2 10 2 $\frac{1}{2}$	
Materials, &c. ....	224 16 9		1 5 3	
		671 13 3		3 15 5 $\frac{1}{2}$
<b>Total.....</b>		<b>11,141 10 5</b>		<b>62 11 10</b>

TABLE VII.—Statement of the total expenditure of the Coast Hospital for the year 1890, showing how the amounts have been paid.

Expenditure.	How paid.		
	£ s. d.	£ s. d.	
To working expenses as per table VI. ....	11,141 10 5	By amount paid from Hospital Vote by Medical Adviser to the Government .. .	9,637 15 9
„ cost of erecting leper house and additions to stable .....	141 5 11	„ amount expended by Government Architect from vote under the Works Department .....	4,448 12 11
„ making new roads by Roads Department .....	400 0 0	„ amount paid from Stores Vote by Superintendent of Stores .....	1,969 8 2
„ erection of new stores and offices by the Government Architect .....	1,255 19 7	„ amount expended by Government Printer .....	54 11 5
„ erection of new bath-rooms, lavatories, and water-closets by Government Architect—part payment .....	1,600 0 0		
„ erection of turret clock by Government Architect .....	266 15 0		
„ painting buildings by Government Architect—part payment .....	450 0 0		
„ converting old offices into Assistant Medical Officer's quarters by Government Architect .....	263 17 0		
„ erection of laundry for Lock patients by Government Architect .....	110 8 10		
„ supply of furniture for new buildings by Government Architect .....	137 17 6		
„ alterations and additions by Government Architect .....	194 15 5		
„ proceeds of the sale of horses, bones, fat, &c., paid to the Treasury .....	144 6 7		
„ sale of unserviceable goods by the Stores Department .....	3 12 0		
<b>Total.....</b>	<b>£ 16,110 8 3</b>	<b>Total .....</b>	<b>£ 16,110 8 3</b>

Very considerable alterations and additions have been carried out under the Department of the Government Architect. These include the erection of new stores, offices, and dispensary, the alteration of the old offices to form a residence for the Assistant Medical Officer, the conversion of the old stores into a room for Divine Service, &c., the erection of new bath-rooms lavatories, and closets in connection with all the wards, and considerable alterations to the water supply, so as to render this more plentiful and the service more continuous and at a fuller pressure. The drainage of the Hospital has received attention, and the substitution of water for earth-closets has been commenced and will be completed in a few weeks.

During the last Session of Parliament provision was made for building cottages for some of the married members of the staff, the necessity for which was pointed out in the last Annual Report, and four of these have already been commenced.

No changes took place among the officers of the Institution during the year, and the Medical Superintendent reports favourably of the general efficiency of the staff under his direction.

In Appendices A and B will be found the usual classification of the diseases treated, and particulars relative to the patients who died in Hospital.

I have, &c.,

F. NORTON MANNING, M.D.,

Medical Adviser to the Government.

#### APPENDIX A.

Diseases.	Remaining in on 31st December, 1889.		Admissions.	Deaths.	Remaining in on 31st December, 1890
		Deaths.			
<b>CLASS I.—ZYMOTIC DISEASES.</b>					
Order 1. Miasmatic Diseases—Scarlatina, measles, diphtheria, dysentery, fevers, &c.....	92	3	140	19	39
{ Enteric fever			47	.....	
{ Febricula ...			313	4	
Order 2. Euthetic Diseases—Syphilis, gonorrhoea, &c.....	16	.....	243	.....	28
Order 3. Dietic Diseases—Scurvy, alcoholism, &c.....	4	.....	75	.....	11
Order 4. Parasitic Diseases—Thrush, hydatids, &c.....	.....	.....	5	.....	.....
<b>CLASS II.—CONSTITUTIONAL.</b>					
Order 1. Diathetic Diseases—Gout, dropsy, cancer, &c.....	8	.....	65	1	10
Order 2. Tubercular Diseases—Scrofula, phthisis, abscess, &c.....	5	2	73	8*	7
<b>CLASS III.—LOCAL.</b>					
Order 1. Nervous—Apoplexy, paralysis, brain disease, &c., chorea, &c.....	2	.....	29	6	3
Order 2. Circulation—Pericarditis, aneurism, heart disease, &c.....	1	1	29	4	4
Order 3. Respiratory—Bronchitis, pneumonia, asthma, &c.....	6	.....	145	9	8
Order 4. Digestive—Gastritis, enteritis, peritonitis, hernia, &c.....	1	.....	53	3	10
Order 5. Urinary—Nephritis, ischuria, diabetes, &c.....	5	.....	13	3	2
Order 6. Generation—Ovarian dropsy, uterus diseas e, &c.....	.....	.....	7	1	1
Order 7. Joints—Arthritis, osteitis, periostitis, &c.....	1	.....	30	.....	2
Order 8. Integumentary—Phlegmon, ulcer, skin diseases, &c.....	9	.....	112	.....	14
<b>CLASS IV.—DEVELOPMENTAL.</b>					
Order 3. Old People—Old age.....	1	.....	4	2	.....
Order 4. Nutrition—Atrophy, debility, &c.....	1	.....	46	1	5
<b>CLASS V.</b>					
Order 1. Accident or Negligence—Fractures, contusions, burns, drowning, suffocation, &c.....	5	.....	82	.....	7
Unspecified.....	2	.....	18	.....	.....
Total.....	159	6	1,529	61	151

\* Eight deaths from phthisis.

#### APPENDIX B.

SHOWING the names, &c., of all Patients who died at the Coast Hospital during 1890.

No.	Name.	Date of Admission.	How admitted.	Age.	Disease.	Complications.	Date of Death.	No. of days in Hospital.	Cemetery No.
1808	Rachael Craddick.....	1889. 30 Dec....	Med. Adv. (Ben. Asyl.)	22	Puerperal fever.....	Pulmonary congestion.	1890. 3 Jan. ...	4	No. 408.
1810	George Ritches.....	31 „ ..	Med. Adv. ....	28	Enteric fever.....	Acute delirium	8 „ ..	8	Removed.
1620	John Samuels.....	19 Nov....	H.A. Depôt.....	35	Phthisis.....	.....	9 „ ..	51	No. 409.
12	Henry Heyward.....	1890. 2 Jan. ....	Med. Adv. ....	45	Enteric fever.....	Peritonitis.....	11 „ ..	9	No. 410.
1804	William Hibbard Hall... 1889.	30 Dec....	H.A. Depôt.....	19	„ ..	Delirium and exhaustion.	12 „ ..	13	No. 411.
20	Edward Seery.....	1890. 3 Jan. ....	Med. Adv. ....	26	„ ..	Delirium and tympanites.	16 „ ..	13	Removed.
1421	John Wright.....	1889. 10 Oct. ...	H.A. Depôt....	24	Phthisis.....	Anyloid kidney	19 „ ..	101	No. 412.
110	Annie Robinson.....	1890. 22 Jan. ...	Med. Adv. ....	47	Encephalitis.....	Apoplexy.....	27 „ ..	5	Removed.
121	William Newman.....	23 „ ..	„ ..	42	Nephritis.....	Albuminuria...	27 „ ..	4	„
85	Cecilia Roberts.....	15 „ ..	„ ..	21	Enteric fever.....	Tympanites...	31 „ ..	16	„
164	Thomas M. Dabbs.....	31 „ ..	„ ..	25	Meningitis.....	.....	5 Feb. ...	5	No. 413.
184	Alfred Carter.....	27 „ ..	„ ..	44	Enteric fever.....	Acute delirium	6 „ ..	10	No. 414.
527	Ah You.....	1885. 23 Dec....	Insp. Ch.....	29	Leprosy.....	.....	6 „ ..	1,504	No. C.H.N. 14.
67	Richard Ernest Evans... 1890.	11 Jan. ...	Med. Adv. ....	20	Enteric fever.....	Pulmonary congestion.	9 „ ..	29	Removed.
169	Emma Pocock.....	3 Feb. ...	„ ..	17	„ ..	Intestinal hæmorrhage.	9 „ ..	6	No. 415.
192	Mary Williams.....	7 „ ..	„ ..	25	Pneumonia.....	.....	9 „ ..	2	Removed.
187	Frederick Charles Church	6 „ ..	H.A. Depôt....	44	Hepatitis.....	Debility.....	9 „ ..	3	„

## APPENDIX B—continued.

No.	Name	Date of Admission.	How admitted.	Age.	Disease.	Complications.	Date of Death.	No of days in Hospital	Cemetery No.
		1890.					1890.		
87	Harold Davis	16 Jan.	Med. Adv.	7	Gangrenous stomatitis		9 Feb.	24	Removed.
125	Lawrence Dooley	24 "	"	24	Enteric fever	Cardiac failure	11 "	18	"
117	George Douglas Robertson.	23 "	H.A. Dépôt	51	Cirrhosis of liver	Cardiac hypertrophy.	11 "	19	"
144	James Barton	28 "	Med. Adv.	23	Enteric fever	Delirium and exhaustion.	12 "	15	"
203	James John Vowles	10 Feb.	"	21	"	Hæmorrhage and cardiac failure.	13 "	3	"
112	John B. Watkins	23 Jan.	"	23	"	Cardiac failure	13 "	21	"
108	John Frazer	22 "	H.A. Dépôt	69	Hepatitis	Asthenia	18 "	27	"
202	Mary Ann Vaughan	10 Feb.	"	50	Phthisis		25 "	15	No. 416.
231	Walter Murphy	14 "	"	53	Mitral valve disease		25 "	11	No. 417.
236	Ernest Climpson	15 "	Med. Adv.	20	Enteric fever	Meningitis and tympanites.	3 Mar.	16	Removed.
245	Jeremiah O'Connor	18 "	"	23	"	Acute delirium	4 "	14	"
1602	Edward Bland	15 Nov. 1889.	H.A. Dépôt	44	Mitral valve disease.		7 "	112	No. 418.
298	William Young	4 Mar. 1890.	"	25	Acute rheumatism	Pericarditis	7 "	3	No. 419.
287	James Jenkins	1 "	"	35	Broncho-pneumonia and phthisis.	Pleurisy, with effusion.	9 "	8	No. 420.
309	John Hall	6 "	"	32	Enteric fever	Asthenia and cardiac failure	12 "	6	Removed.
280	Charles Atkin	1 "	Med. Adv.	18	"	Intestinal hæmorrhage and uræmia.	17 "	16	"
323	Charlie Bailey	8 "	"	30	Pneumonia		19 "	11	No. 422.
360	Kate Collins	14 "	Med. Adv. (Ben. Asylum.)	27	Puerperal fever	Phlebitis	19 "	5	No. 421.
343	Margaret Hanna	11 "	Med. Adv.	33	Enteric fever	Delirium and cardiac failure	22 "	11	No. 423.
319	Kate Higgiston	7 "	"	24	"	Asthenia and cardiac failure	26 "	10	Removed.
340	Harry Radlay	11 "	H.A. Dépôt	39	Nephritis	Albuminoid kidney and anasarca.	28 "	17	No. 424.
370	John William Smith	13 "	Med. Adv.	38	Enteric fever	Pulmonary congestion and asthenia	23 "	10	Removed.
457	James Somerville	8 April.	"	36	Pneumonia		15 April.	7	"
444	Ann Cochran	5 "	"	35	Cerebral congestion	Asthenia	18 "	13	No. 425.
442	Thomas Lonargin	4 "	"	20	Enteric fever	Pulmonary congestion.	20 "	16	Removed.
512	Charles Shepherd	16 "	H.A. Dépôt	50	Epilepsy	Cellulitis of leg	23 "	7	No. 426.
488	Walter Ralph	12 "	Med. Adv.	25	Enteric fever	Intestinal hæmorrhage.	25 "	13	Removed.
539	George Brooke	23 "	H.A. Dépôt	69	Senile debility and dementia.	Chronic bronchitis.	1 May	9	No. 427.
424	John Wilson	1 "	"	32	Malaria and diffused cellulitis.	Gangrene of penis	6 "	35	No. 428.
590	Susannah Box	5 May	Med. Adv.	54	Epilepsy	Rupture of basilar artery.	10 "	5	Removed.
325	Bridget Kelly or Lizzie M'Kellar.	10 Mar.	H.A. Dépôt	32	Phthisis		15 "	66	No. 429.
[654	Caroline Appleton	20 May	Med. Adv.	54	Pneumonia	Pleurisy with effusion.	22 "	2	Removed.
654	Joseph Burke	22 "	H.A. Dépôt	69	Bronchitis		25 "	3	No. 430.
641	Margaret Donnelly	19 "	Med. Adv.	40	Ovarian tumour	Asthenia	25 "	6	No. 431.
514	Thomas Foster	17 April.	"	34	Phthisis		31 "	44	Removed.
543	Robert Atcheson	23 "	H.A. Dépôt	39	"		9 June	47	No. 432.
728	Joseph Lipscombe	7 June.	"	41	Pneumonia		18 "	11	No. 433.
549	John Flynn	24 April.	"	28	Phthisis		21 "	58	Removed.
582	Ah Way	2 May	"	48	Mitral valve disease	Anasarca	23 "	52	No. C.H.N. 15.
765	Edmund Isidore	16 June.	Med. Sup.	70	Senile phthisis		10 July	24	No. 434.
822	Joseph Kelly	1 July	H.A. Dépôt	24	Albuminuria and cardiac dilatation.	Anasarca and bronchitis.	27 "	26	No. 435.
862	Charles Rosty	11 "	"	64	Senile debility	Bronchitis	4 Aug.	24	No. 436.
1005	Jane Wilson	14 Aug.	"	50	Phthisis		16 "	2	No. 437.
949	Henry Dawley	2 "	"	70	Cancer of pylorus		12 Sept.	41	Removed.
1133	James Copeland	17 Sept.	"	34	Mitral valve disease	Asthenia	28 "	11	"
1053	Thomas Martin	28 Aug.	"	59	Progressive pernicious anæmia.		5 Oct.	8	No. 438.
1169	James Bond	25 Sept.	"	23	Lobar pneumonia	Laryngitis	9 "	14	No. 439.
1101	George Thomson	11 "	"	56	Cardiac hypertrophy and fatty degeneration of the heart.	Anasarca	10 "	29	Removed.
1145	Charlie Santo	19 "	"	28	Acute bronchitis	Acute Hepatitis	4 Nov.	47	No. 441.
745	Ah San	20 Feb. 1886.	Brd. of Health	43	Leprosy	Asthenia	12 "	1,725	No. C.H.N. 16.
1079	William Alfred	3 Sept. 1890.	H.A. Dépôt	56	Spinal sclerosis	Muscular atrophy.	29 Dec.	117	No. 442.
1492	Isabella Manley	22 Dec.	Med. Adv.	11	Catarrhal laryngitis	Pulmonary congestion & meningitis.	30 "	8	Removed.

La Ferouse aboriginal, Wm. Davis, buried in grave No. 440.

1891.

## NEW SOUTH WALES.

## VACCINATION.

(REPORT FOR 1890.)

Presented to Parliament by Command.

The Medical Adviser to the Government to The Colonial Secretary.

Sir,

Sydney, 22 April, 1891.

I do myself the honor to forward, for the information of the Colonial Secretary, the Annual Returns of Vaccinations performed during the year 1890 by the Government Vaccinators in New South Wales, together with additional vaccination returns for the year 1888 and 1889.

The returns for 1890 show that 2,149 vaccinations were performed during the year, of which 2,112 were successful. Of the total number, 906 were performed in Sydney and its suburbs, and 1,243 in country districts. It will be seen from the returns that vaccination was only performed in 24 country districts; in 81 districts in which there are Government Vaccinators no vaccinations have been reported, and it is presumed that none have been performed.

Of the successful cases, the patients in 310 were under 1 year, in 751 between 1 and 5 years, in 696 between 5 and 10 years, and in 322 upwards of 10 years of age. The unsuccessful cases were 37, or 1.72 per cent. of the total number. (See Return No. 2.)

The additional vaccination returns for 1888 and 1889 show that in the former year 91 and in the latter 152 successful vaccinations were performed, and these numbers have been added to those in the returns already published for these years, so as to render them complete. (See Return No. 1.)

The number of births registered in the colony during 1890 was 32,051, and the vaccinations give a percentage of 6.58 on this number. It will be seen from Return No. 1 that this percentage is somewhat above the average for the last six years. The number of vaccinations in persons above 10 years of age has increased since it was decided, during the year 1889, to pay for these and for revaccinations; whilst the number in persons under 5 years of age shows some falling-off when compared with the previous year. In addition to vaccinations performed by Government Vaccinators a number are performed by private practitioners, but of these no returns are submitted. There is reason, however, to believe that these cases would not add very materially to the percentage above given. On the whole the returns show that only a very small percentage of the population is protected against small-pox by vaccination, and that, as in former years, when there is no outbreak of small-pox in Sydney, or when there is very little brought to the port by sea and treated at the Quarantine Station, there is a marked apathy on the subject, and few persons submit their children for operation.

The lists of public vaccinators have been carefully revised, and vacancies caused by removal or death have been filled in all districts where there appeared to be any call for the appointment. A constant supply of humanised calf lymph has been obtained from New Zealand for distribution, and this has been most favourably reported on by the medical practitioners using it. The Government Vaccinator for Sydney has been in a position to supply a small amount of carefully selected human lymph, and a further quantity has been obtained monthly from a trustworthy source. From a general review of the statistics of the last thirty years it will be seen that the condition of the population as to vaccination is very unsatisfactory. Except in times of public panic only some 6 or 7 per cent. of the children born in the Colony are vaccinated, and every year largely increases the proportion of unvaccinated persons to the general population. In point of fact voluntary vaccination, so far as this Colony is concerned, is a failure.

The Board of Health has, during this and previous years, had under consideration the subject of making vaccination compulsory, and has prepared a Bill with a view to this; but as the question of vaccination is now receiving attention in Great Britain, and is being thoroughly investigated by a Royal Commission, on which appear names entitled to the fullest public confidence and representing all shades of opinion, it has been deemed advisable to await the report of this Commission before making any recommendations to the Colonial Secretary.

I have, &amp;c.,

F. NORTON MANNING, M.D.

Medical Adviser to the Government.

RETURN (No. 1) showing the number of Births during the past twenty-nine years, and the number of Vaccinations performed by Government Vaccinators during the same period.

Year.	Births.	Vaccinations.	Proportion of Vaccinations to every 100 Births registered.
1861	14,681	2,349	16.00
1862	15,434	3,155	20.44
1863	15,079	12,970	82.72
1864	16,881	10,696	63.36
1865	17,233	8,367	48.41
1866	16,950	7,606	44.87
1867	18,317	6,931	37.83
1868	18,485	11,237	60.79
1869	19,243	21,507	111.76
1870	19,648	7,084	36.54
1871	20,143	6,482	32.16
1872	20,250	17,565	86.74
1873	21,444	3,152	14.69
1874	22,178	4,832	21.78
1875	22,528	3,111	13.80
1876	23,298	4,361	18.71
1877	23,851	16,881	70.77
1878	25,328	3,512	13.86
1879	26,933	5,569	20.67
1880	28,162	5,029	17.85
1881	28,993	61,239	211.21
1882	29,702	2,188	7.36
1883	31,281	882	2.81
1884	33,046	7,055	20.78
1885	35,043	2,230	6.36
1886	36,284	1,763	4.85
1887	37,236	3,230	8.67
1888	38,505	2,186	5.67
1889	37,235	2,404	6.45
1890	32,051	2,112	6.58
Total .....	746,992	217,685	33.15

RETURN (No. 2) showing the number of Persons Vaccinated by the Government Vaccinators in the Colony of New South Wales during the year 1890.

Districts.	Under 1 year of age.				From 1 to 5 years.				From 5 to 10 years.				From 10 years upwards.				Total.				
	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.	
Sydney and Suburbs:—																					
Dr. C. U. Carruthers	104	98	202	202	111	90	210	210	91	60	151	151	113	50	172	172	419	316	735	735	
Dr. W. F. Ervington	1	1	2	2	2	1	3	3	4	5	9	9	1	1	2	2	8	12	20	20	
Dr. T. M. Kendall	1	1	2	2	10	9	19	19	10	9	19	19	2	2	4	4	10	9	19	19	
Dr. G. E. Miles	6	6	12	12	25	25	50	50	21	19	40	40	2	2	4	4	53	52	105	99	
Dr. R. T. Paton	2	1	3	3	3	3	6	6	1	1	2	2	1	1	2	2	6	4	10	10	
Dr. W. E. Strong	113	106	219	218	165	146	301	293	122	87	209	207	116	61	177	177	506	400	906	900	
Adelong	10	16	26	26	27	28	55	50	5	1	6	6	1	1	2	2	51	48	99	92	
Albury	1	1	2	2	16	8	24	24	9	11	20	20	4	2	6	6	30	21	51	51	
Armidale	3	4	7	7	25	38	63	62	38	26	64	62	3	7	10	10	69	75	144	141	
Bega	7	5	12	11	3	6	14	14	2	5	7	7	1	1	2	2	17	16	33	32	
Broken Hill	14	6	20	20	38	47	85	85	45	59	104	104	9	14	23	23	166	126	292	252	
Captain's Flat	1	1	2	2	9	9	18	18	16	14	30	30	1	1	2	2	26	17	43	43	
Dubbo	1	1	2	2	3	3	6	6	1	4	5	5	1	2	3	3	3	9	12	12	12
Emmaville	1	1	2	2	4	4	8	8	13	4	17	17	2	4	6	6	19	11	30	30	
Goulburn	1	1	2	2	10	10	20	20	15	5	20	20	3	11	14	14	29	13	42	42	
Kempsey	1	1	2	2	11	19	30	30	12	4	16	16	4	5	9	9	20	16	36	36	
Maitland West	1	1	2	2	4	4	8	8	2	6	8	8	2	3	5	5	12	13	25	19	
Merrina	1	1	2	2	2	2	4	4	5	8	13	13	2	3	5	5	12	14	26	18	
Molong	4	2	6	6	8	12	20	17	7	2	9	9	2	2	4	4	12	18	30	26	
Newcastle	2	4	6	6	22	17	39	39	31	23	54	54	22	17	39	39	77	61	138	138	
Nyrnagoe	1	1	2	2	3	4	7	7	10	10	20	20	1	1	2	2	16	16	31	31	
Parkes	1	1	2	2	3	4	7	7	2	3	5	5	1	1	2	2	6	6	12	12	
Parramatta	1	1	2	2	4	4	8	8	2	3	5	5	1	1	2	2	7	6	13	13	
Pictou	4	1	5	5	23	20	43	43	32	20	52	52	13	6	19	19	72	47	119	119	
Queanbeyan	1	1	2	2	3	3	6	6	3	2	5	5	1	1	2	2	3	6	9	9	
Tenterfield	1	1	2	2	3	3	6	6	4	7	11	11	1	1	2	2	7	10	17	17	
Tumut	1	2	3	3	2	5	7	7	1	1	2	2	1	1	2	2	25	21	46	46	
Wagga Wagga	2	7	9	9	10	10	20	20	7	4	11	11	1	3	4	4	30	23	53	52	
WallSEND	1	1	2	2	8	9	17	17	19	11	30	30	1	3	4	4	30	23	53	52	
Yass	1	1	2	2	1	1	2	2	1	1	2	2	1	1	2	2	1	1	2	2	
Summary:—	68	58	126	122	230	238	468	456	276	225	501	489	71	77	148	145	615	595	1,243	1,212	
Sydney and Suburbs	113	106	219	218	165	146	301	293	122	87	209	207	116	61	177	177	506	400	906	900	
Country Districts	68	58	126	122	230	238	468	456	276	225	501	489	71	77	148	145	615	595	1,243	1,212	
Total	181	164	345	340	395	384	779	754	398	312	710	696	187	138	325	322	1,151	998	2,140	2,112	

## ADDITIONAL VACCINATION RETURN FOR 1889.

RETURN (No. 3) of Vaccinations performed during the year 1889, which was received too late to be included in the Return for that year.

District.	Under 1 year of age.				From 1 to 5 years.				From 5 to 10 years.				From 10 years upwards.				Total.			
	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.
Sydney (Hunter's Hill) ....	8	..	8	8	13	13	31	31	14	21	35	34	7	0	16	13	42	18	60	86
Armidale .....	3	1	4	4	9	4	13	12	0	13	19	19	..	..	..	..	18	18	36	85
Broken Hill.....	7	8	15	15	8	8	11	11	4	1	5	5	..	..	..	..	14	17	31	31
	18	9	27	27	25	30	55	54	24	35	59	58	7	0	16	13	74	83	167	152

## ADDITIONAL VACCINATION RETURN FOR 1888.

RETURN (No. 4) of Vaccinations performed during the year 1888, which was received too late to be included in the Return for that year.

District.	Under 1 year of age.				From 1 to 5 years.				From 5 to 10 years.				From 10 years upwards.				Total.			
	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.	Males.	Females.	Total.	Successful.
Armidale .....	2	3	5	5	31	33	64	63	0	14	23	23	..	..	..	..	42	50	92	91



1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

LEPROSY IN NEW SOUTH WALES.  
(REPORT ON.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

The Secretary to the Board of Health to The Under Secretary for Finance and Trade.

Sir,

Board of Health Office, 127, Macquarie-street, Sydney, 13 May, 1891.

I have the honor, by direction of the Board of Health, to forward you herewith a report on Leprosy in New South Wales, and to suggest that as the matter is of much interest to members of the medical profession and others it should be laid before the Houses of Parliament.

I have, &c.,

EDMUND SAGER,

Secretary.

[Enclosure.]

LEPROSY IN NEW SOUTH WALES.

IN March, 1890, the Board of Health presented a brief report, showing the prevalence of leprosy in the Australian Colonies at the close of 1889, together with some particulars as to cases under care at that date in New South Wales. It was pointed out that the number of Chinese patients was slowly increasing, and that the disease was not unknown among the European population, as in addition to the two Europeans under care the Board had reason to believe that there were other cases in the Colony not in any way isolated or reported. Although much in regard to the mode of origin and the spread of the disease is still conjectural there can be little doubt but that the malady is contagious, and that isolation of the persons affected has as shown in Norway practically diminished its prevalence. Under these circumstances the Board decided to ask for the power of compulsory segregation, and a bill prepared under its direction was submitted to Parliament and became law during the Session of 1890. The Act provides for the compulsory notification of cases of leprosy, and for the establishment of a lazaret for the reception and treatment of lepers, and gives power to the Board to direct the detention of lepers in this lazaret or their isolation in their own homes, or in such place or manner as the Board may direct.

Prior to the passing of this Act patients suffering from leprosy were detained without any proper legislative authority, and it is provided in the Act that all persons detained as lepers at the Coast Hospital, Little Bay, should be deemed to have been lawfully detained, and to be lepers within the meaning of the Act.

After the passing of the Act the Board took every means to intimate to the members of the medical profession their duties thereunder, and since the Act came into operation five cases have been reported by medical practitioners, four of which on investigation proved to be true leprosy, and the fifth, acute eczema.

On the 14th January last a proclamation was published in the *Government Gazette* directing that a site at Little Bay, containing an area of 2 acres 1 rood 26 perches, should be set apart as a leper lazaret in accordance with the Act, and on the 1st of April last, new and well-arranged buildings for their reception having been completed under the direction of the Government architect, the lepers were transferred from the old to the new quarters where, under the charge of experienced wardsmen and the superintendence of the medical officers of the Coast Hospital, they receive proper attention, and are made as comfortable as their unfortunate condition permits.

They are allowed to receive the visits of friends under proper precautions, and are attended by the ministers of religion visiting the Hospital. At the same time facilities are given to medical practitioners on application to the Board to familiarise themselves with the characteristics of a disease which is not as yet well known to, or easily recognised by, the majority of the members of the medical profession.

No further information has been received from the other Australian Colonies respecting the prevalence of leprosy therein since the return published in the report of the Board for the year 1889, above mentioned, when it was shown that there were eighteen cases of leprosy under official cognisance in Australia, outside New South Wales, New Zealand, and Fiji, all in colored races—nine of the eighteen being Chinese. The Board is unaware of the spread of the disease to Europeans in any of the Australian Colonies, except New South Wales, but has received information from His Excellency the Governor of New Caledonia, M. Pardon, that the disease is extremely prevalent in that colony, where about 500 of the native population are affected and seven persons of European parentage, six convicts, and one child, all French, have been officially reported as suffering from the malady. His Excellency further reports that during the last two or three years, under regulations to ensure some degree of segregation, there has been no spread of the disease.

\*66—A

Cases

Cases of leprosy among the native-born European population of the Colony were reported in the *Medical Journals* as long ago as 1873, but the spread of the disease has been very gradual. The first cases placed under the care of the Government were three Chinese who, in the year 1879, were isolated in huts on a site at Little Bay, under the control of the Government Asylums Department, and were subsequently transferred to a cottage attached to, and in the grounds of, the Asylum for the Infirm and Destitute at Parramatta. The Department of Government Asylums is unable to give any definite information as to the subsequent history of these patients, but it is probable that three of them were identical with three patients retransferred from Parramatta to Little Bay in 1883. In this year, when the cases of leprosy first came under the care of the Board of Health, 5 only were received; at the close of 1890 there were 13, and on April 30, 1891, 15 cases. The total number under the care and control of the Board from 1883 to April 30, 1891, has been 25 cases, of which 16 were Chinese, 1 Javanese, 1 West Indian Negro, and 7 Europeans, all of the latter being natives of New South Wales, of European parentage, and, with one exception, of the male sex.

The number of cases under care in each year is shown in Appendix A. Particulars, age, nationality, &c., of all under care are given in Appendix B, and in Appendix C will be found the history and clinical notes of all the persons of European parentage, drawn up with considerable care and detail, by Dr. Ashburton Thompson, the Chief Medical Inspector to the Board. In addition to the 25 cases above-mentioned the Board has been made aware of two other cases of undoubted leprosy. The patients both died in private houses, one whilst awaiting removal to the Coast Hospital from the Richmond River district, and the other in Sydney, the latter having been seen by two medical practitioners well qualified to diagnose the disease. Both of these cases were also of European descent. One came to the Colony at 3 years of age, with his parents, who were Germans; and the other (the brother of a patient now under the control of the Board) was born in New South Wales. It will thus be seen that up to April 30 last 9 Europeans are known to have suffered or to be suffering from the disease—all of them, with one exception, being natives of New South Wales—4 of them German, and the remainder of British extraction.

The detailed history of the cases given in Appendix C, though of very considerable interest, does not furnish any grounds for definite conclusions as to the causation and spread of the disease. There are no data on which to advance a view of spontaneous, climatic, dietetic, mal-hygienic or hereditary origin of the malady, and nothing of scientific accuracy to be adduced as to contagion, though the evidence in several cases points more or less strongly in this direction.

There appears to be every reason to believe that all the cases among the Chinese, as well as the European cases developed in New South Wales, although, in the Chinese cases, the seeds of the disease may have been brought from China. In these latter cases the disease appeared at times varying from six months (the shortest) to ten years after the arrival of the patient in the Colony. The Europeans were not only born in the Colony but, with two exceptions (brother and sister), who resided for several years in South Australia, have never left it.

From Appendix B it will be seen that the cases have been found not only in Sydney and its immediate neighbourhood, but at Bathurst, Mudgee, Inverell, Newcastle, the Richmond River, and other places—that, in fact, the disease has become very widely distributed.

In all cases recently reported the Board has not only caused inquiries to be made as to the history of the patients, but has directed an examination of their immediate relatives and intimate associates, with a view, if possible, of detecting and checking any spread of the disease.

In adopting the system of segregating cases of leprosy the Board has had before it the fact that the disease is, so far as at present known, incurable, and that its efforts must be directed to prevent its reproduction or spread. The practical effects of segregation, as carried out in Norway, are so well marked and so abundantly authenticated as to offer the greatest encouragement to well directed efforts in this direction, and afford a hope that in this Colony the importation of the disease being greatly restricted by the restriction of Chinese immigration, the disease may, in a comparatively short time, be completely stamped out.

It should, however, be borne in mind that the disease is very prevalent in India, in some of the South Sea Islands, and in other places, and that it may be imported from places besides the Chinese Empire, or places largely colonized by Chinamen.

The statistics of leprosy in Norway show conclusively that under a modified form of segregation under which leper-houses were opened for the afflicted, and every encouragement given to enter them, whilst certain regulations were made for the cure and control of those remaining in their own homes, the number of cases under registration in Norway decreased in 25 years (1856 to 1880) from 2,113 to 1,606. Under a more restrictive system, adopted within the last 10 years, the segregation either in leper-houses, or by isolation in their own dwellings being compulsory, the decrease has been even more marked and satisfactory. In 1885 the number had fallen to 1,195, and in 1890 to less than 800.

The decrease has, as is shown in various reports on the subject by Dr. Hansen and others, not been due to any general amendment in the public health, nor can it be accounted for by any general improvement in diet, dwellings, soil, or climate; indeed there does not appear to be any valid reason to suppose that leprosy could be directly mitigated by dietetic, hygienic, or climatic influence in any further degree than tuberculosis or syphilis might be. Medical treatment has contributed nothing to the result since the disease has proved almost equally intractable to all remedies, and medicines have only been of service in treating symptoms, meeting emergencies, prolonging life, and making it more bearable. The chief if not the sole influence in causing the decrease would appear to be "the exclusive dealing with the individual leper as himself the source of ill to others."\*

If a similar result should follow similar measures in this Colony, and the disease, in the course of 12 or 15 years, be practically stamped out, as there is good reason to believe not only possible but probable, the cost involved in carrying out these measures will not be grudged, and this and the present restriction of the liberty of individuals will be a small price to pay for the future safety of the community.

By order of the Board of Health,  
EDMUND SAGER,  
Secretary.

\* Brigade-Surgeon H. Vandyke Carter, M.D. Memo. on the Prevention of Leprosy by Segregation of the Afflicted, 1887.

## APPENDIX A.

RETURN showing number of persons found to be suffering from Leprosy and removed to Little Bay; also Deaths and Discharges for each year since 1883.

	N.S.W.	Chinese.	Javanese.	West Indian.	Total.
1883.					
Admitted during the year .....		5			5
Died do .....					
1884.					
Remaining in on January 1 .....		5			5
Admitted during the year .....		2			2
Died do .....					
1885.					
Remaining in on January 1 .....		7			7
Admitted during the year .....		1		1	2
Died do .....		1		1*	2
1886.					
Remaining in on January 1 .....		7			7
Admitted during the year .....		2	1		3
Died do .....		4			4
1887.					
Remaining in on January 1 .....		5	1		6
Admitted during the year .....		1			1
Died do .....					
1888.					
Remaining in on January 1 .....		6	1		7
Admitted during the year .....	1	3			4
Died do .....					
1889.					
Remaining in on January 1 .....	1	9	1		11
Admitted during the year .....	1	1			2
Died do .....					
1890.					
Remaining in on January 1 .....	2	10	1		12
Admitted during the year .....	2				2
Died do .....		2			2
1891.					
Remaining in on January 1 .....	4	8	1		13
Admitted to April 30 .....	3†	1			4
Died do .....	1	1			2
Remaining in on April 30, 1891 .....	6	8	1		15

\* One West Indian discharged on the 20th December, 1885 (his sores having healed) at a time when the knowledge of this disease was less full than at present. † One patient, M.R., reported 11th March, 1891, is not yet removed to Little Bay.

## SUMMARY of cases since 1883.

	N.S.W.	Chinese.	Javanese.	West Indian.	Total.
Total admitted since 1883 .....	7	16	1	1	25
Total died since 1883 .....	1	8		1*	10
Remaining in on April 30, 1891 .....	6	8	1		15

\* Discharged, 20th December, 1885. (See previous note.)

## APPENDIX B.

RETURN of Particulars of Lepers detained at Little Bay since the year 1883.

Name.	Nationality.	Admission.		Where from.	Discharged.	Died.
		Age on.	Date of.			
A.H. ....	Chinese .....	42	19 April, 1883 ...	Parramatta Asylum .....	.....	15 May, 1886.
J.H. ....	do .....	32	19 " " .....	do .....	.....	27 June, "
A.H. ....	do .....	34	12 June, " .....	do .....	.....	20 April, "
A.M. ....	do .....	32	28 Oct., " .....	Tenterfield .....	.....	.....
A.P. ....	do .....	27	28 " " .....	Willow Creek .....	.....	.....
G.H. ....	do .....	37	27 Nov., 1884...	Sydney .....	To Reception House for Insane, 2 April, 1885.	24 Dec., "
K.K. ....	do .....	24	21 Dec., " .....	Bathurst .....	.....	28 April, 1885.
J.B. ....	West Indian .....	51	22 Sept., 1885...	Bermagui .....	29 Dec., 1885.	.....
A.Y. ....	Chinese .....	29	23 Dec., " .....	Sydney .....	.....	6 Feb., 1890.
C.B. ....	do .....	32	29 Jan., 1886...	Alexandria .....	.....	.....
A.S. ....	do .....	42	20 Feb., " .....	Cooper's Creek .....	.....	12 Nov., "
C.T. ....	Javanese .....	24	14 Aug., " .....	Castle Hill, Parramatta ...	.....	.....
A.L. ....	Chinese .....	44	20 May, 1887...	Bathurst .....	.....	12 April, 1891.
Y.S. ....	do .....	31	20 April, 1888...	Sydney .....	.....	.....
*F.G. ....	N.S.W. ....	28	21 Aug., " .....	do .....	.....	.....
A.Y. ....	Chinese .....	26	30 Sept., " .....	Inverell .....	.....	.....
L.P. ....	do .....	18	22 Dec., " .....	Sydney .....	.....	.....
H.R. ....	do .....	28	23 Mar., 1889...	Enfield .....	.....	.....
*H.B. ....	N.S.W. ....	17	17 Dec., " .....	Mudgee .....	.....	.....
*H.R. ....	do .....	28	8 Aug., 1890...	Richmond River .....	.....	.....
*A.G. ....	do .....	14	18 " " .....	Balmain .....	.....	.....
*E.U. ....	do .....	23	16 Jan., 1891...	Sydney .....	.....	.....
*H.S. ....	do .....	41	23 " " .....	Newtown .....	.....	4 Feb., 1891.
A.L. ....	Chinese .....	30	26 Feb., " .....	Newcastle .....	.....	.....
*M.B. ....	N.S.W. ....	33	11 Mar., " .....	Surry Hills .....	.....	.....

\* These are all natives of New South Wales of European parentage. † Date of report. This patient has not yet been removed to Little Bay.

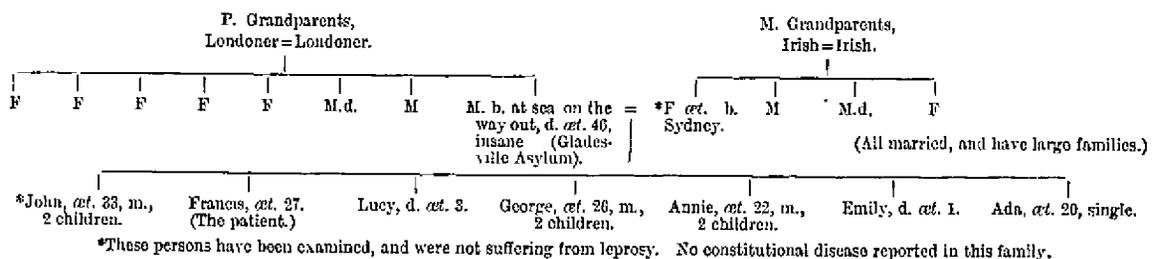
NOTE.—The only additional cases of leprosy in New South Wales which have been reported to the Board of Health are G.R., *et. 28*, whose death, certified by his medical practitioners, was reported by the City Coroner on the 18th July, 1889, and P.S., *et. 38*, died in the Richmond River District in March, 1887. Both of these persons were of European parentage.

## APPENDIX C.

HISTORICAL and Clinical Notes of Persons of European parentage, known to be suffering from Leprosy, in New South Wales. By Dr. J. Ashburton Thompson, D.P.H., Chief Medical Inspector to the Board of Health.

F.G., *et. 27*.—22 August, 1888.

His descent is as follows:—



He was weakly during infancy, but has had no important illnesses since. He lived with his parents at Penrith, Goulburn, and Bathurst until he was 11 years old; the family then came to Sydney, and he has lived there ever since. On leaving school he spent one year in the service of a cordial-maker; he then helped his mother, who kept a restaurant, his duty being to buy vegetables in the markets (frequently from Chinamen), and he did this for another year or more. At about 17 he became a carter, drawing building materials; and after a time he began to learn plastering. After some months of this work, during which his chief business had been to beat up bullock's hair and mortar with a trowel, and being between 19 and 20, he found the trowel had broken the skin over the outer side of the right fore-finger; and with this sore his present illness seems to have begun. The finger swelled; it never recovered its natural size or appearance. According to his brother's account, anæsthesia of the hands and feet was among the earliest symptoms, it being observed that he sometimes burnt or injured himself without being aware of it. Three or four years later he had an attack which is described as erysipelas and rheumatic fever, and from this the general swelling and distortion of his hands and feet date. Two years later still he began to get a disease of the eyes which has produced opacities of the cornea, and adhesions of the iris, and has rendered his sight very imperfect. Lastly, a few months ago, he tried to cut his throat, but his mother and brother saw no reason at the time to suppose him insane. He now seems to have a fair amount of strength. His hands and feet are much distorted, and some of his fingers have lost the terminal phalanges by absorption; the skin of the face and ears is thickened and roughened; and in all those situations there is very imperfect sensation—so that on being pricked with a needle he only felt that he was being touched. The patient's family have always been in comfortable circumstances. He says he was never much in the habit of eating fish; was not very fond of it; ate it occasionally like other people.

*Clinical*

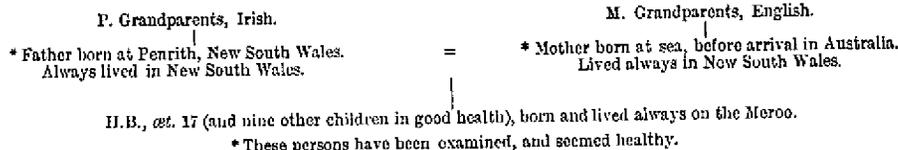
## Clinical report.

23 March, 1891.

The mask is reddened—slightly, uniformly, without brown tinge, and looks rather as though it had been rouged and well powdered afterwards; the reddening ceases at the hair, except on the temples, where it stops a little short of the hair; it extends all round the neck. The skin of the face is loose and inclined to fold; it shows everywhere rather fine wrinkles, which are nearly longitudinal; they do cross each other, but at very acute angles. There is general thickening and distortion of the features; the nose is broadened and flattened, and the alæ appear to have lost substance, although they have never ulcerated. There are numerous tubercles in several situations, but most upon the cheeks, they are scarcely visible, but are very easily felt. The ears are not much deformed; there is no prominence of the superciliary ridge. The scalp is unaffected, and covered with thick silky hair; eyebrows gone; eyelashes gone; he has no beard or whisker. The whole trunk shows a brownish red or dirty red mottling, which is not very strongly marked. The hands are both considerably swollen, bluish-red, and the fingers sausage-like in shape:—Right hand: the first phalanges can be extended and flexed; the second row is permanently flexed; the third row is not distinguishable, but some firmly-attached small fragments of nail remain; the thumb is similarly deformed, but not quite so much. Left hand, the changes are the same, but not quite so great, and more of the nails remain, though without the normal shape. The legs show brown maculæ and brown mottling; on the right shin, from the insertion of the patellar tendon downwards, is a row of cicatrices of old ulcerations. The feet are not so swollen nor so deformed as the hands. *Special senses*.—The sight is now quite good; hearing good; smell (the left side of nose is permanently closed, the right only as a rule, but when the latter is free) is almost absent; voice, hoarse and without quality; but there is no dyspnoea. *General health* said to be perfectly good; seems strong and well-nourished. He has no attacks of ill-health, and no pains. *Sensation*.—There is general analgesia, but sensibility to an ordinary touch is present. I have detected no area absolutely anæsthetic. I found no spot on which he could distinguish between the prick of a pin which drew blood and a touch with the head.

H.B., æt. 17.—17 December, 1889.

His descent is as follows:—



The boy's father, formerly a publican, is now a selector and labourer, living on the Meroo (Mudgee), and has always been in fairly comfortable circumstances. This is an old gold-field, and there have always been Chinese there within his recollection; but communication of this family with them has always been strictly limited to purchases of tea and sugar, and occasionally such articles as boots from a store kept by some of them. Those who keep the store are said to have been there very long and to be well. All other conditions seem to have been those usual in the bush. Fish was very rarely to be got, and canned fish was very seldom tasted by this patient. Until 13 years of age he was well, strong, intelligent, and active. The fingers of the left hand then began to contract, and the muscles of the forearm wasted somewhat, so that a doctor supposed he had injured the limb, and that it was wasting from disuse. Next, blebs appeared on the fingers, and loss of sensation to a small extent was observed. At about 15 years of age discoloured spots of reddish-brown colour appeared on the trunk, and later on the extremities; under some treatment these disappeared or nearly disappeared a few months later, but they reappeared of a pure brown colour without the reddening. The right hand and foot in the meantime had become contracted and swollen, and lastly, about the age of 16, his face began to get discoloured, to swell, and to be disfigured.

On examination:—*The face* (being the mask alone) is disfigured by an irregular swelling or infiltration, which is rather hard; a few distinct tubercles are to be seen; in colour it is uniformly reddened, but more deeply in places, so that it looks patchy; the nose is broadened and thickened, the eyelids thickened, the eyebrows thickened and prominent; the ears have the lobe slightly thickened, but not hardened, but the tragus is both thickened and hardened, and proportionately more deformed. *Eyesight* unaffected. *Hands*.—The fingers on both sides are contracted moderately and thickened; there is swelling, or thickening at, and immediately above, both wrists. *Feet*.—Right foot is generally thickened and deformed, but the toes are scarcely contracted; it is discoloured (reddish or purplish); a blister appeared on the sole about a year ago, which broke, healed, appeared again and healed, and at last left an ulcer, which is now present. Left foot discoloration only. *Trunk and Limbs*.—These show very numerous patches of discoloration of irregular shape, which are of a quite clear brown, of the same shade as the back of a sunburnt hand; there is no reddening of these patches. They are anæsthetic, but the patient (as usual) denied this until he was shown that he could not distinguish between a touch with the head of a pin and a prick with the point.

March 21, 1891.

The whole mask is now enormously distorted by prominent, large, and more or less distinct tubercles; it is very red and of a rather bright tint; the redness ceases where the hair begins; both sides of the hypertrophied and flattened nose are generally stopped up, but sometimes are free; the ears show many tubercles, especially about the lobes; the hair of the scalp seems normal, although dry and not very thick; the eyebrows are almost gone; the eyelashes broken and short, or wanting; hair present and normal in armpits and on pubes (the maculæ mentioned below do not infringe upon the hairy surface, although they approach it very closely). The hands are much swollen (firm œdema) and of a bluish red; the fingers are sausage-like; they cannot be completely flexed; the nails are present; there are a few tubercles on the ulna side of both forearms, and on both elbows; the back of the neck is thickened and red, but the condition is rather that of firm œdema than neoplastic. All other parts of the body are covered with maculæ; these, over the trunk, arms, and upper part of thighs, are of a dirty red colour, rather faint and mottled; on the lower part of the thighs and legs they are bistre-colour, leave no unaffected skin between them or scarcely any, and are not uniform in tint but mottled; there are among

Case

these latter patches many islands of matt white (achromatic) skin of different sizes, up to an inch in diameter. The feet are swollen, bluish red, and slightly distorted. *Special senses*.—Hearing, taste, sight, and smell (when the nose is not stopped) seem normal. *Sensation*.—The achromatic patches on the legs are less sensitive than the bistre patches; in general, sensation to a touch is said to be normal; at no part examined can a prick with a needle be distinguished from a touch with the eye-end; there is therefore pretty complete analgesia everywhere, but not complete anæsthesia anywhere. There is no hyperæsthesia, nor any shooting-pains. *General Health*.—Uniformly good; strength good. *Development*.—As this patient was undoubtedly attacked before the usual date of puberty it is necessary to note that the genital organs are well developed, and that pubic hair is present in usual quantity; his voice, however, although certainly not affected by laryngeal disease as yet, is not virile, nor yet merely a boy's voice. Perhaps it may be described as "virile, but entirely without timbre." The tongue, mouth, and fauces show nothing.

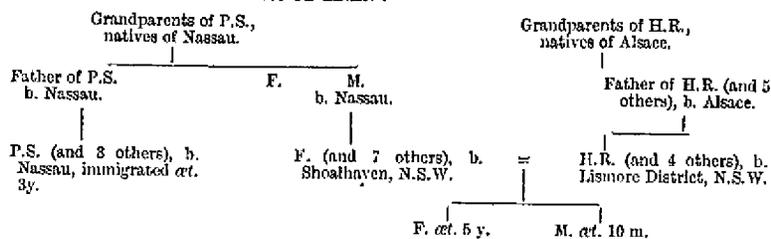
H.R., *ct.*, 28, 11 August, 1890.

THE case of this patient should be read in relation to that of his cousin, P.S., deceased, which accordingly is placed first. The details are given after an extensive inquiry on the spot, made among the near relatives of both men.

The case of P.S.—L.S. immigrated from the Duchy of Nassau in 1855, bringing with him three children, of whom P. was the youngest, and aged about 3 years. The family travelled to Shoalhaven, and lived there until 1871. They removed to the Richmond River district, and ever since have lived in the neighbourhood of Jiggi Creek. P. was then about 19. He became a timber getter; and he continued to live in the same neighbourhood and to work in the surrounding district until prevented by increase of the illness which caused his death. His absences from the district were by way of holiday only; they lasted only a few weeks; and he did not travel out of New South Wales. About the age of 23 he was rafting timber, when he scratched his leg under the water in which he was wading at the time. This injury ulcerated, and healed, and broke out again several times. He showed it to a druggist, who suspected disease of the subjacent tibia; but no bone exfoliated. This ulcer having once more healed, he married at the age of 24. A few weeks afterwards it opened, and I suspect that he was never again well from that time; but all that seems certain is that about five or six years after marriage (that is, about 1881–2) he became too ill to work any longer. I found it impossible to get any reasonable account of the progress of his illness during the first five or six years which followed the injury mentioned above; but the sequence of symptoms is given by his younger brother, who lived with him during the last five years of his life, as follows:—First, the injury and ulceration mentioned above; next (the interval of time not being guessed at), a red patch on the same leg; then a breaking-out of the skin over the knees and elbows; shortly afterwards, ulceration of the finger-tips and fingers, which lost their nails, and of the toes; the hands and feet became numb; the fingers became outstretched and stiffened; the ears were not affected, although there was a small ulcer at one time behind the lobe of one of them. About three years before death his sight began to fail, and was gradually lost; and he died, aged 35, in March, 1887, or, as it seems, twelve or thirteen years from the receipt of injury to the leg. An authentic account of his state at the end of 1886 is contained in a report by the Government Medical Officer for the Lismore district, under date December 21, 1886. He says:—"Loss of sight complete; both eyes covered with a thick white film. Nasal bones apparently decayed, as the bridge of the nose had nearly disappeared. Voice husky and harsh, showing extensive mischief in the larynx. Hands swollen considerably; covered with bluish, glossy skin; all the nails disappeared, the colour about the roots darkish brown, some of them discharging a very offensive matter, others apparently dried up, the fingers being all outstretched without possibility of closing the hands. The toes present a similar appearance, with the exception of one, which is covered with dried-up nail. Below the right knee is an open sore, with a very offensive discharge. \* \* \* He informs me \* \* \* that about 1882–3 he went to Sydney and entered a hospital, whence he was transferred after a few days to one of the asylums for the infirm and destitute poor; but after a week his relations were communicated with by the authorities, ordering him to be removed, the reason assigned being that he was a leper." This gentleman did not profess to be well acquainted with leprosy, and, while expressing an opinion that the case was one of that disease, left it doubtful whether the illness might not be tertiary syphilis, which he had named it three or four days before.

I discovered nothing which tended to distinguish this man's course of life from that usual among other persons of similar position and occupation; but, on the other hand, a good deal which showed that as to association, diet, labour, exposure to weather, and the like, it was the same as that common to all who live and work in the bush. The country, both around Shoalhaven and around Lismore, is well watered, and broken by hills and ranges between which fertile valleys lie. Shoalhaven is on the sea on the east coast in S. lat. 34° 50', the latter in S. lat. 28° 42'. Malaria is not, and I believe never has been met with in either neighbourhood; and the difference of latitude, which carries with it a considerable difference of temperature, seems to be the main distinction between the two.

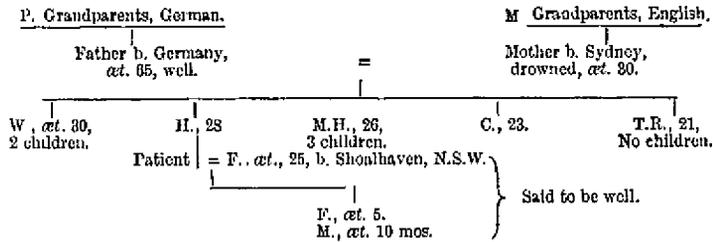
Communication between H.R. and P.S. I found it loosely asserted by relatives and friends that H.R. was a cousin of P.S. The following table shows what the connection was, and that there is consanguinity only between P.S. and the children of H.R. :—



It is difficult to form any useful estimate of the degree in which these two men were associated. But after a rather prolonged inquiry among the relatives and friends of both, I conclude that it was small, and, speaking generally, insignificant. The R. family preceded the S. family in settling on the Richmond River; but from arrival of the latter the several branches of both lived near each other and were

were associated as neighbours and as fellow workman. H.R.'s own statement that he "was not in P.S.'s house six times during the six years they lived near each other," which were the latter years of P.S.'s life, is borne out upon the whole by testimony of several independent witnesses. But he was present after P.S.'s death, and assisted J.D. and J.S. to place the latter in his coffin, even if (as he alleges) he had nothing to do with preparing the body for burial. As for wearing apparel which P.S. may have left behind him, I feel tolerably certain that H.R. had none of it, and that it was safely disposed of by burning or burial. It may be added here that I saw and examined P.S.'s father, mother, brother, aunt, wife, and child (*æt.* 13), as well as other persons less closely associated with him during life, and that none showed any signs of disease.

The following history of H.R. before his admission to hospital is from information furnished by his father, wife, and other relatives or connections who were in the habit of seeing him frequently:—



He has lived all his life in the Richmond River District, and for the last six years at Jiggi. He is a timber-getter, and was therefore often from home for rather long periods, but never out of the district. About September, 1888, a peg in the sole of a new boot injured the plantar surface of the left foot about the root of the great toe; this date is fixed by the same foot having been trodden on at the same time by one of a team of bullocks which he had recently purchased from his father. An ulcer followed this injury; and although it healed up it broke out again from time to time (and is still present). He was not observed to have anything else the matter with him, either constitutionally or locally, until about August, 1889, a change of colour or reddening about his forehead and eyelids being then noticed (thus his father and his wife think that swelling of the hands was the first symptom, and that the reddening, accompanied by swelling around the eyes, followed very soon). He was well able to continue at work, and about the beginning of 1890 he engaged in clearing some swampy land several miles away. He continued at this occupation for three or four months. During these months the symptoms described below began to make appearance, and, as he then saw that he was suffering from a progressive disease of some kind or other, he came to Sydney.

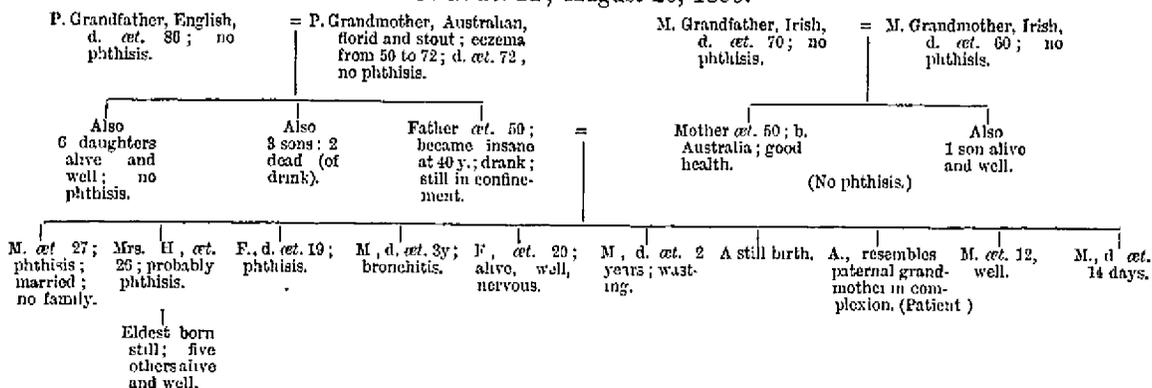
*Present state*.—On admission, H.R., *æt.*, 28; height, 5 feet 9 inches; weight, 10 stone; well-nourished and strong in appearance. Has been married eight years, and has two children; his wife never had any miscarriages. He complains of no feelings of illness. There is a soft, puffy swelling of the upper eyelids and over the cheek bones; the skin is hyperæmic in the same situations; the swelling is quite soft and without any feeling of thickening or hardening; perhaps there is slight anæsthesia, but this remains uncertain. The eyebrows are not prominent; I doubt whether there is any swelling of the skin under them. On causing the light to fall obliquely on the cheeks three circular spots slightly elevated are visible on the right cheek, the highest of which is an inch or so below the malar swelling mentioned above. One spot is three-eighths of an inch in diameter; the other two are smaller; they are not indurated; their surfaces do not look smooth, but inclining to nodular. The ears are unaffected. The upper part of the body presents only one patch of discoloration; this is about 4 inches in diameter, and covers the tip of the right shoulder; it is reddish, and perhaps brownish; it is not uniformly coloured; it is distinctly anæsthetic; the difference between a touch with the head and a prick with the point of a pin upon it could not be perceived, although that the skin was touched seemed to be felt. The hands (of which the backs are covered with warts of moderate size, and flat at the top), are uniformly swollen and reddened; this swelling is due to hyperæmia of the skin, and is quite noticeable; there is a little fine desquamation of the cuticle here and there; there is no distortion, but as much stiffness as may be supposed due to the mechanical impediment of the swelling; sensation is said to be perfect, but on attempting to pick up a small object it appeared to me that there was—(firstly) some loss of co-ordinating power which was not confined to the fingers, but extended to the right arm, and (secondly) that sensation in the fingers was impaired. As for the lower part of the body—on both knee-caps are scars. On the right knee-cap the scar is large, and seems due to a laceration, received, as he says, by falling over a box. On the other there may be a scar; he says it was burnt, and he sets both these injuries at about a year ago. But the appearance now seen is not exactly or not alone that which would be left by such injuries. On the left leg are three circular brownish spots, which are anæsthetic, and the skin over them is very thin; he says there have not been sores there, but the appearance is rather that of the brown cicatrix over a healed ulcer than of a patch of anæsthetic skin or leprous macula. The feet are swollen and injected like the hands, but not quite so much. At the root of the big toe of the left foot on the sole is a small circular ulcer, covered with scab. On the heel of the right foot is a large and recent chafe, from which the skin is entirely removed; he says he got this a week ago while ploughing in old and ill-fitting boots, and that he felt it at the time of injury. There is no distortion of the feet.

*Clinical note*; 25 March, 1891.

Scalp free. The mask shows a rather deep brownish-red discoloration, which fades off at the edges a little short of the hair, and which is not raised above the general surface; but there is a general œdema, which in consistency is between the harder and softer sorts; the chin is exempt from these changes, which are more marked on the right side; but just above a cicatrix on the right side of the chin of an old incised wound, on the chin, is a growth which may be a leprous neoplasm; there is considerable swelling of the superciliary ridge, and within the orbits; the nose is broadened and flattened, and the upper lip is slightly swollen; on the swollen parts are a few, rather indistinct, hard tubercles, but over the right malar bone is one larger than the rest associated with several quite small ones around it; the back of the neck is reddened and thickened, but there is no tubercle there. The tongue is normal; the soft palate and fauces are dusky-red and glazed. The upper part of the body in general is indistinctly mottled, without any describable change of colour; over the right shoulder is an irregular,

irregular, ill-defined, patch of dirty-red colour; it is slightly mottled; it does not reach the scapula behind, nor extend down the arm; at the tip of the clavicle is a reddened, roughened, and raised patch, about the size of a florin which may be a commencing tubercle. The fingers and hands show a moderate œdema, which is not of the soft variety, but yet is not as firm as the hard in other cases; this swelling is uniform over hands and fingers, but stops at the wrists; joints and bones are unaffected, and can be flexed with no more difficulty than seems due to their swollen condition. The feet are a little swollen, but not at all distorted. There is one rather small brown macula on the left buttock, just behind and above the trochanter. *Hair*: normal on scalp; fallen from outer end of eyebrows; from eyelids, but most from the lower ones; has not fallen from beard or moustache, although the reddening extends under the latter, under the whiskers, and a little way on the right side under the beard below angle of mouth; remains on pubes and under armpits. *Special senses*: There is nothing to note. *Sensation*: This is the same for the shoulder macula, for the face-tubercles, and for apparently normal skin about the shoulders,—namely, he could not distinguish between the head and the point of a needle, although the latter drew blood. *General health*: Good; denies all prodromal symptoms (or occasional feelings of illness at present); thinks that his nose scarcely ever bled in his life.

A.G. *et.* 14; August 20, 1890.



*History*.—Was born in Sydney, and always lived in one or other suburb, except for a short visit to Melbourne. His father was a man of some little property; he drank to excess; ten years ago (when the patient was 4 years old) he became insane in consequence, and is still in confinement; the circumstances of the family were as a rule fairly good, but have been poorer during the last few years. They habitually bought vegetables from Chinese traders (in common with nearly every other family in Sydney), but none of them has had any other communication with Asiatics than this customary dealing. The patient attended school from the usual age. He has always slept with his mother, because he was afraid in the dark; and she (chiefly) has dressed his sores. He was fond of fishing, and of fish.

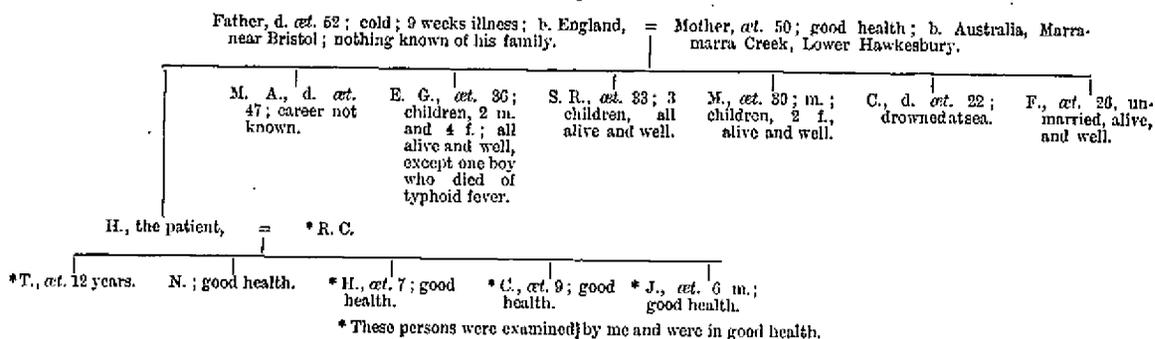
*History of illness furnished by his mother*.—At 10 years of age went with his family to Melbourne, where he stayed seven months; while there he had a cough, attended with a good deal of expectoration, and he wasted; on returning to Sydney he thoroughly recovered; at about 12 years he had some water-blisters on the fingers of the left hand, which broke and left small ulcers; he lost two nails; the attack lasted two months, and then the ulcers quite healed; soon (or immediately) after this contraction of the fore and middle fingers was noticed, and a little later some wasting of the fore-arm; he attended at a general hospital for a few weeks; after this only some cracks occasionally appeared about the fingers; so far no other parts of the body were affected; at about thirteen years he one day drew attention to his left heel, because he thought there was something the matter with it; it was seen that there was a considerable collection of matter under the hard skin, and when it was let out it smelt very offensive. The fingers of the left hand contracted more and more; next a macula was observed on the left buttock, then on the right buttock, and later still on the left arm and fore-arm; about three months ago an ulcer appeared on the left palm; it was poulticed and it healed up; a few days later he swept the floor; the next morning he pointed out some blisters on the palm of the left hand where the broom handle had rested; poultices were again applied; the blisters spread until nearly the whole of the skin of the palm, fingers, and thumb was detached; it was removed, there was no attempt at healing, and that was the beginning of ulcers mentioned below; he attended at the general hospital for a time, but as he did not improve; he applied to the Government Medical Officer for Sydney for admission to the Coast Hospital, and he was by him forwarded for survey as probably having leprosy; during the progress of the illnesses described there was alteration of the general health whenever the blisters or cracks appeared; there was then irritability, loss of appetite, and constipation; feverishness was not noticed. *Prodromal symptoms* were either absent or unobserved (unless the cough, &c., was a prodromal phase). *Present state*.—He is an intelligent boy, small for his age, and without any indication of approaching puberty; he is still afraid in the dark; temperament lymphatic, with reddish hair (resembling his paternal grandmother in this respect, and in features); the upper eyelids are slightly full or swollen; he has had ophthalmia; the swelling is apparently not œdematous; there is a circular, red, and desquamating patch, about the size of a shilling, over the right orbit; not anæsthetic; perhaps the lobes of the ears are a little thickened; but these organs are ill-shaped and ill-placed, and may be normal; the left shoulder-tip and arm on its outer side show a continuous discoloured patch, not raised; it runs on to the left fore-arm, nearly the whole of which it covers; its colour is brownish and reddish, not uniform, mottled; the margins are rather strongly marked and serpentine; the left hand has all the fingers contracted, stiffened, and wasted; the index finger has lost its nail; the fingers cannot be extended; the thumb is wasted and contracted; off all these fingers, the thumb, the palm, and a part of the dorsum, the skin is gone, and there is a shallow ulceration which varies in depth in different parts; there is no pain at all, and he says that it would not hurt him however it might be handled; on the nates are two tolerably symmetrical maculæ, of a rather deeper shade than that on the arm, and having strongly marked (or well defined) serpentine edges; the left leg has numerous smaller maculæ, rather resembling in colour that on the shoulder than those on the nates;



it was, however, not quite symmetrical, there being a distinctly larger swelling over the left outer malleolus than elsewhere. This swelling in general was quite different, both in distribution and in consistency, to that seen on the hands; and now (three weeks later) it has nearly disappeared. During the three weeks of detention in the general hospital his temperature, observed twice daily, remained normal (with irregular fluctuations not exceeding half a degree), and his urine was then normal in quantity, acid, without albumen, and its specific gravity 1020. *Sensation*: He believes that it remains natural; on examination it is found to be greatly dulled everywhere, and nearly gone at points on the face; but merely dulled elsewhere, not much, and so that it is not possible to distinguish greater sensibility of normal skin on the trunk between the macula, than on the maculae themselves. Except the forehead, it should be noted that on January 16 the greater swelling of the left ankle seemed to have become more thoroughly dulled than any other spot examined.

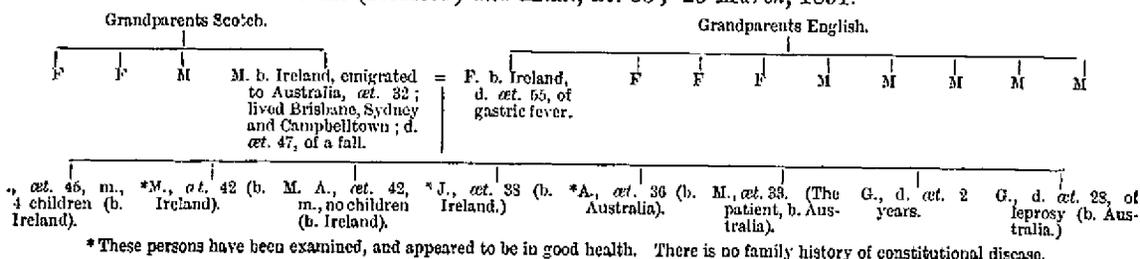
H. S., *et. 41*; 5 February, 1891.

A STATUTORY certificate was given by me on January 23.



*History*.—H. S., *et. 41*, was born in the Lower Hawkesbury district, on Marramarra Creek, and he lived there for a few years; the family then removed to Windsor, not many miles away, and on the Hawkesbury, and resided there for a few years; they returned to Marramarra Creek, and after an interval went again to Windsor. After this, H. left Windsor at the age of 18 to go to sea; he spent three years in coasting-vessels, and never went out of New South Wales; his residence during these years was in Sydney. He returned to the Lower Hawkesbury, where he engaged in boat-building, oyster-fishing, and running a ferry-boat. About 1877 he married. About 1886–87 he went to Sydney, and he resided there until he died on February 4, 1891. Much fresh fish and oysters was eaten from time to time. *History of Illness*.—Has had no serious illnesses. In 1877 had successive crops of boils; the crops lasted about a week each, and the boils healed in a usual way; they were believed to be common boils; they appeared on the back of the neck, on the upper part of the trunk, and elsewhere, not selecting any particular region. About this time, but after the eruption of boils had ceased, he was engaged for some days in getting out cargo from a vessel partly submerged in Darling Harbour; he was much in the water for several days. A month after this his wrists began to swell, and his nose became, and continued to be, obstructed; later, swellings appeared in different features—eyes, ears, nose, &c. But it was eighteen months before his physiognomy began to alter; and after so altering he never recovered his natural appearance. During that time he had repeated attacks of feverishness, and severe sharp pains in the legs; he was laid up by them for a month at a time, and after each attack had an interval of apparent good health. His sight remained unaffected until six or seven years later; then the right eye was invaded, and later still the left was attacked. *Present State*.—He is very weak, and very much emaciated. For a few months past he has suffered repeatedly from diarrhoea; he has also pains corresponding to the "lightning-pain" of ataxy in his legs and fore-arms. The ears are much distorted, but not hypertrophied; the soft parts of the nose are destroyed, but the bones are not sunken; in consequence of this, and the general wasting, the upper jaw appears prominent, and its bony outlines are easily followed; the skin is drawn tight over the whole skull; it is white and smooth, and at a short distance looks as though it might shine in a favourable light; but on close inspection it is seen to be traversed in all directions by exceedingly fine white lines, which seem to be due to linear atrophy. The body is emaciated in an extreme degree; the skin is wrinkled and roughened; it shows many large, ill-defined, patches of a pale reddish-brown colour; elsewhere it is of something like clay-colour. The fingers and toes are very much distorted and useless; the joints are displaced in several different directions; they show large, irregular, superficial ulcerations; I did not examine them closely enough to say whether the bones had been absorbed, or were wasting, but apparently neither had happened. As to sensation—he was under the impression that it remained normal; but after an imperfect examination I ascertained that it seemed to be uniformly dulled, and was not altogether lost anywhere. However, the ulcerations mentioned above were said to be painless. The right eye was almost useless, the left was affected to a less extent; upon the whole he could see tolerably well. His memory was quite clear, and he talked well, and without apparent fatigue.

G.R. (deceased) and M.R., *et. 33*; 25 March, 1891.



G.R.,

G.R., deceased. The following account is taken from information furnished by his sister and his brother separately, and from the case-books of the physician whom he consulted on dates mentioned below. Was born at Campbelltown, near Sydney, in 1861. He lived there until about 1868, when he removed to Sydney. About 1870 he went to Adelaide, S.A.; in 1880 he returned to Sydney, and he died there in 1889. He was always weakly. At about 6 or 7 years of age he suffered from a chronic submaxillary or cervical swelling; this lasted two years, more or less, and receded without suppurating; at 10 or 11 years he began to suffer repeated attacks of nose bleed, and had brown patches on his body, which remained; at about 13 his face swelled; this swelling disappeared, but not long afterwards returned and remained; at about the same age his voice altered as from disease, but intermittently, and from about 24 he could speak only in whispers; he lost his eyebrows, the hair of the scalp used to fall out, and became thin. He was 5 ft. 11 in. in height, and "manly"; his voice altered in the usual way about 15, and was a man's voice subsequently, but he never got either beard or moustache. The physician referred to diagnosed this case in 1881, and furnished the following notes, with which the above account agrees nearly:—"December 16, 1881, G.R., *æt.* 19.—Said he had been ill twelve months, with breakings out on face, wrists, and legs, which were better and worse from time to time. Tubercles on various parts of skin; reddish-brown colour; parts of the face scaly; some anaesthesia; features enlarged, ears and nose notably so; no syphilis. Leprosy—February 2, 1882.—Said the remedies had cured sores. Seemed slightly better, but there was not much change. A tuberculous condition of mouth and larynx; hoarse. December 22, 1882.—During this interval the throat had become seriously diseased; he spits large quantities of yellow matter, and occasionally blood. 26 April, 1883.—Voice still very hoarse; does not complain of sore throat; thick scabs on hands wrists, and face, not on trunk; tubercles of mouth and throat not changed." He did not after this date come under the same observation. The beginning of this case cannot (according to the several accounts) have been later than the tenth or eleventh year of age; but, apparently, development was not markedly interfered with, and it would seem that the usual puberal changes took place.

*March*, 1891.—M.R., *æt.* 33, was the chief and almost the only attendant upon the above during his illness. About eight years ago she had a sore heel, attributed to a tight boot, which lasted about three weeks and healed perfectly. There was no other sign for about a year; then discoloured spots were seen on the legs, and afterwards red spots on the face, which never quite went away; later brownish or reddish-brown spots and patches appeared over the body; she lost her eyebrows four years ago; two years ago her voice was affected, but it recovered; about a year afterwards it was again altered, and has remained whispering and stridulous ever since. A written note by the physician already referred to runs as follows:—"March 22, 1887.—Disease began about three years ago; whole body tuberculous; anaesthesia."

*Present state.*—Prodromal symptoms, and illness during the eruptive stage, are both denied. The face is deformed by moderate general swelling, and not large tubercles; the brows are not very prominent, but the eyebrows are wanting; many tubercles have ulcerated and gone, and have left behind them more or less circular, shallow, excavations, over which the skin is white, and in some cases a little drawn or puckered; the soft parts of the nose are nearly gone, but the bones seem intact; the ulcerated edges of the nostrils are indrawn, and this retraction has also involved the upper lip at its junction with the nose, whence the skin is tightly drawn over the upper maxillary bones so as to give a characteristic expression to the face; the tongue is large, red, fissured both longitudinally and transversely, and has two or three mucuous plaques like those of syphilis, towards the tip on the left side, which do not amount to neoplasmata. The ears are much deformed by tubercles of moderate size. The general tint of face is dull red, inclining to yellow, and there is some desquamation. The hands are enlarged by hard oedema; the fingers can be brought only to right angles with the palm, and not bent upon themselves; no phalanges have disappeared, but all the nails are deformed; there is excessive and fixed extension of one or two fingers, and lateral displacement of one or two unequal phalanges; the skin is roughened, desquamating, reddened and (on palmar surfaces) bluish, fissured everywhere, discharging so as to slightly resemble eczema, at some points slightly ulcerated and offensive. The fore-arms and elbows show numerous tubercles, chiefly on the extensor surfaces. The feet were said to resemble the hands, but to be not quite so much damaged; she walked without apparent difficulty. On the upper part of the chest are some large patches of a rather deep reddish-brown tint, which were said to extend over all the body; among them are small islets of matt-white; symmetrically placed on the lower half of each breast is a small and superficial ulceration in a state resembling a healing burn; these are said to be the only ulcerations, except as above noted. *Special Senses.*—Sight weak (uses spectacles), but there is no appearance of invasion of the eyes; hearing good; taste and smell said to be good. Voice, whispering and stridulous. *Sensation.*—The hands are sometimes painful and irritable; undid upper buttons of dress with right hand without great difficulty, and replaced them; sensibility to touch remains, but there is analgesia, and on the upper part of the chest it was not possible to distinguish by pricking with a pin between the macula and apparently healthy skin between them. *General Health.*—Fairly good; only rises at 1 o'clock; once a week takes a short excursion by steamer or train; every three or four weeks she becomes low-spirited, and has lassitude, diarrhoea, and bleeding from the nose; menstruates regularly and normally, and at the times just mentioned; appetite very good, but prefers fruit, vegetables, and milk. Both this patient and her brother are said not to have much cared about fish; may be said to have eaten it, but rather less than ordinary.



1891.

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NEW SOUTH WALES.

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# REPORT

TO THE

GOVERNMENTS OF NEW SOUTH WALES, SOUTH  
AUSTRALIA AND NEW ZEALAND,

ON THE

KOCH METHOD OF TREATING TUBERCULOSIS;

BY

T. P. ANDERSON STUART, M.D.,

PROFESSOR OF PHYSIOLOGY AND DEAN OF THE FACULTY OF MEDICINE, UNIVERSITY OF SYDNEY.

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Presented to both Houses of Parliament.

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1891.



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- I. Fig. 1. Acute pulmonary tuberculosis × 195 diameters.  
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## LETTER TO THE COLONIAL SECRETARY.

University of Sydney, April 6th, 1891.

The Honorable Sir Henry Parkes, G.C.M.G., &c., &c., &c.,  
Colonial Secretary,  
Sydney,

Sir,

I have the honour to report that in compliance with your cablegram of the 22nd November, 1890, informing me as follows: "You have been appointed to proceed to Berlin and make inquiries and report on Dr. Koch's method of curing consumption, describing the method of procedure, and sending out a supply of vaccine if practicable, if not, obtaining mode of preparation," I proceeded to Berlin in December, during what is called in the accompanying Report the "Period of Enthusiasm," and again in January during the "Period of Disbelief."

With your concurrence, the Government of South Australia requested me to act as its Representative also in the matter, and I at once undertook the commission.

The Government of New Zealand, through its Agent-General in London, Sir F. Dillon-Bell, K.C.M.G., made the like request, and after consultation with our own Agent-General, Sir Saul Samuel, K.C.M.G., I complied with that request.

The precise mode of preparation of the Koch lymph has not been disclosed even yet, but I arranged for a weekly supply to be sent to you, and to the Colonial Secretaries of South Australia and New Zealand.

The results of my observations in Berlin, London, and Edinburgh, and of my somewhat extensive special study of the recent literature of the subject are contained in the Appendices to the Report.

During the few weeks that have intervened between the end of January and the present time some important contributions to the literature of the subject have been made, the results of which I should have liked to incorporate, but I have chosen the last days of my stay in Europe (I left London on February 5th) as the terminal limit of the time to which my Report has reference, and during which I was able to conduct my investigations personally.

As far as time would permit I have endeavoured to make the Report with its Appendices complete in itself, for without some brief and more or less special account of the more purely scientific aspects of the subject the main practical question could not readily be understood or appreciated.

I have to acknowledge the advice and assistance which has been freely rendered me. In this connection I desire to specially mention the names of Sir Joseph Lister, Bart., Dr. Sheridan Delépine, Dr. G. A. Heron, Professor Crookshank, and Dr. Watson Cheyne, of London; of Professor Dr. Litten and Dr. Wolf Becher, of Berlin; and of Dr. Edington, of Edinburgh. To Professor Wilson, Dr. Gustave Lennhoff, and Dr. A. E. Mills, I am indebted for the trouble they have taken in looking over the proof sheets.

Although, according to the Report and its detailed Appendices, we cannot at present regard the lymph as a successful curative agent, yet it is the first substance that has directly and specifically affected tubercular matter within the living body. Further, it is the first example of a new method of treatment which opens up a wide field of medical activity, and by which eventually, not only tuberculosis, but also such diseases as diphtheria, tetanus and others, may possibly be prevented, cured, or even annihilated. Thus I regard the Koch lymph as a great discovery or invention, and that not so much from what it actually accomplishes, as from what it promises for the future.

It is therefore to be hoped that instead of being discouraged by the results so far obtained, all authorities will do their best to encourage further researches in this direction.

I have the honor to be,

Sir,

Your obedient servant,

T. P. ANDERSON STUART, M.D.

## REPORT.

BETWEEN the years 1850 and 1882 certain infective diseases were <sup>Introductory.</sup> shown to be caused by minute organisms in the blood and tissues. These organisms belong to the vegetable kingdom, and rank among the lowest forms of fungi and smallest of living beings. Their scientific names are generally derived from their shape—those that are in the form of slender rods are called bacilli; when the rods are shorter and thicker, they are called bacteria. Often the whole group is included under the latter term, and indeed that branch or sub-department of science which deals with those microscopical beings is termed “Bacteriology.” (App. A, i.)

In 1865 tuberculosis, including consumption or phthisis, was <sup>Tuberculosis is infective.</sup> definitely proved to be an infective disease—*i.e.*, communicable by inoculation or otherwise. (App. A, iv.)

In 1882 Dr. Robert Koch announced that tuberculosis was caused <sup>The tubercle bacillus.</sup> by a parasite, to which he gave the name of bacillus tuberculosis, and this organism is now all but universally admitted to be the cause of tuberculosis in each of its different manifestations. The evidence on which his discovery rests is, briefly—

1. He found the bacillus in all cases of the disease properly examined for it.
2. He cultivated it on artificial soils—*i.e.*, various nutrient media—and was able to transplant it again and again, and so to obtain an uncontaminated or “pure culture” of it.
3. Such a “pure culture” introduced into animals produced tuberculosis.
4. In these animals in which tuberculosis was artificially produced the same bacilli were again found in the diseased parts, and
5. The number of the bacilli in these cases was in excess of the number inoculated, so that the bacillus had actually multiplied in the body of the inoculated animal. (App. A, iii.)

Every kind of tuberculous material, since it contains the <sup>The bacillus may be found in all kinds of tuberculous material.</sup> infective particles or bacilli, may communicate the disease—*e.g.*, sputum, saliva, milk, urine, expired air, and flesh from tubercular subjects as well as lupus tissue, pus of cold abscesses, strumous glands, &c.—and in every case the results are alike, differing only in anatomical features according to the portal by which the parasite enters the body. (App. A, iv.)

The tubercle bacillus may be introduced into the body in the <sup>It may enter the body in various ways.</sup> following ways:—

1. By injecting it under the skin or into the blood. (App. A, iv, 1.)
2. It may be diffused through the air, and enter the body by inhalation. (App. A, iv, 3.)
3. It may be present in food such as the flesh of tuberculous animals, or the milk from tuberculous cows, also in saliva; even water may be the vehicle. (App. A, iv, 3.)

4. It has been suggested that it may pass through the uninjured skin, since there is some evidence to show that healthy persons have contracted phthisis by wearing the underwear of phthisical persons. But since it is definitely proved that the bacillus may enter the body through a wound or an abrasion of the skin, it may perhaps be that in the former case there was some undiscovered breach of continuity of the skin.

N.B.—There is no trustworthy evidence to show that the bacilli have ever been introduced through vaccine lymph during vaccination. (App. A, iv, 3.)

5. It is still an open question whether the bacillus may pass from a tuberculous mother to her unborn child, or whether the supposed hereditary transmission of tuberculosis consists merely in that of a special predisposition to the disease. It is even maintained by some that there is neither the one nor the other, but that the fact of more than one member of a family being affected is due to their being placed in the same surroundings and subjected to the same infective influences. The balance of competent opinion is probably in favour both of a possible direct communication of the contagium from the mother, and of the hereditary transmission of a predisposition. (App. A, iv, 2.)

Lupus certainly is tuberculous.

In lupus (*vulgaris*)—a disease chiefly affecting skin—a bacillus has been demonstrated, and it has been definitely proved that this bacillus is identical with the bacillus tuberculosis. Lupus vulgaris is thus consumption or tuberculosis of the skin. (App. A, iv, 1.)

Leprosy possibly is related.

In leprosy also a bacillus is present, which in its form and its colour reactions is hardly to be distinguished from the tubercle bacillus, but what are its real relations to the latter is not yet determined. (App. A, iii, 3.)

The bacilli can grow outside the animal body.

There can be no doubt as to the correctness of Koch's statements when he said that the tubercle bacilli find their best soil within the animal economy, but his view, "that the tubercle bacilli in their process of development are solely confined to the animal organism—they are, therefore, not accidental, but true parasites, and can hail only from the animal organism," is now known to be erroneous, for the bacilli have been cultivated on slices of potato, and at much lower temperatures than 30° C. (or 86° F.) which was the lowest temperature at which Koch could get his cultures to grow. (App. A, iii, 4.)

The search for a parasiticide.

The announcement of the discovery of the tubercle bacillus by Koch gave a great impulse to the study of these forms of life, and many investigators besides Koch himself at once began to seek a means whereby the ravages of the consumption parasite might be hindered or prevented, as has been accomplished in the case of certain other infective diseases, such as anthrax or woolsorter's disease. And it is certain that, had Koch not published his remedy about the time he did, other investigators who had been working very much on the same lines would have forestalled him by publication of their own results. (App. F, viii, 1.) The chief guiding principles in the biological part of these investigations were as follows:—It had long been noticed that when a particular microbe was allowed to grow for a long time on the same soil its growth first slackened and then stopped, but that, transferred to fresh soil, it would again start into vigorous growth. Conversely if a vigorous bacillus was planted on the old long-used soil it would not flourish. Clearly some change had been wrought in the latter soil rendering it partially or wholly effete. For various reasons it became clear that the bacilli during their growth produced substances that contaminated the soil and prevented or interfered with their own further growth

growth. If, then, these substances could be extracted from the bacilli or their surroundings, and introduced in sufficient quantity into the animal economy the hope was that the growth of the bacilli in the body would be checked. Koch extracted these bodies from the pure culture of the tubercle bacilli by means of diluted glycerine, and this extract is the so-called "lymph." What the active substances are that are contained in the Koch lymph is not really known, but they may be obtained from the lymph in the solid state, and constitute no more than a fraction of 1 per cent.—perhaps about  $\frac{1}{1000}$  of the weight of the original lymph. (App. A, iii, 4, and F. viii, 6.)

In Koch's first "further communication," neither the mode of preparation nor the nature of the remedy is given. In his second "further communication" the mode of preparation is not given, but the nature of it is stated, viz., that it is, as has been said, a glycerine extract of the pure parasite. Probably, however, it is made as follows:—The tubercle bacillus is grown in a state of "pure culture" on a suitable medium or soil, and then mixed with much diluted glycerine. The mixture is now filtered through a Chamberland or porcelain filter so as to free it from the actual organisms, and the liquid which comes through the filter is now concentrated. The brown coloured concentrated glycerine extract is the "lymph," and contains whatever substances the dilute glycerine could dissolve out of the culture. (App. F, viii, 6.) Various statements have been made as to the difficulty of preparing the lymph; it is not easy to see where the gigantic difficulty can be. Before Koch published the nature of his remedy, Hüppe and Scholl examined some of the lymph, and, without knowing how Koch produced it, succeeded in producing a liquid with similar properties. (App. C, ii.) This shows that with a well equipped bacteriological laboratory in Sydney, when the mode of preparation has been disclosed, there ought to be no difficulty in producing Koch's remedy for tuberculosis, or any other such remedy that may yet be discovered, as, for instance, for the cure of diphtheria and tetanus, of which there seems to be a possibility. This is all the more important, since it may well be that such organic fluids may not bear transmission to Australia without deterioration; it is yet to be seen how they will behave. Very slight changes in composition might lead to serious results. (App. F, i.)

There is little doubt that, from beginning to end, Koch's hand has been forced in the following manner:—He began his quest for a remedy, as he tells us in his Congress address of date 4th August, 1890, as soon as he had discovered the bacillus, *i.e.*, in 1882. By the summer of 1890 he believed he had succeeded in curing artificially induced tuberculosis in guinea pigs; and this, as is the custom with State officials in Prussia, he communicated to his superior officer, the Minister for Instruction, Dr. von Gossler. Now the meeting of the International Medical Congress was to take place in Berlin in August, and a large number of medical men was expected to be present from all the ends of the earth. (There were, in fact, about 7,000 at the gathering in the Circus Renz.) The Minister knew very well what a sensation it would cause if Koch were to announce at this Congress that he could cure consumption. But Koch was not ready. He had in contemplation thorough and varied experiments on the human subject still to be undertaken before he would come to the publication of his remedy. The Congress, however, could not wait for these, and so he must either be silent or publish incomplete work. The former did not please the Minister, while the latter was repugnant to Koch. The Minister (it is said backed up by higher influence) eventually prevailed upon Koch to say at least something at the Congress, and accordingly, on 4th August, 1890, Koch announced at the first general meeting of the Congress, at the end of his address "On Bacteriological Investigations," that he had found a substance which could render harmless

The lymph probably prepared without much difficulty.

Koch was forced to announce his remedy prematurely.

harmless pathogenic bacteria in the living body without injury to the latter. He said that "guinea pigs, which, as is well known, take tuberculosis extraordinarily easily, when they have been submitted to the actions of the substance, no longer develop tuberculosis when they are inoculated with the tuberculous virus; and that in guinea pigs, which are already in a high degree the subjects of general tuberculosis, the malady can be brought to a complete standstill, without the body of the animal being in any other way injuriously affected by the remedy." Having said this, Koch (as the Reporter learnt from an eye witness) left the meeting in order to avoid being drawn into a discussion. (App. F, i and viii, 1.)

Enthusiasm following the announcement.

The spread of the enthusiasm following this announcement was perhaps one of the most remarkable events in the history of medical science. The teachings of John Hunter were scarcely known across the Channel, in France, for forty years after they were given to the world. For a whole year before his practice of vaccination was adopted Edward Jenner met with the most violent opposition. To get the use of chloroform adopted Sir James Simpson had a bitter struggle that lasted for years. More recently still, Sir Joseph Lister's principles and practice of antiseptic surgery have been accepted only after years of opposition from many of the leaders of the profession. And yet, on the simple word of Koch, proclaimed by the aid of telegraphy and through the medium of the lay press, the whole world rang with glad tidings which went home to every heart, for there is no other disease which blights the hopes of so great a number of human beings. Not only the medical profession but also the public at large, became excited to an extraordinary extent. Practitioners and patients rushed to Berlin, and in that inclement winter much mischief was done. It is therefore to be regretted that Dr. Koch in his seclusion remained unaware, as it must be supposed that he was, of the mischief made in his name, for, as Professor Semmola justly said, later on, a simple word from Koch at that period would have sufficed to check the growing enthusiasm, and to limit it to reasonable proportions. (App. C, v.) The interest taken in the matter by the highest personages in Germany doubtless helped to foster the public interest. The Emperor received Dr. Koch in audience, and frequently received reports of the progress of the researches, as did Dr. von Gossler. The Empress Frederick had an intimate acquaintance with the details of many of the cases treated. Confidence in the results must have been firmly established, for extensive plans were framed by the authorities in connection with the various aspects of the subject. The most distinguished honours flowed in from every quarter upon Koch and his collaborators. Deputations were sent to Berlin from every quarter of the globe to study the subject, and as soon as it could be procured the lymph was carried in every direction, and presently the journals teemed with the reports of its having been employed. (App. F, i, ii, iii.)

Experiments on the human subject.

Koch, on beginning his experiments on man, was obliged, since he was not a hospital physician, to make use of the patients of other medical men. Thus he began in the Royal Charité Hospital, the largest hospital in Berlin, and a large clinical school. Here, as one can well understand, there were too many people about for anything like privacy, and so through the medium of Professor Brieger, Dr. William Levy gave up his private hospital to Koch for his experiments. Koch most likely thought that from such a private establishment nothing would prematurely reach the public—a hope, however, in which he was entirely deceived. Then again it is important to note that in his clinical work Koch largely depended upon observations made in Dr. Levy's hospital, where the phenomena attending the use of the remedy were observed probably with more enthusiasm than judgment. But this was not all; the medical men in whom Koch confided

confided did not keep his confidences, since, while the experiments were still in progress, rumours of what was going on reached outsiders, and very soon notices of it appeared in the newspapers. In the beginning of November the *National Zeitung* actually gave a fairly correct account of the use and effects of the remedy in tuberculous cases. Professor Koch was thus in a manner forced to publish, although no one knew better than he that his work, as to the effects of the remedy on the human subject, was far from complete (App. F, i.) It should also be mentioned that the cases treated in the Levy Hospital were mainly or largely cases of lupus and joint disease, which are just the class of cases in which, so far as they could have progressed in the time, one could reasonably expect an ultimate complete healing by the remedy.

There is no doubt that the secrecy maintained led to the abuse of Koch's discovery by some physicians for pecuniary considerations solely. As Professor Mendel said at a meeting of the College of Physicians and Surgeons in Berlin:—"The public have been exploited in a manner unheard of before in the history of medicine." (App. F, vi, Jan. 14.) The reporter had it from an eye witness that patients were treated for periods of as much as fourteen days without ever having been examined physically, at 20 shillings per injection; and, indeed, it was a byc word in Berlin that the whole armamentarium of certain practitioners was a syringe and a bottle of lymph.

In a few hours after the injection a case of lupus, which is tuberculosis of the skin, as has been said, manifests a local inflammation in the affected skin. This is the "local reaction." There is also a rise of the temperature of the body generally. This is the evidence of the "general reaction" to the influence of the remedy. The local reaction can of course be seen by the eye in a superficial part like the skin, but in a deep part such as the lung its occurrence can only be inferred from what is heard by the ear. (For details see Appendix F, 3rd document.)

Owing to the high reputation of Koch as a cautious and scientific investigator his statements were tacitly accepted by many of the leaders of the scientific world; and, considering that tuberculosis kills, as is said, probably about one-seventh of the human race, it is not to be wondered at that a period of enthusiasm set in, culminating on November 14th, when Koch published his first "Further Communication." During this period nothing but hope was possible to the observer, profoundly influenced as he was by the local reaction seen in lupus and to a less degree in joint affections, &c., and inferred from the altered physical signs in phthisis of the lungs. Experience was increased as competent clinicians observed for themselves; and, as the range and number of cases treated increased, doubt began to be entertained. Finally, when many cases had died—some unexpectedly—under the treatment, and when competent pathologists had described (Virchow, January 7th, App. F. viii, 7), the results of the post mortem examinations, a decided reaction against the remedy set in. Thus where observers have altered their minds during the course of the experiments it has generally been in the direction from confidence to doubt. (App. F. i.)

Koch's account of the intimate action of his remedy is briefly summarised thus:—"The bacilli in the body produce around themselves a certain quantity of a substance that, if sufficiently concentrated, kills the living protoplasm in which they lie and by which they are nourished. When his remedy is introduced the quantity of this substance around the bacilli is increased, and thus the area of destroyed protoplasm is widened;—the bacilli are now so badly nourished that their growth is checked and they may even die. The dead protoplasm is either shed at a free surface of the body, or is gradually absorbed in its interior. (App. F, viii, 6.) In the latter case what becomes of the still

The remedy a secret.

The local and general "reactions."

Enthusiasm gave place to doubt and disbelief.

Koch's conception of the intimate action of the remedy not confirmed.

still living bacilli? There is now sufficient evidence to show that they may merely spread into the adjacent healthy tissue, or that through the circulation of the blood they may be carried all over the body. (Virchow, *loc. cit.*) Koch unfortunately, as he tells us (App. F, viii, 3), was not allowed time to work up the minute structural changes produced by his remedy, and as a matter of fact his account of the same has not been confirmed. He also said that all the nodules were changed, and that no change took place elsewhere. Neither of these statements has been confirmed (Virchow, *loc. cit.*) It would seem that the real nature of the change is that an inflammation is set up around some of the nodules by which their nutrition is interfered with.

The statistical tables include analyses of 1,790 cases.

The statistics given in the appendices present summarised accounts from 10 countries by 62 observers of 1,790 cases treated, and show reports of 11 cures and 54 deaths after undergoing treatment. They cover the months of October, November, December, and the greater part of January. Of course, many more cases must have been treated than are here indicated, but it is certain that no fewer people were treated. The records of the number of cures reported, and of the number of deaths are probably more complete than that of the number of cases treated. (Apps. D. and E.)

The remedy is not protective.

*The prophylactic or protective value of the remedy* was announced in regard to guinea pigs in Koch's first utterance on the subject, but beyond what he then said nothing special has been put on record so far as is known to the Reporter. Inasmuch, however, as even under continuous treatment tubercular ulcers of the intestine are found to spread, and new tubercles to make their appearance in different parts, it does not seem to be efficient as a prophylactic. (App. F, viii, 7.)

In diagnosis it is no more than an aid.

*The diagnostic value of the remedy.*—This is the only thing which has been tolerably well confirmed, and even as a means of diagnosis the using of the lymph is no more than an *aid*, since,—

1. Certain cases are recorded in which the bacilli had been demonstrated, and yet no reaction, either general or local, followed the injection of even more than the quantity mentioned by Koch as a test, viz., 0.010 gm.
2. In some cases in which no bacilli had been seen, and even in certain healthy persons, a general reaction has followed a less quantity than 0.010 gm.

It follows, therefore, that the absolute proportion alleged by Koch to exist between the dose, the amount of tuberculous tissue and the general reaction cannot be maintained. (App. B, iv, 2, 3, 4.)

Its curative action is still open to question.

*The curative value of the remedy.*—This effect has not yet been proven, while on the other hand, in some cases the remedy has been certainly injurious. It is, however, just to say that considerable improvement, such as could hardly be obtained by any other method in the same time, has been recorded by several observers. The duration of such improvement seems, however, to be a matter of doubt in most minds. Relapses have certainly occurred in apparently cured cases. (App. B, iv, 1.)

Cures of tuberculosis have been seen under other modes of treatment.

It is important to remember that improvement similar to that observed in the so-called cases of cure has been observed before in cases of tuberculous disease, taking place either spontaneously or under the influence of concurrent fever, various medicaments, feeding, &c. Cases which have not been more than two months, at most, under observation, since the date of their alleged cure, can hardly be said to be cured in the ordinary and correct sense of the word. The word "cure" in these cases means no more than "unusually rapid cessation of grave symptoms."

From

From what we now know of its nature the lymph must to some extent vary in its composition, and it seems probable that much of the difference which can be found between the reports of the various observers must have been due to differences in the properties of the lymph itself. It is almost incredible that some observers should have failed to observe the special effects of the remedy in typical cases of tuberculosis while other equally competent persons should have found it easy to confirm Koch's statements to a certain extent. This allusion refers only to reaction and not to cure.

Different results probably partly due to differences in composition of lymph.

It will be noticed that the greatest percentage of deaths has been observed in Berlin, and, therefore, in the place where the treatment was carried out practically under the influence of its inventor and of the confidence with which he inspired his friends, and where, also, the method has been carried out for a longer time than elsewhere. Yet it must be remembered here that for a little time some of the Berlin medical men were in such a state of enthusiasm that they can hardly be held responsible for their acts; otherwise they would hardly have yielded so often to the importunity of dying patients, and consented to inject into them a material of the properties of which they knew so little. (App. E.)

The high percentage of deaths in Berlin.

As to the absence of danger insisted upon by Koch, there can be no doubt as to the reverse being true. Not merely have cases of advanced tuberculosis died, but not a few patients who might have had some more years to live have fallen victims of the experiment. A perusal of the results of the numerous post-mortem examinations contained in the detailed report will convince one of the severity of the pathological changes induced at any rate in advanced cases; and, as few of the cases there recorded have succumbed to large doses, it is evident that Koch's contention, viz., that the fluid, if not capable of curing, may yet bring about beneficial changes in advanced cases of tuberculosis, must be abandoned. (App. B, IV, 1 and 5.)

There is danger in the use of the remedy.

In presence of the results embodied in the appendices it is not possible yet to speak with much confidence, since it is evident that the treatment has still to be tried for one or two years before any positively reliable conclusion can be arrived at. It must nevertheless be well understood that the results obtained are undoubtedly in advance of anything done hitherto towards the cure of tuberculosis, and that they warrant us in entertaining the possibility that before long tuberculosis may come within the group of those contagious diseases, which, like anthrax, have been treated for some years with fair success.

The remedy still on its trial, but it affords reasonable grounds for hope of ultimate success.

The following remarks and recommendations are submitted in reference to the proper regulation of the use of Koch's lymph in the treatment of tuberculosis:—

Recommendations, &c.

Experiments should be made on a large scale on various kinds of animals; this should probably form the first step of the enquiry, for it is evident that, although Koch's method is not perfect, it is yet probably capable of improvement.

Experiments on tuberculous animals.

Until it has passed through the experimental stage, at least, the treatment should be carried out only in cases under adequate resident medical supervision with the aid of trained nursing. It is evident that these conditions are usually met only in a well appointed hospital.

Treatment of human subject should be carried out in hospitals.

In all cases of treatment of the human subject careful records should be made and preserved showing,—

Records should be kept.

- a. The previous history of the case.
- b. The actual condition immediately before the injections.
- c. Symptoms and condition following the injections, both immediately and for as long a period afterwards as the patient can be kept under observation.
- d. In case of death the exact state of matters disclosed by a careful and complete post mortem examination.

The

- Medical men should have no merely personal interest, The medical men carrying out the treatment should have no merely personal interest whatever, either in the success or failure of the remedy.
- and should consult before the treatment is begun. As in the case of the administration of an anaesthetic in Sydney, the treatment should not be undertaken by any medical officer, until after consultation with one or more colleagues as to the suitability of the case.
- Surgical cases more promising: forbidden in meningitis. The effect of the remedy has been more promising in surgical than in medical cases. Its use is absolutely contraindicated in even the earliest manifestations of tubercular meningitis.
- Dilutions should be freshly made. The dilution used should be freshly made, for in the diluted state, even with the addition of the carbolic acid, the lymph does not keep too well.
- Dose. In lupus, in gland-, bone-, and joint-tuberculosis, begin with a dose of 10 milligrammes of pure lymph; the second dose to follow in about a week.
- In phthisis of the lungs, begin with a dose of 1 mgr., repeat daily (Koch) till no general reaction follows; then similarly with 2 mgr., and then gradually increase to 10 mgr. or more.
- For children the doses are much smaller.
- Subcutaneous injection is best. The remedy is best administered by injecting the diluted lymph beneath the skin, usually employing a 1 per cent. dilution (kept from decomposing by the addition of  $\frac{1}{2}$ -1 per cent. of carbolic acid). The injections should be carried out with antiseptic precautions, although indeed this is no more necessary with this remedy than with any other hypodermic injection.
- May be combined with surgical treatment. In many cases combined treatment with Koch's remedy and surgical assistance may give the best results.
- Modes of treatment hitherto successful remain important. As Koch says, other modes of treatment, dietetic, climatic, and medical, remain as important as before.

## APPENDIX A.

## Tuberculosis and the Tubercle Bacillus.

## CHAPTER I.

## INTRODUCTION.

IN 1675, Leuwenhoek was first enabled by the aid of most imperfect optical apparatus to detect the existence in water, of small living organisms to which he applied the term "Infusoria." A century later, a Danish investigator named Müller, in the course of twelve years' work, described nearly four hundred forms of these animalcules, which he obtained from the salt and fresh waters of Copenhagen.

In the early part of the present century microscopical investigations had become greatly more frequent, and we find Schwann in 1837, definitely proving that the phenomena of alcoholic fermentation are due to the presence of organised bodies in the fermenting solutions.

While to him belongs the honour of having first definitely proved the true relationship of such bodies to fermentation, the first observation of their presence in such fluids had been made by Cagnard-Latour, who went so far as to infer their causal relationship to fermentation, his reason being that he had never failed to observe them in fermenting fluids. Schwann, however, by a series of carefully conducted experiments absolutely proved that these organisms were the cause of fermentation.

In 1850, Davaine and Rayer noted the presence of rod-like bodies about the size of a blood corpuscle in the blood of a sheep which had died of splenic fever. Davaine, in 1863, dealt much more fully with the matter (*Comptes rendus de l'Académie des sciences*, vol. 7, pp. 220, 351, and 386), and to the rod-like body, which he now considered to be an organised being and the actual cause of splenic fever, he gave the name of "bactéridie du charbon." This organism was, at a later date, shown by Cohn to belong to the vegetable kingdom and to that group of the fission-fungi, which has now been known for a long time as the "bacilli." In giving to Davaine the credit of thus proving the cause of this disease, it is well to note that in the course of such a disease the presence of rod-like bodies in the blood had in fact been observed by Pollender eight years previously to Davaine's communication; but no inference had been drawn as to the possibility of their having any causal relationship with the disease in question. At a still later date, 1875, we had the magnificent works by Pasteur on the part played by organisms in fermentations, on the diseases of the grape-vine, on the making and preservation of beer, and his now historical work on the diseases of silk-worms. In 1876, Koch and Pasteur, working independently, were enabled to place the statements of Davaine on a firmer basis of completed proof.

In England, Tyndall had in 1870 given a lecture on Haze and Dust (*Nature*, Jan. 27th, 1870), in which he showed that beams of light were rendered visible to us only by reason of countless particles floating in the atmosphere; and Lister, after carrying out a series of researches to prove that putrefaction and fermentation were due to the ingress of such particles into materials capable of putrescence or of fermentation, applied the knowledge which he had thus gained to the practice of surgery, with the result that his principles of antiseptic surgery have now revolutionised the methods of surgical practice, and have enabled surgeons to perform with success operations which previously to this no one would have dared to attempt.

It is, however, to Robert Koch that we are indebted for the greatest advances in the methods and practice of bacteriological research, such, for instance, as the development of the method of staining the organisms by means of the aniline dyes, the use of which had been introduced into histology by Weigert, and of the method of illuminating the object by means of the condenser suggested by Abbé. By the latter the outlines of the elements of the tissue under examination are made to disappear, whilst the objects, which have been stained by the former, are vividly seen. These improvements in method are described in his work, "*Untersuchungen über die Aetiologie der Wundinfectionskrankheiten*, 1878," translated by Watson Cheyne for the new Sydenham Society, 1880. He here shows that the inoculation of putrid matter can produce in mice and rabbits six different diseases which are truly infective, being communicable from one individual to another, and which are similar to certain diseases occurring in man after wounds of the surface. He showed that each of those six induced diseases was associated with a definite and characteristic organism; that some of these organisms were bacilli and some of them micrococci; and that the six different kinds can be distinguished not only by their physiological action on the organism, but also by their form, size, and mode of growth. He therefore concluded that these different kinds of organisms are distinct species. He named these artificial traumatic infective diseases—1. Septicæmia in mice; 2. Progressive destruction of tissue in mice; 3. Spreading abscess in rabbits; 4. Pyæmia in rabbits; 5. Septicæmia in rabbits; 6. Erysipelas in rabbits. The similar diseases in the human subject are such as septicæmia, pyæmia, puerperal fever, diphtheria, hospital gangrene, mycosis of the navel of the newly-born, erysipelas, phlegmonous suppurations, &c.

In

In 1882 Koch announced the discovery of the bacillus of tuberculosis (figs. V and III.) and from this discovery the study of bacteria and of their relationship with infective processes received an enormous impulse. Since then numerous investigators have turned their attention to cultivating the organisms of specific diseases in such a form that their original pathogenic activity is so far altered, that upon inoculation into animals they do not produce the original malignant disease, but give rise to a mild form, which afterwards more or less completely protects the animal from the malady in question, for there are certain well-known diseases which run a definite course, and one attack of which we know by long experience has the effect, in most instances, of protecting the individual from a future attack. Others have attempted to isolate from cultivations of special bacteria the poisonous principles on the possession of which the virulence of these bacteria depends, and to produce by inoculation of such poisonous products an immunity from the very disease from cases of which the organism supplying the poison had originally been obtained.

These are the principles underlying the practice of vaccination, and both of these principles are illustrated in connection with vaccination against anthrax or "wool-sorter's disease." Pasteur's vaccine consists of the anthrax microbe—the bacillus anthracis—in an attenuated form, *i.e.*, the actual bacillus anthracis modified, so that its virulence is so far diminished that it no longer causes the rapidly fatal disease, but a modified form from which the animals recover and are afterwards immune from, or proof against, the rapidly fatal form of the disease. On the other hand Wooldridge, Hankin and others have shown that the fluid from a fresh cultivation of anthrax bacilli, filtered through a Chamberland filter, and thus freed from microbes, when injected into an animal renders it proof against subsequent inoculation of virulent anthrax.

Koch's latest work is an attempt to cure tuberculosis, a disease which is, so far as we know, neither locally nor generally protective, inasmuch as it tends, usually more or less slowly, to invade the neighbouring tissues, and ultimately to be disseminated all over the body. If protection were possible through the action of the poisons excreted by the organisms characteristic of this disease, we might have expected that such protection would, after a time, be attained through the growth of these organisms within a well-defined and limited region of the body. This, however, is not the case; tubercle may exist locally for almost an indefinite time, and yet the moment an opportunity is given to it, it may spread and become widely disseminated throughout the system, and lead rapidly to a fatal issue. This things being so, a review of the more important facts relative to this disease may not be out of place here.

## CHAPTER II.

### TUBERCULOSIS AS A DISEASE.

TUBERCULOSIS belongs to a group of diseases which from their microscopical appearances have been classified under the name of "granulated growths," or "granulomata"; and since they have been shown to be infective, are known as "infective granulomata." Their infective nature is seen by their tendency to spread from their primary centre of infection, and thus to invade the surrounding tissues. While however this spreading growth is constantly going on, the central regions of the infected parts are liable to degeneration and death. Neighbouring lymphatics are frequently involved and new foci are established therein; and from these by migration through the lymphatic system, secondary foci of disease are established in more distant parts. The tubercular virus is often eventually transferred to the blood stream, a general infection of the system occurs, and a fatal issue sooner or later supervenes.

While, as a rule, tuberculosis tends to become widely disseminated throughout the body, it nevertheless commonly affects one organ more than the rest, and so, during life, the symptoms presented are manifested especially in connection with the organ thus mainly affected. In this way, it has come to pass that tuberculosis is classified or distinguished according to the part or organ most definitely diseased. To this there is one exception, namely, acute general tuberculosis, in which the disease is not limited to one particular organ, and in which the symptoms are more in accordance with those which manifest themselves in connection with a specific infective fever, without marked signs of co-existent local inflammation.

The particular structural character of this tubercular disease is an arrangement of tissue which has been termed the "tubercle," or tubercular nodule. As the name implies, the disease is one in which the formation of nodules of morbid tissue is a characteristic feature. The nodules may be found either as single discrete or separate nodules, or, where there is a great development of them, they may be found as confluent masses.

Virchow (*Die krankhaften Geschwülste* II, 636) has described a recent tubercle as a small grey translucent nodule, not larger than a millet seed, mainly composed of cells, which (he states) have been developed from the connective tissue. He further states that the cellular elements entering into its composition are essentially identical with those found in lymphatic glands, being round cells which vary in size, some being the size of white blood corpuscles, others smaller, and others still larger, and epithelioid in character. The nuclei of these cells are somewhat homogeneous and highly refracting; some are small and spherical, while others are large, more or less transparent, and contain nucleolar bodies. An interstitial fibrillar arrangement may exist, being probably the fibres present in the region before the growth of the tubercle cells. Vessels may sometimes be found, but the latter, if present, are never of recent formation. Their existence in tubercular nodules is entirely due to the fact that they were present in the tissue before the formation of the tubercle itself, which grow around them; and if the tubercular

tubercular process had gone on further it would have obliterated them. All around the outskirts of the tubercle nodule there is found, in considerable quantity, an imperfectly formed embryonic or granulation tissue (Fig. V). In other cases we may find that an inflammatory overgrowth of fibrous tissue has taken place.

In the older nodules the central portions will often be found to have undergone degeneration, ending in caseation or the formation of a cheesy material, and upon microscopical examination of their substance, when it has been subjected to a process of staining, the central matter is found to be affected by the staining material in a manner somewhat different from that in which the surrounding cellular tissue has been affected (Fig. I). The definition, therefore, which best befits a tubercular nodule is that of a nodule of embryonic or small round-celled, non-vascular tissue, which does not grow indefinitely beyond certain limits, and which, when the mass has grown to a more or less definite size, tends to undergo central degeneration, followed by caseation. The central part of such tubercles frequently contains also a certain structure which has been considered by many observers to be characteristic of the truly tubercular process, namely, the "giant cell" (Fig. II).

According to certain descriptions the giant-cells result from the fusion of smaller cells; but according to the views of Weigert, adopted by Koch in his conception of the intimate action of his remedy, the cell in question arises from a single cell the nucleus of which has proliferated, but the body of which has not divided.

To a tubercle consisting of small or round cells only, the term "follicle" is sometimes applied: where a giant-cell is present, surrounded by epithelioid cells with less or more lymphoid cells, it is called a "giant-cell system," and the term "nodule" is then reserved for a group of follicles or giant-cell systems more or less fused together.

Baumgarten (Lehrbuch der pathologischen Mykologie, 1890), gives a most consistent account of the growth of a tubercle, and summarised it as follows: The invading bacilli are partly carried into the tissue by the lymph stream, and partly they enter by their simple movement of growth. They are not endowed with independent motility, and there is no good evidence that they are usually carried by wandering cells. Once in the tissue, partly they act like any other microscopical foreign body in exciting the surrounding cells to proliferation, but partly they have a specific action in producing cheesy degeneration of protoplasm. Both the fixed connective tissue cells and the epithelioid cells of the region proliferate to form the epithelioid and giant-cells of the tubercle. Where the number or virulence of the invading bacilli is not great the nuclei divide, but the cell-body does not, and thus the large multinucleated giant-cell is produced.

In accord with this, in follicles in which the number of bacilli is large, or their virulence marked, giant-cells are not common, for here the nuclear division is followed by that of the cell-body, so that in place of the giant-cell many smaller cells are produced. The non-nucleated cheesy centre of the giant-cell is due to necrosis or death of the protoplasm here, Weigert's "Coagulation-necrosis," produced by substances formed by the bacillus, and having the power of killing protoplasm. This dead central mass is no longer fitted to nourish the bacilli, and it is now free from the parasite.

But there is also a morbid irritation of the walls of the blood vessels of the infected area, in consequence of which there is a typical inflammatory extravasation of white blood corpuscles, or blood leucocytes, which penetrate the tubercular follicle from without inwards. Up to this time the follicle has been practically exclusively composed of epithelioid cells, but as the leucocyte infiltration increases, it gradually assumes the lymphoid character assigned to it in Virchow's description.

When the tubercle has reached the lymphoid condition, it is not capable of further progressive development. Its destiny is to break down and disappear, and that the more rapidly and completely, the more rapidly and completely the epithelioid gave place to the lymphoid structure. The tubercle cells begin to die at the centre of the tubercle, and thence the process extends outwards. The nuclei disintegrate and lose their staining power. The cell bodies shrivel and often stick together. Eventually a mass of granular cheesy *debris* is all that is left, and that gradually softens to form a pus-like fluid in which the bacilli luxuriate. This pus-like fluid is not pus, it does not contain the characteristic kind and quantity of pus-cells, it is simply cheesy matter softened to a liquid. In conformity with this description we find the purely lymphoid follicles, such as one meets with in very acute miliary tuberculosis in man, the most malignant and the richest in bacilli. In chronic cases of miliary tuberculosis the follicles are mixed epithelioid and lymphoid, and here the bacilli are fewer. The least malignant of all are the tubercles, consisting solely, or almost solely, of epithelioid and giant-cells, as we meet them in scrofulous lymph glands, in lupus, in tuberculous joints, &c., where the tuberculous material is poor in bacilli.

The foregoing account of the formation of giant-cells shows that it is really an inhibition of the normal process of proliferation, which does not proceed beyond its first stage, but is exhausted with the nuclear division. On the other hand, if in circumstances in which giant-cells are usually found, the irritation is stronger than usual, the whole process of cell-division may be completed, and then giant-cells are wanting.

Giant-cells are found elsewhere, so that they are not peculiar to tubercular growth. Some microscopical insoluble particles present in the tissue spaces so stimulate the neighbouring tissue elements as to produce giant-cells; some, on the other hand, do not. None of these foreign bodies, however, evoke true caseation, which is due solely to the specific properties of the tubercle bacillus, and is the essential peculiarity of the tubercular process.

This account of the origin of the giant-cell reproduces in miniature the course of events which we saw in the case of the whole follicle; first at the centre, activity of bacillar growth and nuclear proliferation, then death of the protoplasm, and disappearance of the nuclei and bacilli, while at the periphery in each case the nuclear or cell proliferation, and the bacillar growth are still progressing. A

A sort of capsule may be formed by the mere pushing back and condensation of the tissues surrounding the tubercle. This no doubt to some extent hinders the spread of the bacilli, and, interfering with their nutrition, depresses their vitality, but the chief cause of the limitation of the growth of the tubercle is doubtless to be found in the bacilli themselves, which, even on a free surface, form only little colonies no larger than a poppy-seed.

### CHAPTER III.

#### THE TUBERCLE BACILLUS.

##### 1. *Its Distribution.*

It may be found in any sort of tuberculous material, but especially where the process is in progress. Koch sought for and found the bacillus in the following cases in the human subject, viz., miliary tuberculosis, phthisis of the lung and intestine, phthisical sputum; tubercular ulcer of the tongue; tuberculosis of the pelvis of the ureter, of the uterus, testicle, lymph glands, bones, and joints; in lupus, &c., besides in many tuberculous affections, natural and artificial, in animals. He also examined the sputa and organs in a large number of non-tuberculous cases, and here he did not meet the bacillus in a single case.

In sputum from phthisical subjects (Fig. v.) they may in some cases be present in great numbers, while in other cases, or in the same case at another time, they may only be few in number. The number of bacilli has not necessarily any relation to the malignity of the disease.

It is not always an easy matter to demonstrate tubercle bacilli in the tissues, and that for this reason, among others, that they may be present in very small numbers. This is more particularly the case in slow-growing tubercle, such as that found in disease of the articulations, in chronic tubercular disease and in lupus. It is stated by Schlegtendal, (*Ueber das Vorkommen der Tuberkel-bacillen im Eiter, Fortschritte der Medicin, Bd. I., p. 537*) that after having examined 520 specimens of pus derived from tubercular abscesses, he had been able to find it present in only 75 per cent. of the cases examined. In cold or chronic abscesses, and in the pus which was derived from the breaking down of tubercular formations in bone, no proper pus-microbes could be found by Schlegtendal, even in cases somewhat acute in their progress. The pus cells from such cases did not present the appearances of normal pus cells, but consisted of a granular *débris* made up of broken down tissue suspended in a kind of serum. He affirmed that many cases of suppuration which follow in the wake of the tubercular process may be due to a mixed infection, tubercular and suppurative, but that the microbes causing the suppuration disappear before the abscess is opened and the examination made. In the walls of a so-called cold abscess are to be found the typical tubercle structures, containing within them the primary cause of the morbid condition, namely, the bacilli of tuberculosis. In cases, however, where pus-microbes are allowed to enter, after the abscess is opened, a change takes place, consisting in the breaking down of the superficial tubercular granulation and in the irritation of the process of suppuration, during which the patient is liable to septic infection, and to the more rapid local and possibly general spread of the tubercular process. Cold abscesses frequently terminate in a spontaneous cure, owing to the facts that the process is a slow one, that the lesion is surrounded by a dense zone of fairly firm tissue, and that when the abscesses are opened the central parts, which contain the infective material, are discharged.

##### 2. *Its Preparation and Detection.*

The bacilli are not easily made out in tissues or sputum unless they have been previously stained, yet Baumgarten has been able to detect their presence in sputum unstained by adding to it a solution of caustic potash, which has the effect of dissolving up the fatty particles, and in this way allowing the bacilli to stand out more distinctly in the field of view. Such a method is not, in ordinary hands, absolutely certain to be attended with success, and the other differential methods, which consist, in principle, of staining the bacilli of one colour and the material in which they lie, whether sputum or tissue, of a different colour, are much more satisfactory for general use. Probably the best staining method for general purposes is that known as the Ziehl-Neelsen method. The staining fluid is made as follows:—

Fuchsine pure	...	...	...	...	1 gramme.
Phenol pure	...	...	...	...	5 grammes.
Distilled water	...	...	...	...	100 cubic centimetres.
Alcohol absolute	...	...	...	...	10 cubic centimetres.

Dissolve and filter through paper.

Cover-glasses, which have been previously smeared over with sputum or other albuminous material in which tubercle bacilli are suspected to be present, are allowed to dry and then passed three times somewhat quickly through the flame of a Bunsen burner; they are then floated on some of this staining fluid contained in a watch-glass, the smeared surface of the glass being downwards.

Sections of tissue may also be stained in this solution, but they require a longer immersion than cover-glasses do.

Cover-glasses take about half an hour, while sections should be left in the solution for 24 hours. If the solution be heated in the watch-glass until steam be seen rising from it, the staining is successfully accomplished within a short time. In such a case cover-glasses are stained in five minutes, while sections are stained in half an hour.

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The next step, the preparation having been stained, is to carry the stained object into a solution of sulphuric acid in water, of the strength of 5 per cent. (Baumgarten) to 25 per cent. (Crookshank). They are left in this for half a minute, and are thence transferred to a dish of absolute alcohol, and there washed until all colour seems to have disappeared. The result of this is, that if the preparation is examined, it will be seen that the bacilli only have been stained, while the tissue or other material remains unstained.

In order to gain some knowledge as to the topographical distribution of the bacilli in sections, as well as to render the bacilli themselves still more distinctly visible, one usually applies a second stain, which has the effect of staining the tissue of another colour, and of producing in this way a colour-contrast between the bacilli and the background.

This second staining is by putting the preparation in a weak alcoholic solution of, say, methylene blue, and then washing in water.

The preparation, if a section, is then dehydrated by absolute alcohol, in order to remove all traces of water; then, after mounting the preparation on a slide, a drop or two of oil of cloves is added to it in order to render the preparation more transparent; this is drained off; and, lastly, a drop of Canada balsam, dissolved in xylol, is added and a cover-glass at once superimposed, which completes the operation. If it be only a cover-glass that is to be examined, the treatment with alcohol and oil of cloves may be dispensed with, and the preparation may be simply dried and then mounted in balsam.

### 3. Its Characters.

If bacilli so treated are examined by means of a Zeiss 1/12 oil-immersion objective and a No. 3 or No. 4 ocular, the form of the bacillus is well defined, and the arrangement of the bacilli and their relation to their surroundings are clearly seen.

They are not so rigid looking as the bacillus of leprosy, with which, however, they have, as regards their staining reactions, much in common.

These bacilli may be distinguished from all other micro-organisms by their staining properties. Firstly, they take up the ordinary aniline dyes much more slowly than other micro-organisms do. Secondly, when once stained and exposed to the bleaching action of mineral acids and alcohol they retain the pigment more tenaciously than other micro-organisms do. These peculiarities are probably best accounted for by assuming that the bacilli have a very thick cell membrane which makes it very difficult for the pigment to penetrate; but, when once the pigment is through, protects it from the influence of decolourising agents (Ehrlich).

The bacilli themselves are rods, which measure, on an average, from 3 to 4 micromillimetres ( $1/8,000$  inch to  $1/6,000$  inch) in length, and from 0.3 to 0.5 micros. ( $1/80,000$  inch to  $1/50,000$  inch) in breadth. Their length is much more apt to vary than is their breadth, so that while we have just given the average length it must also be pointed out that they are to be found as short as 2 micros. ( $1/12,000$  inch), and in other cases as long as 6 micros. ( $1/4,000$  inch), or even 8 micros. ( $1/3,000$  inch). Their transverse diameter is almost uniform throughout their length, but they taper off somewhat towards their extremities. They are straight, or, as in old cultures and in phthisical sputum, slightly bent. In sputum they are also very long.

In cases where spore formation, as it is believed, is present, as is especially seen in the bacilli found in oldish cheesy masses, in old artificial cultures, and, above all, in phthisical sputum, the bacilli may appear as small granules placed end to end, so as to look like portions of a beaded neck-lace. These granules appear as unstained points in stained preparations. They are believed to be spores; but if they are such they have a resistance less than that of most endogenous spores, which withstand comparatively long boiling in water—some of them, indeed, for several hours. Phthisical sputum, on the other hand, can be deprived of its virulence, *i.e.*, the spores can be destroyed, by boiling it a comparatively short time. Where these granules are not present, the bacilli appear homogeneous.

The tubercle bacillus retains its virulence even in the presence of putrefaction for a considerable time. Tubercular material has been proved in this respect to retain its qualities for a period of 40 days in rotting sputum and to do the same thing for 145 days when absolutely deprived of air (Cornil and Babes, Malassez and Vignal, Schill and Fischer.) In the dried condition the bacilli lose their infective power only in 6–10 months. Maceration and putrefaction of tuberculous material in water during twenty-five days, or a succession of freezings and thawings, does not affect its power of transmitting tuberculosis to guinea-pigs. According to Galtier (*Comptes rendus Acad. des sci.*, 1887), tubercular material which has been exposed for twenty minutes to a temperature of 60° C., or for ten minutes to a temperature of 70° C., or which has been perfectly dried at 30° C., will, if inoculated into guinea-pigs, readily induce tuberculosis.

Yersin (*Annales de l'Institut Pasteur*, 1888) and P. Villemin (*Thèse de doctorat Paris*, 1888) give tables, in which they show the result of the action of many anti-septics upon tuberculous material. Heat, and especially moist heat, boiling for twenty minutes, is thus proved to be most serviceable for the sterilisation of sputum. Corrosive sublimate is not very effective for this purpose, but the action of carbolic acid is successful if it be used in strong solution, *e.g.*, an equal quantity of 5 per cent. carbolic acid solution, stirred with the sputum and allowed to stand twenty-four hours. Steam is the best means of destroying the bacillus on clothes, &c. No antiseptic is, however, known which can destroy the bacillus of tubercle within the organism without at the same time killing the animal in which it is contained.

4. *Its Cultivation.*

Of all the pathogenic organisms which have been cultivated outside the body, the tubercle bacillus is the most difficult to grow in artificial nutrient media. The environment most favourable to its growth is that within the animal body.

Cultivations of the actual bacilli of tuberculosis (Fig. IV.) were, however, obtained by Robert Koch not only from tuberculosis in the human subject, but also in various species of animals, by placing upon the surface of blood serum coagulated by heat small fragments of the diseased tissue, care being taken to prevent the admission of contaminating organisms from the air or from any other source. By this procedure there were obtained small centres of growth, which, during the earlier days, increased but slowly. During the second week such "cultures," incubated at proper temperatures, showed small whitish or yellowish points of dull appearance, some of which looked like small flakes of cholesterol as one sees it in hydrocele fluid. From this first culture a small trace is removed with a sterilized platinum needle, and transferred to a fresh portion of the same nutrient medium, over which it is carefully spread. By this means a better culture is obtained; in from ten to fifteen days is seen a very distinct growth which is formed of small disseminated whitish grains; and during the third or fourth week after inoculation a tolerably dense film is seen lying upon the surface of the serum and consisting of the bacilli in a pure state.

The bacilli do not at all liquefy the nutrient medium unless other organisms are present as an impurity. The culture is not adherent to the surface of the serum, nor does it at all penetrate its substance. If liquid be present, as is commonly the case, at the bottom of the tube, the bacilli do not mix with it to any appreciable extent. The centres of bacillus growth are brittle and are easily broken up if they be shaken or interfered with by means of a needle.

To the naked eye the colonies of bacilli present characteristic features. When examined by a magnifying power of 30 to 100 diameters they appear as fine lines which are repeatedly bent upon themselves so that while the smaller have the shape of an S, the longer colonies have a sinuous outline, are thicker at the centre than at the edges, and in the long direction taper away to delicate points, somewhat after the fashion of a pen stroke. The older colonies are considerably the thicker. As the colonies enlarge they approach one another and may thus become confluent. If one makes an "impression preparation" by laying a cover glass lightly upon some of the colonies, and then subsequently raising it and staining the material which will have adhered to its surface, the general arrangement of the colonies will be easily made out.

The long diameters of the individual bacilli are more or less parallel to the long diameter of the colony itself. The bacilli do not lie close together but are always separated by a small, but fairly-defined interval, which is, in all probability, filled up by an interstitial material. When they are present in great numbers it is common to find that many of them contain the small granules which are probably of the nature of spores.

In general they attain their maximum of growth in from three to four weeks, and do not visibly seem to grow much after that time, but even after the lapse of two or three months, however, they may be reinoculated in fresh media.

The activity of growth of cultures in tubes is slow at 30°C (86° F) attains its maximum about 37° C. (98.6° F.) diminishes at 38° C (100.4° F.) and is completely arrested at 40°C (104° F.) Nocard and Roux (*Annales de l'Institut Pasteur*, 1887, p. 29) found that, by the addition to a nutrient medium called Agar-agar, or Japanese isinglass, (which consists of the shrivelled filaments of certain algae *Gracilaria Lichenoides* and *Gigartina Speciosa*, upon which it happens that tubercle bacilli refuse to thrive) of 4 to 5 per cent. of its bulk of pure glycerine, cultivations could be got in much greater abundance than on Koch's serum medium. The same result was found when glycerine was added to serum. On such glycerinised media they appear in four days, and at the end of five days they form a grey mass, fairly thick, and showing small projections rising above the general surface of the growth. They form little islands which are frequently isolated from each other, and the general appearance of which is not unlike that of young grey tubercles as these appear on the pleurae. If they be introduced into the culture medium by the "puncture method," that is, by thrusting a needle contaminated with these bacilli into the glycerinised medium, they are found to grow well on the surface, slightly in the portion of the puncture near the surface of the medium, and not at all in the lower course of the needle track. In broths to which a proper proportion of glycerine has been added, the growth is almost as rapid, and a flocculent deposit is noticed at the bottom of the flasks. Bacilli from cultivations in glycerinised media are, as a rule, shorter than those seen in sputum, but are otherwise identical in their general form and appearance. They possess the same characteristics as the bacilli of sputum do; they stain in the same way, and they resist decoloration by acids to exactly the same degree. Glycerine does not act simply by keeping the surface moist, but, as is proved by their growth in broths to which it has been added, by absolutely supplying that ingredient which is needed to make the medium suited to their requirements.

Koch attempted to obtain cultivations of tubercle from slices of potato, but he failed, and from the results of his experiments he concluded that the bacillus of tuberculosis could grow only upon animal substances, or within the bodies of man or the lower animals, and that it could be transmitted from man to man or to animals, or *vice versa*, only by the products derived either from man or from animals. There can be no doubt as to the correctness of his statements, when

when he says that the bacilli in question find their best soil within the animal economy; but his declaration of the impossibility of their growth under ordinary conditions outside the body is now proved to be erroneous. They have been cultivated on vegetable media, and at temperatures under 60° F.

Pawlowsky (*Annales de l'Institut Pasteur*, June, 1888) has succeeded in getting cultivations upon potatoes. His experiments were conducted with materials derived from the localised tubercle of surgical cases. The method he adopts is as follows:—Slices of potato are cut with a silver knife, and introduced into test-tubes without any preliminary sterilisation. The test-tubes used are those which were already described and used by M. Roux (*Annales de l'Institut Pasteur*, January, 1888); they are somewhat like ordinary test-tubes, but have a slight constriction about 1 inch from the bottom. The object of this constriction is to prevent the potato falling to the bottom, so that any liquid present may lie below and not interfere with the "culture" on the medium above. The tubes with their contents are sterilised by heating them in the "autoclave" for twenty-five or thirty minutes at a temperature of 115° C (239° F), and are then placed for some hours in the "incubator" in order that the "sterility" or absence of other forms of life may be fully assured. Media thus prepared are inoculated with tuberculous material by a sterilised platinum spatula. In order to obtain success it is necessary, M. Pawlowsky points out, to make the seed-material actually penetrate into the medium, otherwise there is not the same certainty of success. Previous to inoculation, the material used, which had been derived from the medulla of a bone, was bruised between the platinum spatula and a sterilised knife. The tubes are closed by sealing them in the flame of a bunsen burner.

When one inoculates such media with material which has been grown upon glycerinised agar nothing is to be seen on the surface of the potato during the first ten days after the seeding, but about the twelfth day the slices of potato are covered by grey patches, which have a drier appearance than the rest of the surface. If some of this material is removed, and placed under the microscope, it will be found to consist of bacilli. About the twentieth or twenty-first day the cultures begin to present characteristic appearances. The surface, which has been sown over, is dry and somewhat white or grey looking, and is easily raised and broken by a touch of the needle. By its dryness, as contrasted with the sterile parts of the potato, and by its whiteness it is easily distinguishable. In cultivations made directly from the medulla of bone, the growth is later in arriving at its maximum, but in most of the places where the material has been sown there will be seen in about fourteen days a line or streak which presents the appearances already described as being presented by cultivations on agar.

So far as Pawlowsky has seen, cultures from the medulla or marrow of bone are even more easily obtained upon this potato medium than they are upon glycerinised agar-agar. He had also made cultivations upon potatoes which had been glycerinised by allowing them to soak up as much as they would take of a 5 per cent. solution of pure glycerine in water. In two cultures made in this way from the medulla of bone he noticed a slightly greater rapidity of growth than in those upon plain potato, but otherwise he does not consider the one medium superior to the other. In respect of their morphology, the bacilli developed are somewhat larger than those grown upon pure serum.

At the end of three weeks the cultivated bacilli are easily stained by Ehrlich's method. Generally speaking, they are homogeneous; but among them one may see some which are longer and a little thicker than the rest, and which contain the granules already spoken of when describing cultivations made in the ordinary way. Pawlowsky considers that these are veritable spores. Injections of the second and third generations of cultures on potatoes were made into the auricular veins of rabbits. The animals died, and when examined were found to be the subjects of general military tuberculosis of the lungs, had bacilli present in the medulla of the bone, and had swollen spleens, which were filled with bacilli, and which had their capsules marked by numerous grey tubercles. Thus, he concludes that the virulence of the bacilli is not at all diminished by growth on this nutrient medium. He emphasises the fact that the penetration of the potato in the first instance by the material sown thereon is a *sine qua non* of success.

The statements thus given by Pawlowsky are well borne out by what we already know from the experiments of Nocard and Roux, who state that it is greatly more difficult to obtain primary cultivations from tuberculous tissue than it is to continue them as successive cultures when once they have started growing upon glycerinised serum or agar-agar.

Thus, Koch's original results as to the soil have not been confirmed. Neither have his results as to the temperature at which the bacilli can grow. While Koch could not get it to grow under 86° F., Beever showed at the Pathological Society in London, on 6th January, 1891, cultures that he had got in glycerinised broth at or under 60° F. According to these combined results the bacillus is not an essential parasite in the animal body, but may grow and multiply outside the body at ordinary temperatures if the soil be suitable; and most likely there are plenty of suitable media all around us. This is a result of prime importance, and it justifies the position affirmed by Candler, of Melbourne, who has again and again written against Koch's original assertion of the essentially parasitic character of the tubercle bacillus.

## CHAPTER IV.

## THE TRANSMISSION OF TUBERCULOSIS.

1.—*Experimentally by inoculation.*

KLENCKE was, in 1843, the first to induce tuberculosis experimentally. This he did by injecting tuberculous material from the human subject into the jugular vein of rabbits, after which he saw disseminated tubercles of the lungs and liver; but while Klencke's literary work was remembered, his scientific work was overlooked, and so Villemin, who, in 1865, published a numerous series of carefully planned experiments is usually regarded as the first to induce tuberculosis experimentally, which he accomplished, by means of fragments of tissue derived from cases of tuberculosis introduced into the subcutaneous tissue of animals. Chauveau obtained similar results, although the sites of the resulting lesions differed, by the ingestion of food material which contained tubercles. The results of the inoculation of animals with tuberculous matter, derived either from general or local, *e.g.*, surgical, tuberculosis are always identical, as has been absolutely proved by the experiments of Koch.

Cohnheim and Salomonsen succeeded in inducing general tuberculosis by inoculation of tuberculous matter into the anterior chamber of the eye, and by injection or inoculation of tuberculous matter into the serous cavities of the thorax. The material in question was previously broken up and mixed with sterile water. In every case the result is the same, whether the material be given by injection into the trachea, by inhalation (Tappeiner), by ingestion through feeding with milk derived from tubercular sources (Gerlach), or by inoculation with lupus tissue (Cornil and Leloir), with the pus of cold abscesses (Lannelongue), or with the material derived from strumous ganglions, or, in fact, by inoculation with any and every kind of tuberculous material, from whatever source. Even water may be the vehicle by which the infection of tuberculosis is conveyed. The experiments of Chantemesse and Vidal, which were made in the laboratories of Cornil and Babes, serve to show that tubercle-bacilli can live, retaining their virulence for 20 days at ordinary temperatures, when kept in sterile water which had been derived from the river Seine; but in this water they nevertheless, after a certain time, lose their virulence entirely.

Cornet has made a series of experiments in the laboratory of Koch, for the purpose of ascertaining the possibility of inoculating with tuberculosis through an abrasion of the cutaneous surface. The method adopted by him was slightly to abrade the skin of the animals, to apply little bits of lupus-tissue and to cover these up by the application of collodion. The result is that local tuberculosis is at once set up, and that following upon this there appears a tubercular condition of the lymphatic glands nearest to the site of inoculation, while at a later date there occurs a general miliary tuberculosis of the whole animal. In the experiments of M. M. Cornil and Leloir lupus-tissue, injected into the peritoncum of guinea-pigs, set up a tubercular peritonitis, which was followed by general tuberculosis in five out of fourteen animals experimented upon.

Subcutaneous injection of tubercular matter is, in its results, similar to inoculation of an abraded cutaneous surface; it produces, that is to say, a local tuberculosis or abscess, which is subsequently followed by disease of the nearest glands, and later on by the development of general tuberculosis. The inoculation of the anterior chamber of the eye is followed by similar results. Wherever be the site of inoculation, the lungs almost invariably become attacked when the animal is allowed to die spontaneously; and the disease in the lungs may be associated with the presence of one or more cavities in these organs. All the experiments thus detailed as the expression of conditions occurring in the lower animals are directly applicable to human pathology.

The bacilli of tuberculosis are not always discoverable in pus taken from tubercular abscesses, but inoculation of animals with some of the pus always serves to demonstrate most certainly the true nature of the disease. Arloing (*Comptes rendus* t. 99 p. 991) took the material from a scrofulous gland which was caseous in the centre, and which had been excised from a boy of fourteen. This was made into a sort of emulsion which was injected into the subcutaneous connective tissue of ten rabbits and ten guinea-pigs. The rabbits remained to all appearance quite healthy, with the exception of two, in which yellow caseous granulations developed at the point of inoculation, while in all the guinea-pigs visceral tuberculosis appeared. From this same case, at a later period, another gland was removed and used in a similar way to inoculate six rabbits, and the same number of guinea-pigs. In this experiment a somewhat similar result followed—all the guinea-pigs developed tuberculosis, all the rabbits remained quite healthy. The immunity of the rabbits in these experiments is not confirmed by the experiments of other investigators. Thus Ewe (*On the relation of Scrofulous gland disease to other forms of Tuberculosis, an experimental inquiry, British Medical Journal*, 14th April, 1888), who made a series of parallel experiments, using as the material for inoculation small pieces of scrofulous glands removed by sterilized instruments, found that five rabbits, which were each inoculated by injection into the peritoneal cavity of material derived from different sources, developed intestinal tuberculosis, while another rabbit, which was inoculated developed a cold abscess.

The bacilli of tuberculosis may be overlooked in pulmonary tuberculosis in very chronic or fibrous cases, but if the material from these cases be injected into the peritoneal cavity of guinea-pigs, general tuberculosis will almost certainly be induced.

Experimentation is thus the most sure and certain mode of proving the presence of tubercle-bacilli in suspected material. When the bacilli are subsequently found at the site of the inoculation, the proof is complete, provided of course, that it can be absolutely ascertained that there was no possibility of bacilli being introduced from other sources at the time the inoculation was made.

Inoculation

Inoculation of cultivations of tubercle-bacilli into the subcutaneous tissue of most animals is almost always followed by their general dissemination in the body, producing general tuberculosis.

Inoculation of animals by cultivations grown on glycerinised media gives results identical with those obtained from cultivations grown on Koch's coagulated blood serum.

The method of cultivation used by Cohnheim, Salomonsen and Baumgarten (*Centralblatt f. d. med. Wissenschaft.*, 31st May, 1884) is perhaps one of the most instructive. By this method an inoculation is made into the anterior chamber of the eye; and if care be taken to prevent the entrance of septic micro-organisms during the operation, it permits pure cultivations to be obtained and the tubercular process to be observed during life. With such an inoculation one can obtain, behind the cornea of rabbits, material which can be removed on the tenth day, and used as a cultivation to inoculate fresh animals, and thus after a few transferences in this way from animal to animal, there is obtained a cultivation which but for the admixture of a few leucocytes is absolutely pure.

If cultivations are retransplanted successively on artificial nutrient media, there is found to be a tendency towards a diminution in their virulence, more especially if, after each transference, the cultivations are permitted to remain on the same soil for a considerable time after their maximum of growth has been established (Fig. IV). This diminished virulence may however be restored if an inoculation be made from such a cultivation into the peritoneum of a guinea-pig, and if, after tuberculosis has been set up in the guinea-pig, the tubercle from that guinea-pig be re-inoculated upon fresh artificial media.

With regard to the identity of the virus in lupus and tuberculosis, in addition to the experiments already cited, Pagenstecher and Pfeiffer (*Berliner klin. Wochenschrift*, 1883), found that if the conjunctival secretion from patients suffering from conjunctival lupus, be injected into the anterior chamber of the eyes of rabbits, in a short time certain nodules make their appearance on the iris which are in all respects identical with true tubercle of the iris. Doutrelepont (*Die Aetiologie des Lupus vulgaris*, communicated to the International Congress, Copenhagen) inoculated the anterior chamber of the eyes of eight rabbits, and the peritoneum of fifty guinea-pigs with lupus-tissue, and found that in all these animals tuberculosis was set up at the sites of inoculation—and that in three of the guinea-pigs, and one of the rabbits, general tuberculosis thereafter ensued.

Experimental tubercles always contain the bacilli of the disease, and we are indebted to Koch for a most complete description of tubercular lesion set up experimentally. He has observed that in all cases of general tuberculosis of this kind there is, in rabbits and guinea-pigs, great enlargement of the spleen and liver.

The positive results which thus accrue from experimentation upon animals complete the necessary series of proofs of the parasitic nature of the disease which is known to us as tuberculosis; its parasitic nature being conclusively established by the existence of the specific organism, by its isolation and by the reproduction through inoculation with tubercle-bacilli free and perfectly unmixed with other organisms, of all the symptoms and pathological signs which are associated with the original disease. Experiment further shows that any method of inoculation serves to produce tuberculosis if the material used be derived from a tubercular source.

## 2.—From parent to child before birth.

In considering heredity as a factor in the transmission of tuberculosis, two lines of inquiry are open: first, whether the factor transmitted is a certain constitutional predisposition to the disease; or, second, whether the actual thing—the bacillus causing the disease in question—is itself transmitted.

Under the first supposition we may include certain organic defects, the occurrence of which may leave the child more or less open to infection; or we may assume, as certain authorities do, that there is transmitted a diminished or defective vitality which renders the individual less able to withstand the infection, and that there exists among the individuals of any species a wide range in the power of resisting certain diseases has long been a well recognised fact.

Tuberculosis of the newly-born is very rare, although it does occur. Miller, at the Copenhagen Congress in 1884, reported having observed one congenital case. It is much more common between the third and twenty-fourth month of infant life. Thus Hervieux (*Société des hôpitaux*, 1886, p. 169) reports 18 cases met with in the course of 996 autopsies of infants from birth up to two years of age. West reports 118 cases, and Landouzy and Queyrat (Queyrat, *Thèse de Paris*, 1886) report 11 cases. Lannelongue (*Études sur la tuberculose*, 1<sup>re</sup> fasc., 1887, p. 85) notes 1,005 cases occurring among children from birth up to the age of 15. Leroy (*La tuberculose du premier âge, Études de la tuberculose*, t. II, 1888, p. 1.) has published observations relative to 54 cases occurring among infants from birth up to two years of age. We have thus to note as a very significant fact that whereas tuberculosis is rare at birth it is common in early infancy, during which period the food of the infant is, for the most part, milk, either human or bovine. To this, however, we must add that during early infancy the infant is liable to numerous infectious and other maladies which might either render it more susceptible to tubercular infection, or might render active an already latent tuberculosis.

There are certain facts which tend to support the probability of children being born the subjects of latent tuberculosis. Thus Jobne (*Congenitale Tuberculose, Fortschritte d. Med.*, 1885, No. 7) has found in the uterus of a cow, which died in advanced tuberculosis, a foetus in which, on examination, a tubercular nodule of the size of a pea was discovered in the lower lobe of the right lung, while the bronchial glands were tubercular, and there was also disseminated tubercle in the liver. In the tubercles

giant,

giant-cells and bacilli were seen. No tubercle was present either in the placenta or the uterine cavity. He has, however, only found four cases of tuberculosis among 15,400 calves killed in the abattoir of Berlin. Schlcuss and Grothaus (Mitth. a.d. Thierarzt. VII) saw tubercles in the pleuræ and peritoneum in several fetuses taken from tubercular cows. Malvoz and Brouwier (*Annales de l'Institut Pasteur*, 1889, p. 153) have published the observation that in a foetal calf of 8 months, taken from the uterus, tubercle was discovered, and in a calf of 6 weeks old tubercular giant cells and bacilli were found.

Landonzy and Martin ("Faits cliniques et expérimentaux pour servir à l'histoire de l'hérédité de la tuberculose."—*Revue de médecine*, Décembre, 1883) have experimented by inoculating guinea-pigs with material from a foetus derived from a woman affected with tuberculosis; and although to all appearances the foetus itself was healthy, yet the guinea-pig died of general tuberculosis four months after the date of inoculation. Other experiments made by these observers seem to warrant their coming to the conclusion that tuberculosis may be transmitted by spores. Other observers, however, such as Nocard, Galtier, and others, working on parallel lines, have not obtained the same result. The experiments on animals of S. Toledo (*Archives de méd. expér.*, Juillet, 1889), in which he attempted to infect the foetus by injecting cultivations of bacilli into the blood of the mothers were followed by negative results so far as infection of the foetus was concerned. While, however, these results are of the greatest interest we are forced to confess that transmission of tubercle from mother to foetus has in animals absolutely been found to occur.

Jani (*Lancet*, September 4, 1886, p. 455) has made certain observations on the condition of the sexual organs of both sexes, with the view of inquiring as to the presence of tuberculosis therein. He has examined the sexual organs in nine cases of phthisical male patients, and has not been able to detect bacilli in the semen of the vesiculæ seminales, but in five out of eight cases examined he was able to detect their presence in the testicles, and, in four out of six cases examined, in the prostate. From two phthisis cases in women he got only negative results by the examination of the ovaries; in the case of one woman, a case of chronic phthisis in which intestinal tuberculosis was present, he found bacilli in the Fallopian tubes. He, therefore, thinks that the virus of this disease may be transmitted in one of two ways; either by means of the semen, or by migration of the bacilli from a tubercular abdominal cavity into the uterus.

Infection through the medium of the placental circulation seems to be unusual. In the case of a woman who died when five months advanced in pregnancy, and in whom there was acute miliary tuberculosis with a large tubercular growth in the pulmonary vein, no bacilli could be found in the placental attachments or in the lungs or other organs of the foetus. It is however quite possible that in chronic tuberculosis a tubercular nodule might form near to the placenta, which it might latterly invade and so infect the ovum.

### 3. From one individual to another after birth.

The possibility of the transmission of tuberculosis from one person to another, has been so clearly demonstrated that it is now undeniable.

#### *Reception of the contagion by inhalation.*

Contagion undoubtedly may be conveyed by the air when the material containing it is in a dry state. Martin du Magny (*Contributions à l'étude de l'inoculation tuberculeuse chez l'homme*, Thèse, Paris, 1886), from a series of collected cases, states that sputum and the animal excretions are the usual carriers of contagion, and that hence among those most liable to receive infection are physicians, nurses, butchers, &c. Like results are given by Cornet, Heron (*Evidences of the Communicability of Consumption*, 1890), and others.

In summer, during warm dry weather, the phthisical sputum on clothes, the ground, &c., is converted into dust and carried about by the air, so that the bacilli are widely dispersed. On the other hand, the occurrence in winter of such diseases as bronchitis, during which the epithelial coverings of the air-passages are desquamated, offers the most favourable opportunities for inoculation of tubercular disease by inhaling particles of dust containing tubercular matter. The virulence of phthisical sputum is more persistent than that of any other tuberculous material—probably owing to the spores contained in its bacilli.

Cornet (*Zeitschrift f. Hygiene*, 1888) has proved the presence of bacilli in the air of rooms inhabited by tubercular patients. His method of proof consisted in injecting into the peritoneal cavities of guinea-pigs some of the dust from the apartments. Tuberculosis was produced in these animals.

Inhalation experiments made by Tappeiner, Thaon, Klebs, Weichselbaum and others, produced in almost every instance the early onset of tuberculosis of the air passages, which, beginning at the larynx, almost simultaneously involved the whole tract, from which the disease spread by involving in the first place the peribronchial glands.

#### *Reception of the contagion by ingestion.*

The effect of administering experimentally by the mouth tuberculous milk is almost always to set up a tubercular ulceration of the intestinal mucous membrane, and at a later date tubercular lymphangitis and disease of the mesenteric glands. The intestinal lesions extend at a still later period to the peritoneum. On the other hand, tuberculosis of the peritoneum, occurring as a sequence to inoculation in any way, is characterised by an eruption in the first instance, of miliary tubercles in the peritoneum, the spleen, and the liver, while the intestinal mucosa and the mesenteric glands are usually found after death to be free from disease.

As regards infants, there is no doubt that if fed on tuberculous milk, they often develop tuberculosis. And it has been shown by numerous workers that the milk from tubercular cows can be proved, either by experimental injection into animals or by microscopical examination, to contain the virus of tuberculosis. Children, moreover, during the earlier months of infancy are frequently specially open to the access of tuberculosis, for during this period the onset of gastro-intestinal catarrh or of some eruptive fever, by altering the condition of the mucous membrane of the intestinal tract or that of the epithelial covering of the air passages, practically removes the natural protection of these organs, and if contagion be then present the infant is liable to infection. During this period also there is the possibility of infection being transmitted from a phthisical parent or nurse, either by the agency of natural milk or by contact, as for instance, in kissing, or where a phthisical mother chews her child's food for it. The same thing may happen where two individuals, the one phthisical, the other healthy, use the same drinking utensils, &c.

The greatest stress ought to be laid upon the fact that milk from cows suffering from tuberculosis is in the utmost degree dangerous, as being likely to carry contagion, and unboiled cows' milk should therefore always be regarded as a dangerous material. There is, of course, the same danger from the milk of mothers or nurses who are the subjects of phthisis. Edington has detailed an observation ("Lactation in a non-pregnant animal coincident with Anthrax infection," *Journal of Comparative Pathology and Therapeutics*, vol. III, p. 33) that in the case of a non-pregnant rabbit which had been inoculated with anthrax, upon the day after the inoculation the mammary glands were in a state of active secretion, that upon examining the milk, which was of a watery character, numerous anthrax bacilli were found therein, and that at the autopsy there was found to be an irregular distribution of active tissue in the gland, all the active tissue having bacillary growth near it. Such an observation would tend to indicate the possibility of bacillary growth acting as a direct stimulus to glandular secretion, and although the irritative rôle played by anthrax bacilli is widely different from that played by tubercle bacilli, yet there may exist in tubercle a certain analogy with this action of anthrax; and we do, at any rate, know that tubercular disease occurring in the mammary gland does not, at least in the early stage of the malady, check the mammary secretion.

The danger of using the flesh of tubercular cattle as food was fully discussed at the Tuberculosis Congress in 1888. Nocard, experimenting with the muscle juice of tubercular animals, found that after injecting into animals one cubic centimetre, he got only negative results. He considers that the muscle juice is destructive to bacilli, and hence that muscular tissue when used as food need not be considered dangerous. We have, however, to remember that the connective tissue between the muscular fibres may be the seat of tubercular nodules which might be invisible to the naked eye, and hence we may still conceive a distinct possibility of danger. Galtier, experimenting with a series of twenty-two animals, to determine the extent of this possibility, got positive results in five cases. Chauveau and Arloing stated that there was not a constant danger in the consumption of meat from tubercular animals, but that the danger nevertheless did really exist and had to be guarded against. Cornil and Babes think that the views expressed at the Congress on Tuberculosis as to the danger from meat went too far, and they consider that the danger is present only when one has to do with meat derived from an animal which has been the subject of general tuberculosis.

Milk used as an article of diet should be boiled. Meat should also be thoroughly heated in order to ensure the destruction of any bacilli which may possibly be present in it. It has to be remembered when meat is roasted that the central portions are not heated as much as the outer portions are; in order to kill all the bacilli in meat, if there be any, the temperature of every portion should be at least 70° C. (158° F.), and this temperature should be maintained for at least an hour.

#### *Reception of the contagion by inoculation.*

Lehmann (*Ueber einen Modus der Impf-tuberculose beim Menschen*, Deutsche med. Wochenschrift, 1886) gives a detailed record of ten cases where inoculation took place during the ceremony of circumcision; in these cases the Rabbis who sucked the parts were themselves affected with tuberculosis, and they communicated the virus through their saliva. Elsberg (*Centralblatt f. Bacteriologie u. Parasitenkunde*, Bd. II, p. 577) also details three cases similar to the above, and in the lesions of which tubercle-bacilli were demonstrated.

As to infection of wounds, Volkmann stated many years ago that tuberculosis never occurred as the result of infection during extensive surgical operations or following upon severe injuries, but that it arose readily from the entrance of infection into a small and trivial wound. The external appearances following upon infective material being applied to a small wound consist in the formation of a small nodule of tubercular growth, or the formation of a small miliary abscess, around which there appears a dense papillomatous zone. This surrounding zone subsequently breaks down and suppurates, while the central portion heals or tends to heal, with the formation of a flat cicatrix, the destructive process meanwhile going on around and spreading peripherally.

Numerous cases are detailed in which individuals have in this way become infected. Eiselsberg (*Beiträge zur Impf-tuberculose beim Menschen*, Wiener med. Wochenschrift, 1887, No. 53) details four cases, one of a girl who was infected through ear piercing, one of a man who was infected through a small wound made with the point of a knife, one of a woman who was infected from the clothes which she was washing, and which contained tubercular pus from a patient with spinal disease, and one of a girl who was infected by means of a hypodermic syringe. In all these cases the lesion was not co-existent with any other form of tuberculosis.

As

As to the possibility of tubercular disease being transmitted through the agency of vaccination, the observations and experiments made so far tend to point to a negative rather than to a positive conclusion. Chauveau (Copenhagen Congress, 1884), Meyer, and others decide against the possibility of infection from this source. Strauss (Communication à la Société de biologie, 14th February, 1885), reported that in twenty vaccinations made from phthisical individuals to healthy animals no tuberculosis ensued. Notwithstanding such assertions we should remember that it has been stated that certain other diseases can be, and have been, transmitted from one infant to another through vaccine lymph, and consequently vaccination ought to be performed with lymph taken either from animals in which the absence of tuberculosis is made certain by destroying and afterwards examining them, or if human lymph is to be used the very greatest care should be exercised in its selection.

4. *From one part to another of the same individual.*

Raymond ("Contributions à l'étude de la tuberculose cutanée par inoculation directe," *France Méd.*, 1886 p. 99) details how a patient who was the subject of tuberculosis infected a small wound in his own hand by sucking it.

## APPENDIX B.

## A Special Account of Dr. Koch's Method.

## CHAPTER I.

## DESCRIPTION OF THE REMEDY—PREPARATION.

THE remedy itself is a clear straw or brown coloured fluid with a faint smell and a slightly saline taste. It does not readily decompose. It is simply a glycerine extract of pure cultivations of the tubercle bacillus.

The strength of the glycerine solution used in making this extract is from 40 to 50 per cent. in water. The active principle is precipitable by absolute alcohol, and after purification from colouring matter and other substances, a colourless dry substance can be obtained, which contains the active principle in a much more concentrated state than the glycerine extract. This active principle is of a nature not yet known. Dr. Koch believes it is not a toxalbumin, because it can withstand high temperatures, nevertheless he thinks it is a derivative of albuminous bodies. There is, however, no necessity for purification of the glycerine extract, as the substances removed during the process have no effect on the human organism.—Koch, Jan. 15, 1891, *Brit. Med. Jour.* p. 126.—The quantity of active principle in the extract is estimated at a fraction of 1 per cent., so that 1 cc. of the original extract would contain less than 0.01 gramme of active principle.

## CHAPTER II.

## SUPPOSED MODE OF ACTION—KOCH'S HYPOTHESIS.

THE guiding principle in the application of the remedy is based on the hypothesis framed by Koch regarding the action of the substance, viz., that—

- A. The bacillus tuberculosis produces a substance causing coagulative necrosis of living protoplasm.
- B. That when the protoplasm is in a state of coagulative necrosis it does not support the life of the bacillus which then degenerates and dies, provided the patch of necrosis is large enough to separate the bacillus from living tissues.
- C. That when a few bacilli are present in a part, or isolated, the artificial addition of the necrosis-producing substance in certain doses, allows the necrosis to extend further than it would have done without such help.
- D. The effects of necrosis are:—
  1. The disintegration of the tissues and the formation of a slough which in certain localities can be eliminated with its enclosed bacilli.
  2. Interference with the growth of the bacilli which thus die much sooner than is the case under ordinary circumstances.
- E. The necrosis-producing substance, which in small doses acts readily on tuberculous material, in larger doses would affect even healthy cells, such as white blood corpuscles, hence the reaction produced in healthy individuals by large doses. By others the general reaction has been considered to point to a septic action, and this is supported by the occasional appearance of exanthemata and jaundice.

## CHAPTER III.

## MODE OF ADMINISTRATION.

1. The remedy has no effect when taken by the mouth.
2. It is very active when inhaled in the form of a spray.
3. It is best administered by the subcutaneous method. The strength of the solution recommended by Koch in his first communication was one part of the original extract diluted with 100 parts of distilled water containing a small quantity of phenol ( $\frac{1}{2}$  to 1 per cent.) This solution does not keep well. One cubic centimetre of the solution will therefore correspond to 0.01 of the original lymph. One cc. of this diluted solution is the smallest dose which Koch had found at that time capable of producing an effect in a healthy human being, and is the dose with which Koch recommended cases of lupus to be treated from the beginning. Smaller doses were to be used in other cases as will be explained afterwards. To inject this fluid subcutaneously, a small syringe is used. Dr. Koch recommends a modification of the Pravaz syringe, which he has designed for bacteriological purposes; this syringe has the advantage of being easily disinfected by means of alcohol, as there is no piston. The fluid is driven by air pressure, produced by compressing a small india-rubber ball connected with the upper end of the body of the syringe. It is well to remember, however, that several bacteriologists have had equally good syringes constructed for the same purpose, some of which seem even better

better and more easily disinfected than Koch's own syringe. This is specially true of Dr. Stroschein's syringe, for a description of which, see *British Medical Journal*, 1891, I, 292. The syringe is to be disinfected every time it is going to be used by means of a watery solution of mercury chloride, 1 in 2,000, and then by means of absolute alcohol. The tube of the needle must also be carefully cleansed by the silver wire being passed through it, followed by a stream of absolute alcohol. The same precaution is also to be taken after each injection. (Although these precautions seem to be sufficient to prevent the inoculation of a patient with the tissues or fluids of another, it has been proposed by someone to use a fresh needle for each patient.) The proper quality of diluted lymph being poured into the syringe, the injection is made beneath the skin of the back below the shoulder blade. This site was chosen because here it caused least irritation to the patient. The injection is to be made slowly, and the wound may afterwards be covered by some antiseptic dressing, although in practice this has now been abandoned.

*Dosage*: Guinea-pigs are much less susceptible to the action of the remedy than man. Thus, one fifteen-hundredth part of a dose which has hardly any effect on the guinea-pig, will act very powerfully on man.

In his first further communication the doses recommended for man by Koch were--

1. In cases of lupus, 0.01 cc. of the original lymph from the first, the second dose being given after a week or two. In some cases three or four such injections were said by Koch to have produced complete cicatrization, although the patients had been suffering for many years.
2. In glandular, bone and joint-tuberculosis—treated like lupus, a speedy cure should be obtained in recent cases, slow improvement in severe cases.
3. In phthisis, Koch recommends to begin with 0.001 of the lymph, the dose to be repeated daily until no reaction can be observed, then 0.002 to be repeated daily until no reaction is obtained, and thus the dose to be increased gradually up to 0.01 cc. or more. Larger doses can, however, be used when the patients are sufficiently strong. Advanced cases of phthisis might be benefited by the remedy for a time, but were on the whole unsuitable cases for the treatment.
4. Doses for children much smaller, 0.0005, or even less being used.

#### CHAPTER IV.

##### EXAMINATION OF DR. KOCH'S STATEMENTS.

In his further communications of 15th January, Koch says, "I can only say that all I have lately seen is in harmony with my former observations, and that I have nothing to retract of what I have before stated." It is therefore evident that the indications for treatment above recorded, are those corresponding with Dr. Koch's own ideas. It is useless to go here into details of the effects of the remedy in healthy and diseased individuals; Dr. Koch's descriptions may be taken as a basis for discussion, and could hardly be shortened. In discussing his views the whole of the text of his communications will be supposed to be known, but his own sentences uttered on various occasions will be compared with each other, and with the results of statistics collected in a large number of hospitals all over Europe.

It will be necessary to consider Dr. Koch's statements seriatim, and this will be done in the following order:—

1. Curative action of the remedy in various forms of tuberculosis.
2. Diagnostic value of the remedy.
3. Proportion between the general reaction and the amount of tubercular tissue.
4. Local reaction of tubercular tissues.
5. Danger attending the injection of the remedy.
6. Effects of the fluid on tuberculous tissues.
7. Effects of the fluid on the bacillus.
8. Reasons for keeping the remedy secret.

There is still a matter difficult to explain, and that is the entire absence of reference to the work of predecessors and colleagues. It would, however, perhaps, be premature to speak on this subject.

It will not be necessary to discuss very fully anything concerned with the hypothesis regarding the nature of the remedy and of its action, as many of the facts have yet to be proved.

##### 1. Curative action of the remedy.

Koch said on 16th August, 1890, "I have at last hit upon a substance which has the power of preventing the growth of tubercle bacilli, not only in a test tube, but in the body of an animal, from these researches I do not draw any further conclusions than the possibility of rendering pathogenic bacteria in the living body harmless, without injury to the latter."

On November 22 Dr. Koch says, "The remedy does not kill the tubercle bacilli, but the tuberculous tissues; it can influence only living tuberculous tissue, it has no effect on dead tissue. In such masses of dead tissue living tubercle bacilli may possibly still be present, and are either thrown off with the necrosed tissue, or may possibly enter the neighbouring still living tissue under certain circumstances."

On

On the same date, November 22, Dr. Koch says, "That lupus spots were brought to complete cicatrisation by three or four injections, that in glandular, bone, and joint tuberculosis the result was the same as in the lupus cases. A speedy cure in recent and slight cases, slow improvement in severe cases, also, that within four to six weeks patients under treatment in the first stage of phthisis were all free from every symptom of disease and might be pronounced cured, and that these experiences led him to suppose that phthisis in the beginning could be cured with certainty by this remedy." This last sentence, however, he qualified by saying, "Relapses, naturally, may occur, but it can be assumed that they may be cured as easily and quickly as the first attack."

On January 17 he says again, "And, in regard also to the therapeutic effect of the remedy, most accounts agree that in spite of the relatively short duration of the treatment many patients show improvement, varying only in degree. In not a few cases I am informed that cure even has been attained."

One needs only to compare these various statements of Koch himself to perceive that although he believes in the therapeutic effect of his drug, yet his notions concerning its value have altered. At first, the remedy was to stop the process of tuberculosis without injury to the patient. Then it was admitted that the process could only be successful when a certain amount of living tissue could be killed, and unless that tissue was removable the extension of the bacillus was still possible. Notwithstanding this, Koch still held that many cases of internal tuberculosis were curable, and that the cure might be effected within four to six weeks. Lastly, about sixteen weeks after the beginning of the experiment, Koch is satisfied with the following statement: "Many patients show improvement varying only in degree; I am informed in not a few cases that a cure even has been attained." Koch himself, out of 150 cases selected and treated under his own eyes, mentions only two cases of cure.

It seems, therefore, that one is justified in suspecting that the results have not come up to the expectations formed at first, and that Koch himself is somewhat disappointed. But if we compare with his statements those of a large number of observers working independently of him, although following his directions, we find that the results are much less favourable than Koch would lead one to believe. In phthisis, we find that in Berlin Dr. Guttman, who seems to have obtained the most satisfactory results, and was working at the Moabit Hospital, practically under Koch's own eye, out of forty-one cases of phthisis which had been from three to six weeks under treatment, and were all in the first stage of the disease, two girls only are described as cured, and these are the same as those described by Koch himself, in which the bacilli had permanently disappeared from the sputa, the symptoms had disappeared, and the cure had continued for some time.

Another case is said to have been nearly cured, and most of the others had shown improvement; five, however, had lost weight, which would mean that, even in those early stages, at least 12 per cent. of the persons did not seem to improve, and perhaps got worse under the treatment.

Other favourable results were also recorded by Fränkel, who, however, could not report more than one case of cure by the 21st January.

Fürbringer, at the Friedrichshain Hospital, on the 27th December, out of forty-one phthisical patients, treated for four weeks, mentions ten cases as benefited in a striking manner. Ziemssen and Oppenheimer both remark that under the injection the cough is so much better that narcotics can be omitted. When, however, we come to the reports of the physicians of the Charité Hospital, where it must be remembered the treatment was first carried out in a public institution, and that very early, and under Koch's own supervision, we find that Senator, for instance, gives a very guarded opinion even on 10th December, that is, when enthusiasm was still high. He certainly does not report a single case of cure, although he mentions improvement in several cases. Dr. Leyden, of the same hospital, was also very much impressed in Koch's favour at the beginning, and was a strong believer in the efficacy of his treatment. But in the recent discussions which have taken place in Berlin, he has said nothing, or very little, and on the 14th December Jürgens reported two cases of death under Leyden after a series of very small doses. It is true that the cases were advanced. Everybody knows that on 7th January at least sixteen patients suffering from phthisis in various stages had died at the Charité whilst under, or after, treatment, as shown by Virchow's accounts of the *post-mortems*. The most interesting record, however, is that of Professor Ewald, of the Augusta Hospital, who, on 21st January, gave an account of 114 cases which had been treated by him, twenty-nine of which had received the full treatment (seventy-three were still under treatment), five died whilst under treatment (two almost certainly from the injection alone), and seven left, owing to their condition not being sufficiently improved, and to their not being satisfied with the treatment. Of all these patients, Dr. Ewald said he could not consider a single one cured. Some of those discharged had certainly improved, but he could not say for how long, whilst the treatment was so dangerous that he felt it was the duty of any physician to warn the patient of the danger he was running, just as is done before the performance of a surgical operation. These are the results of the Berlin physicians. From various towns in Germany, in Austria, France, Belgium, and even from England, Spain, and Italy, which from the first were favourable to the treatment, similar opinions could be obtained, and in some cases the treatment was condemned in very strong words. It would not be difficult to find more than thirty cases of death of phthisical patients occurring during treatment, it can therefore be said safely that Koch's treatment in advanced cases of phthisis pulmonum is now universally admitted to be contraindicated and for pulmonary phthisis,  
even

even at the early stages, it is for the present at least not considered to be a success if indeed it is not considered to be more or less a failure, at least as far as its curative properties are concerned. It is likewise contraindicated where the tuberculous process, after having progressed in the ordinary way, suddenly rapidly progresses, and on the other hand it is also contraindicated when the tuberculous matter has become encapsuled and has long lain without causing symptoms. In tubercular meningitis it is strongly contraindicated. One often meets with patients under the injection who are in a remarkable condition of well-being or well-feeling rather (euphory), probably, however, to be explained by the "great expectations" that the patients often have from the injections, and thus a simply psychical phenomenon.

In laryngeal phthisis many cases of improvement have been recorded both in Berlin and elsewhere. There are, however, some doubts as to the effect of the lymph on the amount of ulceration present.

In tuberculosis of the urinary organs the general opinion has been distinctly unfavourable, although some cases of improvement have been recorded. In tuberculosis of the testicle the results have been generally unfavourable. In intestinal tuberculosis or tuberculosis of the alimentary canal, generally speaking, the results have been very unfavourable, and several cases of death have occurred.

In tuberculosis of the brain and meninges the treatment has generally been found deadly.

In tuberculosis of the supra-renal bodies, Addison's disease, the effects have been doubtful.

In scrofula, and especially scrofulous affections of the eye, the treatment is said to be very successful by some.

In tuberculosis of the iris and internal parts of the eye the effects have apparently been, in some cases, disastrous.

In bone and joint tuberculosis opinions are much divided; it seems, however, that in cases taken so early as to make the diagnosis almost a matter of doubt, cases have been cured. But when bones have been distinctly affected the results have been generally unsatisfactory, except when there were free communications with the surfaces, through suppurating sinuses, or where operative interference had been resorted to.

In tubercular glands the results have been sometimes favourable, sometimes unfavourable, but on the whole generally good, although it is impossible to speak of a cure within such a short time. The most satisfactory result have been obtained in cases of lupus, a large number have been treated in all countries, and the immediate effects are described by almost every observer as simply marvellous, while the tendency to cicatrization is certainly considerably increased. But of the few cases which have been recorded as cured, several, including at least two which had been treated under Koch's eyes, have relapsed after a few weeks, and the process is said to have recurred with great intensity. All these statements can easily be verified by a look at the tables bearing on this subject.

The general conclusion to be derived from all this regarding the curative effects of Koch's treatment is that this effect has not been proved, and that in some cases instead of the treatment curing tuberculosis it actually kills the patient.

It is however just to say, that considerable improvement, such as could hardly be obtained by any other method in the same time, has been recorded by several observers, though the duration of this improvement seems to be a matter of doubt in most minds. Neither must I omit to mention that a great many surgeons, such as Lindner, Bardenheuer, Koehler, Bardeleben and others, say that the healing of wounds progresses more favourably with the Koch injections than without them.

Conditions in which the use of the remedy is contraindicated—we may put them together for convenience of reference—

1. Advanced cases of phthisis pulmonum.
2. Where the tuberculous process suddenly rapidly progresses after a period of comparatively slow progress.
3. Where the tuberculous matter has become encapsuled and has ceased to cause symptoms.
4. Large pleuritic effusions.
5. Tuberculosis of the brain and meninges.
6. Nephritis complicated with dropsy.
7. Extensive amyloid disease.
8. Cachexia or debility from any cause whatever.

## 2. Diagnostic value of the Remedy.

Koch said on November 22, that: The symptoms of reaction which he had described occurred without exception in all cases where a tuberculous process was present in the organism; whilst the healthy human being reacts either not at all or scarcely at all after a dose of 0.01 cc. of the lymph, and the same holds good, that is, there is no reaction, in patients suffering from diseases other than tuberculosis. Koch adds, "I think I am justified in saying that the remedy will therefore in future form an indispensable aid to diagnosis." And on January 17, he says again, "the remedy exercises a specific action on tuberculous tissue, and can in consequence be employed as a very delicate and certain reagent in searching out hidden, and diagnosing tuberculous processes." In

In connection with the diagnostic value of the remedy we may also discuss the alleged—

3. *Proportion existing between the general reaction and the amount of tuberculous tissues.*

As experienced by Koch on November 22nd, when there is a good deal of living tuberculous tissue a small amount of the active principle suffices to cause reaction. When the tissue capable of reaction disappears a larger dose of the remedy is required to produce reaction. It may also be well to consider here the

4. *Local reaction of Tubercular tissues.*

Consisting of swelling, increased sensibility, and redness, which according to Koch are so typical and visible in all cases of tuberculosis of superficial parts, and which by analogy are also supposed to occur in the internal organs. Generally speaking it must be said that Koch's observations have been relatively confirmed, but that strong exception has been taken to his absolute statements, *i.e.*, whilst both general and local reactions have been observed in cases of tuberculosis with doses of 0.01 grm. or less, there have been not a few cases in which such reactions have not been observed even with larger doses. Thus James Israel records a case of lupus in which the bacillus was seen under the microscope, and in which nevertheless no reaction of any sort supervened. What the explanation of this is one cannot say: it is "an exception," which when explained will surely throw much light on the action of the remedy. On the other hand, healthy persons and non-tubercular patients have been reported by many to have reacted to doses smaller than 0.01. It follows that Koch by saying that the reaction occurs without exception, and that the remedy is, therefore, an indispensable aid to diagnosis, has gone further than actual facts warrant. But relying on Koch's statement some have striven to throw light on the nature of certain affections allied to tuberculosis. Thus in lupus erythematodes, Lewin, of Berlin, obtained both general and local reaction; Arning, of Hamburg, only the general reaction, and Koebner, of Berlin, only the local. On the strength of these results, Lewin would associate *L. erythematodes* and *L. vulgaris*, while the others, and especially Koebner, would still keep them apart. Leprosy is another of those allied diseases, and in this connection is of extreme interest.—(Vide the tables). It has also been used to differentiate lupus on the one hand from syphilis and carcinoma on the other hand, to determine if lichen syphiliticus has a tuberculous character, to disclose latent tuberculosis and to show whether or not after an operation any tuberculous material remains behind.

As to the proportion existing between the amount of disease and the reaction, there are very few observers ready to support Koch on that point, in fact, most observers have flatly contradicted it, and have insisted upon the extreme unreliability of the reaction.

Even the local reaction has been observed by many to be deficient in many cases. As all these accounts will be found summed up in tables only the general conclusion need be given here.

5. *Danger attending the use of the remedy.*

Regarding the absence of danger of the remedy upon which Koch himself insists from his first to his last communications, there can be no doubt as to the reverse being true.

Not only have cases of advanced tuberculosis died, but not a few patients who might have had more years to live have fallen victims of the experiment, the fatal result from pyopneumothorax due to rupture of the pleura, reported by Dr. Lazarus of the Jewish Hospital in Berlin, is an instance of a case of this kind, and others are not wanting—for instance collapse (Kast of Hamburg), perforation of the intestines (B. Fraenkel of Berlin), fatally violent reaction (Oppenheim of Berlin), also Jariach and Burckhardt. Clinical observations of fresh eruption of tubercle are recorded in lupus of the gum by Litten and Baginsky, in tuberculosis of the tongue by A. Fraenkel, Berlin, and general miliary tuberculosis has also been seen. Diarrhoea is common. Owing to the swelling of the mucosa, tracheotomy has been needed. The case of Jarisch above noted is important, for here death supervened quite unexpectedly a few hours after the injection, and it only shows that in certain circumstances the remedy just like chloroform may prove lethal. Experience alone will show whether or not the grave complications and the deaths may be put aside in view of the possible blessings conferred by the Koch remedy, as has in fact happened in the case of chloroform. And it would be unjust to omit to mention here that clinicians of great experience, such as Litten, Fraenkel and Fürbringer, of Berlin, Ziemssen of Munich, and yet others have had no untoward results whatever.

The exanthemata, herpes and jaundice that sometimes occur are, like the hysteric attacks recorded by Wolff of Goerbersdorf not important.

The danger of the remedy is also indicated by the nature of some of the symptoms supervening during treatment, such as continuous fever, intractable dyspnoea, hæmoptysis, erysipelatous rashes, albuminuria, hæmaturia, diminution of hæmoglobin, anæmia, the rapid formation of ulcers in parts apparently healthy, and perhaps the passage of the tubercle bacillus into the blood. After such a list of phenomena recorded by competent observers, it is not to be wondered at if the fluid which was at first used rather freely is now administered with extreme caution. Yet cases of death have been recorded after doses of 0.001 and of 0.002gr., which at first were considered so safe, that Koch recommended their use in cases of Phthisis *where there was great debility.*

### 6. Effects of the fluid on tuberculous tissues.

Koch says on 22nd November:—"The remedy does not kill the tubercle bacillus, but the tuberculous tissue; it can only influence living tuberculous tissue, it has no effect on dead tissue." In explaining the action of his remedy, it is evident that he considers the action in the light of a poisoning. This he expressed freely on 17th January. When speaking of the products of the tubercle bacillus he says: "among these substances is one which in a certain concentration destroys living protoplasm, and causes it to undergo a transformation into the condition called coagulation necrosis.

It is in calling forth such changes that to my mind the action of the remedy seems to consist; it contains a certain amount of the necrosis-producing substance." He goes on to say, that even in healthy persons, this substance in large doses has a deleterious influence on certain elements of the tissues; probably white blood corpuscles or cells closely related to them, this being the cause of the general reaction observed in these cases.

Now, as a result of direct observations in lupus patches, observed during life and after excision during the local reaction, both Cornil, in France, and Kromayer, in Germany, have come to the conclusion that there is considerable congestion of the vessels, abundant exudation of serum or lymph, and a considerable amount of small-cell infiltration, especially around tuberculous nodules, almost amounting to suppuration. Indeed, a thick layer of white corpuscles forms between the crust covering the lupus patch and the underlying tissues. Without going into further details, it is pretty evident that the remedy does not simply start a necrotic action, but a distinct inflammation of the parts. Cornil was struck with the fact, that in the pus covering a patch of lupus thus inflamed, a large number of bacilli were found, a thing which is all the more remarkable that the bacilli are generally very scanty in lupus.

Jürgens, Jarisch, Chiari, Korányi, and lastly Virchow, and several other observers have, by *post mortems* on numerous cases, proved that tubercular lesions of internal organs undergo similar inflammatory changes. So that although necrosis does occur under the influence of the remedy, this necrosis is probably less the direct effect of the actions of the remedy on the tubercular tissues than of an intense inflammatory reaction, modifying suddenly the condition of nutrition of all parts which are already in a state of chronic tuberculous inflammation.

The effect of the remedy on the general bodily metabolism has been investigated by Leyden, Loewy and Hirschfeld, who found that on the days when there was no fever, it was not in the least affected, and on the fever days only very little. With suitable diet the patient can be maintained in equilibrium.

The changes which have been observed in various affections and organs are the following:—

Lupus: Kromayer:—7½ hours after injection, general swelling and redness, small-cell infiltration, amounting almost to suppuration, around small yellow tubercular nodules. Nodules themselves more infiltrated with cells than usual. Epidermis and papillary layers apparently breaking down, capillaries and lymph vessels greatly infiltrated, much fibrin in lymphatics, skin at margin of lupus patch in a state of acute inflammation. Cornil: Same as Kromayer, and also exudation of serum, and of enormous numbers of lymph cells accumulating on the surface of the patch. These seem to carry away with them a large number of bacilli. Chiari: Same as Cornil and Kromayer.

Leprosy:—The case of this disease is of the highest scientific interest, because its bacilli are hardly to be distinguished, either by form or colour reaction from those of tuberculosis. According to Arning, one must distinguish between *lepra anæsthetica* and *L. tuberosa*, for the former gives no reaction, and the latter may give a general reaction. (It was Arning who was sent by Virchow to study leprosy at Hovai, and who succeeded in inoculating the disease from man to man.) Goldschmidt, of Madeira, on the other hand, saw *L. tuberosa* react locally, and even says that the effects were curative. He thinks that there is no essential difference between leprosy and tuberculosis—the one gradually passes into the other—the general reaction in leprosy merely appears later than in tuberculosis, and in the local reaction he saw the leprosy tissue break down. But, as opposed to all this, Neisser, of Breslau, who is one of the best specialists in leprosy in Germany, does not attach any importance to these observations, for without any medical treatment at all, one sometimes sees leprosy tissue break down. One case was treated by the Koch remedy in the Charité, Berlin, and remained unaffected.

Mucous membrane of month, palate and epiglottis:—Jarisch and Pommer—girl, 17; Lupus, dose 0.002. Great swelling around the ulcers. Virchow (summing up of twenty-one cases). Great swelling and formation of small tubercles in neighbourhood of ulcers.

Intestine:—Jarisch and Pommer—girl, 17; Lupus, dose 0.002, tubercular ulcers, hyperæmia, hæmorrhages, large masses of bacilli at basis of ulcers. Chiari—phthisis, three cases, ulcerated surface covered with recent very vascular granulations, no tubercle found. Jürgens—Virchow's Assistant; advanced phthisis, necrosis going on sometimes to perforation. Virchow (summing up of twenty-one cases). Fresh submiliary tubercles under peritoneum in neighbourhood of ulcers.

Larynx:—Jürgens—Advanced phthisis. Tubercular ulcers transformed into simple ulcers. Virchow (summing up of twenty-one cases). Even when base of ulcers becomes clean the surrounding parts become swollen to a very dangerous extent. Occasionally more severe phlegmonous inflammations occur (œdema glottidis erysipelates and retropharyngeal abscesses), young tubercles seem to form in their neighbourhood.

The internal organs generally:—(Virchow) uncommonly inflamed.

Lungs:—

Lungs:—Jarisch and Pommer—girl, 17; Lupus, 0·002, tuberculous foci, hyperæmia, hæmorrhages, fibrinous and small cell exudation, large masses of bacilli in the bronchi. Chiari.—Three cases of phthisis, cavity lined with hæmorrhagic granulations, cheesy modules surrounded by zone of congestion. Korányi.—Diabetes and phthisis, hæmorrhagic hyperæmia, recent sero-hæmorrhagic pleurisy. Jürgens.—Advanced phthisis. Virchow (summing up of twenty-one cases)—

- in fatal cases of ulcerative phthisis several recent changes of considerable extent,
- (a) Caseous pneumonia of very unusual extent, and having certainly begun during treatment whilst the patients were under observation. The mass consisted of foci so close to one another that scarcely any pareuchyma was left between them;
  - (b) Another form of pneumonia still more different from what is generally found in phthisis—it is allied to catarrhal pneumonia, the products are softer, moister, and looser than in the usual forms. In the midst of the inflammatory patches foci of softening develop, leading to excavation similar to those found in gangrenous broncho-pneumonia.

This form of pneumonia might for the present be termed injection pneumonia (see Virchow's lecture and also documents).

Serous Membrane, pleura, pericardium, peritoneum:—Virchow (summing up of twenty-one cases). Showed in many cases fresh eruptions of perfectly intact submiliary tubercles, even when injections had been made weeks before; these were probably the results of fresh outbreaks. This is specially indicated by tubercles found in the epicardium, in a place not in contact with any other affected part. Jarisch and Pommer—girl, 17; lupus, 0·002. Capillary hæmorrhage of pericardium.

Lymphatic Glands:—Jarisch and Pommer—girl, 17; lupus 0·002. Mesenteric—peribronchial—cervical cheesy glands, containing tubercular foci, considerably swollen. Jürgens—(Advanced Phthisis). Tubercular foci, zone of intense congestion and granulation tissue around the tubercular foci. Virchow (summing up of twenty-one cases). Especially in bronchial and mesenteric glands—quite unusual degree of enlargement, and notably that form of medullary swelling which is characteristic of acute irritations, and is the result of proliferation of the lymphatic cells. This may, perhaps, account for the leucocytosis, observed in many cases.

Blood:—(Jürgens)—Leucocytosis.

Spleen:—Jürgens—(Advanced phthisis). Tubercular foci, zone of intense congestion and granulation tissue around them. Virchow (summing up of twenty-one cases). Miliary tuberculosis apparently quite recent in some cases.

Thymus:—Jarisch and Pommer—girl, 17; lupus, 0·002. Capillary hæmorrhages.

Bones:—Jürgens—Advanced phthisis. Diffuse hæmorrhagic softening of medulla, many giant cells, but no bacilli, in a few places tubercles undergoing cheesy degeneration.

Liver:—Jarisch and Pommer—girl, 17; lupus, 0·002. Slight cloudy swelling. Jürgens—Advanced phthisis. Fatty infiltration, with retention of bile, recent and old patches of hæmorrhage, a few true tubercles with giant cells, general leukaemic infiltration. Virchow (analysis of twenty-one cases). Recent miliary tubercles in several cases. Körte and Hausemann—child, 4 years; fungous disease of knee. Recent miliary tubercles in the liver.

Kidney:—Jarisch and Pommer—girl, 17; lupus, 0·002. Slight cloudy swelling. Jürgens—Advanced phthisis. Cheesy focus, surrounded by zone of intense hyperæmia and granulation tissue. No tubercle, no giant cell. Virchow (summing up of twenty-one cases). Miliary tuberculosis of recent origin in some cases.

Cerebellum:—Jarisch and Pommer—girl, 17; lupus, 0·002. Brain and spinal cord. Oedematous hæmorrhagic pachymeningitis, capillary hæmorrhages in spinal cord. Meninges—Virchow (analysis of twenty-one cases). Colossal hyperæmia and infiltration, recent tubercles also in brain. Old tubercles of brain and cerebellum (solitary tubercles) unaffected. Körte and Hausemann—child, 4 years; fungous disease of knee. Recent miliary tubercular meningitis, oedema, congestion of brain.

Eye:—Koenigshöfer records that scrofulous ulcers of the cornea rapidly heal under the remedy. He also saw that an atrophied eye that had lain harmlessly there for years reacted, showing that tuberculosis had been the cause of the phthisis bulbi.

A single glance over the few *post mortem* results which have just been analysed will be enough to convince one of the severity of the changes which are initiated by the fluid, at any rate in advanced tuberculosis, and as few of the cases just analysed have succumbed to the effects of large doses, it is evident that one of Koch's contentions, namely, that the fluid, if not capable of producing cure of, may bring about beneficial changes in advanced cases of tuberculosis, must be abandoned entirely.

On the other hand, it is to be remembered that so great is Virchow's reputation that very few in Germany feel themselves competent enough to venture to contradict him, and this, although rightly or wrongly, there is an impression abroad in Berlin that Virchow is not predisposed to view with favour, not to use any stronger language, the worth of Koch and his school. Yet there are some who are taking part for Koch. For instance, Professor Alb. Neisser has lately insisted that—

1. The number of fatal cases does not show anything against Koch's method, because advanced cases have been injected, not in the hope of cure, but simply to please the patient.
2. Eruptions of fresh tubercles are formed without the injections, and it is not only possible, but likely, that they sprang from tubercle bacilli already present but latent.
3. There are not a few cures recognised clinically.
4. Adverse criticism would disappear if one were to adhere strictly to Koch's injunctions.

### 7. *Effects of the fluid on the bacillus.*

In August, 1890, Koch stated that he had hit upon a substance which had the power of preventing the growth of the bacilli not only in a test tube, but in the body of an animal.

On 25th November, although he speaks of the disappearance of bacilli from the sputum of phthisical patients, he says emphatically that the remedy does not kill the bacillus.

On 15th January, he says, "the bacilli would be so disturbed in their growth (by the effects of the injection on the tuberculous tissue)—that they would die off much sooner than is the case under ordinary conditions."

From this it is evident that the original belief, that the growth of the bacillus could be checked within the body, was soon abandoned, although in his last communication Koch reintroduces it in a modified form. It is only necessary to say that whilst some observers, Guttman among others, have recorded the entire disappearance of bacilli from the sputum of at least two cases, and that for a period extending over several weeks, the great majority of observers have come to the conclusion that the bacilli remain in the sputum, even after very prolonged treatment. They seem to disappear or be modified at times, but recur after a while.

Fraenzel asserted that the bacilli either diminished in numbers, and may disappear altogether, or undergo certain changes of form, which he groups under four heads: 1. Most are smaller and thinner; 2. Some are slightly swollen at the two ends; 3. Some are broken across in the middle; and 4. Some are comparatively long, and made up of particles in a moniliform fashion. This last sort, it must be remarked, however, is found in long standing cases, even without any Koch remedy. Later, however, these changed forms were so often found in ordinary cases that the importance of the change is now given up. See Figs. V and VI.

Biodert insists that in order to find single bacilli it is necessary to employ the method of sediments.

### 8. *Reasons for keeping the remedy secret.*

On 15th November, 1890, Dr. Koch gave the following reason for not disclosing the nature of his remedy:—

"As regards the origin and the preparation of the remedy, I am unable to make any statement, as my research is not yet concluded."

On 15th January, 1891, the explanation seems to have been abandoned, and the following is volunteered:—"So long as the only point of importance was to judge of the correctness of my statements it was not essential to know what the remedy contains and what its origin is; on the contrary, it was clear that the subsequent experiments would be all the more unprejudiced the less was known of the remedy itself, but now that such experiments in sufficient number have been made, and have proved the importance of the remedy, the remaining task is to study the remedy beyond the application it has hitherto found, and, if possible, to apply the principles which lie at the foundation of the discovery to other diseases. This task, of course, demands a full knowledge of the remedy."

It is also to be remembered that in his public speeches, Herr von Gossler, alluded freely to the danger of making public a process which, on account of its complication, could only be carried out by very competent persons, and said that on that account it was necessary to place the manufacture under the control of the State.

Such conflicting arguments would, to one not knowing Koch's reputation for integrity, lead to rather uncharitable conclusions. It is, however, easy to show that Koch was probably acting under pressure, and that although his aims may appear to have been mercenary, we must blame his friends for this rather than Koch himself.

As to the position in which he has thus permitted himself to be placed in connection with the secrecy and manufacture of his remedy much might be said, but it does not seem to the Reporter that this is the proper place to discuss it.

## APPENDIX C.

## Various Reports on the Treatment.

## CHAPTER I.

## REPORTS FROM GERMANY.

## FIRST PERIOD.—PERIOD OF ENTHUSIASM.

(For statistical returns when they are not entered here see general and special statistics).

Von Bergmann, Nov. 22, 1890.—Cases treated so far were :—

1. Lupus ... ..	13 cases
2. Glandular tuberculosis ... ..	2 "
3. Tuberculosis of the joints and bones ... ..	16 "
4. Tuberculosis of the larynx ... ..	2 "
5. Syphilis (control case) ... ..	1 "

Total ... .. 34 cases inoculated.

Reaction observed in the thirty-three tubercular cases. Reaction absent in the one non-tubercular. Diagnostic value of the lymph extolled. Tubercular lesions demonstrated where they were not even suspected. Prognosis favourable. Surgical operations would however be necessary in many cases. The treatment might have to be repeated to guard against relapse. (Further details in the article).

H. Feilchenfeld, Nov. 22, 1890.—Treatment began on September 22, 1890. Three cases of lupus, one historical, as being the case in which Koch's classical symptoms were observed. A complete cure seemed to have been effected, yet the patient still reacted, and probably had more tubercular tissue awaiting destruction. Second case got worse after each injection. Third case well advanced towards cure. Cases of glandular tuberculosis.—Apparent cure had resulted, no more reaction being obtained after a time, even with large doses. Cases of tuberculosis of bones and joints.—Apparent cure, no more reaction being obtained after a time even with large doses. Phthisis.—Three cases in early stage cured, their sputum free from bacilli; auscultatory signs improved; judgment must however be reserved. Advanced phthisis.—No cure yet, but improvement of symptoms; no increase; no loss of weight.

Professor Fraentzel, Nov. 22, 1890.—Cases divided in two classes; those in (1) First state of phthisis:—Results of treatment—General improvement, appetite keener, weight increased, night sweats disappeared. Bacilli—First decreased, then became stunted; their vitality is, however, not destroyed. (2.) Advanced stages of phthisis:—Results of treatment—No change of condition. Two deaths during treatment; they were desperate cases. *Post-mortem* showed no signs of healing. Warning against large doses. One death twenty-four hours after injection. Probable necessity of very long continuation of treatment in some cases.

Professor Gerhardt, Nov. 22, 1890.—Three cases exhibited to illustrate progress made in diagnosis and treatment of tuberculosis. 1. Tuberculosis of throat:—Previous treatment had failed; reaction occurred on Monday after inoculation on Sunday. 2. Initial stage of consumption:—Marked reaction. 3. Affection of apex of lung.—Suspicion of tuberculosis, no bacillus found; injection of Koch's fluid. No reaction followed, which is conclusive proof that the affection is not tuberculous.

## SECOND PERIOD.—PERIOD OF DOUBT.

*Phthisis, Effects of Treatment.*

Fürbringer, Berlin, 27 December, 1890.—In 63 cases observed in the Friederichshain Hospital, Berlin, (41 phthisis). The classical reaction compared to an attack of influenza.

Characteristic features:—1. Rise of temperature with "characteristic Matterhorn peak." 2. Circulatory and respiratory disturbances. 3. General symptoms—prostration, pains in the head and limbs. 4. Changes in the local appearances. 5. Local pain, &c.

Occasional phenomena:—Cutaneous eruptions, jaundice, sweating. 2. Diarrhoea. 3. Albuminuria. 4. Asthmatic symptoms (Dyspnoea). Of the characteristic phenomena, one or several, even the fever may be wanting; in some cases the temperature actually falls. Good effects when they are produced occur in the course of four weeks, they consist in:—1. Modification or disappearance of physical signs. 2. Diminution of expectoration. 3. Absence of bacilli. 4. Increase in weight, &c.

Senator (Charité), Berlin, 10 December, 1890.—Treatment contra-indicated in case of—1. Nephritis complicated with dropsy. 2. Large pleuritic effusions. 3. Extensive amyloid disease. 4. Cachexia or debility from any cause whatever. 5. Tuberculosis of the brain, or meninges.

Helferich,

Helferich, Greifswald, December, 1890.—1. Usual reaction, specially in lupus. 2. Frequently the second and third injection of the same dose followed by higher fever than the first. 3. Interval between injection and onset of fever is longer after the first than after the following injections. 4. Duration of the fever diminishes after several injections when the dose at each injection is the same. 5. In one case scarlatiniform rash; in one case morbilliform rash; in about one-third of cases herpes of lips and eyelids was observed. 6. No bad effects.

Rosenbach, Breslau, December, 1890.—Complications produced:—Increased crepitations in slightly affected parts of the lungs; development of pleurisy; diarrhœa, one case; papular and vesicular eruption, one case; scarlatiniform rash in one case; albuminuria; anuria, polyuria; jaundice in one case.

When there is a natural tendency to decrease in the temperature the reaction does not cause so high a pyrexia as when the reverse is true.

### THIRD PERIOD.—PERIOD OF DISBELIEF.

#### *Post mortem examinations, results of.*

Virchow (Charité), 7th January, 1891.—Development of fresh tubercles of the sub-miliary type, specially in places where metastasis was indicated. Tuberculous ulcers already existing, show active proliferation at their edges. Lymphatic glands, especially bronchial and mesenteric, show a quite unusual degree of enlargement, and notably that form of medullary swelling which is characteristic of acute irritations, and is the result of proliferation of lymphatic cells. This may perhaps account for the leucocytosis found in many cases. In the larynx even when basis of ulcers becomes clean the surrounding parts become swollen to a dangerous extent. Occasionally more severe phlegmonous inflammations occur (œdema glottidis erysipelatodes and retropharyngeal abscesses). Young tubercles seem to form in their neighbourhood. Lungs: In fatal cases of ulcerative phthisis, recent changes of considerable extent. A. Caseous pneumonia or hepatisation in some cases so extensive that Virchow had not seen such for years, and the history proved that the consolidation had begun during treatment. B. Another form of pneumonia which is still more different from what is found usually in phthisis, it is allied to catarrhal pneumonia, but differs from it. It reminds one of a phlegmonous condition, and the products are softer, moister, and looser than in the form usually complicating phthisis. In the midst of the patches foci of softening develop, leading to the formation of excavations similar to those found in gangrenous broncho-pneumonia. In the walls of cavities may be hæmorrhage—leading to death by hæmoptysis. Serous membranes (pleura, pericardium, peritoneum) showed in many cases fresh eruptions of perfectly intact sub-miliary tubercles, even when injections had been made weeks before. These were probably the result of fresh outbreaks. This is specially indicated by tubercles found in the epicardium in a place not in contact with any affected part. Meninges: Colossal hyperæmia and infiltration and fresh tubercles. Brain: Idem. Intestine: Necrosis going on sometimes to perforation. Fresh sub-miliary tubercles under peritoneum in neighbourhood of ulcer. Old solitary tubercles of brain do not seem to be much affected. Miliary tubercles sometimes show regressive changes, but often not. Sub-miliary tubercles very often show no regressive changes. As the Koch fluid sets up visible acute inflammation of the externally affected parts, so does it likewise set up analogous changes in the diseased internal organs.

Körte: Urban Hospital, Berlin, 14th January, 1891.—1. Very severe symptoms follow the larger doses used at the beginning, so that smaller doses and longer intervals had to be resorted to. In one case of tuberculous disease of knee and true pelvis, no reaction was obtained even after 0.008. 2. In a few cases loss of weight. In some slight gain. 3. In some children with local disease only, marked anæmia had developed. 4. In one case measly eruption with herpes. 5. In a case of recent tubercle of knee-joint marked hallucinations lasting for a day after 0.008. In another case an epileptic seizure in a patient subject to them. 6. In patients which had been treated by iodoform, reaction was much delayed. 7. The intensity of the re-action did not correspond with the intensity of the disease. Some patients with extensive lesions did not react well until perhaps a dose of 0.005 had been reached, then they reacted strongly. 8. In two cases which had till then reacted moderately dyspnoea set in after doses of 0.003 and 0.009 respectively; the dyspnoea lasted till the death of the patients, which took place respectively ten and twenty-eight days after last injection.

Israel, Berlin, Jan. 21, 1891.—1. Remedy, even apart from caseous foci, does not in all cases act on tuberculous tissue. 2. The remedy does not invariably excite obvious necrosis, but inflammations. 3. There is no proportion between the degree of the local reaction and the intensity of the general reaction. 4. The degree of local reaction is no measure of curative effect. 5. Sufficient time has not elapsed to form judgment.

Ewald, Augusta Hospital, Berlin, Jan. 21, 1891.—1. One cannot predict the probable character of the reaction, nor how the case will go. 2. Bacilli had not been found in the blood after injection as recorded by V. Liebmann of Trieste. 3. Pleuritic effusions were rapidly absorbed. 4. Apparently cured cases seemed to show sign of retrogression after a short interval except in a few instances. 5. He had not yet seen one case which he could say was cured. 6. Severe and fatal hæmoptysis had occurred in two cases out of 114. 7. Tubercular meningitis had supervened on comparatively slight lung affection. 8. Some cases free from fever at the beginning of treatment, and showing only slight reactions, had developed a continuous fever, which had caused abandonment of the treatment. 9. Improvement, similar to that obtained with Koch's treatment, had been noticed by Fraentzel in 1887 with creosote treatment.

## CHAPTER II.

## REPORTS FROM AUSTRIA.

(See also general and special statistics.)

Weichselbaum, Vienna (from observation in Berlin), Nov. 29, 1891.—1. Reaction of tubercular subjects very marked. 2. Reaction does not always follow the course described by Koch. It is impossible to account for, or to foresee these departures. 3. General and local reactions sometimes assume a dangerous character. 4. Curative effect is not yet proved, but the changes are in the direction of a healing process.

Billroth, Vienna, Jan., 1891.—Will defer his verdict till he has studied the action of the remedy for a year or two.

Kaposi, Vienna, Jan., 1891.—Has noticed good improvement in lupus, but seems afraid of relapses.

Rydygier, Cracow, Dec., 1890.—Reaction well marked in tuberculous affections. In almost all cases enlargement of the spleen during the fever. Frequently slight albuminuria.

Liebmann, Trieste, Jan., 1891.—Nine cases under observation and treatment; all the patients reacted to small doses. Bacilli, sometimes broken or granular, were found in the blood on the evening of the day of the injection or the next day. They disappeared if the injection was not repeated. No bacilli could be found in the blood of patients not treated. (Results not confirmed by Ewald, nor by Cantani, nor by Phineas Abraham.)

Professor Hueppe and Dr. Scholl, Prague, Jan., 1891.—These observers analysed Koch's fluid before publication of its composition, and found it to contain: albuminoid bodies and glycerine in large quantities. 2. They prepared extracts from tubercle bacilli cultures with peptone, 3·8 per cent., glycerine, 5 per cent., common salt, 0·5 per cent., and extract of beef, 0·1 per cent., and injected it into animals with positive results, similar to those obtained by Koch. This communication reached the *Berliner Klin. Wochenschrift* nearly at the same time as Koch's article appeared; it is not known whether before or after—certainly independently.

## CHAPTER III.

## REPORTS FROM FRANCE.

Cuffer (Paris). Cases observed in Berlin in Prof. Senator's wards and probably others—1. Temperature often falls below normal. 2. Then comes the pyrexia. 3. At the beginning of the reaction there is always more or less dyspnoea, indicating congestion of the lungs. 4. The treatment may in some cases render the morbid processes more active, *e.g.*, a case of a woman who died 10 days after beginning of treatment with symptoms of acute phthisis with high fever. In three other cases the disease had been hastened in the same way. 5. Attack of congestion of liver, brain, and kidneys had been observed. 6. Possibly the effect of congestion in affected parts might be a favourable change in the morbid processes, but he had seen no proof of it.

Thibiérge (Paris), Dec. 10, 1890. Fallacies in case of lupus: Case shown as cured because there was no more reaction, but typical lupus tubercles could be seen at the margin of the so-called cured patch. Even in cases that had been under treatment for two months lupus tubercles could be seen when looked for. Not one case of even apparent cure could as yet be recorded. Dr. Thibiérge, however, says that the lymph has "a marvellous rapidity of action and a cicatrising influence on extensive and rebellious lupus ulcerations."

Ferrand (Paris), Dec. 10, 1890. Effects of Koch's remedy similar to those of a muscular poison. 1. General prostration. 2. Pain in muscles. 3. Feeling of faintness. 4. Dilatation of capillaries indicating vaso-motor paralysis. 5. Slight transient delirium. 6. Followed in some cases by coma, possibly the result of vaso-motor paralysis. 7. Really no results known which will justify its being styled a curative agent.

Henocque (Paris), Dec. 17, 1890. Spectroscopic examination of the blood of 22 patients under treatment. In 13 oxyhaemoglobin was diminished. In three oxyhaemoglobin at first diminished and then increased. In three little or no change. In three increase from the first. The changes were observed in lupus as well as in phthisis. The diminution when observed began generally on the 2nd or 3rd day. It seemed to be proportional rather to the strength of the injections. There seemed to be no relation between the amount of oxyhaemoglobin and the intensity of the reaction.

Cornil (Paris), Dec. 14, 1890. 1. Reaction does not occur in the simple way described by Koch; a kind of intermittent fever lasting sometimes three or four days is really produced. 2. Sufficient interval should be allowed between injections so as to avoid cumulative action. 3. Albuminuria which had been observed in three cases had practically entirely disappeared.

Dec. 21, 1890.—Tuberculosis of the skin. The effect of the injection seemed to drive the bacilli from the lesions with the discharge which is set up. The bacilli seem to be more numerous than before. There seems to be improvement in proportion to the extent to which the products of increased secretion can be eliminated. Remedy worthy of further trial; with proper care no great danger may be apprehended.

Articular Tuberculosis.—When there is no fistula, the joint becomes tense and painful. This swelling is produced anew after each injection. After several injections there seems to be an aggravation rather than an improvement. When there is a fistula the results may be different. Tuberculosis of the larynx.—Beneficial results may be obtained. Caution is required so as not to endanger patient's life by swelling of glottis. Surgical interference is however possible and useful.

Phthisis.—Indications for the treatment very limited. 1. Useless in acute, galloping, or pneumonic phthisis. 2. Positively hurtful where larger cavities exist. 3. Even in incipient phthisis the effect is doubtful. 4. In quiescent phthisis the treatment could not unlikely kindle the disease into fresh activity. 5. In a limited number of cases with free communication between vomica and bronchi the treatment may be of use; yet we must abandon the greater part of the hopes which were at first entertained. Tuberculosis of the Epididymis.—One case in which disease increased on the left, *i.e.*, affected side, whilst a nodule became developed on the right which was not affected before. Results not encouraging.

Crocq. (*semaine méd.*), Dec. 31st, 1890.—Denies absolutely its diagnostic or curative value: Says Koch's statements resolve themselves into gratuitous affirmations unsupported by proof.

Vidal (Paris), Jan. 14, 1891.—The results of an observation of 32 cases by a committee. General reaction is irregular. 1. It does not follow the regular type described by Koch. 2. There is no constant relation between the local and the general reaction. 3. The duration of febrile reaction is irregular; or as a rule defervescence occurred within 24 hours; but it is quite common to see the temperature go up again in the afternoon of the following day sometimes higher than on the first day. This afternoon rise in some cases occurred again on the third and fourth day. Dangers of the treatment: Lymph is a very energetic pyrogenic agent, setting up congestion and inflammation in the whole economy. This effect is so unequally distributed that it is impossible to foresee what organ will be affected. The bronchi and basis of the lungs are often greatly congested. Several instances of myocarditic and endocarditic symptoms, enlargement of the spleen and albuminuria. In three cases hæmaturia lasted 3 or 4 days. Twice erysipelas-like swelling of forehead and scalp in women suffering from lupus and who had had erysipelas before. (No streptococci found in the blood and no cultivation obtained).

#### CHAPTER IV.

##### REPORTS—THE UNITED KINGDOM.

Markham Skeritt & B. Baron, Dec. 13, 1890.—Observations made in the Berlin clinics. Types of reaction:—1. Typical marked reaction to early small doses, diminishing reaction to some or even increasing dose. 2. Increased reaction to the same or a diminished dose. 3. Prolonged or deferred reaction. 4. Effect of reaction on hectic. (a.) Favourable when there is a tendency to the substitution of the reaction type for the hectic type. (b.) Negative when hectic persists unaffected. 5. Fever originated by injection. General conclusions.—“The evidence at present at our disposal warrants the conclusion that the beneficial effects of the remedy is undoubted in tuberculosis of the skin (lupus) bones, joints, glands and throat. With regard to pulmonary phthisis whilst there is good reason to hope that in suitable cases a most satisfactory result may be obtained from this treatment, sufficient time has not yet elapsed to allow the formation of any accurate estimate of its value.”

Saundby, Simon, Barling (Birmingham), Dec. 20, 1890.—Cases observed in Berlin, under Senator, Fraentzel, Ewald, and Levy. 1. Tuberculous cases generally, but not always, react to the fluid in small doses. In some cases of undoubted tuberculosis no reaction has occurred after 0.001, 0.002, 0.003, and even 0.005 cc. of the fluid. 2. There is no absolute relation between dose and reaction. 3. The intensity of reaction depends more on individual susceptibility than on the amount of the lesion or the organ affected. It is therefore necessary to begin with small doses. 4. No reaction follows after the continued employment of the same dose. This tolerance is not acquired after a uniform number of injections. 5. Many instances have occurred of improvement, which may perhaps be only temporary; no case yet of absolute cure. Pulmonary phthisis: Favourable cases of pulmonary phthisis improvement, absence of night sweats; diminished cough; diminished expectoration; diminished bacilli. Increase of weight often following an initial loss of weight. No case of absolute cure proved. Nothing known as to relapses. Tuberculous glands diminish in size; sinuses dry up; old scars become thinner and less adherent. No case of absolute cure. Nothing known as to chance of relapse. Tuberculous Arthritis, in the earlier stages: Diminished swelling; disappearance of pain; freer movements. No absolute cure proved yet. Nothing yet known as to chance of relapse. Lupus: Patches shrink, become paler, and present no appearance of growing nodules, even after a few days. No absolute case of cure has yet been proved. Nothing can be said as yet as to chance of relapse.

Watson Cheyne (London), Jan. 31, 1891.—Great improvement can be obtained in cases of lupus. Nothing is said as to relapses. Early stages of tubercular diseases of synovial membranes can be cured. Advanced cases of tuberculosis of bones and joints have not improved.

## CHAPTER V.

## REPORTS FROM ITALY.

Bacelli, Jan. 1891.—Very favourable in cases of lupus. Encouraging in cases of pulmonary tuberculosis.

Semmola (Naples), Dec. 1890.—Not a single case of cure, even of surgical tuberculosis or lupus, had yet been reported. He did not blame Koch for the disappointments that had followed the premature announcement of his discovery; but he could not help deploring that he had remained silent in presence of the abuse which those in his confidence had made of his science. . . . One single word from him, published in time, towards the end of October, would have prevented thousands of consumptive patients from hastening to Berlin. (See also De Renzi and Cantani's reports in "Special Statistics, Phthisis.")

## CHAPTER VI.

## REPORTS FROM NORWAY, DENMARK, AND BELGIUM.

Uckermann (Christiania), November 20, 1890.—Cases attentively observed in Von Bergmann, Krause, and Levy's clinics. There was not a single case which could be said to be cured. Several cases of death seemed to have occurred as a result of the injection, e.g., two apparently from acute stenosis of larynx. In meningeal tuberculosis more cases of hæmoptysis than under any other method of treatment. Probably the lymph is a new and reliable re-agent for tuberculous tissue, but as it has to be used in tolerably large doses it is not free from danger.

Haslund (Copenhagen), December 17, 1890.—Fallacies in cases of lupus: Not seen a single cure of lupus in Berlin. Several cases shown as such were not really cured, as recent tubercles were seen at the patches supposed to be cured. As for certain cases in which skin with hair follicles had been said to have reappeared over lupus patches, there had never been lupus in those places. The classical reaction given by Koch applies only to certain forms of lupus, but not to all. Koch's method, although a valuable auxiliary, must be supplemented by usual surgical treatment.

Masius (Liège), December, 1890.—Result of examination of fourteen cases for three weeks. General and local reaction not always in proportion to the severity and extent of lesions. In one case with marked tuberculous changes a dose of 0.009 was necessary to produce the reaction. In cases where the kidneys were effected, hæmaturia occurred or albuminuria was increased. In some cases the sputa became sanguinolent, in other cases they diminished and the bacilli were modified. Some patients gained, others lost weight. Even when weight was gained there was sometimes no change in physical signs. In some cases there was increased weakness and exacerbation of disease. In one, death almost occurred.

APPENDIX D.

Effects of Koch's Remedy in Special Cases.

Country, Town, or Hospital.	Observer.	Date.	Nature of Cases.	Length of Treatment.	Dose in fractions of a gramme (cubic centimetre) of pure lymph.	Effects, Remarks, &c.	Improvements.	Aggravations.	Deaths.
<b>1. IN HEALTHY INDIVIDUALS.</b>									
GERMANY. Berlin .....	Koch .....	22 Nov., 1890	Healthy (himself) ...	1 injection.....	0.250	Three to four hours after the injection I felt pains in the limbs, fatigue, inclination to cough, difficulty in breathing, all of which quickly increased. At fifth hour an unusually violent, shivering, lasting nearly an hour, at same time sickness vomiting; temperature up to 39.66° C. After twelve hours all symptoms abated; temperature fell, and was normal next day. Feeling of languor and heaviness in limbs lasted a few days longer, and during this time the injection spot continued red and painful.	.....	.....	.....
" .....	" .....	22 " 1890	Healthy persons (numerous experiments).	1 " .....	0.010	Slight pain in the limbs and transient fatigue; a few had a temperature of 38° C.; many did not react at all.	.....	.....	.....
Greifswald .....	Peiper .....	22 Jan., 1891	1 perfectly healthy person.	1 " .....	0.010 P or under	Reaction observed .....	.....	.....	.....
Munich.....	Guttman and Bollinger.	13 " "	2 healthy bulls ...	1 " .....	0.300	No reaction. (Tuberculous cows reacted) .....	.....	.....	.....
AUSTRIA. Vienna .....	Maydl .....	— Dec., 1890	3 healthy adults .....	1 " .....	0.010 P	No reaction .....	.....	.....	.....
			1 healthy adult.....	1 " .....	0.002	Strong reaction .....	.....	.....	.....
			1 " .....	1 " .....	0.005	" .....	.....	.....	.....
HOLLAND. Amsterdam .....	Pel .....	28 " 1891	1 perfectly healthy person.	1 " .....	0.008	" .....	.....	.....	.....
			1 perfectly healthy person.	1 " .....	0.002	Reaction followed .....	.....	.....	.....
FRANCE. Paris.....	Soller.....	16 Jan., "	Himself .....	1 " .....	.....	A few days after reaching home from Berlin he was seized with extreme lassitude; the same occurred again on the following day at the same hour, and then became so ill that for more than a week had to remain in bed, and lost all consciousness of what was going on. ( <i>Standard</i> , Jan. 16.)	.....	Illness was attributed by Soller and several others to the injection he had received.	.....
<b>2. IN NON-TUBERCULAR DISEASES.</b>									
GERMANY. Berlin .....	Koch .....	.....	Several cases.	.....	0.010	None, or very slight reaction .....	.....	.....	.....
Greifswald .....	Peiper .....	22 Jan., 1891	21 patients affected with non-tuberculous lesions.	.....	0.002 to 0.003	Reaction observed in many cases. ....	.....	.....	.....
					0.010	Reaction observed in 10 out of 16 persons ( <i>i.e.</i> , in more than 60 per cent. of cases).	.....	.....	.....
AUSTRIA. Vienna .....	Maydl.....	— Dec., 1890	1 case of carcinoma ...	1 injection .....	0.002	Strong reaction; temperature 39°, 1 C. ....	.....	.....	.....
" .....	" .....	" "	" " .....	1 " .....	0.005	Reaction; temperature 38°, 7 C. ....	.....	.....	.....
GERMANY. Berlin .....	Hahn .....	23 Dec., "	1 case of sarcoma ...	.....	.....	Very marked local and general reaction.....	.....	.....	.....

Country, Town, or Hospital.	Observer.	Date.	Nature of Cases.	Length of Treatment.	Dose in fractions of a gramme (cubic centimetre) of pure lymph.	Effects, remarks, &c.	Improvements.	Aggravations.	Deaths.
AUSTRIA.									
Cracow	Rydygier		1 epithelioma			No reaction			
"	"		1 rhinoscleroma			"			
Prague	Pick		3 rhinoscleroma cases		0.010	"			
"	"		7 cases syphilis		Up to 0.010.	"			
FRANCE.									
Paris, Hôpital du Midi	Humbert (Cornil).		6 " "			"			
ITALY.									
Genoa	Bossi		1 case of syphilis			"			
UNITED STATES									
	Kinnicutt		1 " "			"			
GERMANY.									
Stuttgart	Königshöfer		2 cases syphilitic iritis			"			
Berlin	Körte		1 case actinomycosis		Begins 0.001	Marked general and local reaction	No improvement until operation.		
AUSTRIA.									
Vienna			Cases of actinomycosis			Reacted strongly			
ITALY.									
Genoa	Bossi		1 chronic metritis			No reaction			
ENGLAND.									
Bristol	Skerrit & Baron		1 case scarlatinal nephritis.			Reaction			
FRANCE.									
Paris	Cornil		Other non-tubercular cases.			No reaction			
			1 case lupus erythematosus.			General reaction intense. No local reaction			
AUSTRIA.									
Prague	Pick		1 " "			No reaction			
BELGIUM.									
Brussels	Casse		1 " "		0.001, 0.005.	Intense local reaction			
ENGLAND.									
London	Watson Cheyne		1 " "		0.005	No reaction locally			
"	J. Hutchinson and Heron.		1 " "		Up to full dose.	General reaction good. No local reaction	Temporary disappearance of patches.		
GERMANY.									
Berlin	Virchow		Pleurisy, with effusion	5 injections	0.005	Reaction well marked each time, and continuous fever after last injection for several weeks.			Death.
ENGLAND.									
Bristol	Skerrit, Harrison & Baron.		Scrous pleurisy			Marked reaction			

IN TUBERCULOUS CASES SPECIALLY OBSERVED AND DESCRIBED.

3. LUPUS.

GERMANY.									
Berlin	Koch		Several cases	3 or 4 injections at 1 week's interval	0.010	Typical reaction	Great improvement or cure.		
	Körte		1 case	4 weeks		" "	Improved		
			7 cases	Not long enough		" "	Doubtful		
	Israel		2 " "			" "	Improved		
			1 case pulm. tuberc.		Raised up to 0.100.	General reaction. No local reaction, even though bacilli were seen under microscope.	Doubtful		
			1 case after excision and plastic operation			Typical reaction		Fresh nodules under healthy skin.	

Country, Town, or Hospital.	Observer.	Date.	Nature of Cases	Length of Treatment.	Dose in fractions of a gramme (cubic centimetre) of pure lymph.	Effects, Remarks, &c.	Improvements.	Aggravations.	Deaths.
GERMANY—contd. Berlin—contd.	Israel .....	.....	1 case canceroid engrafted on lupus.	.....	.....	Typical reaction, canceroid increased after each injection .....	.....	.....	.....
	B. Fränkel.....	.....	1 lupus of nose.....	Few injections .....	.....	..... cicatrisation .....	Improvement .....	.....	.....
	Albrand.....	.....	1 L. of larynx .....	" " .....	.....	Reaction marked .....	Doubtful result .....	.....	.....
Greifswald .....	.....	.....	1 tub. of conjunctiva partly excised.	.....	0·015 up to 0·150.	General and local reaction.....	Improvement .....	.....	.....
AUSTRIA. Vienna .....	Heiferich .....	.....	4 cases .....	.....	.....	Local and general reaction, usual type.....	Great improvement .....	.....	.....
	Billroth .....	.....	1 case .....	.....	.....	Typical reactions; after reaction had ceased and waiting for 12 days reaction can be obtained again.	Improvement .....	.....	.....
	.....	.....	1 case .....	.....	.....	Very severe symptoms .....	.....	.....	.....
	.....	.....	1 " (child) with tubercular disease.	.....	0·150 .....	No reactions.....	.....	.....	.....
Prague .....	Kaposi .....	.....	6 cases .....	6 weeks .....	Up to 0·400, 0·500, 0·800	Typical reactions.....	Improvement .....	Relapse in one .....	.....
Innsbruck .....	Pick .....	.....	1 case combined with syphilis.	.....	0·01 .....	General reaction, severe local reaction in lupus, no reaction in syphilitic lesions.	.....	.....	.....
	Jarisch .....	.....	4 cases .....	.....	.....	Reaction .....	.....	.....	.....
	.....	.....	1 case.....	.....	0·002 .....	Intense reaction .....	.....	.....	Death.
Cracow .....	Rydygier .....	.....	1 case .....	.....	0·010, 8 days later 0·010.	Very marked reactions lasting many hours; extremely alarming collapse.	Doubtful .....	.....	.....
ENGLAND. London.....	Watson Cheyne .....	.....	5 cases .....	Up to 2 months.....	Up to 0·200.	Typical reactions .....	Great improvements in three.	Relapse in one (Hutchinson)	.....
" .....	Heron .....	.....	3 " .....	Up to 12 injections.	Up to 0·012.	" " .....	Improvement .....	.....	.....
Bristol .....	Skerrit, Harrison & Baron.	.....	6 " .....	.....	.....	" " .....	.....	.....	.....
Liverpool .....	Leslie Roberts .....	.....	1 case .....	.....	Up to 0·004.	Local reaction only at first; general reaction when 0·004 was reached.	.....	.....	.....
FRANCE. Paris .....	Cornil .....	.....	3 cases .....	.....	0·003 in one case.	Good reaction first day, followed by secondary rises on 2nd, 3rd, and sometimes 4th day. The bacilli seems to be driven away with discharge and to become more numerous than before treatment.	Improvement.....	.....	.....
BELGIUM. Liege .....	Masius .....	.....	1 case of lupus and pregnancy.	.....	1st dose, 0·010; 2nd dose, 7 days; after 0·009.	Local and general reaction; intense reaction lasting 24 hours, recurring next day. Extensive scarlatina eruption, abortion; collapse; death imminent; patient partly rallied and taken home.	.....	Great aggravation.	.....
	.....	.....	2 cases .....	.....	.....	.....	Moderate improvement.	.....	.....
Brussels .....	Casso .....	.....	1 case .....	.....	0·001, 0·005.	Typical reaction .....	Apparent cure .....	.....	.....
	.....	.....	2 cases .....	.....	Same .....	" " .....	Much improved .....	.....	.....
UNITED STATES. New York .....	Kinnicutt .....	.....	2 cases of lupus with slight pulmonary complications.	.....	.....	" " .....	.....	.....	.....

Country, Town, or Hospital.	Observer.	Date.	Nature of Cases.	Length of Treatment.	Dose in fractions of a gramme (cubic centimetre) of pure lymph.	Effects, Remarks, &c.	Improvements.	Aggravations.	Deaths.
<b>REMARKS BY VARIOUS AUTHORITIES.</b>									
GERMANY. Berlin .....	Several .....	.....	Typical cases of lupus.	Several weeks, treatment.	Doses recommended by Koch.	<ol style="list-style-type: none"> <li>1. After usual reaction, and during course of treatment, an experienced dermatologist can see clearly the fresh lupus edge with its nodules, although the older parts of the lesions seem to cicatrise very well.</li> <li>2. If the treatment is interrupted for twelve days after the reaction has ceased, fresh reaction can be obtained by injecting again the fluid in same doses as before.</li> <li>3. Fresh nodules seem to develop under parts which certainly seemed healthy before.</li> <li>4. What seems to be the growth of new healthy skin is simply the reappearance of skin which had been hidden by scabs, and becomes visible when swelling and crusts disappear.</li> <li>5. Relapse occurs in cases which have been pronounced cured by Koch himself, and the state of the patient becomes again very rapidly as bad as before.</li> </ol>			
DENMARK: Copenhagen .....	Haslund .....	.....							
AUSTRIA. Vienna .....	Billroth, &c. ....	.....							
FRANCE. Paris .....	Thibierge, &c. ....	.....							
ENGLAND. London .....	J. Hutchinson and others.	.....							
These remarks suggested that combination of the method with operations will yield better results.									
GERMANY— Berlin (Moabit Hospital).	Koch .....	.....	.....	Daily .....	4. <i>Phthisis of the Lungs.</i> 0·001 to 0·002.	Reaction in almost all cases. The greater the amount of lesion the smaller the dose necessary to bring about reaction.	Within four to six weeks patients under treatment for the first stage of phthisis were all free from every symptom, and might be pronounced cured. Cases with cavities not too highly developed improved considerably, and were almost cured.		
	Guttmann .....	.....	41 cases. Early stages apyretic, infiltration of apices.	3 to 6 weeks .....	0·001 to begin with.	Reaction generally occurred from the first. Weight generally increased: in some cases no gain; 5 cases lost weight. Physical signs: improved in many cases. Subjective signs: improved in all.	Many improvements. Two have remained cured for several weeks.	5 got rather worse.	
			25 cases:— (a) Advanced apyretic cases.	.....	0·001 .....	Reaction generally present .....	Some .....	Doubtful .....	
			(b) Very advanced febrile cases.	{ .....	0·001 .....	Generally produced no reaction .....	Some .....	” .....	
	Sonnenburg and Koch.	.....	4 cases. Cavity opened surgically before injection.	.....	.....	Produced reaction; apparently similar cases react very differently.	.....	” .....	
Friedrichshain Hospital.	Fürbringer .....	.....	41 cases (out of 117) ..	4 weeks .....	.....	Operation well borne. Effects of injection not very striking.	.....	” .....	
						Typical .....	10 cases very much benefited.		

Country, Town, or Hospital.	Observer.	Date.	Nature of Cases.	Length of Treatment.	Dose in fractions of a gramme (cubic centimetre) of pure lymph.	Effects, Remarks, &c.	Improvements.	Aggravations.	Deaths.
Augusta Hospital.....	Ewald .....	.....	29 cases .....	4 to 6 weeks .....	Up to 0·100...	The character of the reaction cannot be predicted, nor how the case will go.	Marked improve- ment.	Indications of retrogression in some cases after apparent cure.	
" .....	" .....	.....	14 cases (out of 114) bad.	Treatment not quite complete.	Up to 0·100...	" .....	.....	Left because condition hopeless.	
" .....	" .....	.....	3 cases .....	" .....	" .....	" .....	.....	Left dissatisfied	5 deaths.
" .....	" .....	.....	5 cases (2 of which advanced and 2 slight apical affections).	Treatment incom- plete.	0·001 up to 0·100.	Symptoms severe; continuous fever, profuse hæmoptysis.....	.....	.....	
" .....	Lindner .....	.....	73 cases .....	Under treatment..	.....	.....	Doubtful .....	.....	
" .....	" .....	.....	In a surgical case	.....	.....	After 1st injection, no reaction; 2nd injection, reaction local only; 3rd injection, reaction local only; 4th injection, reaction general.	.....	.....	
Charité .....	Senator .....	.....	Several cases .....	.....	.....	Reaction not proportional to lesions; physical signs improved. Bacilli altered in a few cases, but not in all.	Improvement in several cases.	.....	
" .....	Leyden .....	.....	Several cases.....	.....	From 0·001...	Reaction marked, though not proportional.....	Favourable results..	.....	2 deaths.
" .....	Jürgens .....	.....	2 cases, advanced .....	Several injections	0·001 to 0·006.	Reaction moderate .....	.....	.....	
" .....	Virchow.....	.....	Cases under other physicians, including Senator and Leyden, most of them ad- vanced.	.....	.....	.....	.....	.....	16 deaths.
Berlin .....	Oppenheim .....	.....	Phthisis .....	.....	.....	Reaction delayed .....	.....	.....	
Munich .....	Bauer .....	.....	1 very advanced phthisis..	.....	.....	No reaction at all.....	.....	.....	
Garberadorf .....	Wolff .....	.....	1 " " "	.....	.....	Very slight reaction.....	.....	.....	
Göttingen .....	Ebstein .....	.....	Phthisis.....	.....	.....	Reaction delayed.....	.....	.....	
Breslau .....	Rosenbach.....	.....	6 cases apyretic.....	.....	.....	Temperature lowered .....	.....	.....	
" .....	" .....	.....	4 cases advanced .....	.....	.....	Reaction with remarkably slow defervescence.....	.....	Doubtful .....	
" .....	" .....	.....	1 doubtful phthisis .....	.....	0·010 .....	Reaction slight and slow to appear .....	.....	.....	
" .....	" .....	.....	.....	.....	.....	Crepitation more abundant, sputa contain bacilli for first time after injection.	.....	.....	
" .....	" .....	.....	.....	.....	.....	Symptoms developed during treatment .....	.....	.....	
" .....	" .....	.....	.....	.....	.....	Summing up of complications: Pleurisy, 1 case; diarrhoea, 1 case; papular and vesicular eruptions, 1 case; scarla- tiniform rash, 1 case; albuminuria, anuria, polyuria, jaundice.	.....	.....	
AUSTRIA. See General Statistics for other cases.	" .....	.....	.....	.....	.....	.....	.....	.....	
Trieste .....	Liebmann .....	.....	9 cases .....	.....	Small doses..	Bacilli in the blood on the evening of the injection, more in cases not treated.	.....	.....	
UNITED KINGDOM. London (Victoria Park)	Heron .....	.....	3 cases .....	36 to 38 injections	Up to 0·100..	Reaction at first, none later on. Bacilli still in sputum; physical signs improved.	3 improvements .....	.....	
" .....	" .....	.....	2 cases .....	26 and 27 injections	0·030 to 0·100	.....	.....	Aggravation in 1 case, pleurisy in the other.	

Country, Town, or Hospital.	Observer.	Date.	Nature of Cases.	Length of Treatment.	Dose in fractions of a gramme (cubic centi metre) of pure lymph.	Effects, Remarks, &c.	Improvements.	Aggravations.	Deaths.
Bristol .....	Skerrit, Harrison & Baron.	.....	11 cases .....	.....	.....	Typical reaction .....	.....	.....	1 death.
Glasgow .....	Steven and Workman.	.....	12 cases .....	.....	.....	Apparently typical .....	.....	Doubtful.	1 death.
			4 cases bacilli in sputum .....	Several doses .....	0.001 to 0.011 .....	Reaction at first .....	1 improvement and .....	.....	
			1 case no bacilli .....	.....	0.001 to 0.012 .....	No change .....	3 doubtful.	.....	
FRANCE.									
Paris .....	Cornil .....	.....	Several cases— a. Incipient phthisis .....	.....	.....	Reactions not proportional to disease .....	Effects favourable in some, doubtful in most.	.....	
			b. Quiescent phthisis .....	.....	.....	Might kindle fresh trouble .....	Doubtful.	.....	
			c. Phthisis with large cavities .....	.....	.....	.....	.....	Hurtful.	
			d. Acute galloping phthisis .....	.....	.....	.....	.....	Useless.	
BELGIUM.									
Liege .....	Marius .....	.....	10 cases, 1 case with nephritis.	3 weeks .....	.....	Reaction not always present; albuminuria increased .....	Improvement in some.	Apparent aggravation in some.	
ITALY.									
Rome .....	Bacelli .....	.....	27 cases .....	.....	.....	.....	Encouraging results.	.....	
Naples .....	Cantani .....	Jan. 28, 1891.	20 cases—7 incipient, 9 advanced, 4 with large cavities.	.....	.....	Koch's statements confirmed; no circulating bacilli in blood .....	.....	.....	
Turin .....	Bozzolo .....	.....	2 moderately extensive .....	.....	0.0005 to 0.005 .....	Slight or doubtful reaction .....	.....	.....	
	Forlanini .....	.....	2 cases .....	a 5 injections .....	0.001 to 0.005 .....	No effect of any kind whatever .....	.....	.....	
				b several .....	.....	Strong reaction, epistaxis, &c. ....	Slight improvement.	.....	
Naples .....	De Renzi .....	.....	1 advanced phthisis .....	3 doses in 4 days .....	0.0005 .....	No reaction .....	.....	.....	
					0.001 .....	Slight reaction .....	.....	.....	
					0.002 .....	More marked reaction, backing cough, great prostration, two days after, suffocation.	.....	.....	
		Jan. 28, 1891.	37 cases (3 incipient, 10 medium intensity, 13 severe, 11 very severe.)	32 only had the complete treatment.	0.0005 to 0.060 .....	.....	Results out of 32.—4 remarkably improved, 5 slightly improved.	8 not changed, 13 made worse.	2 deaths.
SPAIN.									
Madrid .....	San Martin .....	.....	1 case .....	6 injections .....	up to 0.005 .....	Doubtful reaction .....	Great improvement.	.....	
			1 recent case advancing rapidly.	1 injection .....	0.001 .....	Violent local and general reaction .....	Feeling quite cured.	.....	
			1 case, enormous number of bacilli number of suppurating glands	7 injections .....	.....	.....	Great improvement.	.....	
			Several other cases .....	.....	.....	No physical change .....	Subjective improvement.	.....	
UNITED STATES.									
New York .....	Kinnicutt .....	.....	4 cases .....	.....	.....	Decided reaction .....	.....	.....	
PORTUGAL.									
	Sousa Martins.	Feb. 1, 1891	1st stage; 8 cases not very bad.	.....	.....	Reactions variable .....	.....	All made worse.	1 death.

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## APPENDIX E.

## General Statistics

Bearing upon the Effects of Koch's Treatment during the months of October, November, and December, 1890, and the greater part of January, 1891.

1. In preparing this table none but statements found in reliable medical papers have been made use of.

2. Whenever possible or convenient the name of the hospital in which the experiments have been carried out is given, as well as the name of the observer. This was necessary owing to the fact that some physicians and surgeons have experimented in more than one hospital at a time, and on the other hand, that the cases of death recorded by other observers may, by this means, often be traced to their probable origin.

3. Whenever indefinite statements as to large or small numbers of cases have been made, none but the cases definitely indicated have been entered on the table.

4. The date given is that at which the results were brought before a society or published. (It is, therefore, in some cases a few days later than the actual date of communication to the society).

5. The length of treatment applies only to a few of the cases treated by each observer, viz., to those cases which have been longest under observation, and it is mentioned only when some definite statement to that effect could be found.

6. The doses mentioned are, as far as possible, the minimum and maximum doses recorded by each observer. In many cases, however, time has not been available to ascertain the absolute maxima and minima used, and the numbers given are those which have been found most often referred to in the reports consulted. The figures represent decimal fractions of a gramme of pure lymph.

7. The general impression of each observer concerning the effects of the remedy is given as recorded at the time of the report consulted, but it must be remembered that some observers have altered their mind somewhat rapidly. Generally speaking the change has been from confidence to doubt.

8. The results have been expressed by numbers under three heads.

- (1.) Cases in which results favourable or unfavourable have been observed, but which have neither recovered nor died. Whenever accurate data concerning the number of favourable and unfavourable results, short of cure or death, have been clearly recorded, these have been entered in the column of symptoms, &c. These numbers will allow any one to get an idea of the meaning of doubtful results.
- (2.) Cases in which a cure has been reported. Here it must be remembered that some of the cases entered as cures at the date of the report quoted in the table are known to have relapsed since. (These relapses are not indicated in the table, but will be referred to in the more special parts of the report.)
- (3.) The cases of death have been recorded specially when it was possible to ascertain the actual number of patients out of which the cases had occurred. Virchow's returns, however, indicate mostly the Charité mortality, and as many of the Charité physicians had published their cases at an early date, and there was no opportunity of judging of the later results except through Virchow's numbers, these have been entered in the table.

N.B.—In summing up the observations in each country the numbers have been reduced to a percentage, and in doing so only the results given as occurring in a definite number of cases have been utilised, *e. g.*, Gerhardt, Hahn, Guttmann, Körte, Ewald, and Israel's cases.

STATISTICAL RETURNS obtainable in the Medical Journals up to the 24th of January.

Country, Town, or Hospital.	Observer.	Cases.	Date.	Length of Treatment.	Doses. Decimal fractions of a gramme of pure lymph.	Reaction, Symptoms, &c. General Remarks.	Doubtful Results—favourable or unfavourable.	Cures.	Deaths.
GERMANY.									
Berlin—Charité .....	Henoch .....	11 Children Medical.	4 Dec., 1890...	14 days .....	0·0001 to 0·0003 gr.	No reaction under 0,0003. Reaction not proportional to disease or age or even to dose within certain limits.	10	.....	1
Breslau.....	Rosenbach .....	56 cases medical	— „ .....	.....	.....	Reaction variable in intensity .....	56	.....	
Berlin—Charité H. ....	Senator .....	53 cases medical	10 „ .....	21 days .....	400 injections.	Improvement of symptoms in several cases, chiefly those in which tissue can be expelled.	53	.....	
„ .....	Gerhardt .....	59 cases medical	13 „ .....	„ .....	380 injections—0·001 to 0·010 gr. Several doses, some large	General condition lowered in most cases. Weight—increased, 10 cases; unchanged, 24 cases; diminished, 14 cases.	54	2 (?)	3
Berlin—Augusta H. ....	Lindner.....	2 cases surgical	13 „ .....	.....	.....	No reaction .....	2	.....	
Greifswald .....	Helferich .....	11 cases at least	.....	.....	.....	Reaction typical. Effects favourable .....	11	.....	
Berlin—Friedrichshain H. ....	Hahn.....	32 cases surgical	23 Dec. ....	32 days .....	Altogether 300 injections.	Reaction, usual; improvement in 16; benefit in 12; no change in 4.	32	.....	
.....	.....	27 cases surgical	23 „ .....	Short time.....	.....	Reaction usual .....	27	.....	
Berlin—Friedrichshain H. ....	Fuerbringer .....	63 cases medical, 41 phthisis	27 „ .....	.....	.....	Reaction unreliable in 5 cases. Results favourable in a certain number of cases.	63	.....	
Stettin—Bethanien H. ....	H. Schmid.....	60 cases medical	1 Jan., 1891...	.....	400 injections	Results so far hopeful.....	60	.....	
Berlin—Moabit H. ....	Guttmann .....	120 cases medical.	14 „ .....	In some cases 75 days.	.....	Results favourable if early cases be selected. Several cases improved	117	3	
Berlin—Urban H. ....	Körte.....	29 cases surgical, 2 medical	14 „ .....	In some cases 52 days.	Gradually up to 0·100 gr.	Reaction not proportional to diseases. No marked results .....	31	.....	
Berlin .....	Baginsky and Litten.	1 case lupus ...	14 „ .....	23 injections .....	Last 0·013...	Result—No apparent improvement. Apparent dissemination of tubercles.	1	.....	
„ .....	A. Frankel ...	1 case.....	14 „ .....	Numerous injections.	0·001 to 0·040; altogether 0·360 gr.	Result—Aggravation; apparent dissemination of tubercles .....	1	.....	
„ .....	B. Fränkel .....	5 cases selected out of many medical.	14 „ .....	„ „ .....	Up to 0·100.	Reaction not always present. Three cases improved.....	4	1	
„ —Jewish H. ....	Lazarus.....	1 case out of many.	14 „ .....	45 days .....	Largest dose 0·005.	Reaction good .....	.....	.....	1
„ —Charité H. ....	Virchow and his assistants.	29 Post-mortem examinations of cases treated at the Charité a few treated elsewhere	31 Dec., 1890... 7 Jan., 1891...	.....	.....	.....	.....	.....	21 6 1 1 5
Berlin—Augusta H. ....	Ewald .....	114 cases medical	21 „ .....	Many for nearly 3 months.	3·200 grm., used in all, i.e. 0·025 for each case on an average.	Effects doubtful, not a single cure; 29 had been discharged, but many serious and unfavourable symptoms had been observed. 7 had left before the treatment was completed.	109	.....	

Virchow did not give the physicians under whose charge the patients were that he examined post mortem, but probably the four cases of Henoch and Gerhardt, above noted, were included, so that the total for Germany would then be 40. This, however, does not make any important difference to the general results.



Country, Town, or Hospital,	Observer.	Cases.	Date.	Length of Treatment	Doses. Decimal fractions of a gramme of pure lymph.	Reactions, Symptoms, &c. General Remarks.	Doubtful Results—favourable or unfavourable.	Cures.	Deaths.
Skin and Lock Hospital..... Nottingham—General Hos- pital.	Physicians .....	8 cases .....	3 Jan., 1891	.....	.....	Results doubtful .....	8	.....	.....
	Physicians .....	16 " .....	17 " "	Some 34 days ..	Some have had 15 doses up to 0.040.	Reactions usual, including rashes. Results—None bad, some good.	16	.....	.....
Manchester .....	Gumpert .....	8 " .....	13 Dec., 1890	.....	.....	Reactions usual .....	8	.....	.....
Bristol .....	Skerrit, Harrison, Baron.	18 cases—6 lupus, 12 lung	24 Jan., 1891	.....	.....	Reaction usual. Results—Some favourable .....	18	.....	.....
Liverpool .....	Leslie Roberts	2 cases at least	24 " "	.....	Up to 0.004.	Reaction slight .....	2	.....	.....
Newcastle—Royal Infirmary	Rutherford .....	5 cases .....	20 Dec., 1890	.....	.....	Reaction usual in 3 cases .....	5	.....	.....
Glasgow—Royal Infirmary..	Stevens and Workman.	28 " .....	17 Jan., 1891	.....	.....	Reaction usual in many cases. Results uncertain in many .....	28	.....	.....
Edinburgh—Royal Infirmary	Physicians .....	23 " .....	13 Dec., 1890	.....	.....	Reaction usual .....	23	.....	1
Totals in United Kingdom		189 cases .....	.....	.....	.....	.....	183	4	2
FRANCE.									
Paris—Hôpital Laennec ..	Cornil .....	Many cases ..	17 Dec., 1890	.....	.....	Reactions variable. Results unfavourable in most cases. Favourable in a few cases of Lupus.	.....	.....	.....
Hôpital St. Louis ...	Vidal and others.	34 cases .....	8 Jan., 1891	41 days in some cases.	1st dose 0.0005 grm., increased by 0.0005 grm., until reaction observed; 4 to 6 injections in each case.	Reaction very often irregular; no proportion between local and general reaction.	34	.....	.....
" .....	Pean .....	30 cases surgical.	13 Dec., 1890	.....	.....	Results—1 death in a very advanced stage of phthisis .....	29	.....	1
?).....	Hallopeau.....	2 cases—Lupus	.....	.....	.....	Results—1 case had to be interrupted on account of heart disease coming on.	2	.....	.....
(?) .....	Quinquand ..	Several cases...	.....	.....	.....	Results—1 case suffered from severe hæmaturia .....	.....	.....	.....
Paris—Hôpital Necker .....	Guyon .....	" .....	.....	.....	.....	.....	.....	.....	
.....	Ledentu.....	" .....	.....	.....	.....	.....	.....	.....	
.....	Dieulafoy ..	" .....	.....	.....	.....	.....	.....	.....	
Lyons .....	Physicians.....	" .....	.....	.....	.....	.....	.....	.....	
Totals in France.....		66 cases.	.....	.....	.....	.....	65	.....	1
ITALY.									
Bologna .....	Mongardi .....	1 caso .....	28 Nov., 1890	.....	.....	.....	1	.....	.....
" .....	Murri .....	7 cases .....	4 Dec., 1890	.....	.....	.....	7	.....	.....
Bergamo .....	Ferrari .....	1 case at least	" "	.....	.....	.....	1	.....	.....
Florence .....	Bianchi .....	" .....	" "	.....	.....	.....	1	.....	.....
" .....	Arnaldo .....	" .....	" "	.....	.....	.....	.....	.....	.....
Rome .....	Baccelli.....	30 cases phthisis and lupus.	29 Nov. to Jan.	.....	.....	Reaction usual, and results encouraging .....	30	.....	.....
" .....	Topai Tassi ..	Several cases...	4 Dec., 1890	.....	.....	.....	1	.....	.....
Milan .....	Ferrara Bardile	1 case at least	.....	.....	.....	.....	7	.....	.....
Turin .....	Bozzolo .....	7 cases .....	19 Dec., 1890	2 or 3 weeks .....	0.0005 to 0.005.	Reaction well marked in 3 cases; irregular in 4. Results: rigors, in 3; rashes in 3; enlargement of spleen; favourable in 2 cases of lupus; application, limited.	.....	.....	.....

Country, Town, or Hospital.	Observer.	Cases.	Date.	Length of Treatment	Doses. Decimal fractions of a gramme of pure lymph.	Reaction, Symptoms, &c.	Doubtful Results—favourable or unfavourable.	Cures.	Deaths.
Turin .....	Forlanini .....	7 cases .....	23 Dec., 1890..	2 or 3 weeks...	0.001 to 0.007.	Reaction—Doubtful in general cases. Result—Doubtful; slight improvement in one case.	7	.....	.....
Naples .....	Rummo .....	2 cases of phthisis.	4 " .....	.....	.....	.....	2	.....	.....
" .....	De Renzi .....	1 case at least	27 " .....	Dec. 23 to Dec. 27	3 doses; largest 0.002.	Death .....	.....	.....	1
Totals in Italy.....	.....	58	.....	.....	.....	.....	57	.....	1
BELGIUM.									
Liege.....	Masius .....	14 cases .....	Dec. ....	3 weeks at most...	.....	Reaction—Not proportional to the lesions. Results—Improvement in 5 cases; no alteration in 7 cases; aggravation in 2 cases; one patient nearly died, and was removed by her people.	13	.....	Probably 1?
Brussels .....	Casso .....	34 cases, children	27 Dec. ....	A few weeks at most.	0.001 to 0.005.	Reaction—Usual, including a case of lupus erythematodes. Results—If not perfect, at least useful.	34	.....	.....
Totals in Belgium .....	.....	48 at least.....	.....	.....	.....	.....	47	.....	1?
SWITZERLAND.									
Basel .....	Socin .....	20 cases.....	1 Jan., 1891..	A few weeks .....	.....	Reaction—Very typical. Results—Doubtful. Knife still to be "ultima ratio" in surgical cases.	20	.....	.....
Zurich .....	Kroenlein and Eichhorst.	9 cases at least	27 Dec., 1890..	.....	.....	.....	9	.....	.....
Lausanne .....	De Ceronville Secretan.	3 cases at least	27 " .....	.....	.....	Reaction—Usual. Results—Undecided.....	3	.....	.....
Montreux.....	.....	Several cases...	27 " .....	.....	.....	.....	.....	.....	.....
Davos .....	Physicians ... {	100 cases ...	26 " .....	.....	.....	Remarkable improvements. No alarming symptoms, yet no case of cure.	500	.....	.....
		400 more .....	27 " .....						
Totals in Switzerland .....	.....	532 at least.	.....	.....	.....	.....	532	.....	.....
SPAIN.									
Madrid.....	Alejandro .....	5 cases .....	5 " .....	.....	.....	Reaction—Usual .....	5	.....	.....
" .....	San Martin ..	2 cases of leprosy.	6 " .....	.....	.....	Effects—Doubtful .....	2	.....	.....
" .....	Espina .....	4 cases .....	8 " .....	.....	.....	1 girl said to have died .....	4	.....	.....
" .....	Physicians (?)..	2 at least; many other cases.	.....	.....	.....	1 man died with advanced tuberculosis .....	(?)	.....	2
Totals in Spain .....	.....	11	.....	.....	.....	.....	9 at least	.....	2
PORTUGAL.									
Lisbon .....	Mouton Sousa Martins.	Several cases...	12 Dec. ....	.....	.....	.....	.....	.....	.....
DENMARK.									
Copenhagen.....	Salomonson .....	.....	.....	.....	.....	.....	.....	.....	.....
TURKEY.									
Constantinople .....	Haslund .....	.....	.....	.....	.....	.....	.....	.....	.....
RUSSIA.									
St. Petersburg—Petersburgh, Sperck.	Krudewski .....	Several cases .....	Begun 23 Nov.	.....	.....	.....	.....	.....	.....
Jalta .....	Kamenski .....	" .....	28 Dec. ....	.....	.....	.....	.....	.....	.....
Simferpol .....	Lebeden .....	.....	28 Dec. ....	.....	1 injection	Death .....	.....	.....	1

Country, Town, or Hospital.	Observer.	Cases.	Date.	Length of Treatment.	Doses. Decimal fractions of a gramme of pure lymph.	Reaction, Symptoms, &c.	Doubtful Results—favourable or unfavourable.	Cures.	Deaths.
<b>AMERICA.</b>									
New York Hospital for Crippled and Ruptured Children.	A. M'Lanc Hamilton.	First case in New York.	9 Dec. ....	.....	.....	.....	1	.....	.....
St. Luke's Hospital.....	Kinnicutt .....	100 cases?.....	27 „ .....	.....	.....	Reaction—Well marked in all typical tuberculosis cases .....	100 (?)	.....	.....
German Hospital.....	Sondern.....	7 cases .....	11 „ .....	.....	.....	Results—None alarming.....	7	.....	.....
Washington Garfield Mem. Hospital.	Magruden.....	Several .....	11 „ .....	.....	.....	.....	.....	.....	.....
Totals in America .....	.....	103	.....	.....	.....	.....	108	.....	.....
<b>GENERAL RESULTS.</b>									
Germany .....	Some of the highest authorities under Koch's direct supervision. Most of them friendly to Koch.	712 cases of all sorts.	21 Jan., 1891...	110 days.....	0·0005 gr. to 0·100.	Reaction.—1. Generally but not always present in tuberculosis 2. Not proportional to the amount of disease. 3. Present in many non-tubercular cases. Results.—1. Favourable in lupus and laryngeal tuberculosis. 2. Doubtful in other cases. 3. Very unfavourable in tuberculosis of internal organs except in very early stages.	93·5	Just under 1	5·7
Austria.....	Some of the highest authorities generally friendly to Koch.	66 cases of all sorts.	24 Dec., 1890...	36 „ .....	0·001 to 0·025.	„ „ .....	92·5	0	7·5
United Kingdom.....	Chiefly junior men (with few exceptions leaders of the profession not having joined).	189 cases of all sorts.	24 Jan., 1891 .	54 „ .....	0·001 to 0·100.	„ „ .....	Over 96.	Over 2.	Over 1.
France .....	Many of the leaders of the profession.	66	8 „ „ ..	41 „ .....	0·0005 upward.	„ „ .....	98·50	0	1·50
Italy .....	Many of the leaders of the profession, generally friendly to Koch.	57	1 „ „ ..	32 „ .....	0·0005 upward.	„ „ .....	98·20	0	1·8
Belgium .....	Members of hospital staff.	48	27 Dec., 1890...	21 „ .....	0·001 to 0·005.	One case taken away from the hospital after abortion; patient very ill, probably died; no cure.	98	0	Possibly 2.
Switzerland.....	Some of the leaders, but mostly practitioners in health resorts.	532, chiefly consumptives.	Jan. 1., 1891...	34 days .....	(?) .....	Very enthusiastic accounts of success of treatment. No cure. The whole thing was, however, considered in great part from a commercial point of view.	100	0	0
Spain .....	Physicians.	11	Dec., 1890.....	.....	.....	.....	81·9	0	18·1

## SUMMING UP OF GENERAL STATISTICS.

The following numbers have been collected from various papers. There must have been, however, a great many more patients under treatment than indicated in this table, but it is certain that no fewer people have been treated. The records of the number of cures and of the number of deaths are probably more complete than those of the cases injected.

The numbers here given are, therefore, mere indications of the magnitude of the experiment just now tried upon man, and cannot be used for the purpose of finding reliable proportions or percentages.

Country.	Number of Observers.	Number of Cases Injected.	Number of Cures.	Number of Deaths.
Germany ... ..	18	712	7	41
Austria ... ..	9	66	0	5
United Kingdom ... ..	14	189	4	2
France ... ..	3	66	0	1
Italy ... ..	10	58	0	1
Belgium ... ..	2	43	0	1
Spain ... ..	2	11	0	2
Russia ... ..	1	(?)	0	1
Switzerland ... ..	(?)	532	0	0
America (U.S.) ... ..	3	108	0	0
	62	1,790	11	54

In order to get an idea of the probable degree of success and failure of the treatment these rough numbers cannot be used; but if the percentage of each country, prepared as already explained, be taken a fair idea can be obtained. It will be noticed that the greatest percentage of deaths has been observed in Berlin, where the treatment was carried out practically under the influence of its inventor, and where also the method has been carried out for a longer time than elsewhere.

## APPENDIX F.

## History of the Koch Treatment of Tuberculosis.

## CHAPTER I.

## A CONNECTED HISTORICAL ACCOUNT.

IN an address on bacteriological research, delivered on the 4th August, 1890, before the Berlin Meeting of the International Medical Congress, Koch announced that he had found a *substance which had the power of preventing the growth of Tubercle Bacilli*. That even in guinea-pigs, which are extraordinarily susceptible to tuberculosis, the morbid process could be brought completely to a standstill. This, he said, was true not only in slight cases, but of guinea-pigs suffering from general tuberculosis even to a high degree. He said also that his discovery proved the possibility of rendering pathogenic bacteria in the living body harmless without injury to the latter, a thing which had hitherto been doubted.\*

Koch gave no further information at that time, but the fact that on previous occasions he had generally been able to prove the exactness of his statements gave to his communication an importance which is now-a-days seldom attached to such general announcements. Some people, however, were not a little astonished to hear Koch speak of establishing for the first time the possibility of rendering pathogenic bacteria harmless, as this had been repeatedly proved by Pasteur and his pupils. Yet the sensation caused by Koch's statement was very great, and every member of the profession waited with impatience for the time when the wonderful discovery would be divulged, most people believing that Koch would prove everything he had advanced. During the month of October various rumours were afloat concerning secret experiments which were carried out at the Charité in Professor Senator's wards in Berlin. At the end of the month the lay press began to publish information about these experiments; thus, on the 28th October, the *National Zeitung* made bold to assert that Professor Koch had at last found out a means of curing, or at least arresting, the progress of consumption. It was also stated that the strictest reticence was still observed by Professor Koch, but that his method was analogous to vaccination. His experiments, which had been carried out in the Charité, were to be continued elsewhere. It was also added that in order to devote himself wholly to his investigations his lecture work was to be taken off his hands. The correspondent of the *Times* wrote to that paper on the 30th October a letter giving information which proved afterwards to be misleading. Thus he said that the lymph contained metallic salts, was obtained by a long and extremely difficult process involving great cost, and would be available only by the wealthy, unless, indeed, the remedy was bought by the Governments of different countries for the general benefit. The lymph killed the bacillus immediately, stopping without question the progress of the disease; but long-standing cases would probably not be cured, because other parasites were in those cases present besides the tubercle bacillus. This information was given as the result of a conversation with Dr. Koch, but evidently came from some other source. It was also said that Dr. Koch would not give any further information, for that might interfere with the progress of his experiments. He was working for the whole world, and could not be bothered by individual interests. It was reported that the Berlin medical men considered that the discovery was of greater importance even than that of chloroform and that of Lister's antiseptic method. Further, it was said that Koch was carrying on his experiments in eight slight cases of consumption, the patients having signed papers in which they declared that they were undergoing the treatment voluntarily, and that they did not hold Dr. Koch responsible, even if the results of the treatment should prove fatal. Dr. Koch was said to employ one assistant only, who was bound by oath not to breathe the slightest information with regard to anything he saw or heard in the course of the treatment pursued. In addition to all this, Professor Leyden, a man of very great reputation, was reported to have said that he had the greatest faith in the discovery—that Koch would not have remained silent if he had not been sure of success; and announced, also, that the nature and effect of the discovery would be made public by an illustrated lecture, which would be made before the Medical Society within six weeks of that date. On October 31st it was further stated by the same correspondent that Dr. Koch's discovery was not special to the bacillus tuberculosis, but applied also to other vegetable parasites, the diphtheria bacillus being the next which would be experimented upon by the learned professor. It was said until public announcement of the discovery was made the Professor would not open letters of inquiry in regard to his remedy. Five hundred telegrams from England, France, and America, and innumerable letters, had reached him since the publication of the news, and the correspondence was growing hourly.†

The statements just quoted were not to be found in the lay press only, but were repeated by some of the medical papers, e.g. *British Medical Journal*, October 4th 1890, p. 1812, and November 1st, 1890, p. 1022. In,

In this last article it is stated that the remedy was probably obtained by a process similar to that by which vaccination lymph is got. The first experiments were carried out by Koch in his own laboratory. Koch's assistants noticed that animals under his treatment remained well and alive, while other animals also under his observation, but not treated, died.

The Professor's son-in-law, Staff-Surgeon Pfuhl, experimented at the Charité under his supervision. These experiments were to be transferred to another hospital in order to obtain more perfect seclusion.

On November 7th further information reached the *Times* to the following effect:— The patients who had submitted to the experiments under the seal of secrecy belonged to the highest aristocracy. A case was said to have been already cured, all the other cases were showing improvement after five or six injections. The complete treatment would, Dr. Koch thought, take from four to eight weeks, but favourable cases might take less time. Dr. Koch had an audience with the Emperor on November 6th. It is evident that most of the highest persons in Berlin took a keen interest in the discovery. The confidence in the results must have been firmly established, for extensive plans were framed by the Emperor and the Minister for Public Instruction. The Emperor frequently received reports on the progress of the researches; the Minister also received daily reports. A motion was to be brought forward in the Prussian Diet for the erection of a Bacteriological Institute, similar to the Pasteur's Institute in Paris, to be placed under the direction of Dr. Koch. It was His Majesty's intention that the Government should buy the invention outright, and should erect special hospitals for the cure of consumption. The Emperor regarded Dr. Koch's discovery as a matter of national pride, and considered it his duty to confer the benefit not only on his own people, but on the whole world. Dr. Koch was to receive a large annuity, besides a title. It would really be impossible to give even a very incomplete idea of all the wild statements which found their way into the lay and, to a certain extent, into the medical press.\* There can be little doubt that they were not all without foundation, for the interest taken in the invention by many exalted persons, the confidence exhibited by men such as Von Bergmann and other not less celebrated authorities were enough to create a feeling of confident expectation, well justified even if Koch's own reputation had not been already regarded as a sufficient guarantee. There can be no possible doubt that most of the statements alluded to had found credence with a great part of the younger members of the profession, and not a few of the older members.

On November 12th and 13th the excitement reached the highest pitch, the announcement that Koch was going to explain his method on the 14th, and that demonstrations were soon to be given caused a large number of medical men and patients to flock to Berlin. Some imperfect details of both results and treatment were now circulated. The price of the lymph was also discussed. It may be said that by that time it had become known that Koch had found that the presence of metallic substances in the lymph was not expedient. Dr. von Gossler, the Minister for Public Instruction, received a visit on the 10th from Dr. Koch, who, it is alleged, demonstrated to him that the process of manufacturing the lymph was too costly to admit of poor patients being inoculated unless the Government undertook to bear the cost. One of the first public demonstrations must have been that given in Dr. Herzheimer's Hospital, in Frankfort-on-the-Main, by Dr. Libbertz, in the case of a patient suffering from lupus. Another demonstration was also given by Staff-Surgeon Pfuhl, before the officers of the Ministry of War. Arrangements were made in Berlin to meet the expected rush of patients.

Dr. Koch was to take charge of twelve hospital wards in the Garden of the Charité Hospital.

Professor von Bergmann was to take charge of surgical cases at the hospital in the Ziegel Strasse.

Dr. Cornet was to take charge in the hospital in the Albrecht Strasse.

Dr. Levy was to take charge of pauper patients, 46 Prenzlauer Strasse.

Dr. Pfuhl was to take charge of army patients.

The anti-tubercular lymph was to be obtained from Dr. Libbertz at the rate of 25 marks (shillings) for a little bottle containing sufficient for 5,000 injections of a milligramme each. It was now said on every side that the Emperor proposed to give 2,000,000 marks, that is 1,000,000 to Koch himself and the other 1,000,000 for the founding of a State Institute for the development of his discovery. There was another announcement to the effect that the first paper on the subject would be published in Dr. Koch's own hygienic journal. There were also announcements to the effect that Dr. von Gossler had placed 200,000 marks at the disposal of Dr. Koch for the erection of a special hospital. It was also said that cases of lupus improved in a few hours, and could be completely cured in a few days.

On the 14th of November Dr. Koch's further communication on a remedy for tuberculosis† was published in a special edition of the *Deutsche Medizinische Wochenschrift* and was translated at once by a large number of medical and non-medical journals all through Europe.

In this communication the manner of using the remedy, but neither its nature nor its mode of preparation, was given.

The following is a summary of its contents:—

1. The remedy acts specifically, and on living tuberculous matter only.
2. The reaction has ensued in all the cases tried, without exception, with a dose of 0.010 gramme.
- 3.

\* See *Times*, October 29, 31, November 7, 8, 1890; *Daily Chronicle*, November 3, 7, 1890; *British Medical Journal*, October 4, November 1, 8, 15, 1890.

† See 3rd document.

3. The remedy is an indispensable aid in diagnosis.
4. Cases of slight lupus of the face were quickly healed; graver cases improved more slowly. This is brought about by the destruction of the tuberculous tissue and the shedding of the same with its load of still living bacilli.
5. If the living bacilli are not removed they may find their way into the neighbouring healthy tissues. Thus everything must be done, surgically and otherwise, to procure their removal.
6. Where the removal cannot ensue spontaneously or be brought about surgically the neighbouring tissues must be protected by continued injections.
7. The degree of the general reaction is proportional to the amount of still living tuberculous tissue present.
8. Time alone will tell if these, his conceptions of the mode of action of the remedy are correct.
9. Tuberculous bones, joints, and glands were healed in the same way as lupus.
10. Patients in the commencement of phthisis were all freed from every symptom (the night sweats stopped; the patients increased in weight and looked better; the sputum disappeared after a time) in four to six weeks, so that one could say they were cured.  
When there were moderate cavities they were considerably improved and nearly healed.  
When the cavities were large most were improved, but only temporarily, though Koch suggests that here surgical aid may be of avail.
11. He urgently advises against the use of the remedy in a rule of thumb way and without differentiation of cases.
12. All other known modes of successful treatment should be employed to help the remedy. This assistance is more likely to be obtained in hospitals or in institutions specially for the treatment of disease than in the patients' homes or elsewhere.

So that, although he qualified many of the statements which had appeared before the publication of his lecture, yet the results still were marvellous enough to keep up the excitement and the hopes created.

Koch's own well-known character helped not a little to inspire with his own confidence those who knew him, for he was distinguished for his love of truth, and had the gift of subjecting his own work to a searching criticism to a degree rarely met with. Up to this time he had tested and retested his work for years before publishing it, nor had he rested until he had followed it up into its minutest detail.

Patients began to flock to Berlin from most of the usual resorts for consumptive patients (some of which were almost emptied), and suffered greatly from that pilgrimage. Physicians from many countries had already arrived: Russian, Swedish, Danish, Austrian, Roumanian, English, Italian, French, Spanish, and American physicians were already at or on their way to Berlin. The first impression was nearly overwhelming. It is almost impossible to give an idea of the enthusiasm which seized both the profession and the public. How much even such a man as Von Bergmann was affected by it is seen from his introductory remarks at his demonstration, in which he put Koch alongside Hippocrates, and this in the presence of some of the most eminent surgeons of Germany. Lectures began to be delivered in Berlin, cases to be brought by foreign physicians and to form objects of comment. What at first made such an impression was the wonderful local reaction in surgical cases—especially lupus, where the visible inflammation and subsequent clean look of the affected part seemed to promise real healing. In this period of enthusiasm the reaction was the only thing that was studied really, and it was made use of to diagnose between tuberculosis on the one hand and carcinoma and syphilis on the other. There was indeed very little criticism of the results, and very little was said about actual cures at this time, for of course it was recognised that the time was too short for anything of the sort. In short everybody was chiefly anxious to observe the phenomena as they had been described by Koch himself. A period of doubt was, however, beginning to set in, for people gradually came to criticise Koch's statements and to publish discrepancies in the results, and as the number of patients increased several deaths occurred. Official commissions were sent to Berlin by States, towns, corporations, &c. Honours of all sorts began to pour upon Dr. Koch. Speculators began to make schemes for the exploitation of the lymph. Desperate persons offered large sums for small quantities of lymph. It is known for instance that an English medical man who was possessed of three bottles was offered £500 for a single bottle, and that the offer was rejected.

It would be difficult to realise the stir thus produced, but by tabulating below some of the facts which occurred during that week some idea may perhaps be obtained of this extraordinary movement. Gradually the doubts increased; Koch's statements were found not to be so absolute as he had put them, and great difference in the results appeared. This may have been due to differences in the composition of the lymph, for in the case of such a fluid as we now know it to be, it is difficult to conceive that its composition is constant, or even that it remains through any long period of time what it was at the beginning. Some severe complications made their appearance, and some "calamities of medicine" happened. The results of post mortem examinations of persons who had died during or after treatment were accumulating. The doubt culminated and gave place to a period of disbelief, when on January 7th the veteran pathologist, Virchow, gave in the Berlin Medical Society a summary of over twenty-eight autopsies, and drew conclusions anything but favourable to either the diagnostic or the curative value of the remedy.

## CHAPTER II.

## REPORTS OF SOME OF THE HONORS CONFERRED ON DR. KOCH AND HIS COLLABORATORS.

Vienna Medical Society elected Koch honorary member.

- Nov. 19.—Dr. Koch to be granted a patent of nobility.\*  
 Dr. Koch received in audience by the Empress Frederick. Emperor William conferred on him the Grand Cross of the Red Eagle. The first time this decoration has been bestowed upon anyone not possessing the preceding class of this order.
- „ 20.—Freedom of the City of Berlin given to Koch.
- „ 21.—It is intended to confer upon Koch the Civil Class of the Prussian Order of *Pour le Mérite*.\*
- „ 27.—Telegram from Pasteur and other celebrities congratulating Koch. Elected honorary member of the Berlin Medical Society.
- Dec. 3.—Most of the medical men immediately associated with Dr. Koch in the elaboration of his discovery have received decorations or titles such as that of Professor and Sanitätsrath from the Emperor.
- „ 13.—The Sultan has conferred on Dr. Koch the Grand Cordon of the Medjidie Order.  
 The St. Petersburg Medical Society, as well as numerous other societies, has elected Koch honorary member.
- Jan. 3.—Wurtzburg University awards Koch a gold medal worth 1,000 marks, as well as a foundation prize.

## CHAPTER III.

## SOME OF THE DEPUTATIONS SENT TO BERLIN TO STUDY THE METHOD.

- Nov. 14.—Italian Government: Three physicians.  
 Austrian Government: Prof. Weichselbaum, Prof. Drasche, and an army surgeon.  
 Hungarian Government: Several physicians.  
 Danish Government: Prof. Salomonsen.  
 Munich, Warsaw, St. Petersburg, Rome: Representative physicians.  
 Servian Government: Two physicians.  
 Roumanian Government: Two physicians.
- „ 18.—Birmingham: Four medical men.  
 Number of physicians in Berlin was estimated at 2,000.
- „ 19.—North London Consumption Hospital: Dr. John E. Squire.
- „ 18.—New York Hospitals: Dr. Loomis.  
*Lancet*: London Special Commission.  
 Several London hospitals: Watson-Cheyne, Heron, &c., &c.
- „ 21.—Cracow.—Dr. Suricki returns with a disappointing report, has seen no case of cure, except in Lupus.  
 The Brompton Hospital authorities: Decide not to send any delegate until the composition of the remedy was known.  
 The Royal College of Physicians: In considering the question concludes that it cannot encourage the use of the remedy which is a secret one.
- „ 23.—Arrival of thirty doctors from England and thirty-five from Italy.
- „ 27.—Sydney: Prof. Anderson Stuart to visit Dr. Koch on behalf of New South Wales and South Australia.  
 New Zealand: A competent medical man.
- Dec. 1.—King Humbert: His private physician.
- „ 7.—The French Hospitals: Drs. Cuffer, Ferrand, and Thibierge, return with a rather discouraging report, not having seen a single case of even lupus definitely cured.  
 American Physicians: Loomis, Snisby, Stearms, Quimby, Einborn, and Ernst are not satisfied with the effects, except in cases of lupus.
- „ 10.—Bulgaria: Two doctors sent by the government.
- „ 23.—Australia: Prof. Anderson Stuart has, after studying some hundreds of cases, made a preliminary report.—Although a great discovery, its value has not yet been fixed. In advanced cases of consumption the lymph was positively injurious, but in earlier stages the treatment apparently has a beneficial effect. He deprecates Australian patients coming to Berlin. He will take back with him a supply of the lymph which has been promised to him by Dr. Libbertz.
- „ 29.—Melbourne: Dr. Springthorpe has just arrived in quest of the lymph.  
 A great many more deputations or commissions were sent to Berlin, but the few enumerated are enough to show the wide-spread interest produced by the discovery.

CHAPTER

\* The Reporter is informed that this was not carried out.

## CHAPTER IV.

SOME OF HOSPITALS, &c., WHERE THE TREATMENT WAS CARRIED  
OUT AFTER FIRST EXPERIMENTS AT THE CHARITÉ.

- Nov. 14.—Berlin: Dr. Levy Clinical Hospital, in the Prenzlauer Strasse.  
Hamburg Hospital: All the consumptive patients to be inoculated.
- „ 15.—Berlin: Jewish Hospital has secured 250 marks worth of lymph.  
Pesth: Lymph tried the first time at the Rochus Hospital.  
Berlin, Dr. Cornet, 9 Albrecht Strasse, Clinical Hospital: For the cure of lung tuberculosis.  
Berlin, Dr. Levy, Germania Hotel: Rented for surgical treatment of consumption.  
Berlin, Dr. Dengler, Oranienburger Gate: Surgical and medical cases treated.
- „ 16 Berlin, Von Bergmann Royal Clinical Hospital: Surgical cases treated.
- „ 17 Berlin, Prof. Bergmann's Private Klinik.  
Dr. Cornet and Dr. William Levy, together open an hospital for tuberculosis.  
Berlin: Hospitals for the cure of consumption are springing up like mushrooms: the average cost to the patient is 25 marks a-day, and the treatment is said to last six weeks.  
Berlin: Dr. Cornet's hospital described by a visitor. See letter in *Times*\*
- „ 18.—Berlin, Charité: Case under Prof. Bardeleben.
- „ 20.—Rome: Koch's lymph arrives; to be put on trial the day after. Prof. Bacelli.  
Davos Sanatorium: Treatment begun with Koch's lymph.
- „ 26.—London: Mr. Watson Cheyne begins to inoculate patients at King's College Hospital.  
London: Dr. Heron, Victoria Park Hospital.
- „ 27.—Paris, St. Louis Hospital: Dr. Pean Schafer and Dr. Garcin begin inoculation.  
Five patients under treatment.
- „ 30.—Paris, Hôpital Laennec: Prof. Cornil.  
Berlin: Herr von Bleichroeder gives one million marks to Dr. Koch, for the founding of a new hospital for tuberculosis.  
Hyères: Establishment offered to Koch for the treatment of patients.
- Dec. 3.—Madrid, Medical College: Dr. San Martin begins inoculations.
- „ 5.—Italy, Bologna and Genoa, and several other hospitals: Inoculations going on.
- „ 5.—Paris, Cochin Hospital: Dr. Dujardin-Beaumetz, French War Office, begins inoculation.
- „ 8.—Berlin: No less than fifteen so-called hospitals for consumptive patients carried on by Koch's assistants and their medical friends.  
Vienna University: Dr. Kaposi had inoculated 30 patients, and in some cases dangerous symptoms had been observed.  
Vienna University, Prof. Schrotter: 25 patients inoculated; no bad symptoms.
- „ 9.—St. Petersburg, the Grand Duke of Oldenburg Institute: The Czar and Czarina witness inoculation of a patient affected with lupus.  
Newcastle-on-Tyne: 4 patients inoculated at the Royal Infirmary.
- „ 10.—Vienna: Prof. Billroth said to have abandoned the remedy.
- „ 11.—Palermo: Hospital to be built by a wealthy inhabitant for Koch's treatment.
- „ 11.—Birmingham: Queen's Hospital and Lock Hospital patients inoculated.
- „ 12.—Lyons, Hospital la Croix Rousse: The physicians were compelled to promise the patients that they would not be inoculated, as they refused to be treated by that method.
- „ 13.—New York, various hospitals: 36 cases injected.
- „ 14.—Berlin, Charité: Prof. Gerhardt gives a somewhat discouraging account of the remedy.  
Berlin, hospitals: Danger of large doses recognised now.  
Paris, Hospital Laennec: 30 cases injected favourable; very guarded report.
- „ 16.—Berlin, Dr. Cornet's Hospital (private hospital—1st class patients, £2 a day; 2nd class, £1 a day): People advised by correspondents not to go to Berlin.
- „ 20.—Rome and Naples: Patients continue to improve.
- „ 22.—Canada, Montreal General Hospital: 2 cases of lupus inoculated.  
New York, nine different hospitals: 116 persons under treatment.
- „ 25.—Rome: 2 cases of lupus said to be well-nigh cured; cases of phthisis less satisfactory.
- „ 29.—Bologna: 2 cases recorded cured.  
St. Petersburg, Municipal Hospital, under Dr. Sokoloff: two deaths after three doses, largest 0.003.
- „ 31.—Athens, General Hospital: Consumptive patients inoculated with the fluid received by the Queen of Greece.
- Jan. 1.—Toronto, General Hospital: First inoculation in a consumptive patient.  
Madrid, Hospital St. Jean de Dieu: 3 lepers inoculated some time ago continue well. The

The chief experiments were carried out in Berlin in the following hospitals and by the following men:—

- Berlin.—Charité: Leyden, Senator, Fräntzel, Gerhardt, Bardeleben, and Henoch.  
 Moabit: Koch, Paul Guttman, and Sonnenburg.  
 Augusta: Ewald.  
 Friedrichshain: Fuerbringer, Hahn.  
 Jewish Hospital: Lazarus and Israël.  
 Urban Hospital: Körte, A. Fraenkel.  
 Royal Clinical Hospital: Von Bergmann.  
 Private Clinics: Von Bergmann, Fränkel, Cornet, Levy, Schöler, &c.

In England, Scotland, and Ireland the experiments were carried out chiefly at the following places:—

- London.—King's College Hospital: Watson Cheyne.  
 Victoria Park Hospital: Heron.  
 London Hospital: Eve.  
 St. George's Hospital: Dent and Penrose.  
 North London Consumption: H. B. Squire.  
 St. Peter's Hospital: H. Fenwick.  
 Throat Hospital (Golden Square): M. Mackenzie.  
 Brompton Consumption Hospital.  
 Sick Children's Hospital (Paddington Green): W. Cheyne.  
 Royal Hospital for Women and Children.  
 Ormond-street Hospital: E. Squire.  
 Birmingham.—Queen's Hospital: A. E. Carter.  
 Lock Hospital.  
 Nottingham.—General Hospital; Physicians.  
 Dorset.—County Hospital.  
 Bristol.—General Hospital: Skeritt, Harrison, Baron.  
 Devon and Exeter.—Hospital.  
 Manchester.—Hospital: Gumpert.  
 Liverpool Hospital.—Leslie Roberts.  
 Newcastle.—Royal Infirmary: Rutherford.  
 Edinburgh.—Royal Infirmary, Physicians—Phillip.  
 Glasgow.—Royal Infirmary: Stevens, Workman, &c.  
 Western Hospital.  
 Victoria Hospital.  
 Aberdeen.—  
 Dublin.—Meath Hospital.  
 Richmond Hospital.  
 Mater Misericordiae, &c.

This list is intended to show only the generalisation of the treatment in the United Kingdom.

#### CHAPTER V.

##### NOTES OF REPORTS BEARING ON THE REGULATION OF THE PRODUCTION AND DISTRIBUTION OF THE LYMPH.

- Nov. 14.—A scheme made by some German capitalists to induce Dr. Koch to let them monopolise his invention was met with his refusal.  
 „ 17.—Medical corps of the Danish army said to have secured lymph.  
 „ 18.—No foreign university or hospital to be supplied until all the laboratories and hospitals in Berlin and Germany have been supplied, after which it will be provided to the large hospitals and laboratories in Vienna, Paris, and London, then to the most prominent German physicians, and finally to private practitioners.  
 „ 19.—Dr. Koch says the State must take in hand the preparation of the lymph.  
 „ 19.—Impossibility to get any lymph from Dr. Libbertz, the supply not being large enough.  
 „ 19.—Dr. Pfuhl and Dr. Libbertz are still the only persons besides Dr. Koch who know the nature of the remedy.  
 „ 19.—On account of the scarcity of guinea pigs other animals, even cows, are now being used for the production of lymph.  
 „ 19.—The preparation of the lymph will be under the control of the Prussian Minister; all the details of the subject will be settled shortly between Dr. Koch and Dr. von Gossler.  
 „ 19.—Complaints made as to the mercenary aims of those assisting Dr. Koch. Several houses have been rented by Dr. Cornet and by Dr. Dengler, and there the injections were made hastily and mechanically.  
 „ 24.—Lymph has begun to be sent to private practitioners rather freely, at least in Germany, Austria, Switzerland, and Italy.  
 „ 24.—An arrangement has been arrived at between Dr. von Gossler, Prussian Minister for Medical affairs, Dr. Miquel, Minister of Finance, on the one side, and Dr. Koch and his collaborators on the other side. The net profit of the State manufacture, and the distribution of the lymph, is estimated at four million marks yearly, of which Dr. Koch will receive a sum not exceeding one million, and his assistants 250,000 marks each.

Nov.

- Nov. 25.—Berlin: The police President has given orders that all private hospitals for the treatment of consumptive patients are to be closed at once, that all other establishments which shelter consumptive patients are to remove such persons from their premises within 8 days, as phthisis is medically described as an infectious disease.
- „ 29.—Dr. von Gossler, in reply to Herr Graff's interpellation, explains on what ground, and how the Government would take charge of the manufacture of the remedy.\*
- Dec. 8.—Dr. Cornil says it is illegal in France to use a secret remedy, so that he has to obtain special consent of the patients, or parents, before making any injection.
- „ 13.—Berlin: The Cultus Minister von Gossler has requested the directors of the University clinics, by circular, to let him have statistics of their experiences with Koch's remedy by January 1. These statements are to be united and published in the *Medizinische Jahrbücher*.
- „ 15.—Rome: Minister of the Interior has forbidden the use of Koch's lymph except in University clinics, unless by special permission.
- „ 16.—Berlin: The physicians demand that the State shall furnish them with the lymph, as their practice has fallen off 25 per cent. since the beginning of Koch's operations.
- „ 17.—It is alleged that the lymph, which was originally prepared in small vials, had, by order of Minister Gossler, been manufactured on a large scale, but the result had been a serious failure.
- „ 21.—Province of Milan: The provincial medical council has decided that the fluid cannot be used without infringement of the law against secret remedies, and has ordered confiscation of the lymph wherever found. An official of the Public Health Service has made domiciliary visits in search of the forbidden elixir, but without success; and now all the medical men whose names had been advertised as possessing the fluid have been summoned to surrender it.
- „ 27.—Vienna: It is expected that the following regulations suggested by Professor Weichselbaum to the Superior Senator of Council of Austria on November 29, will soon be confirmed by the Austrian Government. Patients should be allowed to undergo treatment only after notification of the fact had been given to the police authorities, and satisfying evidence of the genuineness of the lymph was forthcoming. (The Austrian practitioners intend to protest against this.)
- „ 27.—Austria: The Austrian Minister of Finance has sent instructions to all the Custom House officials of the Empire that Koch's fluid is to be allowed to be imported into Austria duty free. (The fluid is unfortunately described as vaccine for the destruction of the *Bacillus Tuberculosis*.)
- 1891.
- Jan. 3 or before.—The Russian Government has issued an order, that although Koch's fluid, strictly speaking comes under the law as to secret remedies, yet considering the special circumstances of the case, its employment will be allowed under the control of the authorities and on the personal responsibility of the practitioners in Crown and Communal Hospitals, the scientific organisation of which offers a guarantee of its being rightly used.
- Feb. 1.—The Prussian Government, which, according to the public avowal of Herr von Gossler, Minister of Public Instruction, meant to take the production of the lymph into its own hands, and make a kind of State monopoly of it, would appear to have meanwhile decided to let the matter rest as it is. The Government has probably been influenced by those who made bold to warn the State against assuming the whole responsibility for the preparation and retail of a medicine which has not yet realised or even promised to realise, all the sanguine predictions that were made about its efficacy.
- Jan. 26.—St. Petersburg: The Minister of Finance has issued instructions to the customs authorities to take possession of all Dr. Koch's lymph imported into Russia, and to send it to the nearest medical inspector to be examined, after which it will be given up to those to whom it belongs, or to whom it has been addressed upon the payment of the usual customs duty charged on patent medicines.
- Constantinople: The Sultan has decreed that the method should be used at first only in special institutions for the treatment of tuberculous patients.

CHAPTER VI.

SPECIAL NOTES ABSTRACTED FROM VARIOUS NEWSPAPERS DURING THE MONTHS OF OCTOBER, NOVEMBER, AND DECEMBER, 1890, AND JANUARY, 1891.

(*Times, Standard, Daily Telegraph, Daily Chronicle, St. James's Gazette, &c.*)

ONE HUNDRED THOUSAND copies of Dr. Koch's paper *Deutsche Med. Wochenschr.* were sold on the 14th November. All the whole of the previous day the publishing office was besieged by journalists and others anxious to have an early copy of the article, in one case

\* 5th Document.

case it is said that as much as £500 was offered for a proof of the article, but all offers were refused: one Vienna newspaper, however, seems to have managed to get hold of a copy. It is admitted that Dr. Koch hastened the issue of his article on account of the publicity given to the discovery by the *Times*. Much chagrin is expressed here in professional and newspaper circles at the English and American press having been ahead of the German papers with the details of Dr. Koch's experiments.

- Nov. 19.—Notes of warning begin to be sent from Berlin and Vienna.  
 Berlin: Imitations of the lymph said to be already used as evidenced by the fact that an immense number of syringes had been sold.  
 The *Berliner Tageblatt* blames Dr. Koch for entrusting only a few collaborators with his lymph, whilst great scientific establishments, hospitals, &c., were excluded from its benefit. The medical men generally are dissatisfied with this.  
 Prof. Virchow defends Koch at a meeting of the Medical Society, against the charge of premature publication, and said that it was only made in obedience to the urgent representations of the Congress and of Dr. Von Gossler.
- „ 20.—An Italian doctor is said to have offered 5,000 marks for a small bottle, but could not get any.  
 Warning from Dr. Ullmann of Vienna.
- „ 21.—Dr. Miller of New York claims to have used virus taken from calves inoculated with tubercle since 1873. Printed reports on the subject were to be found in the *New York Sun* of 6th June, 1882.
- „ 23.—Vienna professors continue to be doubtful as to the value of the treatment.
- „ 25.—Ugly disclosures concerning Dr. Levy who has asked 1,000 marks weekly for continuous treatment, or 300 marks for each injection, the fact acknowledged by Dr. Levy, although he explains that these sums were demanded in order to prevent patients from coming. (The reporter is informed that Dr. Levy was subsequently exonerated from blame by a Medical Court of Honour.)
- Dec. 1.—Dr. Dixon of Philadelphia is said by some to have discovered previous to Koch an anti-tuberculous lymph; this, however, he says himself is quite of another kind of remedy.  
 A St. Petersburg physician claims to have obtained curative effects with Brown-Séguard's fluid.
- „ 3.—Messrs. Boettger and Nadyl, architects for the Koch Institute, visit the Pasteur's Institute in Paris to take plans and measurements.
- „ 11.—Reaction begins to take place in Berlin against the treatment.
- „ 16.—Naples: Prof. Semmola in a lecture deploras that Dr. Koch has remained indifferent to the abuse which was made in all countries of his discoveries; a word from him even to the public in October, would have prevented thousands of patients from going to Berlin, and making all sorts of sacrifices in order to meet with absolute disappointment.
- „ 20.—Washington: Proposal to appropriate 100,000 dollars to enable the President to obtain from Germany a supply of Dr. Koch's lymph, and the necessary formula for its manufacture.  
 Experiments with Dr. Koch's lymph are made on cows, from the district whence Berlin derives much of its milk.
- „ 21.—Berlin Government have declined to undertake the manufacture of Dr. Koch's lymph.
- „ 25.—Chamber of the Physicians of Brandenburg has recorded a formal protest against the way in which the lymph has hitherto been distributed.
- „ 27.—It is said that in Milan the discovery is degraded in a highly disgraceful manner. Obscure doctors announce that they have received a sufficient supply of Koch's lymph. The lymph is in no case genuine, and yet phthical patients flock to these chevaliers d'industrie. The following is a translation of the inscription on the sign-board of a "dispensary."  
 "Teeth extracted, corns cut, and tuberculosis cured after Professor Koch's method."
- 1891.
- Jan. 1.—Munich: Von. Pettenkoffer says that the Emperor pressed Dr. Koch to make his discovery known, although the latter said his experiments were not yet completed. He also said that he considered as a deplorable blot on German science, that Dr. Koch's discovery had been abused by certain Berlin physicians for pecuniary ends.
- „ 2.—Berlin: Conference at the Ministry of Public Instruction between Koch and Minister concerning advisability of making the nature of the lymph public, and the conditions on which he would surrender to the State his rights of intellectual ownership.
- „ 7.—Berlin: Virchow's demonstration on the results of the P. M's. of more than twenty-eight patients (twenty-eight of whom had died at the Charité, the rest in other hospitals), whilst or after undergoing Koch's treatment, causes a considerable sensation and diminishes considerably the enthusiasm for the method.
- „ 14.—Constantinople: Turkish doctors sent by Sultan to study the method. The Sultan will not, however, allow the lymph to be used until it has been fairly tried in establishments specially erected for tuberculous patients.
- Jan.

Jan. 14.—Dr. Springthorpe, who has been delegated by the Melbourne University and Hospitals, has succeeded in obtaining a large quantity of lymph, and has made arrangements to have further supplies sent to him fortnightly. He has been very favourably impressed with the marvellous results which he has witnessed.

Dr. Springthorpe has expressed the opinion that much may be expected from the newly-commenced system of combining operative treatment with lymph injections.

Meeting of College of Physicians and Surgeons of Berlin.—Strong expression of opinion against the manner in which Koch's treatment is carried on in Berlin. Professor Mendel said: "The great enthusiasm which the discovery has excited has been followed among medical men by great dissatisfaction. The remedy has been kept back from most of the Berlin and provincial doctors, on the pretext that it cannot be given to medical men, because it is too dangerous." . . . "It was also said that clinical observation is necessary to secure the proper effects of the remedy; but, on the other hand, three or four private doctors have been permitted to use it without clinical observation, and on conditions which, to judge by what I have seen and heard, are anything but clinical. There is here at issue an important interest of the Medical profession which the College of Physicians and Surgeons has to defend. By giving a monopoly of the remedy to a few doctors, a state of things has been brought about for which there is no parliamentary expression. The public have been exploited in a manner unheard of before in the history of medicine. This College, which has to defend Medical honour, must deal with cases like these as specially urgent."

„ 15.—Dr. Koch publishes a further communication on a Remedy for Tuberculosis, in which he describes the experiments which have led him to the discovery and the nature of the remedy, which is a glycerine extract of pure cultures of the Bacillus Tuberculosis.\*

„ 16.—The demand for that article, as published in the *Deutsche Med. Wochenschr.*, was much smaller than for the first communication.

„ 16.—Vienna: Since the publication of Virchow's demonstrations public opinion has turned against the treatment, although the medical men still retain their expectant attitude.

Paris: Opinion generally adverse to Koch's treatment; preparation said to be incompletely disclosed.

Rome: Opinion generally favourable, but no case of cure can be produced.

New York and Washington: Lymph to be prepared by Dr. Dixon's method, which had been found before Dr. Koch's.

Berlin: The sale of Koch's lymph to be entrusted to the various chemists in the capital.

Madrid: Thirteen patients have been already inoculated at the San Juan De Dios Hospital (two of them lepers). Many patients at the San Carlos Hospital; results satisfactory.

„ 17.—New York, Bellevue Hospital: First case of consumption cured.

„ 26.—Trieste: Dr. Liebmann announces that he has found bacilli of tuberculosis in the blood of patients undergoing Koch's treatment, whilst he could not find any bacilli in the blood of other consumptive patients.

„ 27.—Mr. Jonathan Hutchinson's Lectures at the Examination Hall, London: No case of cure, even of lupus, accepted as proved. Improvement certainly followed by relapse in a case shown sometime before as cured.

Feb. 1.—Berlin: Dr. Koch leaves for Egypt, where he will stay six or eight weeks. The Government seems to have abandoned the idea of making a kind of State monopoly of the remedy.

[It is to be noted that many of the reports were entirely untrustworthy, but they are a record of what was given out from day to day as truthful.]

## CHAPTER VII.

### DEATHS CONNECTED WITH DR. KOCH'S TREATMENT AND RECORDED IN THE NEWSPAPERS.

(Up to January 19. More have been reported since.)

Nov. 14.—Berlin: A child, 12 years old, shortly after the first injection; the child was too far gone to be saved.

„ 19.—Berlin: Two patients at the Charité Hospital, after strong doses; death occurred within twenty-four hours.

Dec. 4.—Frankfort: After inoculation.

„ 5.—Berlin: One death in a private hotel from the effect of the inoculation.

„ 8.—Innsbruck: One case of lupus died after single injection, 0.002 grammes.

„ 7.—Berlin: One case in Dr. Gerhardt's clinical hospital, through failure of the heart, after 0.003 grammes. Dec.

- Dec. 10.—Meisungen : One patient of failure of the heart after inoculation.  
 „ 11.—Paris : One of Dr. Pean's cases, in a desperate state.  
 „ 14.—Madrid : One case of phthisis.  
 „ 16.—New York : Child suffering from advanced T. meningitis.  
 „ 17.—Berlin : Patient under Dr. Libbertz.  
 „ 20.—Edinburgh : Old man, 70 years, treated for lupus.  
 1891.  
 Jan. 7.—Berlin : Professor Virchow gives an account of (over) twenty-eight *post mortems* on patients who had died at the Charité whilst under Dr. Koch's treatment.  
 „ 14.—Berlin : Professor Virchow gives a report on six more *post mortem* examinations.

## CHAPTER VIII.

## DOCUMENTS.

1. First communication by Dr. Koch.
2. Letters from Berlin at the time when the treatment was begun.
3. Second communication by Dr. Koch.
4. Letter from Berlin, exposing the method followed in private clinics. Another letter showing the anomalous state of things in Berlin.
5. Speech of Dr. Von. Gossler, Minister of Education, at a sitting of the Prussian Diet.
6. Third communication by Dr. Koch.
7. Virchow's remarks, &c.
8. Mr. Hutchinson's Lecture on Lupus; concluding remarks.
9. Pasteur's telegram to Koch. Koch's answer. Telegram to Pasteur from the Oldenburg Institute.
10. Dr. Koch and the German Government. Institute of Bacteriology.
11. Letter from Virchow.
12. Translation of the "Directions for Use" sent out wrapped around each bottle of the lymph by Dr. A. Libbertz.

## FIRST DOCUMENT.—TRANSLATION OF THE END OF KOCH'S ADDRESS TO THE INTERNATIONAL MEDICAL CONGRESS.

*British Medical Journal, August 16th, 1890.*

VERY soon after the discovery of the tubercle bacilli, I set about seeking for substances which could be used therapeutically against tuberculosis, and I have pursued this subject which has, of course, been often interrupted by my other occupations, perseveringly up to the present. In the belief that there must be a remedy for tuberculosis, I do not by any means stand alone.

Billroth has, in one of his last writings, expressed himself with all possible distinctness to the same effect, and it is well known that the same object is aimed at by many investigators. It seems to me, however, that the latter have not as a rule followed the right way in their investigations, inasmuch as they have begun their experiments on man. To that I ascribe the fact that everything which people have believed themselves to have discovered in that way—from benzoate of soda down to the hot-air treatment has proved to be a delusion. Experiments must in the first place be made, not on man, but on the parasites themselves in their pure cultures; even if substances have been found which have the power to check the development of tubercle bacilli in the cultures, man should not forthwith be chosen as the subject of experiment. But the question whether observations which have been made in a test tube hold good also in living animal bodies should first be settled in animals. Only if the experiments on animals have proved successful, should the method be tried on man.

Proceeding, according to these rules, I have in the course of time tested a very large number of substances to see what influence they would exert on the tubercle bacilli cultivated in pure cultures, with the result that not a few substances have the power, even in very small doses, of hindering the growth of tubercle bacilli, more than this, of course, a remedy cannot do. It is not necessary, as has often erroneously assumed, that the bacteria should be killed in the body; in order to make them harmless to the body, it is sufficient to prevent their growth, and their multiplication.

I have proved the following substances to be remedies which hinder such growth even in very small doses (to mention only the most important).—A number of ethereal oils, among the aromatic compounds, B-naphthylamin, Paratoluidin, Xylidin; some of the so-called tar dyes, namely, fuchsin, gentian violet, methyl blue, chinolin yellow, aniline yellow, auramin; among the metals, mercury in the form of vapour, silver and gold compounds. The compounds of cyanogen and gold were especially conspicuous, their effect surpassing that of all other substances; even in a dilution of 1 to 2 millions they checked the growth of tubercle bacilli. All the substances however remained absolutely without effect if tried on tuberculous animals. In spite of this failure I have not allowed myself to be discouraged from prosecuting the search for growth-hindering remedies, and I have at last hit upon a substance which has the power of preventing the growth of tubercle bacilli, not only in a test tube, but in the body of an animal. All experiments in  
 tuberculosis

tuberculosis are, as everyone who has had experience of them has sufficiently discovered, of very long duration; my researches on this substance therefore, although they have already occupied me for nearly a year, are not yet completed, and I can only say this much about them, that guinea-pigs, which as is well known are extraordinarily susceptible to tuberculosis if exposed to the influence of this substance, cease to react to the inoculation of tuberculous virus, and that in guinea-pigs suffering from general tuberculosis even to a high degree the morbid process can be brought completely to a standstill, without the body being in any way injuriously affected.

From these researches I, in the meantime, do not draw any further conclusion than that the possibility of rendering pathogenic bacteria in the living body harmless without injury to the latter, which has hitherto been justly doubted has been thereby established.

Should, however, the hopes based on these researches be fulfilled in the future, and should we succeed in the case of one bacterial infectious disease, in making ourselves masters of the microscopic, but hitherto victorious enemy in the human body, then it will soon also be possible, I have no doubt, to obtain the same result in the case of other diseases. This opens up a most promising field of work, with problems which are worthy to be the subject of an international competition of the noblest kind. To give even now some encouragement to further researches in this direction was the sole and only reason why I, departing from my usual custom, have made a communication on a research which is not yet completed.

#### SECOND DOCUMENT.—LETTERS FROM BERLIN.

(*Extracts from the Times.*)

Berlin, 30th October.

October 31st.—I have had a conversation with Dr. Koch on the subject of his new discovery for the cure of consumption. He prefers at present not to give any information beyond what has already been published. The only fresh particulars obtainable are that metallic salts are used in the preparation of the lymph. The lymph, having killed the bacillus, acts as a means of re-establishing the patient's health by its inherent healing powers, and, moreover, fortifies him against further invasions of the bacillus.

The lymph has been obtained by a long and extremely difficult process, involving great cost, and will therefore be available only by the wealthy, unless, indeed the remedy is bought by the Governments of different countries for the general benefit.

Dr. Koch does not expect that long standing cases of consumption of the lungs can be cured by his invention, as in such cases other parasites besides the tuberculous bacillus eat their way into the lungs, while Dr. Koch's lymph kills only the bacillus proper. This it kills, however, immediately stopping without question the progress of the consumption.

Dr. Koch refused to answer any further questions, as his doing so might interfere with the progress of his experiments. He said that entire seclusion was necessary for him; he was working for the whole world, and could not be bothered by individual interests. The invention is declared by medical men here to be of even greater importance than the discovery of chloroform or of Lister's antiseptic.

From further inquiries made this afternoon, I learn that Dr. Koch is carrying on his experiments at the present time in Professor Senator's ward at the Charité Hospital in this city on eight slight cases of consumption. The patients whom he has selected as subjects have signed papers in which they declare that they are undergoing his treatment voluntarily, and that they do not hold Dr. Koch responsible, even if the results of the treatment should prove fatal. Dr. Koch only employs one assistant, who is bound by oath not to breathe the slightest information with regard to anything he sees or hears of the course of treatment pursued. I further learn that there is a great difference between the lymph used to combat small-pox and that used in this case. Dr. Koch inoculates only persons who have already been stricken with consumption, which proves that his system is not a preventive, like vaccination against small-pox.

The well-known Professor Leyden, who is the only person in Dr. Koch's confidence, has the greatest faith in the discovery. He says that Dr. Koch would have remained silent if he were not sure of success. He will first publicly make known the nature and effect of his discovery by an illustrated lecture, which he will deliver before the Medical Society within six weeks of the present date.

Berlin, October 31st.

November 1st.—I am informed that Dr. Koch's discovery includes a method by which all vegetative parasites and bacilli in the human body can be killed. The Diphtheria bacillus is the next to be experimented upon by the learned professor after the first results on the tuberculo-bacillus have been publicly announced, although, as a matter of fact, the diphtheria bacillus has not yet been plainly recognised as a destructive microbe.

Dr. Koch will probably make his announcement to the public in regard to his remedy for consumption earlier than was anticipated, as the consumptive patients under treatment by him at the Charité Hospital are progressing most favourably. Until this announcement is made the professor will not even open letters of inquiry in regard to his remedy.

Five hundred telegrams from England, France, and America, and innumerable letters have reached him since the publication of the news of the successful result of his labours, and the correspondence is growing hourly.

Berlin,

Berlin, November 6th.

November 7th.—Every one at the Charité Hospital is under promise not to divulge anything respecting the experiments carried on by Professor Koch for the cure of consumption. The private patients under Dr. Koch's care belong to the highest aristocracy, and they have pledged their word of honour to observe silence with regard to their treatment until such time as the professor releases them from the pledge of secrecy.

I learn from a private source that a consumptive youth, the son of an official at the Berlin Hygienic Institute, of which Professor Koch is President, has already been cured by his method.

In the cases now under treatment a change for the better is observed after five or six injections of the lymph, which are made within a fortnight. In one case of long standing, however, it took a month to effect any improvement. All the patients are seen daily by Dr. Koch, their sputum is preserved and examined, their temperature noted, &c. Before another six weeks have elapsed all the patients under treatment will have passed through the period of observation, and Professor Koch will then be ready to place the results of his experiments before the world. He thinks that from four to eight weeks will be necessary to complete the cure, but slight cases may occupy less time.

If a foreigner should arrive here within the next eleven days, and be willing to place himself entirely under the rules of the Charité Hospital, as indicated in yesterday's despatch, he might succeed in coming under Dr. Koch's present experimental cure. He would have to bring with him a doctor's certificate that he is suffering with the tuberculosis bacillus; otherwise he would not be admitted. It would be of no use applying to the professor personally; the hospital authorities are competent to decide on the admission of a patient.

The intelligence telegraphed this morning relative to Dr. Koch's audience with the Emperor is confirmed by the *Berliner Politische Nachrichten*, a semi-official organ supported by the Minister of Finance. No further particulars are obtainable in regard to what passed at the interview, but I learn that a Bill is being prepared for presentation to the Reichstag, empowering the Government to appropriate a large sum of money in order to place the professor in a position to devote himself entirely to educating a staff of Government and army doctors in the method of preparing the lymph and treating consumptive patients. It is proposed to give the system a complete organisation by creating a central dépôt for the lymph in every province, such dépôt to be connected with a hospital where the poor can be treated gratuitously, that is to say, at the cost of the Government.

The Emperor regards Dr. Koch's discovery as a matter of national pride, and he considers it his duty to confer the benefit, not only on his own people, but on the whole world. As one-half of all the sickness prevalent in the German army is of a consumptive character, the Emperor is interested in the invention from military motives.

Professor Koch is personally unwilling to make money by his discovery, and the fact that the Government is taking up the invention proves that it will not be used for mercenary purposes.

Dr. Hirschwald, the publisher, who is himself a medical authority, assures me that no scientific man of repute in Germany doubts the complete and triumphant success of the discovery.

Since the experiments began the professor has found that the metallic substances in the lymph are not expedient, and has consequently excluded them.

Dr. Koch had an audience early this morning with the Emperor on the subject of the professor's treatment for the cure of consumption. His Majesty proposes that the Government shall buy the invention outright, and shall erect special hospitals for the cure of consumption. Dr. Koch will receive a large annuity, besides a title. It is stated as an assured fact that slight cases of consumption have been cured by Dr. Koch's method, and in older cases, where parts of the lung have gone, life has been lengthened, and the growth and progress of the bacillus checked, if not actually destroyed.

Berlin, November 6.

The *National Zeitung* states that it is probable that a motion will be brought forward in the Prussian Diet during the ensuing session for the erection of a Bacteriological Institute, to be placed under the direction of Dr. Koch.

Berlin, November 7.

November 8.—Dr. Koch is busy preparing the greatest quantity of lymph possible, in order to enable him to meet the great demand which is sure to arise as soon as patients begin to be generally admitted to his inoculation process.

If possible, a Bill will be submitted to the Prussian Diet on Thursday next for a grant of money for the erection of special wards in the garden of the Charity Hospital.

Dr. Koch's correspondence is now being opened by the professor's assistants. It comprises many heartrending letters from patients who rest their last hopes of recovery on the application to them of the learned doctor's invention. There are letters from mothers, begging Dr. Koch to save their children, and the communications come indiscriminately from all classes of society, and from every country in the world.

Dr. Koch is not permitted to see these appeals for fear of their disturbing his equanimity, as it is considered essential that his mind should not be diverted from the experiments upon which he is at present engaged.

THIRD

THIRD DOCUMENT.—SECOND COMMUNICATION BY DR. KOCH, *i.e.*, THE FIRST  
“FURTHER COMMUNICATION.”

(A reprint.)

THE CURE OF CONSUMPTION : Further communications on a remedy for tuberculosis, by Professor Robert Koch, authorised translation from the original paper published in the *Deutsche Medizinische Wochenschrift*.

A REMEDY FOR TUBERCULOSIS.

IN an address which I delivered a few months ago at the International Medical Congress, I mentioned a remedy which is capable of rendering animals experimented on insusceptible to inoculation with the tubercle bacillus, which arrests the progress of tuberculosis in animals already diseased. Meanwhile experiments have been made on human patients with this remedy ; and these will be treated of in the following discourse.

Originally, it was my intention, before publishing anything on the subject, to complete all my researches thoroughly, and especially to acquire sufficient experience of the practical application of the remedy, and its preparation on a large scale. However, in spite of all precautionary measures, so many garbled and exaggerated versions have been made public, that it seems to me advisable, in order to avoid any false impressions, to give at once a sketch of the present state of the matter. It is true that, under these circumstances, the sketch can only be brief, and many important questions must be left unanswered.

The experiments have been carried out, under my direction, by Dr. A. Libbertz and Stabsarzt, Dr. E. Pfuhl, and some of them are still in progress. The necessary patients were placed at our disposal by Professor Brieger, from his Poliklinik ; Dr. W. Levy, from his private surgical clinic ; Geheimrath Fraentzel and Oberstabsarzt R. Köhler, from the Charité Hospital ; and Geheimrath von Bergmann, from the surgical clinic of the University. I wish here to express my heartfelt thanks to all these gentlemen, as well as to their assistants, for the lively interest they have shown in the cause, and for the disinterested way they have received me. It would have been impossible without all this co-operation to have advanced so far in the arduous and important investigation within so short a time.

As my work is not yet completed, I cannot make any statement here as to the origin and preparation of the remedy, but must reserve this for future occasion.\*

The remedy consists of a clear, brownish liquid, which keeps its strength without any special precautions being taken. For use, however, this fluid must be more or less diluted, and these dilutions, if prepared with distilled water, are liable to decomposition ; bacterial growths very speedily develop in them ; they become turbid, and are then quite useless. In order to avoid this, the dilutions must be sterilised by heat and preserved under a cotton-wool stopper, or what is still more convenient, be prepared with 0.5 per cent. solution of phenol.

It appears, however, that after some time the effect is weakened, both by constant heating and by mixture with the phenol solution, especially in much diluted solutions, and I have, therefore, as far as possible, made use of freshly prepared solutions.

The remedy does not take effect through the stomach ; in order to obtain a reliable effect, it must be introduced by subcutaneous injection. In our experiments we have always used for this purpose the syringe recommended by me for all bacteriological work ; it is provided with a small india-rubber ball, and is without piston. This kind of syringe can very easily be kept aseptic by rinsing it out with absolute alcohol ; and it is to this circumstance that we attribute the fact that not one single abscess has been formed in over a thousand cases of subcutaneous injection.

After several trials on other parts of the body, the place we chose for the application of the injection was the skin of the back, between the shoulder-blades and in the lumbar region, because in these places the injection produced the least local reaction, and was almost painless.

As regards the effect of the remedy on human beings, it was evident at the very beginning of the experiments, that in one very important point the effect of the remedy on man is entirely different from that on the guinea-pig, which is the animal usually experimented upon. Here again is a fresh and conclusive proof of that most important rule for all experimentalists, that an experiment on an animal gives no certain indication of the result of the same experiment upon a human being.

Human beings showed themselves to be very much more susceptible to the effects of the remedy than the guinea-pig. As much as two cubic centimetres, and even more, of the non-diluted liquid can be injected under the skin of a healthy guinea-pig without any noticeable injury to it. But for a healthy grown-up man 0.25 cubic centimètre suffice to produce a very intense effect. Calculating by body weight, therefore, the 1500th part of the quantity which produces no visible effect on the guinea-pig has a very powerful effect on the human being.

I have experienced in my own person the symptoms which arise after the injection of 0.25 cubic centimètre, having made an injection in the upper part of my arm. These symptoms were briefly as follows : Three or four hours after the injection I felt pains in the limbs, fatigue, inclination to cough, difficulty in breathing, all which speedily increased ; in the fifth hour I was seized with an unusually violent fit of shivering,

\* Those doctors who may already wish to make use of the remedy can obtain it from Dr. A. Libbertz (Lüneburg-strasse, 28 II, Berlin, N.W.), who has undertaken to prepare it, with Dr. Pfuhl's and my assistance. But I wish to state that the present supply is but small, and some weeks must elapse before larger quantities will be at our disposal.

shivering, which lasted nearly an hour; at the same time there was sickness, vomiting, and the temperature of the body rose to  $39.6^{\circ}$  C.; after about twelve hours all these symptoms gradually grew less, the temperature fell, and by the next day was again normal. The heaviness in the limbs and the feeling of languor lasted a few days longer, and the spot where the injection had been made continued red and painful for the same length of time.

For a healthy human being, the lowest limit of the effect of the remedy is about 0.01 cubic centimètre (equal to 1 cubic centimètre of the hundredth dilution), as numerous experiments have proved. Most people for whom this dose was used showed reaction merely by slight pains in the limbs and passing languor. In a few of the cases there was a slight rise in the temperature to  $38^{\circ}$ C., or a little more. Although, in regard to the dose of the remedy, there is a very considerable difference between men and animals (calculating by the weight of the body), still in some other points there is much resemblance between them.

The most important of these points is the specific effect of the remedy on tuberculous processes, of whatever kind they may be.

I will not here describe this action with reference to the animals experimented upon, as it would lead me too far from my subject, but will at once turn to the very remarkable action it has on tuberculous human beings.

A healthy human being reacts, as we have seen, either not at all, or very slightly, to the use of 0.01 cubic centimètre. Various experiments have proved that the same holds good, too, with people suffering from any disease that is not tuberculous. But it is a very different matter when the patient is tuberculous; if the same dose of the remedy (0.01 cubic centimètre)\* be injected there ensues a strong general, as well as a local reaction.

This reaction usually consists in a feverish attack, beginning, as a rule, with a shivering fit; the temperature rises to  $39^{\circ}$ , sometimes to  $40^{\circ}$ , and even to  $41^{\circ}$  C.; added to this, there are pains in the limbs, a tendency to cough, great exhaustion, and often sickness and vomiting. On several occasions a slight icteric colour was noticed, and in some cases there also appeared an eruption like measles on the chest and neck. As a rule, the attack begins four or five hours after the injection, and lasts from twelve to fifteen hours. In exceptional cases it begins later and passes off with less violence. The patients are very little affected by the attack, and as soon as it is over they feel comparatively well—as a rule, even better than they did before it.

The local reaction can best be observed in those patients whose tuberculous affections are visible; for instance, in cases of lupus. Here changes occur which show the specific anti-tuberculous action of the remedy in a very surprising degree. A few hours after the injection has been made under the skin of the back—in a spot, that is, absolutely removed from the diseased parts of the skin of the face—the lupus spots begin to swell and grow red; this is generally the case, too, before the shivering fit comes on. While the fever lasts, the swelling and redness continue to increase, and may finally become very considerable, so that the lupus tissue becomes necrotic and of a reddish-brown colour in places. Where the seat of the lupus was more sharply defined, the much swollen and red-brown spot was sometimes encircled by a whitish rim nearly 1 centimètre broad, which again would be surrounded by a highly coloured, broad red band. After the fever has gone down, the swelling of the lupus spots gradually decreases, and after two or three days they have entirely disappeared. The seats of the lupus are then covered with a crust of oozing serum, which dries on exposure to the air; this changes into scabs, which fall off after the lapse of two or three weeks and sometimes, after repeated injections of the remedy, leave behind them a smooth red scar. Generally, however, several injections are required to remove the lupus tissue completely—but more of this later on. It must be observed, as being of special importance in this proceeding, that the changes described confine themselves solely and entirely to parts of the skin affected by lupus. Even the smallest and most trifling little nodules concealed in the lupus tissue go through the whole process, and become visible in consequence of the swelling and change of colour, whereas the actual tissue where the lupus changes have taken place remains unchanged.

The observation of a lupus patient treated with this remedy is so instructive, and at the same time must be so convincing with regard to the specific nature of the remedy, that every one who wishes to adopt the remedy should begin his experiments, if possible, on lupus patients.

Less striking, but still visible to both eye and touch, are the local reactions in tuberculosis of the glands, bones, and joints, &c.,—cases which are attended by swelling, increased pain, and redness of the superficial parts. The reaction in the internal organs, especially the lungs, cannot be observed, unless, indeed, increased cough and expectoration of the consumptive patients after the first injections may be looked upon as a local reaction. In such cases the general reaction is dominant. It must nevertheless be assumed that changes take place similar to those which come under direct observation in lupus cases.

The symptoms of reaction here described occurred without any exception in those cases where a tuberculous process was present in the organism, after a dose of 0.01 cubic centimètre; and I think, therefore, I am not going too far in assuming that in future the remedy will prove to be an indispensable *diagnostic aid*. It will be possible with this remedy to diagnose doubtful cases of incipient phthisis, even after failing to determine with certainty the nature of the disease by the discovery of bacilli or elastic fibres

\* For children of three to five years of age we have injected a tenth part (0.001) of this dose; for very delicate children only 0.0005 cubic centimètre, and have produced by this a strong but not alarming reaction.

fibres in the sputum, or by a physical examination. Glandular affections, latent tuberculosis of the bone, doubtful tuberculosis of the skin, will be easily and with certainty defined as such. It will be quite possible in apparently cured cases of tuberculosis of the lungs or joints to determine whether the process of disease is really terminated, and whether there may not still be some few diseased spots which might cause the disease to break out afresh, spreading its ravages like sparks from under smouldering ashes.

The healing effects of the remedy are, however, of much greater importance than its diagnostic uses.

In describing the changes caused by a subcutaneous injection of the remedy into portions of the skin affected by lupus, it has already been mentioned that after the swelling and redness have abated, the lupus tissue does not resume its original state, but is more or less destroyed, and so disappears. In some parts, as shown by observation, this result is caused by the instant destruction of the diseased tissue after one sufficient injection, so that, at a later stage, it falls off like a dead mass. In other parts there seems to ensue a disappearance, or sort of melting away of the tissues, which requires repeated injections of the remedy for the completion of the cure. It is not yet possible to define with certainty the development of this process, as the necessary histological researches are still wanting. So much, however, is certain, that it is not a question of the destruction of the tubercle bacilli in the tissue, but only that the tissue which contains the tubercle bacilli is affected by the remedy. In this tissue, as shown by the visible swelling and redness, considerable disturbances of the circulation take place, combined evidently with serious changes in its nutrition, causing the tissue to die off more or less quickly and deeply, according to the extent with which the remedy is used.

To repeat briefly: the remedy, therefore, does not kill the tubercle bacilli, but the tuberculous tissue. This, then, gives clearly and definitely the limit of the action of the remedy. It is only capable of influencing living tuberculous tissue; it produces no effect whatever on dead tissue, such as, for instance, necrotic cheesy masses, necrotic bones, &c.; nor can it influence any tissue already rendered necrotic by the remedy itself. These dead tissue masses may still contain living tubercle bacilli, which will either be thrown off with the necrotic tissue, or may possibly, under certain circumstances, enter the neighbouring and still living tissues.

It is very necessary to give careful consideration to this peculiarity of the remedy, if its healing properties are to be turned to profitable use. The still living tuberculous tissue must therefore be destroyed, and every effort then made, for instance, by means of surgical aid, to remove the dead tissue. In those cases, however, where this is not feasible, and the organism can only help itself by slowly throwing off the tissue, a repeated use of the remedy is enjoined, in order to protect the endangered living tissue from a possible re-installation of the parasites.

The fact that the remedy renders tuberculous tissue necrotic and acts only on living tissue, helps undoubtedly to explain another and a very peculiar characteristic—namely, that it may be administered in very rapidly increasing doses. At first this might seem to be a question of habit. But when it is recognised that in the course of about three weeks the dose may be increased to 500 times the original quantity, the question of habit can no longer be entertained, as nothing analogous to such a complete and rapid adaptation of a powerfully active remedy has ever been known.

This phenomenon must rather be explained by the fact that there is much tuberculous living tissue to start with, and consequently, a small quantity of the active substance will suffice to cause a strong reaction; after each injection, however, a certain quantity of the tissue capable of reaction disappears, and comparatively increasing doses are then necessary to obtain the same degree of reaction as before. It is possible that within certain limits habit may here assert itself. As soon as a tuberculous patient has been treated with increasing doses until the result is that the reaction is as slight as that of a non-tuberculous patient, it may then be assumed that the destruction of all tuberculous tissue capable of reaction has been accomplished. The treatment will then have to be continued with slowly increasing doses, and at intervals, so as to protect the patient from fresh infection as long as there may be bacilli in his body.

Whether this conception, and the inferences arising from it be correct, the future will show. Meanwhile, I, for my part, have based and constructed thereon that method of using the remedy, which we employed as follows.

To resume with the simplest case—namely, lupus. We injected at once into nearly all those patients the full dose of 0.01 cubic centimetre, allowing the reaction to run its course to the end; then injecting again 0.01 cubic centimetre after one or two weeks, continuing in this manner until the reaction became feebler, and finally ceased entirely. In two cases of facial lupus the lupus spots were in this way brought to smooth cicatrisation after three or four injections; other lupus patients have also improved in proportion to the duration of the treatment. All these patients had been sufferers many years, and had been previously treated in various ways without success.

Tuberculous affections of the glands, bones, and joints were treated in a similar way, large doses being given at long intervals. The result was the same as in the lupus cases; rapid recovery in recent and slight cases; slow, gradual improvement where the cases were severe.

Somewhat different were the circumstances in the phthisical patients, who form the majority of our patients. Patients with decided tuberculosis of the lungs are far more susceptible to the remedy than those suffering from surgical tuberculous affections. We were obliged to lower the dose of 0.01 cubic centimetre as being much too high for a phthisical patient to begin with, and found that they nearly all reacted strongly to 0.002 and even to 0.001 cubic centimetre. But from this small first dose it is possible

to

to rise more or less quickly to the same quantities taken by, and agreeing with; other patients. As a rule, our plan was as follows:—First, an injection of 0·001 cubic centimetre was given to the phthisical patient, and then, when the rise in the temperature ensued, the same dose was repeated once daily until no reaction occurred. Then only was the dose increased to 0·002 cubic centimetre, until this quantity too could be taken without causing reaction, and so on, increasing by 0·001 cubic centimetre, or, at the most, 0·002 cubic centimetre, up to 0·01, and higher still. This cautious treatment seemed to me a necessity for those patients who were reduced in strength. If the above method is adhered to, the following result is easily obtainable:—A patient may be brought to bear very large doses of the remedy without suffering from fever, and in a manner barely perceptible to himself. A few of the tolerably strong phthisical patients were treated from the first, partly with larger doses, and partly with rapidly increasing doses; this treatment apparently was conducive to more rapid and favourable results. The action of the remedy in cases of phthisis generally showed itself in this way: the cough and expectoration usually increased after the first injections, but then gradually became less and less until, in the most favourable cases, they totally disappeared; the expectoration also lost its purulent character and became mucous. Only those patients whose expectoration contained bacilli were chosen for experiments, and the number of bacilli generally decreased only after the expectoration had assumed a mucous appearance. They then sometimes disappeared entirely, but were met with occasionally from time to time until the expectoration entirely stopped. Simultaneously, too, the night sweats ceased, the patients improved in appearance and increased in weight. Those patients who were treated in the early stages of phthisis were all free from the symptoms of the disease from within four to six weeks, so that they might be looked upon as cured. Patients, too, with not too highly developed cavities improved considerably, and were almost cured. Only those whose lungs contained many and large cavities did not improve objectively, although the expectoration decreased and their subjective condition was better. From these experiences I conclude that *phthisis in the early stages can be cured with certainty by this remedy.*\*

Partially, too, this may be taken for granted in cases not too far advanced.

But phthisical patients with large cavities, who almost always suffer from other complications, arising, for instance, from the penetration of other pus-forming micro-organisms into the cavities, or from incurable pathological changes in certain organs, &c., will probably only in exceptional cases derive any lasting benefit from the use of this remedy. In most cases, however, even such cases as those were cured temporarily. From this it may be concluded that in their case, too, as with other patients, the original process of disease, tuberculosis, is influenced by the remedy, and that the one thing wanting is the possibility of removing the necrotic masses of tissue, together with the secondary suppuration processes. Involuntarily the question arises, whether it might not be possible to afford relief to many of these suffering people by a combination of this new therapeutic method with surgical additions (such as the operation for empyema) or with other curative methods. And here I desire earnestly to dissuade any one from using the remedy in a conventional and indiscriminate way in all cases of tuberculosis. The treatment will probably be most simple in the early stage of phthisis, as also in any simple surgical affections; but in all other forms of tuberculosis, free scope must be allowed to medical art, so as to assist the working of the remedy by a system of careful individualisation and the appliance of other auxiliary aids. In several cases I have had a decided impression that the nursing of the patients had a very considerable influence on the result of the treatment. For this reason I strongly advocate the use of the remedy in proper institutions, where careful observation of the patients and requisite nursing can be carried out, in preference to the treatment at home or as an out-patient. It is impossible as yet to decide how far the methods of treatment hitherto acknowledged (such as mountain climate, fresh-air treatment, special diet, &c.) may advantageously be combined with the new treatment; but I believe that these therapeutic methods, when combined with the new treatment, will prove to be highly beneficial in many cases, particularly in neglected or very severe cases, as also in the convalescent stage.†

The most important point in the new treatment consists, as I have already said, in the earliest possible application of it. The first stage of phthisis ought really to be the subject for treatment, as in this way the working of the method can be more clearly and fully demonstrated. On this account, therefore, it cannot be too seriously pointed out that in future, more than ever before, all practitioners must make every effort to diagnose phthisis in as early a stage as possible. Hitherto the proof of tubercle bacilli in the sputum has been looked upon as an interesting feature, but of secondary importance only, which, though it determined the diagnosis, was of no further benefit to the patient, and was in consequence only too often neglected. This has latterly been repeatedly brought under my notice in numerous phthisical patients who had generally been in the hands of several doctors, and always without having had any examination of the sputum made. In future this must be changed. Any doctor who may neglect to diagnose phthisis in the earliest possible stage with all means at his command, and especially by examining the suspicious sputum for tubercle bacilli, is guilty of most serious neglect of his patient, whose life may depend, not only on this diagnosis, but also

\* This declaration is certainly liable to limitation, in so far as at present no conclusive experiences are yet to the fore, nor could possibly be brought forward yet, to prove that the cure is a lasting one. As a matter of course, relapses may still occur, but it may be assumed that they will be just as easily and quickly cured as the first attack. On the other hand, it may be possible, as with other infectious diseases, that patients once cured always retain their immunity. But this, too, must remain an open question for the present.

† As regards tuberculosis of the brain, larynx, and miliary tuberculosis, too little material was placed at our disposal to enable us to gain proper experience.

also on the specific treatment to be followed immediately on the completion of the diagnosis thereof. In doubtful cases a doctor ought to make a test injection, and thereby assure himself of the presence or absence of tuberculosis.

Then only will this new method of healing have become a true blessing to suffering humanity, when it has been carried so far that all cases of tuberculosis are treated in their earliest stage, preventing thereby the development of those neglected but serious cases which have hitherto formed inevitably an everlasting source of fresh infections.

In conclusion, I wish to remark that I have purposely abstained from giving any statistical reports or descriptions of individual cases in the above communication, because those doctors whose patients we made use of for our experiments have themselves undertaken to describe the different cases, and I wished my account to be as objective as possible, and in no way to encroach upon their own personal observations.

FOURTH DOCUMENT.—LETTER FROM BERLIN EXPOSING THE METHOD FOLLOWED IN PRIVATE CLINICS; ANOTHER LETTER SHOWING THE ANOMALOUS STATE OF THINGS IN BERLIN.

(Extract from the Times.)

November 18th.—A visitor to-day in the consulting rooms of Dr. Cornet, Dr. Koch's assistant, publishes the following account in the *Vossische Zeitung*:—

"Imagine a dark corridor, scarcely 4 ft. 6 in. wide, thronged with a motley assemblage of men and women. In an adjacent ante-room, of comparatively small dimensions, about thirty persons were assembled, many of them coughing owing to the close atmosphere, and all looking intently at the door of the consulting-room, waiting their turn with anxious expectancy. One patient, who appeared to be in an advanced stage of his complaint, was carried by two friends up the three narrow steps leading into the consulting-room. In the latter chamber itself three or four assistants stood by a little table. One patient was seated on a chair undressed, undergoing examination, while three others were waiting, partially undressed. Dr. Cornet was meanwhile making his way through the throng, calming the impatient, and seeing that all took their proper turn. One working man, father of four children, who appeared in great suffering, implored that his case should be taken, but had to rest satisfied with the assurance that he would be admitted as soon as there was a vacancy. Similar answers had to be given to many of the others seeking admission, although the number requesting aid grows like an avalanche."

LETTER FROM A SPECIAL CORRESPONDENT IN BERLIN.

(British Medical Journal, November 22nd, 1890.)

The excitement about Koch's new treatment is still at white heat, and has not in the least abated since the publication of last Friday. The nature of the remedy is not known, and though it is supposed to be an organic substance, even this is not certain. Why Koch should have kept his remedy a secret forms the great subject of discussion. He himself says in his publication, "I can make no communication respecting the origin and preparation of the remedy, as my research is not yet completed." But it is difficult to believe that Koch would have made clinical experiments on a large scale with a preparation that did not come up to his own standard of perfection—nay, more, that he would allow these clinical trials to be repeated by every physician lucky enough to have obtained some of the fluid before Dr. Libbertz's scanty stock was exhausted. No; it is clear that weighty reasons of an entirely different kind must have determined Koch to pursue so unusual a course, and conjecture is rife on the subject. We hear, on good authority, that Koch's demand for a Clinic and Bacteriological Institute met with unexpected opposition, and that he is determined to hold over his secret until all he thinks necessary for the realization of his scheme shall have been granted him. In the meantime we are in presence of the following curiously anomalous state of things:—In Germany, where all "secret medicines" (*Geheimmittel*) are strictly forbidden by law, and where it is illegal for a medical man to sell drugs, clinical treatment is actively carried on with a remedy the nature of which is a profound secret, the only person from whom the remedy can be obtained being Dr. Libbertz, a member of the medical profession.

Dr. Cornet, one of Koch's co-workers, has no fewer than eight temporary consulting rooms in various parts of the city, which are crowded night and day by patients, rich and poor, old and young, from such as have to be carried upstairs to those with only a slight cough. Dr. Cornet, as he enters the rooms, can scarcely make his way between these tightly-packed crowds.

FIFTH DOCUMENT.—SPEECH OF DR. VON GOSSLER AT A SITTING OF THE PRUSSIAN DIET.

(Extract from the British Medical Journal, 1890, 2nd p. 1327, Dec. 6.)

NOTES FROM BERLIN.—FROM OUR SPECIAL CORRESPONDENT.

In Saturday's sitting of the Prussian Diet, Dr. Graf asked the Government what steps they had decided on with regard to Professor Koch's discovery. Notice had been given of the question, and as it was known that Minister von Gossler would reply at the same sitting, the house was crowded in every part. Dr. Graf, having put his question, Herr von Gossler rose. His speech may be described as a hymn of praise

to Koch, all the more remarkable because up to the present day the Prussian Cabinet has never been distinguished by an enthusiasm for science. He began by a reference to Koch's address before the International Congress, and the sensation it caused in the medical world. He spoke of Koch's celebrated experiment on himself, and of the subsequent experiments on human subjects, made with the help of Professor Brieger and Dr. Levy. On October 27th Koch came to Herr von Gossler with the information that he had found a specific against tuberculosis, and asked to be relieved of his duties as director of the Hygienic Institute, in order that he might give all his time to this work. The speaker proceeded: "On the day that leave was granted to Koch, my conversation with him went deep into the matter. From the first he was ready to tell me all he knew. But I begged him not to do so, as, without any fault of mine, circumstances might arise which might lead to a disclosure on my part, and I might thus do more harm than good. This readiness to disclose everything proves that Koch's motives were purely ideal and scientific. We then discussed the arrangements which were to enable Koch to carry on his work to its conclusion, by extending his investigations to other infectious diseases. He was in favour of a clinic affiliated to some great institution, from which the cases he should require to be drafted to him, and he also spoke of a scientific institute, in which the necessary researches could be carried out. It was decided that 150 beds should be set apart for him in the Pavilion Hospital at Moabit." Herr von Gossler then went on to tell how Professor von Bergmann's university clinic had been chosen as the scene of further experiments. This clinic, he said, is now the rendezvous of physicians from all parts of the world, in which 300 medical men daily inspect cases. The Prussian Minister of Finance was consulted, and agreed with the speaker that Koch's work should be supported by state help. On November 6th the ministerial plan of action was complete, and the Minister of Finance had granted the necessary funds.

On November 7th Herr von Gossler discussed with Koch what the mode of publication was to be. Koch wished to publish every detail, but in the course of the interview, which was carried on in the presence of two witnesses, it became clear that Koch could not show the world the method of preparing the remedy. He could, of course, name the substance from which it was obtained, and describe the method of its preparation; but this method was so difficult and responsible in all its details that it must either be seen or else be independently discovered by experiment, which, according to Koch's calculation, would take an experienced experimenter six months. In view of the incalculable harm that might have arisen through irresponsible and imperfect imitations, Herr von Gossler prevailed upon Koch to reserve publication of the nature of the remedy, and took the entire responsibility of the step upon himself.

Turning to the nature of the remedy, the Cultus Minister proceeded: "It seems that in the present stage of organic chemistry the remedy cannot be analysed\* with any degree of certainty. A light may thus be thrown on a hitherto dark domain of chemistry. The method by which the remedy is obtained will probably be applicable to other infectious diseases. Koch himself lays special stress on the chemical aspect of the subject. He thinks that a new direction may be given to scientific research.

"That a secret remedy (*Geheimmittel*), the nature of which may be more or less clearly guessed, but the ingredients of which are unknown, should be accepted by the entire world on the strength of one man's single name is a fact that stands altogether by itself."

In recapitulating all that is known about the action of the remedy, Herr von Gossler said: "In future no conscientious physician will be able to ignore the remedy. As regards public hygiene, there can be no doubt that Koch's remedy—in connection with microscopic methods—will cause a complete revolution." The speaker then referred to the discovery in its bearing upon tuberculosis, and spoke of the immense sphere of usefulness that here lay before us.

After some account of the difficulties experienced by Koch and his fellow workers, through the rush of patients to Berlin after the publication of November 14th, Herr von Gossler distinctly denied the charge repeatedly made in the papers, that the poor had hitherto been excluded from the benefits of the treatment. He said expressly that in the Royal clinics preference had been, and was still, given to the poor. In Gerhardt's clinic all the patients treated were taken from the working classes. The price of the remedy was then touched upon, and Dr. Cornet defended from every suspicion of overcharging. Dr. Cornet's charge for a first consultation—including a thorough examination—was from 10 to 30 marks (10s. to £1 10s.), and for each following injection in private practice (an assistant being generally required) from 10 to 20 marks (10s. to £1). The Cultus Minister continued: "The chief difficulty for the moment lies in the fact that there is no means of manufacturing the remedy on a large scale. Dr. Libbertz has charge of the production of the lymph, and Dr. Pfahl undertakes its examination, testing its efficacy by experiments on animals. In every case three animal experiments are made, and if they are not followed by the now well-known reactions the lymph is thrown away. Koch declares that he cannot conscientiously allow the lymph to leave his hands without exercising a personal control. This forms one of the serious difficulties we have to face, and the second is the mode of sale. I am glad to be able to state that in this matter Koch and I have at last found a basis of agreement, as a result of which the Government will take in hand the remedy. We shall not rest until the State has the production of the lymph in its hands. Even if it should be found impossible to manufacture it as quickly

\* Our correspondent forwards the results of the chemical examination by Dr. Jolles in Vienna—which appears to indicate that the active principle of the fluid is a proteid body. Any such examinations, however, must be imperfect; and it would appear that the publication of such results at the present time would not serve any useful purpose.

quickly as desirable, I think the fact that the Prussian Government put its signature to the affair will have a tranquilising effect everywhere. Negotiations to this effect will be begun immediately after this sitting." Passing on to explain the proposed plan of the Government, Herr von Gossler said that, though the State is to undertake the manufacture and sale of the remedy, there is to be no centralization. He hopes that in all great clinical institutions a department will be set apart for the remedy, where paupers can also be received gratis. He spoke in gravely warning terms of the "wild tubercle clinics" that were being opened in ordinary flats all over Berlin, and which were fraught with the most serious danger to the other inhabitants, and he added that he should empower the police authorities to interfere wherever danger could be foreseen. He then went on to the project of a Koch Institute for Berlin. The project includes a sanatorium and a scientific institute; the former to receive the infectious diseases required by Koch for his researches, and the scientific institute to enable him to test the results obtained, and to continue proximity to the Charité. The sanatorium would contain pavilions for male and female patients, a small lecture theatre, and the usual offices. For the scientific department, a building close by the Charité is to be utilised, and it is hoped that the whole will be complete in April of next year. Koch is to be at the head of the institute, with two heads of departments under him and twenty practical assistants. The total cost will probably be half a million marks (£250,000). The Government architect is to proceed to Paris to study the Institute Pasteur, from which he will, no doubt, be able to obtain many useful hints.

In the meantime the municipality of Berlin has offered Koch 150 beds in one of their own hospitals; but Koch has too much work on his hands for the next few months to be able to occupy himself with other infectious diseases.

He has, therefore, proposed to the authorities to place the beds at the disposal of pauper patients, he undertaking to furnish gratis the necessary lymph, and, if desired, physicians as well. Koch is to select the cases, and Professor Ehrlich is to direct the treatment under his supervision. Private benevolence, too, has not been idle. One gentleman has placed a million marks (£500,000) at Koch's disposal for a sanatorium for the poor.

The speaker concluded with an enthusiastic peroration, in which he spoke of the happiness it gave him to smooth the path of a man of Koch's distinction, and congratulated Germany on possessing such a son.

#### SIXTH DOCUMENT.—DR. KOCH'S THIRD COMMUNICATION.

SECOND FURTHER COMMUNICATION ON A REMEDY FOR TUBERCULOSIS BY DR. KOCH.

*Deutsche Medizinische Wochenschrift*, January 15, 1891.

*British Medical Journal*, January 17, 1891.

The following translation of Dr. Koch's paper describing the composition of his lymph for the cure of tuberculosis is published in the *British Medical Journal*, January 17, 1891.

"Since the publication of my experience with a new remedy for tuberculosis two months ago many doctors have been put in possession of the remedy, and have thus been enabled to make themselves acquainted with its qualities by their own experiments. As far as I can judge by the publications that have appeared on the subject, and the letters addressed to me, my statements have, on the whole, found full confirmation. That the remedy exercises a specific action on tuberculous tissue, and can, in consequence, be employed as a very delicate and certain reagent in searching out hidden and diagnosing doubtful tuberculous processes, is agreed on all sides. And in regard also to the therapeutic effect of the remedy, most accounts agree that, in spite of the relatively short duration of the treatment, many patients show improvement, varying only in degree. In not a few cases I am informed that cure even has been attained. Only in some exceptional cases has it been affirmed that the remedy may not only be dangerous in too far advanced cases—which is freely admitted—but that it directly hastens the tuberculous process, that it is in fact harmful *per se*. I myself have had the opportunity during a month and a half of collecting further experiences regarding the therapeutic effect and the diagnostic value of the remedy in about 150 cases of various forms of tuberculosis, and I can only say that all I have lately seen is in harmony with my former observations, and that I have nothing to retract of what I have before stated.\* So long as the only point of importance was to judge of the correctness of my statements it was not essential to know what the remedy contains, and what its origin is. On the contrary, it was clear that subsequent experiments would be all the more unprejudiced the less was known of the remedy itself; but now that such experiments in sufficient number have been made and have proved the importance of the remedy, the remaining task is to study the remedy beyond the application it has hitherto found, and if possible to make use of the principles which lie at the foundation of its discovery to other diseases. This task, of course, demands a full knowledge of the remedy.

"I therefore think the right moment has come to make the necessary statements which follow, before I discuss the remedy itself. I think it imperative, for the better understanding of its action, to trace shortly the steps that led me to its discovery. If a healthy guinea-pig be inoculated with a pure cultivation of tubercle bacilli, the inoculation wound generally becomes sealed, and seems to heal up during the next few days.

It

\* "As regards the duration of the cure, I should like to state here that of the cases which I had provisionally marked cural, two have been again received into the Moabit Hospital for further observation, and that for three months no bacilli have been present in their sputum; the physical signs, too, have gradually quite disappeared.

It is only in the course of from ten to fourteen days that a hard nodule is formed, which soon opens, forming an ulcerating spot, which persists until the death of the animal; but the case is very different if an already tuberculous animal be inoculated. The most suitable animals for this experiment are animals that have been already successfully inoculated four or six weeks previously. In the case of such an animal also, the small inoculation wound becomes sealed at first; but no nodule is formed, a peculiar change taking place at the point of inoculation. Already, on the first or second day, the spot becomes hard and dark-coloured; and this is not confined to the point of inoculation, but spreads around to a diameter of 0.5 to 1.0 centimetre. During the next few days it becomes more and more clear that the epidermis thus changed is necrotic. Finally, it is thrown off, and a flat ulcerated surface remains, which generally heals quickly and completely, without carrying infection to the neighbouring lymphatic glands. Thus the inoculated tubercle bacilli act quite differently on the skin of a healthy guinea-pig and on that of a tuberculous one. But this remarkable action does not belong exclusively to living tubercle bacilli, but also in the same degree to dead ones, whether killed by low temperature of long duration which I first tried, or by boiling heat, or by certain chemicals.

"This peculiar fact having been ascertained, I followed it up in all directions, and it was then further found that pure cultivations of tubercle bacilli thus killed, after they have been ground down and suspended in water, can be injected under the skin of healthy guinea-pigs in large quantities without producing anything but local suppuration.\* Tuberculous guinea-pigs on the other hand, can be killed by an injection of very small quantities of such suspended cultures, the time being from six to forty-eight hours, according to the dose; a dose which is just insufficient to kill the animal is sufficient to produce a wide spread necrosis of the skin in the region of the point of inoculation. If the suspended matter be still more diluted, so that it is scarcely turbid to the eye, the animals remain alive, and if the injections be continued at intervals of one or two days, a noticeable improvement in their condition soon sets in, the ulcer at the point of inoculation becomes smaller, and finally cicatrises. This is never the case without such treatment. The swollen lymphatic glands become smaller, the condition as regards nutrition improves, and the progress of the disease is arrested, if it is not already so far advanced that the animal dies of debility.

"These facts formed the foundation of a therapeutic method against tuberculosis. But an obstacle to the practical application of such suspensions of the killed tubercle bacilli was found in the phenomenon that the tubercle bacilli are by no means reabsorbed, nor do they disappear in any way, but for a long time remain unchanged in their position, producing smaller or larger suppurating centres. Thus it was clear that in this method the curative effect on the tuberculous process is obtained by a soluble substance, diffused, so to speak, into the fluids that surround the tubercle bacilli, and transferred without delay to the circulating fluids of the body, whereas that which has the pus-forming quality seems to remain behind in the tubercle bacilli, or at any rate to be only very slowly dissolved. Thus the only important thing to be done was to carry out the process, which takes place within the body, outside of it also, and, if possible, to extract and isolate the curative substance from the tubercle bacilli. This problem required much work and time before at last I succeeded, by the help of a 40 or 50 per cent. solution of glycerine, in extracting the active principle from the tubercle bacilli. My further experiments on animals, and finally on human beings, were made with liquid thus obtained, and in this way also liquid, which I let other physicians have in order to repeat the experiments, was obtained. The remedy with which the new therapeutic treatment of tuberculosis is carried out is therefore a glycerine extract of pure cultivations of tubercle bacilli.

"Besides the active principle, there passes from the tubercle bacilli into the simple extract all other substances soluble in 50 per cent. and glycerine, and therefore there is found in it a certain quantity of mineral salts, pigment, and other unknown extractive substances. Some of these substances can be removed from it without difficulty, for the active principle is insoluble in absolute alcohol, and can be precipitated by it—not pure, it is true, but in combination with other extractive substances likewise insoluble in alcohol. The colouring matter, too, can be separated out, so that it is possible to obtain a colourless dry substance from the extract which contains the active principle in a much more concentrated form than the original glycerine solution; but this purifying of the glycerine extract has no advantages as regards practical application, as the substances thus removed have no action on the human organism, and the process of purifying would therefore only cause unnecessary expense. The constitution of the active principle can as yet be only a matter of conjecture. It seems to me to be a derivative of albuminous bodies, and to be in close relation to them, but it does not belong to the group of so-called toxalbumins, as it can withstand high temperatures, and, in the dialysator, passes quickly and easily through the membrane. The quantity of active principle present in the extract is, in all probability, very small; I estimate it at fractions of 1 per cent. Thus, if my assumption be correct, we have to deal with a substance the action of which, on the tuberculous organism, far surpasses that of the strongest drugs known.

Various hypotheses may, of course, be formed as regards the specific mode of action of the remedy on tuberculous tissue. Without in any way affirming that my view is the best possible explanation, I imagine the process to be as follows:—The tubercle bacilli, in their growth, produce in the living tissues—just as in the artificial cultivations—certain substances which have various, but always deleterious influences on the living elements of their surroundings—the cells. Amongst these substances is one which,

\* "Injections of this nature are among the simplest and most certain methods of producing suppuration free from living bacteria."

which, in a certain concentration, destroys living protoplasm, and causes it to undergo a transformation into the condition called "coagulation-necrosis," by Weigert. The tissue having become necrotic, this condition is so unfavourable to the nutrition of the bacillus that it is unable to develop further, and, finally, in some cases it dies off. In this way I explain the remarkable phenomenon that in organs freshly attacked by tuberculous disease, for instance in a guinea-pig's spleen or liver filled with gray nodules, numerous bacilli are found, whilst bacilli are rare, or entirely absent, when the enormously enlarged spleen consists almost entirely of whitish substance in a condition of coagulation-necrosis, such as is often found in guinea-pigs which die of tuberculosis. A solitary bacillus, however, cannot produce necrosis at a great distance, for as soon as necrosis has reached a certain extent the growth of the bacillus, and, in consequence, the production of the necrosis-producing substance diminishes, and thus a sort of mutual compensation sets in, and to this it is due that the growth of isolated bacilli is so remarkably restricted, as, for example, in the lupus, in scrofulous glands, &c. In such cases the necrosis only extends over a part of the cell, which then, in its further growth, assumes the peculiar form of a giant cell. I thus follow in this statement of my views the explanation of the growth of giant cells first given by Weigert. Now, if the necrosis-producing substance were artificially added to that contained in the tissue surrounding the bacillus, then the necrosis would extend further, and thus the conditions of nutrition of the bacillus would be much more unfavourable than is usually the case. Then, not only would the more completely necrosed tissues disintegrate, slough, and, where this is possible, take with them the enclosed bacilli, carrying them outward; but the bacilli would also be disturbed in their growth to such an extent that they would die off much sooner than is the case under ordinary conditions. It is in calling forth such changes that, to my mind, the action of the remedy seems to consist. It contains a certain amount of the necrosis-producing substance, of which a correspondingly large dose has a deleterious influence, even in healthy persons, on certain elements of the tissues, probably on the white blood corpuscles, or cells closely related to them, thus giving rise to the fever and the whole peculiar complex of symptoms. In tuberculous persons a much smaller quantity suffices to cause, at certain spots, that is, wherever tubercle bacilli vegetate and have already impregnated their surroundings with the necrosis-producing substance, a more or less extended necrosis of cells, with the accompanying symptoms affecting the entire organism. In this way it is possible to explain—at least, for the present—in a provisional way the specific influence which the remedy in certain well-recognised doses exercises on tuberculous tissue, as well as the possibility of increasing the doses in so remarkable a fashion, and finally, to explain the curative effect which the remedy undoubtedly possesses where the circumstances are at all favourable.

SEVENTH DOCUMENT.—REMARKS ON THE EFFECT OF KOCH'S REMEDY ON THE INTERNAL ORGANS OF TUBERCULOUS PATIENTS. DELIVERED IN THE DISCUSSION ON PROFESSOR B. FRAENKEL'S PAPER AT THE BERLIN MEDICAL SOCIETY, ON JANUARY 7TH, 1891. BY PROFESSOR RUDOLF VIRCHOW, BERLIN.

(Translated from the *Berliner Klinische Wochenschrift*, January 12th, 1891.—*British Medical Journal*.)

WITH reference to a rather large number of preparations which I have brought here, I beg to be allowed to make a few introductory remarks. In the first place, I wish to say that I do not, as will readily be understood, propose to speak here of my own casual observations on patients, but only of what we have been able to establish by way of anatomico-pathological research. From the beginning of the injection period up to the end of the year that has just passed away the total number of deaths of patients treated by injections of Koch's fluid that have come before us has been twenty-one. Besides these we have already had in the course of the present year, I believe, six or seven cases; even this very day we have had an opportunity of submitting some new specimens to examination.\*

It is obvious that this anatomico-pathological material must differ considerably from the clinical, in which processes visible to the eye stand in the fore-ground of observation and of interest, while we are, of course, much more concerned with the internal parts, most of which are inaccessible from the outside, and the morbid conditions of which can in many cases be only very superficially discovered, even by the most accurate examination. Perhaps, however, you will be interested in having the opportunity, even once, of seeing such results, and comparing them with those obtained by the direct examination of parts within reach.

Of the twenty-one cases which we had up to the end of December, sixteen were phthisical in the narrow sense in which the word is usually employed as denoting disease in which the essential element is that the lungs are affected. As regards the other five cases, there were among them an exquisite case of severe bone and joint tuberculosis; a case presenting the peculiar complication of carcinoma of the pancreas, with some small smooth-walled cavities with surrounding induration in the apices; a case of empyema in a lying-in woman, who would probably have died even without the injection; a case of pernicious anæmia with very slight old-standing changes in the lungs and tuberculous pleurisy; lastly, a case of tuberculous arachnitis. The other sixteen cases were, as I have already said, cases of pulmonary phthisis, in all of which ulcerative processes of greater or less extent were present; most of them were examples of true consumption.

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\*In addition to this, my assistants have made necropsies in a large number of similar cases in other hospitals and in private, and I have seen the most important results of these examinations.

I cannot now enter into the details of these cases; perhaps I may have an opportunity of doing so at some future time. I may, however, be allowed to make some general remarks on them to the following effect: Just as the activity of Koch's remedy, as seen externally, manifests itself principally in the setting up of very acute irritation in the affected parts, with intense redness and great swelling, so does it also in the internal organs. We have seen very marked instances of this. I have here a preparation which may well be taken as a typical specimen. It comes from the clinic of my colleague, Professor Hensch, and belongs to the case of tuberculous arachnitis already referred to. I may observe that there were also changes in the lungs, consisting in some rather old-standing patches of caseous pneumonia, which might be looked upon as the source of metastatic arachnitis, and a number of recent inflammatory changes. After four injections, in all amounting to 2 milligrammes, the last of which was given 16 hours before death, the patient (a boy aged 2½ years) died, and colossal hyperæmia of the pia mater as well as of the brain substance, the like of which I never remember to have seen before, was found. The preparation before you was at first preserved simply in glycerine; it has kept fairly well also in the dry state. It shows on the surface extreme engorgement of the vessels of the pia mater, whilst internally the brain substance is dusky-red in appearance. I take this opportunity of mentioning that in this case—the only one, it may be added, of tuberculous arachnitis which has yet come before us for examination—I personally examined the tubercles; I cannot, however, say that I saw any evidence in them of retrogressive changes. The tubercles were very well formed, and presented the usual appearances of meningeal tubercles.

Similar acute hyperæmias and swellings are also seen in other internal parts. In particular it was repeatedly noted by us that even the surface of old pulmonary cavities showed unusually intense redness of the granulation layers; moreover, hæmorrhagic infiltrations of the walls were not seldom present, and even recent hæmorrhages were observed in the cavities. Thus in a man, aged 30, with an old rectal fistula and numerous tuberculous ulcers of the colon, death was the result of hæmoptysis from an old ulcerated cavity; he had received seven injections, the last thirteen days before his death, on which occasion the first bleeding occurred.

The processes observed, however, are not merely transient congestive swellings as to which it may be assumed that they will, perhaps, disappear in a very short time, but there can be no doubt that in the internal parts actual inflammatory processes, and especially active proliferations, occur to an intense degree. This holds good chiefly with regard to two places in which such appearances are very conspicuous; these are, first, the edges of existing ulcers; and next the neighbouring lymphatic glands, especially the bronchial and mesenteric. The lymphatic glands present a quite unusual degree of enlargement, and notably that form of medullary swelling characteristic of acute irritations, which is caused by rapid proliferation of the cells in the interior of the glands. It is in harmony with these large acute swellings that frequently also an increase in the colourless elements of the blood can be detected—a condition of leucocytosis to which may, perhaps, be attributable, the relative frequency with which various infiltrations of white blood corpuscles in the neighbourhood of the affected parts, especially around the tubercles themselves, can be observed.

These swellings occasionally assume a very dangerous character. I will only refer to the phenomena which are seen in the larynx, where, even in cases in which the ulcerated surfaces themselves become clean, the adjoining parts swell to an enormous extent, and cause constrictions of a very critical nature. Together with these changes, there occasionally occur other more violent forms, which take on a phlegmonous character, and remind one of œdema glottidis erysipelatodes and retropharyngeal abscess. Here is a fresh specimen of the condition from a case which occurred in January, and which will be particularly interesting to you.

As regards these inflammations, you will understand that it would be difficult to say of every inflammation occurring in such a patient whether or not it had been caused by the injection. We have at present no criterion of an objective kind which could enable us to make such a distinction. I am not in a position, although I have seen rather a large number of such cases, to say precisely how such a kind of inflammation is to be recognised and distinguished from other inflammations which occur in the course of phthisis independently of these injections. Yet there is one thing which is somewhat remarkable; and I will for the present, on account of the lateness of the hour, confine myself to an accurate statement of what we found in the lungs.

It was noticed that among the fatal cases of ulcerated phthisis the large majority exhibited recent changes of great extent, more particularly in the lungs, but also pleurisy—and for the most part very severe pleurisy—simple and tuberculous, frequently hæmorrhagic and not infrequently bilateral.

The changes in the lungs themselves may be divided into two fairly distinct categories. One of these corresponds approximately to that condition which we are accustomed to call caseous pneumonia, or, anatomically, by the name of caseous hepatisation. With respect to this, it should be understood that it is very doubtful whether caseous hepatisation stands in any direct relation to the injection. I should, perhaps, for my own part, be inclined to deny any such connection were it not that some of these cases are of quite special significance. From the most characteristic one of these comes this piece of lung, which shows such extensive caseous hepatisation that I do not remember to have seen anything like it for years. The lower lobes of both lungs, especially the right, were as large as in ordinary hepatisation, but the individual foci were packed so close together that there was hardly any normal lung tissue between them. The lung, when fresh, looked like a piece of blood pudding thickly studded with pieces of lard. The parts not occupied by caseous hepatisation had a blackish-red appearance,

appearance, and contrasted sharply with the caseous portions. This patient (an architect, aged 33) had received six injections, the last one four weeks before his death; the treatment was then discontinued, according to the statement of the doctor, because there was persistent fever, and infiltration of the lower lobe came on. In this case, therefore, the infiltrations first began after the injections, whereas previously there had only been induration at one apex; and, as to this, it was afterwards proved that for the most part it presented an older and more indurative character.

Here the acute occurrence of the change after the injections is established beyond doubt. But in other cases also the whole condition of the lungs was in no slight degree different from what we are accustomed to see in cases of consumption. I may also point out that among the sixteen cases of phthisis which we had in December there were five which showed recent caseous hepatisation in greater or less degree, but none approaching in extent the one just mentioned.

A second change is likewise found in the lungs, which must also be described as inflammatory. It is, in my opinion at least, even more different from what we usually find, although I must here also say that I cannot lay down any universally valid pathognomonic criterion. The pneumonias which develop in the course of phthisis can, as is known, be divided into three different classes. They are either caseous or of the ordinary fibrinous type—these also occur—or catarrhal, the so-called smooth pneumonias in which the essential feature is that accumulations of cells are present in the alveoli. All this is occasionally seen in phthisical patients. I may also remark that pure fibrinous pneumonia, in the ordinary sense of the word, has been present in none of the injected cases.\* The caseous form I have already mentioned. Any other variety will approximate in type to one of the forms which, according to the ordinary rubric, are classified under the head of catarrhal pneumonia. Injection-pneumonia has, in fact, points of similarity to the catarrhal variety, but I must say it has also certain differences. The ordinary catarrhal pneumonia, as we find it in phthisical patients, shows accumulations in the alveoli, which can easily be squeezed out, and are relatively fluid in character. Sometimes they are so thin as to resemble jelly, and it was on the observation of this fact that Laennec based his old doctrine that tuberculous infiltration, as he expressed it, begins with a gelatinous infiltration. Here, however, the product is not gelatinous; on the contrary, it is very watery and turbid, and it might be called a turbid infiltration. It reminds one of a phlegmonous condition. In some places it is somewhat thicker; occasionally it has, to a certain extent, the external aspect of caseous infiltration, without, however, attaining the decidedly dry character of the latter, so that if the two are situated side by side there is no difficulty in distinguishing the one from the other. The catarrhal-phlegmonous product is softer, moister, and looser than the other. Among the specimens here exhibited there is a perfectly fresh one, which, besides a huge ulcerated cavity at the apex, shows caseous, and—if I may use the expression—catarrhal infiltration side by side in the lower lobe. In two other specimens also caseous and catarrhal hepatisation may be seen side by side. Among the sixteen cases of last year, there are seven which show this more diffuse soft hepatisation.

This form has also something whereby it is clearly distinguished from the ordinary catarrhal hepatisation. It happens that in the midst of these patches foci of softening become developed, which quickly lead to breaking down of parenchyma and to a kind of excavation—for instance, in the lower lobe—such as hardly occur except in gangrenous broncho-pneumonia. This, indeed, was not very frequent. Such a result appears to me to indicate that in these cases a more potent injurious influence has been at work than that which we in other cases recognise as the cause of catarrhal pneumonia. In fact, I am under the impression that—I will not say all these cases—but a certain number of them, exhibit inflammatory processes analogous to those which we see develop on the external parts after injection, and which present a higher or lower degree of intensity, according to the nature of the individual and the special features of the case.

As regards the other results of our examinations, one thing was noted, the significance of which will have to be tested by careful clinical observations on the course of a number of cases: that is the development of fresh tubercles in these patients. It must be understood that I speak on this point with great reserve, as we possess no certain basis of fact which would enable us to pronounce with any certainty as to the duration of small tubercles—I speak here of the submiliary forms—and the age of the submiliary tubercles. On the whole, however, we are disposed to look upon such tubercles as fresh formations. A few observations on the eruption of such tubercles subsequent to injection have already been made clinically in the case of the laryngeal mucous membrane. With reference to this, I may point out that under the eyes of the observer small tubercles, speedily giving rise to new ulcers, have suddenly appeared in places which till then seemed perfectly free. People have comforted themselves with the assumption—at least, so I gather from published records—that these tubercles were present before the injection, but had escaped detection, and it is taken for granted that they will be attacked and destroyed by the remedy and transformed into ulcers. As to the correctness of this opinion in the cases cited I can, of course, say nothing; but I can say that we, examining the internal organs after injection—and especially those which I have always considered the most reliable for the observation of these fresh forms, namely, the serous membranes—have seen the eruption of entirely new submiliary tubercles under circumstances which made it scarcely probable that the tubercles were of older date. This holds good particularly of the pleura, the pericardium, and the peritoneum. The supposition that the tubercles would be powerfully influenced by the action of the remedy, and that their substance would thereby become necrosed, was never realised.

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\* Only partial fibrinous hepatisation was sometimes found in conjunction with other changes.

All the submiliary tubercles, of which I am here speaking, were perfectly intact, even when the injections had been made weeks before. All the more am I convinced that the eruption first appeared *ex post*.

As to the lungs themselves, you know well how difficult it is to recognise these very fine tubercles in their interior with certainty. I will therefore not speak of that, and will confine my remarks to parts in which either (as in the mucous membrane of the larynx) miliary tubercles first appeared after the injection, or after a long course of injection entirely fresh and uninjured tubercles have been found on the serous membranes. Here is an intestine from one of the January cases, in which entirely fresh submiliary eruptions are seen in the vicinity of old intestinal ulcers; the same man (aged 41) had also fresh tubercles in his pericardium.

How these new eruptions are to be explained must be left for further consideration. Nevertheless, I venture to point out that if we assume that all tubercles are produced by bacilli, such out of the way parts as the pericardium deserve special attention. In one other case the so-called epicardium presented in one place, not in contact with an affected part of the lung, a small focus where four submiliary tubercles were situated close to each other in the middle of an area of intense hyperemia. Here there was no alternative but to suppose that the germs had reached that place by way of metastasis. How could we help thinking of metastatic processes here, and conjecturing whether, in fact, the bacilli had not been mobilised, and whether they had not been diffused through the body by a process of infection? Since, as you know, Dr. Koch himself considers the bacilli to be sufficiently refractory to the action of his remedy—and we have not found that they are destroyed—the possibility must not be overlooked that if in any one place a process of softening whereby the products of disintegration are rendered more fluid, or at least more mobile, is set up by the action of the remedy, these products will also be displaced, and may give rise to new foci in other places. Such a consideration is not far-fetched; and with it is connected another. If we see that during the treatment a whole lower lobe becomes filled with foci of caseous hepatisation, it is an easy step to the conclusion that material which is set free in the upper lobe by breaking up, and which is not coughed up, will perhaps be drawn in by inspiration, with the result that pneumonia such as is caused by foreign bodies—and in this case of caseous character—is set up.

I consider myself bound at least to give expression to this view, and to add a warning to practitioners to operate with greater caution in cases where it is not certain that patients have the strength completely to expectorate the broken down tissue, and the habit of doing so, and where there is, therefore, a possibility that transference of material to other parts of the lung may take place with the result of creating new foci of disease.

Permit me now to mention a little point: that is, the breaking down itself, to which my colleague, Dr. Koch attaches particular importance as being the principal result effected by his remedy. I admit that all which we have seen indicates that such an effect is produced in many places. It is not yet clear to me, however, how it is that this necrotic effect does not occur universally—that, for instance, as I have already said, the submiliary tubercles resist the remedy in many places. I acknowledge that, as has been stated by some earlier observers, for instance, in tuberculous pleurisy, individual tubercles, especially if they are at all of large size, assume an unusual turbid yellowish appearance, and, in fact can be seen with the microscope to undergo a process of disintegration. But in other cases, even after injections continued up to the day of the patient's death, nothing of the kind occurred.

Even large tubercles show themselves very refractory. We have lately had a very remarkable case, in which tuberculosis of the vertebral column and long bones was present in a boy aged three years; large tubercles were also found in the brain. The injections in all amounted to 0.012 gme. It was a case from the surgical department in which there was vertebral caries with gravitation abscesses, and many points of disease were present in the joints and long bones of the lower limb. At the necropsy it was found that the boy had an unusual abundance of the so-called solitary tubercles in his brain and cerebellum. As is well known, these tubercles owe their name to the fact that there is usually only one which may be of the size of a walnut; in this case, however, there was a whole heap, I think seven; they were therefore properly not solitary, but they belonged to that category. They were like large lumps of cheesy matter. Neither in them nor in their vicinity were any considerable changes to be seen. I noticed in their interior some soft places, but these occasionally occur in other cases without anything particular having taken place. At all events, the nodules showed no marked breaking down.

In conclusion, I wish to call attention to two points of prime importance which are rightly taken into account in every case of phthisis, namely, ulcers of the intestine, and ulcers in the respiratory organs, particularly the lungs.

As regards the intestine, there can be no doubt that necrotic processes similar to those observed on the external parts of the body in lupus, &c., take place in intestinal ulcers. In old-standing ulcers with extensive surface and thick edges, particularly in which new submiliary eruptions have occurred, we see such necrosis to an excessive degree. An example of this is afforded by the intestine here shown, which comes from one of the January cases, namely, the man with the fresh pericardial tubercles. The necrotic process there reaches right through to the serous coat. If the man had lived a couple of days longer perforation would undoubtedly have taken place, as in another case, recently mentioned, I believe, by Dr. B. Fraenkel, in which the patient died in consequence of such a perforation. Although perforation and necrosis occur also in other

other cases of tuberculous ulcer of the intestine, I feel myself obliged to point out that here we have two very severe cases, in which the necrotic process must have taken place very rapidly, occurring in the short space of two months.

The same holds good with regard to ulcers in the respiratory organs, in which very rapid disintegration takes place, and the size of the loosened masses is sometimes altogether out of proportion to the ability of the individual to expel them from his body. In this way all kinds of complications from retention and aspiration will be caused.

Among the other specimens I may mention one case of tuberculosis of the larynx of altogether unusual severity, in which twenty injections were given, the last on the day before the patient's death. This was the same man who has already been mentioned as the subject of pericardial tubercles and gangrenous ulcers of the intestine. As regards the point under consideration a fresh eruption of tubercles of extreme intensity can be seen extending over the whole of the larynx and trachea.

Another specimen shows fresh caseous hepatisation; it comes from a case in which six injections were made—the last four days before the patient's death. We have also one such case in which three injections were given, the last a week and a half before the patient's death, and in which caseous foci and diffuse inflammatory processes are found side by side. Lastly, I exhibit a specimen which was obtained only this morning; it shows the formation of abscesses, starting from bronchiectases of the lower lobe, in progress in the lungs.

#### EIGHTH DOCUMENT.—MR. HUTCHINSON'S LECTURES ON LUPUS.

##### *Concluding remarks.*

29th January.—Mr. Jonathan Hutchinson, ex-president of the Royal College of Surgeons, and an eminent authority on skin diseases, has delivered a lecture before a large and representative audience of medical men in the Examination Hall of the Royal College of Surgeons, Thames Embankment. In examining the results of Koch's treatment of lupus he demonstrated the condition of a large number of patients who were present from the various hospitals where they have been undergoing treatment for longer or shorter periods. He did not think that the improvement manifested in each case was likely to be permanent. Very definite results had on some important points been obtained, and it was highly desirable that, for the guidance of future investigators, these should be stated. He had had opportunities of collecting facts over a tolerably wide field, and he thought it might be stated, in the first place, that the injection of Koch's fluid caused the lupus patches to inflame; but even to this rule there were some striking exceptions, in which no effect whatever was produced on the patches, although the temperature rose on every occasion after nine or ten successive injections. In one case, after about a month's treatment, the injections were given up, as they produced no effect, and the patient was now in exactly the same condition as before the injections began. No one had ventured to report a single instance of cure, and, of the cases which had been shown to him as most satisfactory, he was bound to say that not a single one had come near to the condition of cure. As substantiating his statement that the treatment does not destroy or, in some cases, even touch the apple jelly deposit, the most characteristic part of the lupus formation, he quoted from a letter written by Mr. Warren Tay, of the London Hospital, who, speaking of a case in which great benefit had been obtained by the treatment, said "that there still remained nodules, which I should like to attack with the scoop." They might be obliged to suspect that the remedy, after all, was one for certain conditions of the inflammatory process, and not for tuberculosis. If they were obliged to report that nothing approaching a cure of lupus had been obtained in London, practically it might seem unnecessary to ask whether the cures were lasting. There was, however, undoubted evidence on this point. He referred to the case of Edgar Neale, the patient who was treated in Berlin, and who some months ago was exhibited at the Clinical Society as a case supposed to be almost cured. He was assured by those who took the case to Berlin and exhibited it in London, that the patient was now in a condition almost as bad as before the treatment commenced. He believed, however, from what he had seen of the treatment, that some of the patients were by the injections brought into a condition much more favourable for surgical treatment than they were before.

#### NINTH DOCUMENT.—PASTEUR'S TELEGRAM TO KOCH. KOCH'S ANSWER. TELEGRAM TO PASTEUR FROM THE OLDENBURG INSTITUTE.

November, 1889.

Au Dr. Koch, Berlin,—M. Pasteur, et les chefs du Service de l'Institut Pasteur, adressent à Robert Koch toutes leurs félicitations pour sa grande découverte.

PASTEUR.

Dr. Koch to M. Pasteur.

Most Honorable Colleague,—You have had the goodness to send by telegraph your congratulations upon the results of my researches on tuberculosis. I esteem this to be a most special honor, and I desire to express to you and your fellow-workers who have joined in your congratulations my most humble thanks. As a further expression of my gratitude, I venture, in the expectation that you will not be unwilling to test the specific action of this new substance on man, to send to you herewith a specimen of it. Accept the assurance of my highest esteem.—Obediently yours, R. KOCH.

Telegram from St. Petersburg, addressed to M. Pasteur by Prince Alexandre d'Oldenburg, Eugénie Princesse d'Oldenburg, Prince Pierre d'Oldenburg, Dr. Sperk, Prof. Anrep, Dr. Khigive, Dr. Helmann, Dr. Kraiouchkine, and Baron Feltheisen.

After the first demonstration, given to-day at the Institute, of the mode of treating lupus by Koch's method, we are happy to express a sentiment of profound veneration for you, the illustrious initiator of fruitful studies in a domain of science which this day celebrates one of its victories.

10TH DOCUMENT.—DR. KOCH AND THE GERMAN GOVERNMENT.

(*British Medical Journal*, January 10, 1891, I. p. 77).

A well-informed correspondent writes:—During the last fortnight various rumours have been telegraphed from Berlin as to the arrangements made, or about to be made, between the German Government and Professor Koch with regard to the future production of his remedy for tuberculosis, and it must be admitted that these rumours have been of a somewhat disquieting character. It has been said that Dr. Koch, and each of his assistants, had accepted a large immediate payment, and that they were to receive a royalty upon all sales in the future. Thus stated, the arrangement, it must be admitted, would partake far too much of the commercial transaction to be agreeable to the traditions of the medical profession, or the customs of men of science. It is, however, easy to give an unfavourable complexion to a transaction really of an honourable nature by inverting the steps by which the final results have been obtained, and so misrepresenting their character. It may be well to recall the circumstances under which the lymph has been discovered, and the position of Dr. Koch in relation to the German Government. Dr. Koch has been for many years Director of the Hygienic Laboratory in Berlin. This laboratory is a Government institution, maintained by the Educational Department of the German Government, and Dr. Koch, as its Director, has been an officer of that Department. All the earlier experiments for the discovery of the now famous lymph were conducted in Dr. Koch's own laboratory in the Hygienic Institute, and there the observations upon guinea-pigs and other animals, which emboldened Dr. Koch to proceed to inoculate human beings, were made. The laboratory, however, presented no facilities for making these investigations upon human beings, and Dr. Koch holds no official position with regard to any of the Berlin hospitals. He therefore found himself in a practical dilemma, inasmuch as if he were to make his experiments in a public hospital it was feared that the premature and eager discussion of incomplete observations and immature results might easily tend to interfere materially with the investigation and to produce evil results. Dr. Koch consequently hired a private house at his own expense, and obtained the assistance of two gentlemen with whom he had private acquaintance—Dr. Libbertz, an old schoolfellow, and Dr. Pfuhl, his own son-in-law. The lymph was prepared in considerable quantities in this private house by these two gentlemen under Dr. Koch's supervision, and the earliest injections in man were made in the private hospitals of Drs. Cornet and Levy. It soon became evident, however, that the interest, both among the general public and in the medical profession, was too keen to permit of the continuance of the investigation upon these lines; and Dr. Koch, acting on the advice, or, perhaps, it might be correct to say upon the instructions of Herr Von Gosler, the Minister of Education, published in the now famous preliminary paper, and distributed the lymph to certain of the hospitals in Berlin. Meanwhile, the manufacture of the lymph was carried on in the private house by Dr. Koch and his two personal private assistants. Recently this arrangement has ceased; the house in which the lymph is manufactured has been taken over by the Education Department of the German Government, and Drs. Pfuhl and Libbertz have become officers of that department. The Koch Institute, which the German Government are now erecting, will consist of two parts—a laboratory, and a new clinical department containing 150 beds. The clinical department will probably be under the direction of Professor Brieger. The observation and treatment of patients received into it, it is hoped, will afford in the future opportunities for Dr. Koch to prosecute his studies with regard not only to tuberculous diseases, but to tetanus, diphtheria, and typhoid fever. In this way the inconvenience which has arisen from his having no clinical wards of his own will be avoided.

In the laboratory, bacteriological investigations will be carried on, and at the earliest possible date the laboratory for the preparation of the anti-tuberculous liquid will be transferred to this department of the Koch Institute. The director of this bacteriological department has not yet been appointed, but the whole institute will be under the general direction of Dr. Koch, who will remain an officer of the Education Department. It is probable that the German Government will offer to Dr. Koch some recognition of the great services he has rendered while acting as a German official, such as was voted to Jenner for his services in a cognate research, and more recently to Pasteur, in France. Large national awards have repeatedly been made to successful generals in Germany and in other countries, and it is felt that there is no reason why a man of science, who has worked for the relief of human suffering, should hesitate to accept a reward which the destroyers of men have never felt the least difficulty in receiving. As to the further rumour that Dr. Koch and his assistants may receive a payment, as it were, by results in the future, it may be hoped that this rumour is unfounded. Anything like the sale of a secret or the paying of royalties on a remedy would be contrary to the hippocratic tradition.

(*British*

(*British Medical Journal*, January 31st, 1891.)

The Prussian Budget for 1891 includes a demand for 165,000 marks (£8,250) for the new Koch's Institute, which is being built close to the Charité Hospital. The annual expenses are calculated at 235,405 marks (£11,770), which are divided as follows:—20,000 marks (£1,000) for salary for the director, Professor Koch; 6,000 marks (£300) each for salaries of heads of departments, &c., &c.; a revenue of 70,000 marks (£3,500) is calculated for from paying patients.

11TH DOCUMENT.—LETTER FROM VIRCHOW.

(From *Standard*, 1st February).

Berlin, Friday night.

The *National Zeitung* publishes a letter it has received from Professor Virchow, which places this gentleman's opinions on Dr. Koch's method in a new light. In this document the eminent pathologist says:—

"Your former statement makes it appear as if I had complained of the political press for the account it gave of my demonstrations in the Medical Society here. This I must entirely deny. I only complained that erroneous communications, emanating from the Society in question, had been made in the press. The case which affects me personally was at first discussed in your columns in such a way as to create the impression that my demonstrations were directed against Dr. Koch. Pardon me remarking that such misrepresentation is calculated to cast suspicion on the most matter-of-fact discussion, if not to make it look invidious. What would become of truth if it were no longer permitted to experts freely to demonstrate and discuss subjects of unquestionably great importance? The special case in question is as follows:—My first report to the Society dealt with upwards of twenty *post-mortem* examinations. These had, in my opinion, shown that, after and owing to injections of the new medicament, severe inflammatory diseases of the lungs might arise. I had distinguished four different kinds of such inflammation. One of them seemed to me so peculiar that I thought myself at liberty to assume it to be characteristic—that, in fact, scientifically speaking, it was specifically 'injection pneumonia.' At a later meeting I showed the lung of a man who was not known to have received any injection. This lung showed considerable alterations, similar to those I had found in the specific pneumonia. I therefore did not hesitate to acknowledge that there was reason for an extenuating judgment to be derived from this experience. On the ground of these facts your reporter stated that I had retracted my previous opinion that pneumonia might be developed as a consequence of the injections. This is an error. I still adhere to that opinion, and all the conclusions which the press has drawn from the erroneous report fall to the ground. In reality, I only admitted it as a possibility that the fourth kind of inflammation of the lungs, as well as the three others, might not be a specific form of the disease. Further than this I did not go, for the previous history of the case in question is not sufficiently cleared up to enable us to regard it as positively proved that no injection had been administered."

To this statement the *National* attempts a reply, but it is very lame and without interest.

DOCUMENT 12.—TRANSLATION OF THE "DIRECTIONS FOR USE" SENT OUT WRAPPED AROUND EACH BOTTLE OF THE LYMPH.

The remedy keeps for a comparatively long time (*i.e.*, in the state in which it is sent out), but the dilutions which are to be prepared for the carrying out of the treatment easily spoil, and in consequence become cloudy. Thus, dilutions that have become cloudy or muddy must not be used.

In order to preserve the dilutions they must be boiled after every opening of the vessel containing them. This, however, is not necessary if  $\frac{1}{2}$  per cent. solution of carbolic acid has been used in preparing the dilution.

The dilutions are made in the following way:—In the first instance, a 10 per cent. solution is prepared by adding 9 cubic centimetres of distilled water, or of  $\frac{1}{2}$  per cent. carbolic acid solution to 1 c.c. of the remedy. In the same manner, a 1 per cent. solution is prepared from the 10 per cent. solution.

Thus, one has the dilutions required for the treatment of adults. For children it is expedient to employ a still weaker dilution, *e.g.*, a 0.2 per cent.

Since the weaker solutions lose their activity when kept too long, it is advisable to make fresh ones as often as possible. If distilled water has been employed in making the solutions, the latter must be kept in sterilised test-tubes closed with cotton-wool plugs. In these tubes the solutions may be most conveniently boiled over a gas or spirit flame.

The remedy is administered by means of subcutaneous injections, and experience has shown that the best sites for the injection is the skin between the shoulder-blades and in the region of the loins.

The injections are best carried out with a sterilised Koch's syringe of 1 c.c. Contents divided into tenths.

To sterilise the syringe, it is sufficient to thoroughly wash out the cylinder and the needle with absolute alcohol. Abscesses may in this way be avoided with certainty.

If one wishes to use an ordinary Pravaz syringe, before using it one must try to sterilise it as much as possible by repeatedly drawing into it absolute alcohol. But even then abscesses are not so certainly avoided.

The

The course of the temperature must be followed both before and during the injections. It is therefore necessary, at least a day before the first injection, to begin taking the temperature every three hours, and to see that this is continued during the whole time of the treatment.

The injections are to be made in the early hours of the forenoon, in order that their effect on the body's temperature, which is seen only some hours later, may still be observed on the same day.

For the first injections, in cases of pulmonary phthisis, 0.001 or 0.002 c.c. of the remedy are to be given—by injecting one or two tenths of a c.c. of the 1 per cent. solution.

On the following days the dose is cautiously raised. If the fever rises over 38.5° C. (=101.3° F.) the same dose is repeated, or perhaps it may be omitted. If no, or only slight fever occurs, the dose is raised by 0.001 to 0.002 c.c. When once the dose has reached 0.01 c.c. it can be increased by 0.01 or 0.02 c.c., but when this is being done the temperature should be closely observed. When the daily dose has reached 0.1 c.c., as a rule, it need not be further increased. Only exceptionally will one be obliged to raise it to 0.2 c.c. or more. With interruptions of one or several days the injections are then continued until the symptoms of the disease have disappeared.

In cases of not very extensive lupus in adults, one can at once give 0.01 c.c., and repeat it as necessity requires. This applies also to cases of tuberculosis of bones, joints, and glands.

Only when it has been obtained directly from the undersigned can the right condition of the remedy be guaranteed.

DR. A. LIBBERTZ.

Berlin N.W., Lüneburgerstr. 28 II.

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NOTE.—The Reporter has purposely in such an important matter as this made the translation as nearly as possible literal.

[Three plates.]

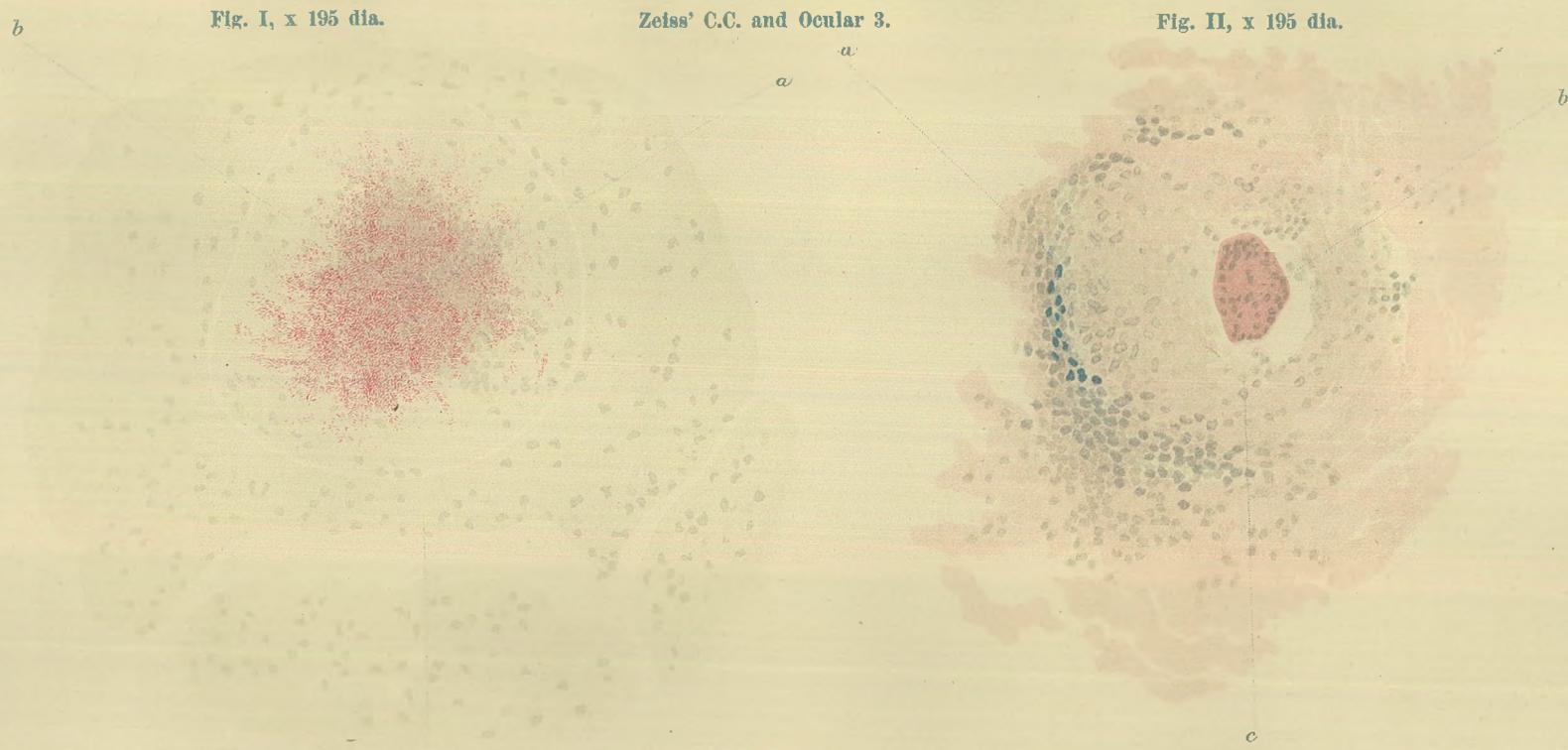


Fig. I, x 195 dia.

Zeiss' C.C. and Ocular 3.

Fig. II, x 195 dia.

Fig. I.—Acute pulmonary tuberculosis, x 195 diameters.  
 (a) A large mass of tubercle bacilli occupying the centre of a degenerated area.  
 (b) Degenerating tissue in which a few nuclei are still remaining.  
 (c) Zone of material which corresponds to the original boundary of the air vesicle.

Fig. II.—Chronic tubercle of lung, x 195 diameters.  
 (a) Granulomatous cells.  
 (b) Giant cell with many nuclei and in which one tubercle bacillus may be seen.  
 (c) Degenerated material.

Zeiss' Apochromatic 2 m.m. Oil Immersion with Comp. ocular 8  
x 1,000 diameters.

Fig. III.

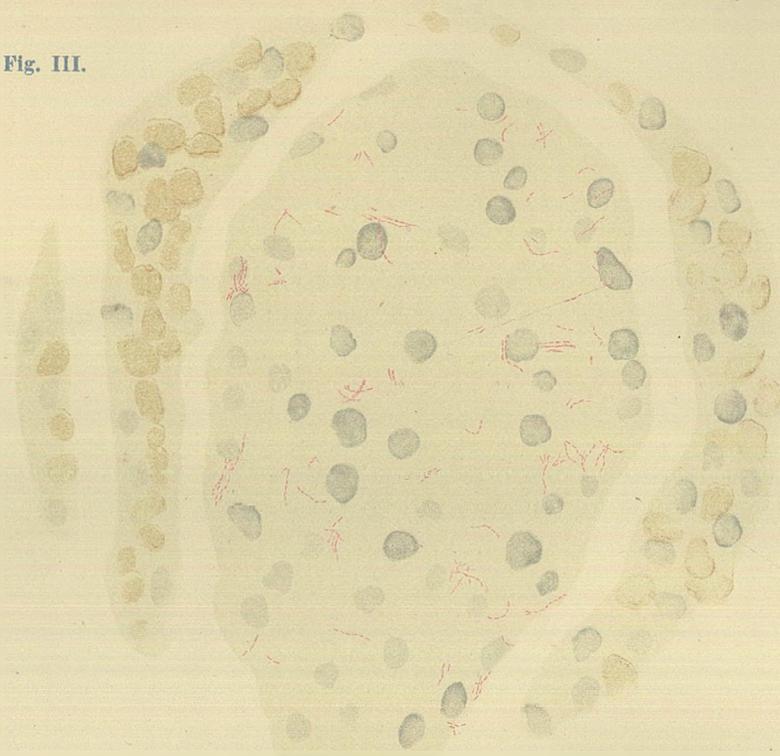


Fig. III.—x 1,000 diameters.  
Acute tuberculosis of lungs.  
(a) Coagulation mass occupying cavity of air vesicle  
and containing numerous tubercle bacilli.  
(b) Wall of vesicles.

Fig. IV.

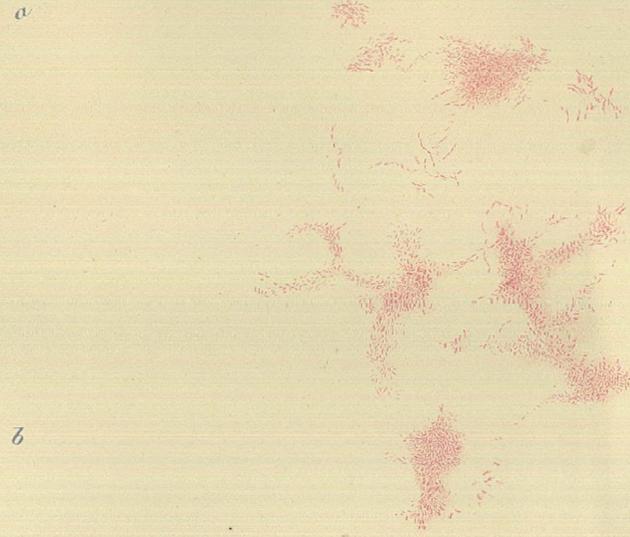
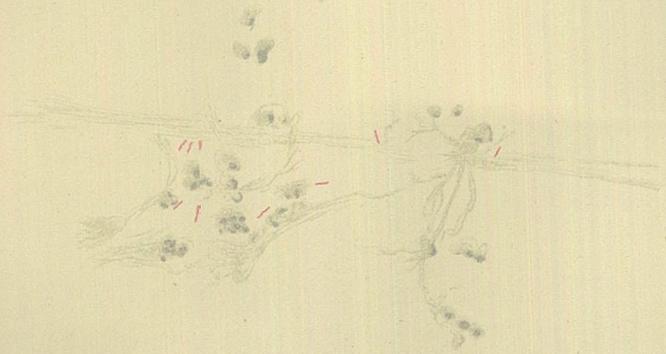


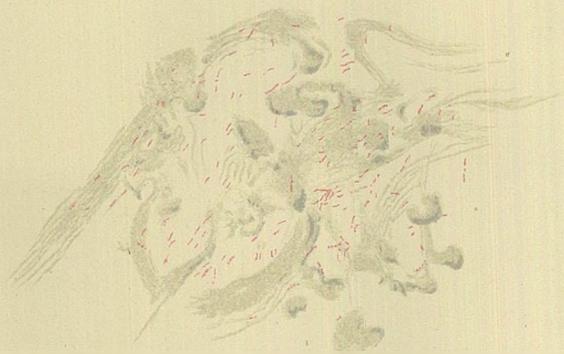
Fig. IV.—x 1,000.  
Cultivation of bacilli from old culture; many of the  
bacilli are undergoing degenerative changes.

Fig. V.



Tubercle bacilli in sputum before Koch injections.

Fig. VI.



After the injections.

1891.

NEW SOUTH WALES.

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PARLIAMENTARY STANDING COMMITTEE ON  
PUBLIC WORKS.

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REPORT

TOGETHER WITH

MINUTES OF EVIDENCE, APPENDICES, AND PLANS,

RELATING TO THE

PROPOSED HOSPITAL BUILDINGS,  
MACQUARIE-STREET.

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Presented to Parliament in accordance with the provisions of the Public Works Act,  
51 Vic. No. 37, section 8.

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SYDNEY: GEORGE STEPHEN CHAPMAN, ACTING GOVERNMENT PRINTER.

25—A

1891.



## MEMBERS OF THE COMMITTEE.

## LEGISLATIVE COUNCIL.

The Honorable JOHN LACKEY, Chairman.  
 The Honorable ANDREW GARRAN.  
 The Honorable FREDERICK THOMAS HUMPHERY.  
 The Honorable WILLIAM JOSEPH TRICKETT.  
 The Honorable GEORGE HENRY COX.

## LEGISLATIVE ASSEMBLY.

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 HENRY COPELAND, Esquire.  
 JAMES EDENEZER TONKIN, Esquire.  
 WILLIAM SPRINGTHORPE DOWEL, Esquire.  
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 CHARLES ALFRED LEE, Esquire.  
 WILLIAM M'COURT, Esquire.  
 JAMES PATRICK GARVAN, Esquire.

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

HOSPITAL BUILDINGS, MACQUARIE-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, and the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, to whom was referred the duty of considering and reporting upon "the original plans and estimates" for the proposed Hospital Buildings, Macquarie-street, "and also the plans and estimates for the buildings on a reduced scale of two stories only, and any other question of construction arising in the course of investigation," have, after due inquiry, resolved that it is expedient that the buildings should be completed in stone, according to the modified plans submitted to them, 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:—

1. The resolution of the Legislative Assembly, referring the work to the Committee, was moved by Sir Henry Parkes, and was in the following terms:—

Resolution of the Assembly referring the work to the Committee.

"That this House, having approved of the completion of the Hospital Buildings in Macquarie-street, refers to the Parliamentary Standing Committee on Public Works the original plans and estimates for such buildings, and also the plans and estimates for the buildings on a reduced scale of two stories only,\* and any other question of construction arising in the course of investigation, and that the Committee be requested to report forthwith."

2. The resolution of the Assembly would appear to restrict the Committee to a consideration of the two sets of plans and estimates referred to them, and to a report which should simply say which of the two it was the more desirable to adopt; but inasmuch as it was felt by the Committee that a wider range of inquiry was necessary, even to enable them to properly consider the plans and estimates, and that great public interest attached to the whole question, and as by the Public Works Act the Committee are not only empowered but directed to make a searching and full investigation into every proposed work referred to them, it was decided by a majority of eight votes to four that the inquiry should, if necessary, embrace the whole question of hospital accommodation on the Macquarie-street site.

Decision of the Committee to inquire into the whole question.

3. The division at the meeting of the Committee when the decision was arrived at to make the inquiry general is shown in the following extract from the Minutes of Proceedings of 10th December, 1890:—

Extract from Minutes showing the division on the question as to the scope of the inquiry.

"The Committee proceeded to consider the proposed Hospital Buildings, Macquarie-street, and deliberated as to the terms of the resolution of the Legislative Assembly referring the matter to the Committee, and as to the powers of the Committee under the 12th clause of the Public Works Act.

"Mr. Trickett moved,—

'That in dealing with the question of the Hospital Buildings, Macquarie-street, the Committee recognise that the resolution submitting the question to the Committee limits the inquiry to that of construction only, and does not relate to the eligibility of site.'

Mr. O'Sullivan seconded the motion.

The motion was negatived on the following division:—

Ayes, 4.  
Mr. Trickett,  
Mr. Garrard,  
Mr. O'Sullivan,  
Mr. Lee.

Noes, 8.  
Mr. Lackey,  
Dr. Garran,  
Mr. Humphery,  
Mr. Cox,  
Mr. Tonkin,  
Mr. Dowel,  
Mr. McCourt,  
Mr. Garvan."

4.

\* This phrase "two stories only" really means two stories and a basement, which the Committee, it will be noticed, regard as a third story, and therefore they deal with the modified plans as plans representing three stories.

Clause of the  
Public Works  
Act directing  
full inquiry.  
Functions of  
Committee.

4. The following is the clause of the Public Works Act directing the Committee to make full inquiry respecting all proposed works referred to them :—

“ 12. The Committee shall, subject to the provisions contained in the next following section, consider and report upon all public works (except fortifications and works connected with the Military or Naval Defence of the Colony) to be executed after the passing of this Act (and whether such works are continuations, completions, repairs, reconstructions, extensions, or new works), in all cases where the estimated cost of completing such work exceeds twenty-thousand pounds. And, in considering and reporting on any such work as aforesaid, the Committee shall have regard to the stated purpose thereof, and to the necessity or advisability of carrying it out; and, where such work purports to be of a reproductive or revenue-producing character, the Committee shall have regard to the amount of revenue which such work may reasonably be expected to produce, and to the present and prospective public value of such work; and, generally, the Committee shall, in all cases, take such measures and procure such information as may enable them to inform or satisfy the Legislative Assembly as to the expediency of carrying out the work in question.”

Method of  
inquiry.

5. Having decided that the inquiry should not be restricted to a mere comparison of the two sets of plans, but should include all matters relating to the question which were of interest and importance, the Committee made a visit of inspection to the site of the proposed buildings, and proceeded to call evidence. The witnesses examined have been somewhat large in number, and the evidence is rather voluminous, but there being great difference of opinion upon the part of medical men and others as to the requirements necessary in a Hospital in Macquarie-street, and as to what ought to be done with those portions of the buildings already erected, this could scarcely be avoided. The Principal Under Secretary having laid before the Committee the plans and papers in the case, and generally explained the position in which the whole question stood, the Hon. Arthur Renwick, M.D., M.L.C., President of the Board of Directors of the Sydney Hospital, was examined. Other representatives of the Hospital Board, or of the Hospital, who appeared before the Committee, were: Mr. H. D. Russell, Secretary; and Mr. Sydney Burdekin, M.P., Treasurer; Dr. L. R. Huxtable, representing the Honorary Medical Staff; and Dr. Walter Hull, Medical Superintendent. Mr. Thomas Rowe, architect, was examined as the architect of the buildings; Mr. John Kirkpatrick, architect, as one of the competitors in 1878, when designs for the Hospital, including some from Mr. Rowe, were originally sent in; Mr. J. Horbury Hunt, President of the Institute of Architects of New South Wales, at his own request; Mr. Oswald H. Lewis, who was the architect of St. Vincent's Hospital, as one competent to express an opinion on hospital architecture; Mr. W. L. Vernon, Government Architect, in order that he might furnish a report to the Committee on Mr. Rowe's plans; and Mr. Alexander Dean, as a builder of experience and one who had something to do with the original designs for the Hospital sent in to the Hospital Board in 1878. In addition to these witnesses there were: Dr. F. N. Manning, President of the Board of Health and Medical Adviser to the Government; Hon. C. K. Mackellar, M.B., M.L.C., and Hon. H. N. MacLaurin, M.D., M.L.C., each of whom as a former Government Medical Adviser had advised the Government on the Sydney Hospital question, and had acted in association with the Hospital Board in the consideration given by the Board to the original designs sent in; Sir Alfred Roberts, Dr. W. Odillo Maher, representing the N.S.W. Branch of the British Medical Association; Hon. R. R. S. Bowker, M.D., M.L.C.; and Dr. F. Milford.

General  
statement  
of the case.

6. Stated generally, the case which, in this inquiry, the Committee have had to consider is, as it appears from the evidence, as follows:—

Some years ago the front of the old Hospital in Macquarie-street, containing about 150 beds, was pulled down in consequence of a belief that the walls were affected with hospitalism, which interfered with the treatment of surgical cases, and it was intended to build a new front that should fit in with two buildings erected at the rear of the main portion of the Hospital before the old front was pulled down, and known as the south wing and the Nightingale wing. Both these wings are at the present time good, serviceable buildings, and in constant use for hospital purposes. The cost of the new front was to be defrayed from a sum of £20,000 which had been collected in subscriptions from the public in commemoration of the recovery of the Duke of Edinburgh from the wound he received at Clontarf in 1868. This money was subsequently diverted to  
the

the erection of the Prince Alfred Hospital, and other money had to be found for the Sydney Hospital. The site of the Hospital, which was refused to the Board of Directors by Sir James Martin, was granted to them by the Government of Mr. Farnell; and with £20,000 in hand, and a corresponding amount from the Government, the Directors set about taking steps for the erection of the new Hospital front. Competitive designs were invited, the cost of the new portion of the building not to exceed £45,000, and each design to be accompanied by the certificate of a builder, showing that the building represented by the design could be erected for £45,000; and a number of designs were received. A design sent in by Mr. Thomas Rowe was approved by a majority of the Hospital Board, and he obtained the first prize, but designs from another architect were also regarded favourably, and were awarded premiums. Whether Mr. Rowe's design was accompanied by a builder's certificate, showing that the building according to his design could be erected for £45,000, or whether it was submitted to the Board without such a document being attached to it, is not quite clear. No such certificate was produced before this Committee, or could be found when it was asked for, although Mr. Rowe, according to his evidence, was under the impression that it accompanied his plan. Mr. H. D. Russell, Secretary of the Hospital, is of opinion that it was sent in with the design, but must afterwards have been lost. Whether this was so or not, however, Mr. Rowe, in his evidence, states distinctly that the building as designed by him could not have been carried out for £45,000. "To have carried out the work in a substantial manner," he says, "would have cost over £100,000," though "it would have been possible to have carried out the designs submitted, in an inferior manner, with slight brickwork, for about £50,000." To a design by Mr. John Kirkpatrick, which found favour with some members of the Board, notably Dr. MacLaurin and Dr. Mackellar, a builder's certificate stating that it could be carried out for £45,000 was attached, and Mr. Alexander Dean, the builder who gave the certificate, appeared before the Committee and confirmed the opinion he had expressed in the certificate. The Board having examined the various designs determined to enlarge their original intention as to the size, accommodation, and style of the building generally, and accordingly had a new design prepared by Mr. Rowe, in which in addition to his own ideas there were included some of the features of the other competitive designs that had been awarded premiums. It was also decided that the new plans should provide for the erection of a new wing in place of the southern wing which it had originally been intended to retain, and that the material for the whole of the buildings should be stone. These new arrangements increased the number of beds to be provided in the Hospital from 180 to 264, and the cost, in consequence of adopting stone instead of brick, which was the building material originally intended, by 20 to 25 per cent. The probable cost of the buildings designed in the first instance by Mr. Rowe, he states, never asked, and the probable cost of the enlarged design does not appear to have been known to the Board until after several contracts in connection with the erection of the new buildings had been carried out. The buildings were, in fact, commenced and raised to a certain height without the Board having any definite idea of the money that would ultimately have to be expended upon them, and it was not until £68,923 7s. 8d. had been spent, and operations had come to a standstill, in consequence of the late Sir Alexander Stuart refusing the Hospital Board a further grant of money, that calculations to get at the cost of completing the buildings were made. It was then found that the amount required to complete the work was £140,000, making the total cost in round numbers £209,000. This estimate of cost was supplied to the Government of Sir Alexander Stuart, in June, 1883, and since about that date nothing further has been done with the buildings. Questions arose as to the wisdom of spending such a large amount of money on the Hospital, and as to the suitability of the site for a hospital of the size represented by the plans; and for several years correspondence took place between the Hospital Board and the Government,

the

the Board asking for a grant, and urging the danger to patients from the necessity to provide for them in a temporary wooden building, and the Government declining to give it, for the reason that a decision had not yet been arrived at as to the course which should be taken by them with regard to the building. The plans, as enlarged by Mr. Rowe, appear to have been submitted to the Government before the erection of the buildings was commenced, and to have been approved by them, but in the belief that the total cost would not exceed £45,000. It was not until it was too late to alter the design that the Government became aware that the buildings would cost more than that amount. In 1887 a suggestion was made by the Board that a hospital on a smaller scale than that represented by the plans could be completed at a cost of £56,000 in addition to the sum already expended. This smaller hospital would be one story less in height than the building represented by the original plans, or three stories high in the pavilions, and four stories in height for the administrative building, providing accommodation for 144 beds, as against 264 beds in the larger hospital. Other modifications also were suggested. In 1887, Sir Henry Parkes informed the Hospital Board, the members of which waited upon him as a deputation, that he was in favour of continuing the buildings, and in 1890 it was decided by the Government of Sir Henry Parkes to submit the matter to Parliament in order that the necessary money for the completion of the buildings might be provided. On 5th November, 1890, the Legislative Assembly resolved,—“That, in the opinion of this House, the Government should proceed with the completion of the buildings now partially erected in Macquarie-street, for the purposes of the Sydney Hospital,” and the matter was then referred to this Committee.

Description of the Hospital according to the original plans.

7. Two sets of plans were referred to the Committee, one called the “original plans,”—but which in reality are the original plans sent in by Mr. Rowe enlarged, as decided by the Hospital Board after the competitive designs had been received,—and the other the plans for the building on a reduced scale of three stories. The original plans provide for the administrative portion of the Hospital, a north and south medical ward, a surgical ward, an eastern ward, an infectious ward, a mortuary and pathological museum, a chapel, operating room, and lecture theatre, kitchen premises, laundry and engine premises, and stores; the building to be of four stories, and the number of beds to be 264. The Nightingale wing is retained, but the south wing gives place to a portion of the new buildings. The buildings are designed in the form of a T, with a clear space all round, and could be so constructed that there would be no communication from one ward to another, or from the wards to the lifts, by which means exhalations from patients in one ward would be effectually prevented from reaching patients in any other ward. Twelve years have passed since the original plans were prepared, during which period the architect of the buildings, Mr. Rowe, has travelled in England and on the Continent of Europe, where he visited many of the largest and most improved hospitals; and he states that he saw nothing to show that his plans for the buildings in Macquarie-street could be improved in regard to any matter essential in hospital construction.

Description of the Hospital according to the amended plans.

8. The amended plans provide for hospital buildings similar in all respects to those represented by the enlarged original plans with the exception that the number of stories is three instead of four, and the number of beds in the new part 144, which with the beds in the present south wing would make a total of 222.

Cost of the proposed buildings according to the original plans.

9. The estimated total cost of the proposed buildings according to the enlarged original plans is, as will be seen from Mr. Rowe's statement, £209,000, of which nearly £69,000 has been expended, leaving £140,000 to be obtained to carry the buildings on to completion. This question of cost has been one of the principal features of the Committee's inquiry; and it is not too much to say that the circumstances in relation to it disclosed by the evidence are extraordinary. The Committee with £20,000 in hand, and an expectation of obtaining an equal or somewhat larger sum from the Government, invited designs for hospital buildings which were to be guaranteed not to cost more than £45,000. Designs were sent in, and one was accepted, but instead of a guarantee being given that the buildings according to this accepted design could be erected for £45,000, the architect

knew

knew that they could not be erected "in a substantial manner" under £100,000, or "in an inferior manner, with slight brickwork," for less than £50,000. Furthermore, he did not inform the Hospital Board of this excessive cost, and they appear to have made no effort to obtain the information. Dr. Renwick states that the Board were not aware that the cost of the buildings would be increased until after the accepted design had been enlarged, and the erection of the buildings in stone had been commenced. Mr. Russell, Secretary to the Hospital, says it was the impression of the Board that the amended design could be carried out for the proposed original cost, and that when they learned that the cost would be increased, they thought the buildings, as proposed in stone, could be erected for about £60,000. Mr. Rowe explains that he sent in to the Board his original design to cost £100,000, because it was impossible to build a hospital containing the number of beds required in a substantial and durable manner for £45,000. Asked by the Committee why he did not tell the Board what the carrying out of his design would cost, he said he did not think it was his duty to do so. Architects from all the Colonies were competing, and if he had informed the Board of the cost of his design he would simply have had to stand aside. Still it was possible to have carried out his plans in a temporary or inferior manner for the amount named by the Board. Mr. Russell in his evidence states that he thought Mr. Rowe all along studiously avoided giving the Board any information as to the increased cost, and that his answers when questioned in regard to cost were evasive. But Mr. Rowe declares emphatically that there was no desire on the part of the Board to know the cost. He knew what the work would cost, he said, but he was never asked about it, and he did not consider it his duty to force his business on the Board, who were vieing with the Prince Alfred Hospital Board,—Dr. Renwick against Sir Alfred Roberts,—the desire being to have a city hospital equal, if not superior, to the Prince Alfred Hospital. "There was no desire to know the cost—I am sure of it," he states; "for five years I was never asked the cost of the building, and I have never received a letter complaining of its cost." Later on in his examination he informed the Committee that at the laying of the foundation stone of the building he told a member of the Board that the work would cost over £200,000. The Government first became aware of the increased expenditure when they were applied to by the Board for further assistance to complete the second story, and then nearly £69,000 had been spent. At the same time, the Board, as a whole, appear to have received the first intimation of what the total expenditure would be. The circumstances surrounding this matter of cost form a very unsatisfactory and discreditable feature in the Sydney Hospital question.

10. The buildings, if completed according to the modified plans, will cost, as estimated by Mr. Rowe, £56,000, in addition to the amount already spent, or in all nearly £125,000, exclusive of the architect's commission. Mr. Rowe, the architect, has already been paid £3,226, and he claims commission on the whole transaction, as will be seen from question and answer 2203: "You would expect a commission upon the original plans? I am entitled to it. What I would do is a different thing. If this work is never completed I shall most distinctly claim my percentage on the transaction, and, dead or alive, it is a part of my estate."

Cost of the buildings according to the amended plans.

11. In view of the large amount of money already expended upon the buildings, and the much larger sum required to complete them according to the original or enlarged plans, the Committee have endeavoured to ascertain whether any unobjectionable course is available by which, while providing all the accommodation really necessary, the expenditure towards completing the buildings may be reduced even below the amount required to carry out the design represented by the modified plans. Both the original and modified designs appear to have been prepared in the most elaborate and expensive style. A desire on the part of the architect or of the Hospital Board to avoid unnecessary expenditure would have led to the retention of the present south wing instead of to its proposed demolition; but apparently, in the wish to make the buildings as imposing as possible, the south wing is to be pulled down, and the buildings generally are designed on a scale which would suggest that the architect, when preparing his plans, was influenced not so much by a desire to provide what was necessary as by a determination to leave out nothing connected with hospital accommodation, or associated with hospital architecture, likely to make the buildings equal if not superior to anything of the kind erected. The walls of the buildings, which are to be constructed of the best Pyrmont stone, are from

Efforts of the Committee to have the expenditure on the buildings reduced.

three to four feet in thickness, and this thickness is adopted even in the outbuildings where the width of the walls is equal to nearly half the space enclosed. Expense might be saved if, while the front of the buildings is erected in stone, the walls of the back portions of the buildings are constructed of brick. A hospital constructed of brick is, according to the evidence of medical men, quite as healthy, and effective in the matter of cures, as a hospital built of stone. But here again the Committee are met by the circumstance that the buildings have been carried to the height of two stories in stone, and that if any brickwork, inconsistent with the architect's plans, be now introduced the buildings will be unequal in character, and by the probability that the saving in expenditure as between the cost of stone and the cost of brick will be immaterial compared with the hybrid style of buildings which the use of brickwork now will produce. Any idea of reducing the accommodation for which the plans provide, other than by reducing the number of stories, is confronted by the same difficulty: the accommodation provided for cannot be reduced without upsetting all or much of the work which has already been carried out, and thus rendering the expenditure upon it wasted. The Committee have therefore found themselves in the peculiar position of being restrained from recommending any course outside the adoption of one or other of the two sets of plans submitted to them. Though the evidence shows forcibly that the plans have been prepared on a scale much more elaborate and expensive than is necessary, and that the expenditure already incurred, if not reckless, indicates a want of ordinary carefulness, the erection of the buildings having been carried to a certain point, the only manner in which any future expense may be saved is by reducing the height to which the buildings should be raised.

Question of site.

12. The question of site is a matter of importance in relation to any course taken with regard to the erection of a hospital. There is a difference of opinion as to whether the site in Macquarie-street is the best for a hospital for general purposes, but the question is definitely disposed of by the fact that the hospital buildings are already half-erected upon it. The sum of £69,000 having been spent on the buildings partially erected, another site for the hospital could be selected only by wasting that amount of money, for, according to the evidence, the buildings have been so designed that they are not suitable for any purposes other than those of a hospital.

Opinions as to the size and accommodation necessary in a hospital in Macquarie-street.

13. Opinions, as represented in the evidence, differ as to the size and accommodation necessary in connection with a hospital in Macquarie-street; but most of the witnesses express themselves favourable to arrangements which accord with what the Committee have determined to recommend. The Committee have decided to recommend the completion of the buildings according to the modified plans, with the retention of the present south wing, by which arrangement provision will be made for 222 beds. Dr. Renwick, President of the Sydney Hospital Board of Directors, recommends that if the original design cannot be fully carried out "the front buildings only be completed, and the south wing left as a pavilion," which would provide for 180 or 190 beds. He is, however, more in favour of providing accommodation for 250 beds. Dr. F. N. Manning is of opinion that the accommodation for a hospital should be not less than 160 beds, and not more than 200, and he thinks a hospital of two stories more workable than one of four. He is favourable to the buildings being completed in accordance with the modified plans,—giving "two stories and a basement in each pavilion, and to carry out the administrative portion with three stories, leaving the south wing." Dr. Mackellar's opinion in the matter is very similar. He does "not think it is absolutely necessary that there should be a hospital with more than 200 beds in that part of the city." Population in the metropolitan area is going westward, he says, and if we provide for purely city wants provision can be made for metropolitan wants at the Prince Alfred Hospital at the cheapest rate. Modern teaching, he points out, favours hospital buildings of no more than two stories high, and 200 beds would be sufficient to accommodate all the accident cases and some others which may arise in the city, and for which Prince Alfred Hospital would not be available. He is opposed to the south wing being pulled down, and though he does not approve of the modified plans for the hospital, principally because of the roof being, in his opinion, entirely out of proportion to the building, he admits that these plans may be made

made suitable by altering the design for the roof. Dr. MacLaurin thinks that there ought not to be more than two tiers of wards in the hospital, and that from 140 to 200 beds would be quite sufficient. His idea is "that in the Sydney Hospital and the Prince Alfred Hospital we should entirely confine ourselves to cases of very grave disease, of severe accidents, and to the more important surgical operations, and that we should have a perfectly different institution, a little way out of town, where chronic cases of sickness occurring among paupers and poor people should be treated." The proper course to take in completing the present buildings is, in his opinion, to carry out the modified plans at the cost of £56,000. The modified design, he says, is not so handsome as the original design, "but we have to make the best of it, and do the best we can." On no consideration would he have provision made in the hospital for more than 220 or 230 beds. "I would not go beyond that," he states, "on any consideration, for I think that you would have the ground sufficiently occupied then, and if you wanted more accommodation in this neighbourhood for acute cases—which I do not think you require—I would rather have a second hospital than build a larger one on that site." Sir Alfred Roberts is of opinion that 150 beds are sufficient for an accident and emergency hospital, and has no doubt "that the building now half erected may be converted into a good useful hospital of about 170 beds." He also considers that the building will be a better specimen of hospital architecture with three instead of four stories. Dr. Milford thinks that provision should be made for from 150 to 200 patients; he would not exceed the limit of 220 patients, that limit requiring 250 beds. Dr. R. R. S. Bowker is altogether opposed to there being a general hospital in Macquarie-street, or to more than 70 beds in an emergency hospital on that site. Two other medical witnesses examined—Dr. Huxtable, Hon. Physician, and Dr. Hull, Medical Superintendent, of the Sydney Hospital—favour the erection of a hospital of more than ordinary proportions. Dr. Huxtable, in a paper which he read to the Committee as setting forth the views of the Honorary Medical and Surgical Staff of the Hospital, stated that the staff "are of opinion that the Sydney Hospital should be completed upon the plan, or some modification of the plan, of the present unfinished building, and that it should be designed ultimately to accommodate 300 patients, or thereabouts." Dr. Hull recommends the completion of the portion of the buildings already begun according to the original plan, and the retention of the south wing. This would give room for 200 beds in the new structure, and if the number of beds in the south wing were reduced, which he thinks might be done, from what they are now to 66, the total number of beds available in the hospital would be 266.

14. In the course of the inquiry Mr. W. L. Vernon, Government Architect, submitted to the Committee a plan for altering the front of the proposed hospital buildings so as to admit of the widening of Macquarie-street, which he thought desirable, in view of what the Government may do in the future in erecting public buildings, including new Houses of Parliament, in that street. In its present condition Macquarie-street has a roadway, from kerb to kerb, of 39ft, and Mr. Vernon proposes to widen it by taking in the 12-feet pavement on the eastern side, and enlarging the width on the eastern side still further. Taking in the present eastern pavement would extend the width of the street on that side to the shrubs growing in the enclosure fronting the Houses of Parliament, and along the western limit of the Botanic Gardens from Bent-street towards the entrance gates of the grounds of Government House. These shrubs Mr. Vernon regards as too valuable to be destroyed, and he proposes that they shall be preserved within railings, enclosing a space of 12 or 14 feet, and that they shall occupy a position between the main street or roadway and a walk or pavement on the eastern side 40 feet in width, which walk or pavement should be carried from Chancery-square to the guard-house at the gates leading to Government House. This, Mr. Vernon explains, would provide the whole of the Government buildings in the street with presentable frontages, afford plenty of access to them, and give them generally a handsome appearance. To effect this widening of the street it would be necessary to alter the front of the hospital buildings by taking off those projections that would prevent the width from being secured, by which proceeding the hospital front would be considerably flatter, and not improved in appearance. Mr. Vernon was requested  
to

Proposed  
widening of  
Macquarie-  
street.

to give the matter further consideration than he appeared to have done when first suggesting it to the Committee, and in a report which he subsequently submitted on the subject he enlarged his proposal. He there suggested that the street might be widened to the extent of from 115 to 120 feet, to effect which it would be necessary to make certain important alterations in the hospital buildings. It would be necessary to take down the front central block of the buildings, and the side wings intended for accident and medical cases, and to rebuild them at least 35 feet in the rear of their present position,—an alteration which would affect the western wing of the Nightingale Ward, the question of a site for a ward or building for infectious cases, and the central ophthalmic ward buildings. The cost of removing and rebuilding the present stonework, &c., he estimated at from £10,500 to £14,500. If, he explained, it should be considered more desirable to leave the whole of the buildings untouched, and widen the street only up to the building frontage, the front entrance steps could, by a slight alteration in the internal arrangements, be kept entirely within the building, so that the street alignment could be identical with the stonework of the central building; but this plan he did not favour as much as the other, as, in his opinion, its adoption would mean “the serious curtailment for all time of an improvement for which so good an opportunity now presents itself.” By extending the width of the street to the front steps of the hospital, the street would be 80 feet wide. These suggestions to widen the street can be very well understood from a plan and a sketch which Mr. Vernon laid before the Committee, and which, for public information, are published with this Report.

Evidence as to  
Hospital  
System and  
other matters  
connected  
with hospitals.

15. A perusal of the evidence given before the Committee will show that a great deal of information was afforded by witnesses on matters closely connected with the subject of hospitals, but outside the immediate question which the Committee had to consider and upon which they have had to arrive at a decision. This information, though an unavoidable part of the testimony requisite to enable the Committee to fully understand the question referred to them for inquiry, is not of the kind which it is necessary to reproduce in this Report. At the same time it is both interesting and valuable, as it contains statements and opinions on hospital sites, hospital building, hospital accommodation, and hospital administration, from those who may be regarded as the best authorities on these subjects in the Colony. One important matter it discloses is the very defective system which appears to exist between the Government and Hospital Boards of Management, by which very large sums of public money may be spent free from Government control, and consequently with a want of proper judgment and carefulness.

Decision of  
the Com-  
mittee.

16. The Committee, as already mentioned, have decided that the Hospital Buildings should be completed according to the modified plans, and their decision is shown in the following extract from the Committee's Minutes of Proceedings:—

On the 12th March, 1891:—

“Mr. Garrard moved—

‘That, in the opinion of the Committee, the Sydney Hospital should be completed in stone, on the modified plan submitted to them, viz.: The completion of the present north, south, and east pavilions three stories high, and the administrative buildings four stories high, at a cost of £56,000, giving accommodation for 144 beds; also, that the present southern wing, with its 78 beds, be retained.’

“Mr. O'Sullivan moved as an amendment on the motion,—‘That all the words after the word ‘that’ be omitted, for the purpose of inserting the following:—‘In the opinion of this Committee it is expedient that the proposal to construct the Sydney Hospital should be carried out; but in view of the proposal to increase the width of Macquarie-street to over 100 feet, all the present buildings on the site, which stand in the way of that improvement should be removed, and a Hospital of the latest design, capable of accommodating 200 beds, should be erected in their place.’

“After discussion, Mr. O'Sullivan's amendment was, with the consent of the Committee, amended so that it should read as follows:—‘That all the words after the word ‘That’ be omitted, for the purpose of inserting the following:—‘In the opinion of this Committee, it is expedient that the proposal to construct the Sydney Hospital should be carried out; but, in view of the proposal to increase the width of Macquarie-street to over 100 feet, all the present buildings on the site which stand in the way of that improvement should be removed, and an accident and emergency hospital of the latest design, capable of accommodating 200 beds in the new structure, should be erected in their place. The Committee are further of opinion that the back wall of the main building, and also the whole of the east pavilion, should be in brick.’

“The

"The Committee divided on the Question,—'That the words proposed to be omitted stand part of the Question.'"

<p>Ayes, 6. Mr. Lackey, Mr. Humphery, Mr. Garrard, Mr. Copeland, Mr. Lee, Mr. McCourt.</p>	<p>Noes, 5. Dr. Garran, Mr. Trickett, Mr. Cox, Mr. Tonkin, Mr. O'Sullivan.</p>
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"The amendment was therefore negatived.

"Mr. Copeland moved—

'That the motion be amended by omitting all the words after the word 'the' before the words 'modified plan' in the second line, and inserting the words 'plans of Mr. Rowe, as submitted to this Committee, at a cost not exceeding £80,000; and the Committee recommend that the proposal of the Government Architect, as to widening Macquarie-street, be carried out to the extent of taking the east side of the street up to the steps of the proposed Hospital.'

"The amendment was seconded by Mr. McCourt, and negatived on the following division:—

<p>Ayes, 3. Mr. Lackey, Mr. Copeland, Mr. McCourt.</p>	<p>Noes, 8. Dr. Garran, Mr. Humphery, Mr. Trickett, Mr. Cox, Mr. Garrard, Mr. Tonkin, Mr. O'Sullivan, Mr. Lee.</p>
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"The original motion was then passed on the following division:—

<p>Ayes, 7. Mr. Lackey, Mr. Humphery, Mr. Garrard, Mr. Copeland, Mr. Tonkin, Mr. O'Sullivan, Mr. Lee.</p>	<p>Noes, 3. Dr. Garran, Mr. Cox, Mr. McCourt.</p>
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17. The Committee suggest that, if the plans of the Hospital buildings are in any respect further revised, they should be submitted for the consideration of Mr. Vernon, for though the Hospital Committee's architect is not officially subject to the Government Architect, it is so important that the public buildings on that site should harmonise with the Government Architect's scheme, that no large sum of money should be spent there unless the Government has control over the design.

JOHN LACKEY,  
Chairman.

Office of the Parliamentary Standing Committee on Public Works,  
Sydney, 12 May, 1891.



# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## MINUTES OF EVIDENCE.

### HOSPITAL BUILDINGS, MACQUARIE-STREET.

WEDNESDAY, 10 DECEMBER, 1890.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHERY.

The Hon. WILLIAM JOSEPH TRICKETT.

The Hon. GEORGE HENRY COX.

JACOB GARRARD, Esq.

JAMES EBENEZER TONKIN, Esq.

WILLIAM SPRINGTHORPE DOWEL, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM MCCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee proceeded to consider the proposed Hospital Buildings, Macquarie-street.

Critchett Walker, Esq., Principal Under Secretary, sworn, and examined:—

1. *Chairman.*] You have had a good deal to do with the initiation and consideration, so far, of the proposed Hospital Buildings in Macquarie-street? I have not had a great deal to do with the matter. I have had a good deal of correspondence about it, but it is more a medical business.

2. Is there any special evidence which you would like to submit to the Committee dealing with the circumstances under which the Government have brought forward the proposal? Yes. I am desired by the Colonial Secretary to hand to the Parliamentary Standing Committee on Public Works the plans of the proposed new Sydney Hospital, and the accompanying printed paper, giving full particulars with regard to the portions completed and partly erected, the cost already incurred, and the approximate estimates of the cost of completion of the buildings. In doing so, I would point out that it has been represented to the Government from time to time by the Directors of the hospital that the funds of the institution would not admit of their proceeding with the buildings, which had already been begun, and have remained in an unfinished state for some time past. In consequence of this representation, it was decided to submit the matter to Parliament in order that the necessary aid for the completion of the structure should be provided. This was done by resolution, on the motion of Sir Henry Parkes, on November 5th, 1890, to the following effect:—"That in the opinion of this House the Government should proceed with the completion of the buildings now partially erected in Macquarie-street, for the purposes of the Sydney Hospital," which was carried. After which the following resolution was adopted—"That this House having approved of the completion of the Hospital Buildings in Macquarie-street, refers to the Parliamentary Standing Committee on Public Works the original plans and estimates for such buildings, and also the plans and estimates for the buildings on a reduced scale of two stories only, and any other question of construction arising in the course of investigation, and that the Committee be requested to report forthwith." That is the only statement which I can make.

3. You are aware that this hospital has been for some considerable time in course of erection? Yes, a very long while.

4. The work which was being carried out some years ago was stopped and the building discontinued? Yes.

5. The money necessary to carry on this hospital is found in two distinct ways—partly by the Government, and partly by private subscriptions? They get £4,000 from the Government on the basis of £ for £.

6. Do you know what amount there is at the credit of the hospital? No, I am not aware.

7. There are, you are aware, differences of opinion about the design of the building? Yes, and as to the site too.

8. You stated that this matter had been brought directly under the consideration of the medical officers of the Government—would they be the Health Board? No; the Medical Adviser. I meant that it was more in his sphere than in mine.

9. Have the Government had various recommendations about the hospital from the different health officers who have been appointed during the last seven or eight years? I think there have been recommendations made by Dr. Manning, Dr. MacLaurin, and Dr. Mackellar.

10. Did those differ as to the design of the building? I cannot remember.

11. You are not prepared, I suppose, to say that the whole faculty agree that the proposed site is a proper one? No.

C. Walker,  
Esq.

10 Dec., 1890.

- C. Walker, Esq.  
10 Dec., 1890.
12. *Mr. Garrard.*] Can you tell us how much of the £68,928 7s. 8d. was given by the Government, and how much by private subscription? I think that amount includes everything—the whole of the expenditure by the Directors of the hospital.
13. You cannot tell us how much the Committee have had from the Government for building purposes only? No.
14. But I suppose you could furnish the information from the records of the office? Yes; I will ascertain it, and furnish it to the Committee.
15. *Mr. Trickett.*] Has the construction of the building, so far, been under the supervision of the Government or of the Hospital Committee? It has been under the supervision of the Hospital Committee as far as I know.
16. You have control of all the papers connected with this hospital? I think they are all in my Department.
17. Have there been deputations or petitions for, or against, the construction of the hospital? Yes; several deputations have waited on the Colonial Secretary on the subject from time to time.
18. And communications have been received about it? Yes.
19. Could those be collated and put before the Committee? Yes; I could get them for the Committee.
20. The design for the buildings was the result of a competition? Yes; I think so, and Mr. Rowe was the architect.
21. *Mr. O'Sullivan.*] It was the Stuart Government who proposed that these works should be stopped? I think so; but I cannot say for certain.
22. Do you know what reasons were assigned? As far as my memory serves me the Hospital Committee had no funds to go on with, and the Government would not assist them.
23. Why? That I cannot tell you. I do not know that any reason was assigned.
24. You have a minute from Sir Alexander Stuart bearing upon the point? There is a large quantity of papers bearing upon the subject.
25. Did not Sir Alexander Stuart explain in that minute the reason why the work was stopped? That I could not tell you from memory.
26. *Mr. Dowd.*] Can you furnish the Committee with the names of the Trustees for the property? Mr. Street and Dr. Renwick are two of them. Two of them, Sir Edward Deas-Thompson and the Rev. A. H. Stephen, are dead; I do not know whether their places have been filled up yet.
27. Do you consider the site of the hospital suitable for an accident hospital? I think it is.
28. Are the Government in the habit of sending many patients there? Yes; they send a large number there.
29. And, so far as your observation goes, the attendance is of a satisfactory character—the results have been good? I think so; I have heard very few complaints.

The Hon. Arthur Renwick, M.D., M.L.C., sworn and examined:—

- Hon. A. Renwick, M.D., M.L.C.  
10 Dec., 1890.
30. *Chairman.*] You are President of the Board of Directors of the Sydney Hospital? Yes.
31. And have been for some years? Yes.
32. You have always taken an active interest in that hospital? Yes.
33. You know most of the circumstances connected with the design of the proposed buildings and their history? Yes.
34. The work was stopped some years ago? Yes.
35. Can you inform the Committee of the circumstances under which it was stopped? It was stopped because the money at the disposal of the Directors was exhausted. An application was made to the Government for additional funds, but the Government declined to supply them with any more money. Sir Alexander Stuart was then in office.
36. Do you recollect what the sum in hand was when the work was commenced? I think we had somewhere about £20,000.
37. Was that composed of private subscriptions and the Government subsidy, or did it come from other sources? It was composed principally of subscriptions and donations; but the Treasurer, Mr. Burdakin, will be able to give you full information.
38. Was all the money expended in the construction of the buildings? Yes.
39. And more? Yes; a grant from the Government of about £25,000 was also expended.
40. On what grounds did the Government decline to supply any more funds—on the grounds of the unsuitability of the site? The reasons they urged were that the site was too valuable for the purposes of a hospital, and that an equally good site could be provided elsewhere at less cost.
41. Is it the case that the medical profession differ as to the eligibility of the site? No; they are unanimous that no better site could be found anywhere.
42. Is there not a difference of opinion as to the nature of the buildings which should be erected? Yes.
43. Is it generally supposed by medical men that such expensive buildings are not suited for a hospital? A very small fraction of the medical profession believe that a hospital should be constructed of such material as to permit of its being destroyed at the end of five or seven years—that no permanently lasting hospital buildings should be erected under any circumstances.
44. But the majority of medical men think that the buildings, as originally designed, should be carried out? I do not say that; I say that medical men as a whole take a different view with regard to the construction of hospitals.
45. Have the medical profession or the Trustees of the hospital come to any conclusion as to which is the most suitable design? The medical profession held a meeting a few months ago, and urged the Government, as I understand, to complete the buildings according to design. As regards the Trustees and the Board of Directors, they are desirous of having the hospital completed, either according to the original plans, or as nearly in accordance with them as possible.
46. Do you recollect what the expenditure upon the original plans was estimated at? The hospital was originally intended to contain sixty medical, seventy surgical, and twenty ophthalmic—male and female—beds, with small ophthalmic operation ward; a children's ward containing about twenty beds; a casualty ward, near the waiting-room, to contain six beds; six private single bedrooms, with baths, &c., for private paying patients

patients. These particulars are contained in the memoranda supplied to the competitors for the original design of the hospital, and a copy of which, together with a copy of the terms and conditions with regard to the designs, I now hand in:—

Hon. A.  
Renwick,  
M.D., M.L.C.

10 Dec., 1890.

TERMS and conditions with regard to the competitive designs for the new Hospital, Macquarie-street, Sydney, N.S.W.

The Board of Directors of the Sydney Infirmary and Dispensary invite competitive designs for a Modern Pavilion Hospital on the site in Macquarie-street (as represented in the survey sketch made by Mr. Reuss), and they offer a premium of two hundred pounds for the best design; a premium of one hundred pounds for the second best design; and a premium of fifty pounds for the third best design—on the following conditions:—

1. The designs are to be approved and accepted by the Board of Directors, who shall be the sole judges of their merits, and they shall be at liberty to reject all or any of the designs if they think fit.

2. Any of the successful competitors may be employed by the Board at their pleasure as the architect to carry out the erection of the Hospital so designed, and he shall make the working drawings, and invite tenders for the performance of the works required, when he shall charge a rate of commission to be agreed upon hereafter by the Board and himself, in which case the premium awarded shall not be paid by the Board. The premium design shall be the property of the Institution.

3. The cost of the buildings to be designed shall not exceed forty-five thousand pounds (£45,000), and all competitors shall forward with their designs approved certificates that their designs can be carried out at the present (1878) rates of materials and labour in Sydney for that amount. This certificate must state distinctly that the sum named will include and cover all charges connected with the erection and completion of the structures.

4. The memoranda provided for the competitors, as to the administration requisites, ward accommodation, ground space, and other particulars, are supplied to assist the competitors, but are not in any way or manner binding on the Board.

5. The designs must be drawn to the scale of 1-16 of an inch to the foot, and be in outline only and without any back shading or colour; but sectional parts may be tinted, as also floors, &c.

6. The designs are to be distinguished by a motto. Accompanying the design each competitor must forward a sealed envelope, with his motto written on the outside, and containing within his name and address in full, and the certificate already referred to as regards the cost of the structure to be erected from his design.—(See Condition 3.)

7. Each competitor is at liberty to supply one or more designs, under different mottoes, for competition; but each separate design or set of designs shall be considered on its own merits.

8. The advertisements in connection with this competition shall appear as far as possible simultaneously in the newspapers of Sydney, Brisbane, Melbourne, and Adelaide. The Board will take every possible care of the designs forwarded to them, and will return them when no longer required, but will not undertake any responsibility in these respects.

9. The designs offered for this competition shall be received at the office of the Sydney Infirmary, Macquarie-street, Sydney, on or before 25th January, 1879, after which date no further plans, designs, or other particulars of any kind in connection with the competition shall be received.

MEMORANDA with regard to the new Hospital Buildings to be erected in Macquarie-street.

#### I. Administration Requisites.

Board-room, Manager's offices, pupils' reading-room and library, chapel.

Quarters for Superintendent, three resident medical officers, and for six pupils. [Medical officers' quarters so arranged as to be convenient for all parts of hospital.]

Quarters for steward, dispensers, cooks, carpenter, engineer, and porter.

Workshops for carpenter and engineer, store-rooms for steward, rooms for apparatus.

Dispensary Requisites.—Laboratory, dispensing-room for indoor and outdoor patients, office, large waiting-room, outdoor surgeons' consulting rooms (six), rooms for examination of patients for admission.

Baths:—In addition to the baths for administration buildings, and for the wards—general bath-rooms (for patients on admission, &c.)

Kitchen and Laundry:—Provisions to be made for steam power washing and drying machines, and all other accessories of a modern laundry.

Mortuary, with room for inquests and for pathological museum; small offices.

#### II. Ward Accommodation.

Beds to be provided—Sixty medical, seventy surgical, twenty ophthalmic (male and female) with small ophthalmic operation ward. A children's ward to contain about twenty beds. A casualty ward, near waiting-room (for patients awaiting admission) to contain six beds. Six private single bed-rooms, with baths, &c., for private paying patients.

Operation Theatre (with light from above) suitable also for lecture-room.

N.B.—(a) Particular attention must be paid to the perfect ventilation and isolation of each ward.

(b) The principle of detached pavilion wards with open corridor communication to be adopted.

(c) The various lifts required (whether worked by steam or other power) to be so contrived as to be completely out of atmospheric connection with the wards.

(d) No ward or room to be less than 16 feet in height.

(e) Nurses' rooms overlooking wards to be provided.

Remember also that sufficient room must be left on the ground in an isolated spot for three or more huts for infectious cases of disease.

#### III. Ground space and other particulars.

The size and dimensions of the buildings on the ground, the depth of rock and position of sewer, with other particulars, are given on the lithographic sketch supplied with these memoranda.

The only buildings which are to remain permanently on the hospital grounds are the Nightingale wing and the south wing, as marked on sketch. All other buildings will be removed as soon as the progress of the works permits, with the exception of the main front building facing Macquarie-street, which will be removed as soon as Parliamentary sanction is obtained for that purpose.

All the soil down to the rock (or such portions of the soil as may be connected with or affected by the present buildings) is to be removed from places where foundation and structure of old building facing Macquarie-street stands.

The main front of the new building must not be brought forward to Macquarie-street frontage further than 50 feet from alignment of street as marked on sketch.

47. Was that accommodation provided in the design which was supplied? That was the ward accommodation designed. Administration requisites were also put in the list. They consisted of a board room, manager's offices, pupils' reading-room and library, chapel, quarters for superintendent, three resident medical officers, and for six patients, quarters for steward, dispensers, cooks, carpenter, engineer, and porter, workshops for carpenter and engineer, store-rooms for steward, and rooms for apparatus. The dispensary requisites were:—Laboratory, dispensing room for indoor and outdoor patients, office, large waiting-room, outdoor surgeons' consulting rooms (six), and rooms for examination of patients for admission.

48. What was the original estimated cost of the buildings? In the terms and conditions with regard to the competitors' designs, the following paragraph refers to the cost:—

The cost of the buildings to be designed shall not exceed £45,000, and all competitors shall forward with their designs approved certificates that their designs can be carried out at the present (1878) rates of materials and labour in Sydney for that amount.

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49. What were the buildings to cost in the aggregate? I cannot say.
50. Do you recollect if any estimate was made after this? I may as well state what was subsequently done. Mr. Rowe's designs were approved, and obtained the first prize, if I remember rightly, and plans designed by other architects—Mr. Backhouse among them—also obtained premiums. The Board then decided to employ Mr. Rowe as their architect, and, from the competitive designs, to arrange a new design—of course for the same cost and under the same conditions as were contained in the original memoranda—and this design, the Board understood, was to be carried into effect.
51. *Dr. Garran.*] Having been so long on the Board you are thoroughly conversant with the history of the hospital? I am.
52. The original front was pulled down on account of its hospitalism? There was a rumour to the effect that it was unhealthy, and a popular outcry—a mistaken one, I think—was raised for its removal, to which the Board yielded.
53. There were difficulties with many of the surgical cases treated there? There were reported difficulties.
54. Do you think it was really necessary to pull down the whole of that front? I do not think so.
55. If the plaster had been knocked down, and the boarding replaced, would that have been sufficient? I think amply sufficient.
56. How many beds did the old front contain? About 150, I think.
57. It was the principal part of the hospital? The main part.
58. Before it was pulled down the south wing was built? Yes.
59. Do you remember at what cost? I can provide all these estimates, but not from memory.
60. Do you know how many beds the south wing carries? About eighty beds.
61. It is in use still? Yes.
62. How long has it been built? Speaking from memory, fifteen or sixteen years.
63. And it is still a serviceable building? Excellent.
64. Is it used principally for surgical or for medical cases? At the present I think it is used for both. *Dr. Chambers* uses a considerable part of it for diseases of women. It is used for a women's hospital principally.
65. You do not remember the cost of its erection? No; it was largely defrayed by private subscriptions, principally from the Cooper family. It was erected in consequence of an accident to one of that family.
66. Before the front was pulled down the Nightingale ward was built? Yes.
67. It is a good serviceable building which will last for many years? Yes.
68. The idea was to pull down the old front and to put up a new one? That was the original intention; and it was intended that the cost should be defrayed by the money which was subscribed by the public in commemoration of the recovery of Prince Alfred from a pistol wound. The money was offered to the Board of Directors, and after some little dispute as to the purposes to which it should be applied the original intention was altered.
69. Sir Alfred Roberts busied himself very actively in collecting that money? He busied himself very much in disbursing it; I do not know about collecting it.
70. You remember at the time that the subscription was being made that the question was raised as to the advisability of constructing a large hospital on that site? No; I do not.
71. Do you not remember that many of the subscribers almost attached the condition to their grants that there should be a new hospital? I do not remember that; but a new hospital was the outcome of the subscription.
72. Sir Alfred Roberts tendered this sum of £20,000 to the Trustees of the hospital? I do not know whether he tendered it, but it was tendered.
73. The site of the hospital had not at that time been granted by the Government? No.
74. Did not Sir James Martin refuse to grant it? Yes.
75. On the ground that the original promise had been given improvidently? I cannot remember the specific terms. The opinion he held was that a property of this kind should not be granted in fee-simple to any Board of Directors; but he said that they would not be disturbed so long as the site was used for hospital purposes.
76. This was originally a pauper hospital? Yes.
77. The promise of a grant was for a sick hospital? Yes.
78. For the poor? I do not think the poor were mentioned.
79. It was not intended to have a general hospital there? Yes, always.
80. The grant was afterwards obtained from Mr. Fitzpatrick's Government? Yes.
81. But before that the £20,000 had been diverted to the erection of the Prince Alfred Hospital? I cannot be quite sure, but I think so.
82. At any rate that money was not spent upon the Sydney Hospital? No.
83. When the Committee decided to pull down the old front they had no more ambitious design than to replace it with a better one? I fancy that that was the original intention.
84. They had to make provision for about 150 beds? For about 170 beds.
85. With this new building, the south wing, and the Nightingale ward, they thought that they would have sufficient accommodation? Yes, for the existing population.
86. They came to that resolution knowing that the Prince Alfred Hospital, with its large plan, was in course of inception, if not of execution? Yes.
87. So that the buildings were designed as a city hospital, leaving a larger hospital on the outskirts of the city? The Directors considered the general hospital accommodation required at that time in Sydney for the purposes of the city and of the country; but whether they considered specifically what the ultimate development of the Prince Alfred Hospital would be I could not say. I am sure they never had the full plans of the Prince Alfred Hospital before them, though they knew that a convalescent hospital was going to be built there.
88. Was the Prince Alfred Hospital designed for a convalescent hospital? The money was subscribed for such a hospital. I do not know what it was designed for.
89. Are you sure of that? I think my statement is correct. My own subscription went for that purpose, and I think you will find it stated in the original advertisement that the hospital was to be for convalescent patients.
90. Was not the money spent on the Prince Alfred Hospital subscribed to replace the front of the Sydney Hospital? Yes; as a convalescent hospital.
- 91.

91. At any rate when you commenced the erection of the new part of the Sydney Hospital you had about £20,000 in hand, and you received an equal amount from the Government? Rather more from the Government.

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92. Altogether you had £45,000 with which to replace the old front? Not to replace the old front, which was built on the old hospital system, and could never have been replaced. It was not built on the pavilion system at all, and the Directors would have been most unwise to replace it. What they wished to do was to replace the accommodation under more modern and improved conditions.

93. I do not mean to replace the old plan, but to build another structure upon the site; for that you advertised for plans, and the cost of the building was not to exceed £45,000? Yes.

94. As far as you remember, did any of the plans which were sent in keep within that estimate? I think nearly all of them did. It was provided in the original memoranda that every competitor should provide a certificate from an approved contractor to the effect that the cost of erection would not exceed £45,000.

95. And the plans sent in would have really enabled you to carry out the first intention? It was certified to that effect.

96. When you came to look into the matter, by successive incubations, this cost of £45,000 grew to £70,000, and £140,000 is now needed to complete the design? I think that scarcely states the case properly. After alterations were made in the plans, and after the medical staff of the institution had been consulted, and the design of the buildings determined upon, the Board were not aware that the cost should be increased, and a meeting was held in which it was resolved that the hospital should be built of stone instead of brick. The architect will be able to explain this matter more clearly than I can; but I understand that the increase in the cost was necessitated by that resolution. It was considered by those who supported the resolution that the style of the building should be in accordance with the important position which it occupied.

97. You increased the cost from £45,000 to what? We were not aware at the time that we were increasing the cost; but afterwards, when the stone structure had been commenced, it was explained that the cost of the building would be increased.

98. Do you know whether Mr. Rowe's plans were ever submitted to the Government and approved of by them? They have been approved of by all the Governments that have been in power since they were executed, and I think they ought to be found amongst the records of the Colonial Secretary's Office. They were submitted to the Parkes Government, to the Stuart Government, and, I think, to every subsequent Government.

99. Do you know whether the original plan for £45,000 was submitted? We had no other plan.

100. The foundations designed in the original plan are those which have been put down? Yes.

101. What Government was in power at the time the work was commenced? The Parkes Government.

102. When you decided to alter the material, did you submit the plan to the Government? I really cannot say. I do not know that I took any part in the matter.

103. Your impression is that the Committee were led to believe that they could build in stone as cheaply as in brick? If I remember rightly it was explained to them that the cost of building in stone would be much greater than the cost of building in brick; but they thought the site was such a beautiful one that it would be better to go to some additional cost to put up a fine structure. Whether they were aware of what that additional cost would be I cannot say.

104. You cannot recollect whether any fresh estimates were submitted? I have no recollection of fresh estimates being submitted.

105. Do you know whether the Government consented to the cost being increased so that a stone building might be erected? No.

106. Do you know whether the Committee made the change on its own responsibility? I have no doubt that the Secretary would be able to turn up the minutes and tell you all that occurred.

107. The accommodation provided in the plan before us is the same as was originally designed, and the administrative block is the same? I think that some additions have been made in connection with the paying patients, and additional wards have been provided for. Mr. Rowe will be able to explain that more fully than I can.

108. As a Committee-man, you know whether it is in contemplation to pull down the south ward? That will have to be done to carry out the original plans.

109. Will the Nightingale wing be pulled down? No.

110. What is shown as the north side of the hospital will be inside the Nightingale wing? Yes.

111. As a medical man, you will admit that there is always some danger from hospitalism? Not now-a-days.

112. When it does occur, is it more dangerous to surgical patients than to medical patients? Of course it must be.

113. You would particularly wish to keep operation cases free from it? I should like to explain to the Committee that hospitalism is now a thing of the past in every well-regulated institution. Since the discovery of antiseptic methods of treatment, operations under circumstances which were formerly impossible are now carried out with the best possible results. I thought that to-day I should simply be called upon to give evidence in connection with the building itself, as otherwise I would have prepared myself with a number of authorities on hospital matters. I may say, however, that one of the greatest authorities on hospital construction, who, at one time, was totally opposed to the construction of large hospitals, especially in cities, and who wrote a book against them, and did his best to prevent the erection of such hospitals—

114. *Mr. Trickett.*] Sir James Simpson? No; I forget the gentleman's name\*; he was a great friend of Miss Nightingale's—he spoke at a meeting of the Sanitary Association in England, and stated that, in his opinion, hospitals could now be built to almost any height without any danger of hospitalism, because of the perfectly preventive nature of the antiseptic treatment. Now-a-days operations can be performed of a capital nature without the occurrence of puriform matter, or of any of the dangerous symptoms which result from hospitalism.

115. *Dr. Garraan.*] You do not think that there is any necessity for treating the surgical patients away from the others? It makes little difference now-a-days.

116. But is it not a bad thing to have patients suffering from venereal, ophthalmic, and other diseases all crowded into the same building? Not if they are properly separated. If the wards were kept free from each other, with an air space between, there would be no danger.

117.

\* NOTE (on revision) :—Captain Galton is here referred to.

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117. You said just now that the south ward was used both for surgical and medical cases? It is used for women—principally for diseases.
118. You do not think that it is important now to keep surgical patients apart? I do not think that there is anything like the risk there was in former days.
119. It is practically nil now? Yes.
120. The principal object of having hospitals in the city is to be able to deal with surgical, and very urgent medical, cases quickly? Quite so.
121. You see no reason for bringing the sick paupers to Sydney? No.
122. Do you think it is necessary to put up a building costing £800 a bed for the people who come from the country to see Dr. Strong? I think it is desirable to make provision for the people who come from the country. I am in the habit of seeing these people, and I know that very few of them come under the recommendation of their medical advisers without urgently needing the valuable advice which can only be obtained in a hospital.
123. Is there not a competition between the two hospitals for Government paying patients? I do not know.
124. It was reported so by Dr. Manning? I do not know of it.
125. There was an actual complaint made by one of the hospitals that they did not get their share of these patients? The Prince Alfred Hospital people stated that they did not get enough of these patients, but I did not know that there was any rivalry in the matter. I cannot see any ground for it.
126. If the hospital accommodation in the city proper is equal to the actual necessities of the town, cases coming from the country can just as well be treated in the outskirts of Sydney? I do not think there is sufficient room for them in one hospital.
127. Supposing there were, there would be no need to drag country patients into Macquarie-street? There would be no more need to take them there than to take them to any other place.
128. There are only 2 acres of ground in connection with the Sydney Hospital? Two acres there are equal to 40 acres elsewhere. There is no doubt about that in my mind. I would risk my professional reputation on the statement, and I can furnish the Committee with any amount of evidence to prove it.
129. You do not think that there is any advantage in having an open space all round the hospital? Not for an acute hospital; but on one side you have the Domain, and a constant sea breeze, which you could not get in any other site about Sydney unless you placed the hospital at a considerable disadvantage. Then the soil there is just the soil recommended by hospital authorities.
130. Is it an advantage to have the smoke from the smelting chimney of the Mint going into the hospital? Certainly not.
131. Do you know how far that chimney is away from the hospital? The patients have not been annoyed by it in any way—the chimney has been raised.
132. The smoke from the old chimney did come into the hospital? Yes; and complaints were made about it.
133. If you built a hospital five stories high on this site, would not the smoke come in then? Only very seldom, because the wind would generally take it in an opposite direction.
134. But when there was a southerly wind? If the buildings were erected to their full height the back parts would suffer from the smoke with a southerly wind. I think then it would be a question whether the Mint should not be removed.
135. The Mint would be an inconvenience if the hospital were raised? No doubt it would, to a particular part of it.
136. Looking at the fact that the chimney of the Mint is not 30 feet away from the southern wall of the hospital, do you think it wise to raise the building the proposed height? I think if there was any difficulty in the matter it would be wise to remove the Mint. I should make everything subservient to the sick.
137. The Mint being already there, do you think it would be wise to have the hospital windows opposite to it? I have stated that it would be undesirable to have the atmosphere tainted in any way.
138. Would that be an argument in favour of keeping down the hospital? The back portions?
139. Yes? It might be.
140. Are you in favour of destroying the south wing? Yes; to have these buildings carried out.
141. Do you not think it would be enough if we only built the front parts, and left the south wing as it is? Excluding the back portions of the hospital?
142. Yes? If the original design cannot be fully carried out, I certainly recommend that the front buildings only be completed, and the south wing left as a pavilion.
143. If only the front part of the building was constructed, how many beds would you provide for? I think about 120 beds, and those in the south ward.
144. Altogether? One hundred and eighty or 190 beds.
145. Would not 190 beds be sufficient for the surgical cases coming from Sydney? I thought so five years ago, and gave evidence to that effect. On many occasions I have given evidence and spoken publicly with regard to this particular question. My idea at first was that with St. Vincent's Hospital at one end of the city, and the growing Prince Alfred Hospital at the other, it would only be necessary to provide 150 or 200 beds for the city hospital. I thought that that number would be ample for the requirements of the city for many years to come, more particularly in view of the great improvements which have been made in surgical science, and to which I have already referred; but I am now convinced that you require a larger hospital to meet the necessities of the city, containing about 250 beds. If that number of beds can be provided for without carrying out the back portion of the proposed design, I think it would be sufficient for the present. It must be remembered that the buildings will look crowded under any circumstances. But we all know that in an accident hospital of this kind the patients are not expected to take much exercise, and very few of them do. They are only capable of moving about in the ward, or on the verandah. When they are capable of more exertion than that they should be removed to convalescent hospitals in the country. St. Vincent's Hospital has been enlarged to nearly twice its size within the time I am speaking of, and I know that a proposal has been made to extend Prince Alfred Hospital very considerably; but when it is extended to the fullest degree, and when St. Vincent's Hospital has its quantum of patients, 250 beds will still be required at the Sydney Hospital. That is about the number which I consider necessary, after having gone into the ratio of the increase of the population,

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population, and the number of sick which are received into the Sydney Hospital, and into the other hospitals. I know that if we had 250 beds we could always keep them full with really urgent cases of acute disease and accidents.

146. You remember the inquiry made into this matter by the Legislative Council? Yes.

147. Sir Alfred Roberts told that Committee that two pavilions could be put up at Prince Alfred Hospital for £15,000 and £18,000 each, which would accommodate 60 and 80 patients respectively; so that for from £30,000 to £36,000 we could accommodate from 120 to 160 people? I know he said that.

148. All the administrative arrangements there are complete now, so would it not be much cheaper to provide these beds at Prince Alfred Hospital? I think it would be very unwise to extend the accommodation of the Prince Alfred Hospital too greatly. The institution is very remote from Sydney, and from the residences of the medical gentlemen who attend it, and consequently there is great difficulty in having their constant supervision, and the character of the site and the nature of the soil, and so on, make it very undesirable to extend that hospital too much. I have the interests of Prince Alfred Hospital as much at heart as those of the Sydney Hospital, but I am speaking only from a public and professional standpoint, and I say that there will be in the immediate future, serious consequences to the internal management of the hospital unless some reasonable bounds are put to its extension. My opinion is that these hospitals should never contain more than from 250 to 300 beds, and that they should follow the population as much as possible, being placed in close proximity to those who may require them.

149. On the whole you prefer bringing patients to Macquarie-street to taking any more to Prince Alfred Hospital? I think Prince Alfred Hospital is absolutely required in the interests of the population in its neighbourhood. But I would not make it a very large hospital with 500 beds; it would be a source of danger—not from hospitalism, but from other causes.

150. It was designed to be a large hospital? Yes.

151. And it is an incomplete structure at the present time? Yes; according to the design.

152. All the administrative arrangements were made for the complete design? For a hospital of 300 or 400 beds.

153. And for an expenditure of £30,000 that number of beds could be provided? So it is said.

154. Although that is a cheaper way of providing beds, you think there are objections to it? I think so, because you do not provide beds for the people who need them at the Prince Alfred Hospital. People needing attendance in the city might die on their way out there.

155. But you admit that a very large number of your patients at the Sydney Hospital come from the country? A proportion of them do.

156. Could they not as easily go to Prince Alfred Hospital? There is no room there; and I object to too great an enlargement of any of these hospitals.

157. Even on the pavilion principle? Yes.

158. *Mr. Dowel.*] Who are the present Directors of the Sydney Hospital? The Hon. Arthur Renwick, M.D.; J. R. Street, M.P.; John Pope; Sydney Burdckin, M.P.; F. Abigail, M.P.; Michael Chapman, M.P.; the Hon. John Davies, C.M.G.; Alexander Dean; James Ewan; W. H. Flavelle; Joseph Graham; G. N. Griffiths; John Hardy; John Hourigan; I. J. Josephson; S. E. Lees, M.P.; the Hon. Dr. C. K. Mackellar; James Martin, M.P.; Richard M'Coy; Dr. Charles M'Kay; B. B. Nicoll, M.P.; Frank Senior; the Hon. R. Burdett Smith, C.M.G.; and John Starkey.

159. Is it the opinion of the Directors, as far as you can judge, that it is necessary that these buildings should be completed according to the original plans? Yes; as far as I can understand.

160. They believe that, in the interests of the poor of Sydney, the buildings should be erected as an accident hospital? Yes.

161. Are you in favour of the proposal to reduce the buildings by one story? If the buildings are not carried out according to the complete design I should prefer leaving out some portions at the back, and erecting the front portions to the proper height. That is my personal opinion.

162. You are under the impression that if only one story were erected the buildings would have a very dwarfed appearance, and not be worthy of the site? Yes; and they would not provide sufficient accommodation.

163. Have you had any large donations or bequests to the hospital? Yes; most of our money has been obtained from bequests. We have at the present time—the Treasurer will give you all particulars—about £25,000 invested in funds, of which we use only the interest.

164. Is the hospital generally full, or is it crowded? It is generally full.

165. Do you consider the present timber buildings dangerous? I consider them very dangerous.

166. What means have the Directors provided for the extinction of fires? First, for the prevention of fires, they have covered the roof entirely with galvanized-iron, and under Superintendent Bear's instructions, and according to his report, they have laid on fire-extinguishing apparatus, and the nurses are drilled and instructed in its use. In addition to that they keep a special watchman on at night to see that no outbreak of fire takes place.

167. Your opinion about the site of the hospital is fortified by that of other medical men? Yes; by the profession generally. I was a physician in the institution for fourteen or fifteen years, so I know its value.

168. Has the treatment of patients there been attended with satisfactory results? Very satisfactory.

169. With regard to the chimney of the Mint, are you not aware that there are methods for consuming smoke? Yes; of course there are.

170. Are you of opinion that the authorities should be compelled to adopt appliances for that end at the Mint? I should be very glad if they would.

171. Therefore there is no reason why the proximity of the Mint should be regarded as an objection to the erection of the hospital? Certainly not.

172. *Mr. Humphery.*] Do you know how many cases pass through the Sydney Hospital in the course of a year? In the last annual report it is stated that "The number of patients admitted into the Hospital from 1st January to 31st December, 1889, has been 3,083, an increase over the previous year of 33. Of these 1,765 were surgical, and 1,318 medical cases. 2,175 were males, and 908 were females. The largest number of admissions were in the month of January, 310; the smallest in the month of September, 189. The number of accidents and urgent cases admitted was 1,293; the number of accidents and urgent cases attended to by the residential medical staff, but not admitted, has been 3,904." There are other statements in regard to the outdoor department.

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173. How many beds are there in the southern wing? I could not state exactly—50 or 60, I think.
174. Is it proposed to occupy the site of the southern wing with the chapel? I think it is the chapel that goes there.
175. Will the chapel occupy the whole site? No; only a portion of it.
176. The designs before us are dated 1879; have you received any information since that date to induce you to recommend the Committee to alter them in any way? I am perfectly satisfied, from my own medical experience and from the experience of the medical gentlemen who have gone over the plans, and of a number of architects, that they cannot be very much improved upon for our purpose. These designs have been examined by Dr. Mackellar, Sir Alfred Roberts, Dr. MacLaurin, Dr. Tarrant, and every other medical man of importance in the colony at the present time. Most of these gentlemen are responsible advisers to the Board of Directors in the drawing or alteration of the designs.
177. You have no suggestion whatever to make to the Committee with regard to altering the designs? I have already stated that if the Committee considered it undesirable to carry out the design in its entirety I would suggest that the next best thing—holding the views I do with regard to the situation of hospitals, viz., that they should follow population, and not be too large, though sufficiently large to enable the working expenses to be reduced to a satisfactory amount—is to have 250 beds, if the accommodation could be obtained by leaving the south wing and removing two of the pavilions at the back. If that were done you would have a beautiful structure, and the management could be carried out satisfactorily. The Committee will understand that I am only recommending this as an alternative, and it would not provide, as this institution should, for the wants of the people of Sydney.
178. Would it provide for their present wants? Yes.
179. Amply? No, it would put us pretty much in the position that we are in at the present time.
180. Would it not give you a greater number of beds? I do not think it would, but it would give us a sense of safety which we do not possess now, and we should have buildings provided with all the modern appliances.
181. You have no figures as to cost? No, the architect will give you them.
182. *Mr. Tonkin.*] Can you tell the Committee how much of the £69,000 was advanced by the Government? I think £40,000, but I do not profess to know much about the financing of the institution.
183. Remembering the necessity for hospitals in and about Sydney, do you not think that the Government ought to find money for their erection? Decidedly, and I think they ought, as in this case, to have what they provide supplemented by the public, and that has been done as far as we have been able to do it.
184. Suppose you could not get any outside assistance, do you not think that it would be the duty of the Government to find funds? Certainly. The institution is practically killed by people recommended by the Government.
185. Coming from different parts of the colony? Yes.
186. Suppose your suggested alternative design were adopted, could the two buildings at the back be afterwards added if necessary? Yes, if they were required.
187. That would not affect the other part of the buildings in any way? Not in the slightest.
188. When you talked about there being no danger of hospitalism, you took into consideration the fact that there would be one story above another? Yes, carefully, and I have not the slightest doubt that what I said was correct.
189. Of course you know that one of the great objections to the large hospitals is the danger of this disease taking hold of the building? I have not the slightest apprehension on that score.
190. You are speaking as a man thoroughly qualified to form an opinion, having had to do with hospitals for many years? Yes, I have had some experience.

THURSDAY, 11 DECEMBER, 1890.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHERY.

The Hon. WILLIAM JOSEPH TRICKETT.

The Hon. GEORGE HENRY COX.

JAMES EBENEZER TONKIN, Esq.

WILLIAM SPRINGTHORPE DOWEL, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM MCCOURT, Esq.

JAMES PATRICK GAVAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

Thomas Rowe, Esq., Architect of the Buildings, sworn and examined:—

- T. Rowe, Esq.  
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191. *Mr. Trickett.*] You are an architect of many years' standing in the city of Sydney? Yes; of thirty years' standing.
192. Will you tell the Committee how it was you first came to prepare plans for the proposed Hospital in Macquarie-street? It was in consequence of an advertisement, of which I produce a copy, calling for competitive designs.
193. Are the plans which you prepared and submitted to the Trustees the plans which we now have before us? No; they are not; I produce the original plans.
194. In the terms and conditions it says:—"The cost of the buildings to be designed shall not exceed £45,000 at the present (1878) rate of material and labour." In submitting your plans, did you state that the buildings could be constructed for that amount? We were compelled under the conditions to make a statement or to get a builder's certificate to that effect. Each competitor had to comply with that condition.
195. Is it your opinion that the buildings could have been carried out according to the plans submitted for the price named? Certainly not. To have carried out the work in a substantial manner would have cost over £100,000.
196. In the manner indicated in the conditions submitted by the Committee? It would have been possible to have carried out the designs submitted in an inferior manner, with slight brickwork, for about £50,000.
- 197.

197. When you submitted these plans to the Trustees, did you submit any letter or document with them? T. Rowe, Esq. I think not.
198. Will you kindly tell the Committee how it was that you submitted plans which would cost £100,000 to carry out, when the conditions of the competition expressly stipulated that the cost of the work should not exceed £45,000? I believe the accommodation required, according to the original conditions, was 180 beds, but in consequence of the difficulty which the competitors had in arranging their plans, because of the southern wing which was in the way, the Board, after they had chosen the set of plans which I sent in, called upon me to do the work, and there were numerous meetings held to consider the re-arrangement of the plans. 11 Dec., 1890.
199. You say that the Board determined on your set of plans; but did you tell them what it would cost to carry out your designs? I do not remember any correspondence or conversation taking place except with regard to the conditions of the competition.
200. How was it that you submitted plans which it would cost £100,000 to carry out when a limit of £45,000 had been put to the cost of the work? I will go into that matter if you will allow me. The existence of the southern wing made it difficult to arrange the ground properly, and the Hospital Committee met, together with a committee of doctors, and went into the whole thing thoroughly. The Board eventually determined to do away with the southern wing, and to enter upon a new arrangement altogether, having the buildings in the form of a T, as they are shown in the plan before the Committee.
201. Did that take place after you had submitted your plans? Yes. My plans were sixteen scale plans. The plans before the Committee are one-eighth scale plans. The Board determined to take down the southern wing, and to give the accommodation which it afforded in the new buildings, thus adding 80 beds to the design, making the total accommodation 260 beds.
202. Was this done after you had submitted your plans, or did a long interval elapse? It was done very shortly after I submitted my plans. Then the Board determined, by resolution, that they would build with stone. I remember them asking what would be the extra cost for stone—brick was originally intended. I told them from 20 to 25 per cent. more, so that there was another increase in the expense. Then numerous other buildings were added to make the work perfect as a hospital.
203. Did they instruct you to alter your plans? Certainly.
204. Was that in writing? Yes; I have pigeon holes full of writing about it.
205. Any alterations that were made in the original plans were the result of written instructions from the Trustees? They were the result of numerous consultations and written instructions. Three or four contracts were entered upon.
206. Even now I do not think you have answered the question which I first put to you. How is it that, with instructions before you to prepare plans of a building which was to cost £45,000, you submitted plans which would cost £100,000? Simply because it was impossible to build a hospital containing 180 beds in a substantial and durable manner for £45,000.
207. That was the reason why you embellished and enlarged the design? After that the design was enlarged by the addition of 80 beds, and then stone was substituted for brick, which increased the cost by 20 or 25 per cent.
208. It would be interesting to the Committee to know if, when you sent in the original plans, you pointed out that the work would in all probability cost £100,000? I was never asked the cost at that time.
209. But still you had instructions that the plan was to cost £45,000? Those instructions had passed away, and another set of plans had come into existence.
210. But I am talking about the original plans. I want to know why you sent in plans of a building to cost £100,000 when you were asked to make plans which would cost £45,000. Why did you not tell the Committee the cost? I did not think it my duty. You must remember that the plans were open to competition. Architects from all the colonies were competing, and, if I had told them that, I should simply have had to stand aside. I answer your question by saying that it would have been possible to have carried out my plans in a temporary or inferior manner for the amount named.
211. Supposing other people tendered on the basis of £45,000, would they come fairly into competition with your plans on the basis of £100,000? There were more expensive plans than that there. It is impossible for any one to devise accommodation in a substantial manner for 180 beds for the amount named.
212. Do you know whether a plan was submitted by an architect who stated that the work could be carried out for £50,000? No; I do not know anyone else's business. The 180 beds regulated the conditions.
213. Was there a bonus offered for preparing these plans? There was a £200 premium offered for the best design, but it sank into the commission.
214. Do you remember whether the acceptance of your plans was intimated to you by letter? I should think it must have been.
215. Have you that letter with you? I have not.
216. Will you kindly look for it, and send it to the Committee? I will.
217. After the original plans were submitted by you you had numerous communications and correspondence with the Committee, which resulted in the plans now before us being prepared? Yes.
218. Did you intimate to the Committee the probable cost of erecting these buildings? I was never asked it.
219. You never intimated it to them? Not during that time.
220. What was the next step in the matter;—were you instructed to go on with the buildings? We entered into contracts. The first contract was for levelling the ground, the second for the erection of the ground floor, and the third for the first floor. I am speaking of the main portion of the building; of course the kitchens, laundry, and engine-house were other contracts.
221. Can you tell us the amounts? Yes. Excavation, £2,194 15s. Kitchen premises—Mason work, £4,346 14s. 6d.; finishing trades, £2,404 19s. 4d.; gas-fitting, £41 10s.; total, £6,793 3s. 10d. Laundry and engine department, £5,731 16s. 7d.
222. How came you to let the work in detachments—why was not a contract invited for the whole building? That would have been impossible, even if the money had been at hand.
223. Then I understand that the Hospital Committee began to put up the building in this piecemeal way without knowing at all what it would ultimately cost? At that time they did not know the exact cost.

T. Rowe, Esq. 224. Did they know the probable outlay? No, not then.

11 Dec., 1890. 225. Did you ultimately intimate to them what the cost would be? The first intimation was made to them, I think, when the Stuart Government was in power,—when the Committee applied to them for more money. We then had to make calculations for the cost of completing the work in various ways. That was the first time a careful calculation was made.

226. Do you remember if that was in 1883? I have no dates before me. The first contract for masonry was:—North, south, and east pavilions, also centre administrative building. 1st contract—Raising walls one story from ground, £25,642 9s. 6d.; second contract for same—building walls two stories from ground (present stage of buildings), £23,701 6s. 3d.; sundries, £463 16s. 6d.; clerk of works, salary, £1,170; architect's commission, £3,226; total, with other works before mentioned, £68,923 7s. 8d.

227. Was there any stipulation as to the rate of commission to be paid to the architect? Only the usual commission.

228. That was stated? I think so—it was the understanding.

229. What is the usual commission? 5 per cent.

230. Whatever the size of the building may be? No matter what the outlay may be. 5 per cent. is the usage in Great Britain and here, and it is little enough when it takes twelve or fifteen years to build a place.

231. The buildings having been so far erected, how did you propose to go on with them—what was to be the next move—was it for the completion of the buildings, or for the erection of only a portion of them. Did you receive any more instructions from the Trustees? Their desire was to complete the buildings, but because of the want of money they proposed to economise by only building a portion of them. An estimate was made for building in stone, another for building in brick, cemented in a common manner, and another for leaving out a story. Various calculations were entered into, which I think you have before you.

232. In the document dated 3rd December, 1890, and bearing your signature? Yes.

233. According to it you apparently advise the completion of the buildings? Certainly: I think that is the wisest course.

234. And you estimate that the cost of that would be £140,000, in addition to the £68,923 already expended? Yes.

235. It is some time since the original designs were prepared? Twelve years from the coming January.

236. How do these plans compare in style with the plans of modern city hospitals? I know of no improvement. I have travelled in England and on the Continent since then, and I have seen nothing to alter my belief that they provide all the modern improvements as regards sanitation, arrangement, and so on.

237. This is to be used purely as a hospital for accidents and urgent cases. Is it not the tendency in the present day to reduce the size of such hospitals, so that too many patients shall not be crowded together? I do not consider that we are providing for a large number.

238. Not for the size of the city? I think we shall require another hospital before many years are over. This is the only public hospital within the bounds of the city which I know of.

239. Are hospitals at the present day generally built in the very substantial manner provided for in the plans? All I have seen have been built in the best manner. There are only two ways of building hospitals—one is to build of the very best material and workmanship, and the other is to build them very cheaply, so that they may be burnt down when necessary. I do not think that the latter style of hospital is much recommended by the medical faculty. The temperature in a stone building is more even than it would be in a temporary wooden building.

240. The following paragraph was written by Sir Morell Mackenzie in *The Contemporary Review* last October:—"With regard to general hospitals of large size, there is a growing feeling, both within the medical profession and among practical sanitarians and administrators, that they are open to many objections. In the first place they are an unscientific anachronism, the crowding together of such a vast number of diseased persons being as much out of place in cities as intramural burial of dead?" He is speaking of hospitals of 1,000, 1,100, and 1,200 beds; but 250 beds is not considered a large hospital. I can show you a plan of the city of London where the hospitals are within three quarters and half a mile of each other—there are sixteen within 7 miles—and some of them of the very best style of construction.

241. Do you see any possibility of reducing the cost of completing the buildings below your estimate of £140,000? Not if they are built of stone.

242. Would it make much difference if they were built of brick? It would reduce it; but if they were built of the very best brick—double compressed brick—they would cost nearly as much as if built of stone.

243. Suppose they were built of brick similar to that used for Prince Alfred Hospital? That would make a reduction of 12 or 15 per cent.

244. Not more than that? No.

245. From your experience of modern hospitals you advise that the buildings should be completed in the way suggested by the plans proposed? I know of no better way of treating the site. The work has received an immense amount of consideration from me, because I have taken a delight in it, and I know of nothing better than the material which we propose to use and the arrangements which we intend to make. The buildings are to be constructed in the form of a T, and there is a clear space all round. The site is almost in the centre of the city, as will be shown by this map. The shipping in the various bays, and the residences on the points of the harbour, will all be within a mile of the hospital.

246. Are not the prevailing summer winds from the north-east? Yes.

247. Do you not think that it would be an objection to have the wind blowing over the hospital into the city? I have never heard that raised as an objection. The breeze is rather an advantage with the deep verandahs and balconies which we shall have. It will come fresh in from the ocean. I have always heard that the percentage of cures in this hospital is greater than that in any other hospital about here.

248. Is not the proposed cost rather high—about £800 a bed? The work will be done in the very best manner, and will not have to be done twice. If I am correctly informed, the cost of the hospital at so much a bed will be less than the cost of the Prince Alfred Hospital.

249. Is the present a good time for building? I think it is very favourable.

250. Labour and materials are fairly cheap? The present is a very favourable time.

251. Do you see any way of doing without the wards at the back? One of them is now erected two stories high, while the other cannot be touched until the patients are removed from the existing wooden pavilion into the front portion and the pavilion pulled down.

252. Could we do without this second ward? It is merely a question of accommodation and money. *T. Rowe, Esq.*  
Nothing would please me more than to see the work completed.
253. Can you tell us the cost of the easternmost ward? £30,000, I think. 180 beds, at £700 a bed, would come to £126,000. That was the original accommodation provided for. To it were added 80 beds at the same rate, costing £56,000, making altogether 260 beds, costing £182,000. To that you have to add 20 per cent, the extra cost of building with stone, which would be £36,400, making altogether £218,400. Of that, £69,000 has been expended, which leaves to complete the buildings, £149,400. *11 Dec., 1890.*
254. Do you think that that part of the building already erected could be used for some other purpose than it is intended for—such as law courts? I do not think so, unless at a very great sacrifice of money. Portions of it might be used for such a purpose, but I do not think it would be advisable to make the alteration; it would be very difficult to do it economically.
255. Have you studied the question? I have.
256. The suggestion has frequently been made and talked about? I was asked by a Minister at one time to look into the matter; I did so, but I found that the difficulties were very considerable.
257. You gave the definite reply that you could not, from a professional point of view, see your way to utilise the building for any other purpose except that for which it was originally intended? Yes.
258. When you submitted your first plans, did you obtain from any builder or contractor a certificate stating that the work would not cost more than the amount named? Yes; but it was a stupid thing to ask for. I had to comply with the conditions, so I must have obtained this certificate.
259. Do you remember what the builder told you? No, I do not; there must be a builder's letter somewhere; but the certificate will amount to nothing—there is no specification.
260. *Mr. O'Sullivan.*] What is the space between the front of the buildings and the footpath? I think it is 50 feet. The conditions state that the front of the buildings must not be nearer than 50 feet to the building line.
261. Do you think that that space is sufficient for a garden and a walk? To get in the whole of the wards and the necessary buildings, it is impossible to give more.
262. The southern wing still appears to be in a good state of preservation; do you propose to pull it down? Yes; that was determined upon when the plans were altered. To carry out the design it will be necessary to take away that wing. We should never have placed the kitchen where it is if it had not been intended to remove that wing. The buildings are quite T shaped, except for the chapel and operating room, and a small building on the other side.
263. Do you interfere with the Nightingale block? No; but there will be a building at the back of that to correspond with the building at the south-east corner, where the mortuary is now.
264. Do you know the cost of the Nightingale? I think about £8,000 or £9,000.\*
265. Would the buildings present a dwarfed appearance if one story were left out? Certainly. I have a tracing here which shows what the buildings would look like if one of the stories were taken out. The calculations were made from this plan. The walls that are now standing were made extra thick in order to support a four story building; so that if one of the stories is taken out the lower walls will be unnecessarily thick.
266. You think those thick walls are absolutely necessary to carry a four story building? I certainly think so. They are only two feet thick above, while the length of the wards is 82 feet.
267. From an architectural point of view you think it would be a great blunder to leave out a story? I certainly think it would be a great pity to do so; it would dwarf the appearance of the buildings, lessen the accommodation, and, perhaps, before half a dozen years were over, the roof would have to be taken off in order to raise it. Height now-a-days means very little. We shall have hydraulic power pipes there, and the patients can be taken up and down in lifts.
268. The idea is to have an accident or an emergency hospital; would not this suit as such if another story were added? Certainly it would suit as such.
269. *Mr. Dowel.*] Of the money already expended on this work the Government have provided £45,000, have they not? I do not know; I have expended for the Board £69,000.
270. Were you not in error when you stated just now that the cost of completing the work would be £149,000. In the printed paper before us you give it as £140,000? Yes; I am in error. It was a calculation of so much per bed that gave that amount.
271. Can you produce the specifications for the erection of the buildings? I have not drawn out specifications for the work which is to be completed. That would take two or three months, and the uncertainty of their being required is too great. I have had no instructions to advertise for tenders, and therefore I have not specified the work to be completed.
272. Have you had the quantities taken out? Several times over.
273. How could you do that without specifications describing the work? I know what I intend to do, and I can make my estimates from that. If anybody else was to make an estimate he would require specifications, but I do not require them.
274. In your estimate you have provided for everything to be finished in a first-class manner? In the best manner possible.
275. Is it usual to erect large hospitals in the centres of population? They are doing it now in other places, and have always been doing it.
276. It is a fact that hospitals of a much larger description than the one before us have been placed in thickly populated places, such as the city of London? Hospitals three times as large as this.
277. Do you consider that Mr. Burdekin was correct when he stated, before the Select Committee of the Legislative Council, that if the Sydney Hospital were built of brick it would answer all requirements, and cost only one-third of the proposed expenditure? Mr. Burdekin, of course, is not an architect. He might have thought that it would cost one-third of the proposed expenditure, but I would not attempt to carry out the work for that money.
278. There is a vast difference between £33,000 and £100,000? Yes. The work might be carried out for much less than the sum proposed if you had 9-inch brickwork; but no one would think of disgracing the site and the city in that way.
279. Your opinion is that under no circumstances could the buildings have been erected as designed, using brick instead of stone, for one-third of the estimated cost? Brick would cost 25 per cent less. That would be brick, cemented, which would be very undesirable for the site. I do not advocate that construction for a moment.

- T. Rowe, Esq. 280. Have you visited St. Vincent's Hospital? I do not know that I have been in it. I have passed it a thousand times.
- 11 Dec., 1890. 281. Do you know what it cost? I do not; it would not do for a public hospital.
282. If it were decided to complete the Sydney Hospital, how long would it take to prepare the specifications? About a couple of months. I should get specifications for the masonry made out first, and that portion of the work would be going on while the other specifications were being prepared. A lot of masonry has to be done before the carpenters are required. It would not be necessary to let a contract for the whole work right off.
283. If you were to let the work piecemeal would you be able to ascertain the exact cost of the buildings? I know what the work has already cost, and I know the market prices, so that I can tell what the work still to be done will cost.
284. Is it not a fact that when the design was first submitted to the Committee they had no idea that the cost would be £208,000? I do not say it with any disrespect, but the Committee, as business men, must have known what substantial buildings of this kind would cost, but they relied, no doubt, upon getting a vote of £30,000 or £50,000 a year from the Government. They failed to do this, in consequence of the prejudice and opposition of a few people who have never ceased to cry down the proposal. If they had got this vote the work would have been carried out, and would have been a glory to the city of Sydney.
285. Taking into consideration the thickness of the foundations and walls which have already been built, would it not be, to some extent, a waste of money if the two remaining stories of the building were not carried up? I think it would be a very foolish thing not to erect the two stories. I do not think it would be wise to build only one story.
286. As a professional man you recommend the Committee to carry out the design before them in its entirety? Yes.
287. *Mr. Tonkin.*] If you had to prepare plans for similar buildings now, would you prepare plans like those before us? I certainly should design the same arrangements. I know of no improvements in that way.
288. You think that the present plans are the best and most suitable for the hospital? They are adapted to the site.
289. Is it usual in competitions for architects to send plans which, it is stated, can be carried out for a certain amount, when they know that double that amount will have to be spent? I do not say that it is usual, but it is done sometimes in competitions of this kind. The Committee were deceiving themselves. I did not think it proper to stand aside, so I competed under the conditions, and sent in a builder's certificate, which I think was rather a humiliating thing to have to do, to the effect that the buildings could be put up in a certain way for the amount stipulated.
290. But is it a usual thing to under-estimate the cost of buildings? No; it has not been my practice. In the case of the manager's residence in a public institution at Randwick, there was a deduction from my estimate to be made when the building was completed.
291. Then this was an exceptional case? I consider that it was an exceptional case.
292. Can you tell us why this was an exceptional case. The present estimate is four times the original estimate? But a great alteration in the plan was made.
293. Is the estimate before us based upon the same calculations as the original estimate for £45,000 is based upon? Certainly not.
294. What proof have the Committee, supposing they recommend the completion of the buildings, that your present estimate is more correct than your previous one? I stand in a very different position to-day. I know what the work has already cost, and I know the market prices, and, besides, I am not a competitor. I give you the estimate as an architect of 30 years' standing.
295. And you were very careful in making it? Yes.
296. Could you give the Committee an estimate of the cost of the carrying out of Dr. Renwick's suggestion? I think Dr. Renwick made a mistake when he talked about doing away with the two wards at the back. One of them is already there, and has been carried up two stories high. You will find the estimate in the paper before you.
297. What will it cost to finish off the detached building at the back which has already been taken two stories high, without going any higher? That calculation has not been made.
298. The suggestion of Dr. Renwick was to merely put a roof on that building, and to carry out in its entirety the plan of the front part of the hospital? There has been no calculation made of the cost of that. The calculation is for putting up one or two stories in brick or stone.

TUESDAY, 16 DECEMBER, 1890.

Present:

The HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.	JAMES EBENEZER TONKIN, Esq.
The Hon. FREDERICK THOMAS HUMPHERY.	WILLIAM SPRINGTHORPE DOWEL, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	EDWARD WILLIAM O'SULLIVAN, Esq.
The Hon. GEORGE HENRY COX.	CHARLES ALFRED LEE, Esq.
JACOB GARRARD, Esq.	WILLIAM MCCOURT, Esq.
HENRY COPELAND, Esq.	JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

Henry Denham Russell, Esq., Secretary to the Sydney Hospital, sworn, and examined:—

- H. D. 299. *Mr. Humphery.*] What position do you occupy? Secretary to the Sydney Hospital.
- Russell, Esq. 300. How long have you held that office? Fifteen years.
- 16 Dec., 1890. 301. Are you familiar with the designs for the new buildings which are now before this Committee? I have a very fair knowledge of them.
302. How many beds can be provided if the private wards were to be used for the public—dispensing with

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with the third story, the existing pavilion and the existing south wing;—take the ground floor, beginning with the accident ward? On the ground floor there are twenty beds in each ward. There is only one ward on the ground or basement floor;—it is an accident ward. That is the only provision on the ground floor.

303. Is there an eastern pavilion in course of erection? Yes.

304. Is not there provision made on the ground floor? Yes; for twenty beds.

305. How many beds are provided for on the first floor in the accident ward? There are twenty in each ward.

306. Is there an accident ward on the first floor? They are both medical wards on the first floor, and there are forty beds in the two wards.

307. Is there a ward in the pavilion at the back? Yes; that will contain twenty beds, so that there will be sixty beds on the first floor. There is one surgical ward in the eastern pavilion on the first floor, and in the Macquarie-street frontage they are both medical wards.

308. Now, take the second floor? Provision is made for medical cases in the Macquarie-street frontage. There will be forty beds in the two wards. The pavilion will have a surgical ward containing twenty beds; that gives sixty beds with the second floor.

309. So that the new buildings would provide on the ground, first, and second floors for 160 beds? Yes.

310. How many beds are provided for in the existing south wing? Seventy-eight.

311. So that provides a total of 238 beds? Yes.

312. And at the present time how many beds are there? About 236 beds, all told.

313. Do you find that a sufficient number for present requirements? No.

314. How many do you think are necessary at present? From 250 to 260.

315. Are the whole of the beds usually occupied? Yes; nearly always throughout the year.

316. Do you know anything about the proposed cost of the new buildings, and how it is arrived at in the first instance? In the first instance designs were called for a hospital to cost £45,000. The architects of Sydney competed, and sent in plans of a hospital to cost £45,000, and each plan was accompanied by a letter from some well-known builder, stating that he could build the hospital for that sum.

317. Was there a builder's certificate with the plan furnished by Mr. Rowe? Yes.

318. Who was the builder? I forget. I have been trying to find out, but I think it was Mr. Alexander Dean.

319. Can you remember the terms of the certificate, and whether he stated that the work could be performed in a substantial and efficient manner for £45,000? I could not state the words, but he said that he could build that hospital, according to the plans, for £45,000.

320. Who suggested the alterations that were afterwards made in the material, and, I suppose, in the design? That was done at the Board meeting. The plans or designs after they were accepted, were referred to the medical staff, who suggested some alterations, and the architect was asked to draw up alternative plans or designs—one showing the south wing standing, the other showing the south wing cleared away. These plans, with the south wing cleared away, are the present plans of the hospital, in the shape of a T. If the south wing were to remain standing, the pavilions would run east and west.

321. As shown in this design? No.

322. Did the Committee obtain from the architect any estimate of the cost with that altered design? No.

323. Were they informed at any time what the pavilion would cost? They were never informed by the architect that the alteration would necessitate a greater outlay.

324. Was it the impression of the Board that the amended designs could be carried out for the proposed original cost? Yes.

325. Was that ever represented to them at any time? It was never represented to them by the architect.

326. Was there not any discussion when it was decided to use stone instead of brick? Yes. The architect was asked at a Board meeting if it would cost very much more to build it in stone than if it were built in brick, and the architect said that it would cost more. They asked him how much more—would it cost 15 per cent. more? He dared say it would cost 15 per cent. more. I think it was the manner in which he spoke of it to the Board of Directors, that made them think that the alteration would not cause a very great increase in the cost. They thought that for about £60,000 the buildings could be erected in stone.

327. Did they think that the whole of the work, according to the present design, could be completed for about £60,000? Yes.

328. Were they never at any time supplied with an estimate? No; the first estimate was for the ground floor, and it was not until the tenders for the basement story were accepted that they began to realise that the cost would be so large.

329. How much money has been spent up to the present time by the Board? £69,218 1s. 3d. altogether.

330. How much of that has been provided by the Government? £45,000.

331. Where was the balance obtained? From funds in possession of the Directors.

332. Is there anything now owing upon the hospital? Nothing; the Directors paid the sum of £9,000 for the completion of the second contract, and their funds were exhausted. They were obliged to get a credit from the Bank of New South Wales of £4,000. They pledged £6,000 worth of debentures with the bank as security, and four of the Directors signed a personal security for £1,000 each, making an asset of £10,000 pledged to the Bank of New South Wales.

333. Is that still owing? Yes.

334. Then, as a matter of fact, there is a debt of nearly £10,000 upon the building at this time? Yes; a debt to the hospital of £10,000 with interest.

335. Are you paying the interest or is it accumulating? We are paying the interest, but we have placed some funds in the Bank of New South Wales as a No. 2 account as a set off against the overdraft. The bank has to pay the hospital as much interest for the No. 2 account as they charge for the overdraft, which about brings us nearly clear.

336. Have you a fund in No. 2 account equal to the overdraft? No; we have £6,000 worth of debentures, and we have altogether about £20,000 invested in mortgage, and we have a sum of £7,000 lodged with the Bank of New South Wales.

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337. Then you have assets to the amount of £27,000 against this overdraft? Yes; but our asset of £20,000 was bequeathed to the Sydney Hospital on certain conditions—not a penny of it can be spent in building; and it was to be placed at mortgage on city property. Those are the terms of the bequest.
338. Are you permitted to use the interest in any way the Directors think proper? Yes.
339. What interest are you paying to the bank? Seven per cent.
340. Are you allowed 7 per cent. for any credit which you have? Yes.
341. From your long experience, do you think it would be sufficient at the present time to provide the pavilion in course of erection, and to complete the Macquarie-street elevation, dispensing with the third story;—would that meet requirements? I do not think it would.
342. At the present time, how many beds are occupied? There are 200 patients in the hospital now.
343. If you had thirty-eight additional beds, do you not think that would be ample for present requirements? No; the patients really do not get a fair show. They are sent out too soon, to make way for others. We have admitted 3,038 patients from the 1st of January until yesterday. Of course we discharge a corresponding number, and we are obliged to refuse admission to several patients; they have to wait for room. If we had from forty to fifty more beds it would be very much better for the suffering poor.
344. Would not the plan which I have mentioned give you nearly forty more beds? Yes.
345. Would not that be quite sufficient to meet immediate requirements? No. At the present moment in Macquarie-street we have 200 patients, and we have 232 beds. Hospital patients are of different kinds. This week our surgical wards might be overcrowded, while we might have plenty of room in the medical beds. Next week the order of things might be reversed—we might have an overcrowding of medical cases, with plenty of room for surgical cases next week.
346. Could any portion of the administrative department—that is, the centre in the Macquarie-street elevation—be used as medical and surgical wards? That is a matter of detail—they may alter the original intention.
347. Could any portion of the administrative department be utilised for a ward? I do not think so.
348. Why? Because every inch of it would be required for administrative purposes. At the present time the quarters in which the resident medical officers live are nothing more than dog-holes, and are not fit to put medical men to live and sleep in. Everyone else suffers in the same way. My office is not nearly large enough. The servants of the hospital have to be lodged in all sorts of places—the Domain is utilised for that purpose. We have our gatekeeper living in the iron building in the Domain, and that is a very good thing, because he is, at the same time, caretaker of that building. But we ought to have all the officers and servants under one roof.
349. *Dr. Garran.*] Are you acquainted with all the correspondence that has passed between the Committee and the Government? Yes.
350. Do you recollect whether the Government gave its sanction to the original plans for a building to cost £45,000? Yes; I recollect that the plans met with the approval of the Government.
351. Was any subsequent intimation given to the Government as to the proposed alterations? The alternative plan was sent into the Government, and was approved of by them.
352. Was there any intimation that there would be increased expenditure? Nothing was mentioned about that.
353. When did the Government first become aware that increased expenditure would be involved? When the Board of Directors applied for further assistance to complete the second story.
354. Had the first story then been completed? Yes.
355. Then you were committed to this larger expenditure before the Government knew anything about it? Yes.
356. Were you practically committed to Mr. Rowe's entire scheme, involving an expenditure of £210,000? Yes.
357. Then the Government gave its sanction to an expenditure of £45,000, and did not know until it was too late that the Committee had committed itself to an expenditure of £210,000? I think that is correct.
358. The Government was under the impression that it had adopted a mature scheme, and was really paying away this money for the first instalment of a very expensive scheme? Yes.
359. Your Committee themselves did not know at first what they were doing? They did not.
360. Do you think that the architect knew? I think he would know.
361. Did anybody else besides the architect know? No; it was not until the second contract was taken that the expense seemed to dawn upon the Board of Directors.
362. I ask this question because I have seen it stated, and I think it has been mentioned in Parliament, that the plans were approved of by the Government, and I want to know distinctly what plans the Government approved of? The Government approved of those plans of Mr. Rowe.
363. But without knowing what they would cost? I am not positive on that point.
364. If the Committee themselves did not know, could anyone tell the Government? No.
365. Did the architect tell the Government? I do not think he did.
366. How were the Government to know? I do not see that the Government could know.
367. Were not the Government relying on the Committee to a certain extent? Yes.
368. And the Government policy was a policy to give £25,000 to a Committee already possessing £20,000? Yes, originally that was the idea.
369. And the Government did not find out what was really taking place until it was too late to alter the scheme? Yes.
370. In your estimate of the number of beds, have you put them as close together as they are in the present hospital? Yes.
371. In the plans there are not twenty in number shown for each ward? No; but there is room for twenty beds to be placed in each ward, as they are in the present hospital.
372. Without crowding? Yes.
373. How many of your patients at the present time are country patients? I do not think we have very many. We have very few country patients as a rule. They come mostly from the city and suburbs.
374. Do they come mostly from the city proper? Yes; from Woolloomooloo, Surry Hills, Pyrmont, and Balmain.
375. Would not some of these patients be as near to Prince Alfred Hospital as to your hospital? I know that

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that accidents from the western part of the city and the south-western part are taken to the Sydney Hospital because the approaches are much better, and it is easier to carry patients there than to the Prince Alfred Hospital.

376. Is the accident district very largely along the lines of the wharves? Yes.
377. So that if you begin at Circular Quay and go round Darling Harbour and the Balmain and Pyrmont frontages we have got the line of the maximum number of accidents? Yes; but you must go round to Cowper Wharf. We get a great many from Woolloomooloo.
378. Still do you not get more from the western than from the eastern side? Yes; from the warehouses and factories.
379. So that should it be decided to have two or three hospitals in and about the city rather than one very large hospital, a second hospital somewhat more to the westward would be convenient to the accident area? I do not believe in small hospitals. For a small hospital you have as expensive a plant as for a large hospital, and to maintain hospitals in the manner which you have sketched out would entail enormous expense. The expenditure per bed would be something enormous.
380. I am supposing that 200 beds are considered to be a good limit to the size of a hospital in the city itself. If another hospital were erected, say, at Pyrmont, where the Technical School is going up, would not that be central for the accident area? A hospital of 200 beds is a small one.
381. Would not Pyrmont be a central site? No; it would not be a good site.
382. Which would be the next best site to Macquarie-street? Fort-street; and that would be much exposed to the westerly winds. I do not think that the results of a surgical hospital in Fort-street would be good.
383. Would it be noisy? Yes; and not easy of access.
384. Still it would be central? Yes.
385. You say you are in favour of large hospitals for the sake of economy, but do you think it is a good thing to have tier upon tier of patients? Yes. Seven or eight years ago, the greatest authority on hospital construction—Captain Galton—met an audience who were interested in hospital construction, and he then told them that his ideas as to hospital construction had all been revolutionised since he had had a conversation with Professor Lister, who assured him that by the new system of surgery there was no danger whatever of hospitalism, that hospitalism was due to bad surgery—that was the old style of surgery—and that with the new style of surgery there should be no such thing as hospitalism, and that you could build tier upon tier of wards in a hospital with benefit to the patients rather than otherwise. Since then there has been no hospitalism in any hospital in England—that is, within the last seven or eight years.
386. Was not Lister an enthusiast about his own discovery? Yes; and others followed him and adopted his views.
387. Admitting to the full the value of his antiseptic system, about which there can be no dispute, will there not be still exhalations from diseased patients, and is it wise to allow the atmosphere from the lower stories to reach the upper stories? There should be no exhalations in a well ordered surgical hospital.
388. Are not your staircases and lifts inside this building? The lifts will be inside.
389. Are not the staircases inside? But there is no communication from the wards to the lifts.
390. Not from side doors? No.
391. Nor to the staircases? No; the hospital is so constructed that there shall be no communication from one ward to another.
392. Do you think that no exhalations could pass from the lower to the upper ward even if blown out of the windows? No; I do not believe there are such things. The hospital system of surgery is too cleanly to admit of that. In the old days it was very different. I can remember when the Sydney Hospital was stated to be hospitalised. In those days I have known surgeons to admit cases of erysipelas into the accident wards. I have known patients in the erysipelas hut to be nursed by the nurses of the accident ward. They used to go backwards and forwards from one place to the other. The utensils in the erysipelas huts were brought into the accident ward, and the consequence was that erysipelas was rife in the wards; but of late years nothing of that sort has been done, and there is no erysipelas now.
393. Do you think that that bad state of things was owing more to defective management than to the condition of the building itself? It is owing to what is now called dirty surgery.
394. Do you think that if the front of the old hospital had been properly cleaned, and if it had been managed properly, it need not have been pulled down? Yes; it was pulled down in error.
395. Through not knowing how to manage the hospital? Yes.
396. Then ignorance has been the source of all the trouble about reconstructing this hospital? It has had a great deal to do with it, I believe.
397. Have you only two stories in the hospital at present? Yes.
398. Do you ever find any inconvenience in the upper wards of the hospital owing to their being over the other wards? No; no smell is perceptible.
399. Are the cases as prosperous in the upper as in the lower wards? Yes.
400. In the warm weather is it not a little hotter in the upper wards than it is in the lower story? I do not think that our hospital is very hot, because it is well protected from the sun. We have a shingle roof which is covered with galvanised iron, and underneath the shingles we have canvas, so that the heat does not enter the wards.
401. Do you take thermometrical observations in the wards? We have, sometimes.
402. Do they not show a higher reading above than below? No; but they did before we put the canvas under the shingles.
403. *Mr. Tonkin.*] Were you Secretary to the Hospital Committee when the plans were first put before the Committee? Yes.
404. Do you know anything about the details of the other plans submitted besides the one which was accepted? No.
405. Do you remember Mr. Kirkpatrick's plan? Yes.
406. How many beds did that make provision for? I forget; but I think that it provided for a little under 200.
407. Then it provided for less than the present plan? I think so; but Mr. Rowe's original plan was not intended to accommodate more than 200.
408. *Chairman.*] Was that the plan which was estimated to cost £45,000? Yes. 409.

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409. *Mr. Tonkin.*] If this plan is carried out as proposed—that is, in the modified form according to what we have just heard, including the south wing which is erected—will you then have only 238 beds? Yes.
410. That will be only six more than you have at present? Yes.
411. Do you think that will be sufficient for the probable requirements in a few years' time? I do not. When I was first Secretary of the Sydney Hospital it met the wants not only of the city, but of the whole colony. Since I have been Secretary the Prince Alfred Hospital has been built with over 200 beds. We have the Coast Hospital with 200 or 300 beds, and also St. Vincent's Hospital, and at the present time there is not nearly sufficient hospital accommodation for the city. In the course of ten years it will increase correspondingly.
412. What do you think ought to be the minimum number of beds for a building of the class now proposed to be erected? From 230 to 250.
413. Is that independent of the south wing which you have already erected? I do not think the south wing ought to stand if these buildings are completed; it would be in the way of light and air, and it would block the place too much.
414. Is there very much fault found with the south wing as it is at present in connection with the purposes for which it is used? It answers its purpose fairly well, but it is very far from being what it should be.
415. Is it a substantial building? Yes, very.
416. What are its particular faults? One great fault is that practically you have only two wards on each floor. There is not sufficient isolation for the different kinds of cases. There is only a small half partition between the wards, whereas we should have the different classes of cases separated in a more complete manner.
417. Is that at the present time utilised entirely for females? Yes.
418. Do you find that there is sufficient provision made for females at present without any additional buildings? No; we are crowded with females. If we had accommodation we could take in at least twenty females more than we have at present.
419. What provision is made in the proposed buildings for females? The proportion of females in a hospital is generally one to two of males. For 150 males there should be provision for 75 females.
420. Supposing the south wing were left as it is for female wards, what provision is made in the amended plans for females in addition to the seventy-eight which the south wing contains now? The division of wards in the manner in which they are to be provided was simply sketched out by the architect. That would be a matter of detail to be dealt with afterwards by the Board of Directors according to the advice which would be given by the medical staff. They might have to alter the entire arrangements shown here.
421. Then you think the accommodation for seventy-eight females would not be sufficient in a hospital containing 238 beds? That would be about the proportion. I am counting the seventy-eight beds as among the 238.
422. Do you know whether Mr. Rowe, at the time the plans were put before the Committee, in any way led them to believe that there was likely to be more expenditure than £45,000? I think Mr. Rowe all along studiously avoided giving the Committee any information of that sort. I fancy that he did.
423. He in no way hinted that it would cost at least £100,000 instead of £45,000? No; he never did.
424. Are you of opinion that 238 beds will not give sufficient accommodation for the probable requirements? I am quite sure they will not.
425. Then would you propose that the Committee should carry out the building with three stories instead of two stories? Yes.
426. Would that give sixty more beds? Yes.
427. Do you think that that would be sufficient seeing that it would give 298 beds? I do not see how you can make out 298 beds.
428. If the second floor contains sixty beds would not the third floor contain the same number? I should think so.
429. Would that be for private patients, so that that would make the difference in the number of beds? It was intended to devote the third story to private wards, and that would considerably reduce the number of beds.
430. Would the buildings be so constructed that the third story could not be used for an ordinary ward in the same way as the second story? I should say that, if necessary, it might be made into an ordinary ward.
431. Then, do I understand from your evidence that the buildings on the reduced scale would provide 238 beds, including the south wing, and, of course, excluding the east pavilion? Yes.
432. But, independently of the east pavilion, the original plan would provide for at least 260 beds? Yes.
433. That is what you suggest should be done? Yes.
434. In that case you would have to retain the present south wing? Yes.
435. *Mr. Dowel.*] Were you present when the architect delivered these plans and estimate for the present approved design? Yes.
436. What was the estimate he then submitted to the Committee? He gave no estimate whatever, he only submitted the plans.
437. Then if the architect said he did give the Committee an estimate it would not be correct? To the best of my belief it would not be correct. I have no recollection of any estimate.
438. Have you any official document on the subject? No; I have looked over the minutes carefully to find that out, but there is no record whatever of an estimate of cost.
439. Do you recollect any conversation on this subject between the Committee and the architect? I think the architect's answers with regard to cost were evasive. I know Mr. Josephson asked a question: "Would it cost much more in stone?" Mr. Rowe said "Oh, yes, it would cost more in stone than in brick," in that off-hand kind of way. He was asked "Would it cost much more than 15 per cent. extra?" He replied "Oh, yes, I think it would cost 15 per cent. more."
440. Is not the present design for stone? It was originally intended to be brick—the whole design was for brick.
441. Were the present approved designs submitted to the Committee, to be constructed of brick? Yes; I saw the minute where it was determined afterwards to construct it of stone.
442. What were the terms and mode of payment to the architect for the buildings? Five per cent. There was nothing regarding the mode of payment. When he sent in his bill it was all paid.
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443. Is there anything due to the architect at present? Nothing whatever—he has been paid up in full. He has been paid £3,400 for commission. There might be a little due to him, but when he sent in his last bill for £1,000, he gave a receipt in full for all demands.
444. Then his statement, as submitted to the Committee, that he only received £3,226 is incorrect? He has received £3,400—his statement is incorrect.
445. Are you aware of the architect having given the Committee any probable estimate of the cost of the completion of these buildings? Yes; I have seen his estimates. They were here when he was examined. I have forgotten the exact amounts. I know there was one estimate for £80,000; there was another estimate for £100,000, or something less, according to the proportions of the building that was to be finished. There were also estimates of the cost in brick and in stone.
446. To put brick on top of the stone building? Yes.
447. Did the architect recommend that? No; but he was asked to give an estimate of the cost of completion in brick and in stone.
448. Has he suggested to the Committee the desirability of proceeding with this work piecemeal, or to enter into a contract for the completion of the whole? He has made no suggestion whatever with regard to the completion of the buildings.
449. Are the Committee desirous of having the buildings completed in one contract for everything complete, or do they propose to go on in the same manner as in the past, by accepting tenders in a piecemeal fashion? The Committee have made no arrangements for the future. There is a Permanent Structure Committee which manages that subject. They meet and report to the Board of Directors. If it were decided that the buildings should be gone on with that committee would be called together, and they would decide whether the contract should be for the whole or a portion.
450. Were the tenders you received for the completion of the whole of the buildings? No; the tenders were called for the stonework only of the first and second stories.
451. No bulk sum was received as a tender for the completion of the buildings? No.
452. If a tender had been received for the completion of the whole of the buildings, showing a total cost of £240,000, do you think that the Committee would have proceeded with any portion of the buildings? I do not think they would.
453. Are the assets which you have referred to New South Wales debentures? We have no debentures now; we sold them the other day.
454. Did you not say that you had some lodged at the bank? Yes; and we sold those debentures the other day. The Bank of New South Wales holds the proceeds of the sale.
455. Were they New South Wales Government debentures? Yes.
456. Have you any money deposited in the Government Savings Bank? We have a fund called the Samaritan Fund, which has been derived from small amounts left by deceased patients. That has remained in the Savings Bank for many years, and it has accumulated to a sum of over £2,000. The interest only on that is available for the relief of outgoing patients. As our expenditure of that fund has always been within our income it has increased to the sum of £2,200 or £2,300. That money is not available for building purposes.
457. Have you any money available for building purposes? None whatever. I find that there are £2,290 to the credit of the Samaritan Fund.
458. Are there no funds available in the shape of interest from mortgages or any other source which could be applied to building purposes? No; because our expenditure is just a little above our income for the present year.
459. *Mr. Trickett.*] Independently of the question of expense, do you not think it would be as well to have two or three hospitals about the city instead of one hospital, such as is proposed to be erected here? No; I do not think Sydney would be benefited at all by such an arrangement. Patients can be brought to the Sydney Hospital from any part of the city proper in a quarter of an hour. I cannot see the utility of having small hospitals.
460. Is not this hospital looked upon mostly as an urgent hospital? Yes.
461. Have you a number of cases which are not urgent cases? No.
462. Have you not a ward called "Dr. Chambers's ward"? Yes.
463. Could not those cases be treated as well at St. Vincent's Hospital as at the Sydney Hospital? These are very urgent cases, and if we had room for sixty beds we would fill the whole of them. The cases taken in are most urgent, and we sometimes have thirty or forty a week waiting for admission to that ward. Only the most urgent of cases are taken in.
464. Are not those cases who could travel 2 or 3 miles? No; they require to be carried very carefully, and only for a short distance from home to the hospital.
465. Are there not a lot of patients in another part of the building treated for venereal disease? Yes; ten beds only. Those are only the worst cases which present themselves. We make out-door patients of the bulk of them.
466. Do you not think that Sydney could do with a hospital containing less than 260 beds? No.
467. Then are you an advocate for the completion of the buildings *in toto*? Yes.
468. You have stated that of late years the increase in the number of patients has been very great—do you think that that is owing to the fact that a number of people come to the hospital to be treated who could afford to be treated outside? No. There are not many such cases, because room is of so much importance that if anything of the sort was suspected such a patient would be sent out at once to make room for more deserving cases.
469. Have you the custody of the papers connected with this building? Yes.
470. Could you produce for us Mr. Rowe's letter which was sent in with these plans in the first instance? I have no doubt we have such a letter among the archives of the hospital, but the office accommodation is insufficient, and it was absolutely necessary to put most of the old letters in the store. They could be found, but it would take a great deal of trouble.
471. *Chairman.*] Do you think that you could find the letter or certificate given by the builder in connection with Mr. Rowe's plan? I do not know that that letter ever left the Town Hall. The plans were exhibited at the Town Hall, and this letter, to the best of my recollection, was attached to the plans and specifications. I never saw that letter after the plans were removed from the Town Hall to the Sydney Hospital, but I have a distinct recollection of reading the letter when the plans were exhibited.

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I am under the impression that it was written by Mr. Alexander Dean, but I am not positive. I know it was written by a well known and reputable builder in Sydney.

472. We have it in evidence that Mr. Alexander Dean was the builder whose letter accompanied the plans of Mr. Kirkpatrick? It is possible that a letter may have been written by another builder. I will try to get the letter.

473. *Mr. Trickett.*] When you were examined before the Select Committee in 1887, you seemed to be not averse to having the buildings completed without the third story—since then do you think that the requirements of the people have increased so as to necessitate the completion of the whole of the buildings? Yes, since then the requirements of the people have grown enormously.

474. Do you suffer great inconvenience in the present building? Yes.

475. *Mr. Lee.*] Can you give the Committee the cost per bed per annum for treatment? It is between £60 and £70 per bed.

476. What do you estimate the cost per bed will be if the new buildings are erected according to the plan? It will be less than that.

477. Have you made any calculation? I know that the more you increase the number of beds, you reduce the cost per bed correspondingly. The expenditure for a hospital of 200 beds is the same as for a hospital of 260 beds.

478. Would the staff be the same? The staff would be very slightly increased for sixty patients.

479. Is the present wooden building found to operate against the recovery of patients? No.

480. Do the medical staff complain of it in any way? Not from a sanitary point of view.

481. Do they from a convalescent point of view? Convalescents have nothing to do with the Sydney Hospital. We cannot allow people to convalesce there. As soon as they have made sufficient improvement to warrant us in doing so, we send them away to convalesce elsewhere. So far as the recovery and improvement of patients are concerned, the results in the present building are very good.

482. Are they as good as they might be in a stone or brick building? I think so.

483. Are any complaints lodged by the medical staff at any time? No. The building, of course, is deficient in many conveniences which a perfectly equipped hospital would have. It must be so from its construction.

484. Have you known any cases which have been recommended to be removed to another hospital in consequence of inability to treat them successfully in the Sydney Hospital? No.

485. In point of treatment a wooden building is equally as good as a stone or brick building? Yes; I have no doubt it is.

486. The great difference is the want of security? Yes; a wooden building is highly dangerous.

487. Have you received reports from hospitals in other parts of the world, showing what is the usual cost of construction per bed? Yes.

488. What is the usual cost? I cannot tell you just now; but I can let you have a book, showing the cost of construction of every hospital in England.

489. Would the Directors of your hospital undertake the construction, or recommend the construction, of an enormous building without first satisfying themselves as to what is the actual cost in other parts of the world;—have they so satisfied themselves? I do not think they have.

490. Then the average cost of nearly £800 per bed may be taken as a very enormous price per bed? I do not think it is enormous.

491. May it not be thought so in the absence of any evidence to the contrary? I know that there are hospitals in England which have cost over £600 per bed, and the cost of building there is very much less than it is in this colony.

492. Have you, as Secretary of this hospital, been instructed to ascertain what is the cost per bed for construction? No.

493. So that, as a matter of fact, you do not know more than you have read? No.

494. Have you any paying patients in the present hospital? Very few.

495. Have you any conveniences for them? No; only the general wards.

496. Have you found a general desire on the part of the public to be admitted as paying patients? No.

Frederic Norton Manning, Esq., M.D., President of the Board of Health and Medical Adviser to the Government, sworn, and examined:—

F. N.  
Manning,  
Esq., M.D.  
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497. *Dr. Garran.*] What is your official position? President of the Board of Health and Medical Adviser to the Government.

498. How long have you been Medical Adviser to the Government? Two years.

499. During that time have you made a general report to the Government as to the requirements of Sydney for hospital accommodation? No general report. I have reported briefly on the Sydney Hospital, and also upon the expenditure of the pauper vote for hospital purposes.

500. Did you make a general memorandum on the Sydney Hospital in April last year for the Government? Yes.

501. Did you there state that the accommodation for the Sydney Hospital should not be less than 160 beds? Yes.

502. Do you feel disposed to modify those figures now? No, with this exception, that I think the ophthalmic cases ought to be treated on the same spot, and therefore there should be some increase of accommodation for those cases. I did not include the ophthalmic cases at that time. I did not then know so much about Moorecliff as I do now. At the present time my opinion is that the hospital accommodation should not exceed 200.

503. Do you think it is desirable to include ophthalmic cases in the general hospital? There is no objection provided the wards are properly arranged for them.

504. Seeing that for some reasons it is very desirable that we should not make a larger hospital on this site than is really necessary, would it not be expedient to detach the ophthalmic cases? The question is as between the ophthalmic and the female Lock cases, and I should prefer to remove the female Lock cases from the Sydney Hospital, and to have the ophthalmic cases treated there.

505. What are the reasons? There are many reasons why female Lock cases should be treated at a place where both out and in patients can be attended to, and the Sydney Hospital is in much too public a place for those people to visit;—a more retired position would be much better.

506. Is there much danger of ophthalmia spreading throughout the hospital? Not at all.
507. Are you inclined now to think that we might get rid of the female Lock ward and put the ophthalmic cases in lieu thereof? Yes.
508. If you cleared out the female Lock cases would you have room in their beds for the ophthalmic cases? No; the beds for Lock cases are not more than twenty, and the ophthalmic cases are nearly sixty. An additional reason for the change is that there is no room in Sydney or in the other hospitals for female Lock cases. We cannot treat them at Little Bay where the male Lock cases are now treated. It is not desirable to treat both in the same building.
509. Do you desire larger provision for female Lock cases than we have at present? Yes; that cannot be provided at the present hospital, and it is not advisable. It is advisable that the out Lock patients should be treated where the in patients are treated.
510. Do you want to find room in the Macquarie-street Hospital for accidents, urgent cases, and ophthalmic cases? Yes; the urgent cases, including, of course, the police cases—people found in fits, and some cases of acute disease.
511. These are three specific classes of patients? Four classes really.
512. What we may call ordinary medical cases, not urgent, and of a semi-chronic character, are not suitable for this hospital? There is no necessity to treat them there—they can be treated as well elsewhere.
513. Do you think that it is desirable to keep this hospital confined to those three classes, and make adequate provision for them? Yes.
514. Do you think that 200 beds would be sufficient for those cases? Yes; that would be ample.
515. The question of economy has been brought before the Committee a great deal, and we have been told that it would be more economical to build story on story—do you see any objection to building four stories high? I think two stories are more workable.
516. Do you see any medical objection to four stories? I do not see any great medical objection.
517. Do you think there is any risk of contamination going from the lower to the upper stories? No; if we have the staircase communicating with the open air.
518. That is having the staircases outside? Yes.
519. Is there no fear of the exhalations from the windows getting about? No.
520. Do you see no objection, for sanitary reasons, to four stories? No; but such a building would certainly be less easily worked.
521. You object to it for administrative reasons only? Yes.
522. Do you think that a hospital with 200 beds is worked more expensively than a hospital with 300 beds? Not very much. You would have to increase the nursing and medical staffs for 300 beds, but certain officers would serve for both—a medical superintendent, for instance. On the whole, however, the difference in the cost per head would not be very great.
523. I see from your memorandum that, as to the four hospitals in Sydney, the accommodation is as follows:—Sydney Hospital, 222 beds; Prince Alfred Hospital, 224 beds; St. Vincent's Hospital, 200 beds; Coast Hospital, 220 beds. We have therefore had practical experience of four hospitals of 200 beds, or a little over. Therefore have we not abundant evidence as to the cost of administering a hospital of that size? Yes; but they differ very much in cost.
524. Do they differ very much in their style of management? Yes.
525. Is Prince Alfred Hospital the most expensive of the whole? Yes; about £80 per bed. I see no reason why it should be more expensive to administer than the others.
526. Was it planned so as to give the greatest possible perfection in administration? Yes.
527. Have those ideas been realised as far as administration is concerned? Yes; I think that it answers remarkably well for all purposes.
528. Is there any waste of labour? No; as far as I am aware.
529. Is it really a convenient plan? Yes.
530. May we look upon £80 per bed per annum as the maximum cost for administration? Yes; I look upon that as a high cost.
531. What does it cost at St. Vincent's? I do not think any one can tell that. The cost of Sydney Hospital is about £67 per annum, and the Coast Hospital about £50 per annum.
532. How is it that the administration of the Coast Hospital is so much cheaper? We have not an expensive medical staff there, and we do not undertake any large operations. Operative surgery is always a very expensive department. There are some reasons why we should expect administration at the Coast Hospital to be dearer. The cost of provisions is higher owing to its distance from town.
533. Are there not a number of cases that come upon the Government which are not surgical cases or very acute cases? Yes; a great many.
534. Could not they be treated sufficiently well in a much less costly establishment than the Prince Alfred Hospital or this hospital? Yes; but many of those cases are now treated at the Coast Hospital.
535. If we had a duplicate of the Coast Hospital within an easy distance of Sydney, would not that be a great convenience for the Government just now? Yes. But what I think would be more useful still would be some properly arranged sick asylum in connection with asylums for infirm and destitute. The patients could be treated at even a cheaper rate. Many hospital cases are sent to these institutions now.
536. Do we not want an establishment of a more economical character than these palatial hospitals? Yes; I think it would be very possible to have such. Difficulties would occur as to how it could be managed.
537. Have you the administration of lunatic asylums under the Government? Yes.
538. How many patients have you to deal with? Nearly 3,000.
539. The hospital patients in Sydney do not amount to 1,000 patients altogether? Yes; about 1,000.
540. Are the lunatic patients under direct official administration? Yes. They are managed by a staff directly responsible to the Government.
541. Has not that simplicity of administration been an advantage? Yes; it has been so far as lunatic asylums are concerned, but I do not think that you could manage hospitals quite in the same way.
542. What would be the difficulty? You would have great difficulties with your consulting medical staff, of whom you must have a large number, especially in hospitals devoted to acute cases and operations, and difficulties would also arise in connection with the Medical School.
543. Do you not think that the hospital could get the services of the best surgeons in Sydney? I think they might, but there is a considerable difficulty in managing hospitals for acute and surgical cases.
544. Does not a mixed committee of private gentlemen get the services of those physicians and surgeons? Yes, as honorary officers.

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545. Would not the same men work for the Government as for the Committee? I think you would have a difficulty in procuring their services.
546. In the Sydney Hospital we are told that there is invested £20,000 of private money. We are told that to complete this building it would cost £210,000—probably £220,000. Therefore the Government would have to pay £200,000 of public money as against £20,000 of private money, and then the Government would be ousted from jurisdiction over the establishment;—do you think that that is a judicious arrangement? It does not appear to be a very business-like arrangement.
547. This money, when it has passed into the hands of the Committee, is really the property of the Trustees and the Committee of that establishment? Yes, undoubtedly.
548. Is not that the case with the Randwick Asylum at present? Yes.
549. If the Government wanted to use the Randwick Asylum as a hospital, would they not have to pass an Act of Parliament? Yes; and there is also a further question even after you had given the Committee the building. You will have to vote a considerable sum of money for the support of the institution.
550. Will not the Government have to provide four-fifths of the money required? No; about one-half.
551. May it not be as large as I have stated when the large establishment comes into work? That may be.
552. Whatever is wanted, will not the Government have to find it? Yes, unless the hospital is very largely benefited by private subscriptions or donations. Prince Alfred Hospital has been very largely benefited already by private legacies and donations.
553. When it is known that the Government will come to the rescue, is there not always a tendency for private subscriptions to fall short? Yes; that is undoubtedly the case.
554. Do you think that this mixed system of public and private management is a good system? I do not think it is. No doubt what would be very much preferable would be to make the management of hospitals, except for acute cases, part of the local Government, and take it away altogether from the central administration, handing it over to the counties, towns, and municipalities.
555. In that case you would have official administration? Yes.
556. Do you think that the municipalities would have greater facilities than the central Government for getting the services of eminent physicians and surgeons? I think you must exempt from anything of that kind one or two of the larger hospitals, and especially those connected with the Medical School.
557. Are there not on the Continent of Europe many large hospitals connected with the Government and with medical schools? Yes; but under a very altered condition of things in many respects. I do not think that you could imitate it with advantage here.
558. Looking at the disproportion between public and private contributions to this hospital, would it not be fair for the Government to say that if the private people will hand over the whole thing to the Government we shall complete the building and manage it? I am not able to regard the management of hospitals as one of the functions of the central Government.
559. Why not equally so with the management of lunatic asylums? That is a very different matter. Insane people become almost *ipso facto* wards of the State. They are totally different from ordinary sick people, who are, in almost all countries, left—and I think wisely—to the care of local or municipal Government, or to private charity.
560. Do you not look upon the victims of accident as State wards? I look upon them as being in a different position altogether. The administration of asylums for the insane by local and municipal authorities has not been found satisfactory in any place where it has been tried, especially in America.
561. Still you see the incongruity between the public and private subscriptions to the hospital. Do you think that provision for two hundred and thirty-eight beds would be sufficient in the new buildings? Yes; that would be ample.
562. There is an architectural objection that the buildings would be squat if they were not completed according to the original designs;—do you think that that is a sufficient objection to the modified plan? No. As far as one is able to judge from the plans, the buildings, even when not carried to their full height, would not look bad.
563. Supposing that instead of completing the first pavilion, already partly erected, we leave that as it is, making it one story, and we put three stories on the front—do you think that that would be an equally efficient hospital? No. I would prefer to have the buildings in accordance with the reduced plans distinctly.
564. Without attempting the second pavilion to the east? No; I would leave that out.
565. Is it your view to make two stories on the front, two stories on each pavilion, and to leave the south wing as it is? Two stories and a basement in each pavilion, and to carry out the administrative portion with three stories, leaving the south wing. I think that that would give sufficient accommodation.
566. You would not advise the erection of a larger hospital on the site? No.
567. If we wanted more accommodation in the city, have you any idea where another site could be found? I do not think that there is a necessity for more hospital accommodation in the city itself.
568. Would it not be desirable to obtain another site to the westward? The Prince Alfred Hospital is within fair reach of the whole of the western part of the city.
569. If we want more accommodation, would you rather build an additional pavilion to the Prince Alfred Hospital? Yes; because it could be done more cheaply there than anywhere else. We already have the administrative part of the Prince Alfred Hospital built.
570. Would it be putting too large a property on one site? No; there is sufficient space there.
571. If we want anything more for certain classes of cases, would you prefer to have another Coast Hospital, to deal with chronic cases? Yes; that would give the Government all it requires at this time. At the same time I do not think that the Coast Hospital should be continued as a general hospital. It ought to be devoted almost entirely to the treatment of infectious fevers and infectious diseases generally—erysipelas, Lock disease, and the treatment of lepers. A certain number of beds ought always to be kept vacant there, to serve for outbreaks of infectious diseases. At the present time if any outbreak occurs we have to clear out as best we can the general wards there.
572. Must not the Benevolent Asylum be reconstructed sooner or later? Yes.
573. Could not that be made to serve this more economical hospital which you speak of? Yes.
574. Could not the two purposes be dovetailed? Yes.
575. Could you not then reserve Little Bay for fevers and infectious cases? Yes.
576. Would you continue the Lying-in Hospital with the Benevolent Asylum? Yes, putting it in a separate pavilion.

577. Will not that have to be within reasonable distance of the University Medical School? It is certainly advisable, and it should not be too far away, both for the sake of the women going to it, and for the teaching.

578. *Mr. Trickett.*] What do you think of the Macquarie-street site? I think it is a very good one. I see no objection to it, either on the part of the sick, or of the neighbours. There has been no outbreak of disease due to it, and with the exception of phthisical and rheumatic cases, the patients have done remarkably well indeed.

579. Have you studied the question of drainage a good deal with regard to asylums? I have only a small practical knowledge of it.

580. Is the Sydney Hospital on a site that can be well drained? I understand from my inquiries that it has been particularly well drained, and that its connections with the Sydney sewers are remarkably good.

581. Is the tendency of the present day towards building hospitals of a substantial character as is proposed in this case, or is that tendency in favour of buildings of a temporary nature? Of late the tendency has been in the direction of having permanent structures and substantial buildings, with the walls of such a nature as can be easily washed or painted, and the whole risk of infection done away with in that manner. Some years ago there was a wave in the direction of putting up temporary buildings, and burning them down occasionally. That, of course, could not be done in the middle of a town. Lately, however, the authorities have been in favour of substantial structures, rendering them in the interior nearly proof against anything like infection or contagion, by means of glazed bricks and tiles, and by treating the internal surface in a manner that renders it nearly impervious.

582. We have heard objections to large hospitals—would a hospital on the modified plan to accommodate about 200 persons be considered a large hospital? No.

583. You referred to Miller's Point as a place where female Lock patients might be treated—do you not think that that would be an unsuitable position, so close to the shipping? The situation of the houses now occupied as an ophthalmic hospital is singularly retired and quiet. In my view, and in the view of others with whom I have talked upon the matter, it would be a very suitable site indeed for the Lock cases.

584. Would the approach be suitable? Many of the cases are drawn from that neighbourhood, and they would not have far to go.

585. I understand from your evidence that you are in favour of this hospital being completed on the modified scale? Yes; and I can see no objection to its being put up in a cheaper manner—the upper story being built with brick and cement, and made to look like sandstone, similar to the "Empire Hotel." That would save a considerable amount of money.

586. Would the internal construction of a building of that character be such as to prevent hospitalism? Yes.

587. What is the ordinary price per bed for the construction of hospitals? Hospitals have varied immensely in their cost, and you can hardly take the cost at home as a standard here, because building here is certainly one-third, and sometimes as much as one-half, as much again here as at home. £400 per bed is looked upon as a large expenditure for the construction of home hospitals.

588. Then if this building costs £300 per bed will not that be very high? Yes.

589. *Mr. Garvan.*] With the accommodation already provided in the hospitals here, do you think there will be any need for a large increase in hospital accommodation in Sydney and its suburbs in the near future? I think it will be necessary, if this building is carried out on the modified plan, that there should be some increase before very long in the Prince Alfred Hospital.

590. Do you say that because the Prince Alfred Hospital is in a superior location? I think an increase of accommodation could be made there more cheaply than in most other places. It would be possible to add to the Prince Alfred Hospital at a cost of £250 to £300 per bed.

591. Would it be possible to increase the accommodation at the Sydney Hospital, say to the extent of 200 beds at the same cost? Apparently not, from the plans here; but apart from that it does not appear advisable on that site, and with its surroundings, to have a larger hospital than will provide 200 beds.

592. On what ground do you recommend that the accommodation should not exceed 200 beds? The cases could be better treated a little way out of town, and there is a very limited area attached to the Sydney Hospital, so that the buildings would be put up too closely.

593. For all purposes, would you recommend the limit should be 200 beds? I think you would gain but little, from an economical point of view, by increasing the size of the hospital.

594. *Mr. Dowel.*] Have you visited the Sydney Hospital lately? I visited it yesterday.

595. Did you inspect all the buildings? I did not go into the weatherboard building, but I have been there.

596. Do you think there is great danger to life owing to the inflammable nature of those buildings? Decidedly.

597. Is provision made for the extinction of fires? Everything has been done that can be done. Mr. Bear has given advice on the matter.

598. What is your opinion as to the desirability of erecting timber and iron structures for hospitals? For infectious diseases, and in a country situation where you have a considerable amount of ground, I think such buildings are very desirable. In town, and for ordinary hospitals, I think more solid material should be used.

599. Are the wooden buildings and structures at Prince Alfred Hospital used for infectious diseases? There are none there.

600. Are you quite sure of that? I think so. I was a director of the hospital from the beginning until two years ago.

601. If Dr. Mackellar said so would he be stating what was correct? I think he must have made a mistake. There are four or five small isolated rooms, each to contain one patient, built, it may be, in a lighter style than the rest of the buildings, but I think they are of brick. The rest of the buildings are very substantial.

602. Is there not considerable expense in keeping wooden structures in repair? Yes; for both wood and iron structures there is considerable annual cost for painting, and, besides, they are subject to ravages from white ant.

603. Do you think that the wooden buildings in connection with the Sydney Hospital should remain? No; I would have them taken down as soon as possible. They are decidedly dangerous, and very unsuitable in that position.

WEDNESDAY, 17 DECEMBER, 1890.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.  
 The Hon. FREDERICK THOMAS HUMPHREY.  
 The Hon. WILLIAM JOSEPH TRICKETT.  
 The Hon. GEORGE HENRY COX.  
 HENRY COPELAND, Esq.  
 JACOB GARRARD, Esq.

JAMES EBENEZER TONKIN, Esq.  
 WILLIAM SPRINGTHORPE DOWEL, Esq.  
 EDWARD WILLIAM O'SULLIVAN, Esq.  
 CHARLES ALFRED LEE, Esq.  
 WILLIAM McCOURT, Esq.  
 JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

The Hon. Charles Kinnaird Mackellar, M.B., M.L.C., sworn, and examined:—

- Hon. C. K. Mackellar, M.B., M.L.C.  
 17 Dec., 1890.
604. *Dr. Garran.* Were you at one time Medical Adviser to the Government? Yes, for about three years.
605. During that period did it form part of your duty to consider the question of hospital accommodation for Sydney as a whole? Yes.
606. Did you make any official report? I embodied my views in a letter to the Colonial Secretary, Sir Alexander Stuart.
607. Do you know whether any of your predecessors have done the same thing? I think not, but at the time that I wrote that letter, several other medical men of some knowledge and experience of the hospital wants of Sydney, were asked, at my instigation, to give their views—Sir Alfred Roberts, Dr. George Fortescue, Dr. MacLaurin, and Dr. Cox. They addressed letters to the Colonial Secretary, and the documents form a Parliamentary paper which was laid on the table on the 9th October, 1883.
608. Did the Colonial Secretary call for a general report on hospital accommodation in Sydney? Yes.
609. Did you avail yourself of the services of those other gentlemen to fortify your own opinions? Not at all. I was not aware what their opinions were, but I was anxious that the Colonial Secretary should get representative opinions from the medical profession. The letters were written by those gentlemen without consultation or communication in any way with me.
610. I see that your report puts the number of beds required for Sydney at that time, at 900? Yes. That was reckoned upon the basis of a population of 800,000 for the whole of the colony.
611. Did Dr. Cox put it at 810? I believe he did.
612. We had it in evidence yesterday from Dr. Manning, that the existing hospital accommodation is about 1,000, taking in St. Vincent's Hospital? I am not aware exactly what is the present hospital accommodation, but the question is a somewhat complicated one. In this country the Government takes charge of the sick paupers, while in England and other countries the Government takes no such charge—they are left to the local bodies. Therefore, the general hospital question here is more or less mixed up with the pauper workhouse question, and a large number of the persons treated in the hospitals here would, in England, be treated in workhouse infirmaries.
613. Was not the Sydney Infirmary established for a sick poor reception house? As a dispensary for the sick poor.
614. But not for a modern hospital? Not in the first instance.
615. It had more the character of a benevolent asylum or infirmary than a hospital proper? That was at its very earliest stage.
616. It naturally developed gradually into a hospital? Yes; but that development took place about the year 1845. From 1845 to 1848, it was in some sense a hospital, for I know my father was the surgeon to it.
617. The need for a hospital would grow up, and it would be to that place the hospital patients would be sent? A dispensary is scarcely the thing that would exist alone—there must be a hospital attached to it.
618. It slid from its original purpose into its present purpose? Yes.
619. From the very first onwards our hospitals have been more or less reception houses for the sick poor? Yes.
620. Are they so still? Yes.
621. In your judgment, would it be expedient to separate those two classes of cases? It is absolutely necessary that they should be separated to a greater extent than they are now. I may say in passing, that the care at present exercised to differentiate between those who are actually sick and needing close attendance, and those who are merely sick because of age or chronic infirmity, is much greater than it used to be even in my time.
622. We are told that the limited supply of beds at the Sydney Hospital almost compels that? Yes; it is a check to a certain extent. But a further check is afforded by the fact, that since the time I instituted this system, the patients sent to the Government hospitals are examined by a Government doctor, who has authority to say whether the patients shall go to an asylum, or whether attendance in a public hospital is necessary.
623. Was the old plan for persons to sit on the steps of the Colonial Secretary's office until they got an order? Yes; and many thousands of orders were given by various irresponsible persons.
624. By people who could not possibly know the circumstances of the case? Who never took the trouble to inquire.
625. Since then they have to be filtered through this officer in charge of the department? Yes; and I have no doubt that the system has worked admirably for the purposes intended.
626. Have we proper accommodation for those poor people who wait to have something done for them, and who do not want the expensive provision of a first-class hospital? We have Government asylums and asylum hospitals at Parramatta, Liverpool, and Newington.
627. Are they good enough for that class of cases? I think so.
628. Do you think that we want anything intermediate between those asylums and first-class hospitals? I think we probably do want something.
629. Do we want a cheap hospital where we can not only separate these people, but also save the enormous expense of a first-class surgical hospital? Such an institution would be very desirable.
630. Do you think that for accident cases and for urgent cases we cannot have a hospital too good? Yes.
- 631.

631. Do you think there is a waste of money to the public by admitting sick paupers into a first-class hospital? Yes. At the present time I believe a large number of those cases which are not considered to be quite eligible for treatment in a general hospital in the city are treated at Little Bay. Hon. C. K. Mackellar, M.B., M.L.C.
632. Dr. Manning is of opinion that Little Bay should be reserved for fever cases and infectious cases, and ought not to be made a pauper hospital—what is your view? In my opinion Little Bay is not fitted to be made a fever hospital. It is a great deal too far away from the city. It would be wrong to take other than the mildest cases of fever to Little Bay. It is very likely they would suffer, and I know they have suffered in times past where very great discretion has not been used in selecting the cases. 17 Dec., 1890.
633. Was it originally built for a small-pox hospital? Yes; as a kind of quarantine hospital. Just now, and ever since I was in office, medical men sending cases to Little Bay have been required to fill up a form,—which they often do with great reluctance, and sometimes decline to do—which states that the patients will not in any way be injured by transit to Little Bay. The fact that it is necessary to fill up such a form shows that in some cases there is danger in sending them to that hospital.
634. Is it not difficult to give such a certificate in advance? Yes; and medical men naturally protect themselves by sending only the most simple cases.
635. It was not too far off for a small-pox hospital? I think it was.
636. If you could establish that hospital within 3 miles of Sydney would it be a great convenience? Yes.
637. Suppose we put up another hospital like that within 3 miles of Sydney, would it be a great convenience? I think it would relieve all the general hospitals of the city.
638. Could we not build a hospital in that style of galvanised iron for a modest sum? Yes; I think probably for £100 a bed.
639. What would be the cost of management? About £50 per bed per annum.
640. With such an expenditure could we adequately deal with a large number of cases now thrown on the Government? Yes; they could be selected from those who presented themselves to the Government officer.
641. Would that relieve Prince Alfred and the Sydney Hospital where the estimated cost is £800 per bed? Yes.
642. Is it extravagant to provide a hospital at a cost of £800 per bed for the first cost? Yes; I think it is absolutely unnecessary.
643. You would not object to that expense for surgical and urgent cases? No; experience has shown that a first-class hospital built in a city, and built of materials such as our hospitals are constructed with, will cost £800 per bed and sometimes more.
644. Do you think that the site for the Sydney Hospital is a good one? It is admirable.
645. If we had to choose afresh might we get a site more central? If I had the choice I would select Flagstaff-hill as the best in the city.
646. Was not that the original site of the first hospital? It was chosen by the military authorities in the first instance. I do not think a better site could be found, and I have searched the city. It is an airy site, and the original building is now used for a school.
647. Is the front part of the Fort-street school a remnant of the first hospital in Sydney? I believe so.
648. It has been objected by some of the medical authorities that it is too much exposed to the westerly wind? I do not attach any importance to that.
649. Could not administrative buildings be put up on the western side? Yes; I think that is a trivial objection.
650. Would the Fort-street school building be suitable for a hospital? I should scarcely like to bind myself to such an opinion—the site is not to be surpassed in Sydney.
651. Is this site particularly wanted as a central school? I do not know.
652. Have not the families removed far away from that neighbourhood? I presume they have gone to the suburbs.
653. Do they not troop in from the suburbs to go to Fort-street? Yes; because the teaching is supposed to be better.
654. If we want a second site in Sydney for a hospital have we not got that site available? I do not think there is any better site—in fact none so good.
655. Pyrmont has been suggested for a site, near the Technical School—would that be a good site? As Pyrmont, Ultimo, and the surrounding district is likely to be an industrial centre at some period in the history of the city it will be necessary to have a hospital there.
656. It has been suggested that 200 beds should be the limit for a hospital on the Macquarie-street site—do you approve of that? 200 beds might very fairly be placed on that site, and even more if necessary, but on the whole 200 beds would be sufficient.
657. Do you think that 200 beds would be sufficient for the area of 3 acres? It can scarcely be looked at in that way, because there are actually more than 3 acres. The Domain grounds are just as much available for the Sydney Hospital as if they belonged to it, because they are not occupied.
658. For building purposes is it not less than 3 acres? Yes.
659. Is not the site jammed in by Parliament House and the Mint? Yes; that is an objection to a certain extent.
660. Are you inclined to limit the beds there to 200? Looking at it from the point of view of what is absolutely necessary for the treatment of the sick, I think 200 beds would be sufficient, always provided that extra beds will be necessary before very long in some of the other hospitals, for instance, Prince Alfred Hospital. Other considerations arise in dealing with the matter—the architectural features of the street, and so on. It may be necessary to make a larger building, because of the objectionable appearance of a small building not constructed in architectural proportion.
661. Would you build a larger hospital than you really want for the sake of the appearance of the building? I would not like to say that I would build a building larger than I wanted. In fact if a building containing 250 beds were erected there, it would prevent the necessity for building on the Prince Alfred Hospital grounds, so that the beds would be used. I do not think it is absolutely necessary that there should be a hospital with more than 200 beds in that part of the city.
662. We are told that the cheapest possible way of providing extra beds would be to add new pavilions to the Prince Alfred Hospital—do you agree with that view? I have no doubt of that.

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663. So that if we provide for purely city wants, we can provide for metropolitan wants at the Prince Alfred Hospital at the cheapest rate? Yes.
664. Is there room there to complete the plan of two pavilions? Yes; and I think they should be completed.
665. Could that be done without any crowding of the ground there? Yes; the hospital should be completed, because it is quite clear to me that, taken as a Medical School, the present size of the Prince Alfred Hospital is not adequate to the requirements. Some parts of the building must be increased. If I mistake not, the lecturer upon surgery, who has the responsibility of teaching surgery to the students of the University, has something less than twenty beds under his charge, and it is quite clear that that is not a sufficient number to enable him to do his duty.
666. Would it not always be the case that the Sydney Hospital will always have more of the accident cases? I do not think so.
667. Is it not very much nearer to the accident area than the other hospital? Just now the city is extending westward.
668. Would not any man injured at the Darling Harbour wharves or at the warehouses be taken to the Sydney Hospital? If an accident occurred on the wharves that would be the case; but if ever Sydney becomes a manufacturing city, it is clear that the factories will not be on the wharves, but on the west side, and then any accidents which might occur there, would go to the Prince Alfred Hospital.
669. Might not also all the urgent cases from the country go to the Prince Alfred Hospital? I think the majority of the cases from the country go to Prince Alfred Hospital now.
670. Do you think that the Sydney Hospital is principally supplied from the area for which it is meant to be central? Yes; to a large extent.
671. It is not a country hospital? Large numbers of people from the country are treated there.
672. Could they go as easily to the Prince Alfred Hospital? Yes.
673. The special function of this hospital is to serve the city area? It is; but I would like you to understand that the disposition to centralism observed in every walk of life is especially observed with regard to the treatment of disease in this country. People in the interior suffering from ailments requiring operations naturally gravitate to Sydney, because they have an idea that they will get a selection of more experienced operators to deal with their cases, and it is quite likely that they may be right. The hospitals are used, to a certain extent, by country patients, and you cannot altogether confine yourself to the metropolis in your view of the necessity.
674. Granting all that, the Prince Alfred Hospital could be used for that purpose as well as the Sydney Hospital, and there is as good a medical staff there? Yes.
675. Is there any need, in view of these country patients, to aggravate the size of the Macquarie-street Hospital? Not the least.
676. That hospital need not be larger than the wants of the city require? I think not.
677. Two hundred beds would be sufficient for that? Yes.
678. If you had to begin this hospital *de novo*, would you propose to have a four story building? I would not.
679. Is there any medical objection to four stories? The modern teaching on this subject would have us believe that buildings should not be erected more than two stories high.
680. We have had some evidence to the effect that since the antiseptic system of surgery commenced, there is no danger in putting one layer of disease over the other? I would not go so far as that. The antiseptic system may be carried out in its entirety by those who have charge, or it may not—that would depend on the whim of the person who carried it out. I do not think that you could rely on that as a reason why the building should be more than two stories high.
681. Do you think that there is a possible risk in having tier upon tier? I would not go further than to say that all the modern teaching on this subject would have us believe that hospitals should not be constructed more than two stories high, and for purposes of administration it is clear that it would be more convenient to have two stories only.
682. In some respects, would a single floor be the best? Apart from expense, it would be perfection.
683. In this particular case, for medical purposes, are you disposed to advise that there should not be more than two stories over the basement floor? Yes, from a medical point of view; but I have seen the proposed modification of the plan, and I entirely disapprove of it.
684. Is not that partly because the roof is so top-heavy? Yes; the roof seems to be entirely out of proportion to the building. From an architectural point of view, it would make the street perfectly hideous.
685. Would it not be in the power of an architect to design a different roof? Certainly.
686. Are there very lofty buildings in the street at present? No.
687. Is not the hospital actually broader than it is high? Yes. I believe it would be possible to construct that building with two stories only and a basement.
688. Are we in fetters to this particular plan? I presume not.
689. If we decided, for medical and national reasons, that two stories are enough, surely we can make the æsthetic combine with the medical necessities? I think so.
690. There is enough architectural genius in Sydney to solve the problem? I presume so.
691. We had it in evidence yesterday from Mr. Russell that two stories, with one pavilion at the back, which is commenced, and retaining the south wing, would provide 238 beds;—do you think that that would be sufficient? That would suit all purposes. That would be quite as many beds as we want at the present time.
692. If the administrative building were raised to the full height, would there be full accommodation? That would be a sufficiently complete establishment for all purposes at present.
693. Could it be worked with fair economy? The working of such a hospital would be more expensive than if it were completed to its original dimensions; still, at the same time, all purposes would be served.
694. On the whole, would you be inclined to recommend that plan? Yes; keeping in view the fact that at no very distant period it will be necessary to erect one or more wings to the Prince Alfred Hospital.
695. After that we shall want a third hospital in Sydney? Probably so, if we look on Little Bay as a temporary expedient. The buildings there are of galvanised iron—a sufficiently good material, but not very durable. Moreover, it is situated close to the sea, and I know that the iron is more or less decayed. It is likely to decay very rapidly, and it would not be advisable to repair and make that institution permanent. It would be much better to build an institution of a cheap kind within a few miles of Sydney. At one time I thought Randwick Asylum would be a good place.

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696. Is not three-fourths of the money invested in the Randwick Asylum the property of the Government? Yes; and I do not see why the Government should not have that building.
697. Did not the Government give the land? Yes.
698. Yet the Government have no control over that institution? That is an unfortunate circumstance.
699. Is it a good plan for the Government to pass away money for public purposes from its own control into the hands of bodies over whom it has no control afterwards? I am sure it is not.
700. Is it a good plan to hand over nearly £200,000 of public money to the Sydney Hospital, as against £20,000 of private money, when the Government will have no further control? It is a very bad plan. The Government have a certain amount of representation on the Sydney Hospital Board of Management, but to my mind that does not give them sufficient control. I am one of the Government representatives myself, and I have been so for a good many years; but it is quite impossible for the gentlemen who represent the Government to exercise any particular control. They control the expenditure, but they may be out-voted, or, perhaps, they may not all take the same view with regard to what is necessary in the interests of the Government.
701. In any case the Trustees are not Government nominees? No.
702. The property is vested in the Trustees? I presume the Government nominees are placed on the Board to control, to a certain extent, the management of the institution and the expenditure.
703. That does not vest the property in the Government? No.
704. Do you think it is right to pass away such masses of Government money, as is now proposed, into the hands of what are, practically, Trustees outside Government control? I think, as a principle, it is not a good thing.
705. This Committee is asked to give its sanction to an expenditure of £220,000 upon a property of which only £20,000 is really private money;—is that a wise disposition of the public funds? In this individual case I do not see how that can very well be avoided; but, as a principle, I think it is wrong. The certain amount of laxity which is shown at all times in the expenditure of the money of these institutions, makes it very clear that it is a bad principle. I think if the money which has been expended in the various hospitals had been raised by the public, it would not have been expended so lavishly as it has been.
706. We have been told by the Secretary to this hospital that the Government approval was obtained to plans estimated to cost £45,000, towards which the Government was to give £25,000, but behind the back of the Government the cost was increased to £210,000, and the Government was not enlightened until the Committee had committed themselves;—what is your opinion with regard to that? That is a very undesirable state of affairs.
707. Suppose that the Government were to say to the private possessors of this hospital, "If you surrender the institution to us we will complete the hospital, and treat it as a Government Hospital";—would you see any objection to the Government managing the hospital directly as a department of the State? Yes; I think the care of the sick should be left to the people of the country—to the benevolent.
708. Is it left to them? No; and the system that we have followed in New South Wales has been such as to stifle benevolence on the part of the rich, and at the same time it has taken away all feeling of self-reliance from the poor. It is a very bad system.
709. Is it not certain that when everybody knows that the Government will keep the hospital going that private charity will be discouraged? Yes.
710. Would it not be better to separate absolutely Government institutions from absolutely private institutions? If possible, it would be better.
711. Do you think that the Government can never shake off responsibility for dealing with accidents and urgent cases among poor people? I think it might, but it must be remembered that in this country we have no workhouse infirmaries—at least, comparatively few. That class of people is looked after by the local bodies in the mother country, and a large number of the cases treated in the Sydney Hospital have belonged to that class. I am aware that lately the Government asylums at Liverpool and Newington—certainly the latter—have been increased in size; but I question whether the accommodation which is provided for people of that class is adequate for the requirements of the colony.
712. Are you aware that it is proposed to remove the Benevolent Asylum from its present situation? I know that such an idea has been mooted.
713. Is that too valuable a site for a benevolent asylum? Yes.
714. Could not that have a hospital attached to it, answering the conditions of an institution which would only cost £100 per bed? No; I think the Benevolent Asylum might very well have a maternity hospital, and perhaps a hospital for diseases of women, attached to it.
715. That should not be too far away from the Medical School? No; it should be within a short distance of it. I think the Benevolent Asylum managers have made it a feature in their administration that parturient women should be treated at that institution.
716. Would it be desirable, in lieu of a possible new hospital, to secure a site for it in advance? Certainly it would in one of the suburbs.
717. Do you propose to have the Little Bay Hospital reproduced somewhere within reach of Sydney? It is desirable that the land should be acquired, and when Little Bay becomes very dilapidated, as no doubt it will, a new hospital should be built.
718. Have you any idea as to what should be the site? I think the Government possess a number of sites in that direction which would be sufficiently good. At any rate there are large tracts of country available.
719. Would you have it on that line of route? Yes.
720. Do you know that there are two private convalescent hospitals lately started? Yes.
721. Will they not greatly relieve the two existing city hospitals? No; I do not think the Government should depend upon such institutions; they are not of any magnitude.
722. *Mr. O'Sullivan.*] Do you favour the modified design for the hospital? Yes.
723. Would a hospital of 200 beds be sufficient to accommodate the accident cases in the city? I think it would be sufficient to accommodate all the accident cases and some others which are likely to arise in that portion of the city, and for which Prince Alfred Hospital would not be available.
724. What would you do with very many of the patients of what might be called a general hospital? I would increase the size of the Prince Alfred Hospital by building two or more pavilions. I believe that hospital was originally intended to hold about 540 beds. I think it might well do so, and it should be increased to that size in course of time.

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725. Has it ever occurred to you that the military barracks might be converted into a general hospital? Yes; I have inspected them with that view, but I do not think that it is a very good site.
726. What would be the objection to that site? The first objection is not one of site—it is because the building is not well designed for such a purpose. It would only be suitable as a temporary hospital.
727. Would it not be an admirable position for laying out the grounds and walks for patients and giving advantages which you cannot find on any other site in the city? It would have the advantage of gardens around it, but it would not be better in that respect than the site of the Sydney Hospital, because the Domain is available for all practical purposes, and there is an unlimited area beyond the Domain right out to the Pacific Ocean.
728. Do the patients utilise the Domain for a promenade? It is not desirable that they should. Patients who are sufficiently well to go into the Domain to promenade might be treated outside the town.
729. At the military barracks would not the patients be able to promenade without giving offence to the citizens? I do not think the citizens view it in that light at all.
730. Are you also in favour of having a small hospital at Pyrmont? Not at present. I have stated in a letter which I wrote to the Government some years ago that a necessity for a hospital in that direction will arise in the future.
731. Are you in favour of having a smaller hospital than is indicated by the design now before us? If a building of two stories high can be made architecturally desirable, it would be well to complete it in that way, but I do not think it is desirable that the hideously ugly roof which I have seen on the plan which is here should be carried out.
732. Do you see this plan by Mr. Kirkpatrick? I know it.
733. That could be constructed for £47,000—would that be sufficient for all practical purposes? I think that would be quite sufficient. I know the plan, and I think it is an exceedingly good one. For my part, I think it is quite as good as the plan which was adopted.
734. *Mr. Tonkin.*] Do you know the south wing of the present hospital? Very well.
735. Is that a permanent building? Yes, it is of stone.
736. Do you think that that building meets the requirements of the number of patients at present in it? Yes, very well. It is desirable that that wing should be somewhat altered, but the walls are perfectly good.
737. Would you advocate its being pulled down? Certainly not.
738. Do you think that it should be utilised under the circumstances? Yes.
739. *Mr. Trickett.*] Were you a member of the Hospital Board when the designs were accepted? No.
740. Is your chief objection to a building of two stories from an architectural point of view? Yes; and to a certain extent from the point of view of the expenses of administration, and of the institution as a whole. Of course if the building is completed for 200 beds it will cost more per bed than if it were completed for 250 beds.
741. When you were examined in 1887 before a Select Committee of the House, I understood you to say then that you would prefer two small hospitals instead of a large hospital? If I had to deal with the question *de novo* I would, but even then I would recognise the fact that the administration would be more expensive in the two small hospitals.
742. You then seemed to be also of opinion that it would be better to put up wooden buildings that could be easily destroyed;—have you since changed your opinion? Not in the least. I would not be prepared to say that it would be better to put up a wooden building in the city. That would be very objectionable. But a wooden or iron building might very well be put up in the suburbs. That might be done very inexpensively.
743. Is the tendency of the present day towards building hospitals in large cities of the character you indicate, or of erecting substantial buildings? For the most part hospitals everywhere are built of brick. The climate of Europe is such that patients would scarcely get sufficient shelter in any other sort of building.
744. With regard to the question of the treatment of patients, and the fear of a building becoming subject to hospitalism, are those ideas still prevalent, or would that be done away with by the material used in a substantial building? So far as the treatment of the sick is concerned they might be equally well treated in a wooden or iron building. They can be just as well treated in a hospital that costs £100 a bed as in a hospital that costs £800 a bed. It makes no difference whatever.
745. With regard to a building becoming hospitalised—what is your view? I should say that an iron building would be less likely to become subject to hospitalism.
746. If we put up a permanent building here at a cost of about £200,000, is there not a modern way of preventing any risk whatever? I think the danger of hospitalism now is infinitely less than it was when I was a medical student twenty-five years ago.
747. Could not glazed material be used in the interior? Yes.
748. Have you any objection to the site of this hospital? No; it is an admirable site.
749. Do you think it is possible for the health of the city to be affected by it? Not in the slightest degree.
750. Will you state distinctly whether you think it is advisable that this building should be completed or not? Viewing the matter as a citizen, as well as a medical man, I think the building should be completed in some form.
751. How do you distinguish between the two? In the first place, I think it is undesirable that the building should remain a disgrace to the city in its present unfinished condition. In the second place, it is very undesirable from the point of view of a citizen that a large number of the sick should be subject to danger from fire, as they are at present. As a medical man, I think it is necessary that a permanent building should be erected.
752. We have evidence from medical gentlemen to the effect that the front of the building might be made ornate and expensive, while the back might be constructed of far less costly material;—do you think that that could be carried out? That is more a question for an architect than for a medical man, but I have not the slightest doubt that that could be done.
753. Would there be any objection to that from a medical point of view? Not in the least, from a medical point of view a brick building is quite as desirable as is a stone building.
754. In objecting to the architectural appearance of the modified building, I suppose you refer particularly to the cupolas? Yes; I think they are very ugly. I think that the roof of the proposed modification

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modification is much uglier than the original design; I think that it is out of proportion to the size of the building.

755. If that could be remedied would your objection be removed? Yes; and I have no doubt that it can be removed. I would then rather advocate the finishing of the building in that style.

756. It is estimated that if the building is completed according to the original design it would cost about £800 per bed; is not that a very large sum? Yes; but that is not without precedent. Some hospitals in Europe and Australia have cost that sum, or more.

757. Still it is a large sum? Yes; unnecessarily large.

758. *Mr. Cox.*] In the present state of medical science has it not been computed that no hospital should cost more than £200 per bed? I am not aware of that.

759. Is £200 a bed amply sufficient to provide for necessary accommodation? I think £100 per bed would be sufficient if you viewed the cost from a medical point only.

760. Would any expenditure in excess of that be throwing money away? Not at all. So far as regards the necessities of the patient you might say that it would be throwing away money; but other considerations arise in building a hospital besides the mere necessities of the sick persons. For instance, in this case under consideration, we might put up a building that would hold 200 patients, at a cost of £200 per bed, but it would not be desirable to have such a building as that in Macquarie-street. You could scarcely say that if you increased the cost from £200 to £500 per bed, that the extra money would be absolutely thrown away when you have in view the adornment of the city, and other considerations.

761. Are not those merely æsthetic ideas? No, that is viewing the matter as a citizen.

762. I gather that £200 a bed would be amply sufficient for all the requirements of the patients, and that anything beyond that would be simply studying the æsthetic tastes of the people? Anything more than £200 per bed would be merely taking into consideration other circumstances that are not purely medical. I would like to make a statement to the Committee on another subject. In the paper which I handed to the Committee, I have dealt with another kind of hospital which has not been mentioned here—that is to say, a Lock hospital, which is, and has been, absolutely necessary for many years for the separate treatment of cases of venereal disease. There is no class of cases that is so much neglected by the Government, and certainly the Government should deal with those cases if it deals with any at all. A short time ago I inquired what was the number of beds available for the treatment of such cases in the Sydney Hospital. I found that there were only ten available for females. It must be manifest to everybody who thinks on the matter that there are a great many more than ten females in Sydney who need treatment for infectious disease of that kind. At St. Vincent's Hospital such cases were not received, nor were they, at that time, received at the Prince Alfred Hospital. Therefore, only ten beds were available, and from that fact I conclude that a large amount of sickness and suffering that is perfectly unnecessary is carried through the city. Whatever is done with regard to the Sydney Hospital, it is absolutely necessary that the Government should take into consideration the requirements of the city in that respect. Some years ago I wrote a minute on the subject, which was presented to the Government of the day—Sir Alexander Stuart's Government, I believe—but it was never laid upon the table. If it is possible to obtain a copy I shall hand it to the Committee, because the question is dealt with there *in extenso*.

763. *Chairman.*] Do you recommend that such cases should be treated at the main hospital, or at any of the auxiliary hospitals? Certainly not. Such cases would not be well treated at a general hospital, nor would they be treated differently at any of the other hospitals. An institution to deal with those cases should be entirely separate—of a more or less private nature. It should be placed under the care of Government officers. The feelings of the patients who avail themselves of it should be respected as far as possible. The persons who require treatment should be able to resort to such an institution with confidence that they would not be exposed in any way to the cognizance of the public. If some such system is not established the necessity will arise, at no very distant period, for the introduction of an Act of Parliament dealing with this matter, and I do not think that would be at all desirable or fair at the present juncture.

764. Do you think that such an institution would prevent the necessity for such an Act of Parliament? Yes, the passing of Acts for the regulation of what are called contagious diseases is not a desirable kind of legislation, and certainly it would be very difficult to carry out, as it has been found to be in every large city. It would be very unfair to pass such an Act when we have never provided any institution to which the unfortunate people who require treatment could go and receive treatment voluntarily.

765. *Mr. Cox.*] Are you aware that it is in force in Queensland? It is not now in force, but it was. It was found to work very badly in Queensland, and proved so exceedingly irksome to a great many people, and hurtful to the feelings of a great many people—and I think their feelings should be respected—that the Act, I believe, had to be done away with.

766. *Mr. Tonkin.*] Would you advocate that one hospital should be used for both sexes? There is no necessity for a hospital for men. I am dealing with the cases of females.

767. Is there not a hospital in Sydney for dealing with ophthalmic complaints? Yes.

768. Could not that hospital be used for this purpose? I think that would be a very good institution for the purpose.

769. Would you advise that the ophthalmic complaints should be treated in the Sydney Hospital, and that the ophthalmic hospital should be entirely used for the purpose you advocate? That was the purport of my advice seven or eight years ago, that the ophthalmic institution should be acquired and devoted to that purpose, and that the ophthalmic patients should be treated in the Sydney and Prince Alfred Hospitals, where they could be treated quite as well as they are at Moorecliff.

770. Do you see any reason to alter that opinion? No, I am more confirmed than ever in that opinion.

771. Is it necessary that an hospital of this kind should be of a private character? Yes, where it would not be overlooked.

772. How many should that hospital accommodate? I calculate it would hold forty. I believe that more persons than that are accommodated there now.

773. Would that be sufficiently large to meet the present demands? I have not made a calculation recently as to the number of cases which it will be probably necessary to treat, but I should say that forty or fifty beds would be sufficient.

774. Would you advise this Committee to recommend that such a step should be taken? Yes; I think that it might very fairly come from this Committee.

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775. That course was suggested yesterday by Dr. Manning? I was not aware that he had it in his mind at all.
776. *Mr. Garvan.*] Is there any strong objection to treating Lock patients at a general hospital? A very great objection. A great many of the women who need treatment would not go to a hospital where they would be subject to the gaze of the general public.
777. Would it not be a greater outrage to the feelings of the patients to have to go to a hospital where the mere fact of their going to it would indicate the nature of the disease? That has not been the case in the countries where I have seen such institutions. People go to these institutions for many purposes besides treatment, and probably they could go without attracting attention. The thing that annoys these people is the fact that visitors continually come to the institution and see them there when they are in a general hospital.
778. *Chairman.*] Are they not in a separate apartment in the general hospital? Yes.
779. *Mr. Garvan.*] In a general hospital could not they be isolated from the gaze of the public almost as well as they could be in a separate institution? It would be possible.
780. In going to a general hospital they would not be suspected of such a disease, whereas, they would be suspected at once if they went to a hospital which only treated venereal disease? In every general hospital I have been acquainted with the proportionate number of beds devoted to venereal disease has been much greater than the proportion devoted to it in Sydney, so that a large number of persons suffering from disease of the kind under discussion do find treatment in general hospitals. But in some of the best regulated towns which I have visited they have also a separate hospital under the care of some individual of experience, who manages to attract these people there—people who would not go to a general hospital, and he even exercises a great amount of control over them—more than you would expect to be possible with persons of their class.
781. In dealing with venereal complaints do you think there is no necessity for specially dealing with males? No; there is no objection whatever to treating them in a general hospital. They are treated in a separate ward so far as a separate ward is available.
782. Are venereal complaints so prevalent as to seriously undermine the health of the population? They are very prevalent in Sydney. There are other places in which they are more prevalent a great deal, but they are very prevalent throughout the whole of Australia.
783. Do you think that if there were better hospital accommodation it would minimise the evils of venereal complaints? Yes.
784. Is there any other disease known to you as a doctor that endangers the health of the community so much as venereal does? Probably not. I do not think there is any other disease which is so insidious in its nature, and which is so desirable to treat specially.
785. Is it more prejudicial to the health of the population than perhaps any other single complaint which you deal with? No; I do not think it kills so many people as consumption for instance, but that is a disease we have not hitherto been able to cope with. We know, however, that proper treatment frees a sufferer from syphilis to a very large extent, if not entirely. We know that that cannot be said of tuberculosis.
786. Is it a fact that syphilis in its after effects sometimes, and perhaps frequently, leads to consumption? That has been suggested, but not demonstrated.
787. As a medical man of large experience in Sydney, do you think it is desirable that provision should be made for treating venereal complaints? That has long been my opinion.
788. More particularly with reference to women? Entirely with regard to women. So far as the male sex is concerned there is sufficient accommodation.
789. Would you now recommend that a separate hospital should be built for the purpose of treating women? I would.
790. What accommodation would you recommend? Forty or fifty beds would be sufficient to begin with.
791. Would it not be much more costly to conduct a separate hospital of forty beds than to provide forty beds at the Sydney Hospital? Yes, probably.
792. Would not there be a great difference? There would not be a very great difference, but the difference would be in favour of the Sydney Hospital. I have taken all these questions into consideration, and after mature deliberation, I have come to the conclusion that the end we have in view would be best served by having a separate hospital for the treatment of Lock patients.
793. What is the accommodation for patients at the Sydney Hospital at present? About 230.
794. Evidence has been given to us that there are demands now for a great many more beds than are available at the Sydney Hospital;—in view of that would it be desirable to increase the number? No; but it would be necessary to increase the number at the Prince Alfred Hospital at no very distant time.
795. Is not the number of beds at the Prince Alfred Hospital as great as at the Sydney Hospital? I should say that there are not quite so many.
796. You see no objection to increasing the accommodation of the Prince Alfred Hospital, but you do with regard to the Sydney Hospital? Yes. The Prince Alfred Hospital might be safely constructed to hold 540 beds, as it was originally intended, but the Sydney Hospital, for various reasons, is scarcely suitable for more than 200 or 220.
797. Will one of those hospitals stand out pre-eminently as being suitable for operations? No; I think not. Perhaps if either of them were to stand out in that way it would be the Prince Alfred Hospital. Accidents do not invariably necessitate operations. The majority of the accidents which occur are fractures of limbs. As a rule they do not require any operation. Operations, on the other hand, are often necessary, because of disease of a more or less chronic nature, which do not necessitate the patients being taken to any particular hospital.
798. Would you advise the concentration of that class of work at one hospital? Yes. I think that class of work could be better done on the whole at Prince Alfred Hospital, having in view the fact that Prince Alfred Hospital is now a Medical School, and that at no distant period it will be a very large Medical School.
799. If all these cases were treated at one hospital, would there not naturally result greater skill in the practitioners who had the greater number of cases to deal with? We presume that all the gentlemen are equally skilful. The committee take the greatest care only to elect men skilled. The comparative merits of each individual operator would be very much in accordance with the whim of the persons who considered the matter. That is a matter of opinion altogether.

800. Would not the skill of an operator be affected very much by the practice he would have in operating? No doubt; but it would be impossible to say that you would send all the accidents to one hospital and all the chronic diseases to another. A certain number of cases of disease other than injury will always go to the Sydney Hospital, and a certain number of fractures will always go to the Prince Alfred Hospital.

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801. You would not make a strong recommendation to alter the existing state of things? No; it would not be desirable.

802. *Chairman.*] Are you a member of the Medical Association? Yes.

803. Did that Association hold a meeting with reference to this subject, at which they passed a resolution? I believe so, but I was not there. I was appointed one of a deputation to wait upon the Colonial Secretary, but I was unable to attend.

804. Did they pass a resolution affirming the necessity of completing the building without saying in what way? Yes. I agree with that resolution.

805. Do you think altogether that a less expensive plan of completing the building would be more desirable;—that is what is called a two story design of Mr. Kirkpatrick? Yes; but I may say that I would rather see the building completed with three stories than see it constructed according to Mr. Rowe's modified plan.

806. Would you agree with the proposal to allow the south wing to remain as part of the modified structure? I think it might very well remain. It is a very good building, and although it was contemplated that that would be pulled down, I do not think there was ever any very great necessity for pulling it down.

807. Do you think that it would detract from the uniformity of the building? It is in the rear, and it is capable of receiving a certain amount of adornment to make it more or less uniform with the general building.

808. Have you made yourself sufficiently conversant with the proposal to form an opinion as to the limit of expense to which the Government should go in the construction of this building? No.

809. You are aware that the latest plan is wonderfully in excess of the original estimate? Yes.

810. Do you think it would be undesirable to go to that large expense? I look upon it this way—that practically the country is committed to this large expense.

811. Do you not think that the modified expenditure would meet with the views of the country? Yes.

812. Do you think that a modified building would be sufficiently creditable to the architecture of the city? Yes.

813. Do you think that any additional hospital accommodation which might be required could be provided elsewhere? Yes; at the Prince Alfred Hospital.

814. Do you think it would be necessary to erect a new hospital in the city on the site of the Fort-street school? No. I think if you complete the Sydney Hospital, even in a modified way, the hospital on the Fort-street site would be unnecessary and undesirable.

815. That would be a good site if circumstances made it necessary to provide additional accommodation? It is impossible that additional accommodation should ever be required at this end of the city if you construct the Sydney Hospital, even in a modified way.

816. With regard to a Lock hospital—have you in your mind fixed upon a site for it? Some years ago I fixed upon a building now used as an ophthalmic hospital, called Moorcliff, at Daves' Point. It would be a matter of some little difficulty, but it would not be impossible to obtain a good site for a Lock hospital if the Government decided to erect one.

817. Are you of opinion that a Lock hospital, so far as females are concerned, should be apart from the general hospital? As far as possible it should be.

818. Is it the case that this complaint is making great strides in the community? I do not think so.

819. Is it making greater strides than in other seaport towns? It is very prevalent, and it is one of those diseases which should not be prevalent if the cases were treated. Every woman who suffers from this complaint is continually disseminating it throughout the city, and that is a very undesirable thing. If she were allowed to go to a hospital for treatment she would not disseminate it any longer.

820. Are these diseases followed by any more acute form of disease? They are not usually followed by any acute disease, but syphilis is attended by a great many lamentable conditions in after life.

821. When you were speaking about deference being paid to the feelings of these patients, did you refer only to prostitutes, or to persons beyond that sphere? Of course, no questions would be asked of the women who went to the institution. All that the authorities would require to know would be whether they were sick. I dare say that the majority of the persons who suffer from this disease are prostitutes; but a very large number who are not technically prostitutes also suffer.

822. Of course, in these cases they would be very glad to avail themselves of an institution where they would be less under the public gaze? I have no doubt of it.

823. *Mr. Copeland.*] In view of the rapid increase in the population will it not soon be necessary to have additional hospital accommodation besides the Sydney Hospital? Yes.

824. That being the case, what objection would you have to make this building four stories, so as to provide for an additional number of beds which are sure to be necessary? I have no great objection to its being made four stories. I said before that modern teaching on this subject would have us believe that very high buildings were not desirable as hospitals, and certainly they would not be quite so convenient for administration.

825. Could they not be made convenient by the aid of lifts and other modern appliances? That would make the building more convenient than it would otherwise be. There is no very particular objection to this building being four stories high.

826. Would it not be more ornamental and more in accord with the nature of the other buildings in the city to make it four stories high? That is a matter of taste; I think on the whole it would.

827. Would it not be beneficial in this way, that the higher the bedrooms the cooler they would be in summer time? I have no doubt that in this building every room in the hospital will be all that could be desired for the treatment of the sick.

828. Would there be very little danger from fire in a building of that kind? No danger whatever.

829. As a medical man you do not see any professional objection to having a building four stories high? Practically, I do not.

830. Would it not be cheaper to get this additional number of beds which may be required by adding an additional

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- additional story to the building instead of erecting a new hospital? I doubt very much whether it would be cheaper than to build another pavilion at the Prince Alfred Hospital.
831. Do you consider there would be no special advantage in having the bedrooms away from the ground in the higher atmosphere? I do not think so.
832. From your experience as Medical Adviser to the Government, what would you advise with reference to allowing the Directors of the hospital to retain the management, supposing the Government expends this large sum of money;—would you advise that the Directors still retain the management, or hand it over entirely to the control of the Government? I do not think that it is a very good thing for the Government to have the entire responsibility of such an institution as this. Probably the expense would be less, but other considerations would arise, such as the fact that the benevolence of the people would be more or less checked by their being rid of the responsibility of dealing with the sick. It would pauperise the people altogether.
833. On the other hand, do you think that it is desirable to hand over such a large amount of public money to the management of an irresponsible Board of Directors? I think experience has shown that it was rather a mistake.
834. Could you suggest any intermediate course, so that while the Government would retain some control there would still be something like a Board of Management—a Commission or something of that kind? I have not formulated any scheme that would meet the case.
835. I gather that you do not consider that either system is entirely satisfactory? No.

John Kirkpatrick, Esq., Architect, sworn, and examined:—

- J. Kirkpatrick, Esq.  
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836. *Chairman.*] Are you an architect in Sydney? Yes.
837. How long have you been practising your profession? About thirteen years.
838. Did you submit a design for the Sydney Hospital? Yes.
839. Was that at the same time as the accepted designs were submitted? Yes.
840. Had those designs to be accompanied by a builder's certificate, certifying that the works could be carried out at the estimated cost? Yes.
841. Was the design which you submitted so certified to by Mr. Alexander Dean? Yes.
842. What was the estimated cost? I have forgotten the exact amount, but I think it was about £45,000.
843. Did Mr. Dean inspect the design thoroughly before he submitted his certificate? He did so, very carefully indeed.
844. Did he certify to the practicability of carrying out your design within the price? Yes.
845. Were the other designs accompanied by builders' certificates? That I do not remember now; but I heard afterwards, in conversation, that the successful designs were not accompanied by a certificate.
846. How many other designs were lodged besides your own and Mr. Rowe's? I think there were thirty-five different designs.
847. Were the bulk of them accompanied by builders' certificates? I do not know.
848. Do you know anything of the circumstances under which the estimate of the successful design was altered from the original amount to the large amount to which it subsequently grew? No, except I was very much surprised to see the original design carried out in stone.
849. Did it originally provide for brick? No, it was an open question. Each competitor was allowed to say what he would construct the buildings of—brick or stone—according to certain designs.
850. Your design provided for the construction of a building in brick for £45,000? Yes; in the same manner as Prince Alfred Hospital has since been carried out—that is, with double pressed brick, with stone coigns and cornices.
851. Did Mr. Rowe's original design provide for stone or brick? It would not show. The drawings were originally sent in on a very small scale—one-sixteenth of an inch to the foot. On such a scale it would be impossible to show whether it was brick or stone; it would merely show the general character of the design. I sent in three designs, marked respectively "Health," "Nightingale," and "Economy," for one express purpose—to show the Board of Directors that it was impossible to get the accommodation they required without going up into the air by building five or six stories high. In the design marked "Health" I considered that it was necessary and better to put the wards containing the beds at the back and not at the front. The design marked "Nightingale" was drawn, not for the purpose of showing that it was a good design, but to show that placing the wards fronting Macquarie-street, as in the successful design, would be a mistake, because the wards would have to be so small and short that they would only contain about sixteen beds, which is considered by hospital authorities to be a waste of money, because one nurse is supposed to be able to attend to thirty or forty patients, and in this case one nurse would be only able to look after sixteen patients. This plan showed distinctly that the proper position for the wards was at the back. Out of thirty-five competitors, twenty-seven put the wards to the back. I think the balance of the designs placed the wards in the front. I think it would be a disadvantage of a serious kind to have the wards in the front, because they would not have such a pleasant aspect as they would have looking over the Domain, besides being exposed to both westerly winds and the westerly sun. Another feature was that in constructing the wards in length available for only sixteen beds it simply left a little channel between the administration block and the other parts of the building, which, instead of serving any beneficial purpose, would create a draught. I therefore desired to put these wards in the back, as shown in the plan marked "Health."
852. How many beds did the design which you have been describing provide for altogether? One hundred and thirty-six.
853. Is that in the gross? Yes; but we were instructed that the south wing should remain. The Nightingale wing was also to remain.
854. Would the south wing interfere with the architectural appearance of the buildings? It would not be seen from the front. If Mr. Rowe's design is carried out, the south wing will have to be removed.
855. Will that design encroach upon the south wing? Yes; in these designs the buildings are put 50 feet back from the front. We were instructed to do so. In the design marked "Economy," I have shown the frontage to Macquarie-street with the entire ward. That shows the only way in which, placing the wards in the front, the necessary accommodation could be given in a two story building. There are hospitals in the world having more than two stories, but our instruction was to keep the hospital down to two stories.

856. *Dr. Garran.*] In your statement as to the number of beds in your design, have you not omitted to mention eighteen beds in the ophthalmic ward? Yes.

857. *Chairman.*] Is that in addition to the 136 you have mentioned? Yes; and in the children's ward there are twenty beds, and in the casualty ward six beds.

858. What is the total number of beds in that case altogether in your design? That is 180 beds. That is including the medical and surgical wards and irrespective of the south wing.

859. Would that give 258 beds altogether, including the south wing? Yes; 258 altogether. In the design marked "Health," the Macquarie-street frontage is shown two stories in height on the two side wings, and the administration block is three stories without the basement.

860. Have you had much experience in hospital construction in other places besides here? No; I studied under Sir Alfred Roberts for some considerable time in connection with the Prince Alfred Hospital, and I made a study particularly of the Johns Hopkins Hospital, in America.

861. Do you think that your design would meet the requirements of a main hospital in Sydney? Not for a main hospital. I still think it is only sufficiently large for an accident hospital. Without the Prince Alfred Hospital this would be nearly useless.

862. *Mr. Tonkin.*] Was competition invited for these plans in the newspapers? Yes.

863. Were any particulars of specifications given? Printed terms and conditions were supplied, which I now hand in. The advertisement merely stated that the Board required designs, and certain premiums were offered.

864. Were you bound down to any particular sum of money? The advertisements did not refer to the sum of money, but we were asked to call on the Secretary who would supply terms and conditions.

865. These terms do specify the accommodation to be provided? Yes; clause 3 provides that the cost of the building is to be £45,000.

866. Were you instructed that in sending in your plans it would be necessary to attach a builder's certificate that the building could be erected for the amount specified? The terms and conditions referred to stated that such a certificate was to be sent in. I concluded that that meant an independent certificate, so I asked Mr. Dean to give me a certificate.

867. Did you comply with these terms and conditions? Yes.

868. Have you reason to believe that the other competitors did not do so? Yes; I heard that the successful competitor or competitors did not do so. Mr. Rowe won the first prize, and Mr. Backhouse was awarded the second and third prizes. Why he was awarded the third prize was a puzzle, because one design was a duplication of the other—a tracing.

869. I suppose you could have put in a different plan if you knew that the expenditure might be £200,000? I would not have put in a different plan except that I should have made the front a great deal more elaborate, but I would not have made it more than two stories in height. I would have designed the front building for stone and made it more elaborate; but I could not have made it cost £200,000.

870. Taking your design, which is estimated to cost £45,000 in brick, what would have been the difference in cost if it were constructed in stone? It would have cost about 15 or 20 per cent. more in stone.

871. It would not have cost double? No.

872. Who were the other competitors besides the successful one? I think nearly all the Sydney architects.

873. Did they all send in certificates and comply with the terms and conditions? I was only new here then, and I did not know much of them personally. After the decision was given there were a great many letters in the *Sydney Morning Herald* from the competitors expressing dissatisfaction.

874. *Mr. Garrard.*] Is not that always the case? Nearly always.

875. *Mr. Tonkin.*] Who were the judges in this competition? I was told simply that it was the Board of the Sydney Infirmary. I do not think anyone else was called in. I thought they would have called in an architect like the late Mr. E. T. Blackett, or someone not competing.

876. When you prepared these plans, did you write out any particulars showing what the cost, or the approximate cost, of carrying out the design would be? I gave a very short *resumé* of the specifications for Mr. Dean's guidance.

877. Did Mr. Dean have sufficient information from you to take the quantities? I think so.

878. Have you any reason to believe that Mr. Dean under-estimated the cost of the building? I am sure we could now carry out the building for the same money.

THURSDAY, 18 DECEMBER, 1890.

Present:—

THE HONORABLE JOHN LACKBY (CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHRY.

The Hon. WILLIAM JOSEPH TRICKETT.

The Hon. GEORGE HENRY COX.

HENRY COPELAND, Esq.

JACOB GARRARD, Esq.

JAMES EBENEZER TONKIN, Esq.

WILLIAM SPRINGTHORPE DOWEL, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM MCCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

John Kirkpatrick, Esq., Architect, sworn, and further examined:—

879. *Mr. Tonkin.*] The certificate that was handed in by Mr. Dean in reference to your design was, I suppose, a guarantee to carry out the work in a thoroughly substantial manner? Yes.

880. It was not put in on the understanding that the work would be done in the most flimsy manner possible, so as to carry it out for the specified amount of £45,000? Oh no, certainly not.

881. It was to be carried out in a proper workmanlike manner? In a first-class manner—not with stone, but with brick and stone dressings.

882. If an alteration were made in building, as has been suggested, the cost would be £55,000, or 20 per cent. more? Yes.

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883. Does Mr. Dean hold a prominent position as a builder? Yes, he holds about the most prominent position as a builder, I think, in Sydney.
884. Do you know whether he has been connected with any large buildings in Sydney? Yes, I think he has been connected with most of the very large buildings in Sydney. He is now completing the large "Australia Hotel" building.
885. You have no doubt, from your own knowledge also, that his estimate was a reliable one, and that the work could be carried out for the price he mentioned? I am sure it could have been carried out for the price he gave.
886. In the event of your plans having been accepted, what position would you have been in with regard to the erection of the building? I should have expected to be appointed the architect for the building, and to have had the supervision of the work entrusted to my care. The conditions, I think, said that the Board had the power to appoint any architect they liked to carry out the work; but it is usual for the successful architect to be employed to carry out the work.
887. It is not exceptional, however, for the conditions to state that the right to employ any other architect to supervise the carrying out of the work is reserved? No.
888. I think that is done as a rule in case any man whose plan might be approved might himself not be a man that they would have confidence in to carry out the building? Yes; that is the idea of the clause.
889. So that is not exceptional? That is the ordinary clause which appears in all conditions of competitions.
890. Had you received the commission to carry out the building you would not have expected any bonus for the plans in addition to the ordinary commission? No. I think the conditions stated that the bonus was to merge into the commission. I have forgotten the terms of the conditions.
891. In the event of your plans having been accepted, and you having been authorised to carry out the work, would you have called tenders for (say) the basement, or would you have called tenders for the whole building—what is the usual course adopted? I will mention the course that was adopted with me in regard to a certain competition connected with the erection of the Presbyterian Church at Ashfield some years ago, when I gained the first prize. I was appointed the architect to carry out the work, and the committee instructed me to at once call for tenders for the whole building, which was to cost £6,000, but the lowest tender for the whole of the work was £8,000. Then they asked me if I could reduce my plans so as to make the cost £6,000, and yet carry out something of my design. I could not do so, and I relinquished the work, and twelve or eighteen months afterwards they erected a much cheaper building in brick.
892. In calling for tenders for this class of buildings is it usual to call for tenders, in the first place, for the whole of the structure, or is it usual to merely call for tenders for a portion—say the basement or anything of that sort? Sometimes tenders are called for portions of the work. But in all the competitions that I am aware of tenders have been called for the entire building, so as at once to ascertain what would be the total cost.
893. I suppose that you have not very minutely examined Mr. Rowe's plans? I did after the competition, and when they were open for the public to view in the Town Hall; but that is very long ago, and I have forgotten the exact details.
894. Did you, at that time, when you saw those plans exhibited form any idea as to the probability of the work being carried out at the specified price? I thought, and I expressed the opinion to some friends, that the building would cost something like £90,000—twice as much as the estimate; but I only judged from the small sixteenth scale drawings.
895. *Mr. Trickett.*] You have seen the foundations of the present building in Macquarie-street? Yes.
896. Do you think it would be possible to utilise those foundations as far as they have gone, for the purpose of any other building, such as an art gallery or law courts? I do not think that law courts would fit into the present foundations. They might be utilised for an art gallery if certain alterations were carried out.
897. The basement could be used for statuary rooms, and the top part could be made into an art gallery? Yes; I think an art gallery is as good a suggestion as I have heard for the utilisation of the work that is at present up.
898. But you do not think that they would be suitable for law courts? I am sure they would not.
899. The arrangement of the foundations is such that you do not see how they could be used for that purpose? I am sure that no architect could turn the building into first-class law courts.
900. *Mr. Garrard.*] The plans that Mr. Rowe sent in for the competition are quite different from the plans upon which the building is being constructed—are they not? That I could not say now from memory. I believe there were alterations, but it is twelve or thirteen years since I saw the competitive designs.
901. You are not aware of the fact that has been stated here, that the competitive plan that Mr. Rowe sent in originally, was sent to the medical officers for revision, and that afterwards instructions were given to him to draw new plans altogether, and that this was done, and that the building was begun upon these new plans? I was not aware of that. This is the first time I have heard of it.
902. *Dr. Garran.*] You say that you have studied the question of hospital structure considerably? Yes.
903. In building the wards is it a fixed rule that you must have a window between each of the beds? Yes.
904. Will you look at these plans (Mr. Rowe's) now before the Committee and see if, following that rule, we could have as many beds as are shown on those plans? No; I am inclined to think that there would be fewer beds put in than are shown here. There are seven beds shown here, and one suggested to be placed in the corner, but this bed would be practically jammed against the wall. We generally leave 4 feet between the beds and 5 feet between the end wall and the first bed, and in the 4 feet spaces we put the windows. Each window is, as a rule, brought down to within 2 feet of the floor, and run up to within 18 inches of the ceiling, and divided into sections in such a way that the upper part could always be open for ventilation purposes, but could be closed in case of great draught.
905. Then you think that sixteen beds is the maximum number that could be put in that ward? No more could be put there without departing from the accepted regulations for hospital wards, namely, that beds should be at least 4 feet apart, and that there should be a window between each bed.

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906. *Chairman.*] You are now speaking of the third floor? This is the third floor; but my remarks apply not only to the third floor, but also to all the floors from the ground floor upwards.
907. *Dr. Garra.*] But would not the great space between the bed in the corner and the one on the other side of the door compensate for the being nearer the wall? No; I think the bed should be away from the wall at least 5 feet. I notice that that has been done with regard to the first bed, but this one is put in close. You could not move that bed closer because patients do not generally walk to the bath-room, and many have to be wheeled there, and great space is therefore required near the entrance.
908. This is a very important question, because Mr. Russell, the Secretary of the institution, has calculated for twenty beds in each of these wards? They could not be put there.
909. You could not put twenty beds in without drawing them nearer to each other than the regulation distance, and putting some of them under the windows? I am sure you could not get another bed in there. It would be impossible. Four feet is a very little distance. If it were less a patient would be able to reach another patient in an adjoining bed, and it would never do.
910. Practically, the number of windows determines the number of beds? Yes; as a rule.
911. And it is a general rule that the windows should come down to within 3 feet of the floor? To within 2 feet of the floor.
912. For hospital purposes long and narrow windows are the best? Yes.
913. But they do not produce the best architectural effect? No; it is unsightly to have them out of proportion.
914. If you have the windows of your wards to face a particular way, and you want great architectural effect, you are, to some extent, hampered so far as your frontage is concerned by practical necessities? Yes.
915. That would be a good reason for all the windows of your wards to be away from the front? Yes.
916. And that is what you provided for in your plans? Yes.
917. And the frontage on your plans is reserved for administrative rooms? Yes, and for a children's ward, which, I think, is not of so much consequence, those patients being smaller in number, and the ophthalmic patients also.
918. In the plans of your wards have you provided a window between each bed? Yes.
919. You have given the requisite space? Yes, I have given 6 feet and 5 feet from the walls, and 4 feet between each bed.
920. Will you look at this plan of the surgical ward again;—you observe these corner rooms—does it not strike you that for bath-room, lavatory, water-closets, and linen-closets, these massive stone walls are very expensive? Yes, very.
921. If you look at this square corner, is not the space occupied by the walls alone very nearly as much as one-half of the area inside? It is not quite one-half, but nearly.
922. Is that not a very expensive method of building? Very.
923. And this occurs on every story? On every story from the bottom to the top—five stories.
924. Even in the large wards is not the quantity of thick stone wall very great compared with the area? I think that considering there are balconies, these walls could have been reduced considerably.
925. And yet comply with the building conditions? Yes; 18 inches thick is the usual size for all houses built with stone walls, and that would have been ample.
926. You think that the stone work is needlessly massive for the wards? Yes.
927. What do you think is the most rain proof—a stone wall or a pressed brick wall? I think we have found that the brick is more rain proof.
928. If the wall is protected by a balcony, as this is, a double pressed brick wall would be pretty well rain proof? Yes. At Prince Alfred Hospital the work is carried out with brick walls, and there are two walls with a space of three inches between. There is a 9-inch wall of double pressed bricks and a 9-inch wall of ordinary cheap bricks.
929. And that wall is perfectly dry inside? Yes.
930. And yet it is in an exposed position? Very.
931. You do not need thick stone work so as to have a dry wall? I do not think the stone work is dry. In all the old stone buildings erected in Sydney in the early days we find that the inside of the wall is lined with battens, and that these are covered with laths and plaster, so that if the water comes through the wall it does not show in the interior.
932. Is our Pyrmont stone porous? Very.
933. Then really a stone wall, 2 or 3 feet in thickness, is not so dry as the brick work at Prince Alfred Hospital? No.
934. And much more expensive? Yes.
935. It is very important, I suppose, to keep a hospital very dry? Very important indeed.
936. Really we could have had a better wall in brick than we shall have in stone? Very much better.
937. Stone is really not the best material for a hospital wall? No; the greatest hospital of the age is, I think, the Johns Hopkins Hospital at Baltimore, in America, and the building there has been carried out in brick work. They were some two or three years studying the matter before they commenced to build at all, and then they selected brick as the material to be used in the construction of the hospital.
938. If you had to advise the Committee *de novo*, you would not advise them to put stone walls into this hospital? No.
939. You think a mistake has been made in building it with stone? Yes; I think so, on account of the dampness that will gradually soak through the wall.
940. Then we have gone to more expense to get a less suitable wall? I think so.
941. Supposing we put another story on the top, do you advise that that story, being more exposed even than the lower one, should be made of brick, or would it spoil the features of the building? It would spoil the features of the building very much. A great body of the work having been executed in stone, I should say that the front of the building should be carried out in stone, but that the balance of work at the back should be carried out in brick.
942. There is no necessity to do more than the front in stone? No.
943. The back is not very visible from the Domain, is it? It will be.
944. But you would not object to put the back in brick? No; I think that the back in brick, cemented, would answer the purpose far better than if it were in stone.
945. You think that the upper part of the detached pavilion might be in brick—one of the pavilions on

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the eastern side, which has been begun, you would complete in brick? Yes. It would only be for the sake of the front to Macquarie-street that I would recommend stone.

946. I ask you whether, if we put only one story on, and did not make it the complete height proposed, you, as an architect, think that it would look an unsightly thing in Macquarie-street? I think it would.

947. To make it a good architectural building we must put the four stories? Yes. These pilasters are so very wide and massive that they make the building look more squat than it really is. If these pilasters had been kept narrow, instead of being so broad and massive, I think the two stories would look very well.

948. Could not that be relieved by carrying the tower up sufficiently? No, I think not. There would be no use in carrying the tower up higher—you would want a staircase to get there.

949. You think then, that for architectural reasons it would be better to put on the four stories? Yes, for architectural reasons only.

950. So far as you have studied the question as an architect, do you concur with those who dislike four stories for a hospital? Yes; I think that all hospitals that are carried out with more than two stories are very much more expensive. Each ward must have a nurse's room and a scullery, and then there would be the cost of having an extra nurse.

951. So far as your studies have led you to determine, what is the largest number of patients that one nurse is supposed to be able to attend to properly? I think between thirty-five and forty.

952. If we are building wards here for only sixteen beds in each, and if we must have a nurse to each ward, we are going on an exceedingly expensive plan of administration? Very expensive indeed.

953. Can you tell me how many beds there are in each ward of the Prince Alfred Hospital? I think thirty-five.

954. And one night nurse is sufficient for each ward? Yes.

955. And we shall want more than double the number of nurses? Yes; and each ward will have to have its own separate scullery. In this hospital the nurse's room, I was informed afterwards, would not be required, as they have the "Nightingale" wing, where the nurses live; but in Prince Alfred Hospital they are building a nurses' home for the nurses, so that they shall not have to sleep in the wards.

956. Still, there must be a scullery attached to each ward? Yes; and a nurse's sitting-room adjoining the scullery.

957. This plan chops the hospital up into rooms that are too small? Yes. The nurse's room is absurdly small—only 8 feet by 13 ft. 6 in. In that room the nurse would have to look after things for sixteen patients, keeping things hot that were brought from the kitchen, and doing other work there. It is not the width of an ordinary passage.

958. You do not think that a good working plan? No, I do not.

959. Do you think that the wards are too much scattered? No, I do not think that they are, but they are too jammed together. There is only 16 feet between them.

960. What breadth do you provide in your plan? I have given an open area in front of 48 feet, and a space of 54 feet between all my main wards.

961. What size do you make your nurse's room? I have given the nurse an area of 275 superficial feet, against 108 superficial feet in the accepted design. I have the nurse's room on one side and the scullery on the other.

962. It has been stated by some person that the westerly winds are unfavourable winds to play upon the walls of a hospital. In your plans you protect the walls from the westerly winds? Yes; they are entirely protected from the westerly winds.

963. And yet exposed to the sea breeze? Yes.

964. But on the plan that is before us the majority of the beds will be in wards exposed to the west? Yes.

965. So that in that respect the advantage of the situation has not been utilised? No; I think it is self evident that the wards of this hospital, situated near the beautiful Domain, should face the east, and not the west, otherwise you will have not only the inconvenience of the hot western sun, but also the westerly winds, in addition to the disagreeableness of facing the street.

966. The back windows of these front rooms will have an easterly aspect? Yes; but only a portion of them will have the view; the view being so interrupted by other buildings.

967. If you were planning the hospital *de novo*, you would try to keep the wards free from a westerly aspect? Yes.

968. That has been omitted on this plan? Yes.

969. On the contrary, we put the bulk of the beds in wards exposed to the west? Yes; by setting them out in the way that they have been set out in the accepted design these short wards are necessitated—there is no room. I sent the "Nightingale" and "Economy" design in merely as examples to show that no proper design could be carried out with the wards to the west. In the "Nightingale" design the wards are shown entirely to the west, and by the "Nightingale" design I wished to show the defect in the system. In order to get a two story pavilion you have to cut off the walls there, as Mr. Rowe has done here. If the wards are built to the west there is only this way of treating them in short wards to accommodate sixteen beds each, and more nurses will be required, and more nurses' rooms will have to be built. There is only this method of treating the site, or the method of throwing the wards to the back, as shown in my design, and using the front entirely for administrative purposes.

970. Though you think the design is faulty, you do not think that it is so faulty that you would abandon that structure now? I think I would abandon it entirely.

971. And devote it to some other purpose? Yes.

972. And build a better planned hospital somewhere else? I think so.

973. That is your feeling as an architect? Yes; I am fully convinced that the hospital will not be a success when it is finished, if it ever is.

974. You were asked if the building could be turned into an art gallery—do you think that it would be suitable for Parliament House? No, no more than for law courts.

975. You could not adapt it? No.

976. Might it be suitable for the purposes of a public library? No, I do not think so.

977. Nor a museum? Yes, for a technological museum or for an art gallery, but not for a first-class art gallery.

978. The light would not be very good for an art gallery? You might use the floor that you intend to put on for an art gallery.

979. But the side-lights of these floors would not do? No; but I should say that the first floor which you intend to put on the present structure would do for the exhibition of pictures, and the floors built already, and the basement, would do for the exhibition of statuary.

980. You have suggested that if we finished the building we should do the front in stone, but I suppose that we need not keep to the same thickness of stone? No.

981. Much lighter work would do? Yes.

982. It would only have the roof to carry? That would be all.

983. Do you think that the roof as shown here is too heavy? Not for the full design.

984. If we shortened it by one story the roof would be disproportionately heavy? Yes, very.

985. Would it not look very bad to have so big a roof on a low building? I think so. It would look all roof—it would have a good Indian bungalow look.

986. If we diminished the height we must alter the roof? I think so. This roof would be very steep. The surgical ward is only 26 feet wide, and the roof is 20 feet high. Why they want a roof 20 feet high with nothing in it I do not know.

987. *Mr. O'Sullivan.*] If this design were abandoned, and some other building established in place of the hospital, where do you think we could place a central hospital in Sydney? I think in the Flagstaff-hill direction there would be the most suitable place for a good central hospital such as the Sydney Infirmary.

988. Do you think that the site would be as convenient for people within a radius of 1 mile of the centre of the city as this one is? I think it would be more convenient. We have such an enormous area of parks—we have Hyde Park and the Domain dividing off the eastern portion of the city, and patients from that side have to be brought a long distance, and I think that most of the people that are placed in the Sydney Infirmary come from the western suburbs.

989. If it be decided that this building shall be completed, how far are we going to make it useful and advantageous in carrying out the objects of the hospital? I would not recommend it to be completed at all. I think it would be a complete failure as a hospital. I am sure that the inside portions that I have referred to—the nurses' accommodation, the staircases, and the passages—will certainly have to be altered—in fact, taken to pieces.

990. You do not think that, even if it were finished at the cheapest possible cost, it would be worth our while to carry it on as a hospital? It would perhaps be better to have the present stone building roofed in and the walls roughly cemented inside, so as to place in it temporarily the patients at present accommodated in the old wooden structure, which is in danger every day from fire. If £1,000 would roof it in you might perhaps make it habitable for the purpose of utilising it temporarily as a hospital, but I think that it would be better to convert it, as suggested, into a technological museum, or something of that kind, and make the building of a more permanent character.

991. Would it be desirable to pull down the walls and take up the foundations and carry out a different design altogether on the same site? That is my opinion. I would make the first loss a bad loss and pull the building all down, clear it away, and not have a hospital there at all.

992. You are aware that the walls and foundations cost about £60,000? Yes; but plenty of money has been expended by everyone and wasted, and this, I think, is unfortunately one of the cases of waste.

993. Would the stone and other material be useful for any other building? When you take down building materials you scarcely get anything for them.

994. You think it would be better to pull down the walls and take up the foundations, though they have cost £60,000, and to build in their place something of similar character, but of better design? Do you mean to build a hospital on the same site?

995. Yes? No, I do not think so. I think that a hospital should not occupy that site. I do not consider that it is a central or suitable site for a hospital.

996. You have a very strong objection to the site? I have not a very strong objection to the site, but I think that a more suitable site could be found for a hospital.

997. You have a very strong objection to the design? Yes; to the wards facing the west, and they will not be treated on what I consider a good working plan if it is carried out.

998. *Mr. Copland.*] Do you think that any better site could be chosen for a hospital, considering that this site is adjacent to the Domain:—is there any other site with an equally good aspect, considering that there is the grand Domain and the Gardens so near:—would they not be as useful to the hospital as though it were standing in very large grounds? I am of opinion that the hospital would be better placed if ground could be obtained anywhere in the direction of Flagstaff-hill. There are several sites in that direction which would be more suitable for a hospital.

999. Are there large sites there where you could have grounds in connection with the hospital? I think so. There are several open spaces on a much higher elevation, and I think as pleasantly situated as Macquarie-street is for a hospital.

1000. Would Flagstaff-hill be more sheltered from the westerly winds than the present site is? No; it would not be more sheltered nor more exposed. But the building could be designed and the wards placed in such a way that you could avoid both the westerly winds and the western sun.

1001. You said just now that this building might be used for an art gallery, although it would not be altogether suitable; do you think it could be adapted for a college for the training of teachers for the public schools. You know that the Government propose to erect a college for the training of school teachers at an estimated cost of £37,500;—do you think this could be made as suitable for that purpose? Yes, it might do for that.

1002. I suppose that the wards would do for dormitories for the students? Yes, and for class-rooms.

1003. I suppose we might reckon that it would give accommodation for at least as many teachers as it is designed to give accommodation for patients? No; I do not think that it would give accommodation for teachers to the same extent that it would give accommodation for patients, for a patient only occupies a bed, and all the wards are utilised for patients' beds, but a certain number of the wards would have to be utilised for class-rooms if the building were made into a college.

1004. Would not some of the administrative rooms be useful for class-rooms? I do not think that they would be sufficiently large—they are not very large.

1005. You think that the situation would be a suitable one for a training college? Yes; I think it is a very suitable position for a good training college.

1006. Would it be possible to so design the upper part of the building that has still to be erected as to make

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- make it more adapted for the purposes of a training college? I think so. I think that the part which is being erected could be designed economically and suitably for a training college.
1007. So as to provide larger class-rooms, lecture halls, &c., in the upper part of the building? Yes; that could be done.
1008. *Mr. Garvan.*] If it is determined by Parliament that the hospital is to be completed on the present site, what would you recommend us to do with the existing structure, or would you suggest the advisability of inviting architects to submit fresh designs in view of the existing work? To convert this into a hospital—well, I do not think that many architects would be able to convert it into a good hospital. I, for one, would not think of sending in designs to convert this into a first-class hospital.
1009. Supposing you were charged with the work of making the hospital as best you could out of the existing structure—have you any idea at present as to what you would do with it? No; I have no idea at all. I would not like to have to do it as the building stands at present.
1010. Your advice would be to discard it altogether as a hospital? Yes.
1011. And to erect the hospital on some other place? Yes, in another position.
1012. Do you remember the time when you sent in plans at the invitation of the Trustees of the hospital about twelve years ago? Yes, in 1878.
1013. Did you consider at that time that the entire cost of the structure should not exceed £45,000 was actually incumbent upon you in sending in your plans? Yes, so incumbent that I set to work to design one that would cost that amount. To make doubly sure that my design should not be put aside on the strength of cost, I went to the trouble of getting an estimate from Mr. Dean.
1014. Would an architect, in view of the terms upon which those competitive designs were invited, be justified in sending in plans that he knew would cost considerably more than £45,000 to carry out? No, he would not be justified, but in very many cases competitive designs are called for buildings, and the amount stipulated is too low to carry out the work that is required.
1015. In such a case would the architect in sending in his plans, if he could not get the cost within the stipulated sum, give information as to the additional cost of carrying out his plans? I should recommend him to do so. As a rule it is not done.
1016. If you were competing for a prize in sending in plans, would it be a fair thing, and in accordance with the ideas of architects generally, to withhold the probable cost of carrying out the plans that you were sending in? It is very rarely that we are asked to give the exact cost and to be so particular as I understood from the terms of this competition for the new hospital. There was a special clause. As a rule it is generally mentioned in the clause that the building shall be erected not to cost more than a certain stipulated sum. But there is always a certain percentage over and above that allowed, and it is thought a fair thing to allow the architect to exceed the stipulated amount by say 10 per cent.
1017. Would it be considered a proper thing to send in plans on the express stipulation, as contained in these terms, that the cost would not exceed £45,000, and for the architect to withhold the information from the Trustees to whom the plans were sent when he knew that the building could not be erected for less than £100,000? No; that would not be a fair thing.
1018. Would you as an architect do it? Well, I did not do it. I sent in Mr. Alexander Dean's tender.
1019. There may be a code of rules among architects, and what I am desirous of ascertaining is whether amongst architects generally it is deemed a correct thing to send in plans under such conditions as are named there? It is positively not right for an architect to send in a design for a proposed building which he is fully aware is going to cost twice or three times the sum allowed by the conditions for the completion of the building.
1020. If it is decided to complete the hospital on this site, have you definite ideas as to what extent of accommodation should be given there? I do not think that the site would accommodate more than 200 beds, and even that number, I think, is rather more than the site should be asked to accommodate. There is not sufficient area for a proper hospital there. I think that under 200 beds would be better than over.
1021. *Mr. McCourt.*] When you sent in your original plans you were limited to a cost of £45,000? Yes.
1022. You are aware now that the building if completed on Mr. Rowe's plans would cost about £210,000? Yes.
1023. Supposing you were asked now to send in plans limited to £210,000 cost, could you very much improve on Mr. Rowe's design for an entirely new building? I think we could design something very much better, and I think that Mr. Rowe himself also could design something better now.
1024. Would it be so much better that it would be worth while to lose the £68,000 already expended? I am sure it would.
1025. Therefore you recommend, if the hospital is to be built, that new competitive designs should be invited? I do not know that I would recommend that new competitive plans should be invited, but I would recommend that entirely new designs should be obtained. Let a Commission be appointed, and let the Commission itself choose an architect fit to carry out the work, and let him prepare improved plans; but do not have a competition among the architects, for half the competitions are really useless.
1026. The Government would gain ultimately by sacrificing the £68,000 already expended? I am sure they would.
1027. *Mr. Dowd.*] Do you consider that your design, under the motto "Health," is superior for hospital purposes to the design of Mr. Rowe, which is now before the Committee? Yes.
1028. Have you good professional reasons for making that statement? Yes.
1029. What are the principal reasons? One of the principal reasons is the knowledge that I have since obtained of hospital construction, as well as what I had when I made the design.
1030. Are you aware that a sub-committee or board was appointed to determine the value of those plans, and that they recommended that your plans should be adopted? No, I did not know that my plans were recommended for adoption.
1031. You could not say why the Board of Directors did not carry out the recommendation of the sub-committee? No.
1032. Did you furnish with your plans any description or specification of the work generally? No; not a working specification for carrying out the work in its entirety. I gave a general description of the construction of the building, and the materials to be used therein.
1033. A sufficiently good description to enable the Directors to know what sort of a building you proposed to erect? Yes.
1034. What were the principal features in the description of the building for which you prepared this specification? I have an exact description here.
- 1035.

1035. Will you allow me to look at it for one moment? Yes.
1036. Are you aware whether Mr. Rowe sent in an elaborate description of his proposed building in the same way that you did? I believe he did.
1037. You proposed to erect buildings, the basement story and the foundation to be of stone? Yes.
1038. And the superstructure of white double-pressed bricks? Yes.
1039. And stone dressings? Yes.
1040. You consider that an eminently proper way of providing for the construction of a building as regards the walls? Yes.
1041. Then in reference to your internal fittings, did you provide all that was necessary as regards accommodation for the latest known requirements for hospital purposes? Yes.
1042. And you are still convinced that your design could be carried out for £45,000? Yes.
1043. And that considerable saving could be effected in the management—in working expenses—by the carrying out of your plans? Yes.

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The Hon. Henry Norman MacLaurin, M.D., M.L.C., sworn, and examined:—

1044. *Mr. Trickett.*] You are a doctor of medicine? Yes.
1045. And a member of the Legislative Council? Yes.
1046. For some time you occupied the position of Medical Adviser to the Government? Yes; three or four years.
1047. I think you were also on the Board of the Sydney Hospital? I was for some time—many years ago.
1048. Have you resigned that position? I was for about ten years one of the honorary medical officers, and for several years I was on the Board of Directors as the representative of the staff.
1049. Were you on the Board at the time these plans were called for? No. As far as I remember I was not the representative at that time—one of the honorary medical officers, but not on the Board.
1050. You know the present portion of the building that has been erected in Macquarie-street? Yes.
1051. And I suppose you have seen the plans of Colonel Rowe for the proposed building? Yes; often.
1052. What are your views with regard to those designs? I always objected to them.
1053. Would you kindly tell us why? First of all because the principal wards were exposed to the west, facing Macquarie-street. I always maintained that the wards should be arranged in parallel structures, going towards the Domain, and that only the administrative part of the building should face Macquarie-street. and secondly, I objected to so many stories of wards one above the other. I do not think that we should have more than two flats of wards one above the other.
1054. You think that facing the west is a great objection to the hospital? A very great objection in that situation, because the wards are exposed to the afternoon sun, and to the westerly wind, which is very hot in summer and very cold in winter.
1055. Do you remember the old Sydney Hospital which was demolished? Yes.
1056. Those wards had windows to the west—had they not? They had.
1057. Can you state whether that was felt actually as a matter of inconvenience in that hospital? They were very hot in the afternoon on a summer day, and also very hot when the westerly wind was blowing in the summer time. In winter they were very chilly when the westerly wind was blowing.
1058. Did those climatic influences lead to frequent comment? We always thought that the westerly wind—the summer westerly wind in particular, was injurious to the patients.
1059. That was a matter of remark? Yes, of common remark, especially among the older surgeons of the institution at that time.
1060. This design has large windows to the west, has it not? I believe so.
1061. Do you think that the same objection would prevail with regard to the health and comfort of the patients? I think that is an objection.
1062. With regard to the height of the building, would you state for our information what are the objections to the number of stories? I do not think that there ought to be more than two tiers of wards—that is, one ward above another—for convenience of ventilation, and also for the convenience of administration. Therefore, I always expressed my opinion very plainly that I thought there ought not to be more than two tiers of wards, so that we could the more readily get rid of any foul air that might arise in connection with the patients.
1063. You think that, with several stories one above the other in a hospital there would be danger of disease or infection travelling from one floor to the other? Yes. I think there is a mass of impure air which it is very difficult to get rid of, and wherever practicable I think they ought to be confined to two tiers of wards.
1064. With regard to a building for a hospital in Sydney, what are your views as to the number of beds that should be provided for? I expressed my views on this subject to the Colonial Secretary some years ago. But it was part of a plan for the whole hospital arrangements of Sydney. My idea was that in the Sydney Hospital and the Prince Alfred Hospital we should entirely confine ourselves to cases of very grave disease, of severe accidents, and to the more important surgical operations, and that we should have a perfectly different institution, a little way out of town, where chronic cases of sickness occurring among paupers and poor people should be treated. If that plan were carried out, I think that from 140 to 200 beds would be quite sufficient for the Sydney Hospital—that is to say, if it were confined strictly to the reception of persons suffering from grave disease, from serious accidents, and to cases requiring important surgical operations.
1065. Do you not understand that to be the intention of the hospital, if erected on its present site? It has not been the practice either in the Sydney or the Prince Alfred Hospital.
1066. But if the practice were limited in that direction, you think 200 beds would be ample? Yes, but then it would be necessary in that case to have another institution at some convenient place where chronic cases and cases of less severity, which would not be admitted to the acute disease hospitals might be treated, and they could be treated at less expense. I suggested to the Government that Randwick Asylum should be taken for that purpose, and if it had been possible to do that, I have no doubt whatever that there would be sufficient accommodation provided at the Sydney Hospital if there were from 150 to 200 beds.

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1067. Do you not think that the Prince Alfred Hospital could be so enlarged as to work in in the way you suggest? Quite impossible, except with very considerable inconvenience to the sick poor of this part of the town. That was a question which I considered when I reported to the Colonial Secretary, and if you like I will read what I wrote at the time, viz., on November 16th, 1885. I wrote:—

The second question is as to the future of the Sydney Hospital. Is it better to complete the new building to a certain extent or to dispense with a hospital in the city, trusting to the Prince Alfred Hospital as the great public general hospital of the metropolitan district?

The answer to this question depends on two principal elements:—1st. The amount of usefulness of the Sydney Hospital to the public; and—2nd. The relative expense of completing the Sydney Hospital to a moderate degree, or of enlarging the Prince Alfred Hospital sufficiently to meet public requirements.

Now, the utility of a general hospital to the public may be fairly measured by the number of severe cases admitted, and the severity of the cases admitted may be roughly estimated by the number of deaths which occur in a year. I find by a return supplied to me by the Secretary of the Sydney Hospital, which I transmit herewith, that during the past twelve months 379 deaths occurred in the institution, of which sixty-one took place within twenty-four hours of admission, and seventy-six between twenty-four and forty-eight hours of admission. This would show nearly an average of three persons admitted every week in such a desperate state of illness that death ensued within forty-eight hours, while from all causes there is an average of rather more than one death every day. Moreover, there were admitted in the year, 1,037 accidents and urgent cases, while no fewer than 3,157 accidents and cases of less urgency were treated at the gate without being taken in.

I conclude, therefore, from this, that the Sydney Hospital, even in its present very unsatisfactory state, is of the greatest possible utility as a place for the reception of cases of grave and urgent disease, and I think it would be productive of extreme inconvenience if the public were to be deprived of the benefits of an institution which is so central, and in which so much good work is done.

1068. Your views are the same to-day as when you wrote that? Precisely so. I think that you could not do without a place of some kind in a convenient and central position in the town.

1069. Coming to this particular site, what do you think of the present site for the hospital? I think it is the best site that you could get without exception.

1070. From your long experience you are not able even to suggest as good a site? No; I am certain that there is not a vacant site in Sydney which is so good and as convenient to the sick and wounded. There are plenty of sites that are suitable; but the expense of resuming them would be so enormous that they must be left out of consideration.

1071. Do I understand that at the present time you think that a hospital erected on the present site with 200 beds would be sufficient for present requirements? Yes; provided always that it was confined strictly to the reception of the class of patients that I mentioned, and in that case it would be necessary to make other provision for the more chronic cases.

1072. Would you recommend that a larger hospital than necessary, to accommodate 200 beds, should be erected there, or that a hospital sufficient for 200 beds, with such an auxiliary hospital as you suggest, should be erected? The latter is what I have always recommended. On occasions when I have had to advise the Colonial Secretary in the matter, I have always advised that there should be from 150 to 200 beds, that the Sydney Hospital should be confined to acute cases, to serious injuries, and so forth, and that another institution should be established for the more chronic cases.

1073. If it becomes a hospital with larger accommodation than for 200, does it not then merge into what might be called a large hospital? Yes, certainly.

1074. Where the difficulties and dangers of treatment of patients are increased? I think you get too crowded when you go much beyond 200 beds on this site.

1075. Is not the tendency of the day in regard to hospital construction to have not so many patients in one hospital? It depends entirely on the space and the requirements of the place. If you are in a very large town where space is valuable, you must have large hospitals; and we find that the patients do very well in them. The new hospital in Edinburgh is very large, and St. Thomas', and most of the other hospitals in London are very large.

1076. Are they for all classes of patients? Yes; but they are chiefly for persons suffering from acute diseases such as I have described. The patients I refer to as going to an institution a little way out of town, would most likely be treated in the workhouse hospitals if they were in the old country.

1077. You know the exact position of affairs—the structure, as designed by Colonel Rowe, is erected to a certain point—can you give us your views as to what should be done with the building? I looked upon it that we were in an unfortunate position, and had to make the best of what I had always looked upon as a bad move; and I thought that the best thing to do would be to complete the hospital so that there should be about 150 beds in the new building, which I was told could be done at a cost of about £50,000. That was the estimate given to me, and that is what I recommended the Government to do.

1078. Do you think still that that would be the best thing to do? I think it is the best thing—it is less costly, and ultimately would be the wisest thing, I think, for the Government to do.

1079. If you had been consulted as to the erection of an expensive and ornate building such as is depicted on this plan, what would have been your views? So far as I remember I was a member of the Board at the time it decided to call for tenders, or, at all events, I attended the Board very regularly, and I was in favour of confining the expenditure to the amount of money that I knew would be accessible—that is about £50,000.

1080. Do you believe that a hospital suitable for all purposes could have been constructed for that amount? I believe so. It would not have been ornate or very magnificent, but quite sufficient, I think, for the purpose.

1081. You have seen these massive foundations so far as they are built? Yes.

1082. Do you think that it is necessary for purposes of health that they should be such thick walls as they are? I do not think stone was necessary at all.

1083. Looking at it from a medical point of view you think that brick and cement could have been utilised just as well? I think so. It would not have looked so well, but from the point of view of patients I think it would have been equally as good.

1084. Supposing the front of the building were finished up to two stories in stone—do you think that the back portion could with safety, as regards the health of the patients, be finished in brick? I see no reason why it should not be. I do not think that it is a matter of any consequence, one way or the other.

1085. In this design which is submitted to us, there are many small compartments—rooms, sculleries, and water-closets, and places of that kind, where the walls are made of equal thickness with the main walls of the building—would you think that that was necessary? No.

1086.

1086. For a room about 12 feet square to have walls of the same thickness as those of a room 50 or 60 feet square, do you think would be necessary? No; I think that a person to build a house like that must have a very well filled purse.

1087. Notwithstanding the objection that you have to these large wards facing the west, do you still think that to make the best of a bad job we had better finish the place? I think so. I am giving the advice which I wrote before to the Government. It would have been unreasonable for me to say to the Colonial Secretary, "Take all the walls down, and dig the foundations up, and build it on a plan that I like." I never concealed from the Board the fact that I disliked that plan very much; but I had to take things as they were, and so I advised that the best thing that could be done under the circumstances was to complete it on a modified plan.

1088. Would you tell us whether you have studied the plan, looking at it as a matter of convenience or inconvenient arrangement as regards the working of the hospital? I have not studied it from that point of view for a long time. I did when the plans were subjected to examination for competition. It seemed to me that it was inconvenient in many ways. But you must remember that I always had been made to feel that the Government were, to a certain extent, responsible for that wooden building which there is at the back of the premises. Whilst I was in charge of the Health Office, I was living in constant alarm lest there should be a conflagration at the Sydney Hospital, and I was anxious to see the Government take some steps to do away with the wooden building.

1089. One gentleman so far ventured the opinion as to say that the hospital, if erected on this present design, will be found to be unworkable and a failure;—can you go so far as to say that? I do not think so. I think it can be worked. It may be a little more expensive, but in my suggestions to the Colonial Secretary I contemplated that we should be prepared for the expensive working of a place like the Sydney Hospital, for it was to be confined entirely to the most expensive class of cases—cases of acute disease and severe injury, which would require every convenience that a hospital could provide for them, and would probably require a little more expense in the way of nursing than ordinary patients in a general hospital.

1090. Do you see any objection to the use of stone in the construction of a hospital;—is it likely to absorb disease? I do not think there is anything in that. Cleanliness and necessary precaution would prevent anything of that kind.

1091. In carrying out the design as far as we can, I suppose you would advocate the completion of the back pavilion, would you not? It would be necessary in order to get a sufficient number of beds.

1092. You would look upon that as almost the best part of the hospital for the patients? I should think it is. That is the view that I always took of it.

1093. Have you considered the design in its modified form—reduced by one story? I have looked at it frequently.

1094. What are your ideas of it from an architectural point of view? Well, it is not so handsome, but we have to make the best of it, and do the best we can.

1095. Do you think that site is a suitable one in point of drainage? It can be very easily drained.

1096. Perfectly drained? Yes.

1097. Do you see any objection to the site as regards the health of the citizens? Not the slightest, because they do not admit any dangerous infectious diseases there. They do not admit scarlet fever, or diphtheria, or crysipelas, and so forth.

1098. You have had experience as regards the cost of construction of hospitals at per bed? Yes.

1099. This hospital, if constructed in its entirety, would cost about £800 per bed; is that large? That is a very large figure.

1100. We have heard of a projected site near the Flagstaff-hill; what is your opinion of that? I do not like it. First of all it is too high and exposed, in my opinion; secondly, it is very inconvenient for a large number of persons to go there as patients. It would be exceedingly inconvenient for people from Surry Hills. The Sydney Hospital treats people from all the eastern suburbs as far south, you may say, as Cleveland-street, and from Sussex-street in another direction. It would be very inconvenient for the large population that there is about Woollloomooloo, Surry Hills, and many parts in that direction—Oxford-street and so forth—to come all the way to Flagstaff-hill, and I do not see that anything would be gained by it, for I do not think that the Flagstaff-hill site is so good.

1101. It is not so convenient? No, and I do not think that it is medically so convenient, but rather too much exposed.

1102. I suppose this site is more favoured by having the Domain and the Gardens to the north-east of it? Very much so, indeed.

1103. *Mr. Copeland*] You made that report to the Colonial Secretary, I think you said, in 1885? I made reports in 1885, 1887, and 1888. The paragraph I read was from the report of 1885.

1104. I suppose that since that time population has increased by 15 per cent?—

1105. Do you think that, notwithstanding the increase in population, and the prospective increase of population, it is absolutely necessary to restrict the beds to 150 or 200? I did not say that it was absolutely necessary to restrict them to that, but that I thought that that would be sufficient, and moreover the increase of population is not so much within the space served by the Sydney Hospital, for it serves the older part of the town, and the increase of population has, I understand, been a good deal in the suburbs—more in the direction of the Prince Alfred Hospital. But undoubtedly there has been a certain increase of population.

1106. Now that we are constructing a building, do you not think that it would be desirable to make provision for a larger number of patients—I think that one suggestion here is for 264 beds? Well, if I had a free hand to do exactly as I please, the maximum accommodation that I should make under any circumstances on that site, would be a building which would take an average daily number of 200 patients. That would require probably from 220 to 230 beds. I would not go beyond that on any consideration, for I think that you would have the ground sufficiently occupied then, and if you wanted more accommodation in this neighbourhood for acute cases—which I do not think you require—I would rather have a second hospital than build a larger one on that site.

1107. Notwithstanding that the design has been laid out for 264 beds? Notwithstanding that. I would not go beyond an average daily number of 200 patients, which means about 220 or 230 beds.

1108. I suppose you would anticipate very soon having to erect another hospital altogether, so as to provide

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provide for the increased number of accidents, because of increased population? I do not think it would be necessary for a long time. The town is increasing mainly towards the west, and the Prince Alfred Hospital is capable of a good deal of extension yet, and that building could be increased so as to meet the requirements of the increase of population in that direction. But I think that if you make the Sydney Hospital of the size indicated you will at once do what is the best thing on that site, and will also do what will be sufficient for the requirements of this neighbourhood for a long time.

1109. What about providing for paying patients—are there not a considerable number of patients who pay for accommodation at the Sydney Hospitals? I do not consider that we should go out of our way to consider them. Persons who can afford to pay for medical attention are not the first object of the hospital's care. A hospital is for poor people, and not for the rich. If it is convenient to take rich persons in it may be done, but I should never consider the interests of wealthy persons at all in connection with the site or the construction of a hospital.

1110. Is it not a fact that you can get better attendance in hospitals than you can possibly get by having private attendance? It is very doubtful if you can. But, even if you can, that is one of the very few privileges that the poor would have. The rich have plenty of advantages over them, and we must not grudge them that. The hospitals are mainly erected here by public money, and I do not think public money voted by Parliament is intended for the assistance of the rich. Moreover, there are several private hospitals into which a man can be admitted, if he wishes, and is able to pay for it.

1111. Equally good with the Sydney public hospitals? Quite as good.

1112. You think that the Government should provide accommodation only for those who either cannot or will not pay, but should not provide accommodation for those willing to pay for it? The Government should provide accommodation, first of all, for paupers, and secondly, it may fairly assist in providing accommodation for persons who are stricken with such severe disease or such severe accident that their means, which would enable them ordinarily to cope with misfortunes of that sort, are unable to provide them with proper treatment. There is many a respectable man with a small income, and able to support his family in ordinary circumstances, and who is able to cope with ordinary ailments, but if he gets a serious disease requiring a surgical operation of great costliness he is not able to provide for that himself, and that man is a fair object of treatment at a hospital, but a wealthy man who can get anything he likes by paying for it, ought on no consideration to be taken into a hospital maintained by public money.

1113. Notwithstanding that he is willing to pay? If willing to pay £1,000, I would not take him in—it is not the place for him. It is primarily for the poor who are not able to provide for themselves. A rich man can get medical attendance easily enough if he will pay for it.

1114. Do you think that, as a matter of fact, there are not many patients in the different Sydney hospitals, who could pay for medical attendance, but do not do so? I am certain that there are very few Government patients in the hospitals who could pay for attendance, for we have a very searching inquiry into their circumstances before we give them orders.

1115. Can you say whether there are any paying patients in the Sydney Hospital or the other hospitals? There may be some patients who pay small sums to get the ordinary treatment that other patients get, but I do not understand you to mean that kind of paying patients, but a person who required a private ward to himself.

1116. What I meant was those who are able and willing to pay a fair and reasonable amount for the attendance they received? Perhaps I have misunderstood you. There are certain persons who get admission at a little more than the Government rate, but they are poor persons, in humble circumstances, who pay a little for their admission. I understood you to refer to a man who wanted, as they do in some hospitals, to have a private ward for himself—to go in there and be treated, and pay a large weekly fee for his reception.

1117. That is the class of patients I was alluding to? That is the class of patients I would not allow to have anything given to them at all in the Sydney Hospital. The other class of patients—poor persons willing to pay a small sum of money so as to prevent themselves from falling as they fancy into the rank of paupers—are a perfectly different class, and every consideration must be given to them, and they are fair objects of the hospital's charity.

1118. I think it is the practice at the Prince Alfred Hospital to have paying patients—that is, persons who pay a full amount of compensation for what they receive? There are two classes of persons who pay at the Prince Alfred Hospital—those who pay a regular weekly sum—from £1 1s. to £2 2s. a week, and who are treated in the ordinary wards like ordinary patients in the hospital—and, on the other hand, those who pay a large sum—I think £6 6s. or £7 7s. a week—and who are provided with private wards. This is the class of patients that I object to.

1119. This is the class that I was asking you particularly about, and you think that it is not desirable to allow these patients to come to the public hospitals? At any rate I do not think these are the persons who should be considered in the construction of public hospitals—because the public money is not to be spent for them.

1120. Do you remember how many patients there are in the different wards in the Prince Alfred Hospital? I do not remember, but I think about thirty in a ward—the number varies.

1121. Do you know how many patients can, so to speak, be worked the most economically? It depends a great deal on the class of disease you are treating. If you have mixed patients—some very ill and some not so ill, some perhaps able to help themselves a good deal, or able even to assist in dealing with others—chronic cases and convalescents kept in a long time—you can deal with a larger number; but if all your cases are very serious—serious operations, serious accidents requiring constant dressings, and so forth, and very grave internal diseases, such as fevers and inflammation of the lungs, and so forth, you require a larger nursing staff.

1122. I think that in these wards provision is made for sixteen patients, do you consider that a desirable number to provide in one ward, or is it too few or too many? I think that sixteen patients, if they were of the class that I recommend, would be quite enough. To have sixteen people together very ill would give plenty of work to the people who attended to them.

1123. And I suppose that in a warm country like this—semi-tropical—it is desirable not to have so many patients together as in a cold climate like that of England? It is better not to have the wards so crowded.

1124. *Mr. Dowel.*] Have you made yourself acquainted with the merits of the design now before the Committee.

- Committee. It is a long time since I studied it. I made up my mind at that time that it was a design that I did not like.
1125. You were a member of the Board, I believe, which was appointed to inquire as to the best design for this particular purpose? I was a member of the medical staff of the hospital at the time.
1126. Was there not a Board appointed for the purpose of examining the competitive designs? I do not remember a Board being appointed, but I dare say there was a sub-committee. But if there was, I was not a member of it. However, I used to go and inspect the designs regularly at the Town Hall.
1127. You were not a member then of a sub-committee or Board that made any recommendations in reference to the designs? We made a large number of recommendations in reference to the designs, but I do not think that I was a member of any special sub-committee appointed to bring up a report on the designs.
1128. What action then did you take in reference to the plans now before the Committee? I objected to them for two principal reasons.
1129. What were they? One was that the principal wards faced the west, and the other was that there were too many tiers of wards. There were other reasons as to details.
1130. Of the plans prepared by Colonel Rowe and the competitive design marked "Health," which in your opinion is best adapted for hospital purposes? I was always in favour of the plan marked "Health," because it was carried out on lines which I thought were right.
1131. Can you say that that was the opinion of any other gentlemen you were connected with in investigating the merits of these plans? There were several others who agreed with me—not in committing ourselves exactly to the design marked "Health" as being the best of all, but in saying that that plan, that idea, that principle, was the one we approved of for hospital construction.
1132. Did you make any report to the Board of Directors or give any expression of opinion with reference to it? It is a long time since then, and I cannot give you the exact facts, but we expressed our opinion repeatedly.
1133. Can you say the reason why your recommendations were not carried out? I cannot tell that. I suppose they thought there were better men who thought the other way.
1134. Still, taking all the circumstances of the case into consideration, and having gone into the merits of both plans, you are of opinion now that the best design for hospital purposes of those two would be the one marked "Health"? I think so. I always thought that the idea of that was better than the idea of the other.
1135. But especially, I suppose, it had some influence with you on the score of cost, the whole building being completed for £45,000? We understood that all the buildings could be carried out for £45,000 or £50,000.
1136. Under the circumstances that this superior hospital, as you term it, as regards construction, can be erected at the present time for £45,000, do you think the Committee would be justified in recommending a plan that would involve a further expenditure of £145,000 in completing that building? I never recommended that, but an expenditure of £50,000 to complete the building.
1137. Are you aware that the architect does not say that the building can be completed for that amount? Yes, £56,000 is his figure; but if you do it in brick it will be cheaper, £45,000.
1138. Would you be good enough to look at the statement prepared by and signed "Thomas Rowe, architect," in which he states—"Approximate estimate to complete the whole of the above, providing accommodation for 164 beds, £140,000"? But I should never have recommended that to the Colonial Secretary.
1139. But is not that the circumstance that we have now to face—to complete the building for £140,000, the architect's estimate? I would not. I consider that the proper thing is to complete it for £56,000.
1140. That would be providing for only 144 beds? Yes; but there are certain beds in the south wing.

Hon. H. N.  
MacLaurin,  
M.D., M.L.C.

18 Dec., 1890.

TUESDAY, 3 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.	WILLIAM SPRINGTHORPE DOWEL, Esq.
The Hon. FREDERICK THOMAS HUMPHERT.	EDWARD WILLIAM O'SULLIVAN, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	CHARLES ALFRED LEE, Esq.
JACOB GARRARD, Esq.	WILLIAM McCOURT, Esq.
JAMES EBENEZER TONKIN, Esq.	JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

W. Odillo Maher, Esq., M.D., M.Ch., M.R.C.S., sworn, and examined:—

1141. *Mr. Trickett.*] Will you tell us what are your qualifications? I am doctor of medicine, master of surgery, and licentiate in midwifery of the Queen's University, Ireland, and a member of the Royal College of Surgeons, England.
1142. You have been practising in Sydney for a great number of years? For about seven years.
1143. During that time have you been connected with any of the Sydney hospitals? Yes; I have been connected with St. Vincent's Hospital for about six years, and with the Sydney Hospital for about five years.
1144. In what capacity have you been connected with the Sydney Hospital? I have been connected with both of these hospitals as ophthalmic surgeon.
1145. Have you ever studied the plans for the Sydney Hospital which were prepared by Mr. Rowe? I cannot say that I have studied them very minutely, but I have looked over them.
1146. Sufficiently to be fairly familiar with the position and general design of the buildings? I think so.
1147. What is your opinion generally with regard to them? I think that, take them all in all, they are very good.
1148. You noticed that the buildings are to be of four stories? Yes.
1149. Do you believe that that is an advantage or otherwise? I think that it is certainly not a disadvantage when you have lifts, and I believe that lifts are to be arranged in this building.

W. O. Maher,  
Esq., M.D.

3 Feb., 1891.

- W. O. Maher, Esq., M.D.  
3 Feb., 1891.
1150. You think then that it is not a disadvantage to have a hospital so many stories high? No; I think it is the experience of large hospitals at home—there are numbers of them—that it is no particular disadvantage, especially where you have lifts.
1151. Did you notice that a large portion of the accommodation provided for patients faces the west—is that an advantage or a disadvantage? I should think that probably a northerly aspect would be preferable, but I do not think that a westerly one is of very much moment. I think the advantages of the site far outweigh the disadvantages of a westerly aspect.
1152. But would it not have been better if the greater part of the accommodation for patients could have been given in pavilions to the rear of the main building, facing the north-east? You mean facing the Domain?
1153. Yes? Yes; I think it would, perhaps, have been a preferable mode of arrangement.
1154. Do you remember the old hospital building—had you any experience of it? None whatever.
1155. Then you are not in a position to say whether or not the westerly aspect of that building was a matter of nearly every day objection to patients and visitors, because of the great heat which it occasioned? No, I am not; but I am connected with St. Vincent's Hospital—the aspect of which is to the west—and I have never heard any objection to it.
1156. Is the western side of that building occupied by patients? The ends of the principal wards and the wards occupied by private patients face the west.
1157. But the large wards do not? The large wards run east and west.
1158. They are so arranged as to get the benefit of the prevailing wind from the north-east I suppose? Of course there are houses around them which interfere with that, whereas, at the Sydney Hospital, there is nothing to interfere with the breeze.
1159. Do you know that the object of the Sydney Hospital is to provide an emergency hospital for urgent cases? Yes, for accidents and acute cases.
1160. That being so, do you not think that it would be better if the building were to consist of only two stories, instead of three or four? I believe that the ward for accident cases should be on the ground floor; but I cannot see any objection to medical cases going to the other floors if there is a lift. I think it would be objectionable to take cases such as broken legs off the ground floor. But, as the plan is arranged, that will not be necessary.
1161. What are your views with regard to the site of the hospital? I think it cannot be surpassed.
1162. Is that as regards healthiness or convenience, or both? Both. I think it is the most convenient position for patients and friends. The trams and other vehicles go almost to the door. It is also most convenient for the doctors, and this is very essential; for, with accidents and acute cases, a life is sometimes lost because the doctor is not close enough. I cannot imagine a better position for a metropolitan hospital.
1163. No doubt you have heard it suggested that Flagstaff-hill, where the present public school is, would be a good site for a hospital;—do you think that that is as good a site, or a better site, than this? I think that, as regards convenience, it is a worse site, though it is a healthy site, being well elevated. Still, I do not think it is any healthier than the present site, and it is more inconvenient.
1164. More inconvenient for the medical profession? Yes; and for the patients and their friends.
1165. Do you not think that a number of the accidents which happen in the city occur in the locality of Flagstaff-hill? Certainly a great number of accidents do occur there; but then, a great number occur at Woolloomooloo Bay and Circular Quay, which are as close or closer to the Sydney Hospital than they are to Flagstaff-hill.
1166. You think that the Sydney Hospital would be centrally situated for all purposes? I think so. Of course, there are places where accidents occur frequently which are closer to the Flagstaff-hill; but there are other places where accidents also occur frequently which are closer to the proposed site.
1167. Have you given any attention to the question of the number of patients which it is desirable that a hospital on the Macquarie-street site should accommodate? Of course, I have nothing at all to do with the Sydney Hospital directly; it is with a branch of that hospital—the Moorcliff Eye Hospital—that I am connected. I merely see the out-patients in the Domain, and I have no beds in the Sydney Hospital. I can only speak from hearsay in answering your question.
1168. Still, as a medical man, you would be able to say whether a hospital should, in your opinion, be erected in Macquarie-street to accommodate 200, 300, 400, or 500 people? From conversation which I have had with other medical men who treat cases received in the Sydney Hospital, I should say that accommodation for 200 patients at present is certainly requisite.
1169. From what you have heard and seen, do you think that that accommodation would be sufficient? I have heard it most usually said that 250 is the number of beds at present required.
1170. And you think that at least 200 are needed? From all I can gather, at least accommodation for 200 patients would be required.
1171. Do you think it is desirable that the branch of treatment which you undertake should be carried on at this hospital, or at a separate institution? Looking over the plans, I do not think that the building will be altogether suitable for ophthalmic work. There are two large wards provided—one for male and the other for female patients—and it is not desirable to put all ophthalmic cases into the same ward. Many of the patients have discharges from their eyes, and you must put them in separate wards. Other cases require treatment in a darkened room, and you could not darken the whole of these large wards simply for such cases. Then again, with regard to the number of patients, I think the suggestion in the original plan is to allot thirty-six beds for ophthalmic patients, while the average number of in-patients at the Moorcliff Hospital is about fifty, so that sufficient accommodation would not be provided here. You must also remember that this hospital is for acute cases and accidents, while the majority of eye patients are chronic cases, and remain in the hospital for months.
1172. The accommodation provided in that plan for ophthalmic cases is not sufficient for present requirements? No; comparing it with what is required at Moorcliff.
1173. For the treatment of these patients you require a series of rooms? That would be preferable. There are many objections to having all the eye cases in one ward.
1174. Is it desirable that ophthalmic cases should be removed from a hospital of this kind, because of the discharges which you have mentioned? I think not, provided they have separate accommodation. There is no particular reason why they should be treated away from the main hospital.
1175. That is if the accommodation allotted to them is specially designed for their treatment? If it is suitable for their treatment,

1176. And I suppose isolated from other parts of the building—is that necessary? I do not know that it is necessary. The contagion from cases which are discharging is only a matter of contact. It is not a desirable thing to have cases which have been recently operated upon in the same wards as cases which are giving off pus. There is, however, no contagion in connection with these cases, such as there is with erysipelas.

1177. Have you given any attention to the cost of the erection of hospitals? I cannot say that I have.

1178. When did you look at these plans last? Yesterday afternoon.

1179. Do you think that the Prince Alfred Hospital could be worked with this hospital? In what way do you mean?

1180. Do you think that it is too far away to take urgent cases? It is rather far to take accidents and urgent cases occurring in the city; but there are many such cases occurring round the Prince Alfred Hospital which should certainly be taken to that hospital, and not be brought into the city.

1181. The city is extending in the direction of Prince Alfred Hospital? Yes.

1182. And I suppose Prince Alfred Hospital could be made available for all cases occurring as far from it as the intersection of Newtown-road? Yes; or even as far as the Redfern Railway Station, to which it would be as close as the Sydney Hospital is. Cases ought to be taken to the nearer hospital wherever they happen.

1183. If the building of this hospital is continued, do you think that the work should be carried out in its entirety? If it were carried out in its entirety the building would afford more accommodation than I think is what is generally understood would be sufficient for acute and urgent cases; I believe there is one pavilion which has not been started at all yet.

1184. That is the back pavilion? Yes; and then again there is a chapel, and one or two other buildings which have not been started.

1185. Do you not think that the buildings which you now mention—because of their position, giving them quietude, fresh air, and shade from the western sun—would really be better for the accommodation of patients than the buildings ranged along Macquarie-street? Yes, I think they would be preferable, for the reasons you state.

1186. Have you examined a set of plans prepared by Mr. Kirkpatrick? No; I simply saw plans similar to these before the Committee. I might mention that on 6th June last, at a meeting of the British Medical Association, New South Wales Branch, I brought forward the following resolution:—

“That, in the opinion of this Society, it is desirable that the present portion of the Sydney Hospital be completed, and that a deputation be appointed to wait on the Colonial Secretary, and urge the necessity for so doing.”

The majority of the medical men in and about Sydney belong to this society, and, consequently nearly all the medical men in and around the metropolis received notice of this meeting. There were fifty-two members present—the largest number which the secretary knows to have met together before—about ten of whom spoke, all warmly supporting the resolution, which was carried unanimously, and the following doctors agreed to form the deputation:—Drs. Hankins (President), Chambers, Goode, Fiaschi, Knaggs, Sydney Jones, Mackellar, MacLaurin, Tarrant, Quaife, Brigade-Surgeon Williams, and myself. About this time, however, Sir Henry Parkes met with his accident, and when I made inquiries as to whether he would have Mr. McMillan, who was partly attending to his Department, to receive the deputation, he gave me to understand that the matter was of such importance that he would prefer to receive the deputation himself. But before he was up and about we saw a notification in the press that it was the intention of the Government to bring forward a resolution in the House to the effect that the Sydney Hospital should be completed, and consequently the deputation never waited upon the Colonial Secretary, because such action was unnecessary.

1187. If this work is carried out, do you think it will be absolutely necessary to finish it with thick stone walls? No. I think it would be just as well to complete the front with stone, for appearance sake; but I think it would be a saving to finish the rest of the building with brick.

1188. The kind of brick now used for hospital construction is in every way as suitable from the standpoint of healthiness as stone? Yes; I should think so, when the inside walls are properly prepared.

1189. You think that the back portions of the building could be as well constructed of brick as of thick stone? I think so.

1190. Would you mind giving us your views as to the class of patients for the treatment of which this hospital should be used? I think one cannot better describe the cases than by saying accidents, acute cases, and operative cases. There are certain big operations which require to be performed in hospitals—patients coming from the country and elsewhere, and I think it as well to have these large operations performed in a central hospital—they should not be excluded from it. It is often a matter of life or death to get the medical man who has charge of a case to attend to it at once, supposing hæmorrhage or anything of that sort occurred.

1191. You do not think that chronic cases should be treated here? No.

1192. With regard to chronic cases of poor people, I am told that in many instances people get into this hospital, and there is no getting rid of them again;—where would you propose to treat such people—possibly in an out-lying hospital? They could be as well treated in an out-lying hospital. Many cases of the kind to which you refer go to the Government asylums.

1193. I should like to ask you one direct question with regard to the number of floors in the building;—it has been stated by one medical gentleman, as his opinion, that there ought not to be more than two floors, both to provide proper ventilation, and also to obtain convenience of administration;—do you agree with that opinion? I think, if you had space enough, it would be just as well to have all the patients on the ground floor. It may be that the fewer floors there are the better, but I fail to see any material objection to four floors.

1194. You see no objection on the grounds I have suggested? I think not. There are nearly 3 acres of land there, and accommodation is to be provided for under 300 patients, so that the air space is very ample. You could not find a better site in town for fresh air.

1195. You do not think that there is any possibility of infection or foul air rising from ward to ward? I think that it is more a theoretical than a practical objection which has been advanced as to the height of the building.

1196. *Dr. Garran.*] I believe you are principally connected with eye cases, and that you cannot, therefore, speak of the general work of the hospital? I can speak of it only from hearsay.

- W. O. Maher,  
Esq., M.D.  
3 Feb., 1891.
1197. Could you tell me whether you get as good results there in the present wooden building as in the south wing? I know nothing at all about that. I have nothing to do directly with the Sydney Hospital.
1198. You have been for some years at St. Vincent's. Do you get as good results there as in the present wooden building in Macquarie-street? I do not know what results are obtained in the wooden building of which you speak—none of my patients are there; they are all down at Millor's Point, at Moorcliff.
1199. Is St. Vincent's Hospital a satisfactory one? Yes.
1200. Do you know the cost of it per bed? No.
1201. Do you know the cost of managing it per bed? No.
1202. That hospital faces the west? Yes.
1203. Do the wards face the west? Half of the private wards face the west, as do also the ends of the general wards, which run east and west.
1204. The large wards have their windows north and south? Principally. There is one large window facing the west.
1205. Have you formed any opinion as to the desirability or otherwise of facing the west? I do not think that it is a desirable aspect. I think that a northerly or easterly aspect is preferable.
1206. A westerly aspect makes the wards very hot in summer? It is certainly hottest in the afternoon.
1207. And very cold in winter? I have not given that any thought—it may be so.
1208. I understand you to say that the eye cases are mostly chronic, so that there is no absolute necessity for dealing with them in Macquarie-street? I think it would be most undesirable to keep chronic cases there.
1209. We should treat ophthalmic cases somewhere else? Yes; I consider that the ophthalmic arrangements in this plan are not desirable.
1210. And you think it would be better not to make any provision for ophthalmic cases here? I think so.
1211. They could be as well treated on the fringe of the city as in the centre of it? Yes.
1212. With regard to Lock cases—is there any urgency for their being treated in Macquarie-street? I have no experience of them; but, as far as their urgency goes, there is no necessity for treating them there.
1213. They would be as well treated elsewhere? Certainly, except in one or two instances.
1214. Then the real necessity of this hospital is for accidents and urgent cases, to which you would like to add important operative cases from the country? Yes.
1215. If these operative cases could be treated elsewhere, there would be no absolute necessity for taking them to Macquarie-street? They might be treated elsewhere; but I think that it is desirable to have such cases near to the residence of the surgeon who has dealt with them, so that if any emergency should arise he may be within call.
1216. Do you think the operative surgeon should live within a comparatively short distance of the hospital? I think it is better for his patients that he should do so.
1217. Do accidents arise from the operative surgeons not being in immediate attendance? I have heard of them.
1218. They have not arisen within your personal experience? No.
1219. If the hospital were a mile away from the operative surgeon's house, might a patient die before the doctor could get to him? Quite possibly.
1220. Do you know whether such a thing has happened? I have heard of such a thing happening.
1221. We were told that a great necessity for this hospital is to receive local accidents, and if you take away the eye cases and the Lock cases, you only require beds enough for accidents and urgent cases occurring within a mile or a mile and a half of the building? That is so.
1222. How many beds would meet that requirement? I can only speak from hearsay. I should say from 200 to 250.
1223. You think that if you provided for 200 beds, that would be enough? I think you want to allow some margin. I should think there would be 200 patients occupying these beds, and you would require a margin of about one-sixth or one-eighth of the whole number of beds—about thirty beds.
1224. I meant to leave a margin—would 225 or 230 beds be enough? I should say so.
1225. *Mr. Tonkin.*] Have you carefully gone through the plans before the Committee? I cannot say that I have gone through them with particular care. I have looked over them for ten minutes or so.
1226. Have you made any study of the latest hospital improvements? No; I have not.
1227. You could not compare these plans with any improved hospital buildings in other parts of the world? Prince Alfred Hospital is the only hospital I know of with which to compare them.
1228. Do you think that it is not advantageous to have the lifts from one floor to another outside of the buildings instead of inside, so that the different floors are not actually connected? I do not think that in the plan they are actually connected—there is an open passage from the lift into the ward.
1229. But the lift is inside the building? It is inside the walls.
1230. Do you not think it would be preferable to have the lift outside altogether? There is certainly no objection to it, and I daresay that if there is any sort of contagion to be carried about, it would on the whole be preferable; but I do not think that it is of much importance.
1231. *Mr. Garvan.*] I think that you said the plan before us, on the whole, was a good one? Yes.
1232. You do not know of any other design that would be greatly superior to it in any way? I have not studied the designs of recent hospitals; but I consider the design before the Committee is very good.
1233. Speaking as a doctor of some experience, you do not see anything in this plan to emphatically condemn it? Certainly not.
1234. The number of beds suggested has been about 250—would the cases presenting themselves with the present population require that number? Well, many have said that 200 beds would meet all requirements, while many others—perhaps more—state that 250 would be required—that actual accommodation for 200 cases, and a number of extra beds would be sufficient.
1235. Do you know the number of beds which the present hospital, including the weatherboard building, contains? I think about 230.
1236. Are you aware that they are generally full? They are very full, I believe. The lowest number of patients during any day last year was 217.
1237. And, seeing that the city is growing rapidly, would it be necessary to increase that number? Well, of course, the plans would allow for an extension of accommodation if it were necessary. The whole design would afford accommodation for more than 250 patients.

1238. Do you think it would be wise to make provision for a greater number of cases than those at present accommodated? From all I hear, 250 beds would provide ample accommodation for the present, and for a few years to come.

1239. If 217 is the lowest number of patients accommodated on any one day during past years, that would show that, even with 250 beds, the hospital would be fully occupied? Yes.

1240. If it is fully occupied at present, and we are going to expend money on the erection of a new hospital, should we not make provision for the accommodation of a larger number of patients? I think the idea is to exclude from the new hospital some of the cases at present taken in there, such as Lock cases, which are neither accidents, acute cases, nor cases of urgency. There are at present Lock wards at this hospital.

1241. Those, you think, might, without disadvantage, be removed? I should say that they might be removed with advantage.

1242. You have not observed any disadvantage through wards facing the west? No; I have not.

1243. It is not any well recognised disadvantage for a ward to face the west? I have never heard any objection to a westerly aspect, though other aspects are preferable.

1244. The Prince Alfred Hospital is, I suppose, about two miles from this hospital;—is it any disadvantage to any class of patients to be treated there instead of at the Sydney Hospital? I think it is a decided disadvantage. For instance, with accidents happening at the wharves close to this hospital, it would, in many cases, be a very serious matter, and probably a fatal matter, to take the patient out to Prince Alfred Hospital. I should think it would be far preferable to have a hospital close at hand to deal with serious accidents of that kind.

1245. That disadvantage would only apply to accidents occurring close to the Sydney Hospital? Certainly.

1246. Are there any other disadvantages distinct from this in treating cases at Prince Alfred Hospital? No.

1247. Is there not a tendency on the part of the ablest of the profession to centre in some part of the city? I fail to understand your meaning.

1248. Instead of finding them in the suburbs, are you not most likely to find them in the centre of the city? I think they would prefer to have the urgent and acute cases in the centre of the city for the sake of convenience; in fact, it is absolutely necessary to have them there.

1249. Do not the doctors on the staff of the Sydney Hospital have their consulting rooms at a fairly convenient distance from the hospital? Yes; that is, the majority of them.

1250. Are the medical staff of the Prince Alfred Hospital located in the vicinity of that institution? No; I think the majority of them practice in Sydney.

1251. Is it not a disadvantage to the patients for the doctors to be living at so great a distance from the hospital? I think there are certain emergencies, in which it is a decided advantage for the patients to be near the doctors.

1252. Would it not be better to have the medical staff of the hospital composed of doctors living near the institution? You mean to have the medical staff composed only of doctors living within a certain radius of the hospital?

1253. Yes? No; I think that would be a very bad thing. You cannot expect men, simply because they are appointed to a hospital, to live next to it. It is the aim of the directors of a hospital to get the best qualified men to attend the patients of the hospital, and I think it would hardly be advantageous to confine the Directors of the Prince Alfred Hospital in their choice to the doctors residing near the hospital.

1254. Of the medical staff of Prince Alfred Hospital, do many live close to the hospital, or do they live closer to the Sydney Hospital? I think the staff of the Sydney Hospital, as a whole, live closer to the Sydney Hospital than the staff of Prince Alfred live to the latter institution—in fact, I am sure of it.

1255. But you think it is an advantage for the doctors to live as close as possible to the institution with which they are connected? For dealing with accidents and important operations, where hæmorrhage or anything like that may occur, I think it is a decided advantage to have the doctors close at hand.

1256. But is there not a doctor connected with the hospital who is able to attend to such cases? Yes; but the doctors of the hospital staff are more experienced than the house surgeons, and I think it is an advantage to have the most experienced doctors at hand in such cases.

1257. The most experienced doctors will generally be located in the centre of the city? Yes, though some of them live in the suburbs as well. Some of the physicians of the Prince Alfred Hospital live in the suburbs. It is urgent surgical cases that I have been referring to.

1258. As a rule the majority of the most experienced doctors live in the centre of the city? Yes.

1259. And consequently nearer to the Sydney than to the Prince Alfred Hospital? Yes.

1260. And will there not be a tendency for the number of patients in the Sydney Hospital to increase? Of course, as population increases the number of accidents and acute cases will also increase, but that will be the only reason of increase. I do not think that the fact of the majority of the most experienced doctors living in the city would have very much to do with the increase of patients at the Sydney Hospital. Accidents will go to the Sydney Hospital simply because it is the nearest place.

1261. When Dr. Manning was being examined here he recommended that the Lock cases should be entirely removed from the Sydney Hospital, and that provision should be made there for ophthalmic cases—what is your opinion on that point? I think it would be desirable to have the Lock cases removed, and for the reasons which I have stated, I do not think the plan is a good one for the treatment and accommodation of ophthalmic patients. I think that such patients should be treated elsewhere.

1262. You think an improvement could be made in the design of the hospital, as regards the ophthalmic wards? Yes. If the ophthalmic patients from Moorecliff were brought here, it would make the lowest daily number of patients 267.

1263. Would there be any danger to the health of the patients themselves or of the general public in concentrating so many cases in one hospital? I do not think that at this site there would be any danger whatever.

1264. What is the largest number that you think might safely be accommodated in this hospital, taking into consideration the hospital grounds and the Domain which they adjoin? If I were to compare the site and accommodation with any of the large hospitals in London, I should say that there ought to be room there for at least 500 or 600 patients. It is a recognised rule not to have more than 100 patients to the

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W. O. Maher, the acre, and there being three acres of ground to this hospital, it could accommodate 300 patients under ordinary circumstances; but taking into account the large space of ground in front which will never be occupied, I think you could accommodate a great many more than that there.

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1265. So you see no danger to the public health or to the health of the patients in increasing the accommodation to 500 or 600 beds? That is so.

1266. Is it not likely that by the increase of population you will, within the next ten or fifteen years, have to provide for that number of cases there? Of course, increased population means an increased number of accidents; but I do not think that so much accommodation will be required for very many years to come.

1267. In the time mentioned would we want any increase in accommodation? That is, over 250 beds?

1268. Yes? It is quite possible.

1269. Would you recommend us to make provision at the present time for a greater number than that? I think 250 beds would meet the requirements for the present, and for a few years to come.

WEDNESDAY, 4 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHREY.

The Hon. WILLIAM JOSEPH TRICKETT.

JACOB GARRARD, Esq.

HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.

WILLIAM SPRINGTHORPE DOWEL, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM McCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

Sir Alfred Roberts, Knt., sworn, and examined:—

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Knt.

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1270. *Witness.*] Since I received the summons of the Committee I jotted down a few remarks in connection with the subject of inquiry which, if you will permit me, I shall be glad to read, and they will form a framework upon which I can afterwards be questioned. They are as follows:—

I venture to suggest that it is necessary for the efficiency of the Metropolitan Hospital accommodation that it should be designed upon a distinct system, instead of being allowed to grow up without arrangement. Such a system, could it be framed now, should embrace a general hospital, an accident and emergency hospital, a fever hospital, a hospital for convalescing patients, a female Lock hospital, a children's hospital, and a lying-in hospital.

The site, character, organisation, and size of each should be determined after due consideration of the present and probable future requirements, and should be devoted to the purpose for which it was erected. A system having been determined upon, the existing institutions should be utilised as far as possible, but such as do not accord with the system adopted should, as opportunity occurs, be altered, enlarged, diminished, or removed as may be required, to form an efficient part of the general scheme.

The accident and emergency hospital should be situated on a healthy site, as nearly as possible in the centre of the shipping, manufactories, quarries, warehouses, &c. It should be devoted to the reception of accidents and cases of emergency only, and its size determined by experience, as to the number of those cases.

It should be of the best construction, and fitted with every modern appliance, consequently its first cost and its current expenditure will be considerable.

The fever hospital should be outside, but not too distant from the city. In construction it should be simple yet complete—with separate buildings for the different fevers. Its erection should be well considered, as its current expenditure will be large and uncertain in consequence of the great irregularity in the number of occupied beds at various times.

The general hospital should be situated outside the city, and capable of receiving all varieties of medical and surgical disease, as well as the accident and emergency cases from the neighbourhood around it. It should be the clinical department of the University Medical School, and be an efficient training school for nurses. It should, therefore, embody all modern improvements for treating every variety of disease, and imparting the best form of instruction to the medical students and nurses.

It should be of the best known form of construction, and in size should not ultimately exceed 450 or 500 beds. The accommodation at present should be sufficient for existing requirements, and it should be capable of being added to from time to time as circumstances require.

A convalescent hospital has recently been built through the beneficence of a citizen, and is now in good working order. I need not therefore occupy your time in reference to it, except to remark that it has already proved itself capable of affording material relief to the Sydney, Prince Alfred, and St. Vincent's Hospitals, and will prove even more so in future. The cost of each patient is half what it is in the Sydney and Prince Alfred Hospitals, and the inmates appear to benefit greatly by the change into the country and the surroundings of a hospital home.

The female Lock hospital should be detached and situated in a secluded but not distant position; it should be simple in construction and organization and not be costly to support. The patients it is intended for should not be in either the general or the accident hospital as at present.

The children's hospital should have a cheerful, bright, healthy site, and the building should be also cheerful. It should also be good and carefully arranged, surrounded by well kept garden grounds, and have every sanitary advantage. The present accommodation required would be about 100 beds, but it should be capable of gradual increase.

The lying-in hospital should, in my opinion, be in connection with the University Medical School, but I am unable to say, without further inquiry, what amount of accommodation it should contain.

In

In regard to the size of a contemplated accident and emergency hospital, I find, on referring to the report of the Medical Superintendent of the Sydney Hospital for 1889, that the 3,296 cases treated were classified as follows:—

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Diseases of the respiratory system .....	237
„ of the digestive system .....	209
„ of the nervous system .....	294
„ general .....	436
„ of the circulatory system .....	92
„ urinary and generative organs .....	299
„ women.....	141
„ of skin and cellular tissue .....	172
„ of bones and joints .....	124
„ of throat, mouth, ear, and nose.....	57
Fractures and dislocations .....	311
Local injuries .....	482
Burns, poisons, &c. ....	80
Diseases of eye—treated in another building.....	362
Making a total of .....	3,296

Of these cases the following would appear to represent those for whom accommodation would probably be required in a future hospital devoted to accidents and emergency cases:—	
Fractures and dislocations .....	311
Local injuries.....	482
Burns, poison cases, &c. ....	80
10 per cent. of all the other cases, as representing a full average of those who might offer themselves for admission, suffering from acute symptoms, disabling them from going to a hospital further off.....	243
Making a total for the year of .....	1,116

Calculating that each patient remains in the hospital thirty days on an average throughout the year, it would appear necessary to provide accommodation for ninety-three beds, to which should be added 10 per cent. for unoccupied beds, cleaning, &c., with (say) forty-seven beds with increased requirements in future years,—making 150 beds altogether.

In regard to the latter point, however, it appears probable that the future extension of manufactories, quarries, &c., will be in a direction further from the site of the Sydney Hospital, so that the demands for beds for accidents, &c., will not much increase. Accidents and emergency cases should be taken to the nearest hospital. The amount of accommodation for these cases, therefore, may be limited, in every hospital, to that which will liberally provide for the accidents, &c., which occur nearer to the hospital than to any other.

It is also of importance that the general hospital which forms the Clinical Medical School, where the University medical students acquire the practical knowledge of their profession, should contain cases of every phase of disease for their observation, while it is practically known to be an advantage to the patients to be in a hospital with a medical school attached to it.

The site of the Sydney Hospital, in a sanitary sense, is an excellent one; whether the citizens wish to have it occupied by a hospital I cannot say.

I have no doubt but that an equally healthy and convenient one can be found elsewhere.

Should the present site be retained for an accident hospital it must always be a source of regret if it is not utilised in a more suitable manner than by the present severe building so near the street.

I should like to see a hospital of the size before indicated placed in the centre, and the grounds well laid out and planted. In this way it might be made a not displeasing object from the Domain and Macquarie-street, and at the same time more cheerful and healthy for the patients.

I have no doubt but that the building now half erected may be converted into a good useful hospital of about 170 beds, and, viewing it as a professional man, I consider it will be a better specimen of hospital architecture, with three instead of four stories. I also think that the large east wings are undesirable.

Supposing it is decided to convert this structure into an accident hospital it will shortly be necessary to add two more pavilions to the Prince Alfred Hospital to meet the increasing demands for beds there.

1271. *Dr. Garran.*] How long have you been in medical practice in Sydney? About forty years.

1272. When did you first begin your connection with the hospital? Very shortly after I came here. I was invited by the then honorary staff to join them at the first vacancy that occurred after my arrival.

1273. For over thirty years you have been connected with the hospitals in Sydney? I have. I was eighteen years surgeon to the Sydney Hospital.

1274. Did you not, before Prince Alfred Hospital was commenced, make a tour through Europe? Yes; and part of India.

1275. For the purpose of examining the leading hospitals there? Yes.

1276. Did you go to America? I did not; I went to Bombay.

1277. You made a systematic observation of the principal hospitals in Europe and India, and brought back the information which you obtained, and embodied it in a report? Yes.

1278. So that you have given special attention to the question of hospital construction, and have made it a study? I have.

1279. Have you prepared for the Government at any time any official reports upon the hospital requirements for Sydney? No, not of the hospital requirements. I have read papers at the Royal Society upon the subject; but I have not made any full official report upon the hospital requirements.

1280. You have studied the subject? I have.

1281. And you have expressed your opinion thereupon? Yes.

1282. And in the paper which you have read you have stated to the Committee what you think the hospital requirements of Sydney are as a whole? Yes.

1283. Former witnesses have told us that one want of Sydney is a hospital for chronic cases which lumber up the existing hospitals;—you do not make provision for such a hospital? I did not speak of it in that paper, because I was thinking only of hospitals in Sydney itself; but I should very much like to add such a hospital to the list. I think it is the most important feature in present hospital requirements.

1284.

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1284. How many beds would you provide for a hospital of that kind? Two hundred at present.
1285. One medical witness told us that for such a hospital all absolutely essential requirements could be provided for about £200 a bed;—what is your opinion? The original estimate?
1286. A plain brick hospital? I think from £200 to £250.
1287. Then we could really ease off the present large hospitals to some extent if we built a hospital of 200 beds at about £250 a bed? For the original cost of construction?
1288. Yes? Yes.
1289. What would be the annual working cost per bed in such a hospital? About £10.
1290. Such a hospital would give suitable and reasonable accommodation for the class of patients requiring it? Quite so.
1291. You would leave to the principal hospitals the dealing with accident, urgent, and operative cases? And acute cases.
1292. You would not stint money in connection with them—you would make them as good as possible? Yes.
1293. Situated as we are now, with the Prince Alfred Hospital partly erected, would you complete that building? Yes, as required.
1294. How many new pavilions would you add there? I should put two at present, and a third when required.
1295. Containing how many beds each? Containing from sixty to sixty-six beds each.
1296. About 130 new beds? Yes.
1297. How much would those two new pavilions cost? About £20,000 each.
1298. Then for £40,000 we can now give first-class hospital accommodation to 130 more patients? Quite so, and improve the advantages to the Medical School very considerably.
1299. That is the cheapest way in which we can provide accommodation? Yes; by utilising these expensive hospitals for bad cases, which require what I may call master treatment, and by weeding out chronic cases—either cases which become chronic, or which prove themselves so after admission, since many cases have to be admitted at once, and, after a short length of treatment, can be transferred elsewhere.
1300. Would the ground at Prince Alfred Hospital be overcrowded if we completed that hospital? No; sites for three more pavilions stand vacant.
1301. You think there is quite enough ground for completing the whole design? There are 13 acres.
1302. The site is an airy one? Very.
1303. Has experience shown it to be healthy? Yes.
1304. It has been sometimes said that it is in a gully, and very misty? There was some swampy ground in the University Domain, towards the Parramatta-road, and below the foot of the hospital grounds, where, in certain states of the atmosphere, mist used to remain, but it never entered the hospital grounds.
1305. The hospital is above the creek? Well above it.
1306. Do you know whether the actual elevation of the lowest part of that hospital is as high as the Macquarie-street Hospital? The elevation in both cases is much about the same.
1307. At Prince Alfred Hospital you are a little more inland? Yes.
1308. And a little freer from the sea breeze? The sea breeze is modified by a couple of miles, but there is very little foliage to keep it from us.
1309. Is that an advantage or a disadvantage? I should not like to be far away from it, because of its cooling powers; but I should like to see it modified by foliage, in order that some of its moisture might be absorbed.
1310. Then, on the whole, irrespective of other considerations, you consider the Prince Alfred site as good as the Macquarie-street site? Yes.
1311. Is the former conveniently situated as a Medical School in connection with the University? Yes, very conveniently situated.
1312. Does it need completion to become a satisfactory Medical School? Yes. I should like to see a larger variety of cases there. Up to the present our students have done extremely well, and have shown themselves to be very well up in their profession, but I have always the feeling that I should like to see the hospital larger for the sake of giving the students a broader experience before they go away into the country districts, where they are left entirely to themselves, and have to act upon their own judgment without assistance.
1313. Then there are two reasons why we should complete the Prince Alfred Hospital—first, because that is the cheapest way of providing 130 new beds; and, secondly, because it will increase its use as a Medical School? Yes. I may also state that the second reason is a double one. It has always been considered among the profession—and the hospital authorities actually state that it is an advantage to the patients to be in a hospital which is attached to a medical school, because, usually speaking, such a hospital attracts to itself the more active-minded and better of the profession, and there is more energy and go in the place—it does not gravitate at all down to the tendencies of a hospital for chronics.
1314. A medical school attached to a hospital keeps it up? It is an advantage to the patients as well as to the students to have a medical school attached to a hospital.
1315. Can you, at Prince Alfred Hospital, which is a good distance from the city, get as good visiting surgeons as they get at Macquarie-street? Quite as good—we get our pick.
1316. How often do they attend, as a rule? By the rules, the honorary surgeons and physicians are required to attend twelve times a month—that is, three times a week.
1317. Whenever there is need of an operation the operating surgeon can be in attendance? Yes.
1318. Is he bound by his appointment to be in attendance? Yes.
1319. There is no danger of a fatal delay occurring because the operating surgeon cannot come? Not the slightest. I read the evidence taken yesterday, and have been over our list, and I think that all our surgeons and assistant surgeons have laid themselves on to the hospital by telephone, and about twelve minutes' drive takes them to it.
1320. Not more than twelve minutes' drive in a cab? From twelve to fifteen minutes, according to where they reside.
1321. If we determine to get an airy site for the hospital we may have to make a sacrifice in doing so—do we gain more than we lose by putting Prince Alfred Hospital so far from the heart of the city? I am

am quite sure that the desire to belong to a hospital connected with the Medical School, and which has such a large number of operations to perform as we have there, is so great that we collect the best men to be had for hospital work.

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1322. You were concerned in the movement for collecting the first fund for this hospital? Yes. When I said the best men, in answer to the last question, I did not mean better men than those who attend other hospitals; I mean equally good.

1323. You were also concerned in choosing the site for this hospital? Yes.

1324. After all these years of experience, do you doubt the wisdom of that choice? I do not. I visited the site many times before proposing it, and I noticed many points in connection with it. One was its comparative proximity to the cemetery, and I would not absolutely make up my mind before I asked Professor Smith to carefully consider the question, and to give a written opinion of the nature of the site. He gave an absolutely positive opinion that it was a thoroughly sound and excellent site, and our experience since has fully verified that opinion. The recovery from operations has been very good, and stands in very favourable contrast to the recoveries in the majority of cases at home. This is shown by the fact that the hospital has become very popular for operations—so much so, that there were nearly 800 last year.

1325. Patients show their appreciation of the hospital by seeking it out? By coming to it from all parts.

1326. If you had to make the choice over again you could not choose a better site? I think not.

1327. You think you have no reason to regret the choice? No.

1328. And the best thing for us to do is to complete that hospital? Yes. You might put a hospital on the top of the sand-hills; but the position would be almost inaccessible. I have not the slightest reason to regret the selection.

1329. Would not Randwick be too close to the sea breeze? Such a site would have some disadvantages.

1330. You think that for the climate the present site is better than a site at Randwick would be? Yes.

1331. Suppose we take it for granted that it would be a wise thing to enlarge Prince Alfred Hospital at a cost of £40,000, we still have to provide an accident hospital for the city proper? Yes.

1332. You say in your paper that such a hospital should be as near as possible to the centre of the accident area? Yes.

1333. What do you consider to be the accident area of Sydney? The present accident area extends round by the wharves, and where the active traffic of the city is.

1334. It would begin at the Circular Quay and end at Pymont? It would begin at the Circular Quay and extend to the Pymont bridge, including the warehouses in the centre of the city.

1335. But if you were to pick a site in the centre of that area it would be a very noisy one? Not necessarily. About two-thirds of the way up Flagstaff-hill.

1336. Is not the site in Macquarie-street a very quiet one? It is a quiet one.

1337. Is not that a great advantage? It is; but the site now is not so quiet as it was before the wooden paving was put down.

1338. But for a big city, it is a very quiet site? Yes.

1339. It is beautifully open to the sea breeze in the rear? Yes.

1340. But it is not quite in the centre of the accident area? No, it is not.

1341. Still, taking its advantages and its disadvantages, and setting them against each other, it is an undeniably good site? An undeniably good hospital site.

1342. Still you would not build a large hospital on that site? No.

1343. What is the largest-sized hospital you would build there? I should say 200 beds.

1344. You would allow 180 beds in constant use, and twenty as a margin? A little would depend upon the building. If you had to utilise the present building—

1345. Suppose you had a new building? Not more than 200 beds. I should have it back from the street, and well away from the Domain, with plenty of garden around it, so as to make it cheerful for the patients.

1346. We have had evidence to the effect that it would be better for patients not to be in wards facing the west, and that therefore the frontage ought to be given entirely to administrative work—the wards running east and west to get the full sea breeze and shelter? I think that is a great point; but I am not sure that I should not have them at an angle—north-east and south-east.

1347. That would give them rather a crooked appearance? I do not myself care anything about that. I should like to build what is best for my patients.

1348. You remember the old front that was pulled down? I do.

1349. Do you recollect whether the patients in the wards which had a westerly aspect suffered from the extreme heat in summer and the cold in winter? There were some few days in which they did; but the inconvenience is not impressed on my mind very much.

1350. You do not lay very much stress upon this westerly exposure? I do not.

1351. Still if you could do it, you would prefer not to have the wards facing the west? Yes, provided they got a good share of the sun each day.

1352. At the Prince Alfred Hospital you have not built any westerly wards? No.

1353. If you built these new wards you would have to face that inconvenience? Yes, or put up circular wards.

1354. That would minimise the inconvenience of the westerly aspect? Yes; and would give them free ventilation from each quarter from which the wind blew.

1355. Then you would have to alter the original plan? Yes; but the wards would stand on the original sites.

1356. Has this modification been suggested as an after thought? Yes. Circular buildings have come into more active use since the hospital was designed.

1357. They are very convenient for administrative purposes? I think they have a great many good points.

1358. The nurses are in the centre? Yes; they can supervise their wards from the centre, and go to any bed in the ward by traversing half the width of the ward.

1359. While you do not attach any extreme importance to a westerly aspect, you would avoid it if you could? Yes, on account of the heat in the afternoon.

1360. If we build any hospital on this site, you would prefer to put as many of the patients away from the westerly aspect as possible? Yes.

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1361. You observe that the plan before us gives most of the wards a westerly aspect? Yes, the building is to be erected on the site of the old hospital.
1362. You do not think that that is an advantage? I do not.
1363. If we adopted your suggestion about not going on with the wards at the back, we should have none but westerly wards? Yes. My objection to the wards at the back is that in many states of the atmosphere they create a *cul de sac*, and prevent ventilation.
1364. You would rather leave the front free to the sea breeze to come at? I would.
1365. Otherwise those two buildings would be very suitable? Yes.
1366. They would actually form the best part of the hospital? Yes; but for the reason which I have mentioned, I think it would be better to do away with one of them, and make the other half its proposed length.
1367. The foundations of one of these wards are laid, while the other has not been commenced. If we go on with the work, would you recommend the completion of that already begun? That might be done, but even that would be too long.
1368. The top plan behind you shows the frontage to Macquarie-street and to the back, and you will see that to the rear of the administrative block is the staircase;—from that you pass into one pavilion, and through it into the other, so that there is no access to the easternmost pavilion except through the nearer pavilion;—there is no other staircase shown? There is a staircase in each pavilion, but I do not see whether any of these staircases lead uninterruptedly to the three stories. The thought occurred to me yesterday when I was waiting here, and I have brought a plan with me to-day showing one of the pavilions of the Prince Alfred Hospital, which will explain what I mean. By it you see that a person can only reach the upper ward by entering the staircase from the outside air. There is no communication between the air of the ward downstairs with the air of the ward upstairs. When there is such communication the staircase acts as a well-hole—the wards get hotter and hotter as you go upwards, and the air from the downstairs wards is drawn up into the higher wards.
1369. Every staircase should be prevented from drawing up exhalations from the wards? Yes. On this plan the lower ward is entered from a corridor by a level door, and the upper ward is also entered from a corridor.
1370. The question has been raised here as to whether hospitals are better built of brick, which construction admits of a double wall, or of stone? I do not think it matters.
1371. You think that stone can be kept as dry as brick? I myself prefer a double wall, but I do not think the material matters.
1372. You think a double wall is dry? Yes.
1373. Then, to build a hospital of stone has no medical advantages—its advantages are simply architectural? Quite so.
1374. In building a new hospital would you spend 20 or 25 per cent. more merely to build of stone? I would not.
1375. You think it is simply throwing away money? Yes. My idea is that a hospital should be as good as it can be made, but that there should be no extra money expended upon architecture.
1376. You intimate in your memorandum that you would not include Lock and ophthalmic cases in your general hospitals? I did not say ophthalmic cases.
1377. Would you put the ophthalmic cases in the general hospital? I should, because of the Medical School.
1378. You would do it because of the students? Yes; and I see no disadvantage through such cases being there.
1379. But you see no means of providing for them in this central city accident hospital? Certainly not.
1380. There are none of them urgent? No.
1381. They could be taken to any part of the city or suburbs? Yes; with the exception of accidents.
1382. Dr. Maher, yesterday, told us that he would prefer a series of moderately-sized wards to one large ward? Yes; I quite agree with him.
1383. Then you would have to adapt your ward for that purpose? Yes; I should adapt a pavilion, or a portion of a pavilion, to that purpose.
1384. You would not necessarily take such cases away from the general hospital? Certainly not.
1385. You would rather have them in Prince Alfred Hospital than in a small detached hospital close by? Yes.
1386. Lock cases you would treat separately? Yes.
1387. But you would not have male and female cases in the same building? No.
1388. You would have two buildings? Yes.
1389. Would not your plan multiply the number of hospitals? No; the male patients could go into the general hospital.
1390. You would only have one ward for them? Yes.
1391. In a hospital where you have got the windows fixed, you can only put one bed between each two windows. If you look at the plan you will find that the windows adapt the wards for sixteen beds, but Mr. Russell, the Secretary of the hospital, says that he was reckoning to put twenty patients in each ward;—that would not be possible? Not as they are designed; but I have not measured the exact length of the wards.
1392. The air space might be sufficient, but, with these windows, you could not put more than sixteen patients in a ward? Not unless you made alternate windows blank, or did not allow them to be open.
1393. If we consider that each ward can only take sixteen patients, we shall not be able to hold as many in two stories as were calculated for on a basis of twenty to each ward? How many are the two stories calculated to hold?
1394. Two hundred and thirty, by putting twenty into each ward; on the ground floor there would be sixteen beds, together with sixteen in the first of the east pavilions, giving thirty-two altogether on that floor? Are you speaking of the basement?
1395. Yes; the basement takes sixteen? I should hesitate about making the basement ward into an accident ward.
1396. It saves the lifting of the patients? An accident ward is called upon to take in very bad cases, and I should not like to put very bad cases into a basement floor.
1397. Still that is the provision; there are thirty-two on the ground floor, all the other rooms there being taken

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taken up for administrative and other purposes; then going to the floor above we have three wards of sixteen beds each, making altogether forty-eight beds, and then we have forty-eight beds on the floor above that again; then we are told that they accommodate seventy-five in the south wing, making only 203 beds altogether;—would you stop at that? I should stop at less than that.

1398. You would not go to more than that? I certainly should not go to that. You will observe from the memorandum which I read that the number of accidents and emergencies are really very small. In my calculation for an accident and emergency hospital I make a liberal allowance for outside cases, and I think that 150 beds would be ample for such a hospital.

1399. If we severely keep away all other cases? If you take in 10 per cent. of all other cases, and allow a sufficient proportion for unoccupied beds—there ought always to be spare beds to allow others to be cleansed and so on—you will only require 150 beds altogether.

1400. This provision then for 203 is ample? It is too much, because it provides a temptation to the staff to take in general cases which, I hold, ought to go to a general hospital.

1401. It has been stated by one witness that a hospital like this should take in a certain number of those operating cases which come in from the country and suburbs;—do you think that that is so? No; I cannot see any reason to support the argument. All surgeons who belong to a hospital like, of course, to have as many interesting cases as they can, and I would not give very much for a surgeon who did not endeavour to collect in such cases: but I think that if a large number of beds were provided it would be a temptation to the surgeons to take these cases into what should be an accident and emergency hospital only.

1402. Still, we must consider what the public want rather than the wish of the surgeons? Yes; but I think that a general hospital, where the most complete arrangements can be made for operations and treatment, is the best place for receiving these cases.

1403. In making provision for beds here, you do not think that we need take into account the need for providing a certain number of beds for operating cases? No.

1404. Were you not concerned in the building of the hospital at Little Bay? Yes.

1405. That was originally intended for a small-pox hospital? Yes.

1406. We now deal with those cases in the ship moored at the Quarantine Ground? Yes; and at the Quarantine Station.

1407. But the Little Bay Hospital is very convenient for other purposes? Very.

1408. Is it not, however, rather inconveniently remote? Yes; especially for typhoids.

1409. If it were three miles away, that would be better than six miles? Not for chronic cases. If a chronic hospital were built that might be further off.

1410. Have you thought about a site for this chronic hospital? No.

1411. Would Parramatta be too far? It might well be on the hills outside Parramatta.

1412. Would the north side of Parramatta be too far? Not at all.

1413. There is no necessity for the hospital being close to the city? No: it would be better away. My idea always was that such a hospital should be for chronic and incurable cases. I object to having an incurable hospital, since it would suggest uncomfortable thoughts to the patients, but there might be an incurable pavilion for males, and another for females, attached to the chronic hospital.

1414. Would there be any economy in having a hospital at Parramatta? I think so. The experience I have had so far in the management of the Carrington Hospital, which is at Camden, is that the distance is no drawback, except with regard to the expense of transmission, which comes to about 10s. a patient, there and back.

1415. How many beds are there in each ward at Prince Alfred Hospital? Thirty-two.

1416. Is that too many for one nurse to look after? They require four nurses and a night nurse.

1417. You observed that the plan before us is designed with sixteen-bed wards;—do you think that that is needlessly expensive? That is a point on which there may be difference of opinion, and either party may be in the right. The reason for deciding on thirty-two beds in Prince Alfred Hospital was that that was the maximum number which a sister, who is the nursing head of the ward, could supervise with most perfect satisfaction.

1418. Would you, in this hospital, require a sister for each ward? It is probable that a sister could supervise two of these wards on the same flat if there was easy access between them.

1419. You do not consider it an objection to the plan that it is designed for sixteen-bed wards? That is no objection in itself, but you will observe that these sixteen-bed wards give you eight walls to be built and kept clean, and eight corners, which makes them additionally expensive.

1420. You think that they are needlessly costly in plan and in administration? Yes.

1421. Then this is not a perfect hospital plan? I did not say that it was.

1422. Then to that extent you condemn it? Yes.

1423. If we carried it out we should not, in your judgment, have a first-class hospital? I do not think you can ever make it so now.

1424. You had a good deal to do with choosing iron as the material for the Little Bay Hospital? No: I think that was settled before I took charge of its completion; but it was altered very much afterwards.

1425. How has the experiment succeeded? Very well.

1426. Was the hospital cheap in construction? Not very. It was built under a great strain; it was put up in a very short time—when there was a panic in the place; and I think it cost more for that reason.

1427. Supposing it were built now under contract, would an iron hospital be cheaper than a wooden one? Yes.

1428. You can ventilate it as well? Yes.

1429. And keep it as cool? Yes.

1430. How many years will it last? I should say fifty years.

1431. You would not recommend that a cheap hospital of the kind of which you speak should be built of iron instead of brick? I am not sure that I should not—it depends on what it is wanted for. I strongly object to cheap hospitals—such as weatherboard hospitals—because they are retained long after they become decayed, which I hold to be a very unsound practice. There is always a reluctance to pull them down, although they are only intended to last for a very few years, and there is a temptation to retain them as long as they will stand up.

1432. Do you know whether good results are obtained in the temporary wooden hospital in Macquarie-street? I cannot say. The results of the cases are not entered in the Medical Superintendent's report, and I have not felt it my duty to inquire.

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1433. You do not know if they are inferior to what you get at Prince Alfred Hospital? No.
1434. From anything you know to the contrary they may be as good? Quite so.
1435. *Mr. Humphery.*] How many tiers of wards are there in Prince Alfred Hospital? Two in the original design; one small ward was subsequently added to utilise a lofty portion of the basement.
1436. Do you think it is objectionable to have four tiers of wards? Yes.
1437. Would it be more economical and more convenient to have two tiers instead of four? It would be more economical to have four tiers, because then you only require one roof.
1438. That is in cost of construction—I speak as regards management and conveniences? It would be more convenient to have two tiers.
1439. Would it be less expensive to manage four tiers than to manage two tiers? I hardly like to answer the question straight away, so much would depend upon having a good safe-working lift. If you had not such a lift, I think the stairs would kill the nurses.
1440. You said that in some respects you considered the designs of the Macquarie-street Hospital defective—will you point out what you consider defective in them? I very much disapprove of having four floors; I disapprove of the proximity of the building to the street; and I disapprove of having a heavy massive structure. Then, I do not like the large projection at right angles to the main building—it prevents the free course of the breezes.
1441. You would do away with both of the buildings? No, but I would curtail them.
1442. You mean you would not have the pavilion nearest the administrative department more than two tiers high? Yes, and I would make it shorter.
1443. By how much would you make it shorter? That would depend upon the necessities of the case.
1444. To provide accommodation for casualties, how many beds would you have in the central pavilion? According to my idea 150 beds would be ample. In the basement you would have thirty-two beds, thirty-two beds above that, and thirty-two beds above that again—ninety-six altogether.
1445. That would be in the north and west wings? Then there is the present south wing.
1446. That would make the accommodation 171 beds, so you would omit the other pavilions entirely? I think I should.
1447. You would omit the eastern pavilions entirely, and the fourth story of the north and south pavilions? Yes.
1448. Would you leave the administrative department at the elevation shown on the design, or would you reduce it? That would depend upon the size of the staff.
1449. Not upon the necessity for bringing it into harmony with the pavilions? No; that is a mere architectural matter.
1450. Can you make any suggestions that would improve the present designs, omitting these two pavilions? I should hardly like to do that without considering the subject.
1451. Prince Alfred Hospital is under your supervision? No; I am only honorary secretary to it.
1452. Have any improvements been made upon the original design? Yes; we are now building a nurses' home, which was not provided for in the original plan, but which we now see was an omission.
1453. Would it be necessary to provide a building of that kind in Macquarie-street? Not if the Nightingale wing were left standing.
1454. I do not think it is the intention of the Trustees to remove it? I think it is to remain.
1455. So that another such building would be unnecessary? Yes.
1456. Has there been any other important alteration in Prince Alfred Hospital design? I think that we require a disinfecting apparatus to cleanse foul mattresses, so that they shall not have to be taken out of the place. We need this for two reasons—one is that we import our own horsehair, and it is of first-class quality, and if it is sent off the premises it may not always come back to us; while the other is that it is not well to have a bed that has been partially rotted and soiled by typhoid patients disinfected outside the hospital. A corrugated iron building would be necessary to carry out this work.
1457. Would you suggest such a building for Macquarie-street? For every hospital where they have to deal with typhoid cases.
1458. What position should that building occupy in connection with the Macquarie-street Hospital? It would have to be on the site of the old mortuary—on the north-east corner.
1459. What should be its dimensions? I should think about 40 feet square, or 40 feet by 30 feet.
1460. One story? A single story, and I think it should be surrounded by a corrugated iron fence, though that would be a very small matter.
1461. *Mr. Dowel.*] Were you connected with the Sydney Hospital when the Directors called for competitive designs? No.
1462. Were the designs submitted to you in any way for approval? No.
1463. You know nothing of the number of designs sent in? I know there were several sent in.
1464. Did you ever see any of them? I did.
1465. Did you ever see one by Mr. Kirkpatrick, with the motto "Health"? That is the only one I saw.
1466. Did that design strike you as a suitable one? When I saw the design that was accepted it struck me that Mr. Kirkpatrick's was the better of the two.
1467. Because it would have been less costly in construction and would have afforded more conveniences? I think it was the better planned design.
1468. And a better design from an architectural point of view? Yes. I do not remember that I considered the question of cost.
1469. It is estimated that it will cost £741 per bed to complete the buildings according to the original plans—is not that a large sum for a hospital to cost? It is.
1470. Do you know of any other hospital which has cost as much per bed? St. Thomas'.
1471. What did it cost? That cost, with the site, nearly £1,000 per bed. A large sum was paid for the site.
1472. Taking away the cost of the site, what would that hospital have cost per bed? About £700, if I remember aright. But we must remember that £700 in London goes further than the same amount would go here.
1473. You have already told us that £250 per bed will be the cost of the construction of certain buildings at Prince Alfred Hospital? Yes; but the administrative buildings of a hospital take up more than two-fifths of the whole expenditure, and in providing more accommodation at Prince Alfred Hospital you have only to make provision for the wards.

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1474. That is one reason why the cost is so much less? Yes.
1475. Are not a large number of patients taken at the Sydney Hospital who ought to go to the Prince Alfred Hospital? I think so.
1476. Do you not think that to a large extent that could be avoided by having ambulance stations at various parts of the city? Yes; I intended to draw the attention of the Committee to the necessity of having a thoroughly efficient ambulance service in the city. It is a matter I have thought of for a long time, and I am anxious to see such a service established.
1477. Are you in favour of an emergency hospital at Flagstaff-hill? That would depend entirely upon whether the Legislature decided to build a hospital in Macquarie-street.
1478. Supposing the Prince Alfred Hospital were completed, what would be the total number of beds provided for there? Four hundred and fifty.
1479. Prince Alfred Hospital is to a large extent built of brick? Yes.
1480. Pressed brick? Hard pressed brick facings, the inside bricks cemented with the best plaster and painted.
1481. You consider that mode of structure sufficient for all necessary purposes? Quite.
1482. And a building constructed in that manner would be much cheaper than one constructed with stone? Yes.
1483. *Mr. O'Sullivan.*] If your recommendation with regard to the abolition of the eastern pavilion and the removing of the beds from the basement were carried out there would only be room for about 175 beds? Yes.
1484. Do you think that such a hospital would be large enough to accommodate the accidents occurring in the city? I do. I fancy that the accidents occurring near to the Sydney Hospital have arrived at pretty near their maximum. The only further increase that is likely to arise will come from the density of traffic being increased—more work being rushed through the warehouses. The manufactories in touch with the Sydney Hospital will not increase, and for these reasons I think that 150 beds here would be ample.
1485. Have you allowed for the building of additional wharves, and the increase of shipping at North Shore and Woolloomooloo Bay? With an increase of shipping at North Shore you would have to have a hospital there for accidents and emergency cases.
1486. Your idea is that there should be a number of small accident hospitals, and one large general hospital? Not at present.
1487. Supposing it was decided to have a hospital on the Macquarie-street site, do you think it would be better to go on with the present building, or to abandon that entirely, and build a new hospital in the middle of the grounds? I can only answer that from a professional point of view. I think it would be far better to have the site quite clear, and that the hospital should be in the centre of the grounds, further away from Macquarie-street.
1488. If the cost of putting a new building into the centre of the grounds would be the same as the cost of partially completing the present building you think it would be better to start afresh? Much better.
1489. *Mr. Trickett.*] Have you considered any other site as desirable or good for a hospital in this locality—have you looked round at all for Government land which might be used for a hospital? Yes, I have looked round, and I thought that a site near the National School would be a very good one.
1490. But I mean nearer the present building—such as Cook Park, where the bowling green is,—do you think that that would be a good site? Yes, a very good site in a sanitary sense, but it would not be so central as the present site; you would be verging up towards St. Vincent's, and away from the wharves.
1491. Do you think that it would be as good a site as that which we are now considering? Except for its distance, it would be better.
1492. The reason for my asking this is that it has been suggested that the foundation on the present site might be used for some other building, and then if we could get a site such as Cook Park, and start the hospital altogether afresh, would you see any objection to doing so? No; but the hospital should be built on the upper part of that park, because the lower part was, I remember, filled up with rubbish.
1493. Do I understand that you would altogether object to accident patients being treated in the basement of this building as designed by Mr. Rowe? Yes.
1494. You do not think that that would be desirable? No.
1495. Chronic cases might be treated there? Yes.
1496. But it would not be desirable to treat patients in a dismal atmosphere of that kind? Certainly not.

Alexander Dean, Esq., Builder, sworn, and examined:—

1497. *Chairman*] You have been engaged in practising your calling as a builder in Sydney for very many years? Thirty-five years.
1498. During that time you have had a lot of experience in connection with different buildings in and about Sydney? Yes.
1499. Have you given special attention to the different designs which have been submitted for the construction of a hospital in Macquarie-street? I saw one design at the time that the designs were asked for. I was not then a Director of the hospital, but since then I have been a Director of the institution, and have seen other designs. It is customary for architects and owners, before they finally decide to carry out a work, to ask me to give them an estimate of its probable cost.
1500. In regard to the designs for this hospital it was a condition that they should be accompanied by a builder's certificate, certifying that they could be carried out for a certain amount? Yes.
1501. Did you give such a certificate in connection with any of the designs? I gave one to Mr. Kirkpatrick.
1502. Do you remember the estimated cost of that design? Yes. I had no specifications, but I merely went over the plans and cubed them. They were for a brick and cement building, everything being of the plainest kind, the arrangements being suitable for a hospital, at an approximate cost of £45,000.
1503. You felt that you were justified in giving this certificate? Yes.
1504. You did not give a certificate in any other case? No.
1505. Do you know of any other builder who gave a certificate in any other case? No.
1506. You have heard of the great disparity between the proposed cost of the buildings designed by Mr. Rowe and the proposed cost of those designed by Mr. Kirkpatrick? Yes. I have been a Director of the hospital for many years now, and I have often heard the matter brought before the Board.

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- A. Dean, Esq. 1507. Was it with the general concurrence of the Directors of the Sydney Hospital that this increased outlay was undertaken? That was before my time—I was not then a Director.
- 4 Feb., 1891. 1508. Have you formed any opinion as to the requirements in regard to hospital buildings? I have been home twice, and I have gone through some of the hospitals there, and have looked over them very carefully. I have also seen the plans of this hospital several times, and I have often been through the portion that has been completed.
1509. Do you think that these plans are well suited for a hospital? Yes; the site is second to none in the world. The buildings could have been constructed very much more cheaply if brick and cement had been used.
1510. Looking at the character of the site and all surrounding circumstances, do you think the Government would be warranted in expending the large amount upon the building required by Mr. Rowe's design? I cannot see how they can do otherwise now. The elevations will have to be carried out, and if you remove what has already been done, there will have been a complete loss of £68,000. I do not see how you can patch up the building unless you build with common brick on top of the stone, after the fashion of the Doge's Palace in Venice, where they commenced to build the first story splendidly and afterwards finished in common brick.
1511. Some evidence has been given as to the practicability of cutting down the building and having three stories instead of four? That would affect the elevation very much.
1512. Would it affect the appearance of the building? It would dwarf the building very much, though it could be done.
1513. You think that the present design, if carried out, would be a very slight one? Yes.
1514. And you think that the situation deserves such a building? It is a beautiful site—the best I ever saw.
1515. Do you think that such a site should be taken for a hospital? Where else could you go? All sorts of accidents occur at the wharves, and in the heart of the city, and you want a hospital that can be easily got at. This hospital is well known, and I am sure that the artisans of Sydney deserve that they should have every attention close at hand in case of accident.
1516. You have not seen the certificate which you have supplied with Mr. Kirkpatrick's design since it was sent in? No; I have looked over my letter book, but I cannot find it. I cannot say whether I copied it.
1517. You are certain that you supplied it? Yes, and that the amount was what I said.
1518. The design sent in by Mr. Kirkpatrick was not so comprehensive as the one before us? Nothing like it, and the material was very much cheaper too.
1519. It was brick? Brick and cement.
1520. A brick front, too? Yes.
1521. Do you think the designs sent in would have been sufficient for the requirements of a hospital in this position? I think so; but I cannot tell from seeing the plans alone—a great deal depends upon the specifications.
1522. Is great inconvenience felt now in the hospital through the want of proper accommodation? Very much inconvenience. It is a source of anxiety to me every time I take my seat on the Board.
1523. In some cases they have to reject applications? Yes; and then there is the danger of fire to which the patients are exposed. This is a source of great anxiety to each and every one of the Directors.
1524. Mr. Dowel.] Did you prepare an approximate estimate of the cost of Mr. Kirkpatrick's design having the motto "Health"? Yes.
1525. Your estimate was £45,000? Yes.
1526. Taking into consideration the cost of materials and labour at the present time, would that sum be exceeded now? I do not think it would.
1527. The work could be done as cheaply now as it could have been done five years back? Yes; I think so;—in fact competition is very much keener now than it was then.
1528. The probability is that the work would be done for less now than your estimate? I could not say.
1529. If there is more competition, the builders must be satisfied with less profits? Their profits are very small now.
1530. And the probability is that the work would cost less now than it would have cost some years ago? Yes.
1531. You are aware that it is estimated that a sum of £80,000 would be required to complete the building? Yes. The Board asked me, as a builder, to say roughly what it would cost, and I said £100,000.
1532. Then you think that Mr. Rowe under-estimates the cost of the work? My estimate was only approximate, but from my experience and knowledge I thought that £100,000 would be required to complete the building.
1533. You say it could not be completed for the amount estimated? I do not think it could. I think that to finish the building according to the plan it would cost £100,000—my feeling is strong upon that point.
1534. As regards hospital construction, I suppose you have formed the opinion that good double-pressed bricks, and stone facings or dressings, would be equally as good as stone? A brick front with stone facings is very expensive, though not so expensive as stone alone—it is the next thing to stone in expense. Builders, as a rule, do not like stone facings—they either like a building to be all brick or all stone.
1535. Are you not aware that Mr. Kirkpatrick provided for double-pressed bricks and stone facings? I saw no specifications.
1536. Would you recommend that the present south wing should be taken down for the purpose of completing Mr. Rowe's design? No, I should not. I have thought over the matter several times as a Director, and I consider that by taking off 20 feet next to the new building, to admit of air, and cementing the walls and generally repairing it, it can well be left to stand.
1537. As a matter of economy it could still be utilised? Yes.
1538. Mr. Rowe's proposal is to pull down the whole of the south wing? I do not think that is necessary, and I think the Directors are generally of that opinion.
1539. Would it not be desirable, for the satisfaction of the Directors and of the Government, that before the completion of the building is proceeded with, tenders should be called for to ascertain the exact cost of the work? There would be a difficulty in getting tenders, unless each tenderer was paid for his services. It would be best to pick out half-a-dozen respectable builders, and get estimates from them.

1540. As a practical builder, you are aware that you could not give a correct estimate of the cost of the building unless a specification of the cost of that building were prepared? I could not.
1541. Mr. Rowe has informed the Committee that no specification has been prepared, and, therefore, to a certain extent, his estimate must be an approximate one? It could not be otherwise.
1542. Would you recommend that a specification be prepared, so as to satisfy the Government, the Directors, and this Committee? Yes; I should recommend that five or six respectable and well-known builders should be asked to give the Government a price; but, first of all, the architect, whoever he may be, must provide a specification showing the details and everything complete, just as if the building were going to be commenced.
1543. You do not think that a sufficiently accurate estimate could be obtained to the satisfaction of the Committee, except in that way? No. The custom with practical builders and architects is to cube up a work to ascertain its cost roughly, but they can only choose a figure from their own experience. A young architect just starting to practise his profession would have no idea what figure to choose unless he had had experience in the carrying out of a similar work before. Sixpence, 6½d., 7d., 7½d., 10d., might be chosen, according to the size of the building, and the difference of a half-penny, more or less, would affect the estimate considerably, especially if the building were a large one.
1544. And you could only choose an accurate figure by knowing something of the details of the building, according to the architect's intention? Exactly.
1545. At the present time there is a vast discrepancy between your estimate and Mr. Rowe's estimate, and you think the only way to settle the matter is to have a proper estimate prepared from the specification? Yes; but it must not be A, B, C, or D who are picked out, but men of position, who would not give a price without being able to carry out the work at that price, otherwise you might get men who, for the sake of notoriety, would give a price either ridiculously high or absurdly low—it would be necessary to get men of position.
1546. Reliable, trustworthy contractors? Yes.

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Sydney Burdokin, Esq., M.P., Treasurer, Sydney Hospital, sworn, and examined:—

1547. *Chairman.*] You have been a resident of Sydney for a long time? All my life.
1548. You know a great deal about the proposed Hospital Buildings? I have lived in Macquarie-street since I was about two years of age.
1549. You have watched the progress of these buildings from their different stages? Yes.
1550. Have you taken an active part in connection with the proposed new buildings? I have been concerned in the matter since its inception. The old buildings were of such a character that it was thought that they should be demolished, and it was considered that Sydney had arrived at such a state that a hospital should be built here which would be an ornament to the city and safe for its patients. It was also thought that the old building contained germs of disease which might interfere with surgical cases, and so it was pulled down. Designs for a new building were then called for, and Mr. Rowe's design was selected as the most suitable. It was criticised on various occasions by various medical men, and many alterations were made in it to suit the medical profession in the city. Ultimately the design before the Committee was decided upon as combining all modern requirements for a hospital, and being best suited to the circumstances of the city. Originally it was intended to build this erection in brick, but a decision was come to by the Directors that it would be better, because of the importance of the colony, and of the nature of the site, that it should be built of stone.
1551. When the decision was come to by the Committee in reference to this design, did they consider the question of cost? I think it was not estimated that the alteration from brick to stone would make such a very great difference in the cost of construction.
1552. Do you remember the amount of the first estimate? I think it was something above £50,000. My impression at the time, from the discussion which took place before the Board, was that the alteration from brick to stone would not increase the cost more than about one-third. I may be wrong, but that is my impression.
1553. You are aware that the structure as far as it has gone has cost £68,000? Yes. I may say, in passing, that the evidence which I gave before the Select Committee of the Legislative Council on this subject embraces, to a very large extent, all that I can say about it, except that I then said that the accident cases came principally from the Circular Quay and Darling Harbour, whereas circumstances have now somewhat altered, and a very large number of accidents now come from the Woolloomooloo Bay district, making the hospital even more central than it was ten or fifteen years ago.
1554. Then you consider that under all the circumstances the site is about the best you could have? I have not the least hesitation in saying that it is the best site that could be fixed upon. Almost every medical man of eminence admits that it is the site of all others for a hospital. It is easily accessible for patients, has everything that can be desired from the point of view of health, and it is convenient to the physicians and surgeons. Because of this convenience, we have the best talent in the community always ready and willing to offer assistance in the alleviation of distress and the cure of disease. The medical gentlemen belonging to the honorary staff can attend to their duties in that hospital without in any considerable way interfering with their private practice.
1555. You are aware that the project, if carried out according to the present design, would ultimately cost something like £150,000? Yes; but although the amount seems, perhaps, somewhat large, it cannot be considered extravagant when we consider the magnificent buildings going up in and around Sydney, and remember the value of the site. If the position were in private hands the expenditure of such a sum would be looked upon as a mere bagatelle.
1556. It has been suggested that a story less might be built, or that the structure might be completed on a less expensive scale;—would you favour an alteration of that sort? I have given a great deal of attention to this hospital for very many years, and what I earnestly desire is to see sufficient accommodation provided for accidents and urgent cases around the city, and Mr. Rowe's original design—whether it was of brick or stone, is a matter of small consequence—allowing for 270 beds, gives the very least accommodation that we ought to expect to have to provide in such a central position. To cut this building down from three stories to two would mutilate it from an architect's point of view, and would render us incapable of performing the services that might legitimately be expected from us. The hospital is in a commercial

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commercial centre, where accidents occur in large numbers. The admissions are sometimes fifty and sixty a week, and many of the cases are extremely urgent, and have to remain five, six, and seven weeks in the hospital, and we could not take them unless we had a fair amount of accommodation. I am fully convinced that it is infinitely more economical and better to have all the medical and surgical talent that we can get at one institution, instead of having it divided among several small hospitals about the city.

1557. Do you think you express the opinions of the Directors? I think I am fully in accord with the Directors.

1558. *Mr. O'Sullivan.*] From your experience, how many beds do you think would be required in this hospital? In 1887, when giving evidence, I said that the accommodation designed by Mr. Kowe was 270 beds. For three years we had an average number of 268 patients in the summer months and not less than 208 in the winter months, and the accidents are increasing.

1559. But the majority of cases last year were really not accidents at all? From different circumstances, I have not been able to pay that close attention to the management of the hospital during the last year or fifteen months that I gave to it formerly; but I know that the cases there are either accidents or urgent cases that cannot be sent to a distance. All pauper or Government cases are referred to Dr. Strong, who allots them to the different hospitals—the Coast, Prince Alfred, and the Sydney Hospital. Every case that admits of delay is submitted to Dr. Strong, and he sends it in whatever direction he thinks fit.

1560. In 1889, out of 3,296 patients admitted, 1,116 were what might be termed accident or urgent cases? I cannot account for the difference. To my knowledge we admit no cases except accidents, urgent cases, and cases sent to us by the Government. Of course there are paid cases.

1561. Sir Alfred Roberts is of opinion that 170 beds would suffice for this hospital;—do you think that he ought to be an authority on the subject? Sir Alfred Roberts is a gentleman of large experience, who deservedly stands at the top of the medical profession here; but he has now not been connected with the Sydney Hospital for many years, and his whole sympathy, I have no hesitation in saying, lies with the Prince Alfred Hospital. I think he does not know as much about the Sydney Hospital as those gentlemen who are more immediately connected with it.

1562. Do you think that, from your experience on the Board, you are better able to judge of the requirements of the hospital than Sir Alfred Roberts is? I think infinitely better, though I would not presume to judge of a surgical case.

1563. The figures I have read show that the majority of the cases treated at your hospital are not surgical cases? I am surprised at that statement, and I think it requires explanation. You will understand that we are not likely to take in cases that are not accidents or urgent cases if we can avoid doing so, unless they are paid for, because the institution requires a large amount of money to carry it on, and the subscriptions are more or less limited. My explanation is, that these cases may have had some special feature that made them command admission.

1564. If these figures were supplied by Sir Alfred Roberts, they may be taken as reliable? I do not know that he knows anything about the working of the hospital. I think that, upon communication with the authorities, I shall be able to supply an explanation wholly satisfactory to the Committee.

1565. I presume that Sir Alfred Roberts would get his figures from the records of the hospital? I can only say, from watching the working of the hospital more or less every day for all these years, that the accidents are increasing, and a communication which I received from the Secretary, and which I have unfortunately mislaid, showed me clearly that all these cases have increased largely during the last two years. I should say that the demand for admission to-day is infinitely greater than it was in 1887, and I have no hesitation in saying that I shall be able to give you a satisfactory explanation of the discrepancy.

1566. Do you contend that 270 beds are necessary for an accident hospital, or are they for an accident hospital and a general hospital combined? The accidents and urgent cases may average from fifty to sixty a week, and may remain in the hospital four or five weeks, while, as population increases, the number of accidents increase, so that it is always well to have a few beds in reserve. When the accommodation is insufficient, patients have to be placed in the passages, and the wards are overcrowded. There are some cases which must at all hazards be admitted.

1567. You consider that 270 beds are required for this hospital as an accident hospital? I consider that is the very smallest number which we should have in the city of Sydney for a central hospital, and I have no hesitation in saying that if the number of patients there went up to 300 it would not be dangerous to the public health. I have lived in the street all my life, and I have never known any trouble from the hospital. I would as soon have a hospital on the proposed site as I would have any other public building there, and I should infinitely prefer it to a private house. The hospital has not been detrimental to the value of property in this street. The only objection I have heard to its erection there is the value of the site, which I do not think will go down with the Committee. In my former evidence, I stated that the area of the grounds is 2½ acres, but the air space may be considered to be the whole Pacific, while the building is protected from the prevailing westerly winds, which are rather serious in surgical cases, by the good class of houses on the other side of the street. As you go through the evidence, I think you will find that almost every medical man, without exception—not considering those who made up their minds many years ago—is of opinion that there is no superior site in the world, and in the evidence of different gentlemen which I have read they say that all the best conducted hospitals in London and on the Continent are close to where the accidents occur, and in the centre of the city, though without any injury to the health of either the city population or the hospital patients.

1568. *Mr. Humphery.*] You expressed the opinion that the design should be carried out without modifications;—have you considered whether it is desirable to remove the south wing, which now gives accommodation to between seventy and eighty patients? I think it would be a waste of money to remove the southern wing, and the only good that would be gained by taking it away would be that it would put one pavilion a little closer to the boundary wall. This building was erected many years ago at a large cost, and has been remarkably useful, and I should consider it a piece of wilful extravagance to remove it. I would almost as soon agree to the removal of the Nightingale wing.

1569. To that extent you would modify the opinion that the plan should be carried out in its entirety? What I mean is, so that the fullest accommodation may be given. It would not affect the accommodation to leave the southern wing standing, though it would save £8,000 or £10,000. It seems to me of very little importance whether the design is carried out in brick or stone, as that would only affect the appearance of the building. But in connection with the hospital there are operating theatres, affording oppor-  
tunities

tunities to gentlemen for learning their profession, and I think it would be well, in a national undertaking like this, to have the building complete as a medical educational establishment as well as a hospital for the sick poor of Sydney. S. Burdekin,  
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1570. *Mr. Dowel.* Would you propose to have any but accident and emergency cases in this hospital? I should certainly not propose to have, as we never have had, any case of an infectious character in it.

1571. You simply propose to confine its use to the treatment of accident and emergency cases? You will understand that there are many cases which present themselves which it would almost be a breach of humanity to turn from the door, so that I think it would be undesirable to make the rules absolutely hard and fast; but, speaking generally, of course the hospital is for accidents and emergency cases. In these very urgent cases the proportion of deaths within twenty-four hours after arrival is very large.

1572. Are you aware that 3,083 cases were admitted in one year, and that out of that number there were only 1,293 accident and emergency cases, leaving a total of 1,790 patients who might have been sent elsewhere;—that information is given in one of your reports? I will see that you get some explanation of that.

1573. You have had very considerable experience in building operations? Yes, all my life.

1574. When the Directors accepted Mr. Rowe's design, do you remember whether any specification, in connection with the plan, was submitted? I do not recollect any specification; but I know that it was expected that this hospital should have been built for a very moderate sum indeed compared with the present estimate. I was so impressed that it would be in the best interests of the institution to carry out the work, that, being then in the country, I wrote down specially to the Chairman to ask him to be sure to accept one of the designs; I forgot the amount. The Directors, unfortunately, I think, decided to erect a stone building, and the price went up, though when the site is taken into account, I think that was a small sin.

1575. On the score of economy, you then favoured the erection of a brick building? Yes.

1576. If the architect had informed you that the building was going to involve the expenditure of £150,000 or £200,000, would you have sanctioned the outlay, or do you think your fellow Directors would have done so? I should have considered the matter very carefully, to see whether this large expenditure could not be cut down.

1577. The Directors called for competitive designs not to exceed a cost of £50,000;—do you remember what steps they took to obtain an opinion as to the merits of this particular design? I admit that the Directors seemed to have been very blamable in incurring an expenditure of £147,000 where they started with the idea of spending £50,000. That admits of explanation. These plans were submitted to, and criticised by, the public at the Town Hall, when Mr. Rowe's plan was selected.

1578. Upon whose recommendation? By the Board generally. All the plans, without exception, were submitted to the medical fraternity of the city, and from the time that the plan was selected, and until the foundation stone was laid, the medical men were constantly making alterations; and I have not the slightest hesitation in saying that these alterations added £50,000 or £60,000 to the cost of construction. I think that point ought not to be overlooked. You will understand that, as a body, the Directors are laymen, and the suggestions of the medical men were adopted by them; and this, in addition to the alteration from brick to stone, will account for the increase of cost.

1579. Does it not prove that the original design was very defective, since all these alterations had to be made? The medical men are everything you can desire as medical men; but when they come to deal with bricks and mortar, I think they are about as unsatisfactory a set of men as you can get, and what a practical man would accomplish for a £5 note, would cost a set of surgeons and doctors £50.

1580. Were the whole of these designs submitted to a Board for the purpose of inquiry, so that they might report upon them to the Directors? As far as I recollect, all the plans were exhibited in one of the upper rooms of the Town Hall, and the public were invited to inspect and criticise them. The Directors, after a certain period, taking into consideration the opinions of the public, and the advice of their staff, proceeded to the selection of a plan, and, rightly or wrongly, adopted that submitted by Mr. Rowe.

1581. Was not the design marked "Health," strongly recommended by the medical men whom you consulted at the time? I hardly recollect any special plan, but in all these matters majorities must rule. I can hardly tell you from memory what the different mottoes were; but the majority of the Directors favoured one particular plan, and, therefore, that plan was adopted.

1582. Is it not a fact that Sir Alfred Roberts and Dr. MacLaurin strongly recommended a plan prepared by Mr. Kirkpatrick, and marked "Health"? I hardly recollect the details; but in dealing with this question it cannot be forgotten that Sir Alfred Roberts is the principal of what may be looked upon as a rival institution, and it might be thought that the success of the Sydney Hospital might take from that of the Prince Alfred Hospital.

1583. Do you recollect whether a builder's certificate accompanied Mr. Rowe's plan? I think a certificate accompanied the design, to the effect that the building could be constructed for so many thousand pounds; and I think it was because the price seemed to me so reasonable that I wrote to Dr. Renwick asking that the work should be adopted.

1584. Was it not a condition of the competition that a builder's certificate should accompany each plan? Yes.

1585. You cannot, of your own knowledge, say whether such a certificate did accompany the plan? I supposed that everything that came before us was regular, and it was no part of my duty to go into details. I have no doubt that whatever should have been done was done, and that when the design was submitted to the medical gentlemen it was found that the necessary accommodation could not be given for the amount stated.

THURSDAY, 5 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHREY.

The Hon. WILLIAM JOSEPH TRICKETT.

JACOB GARRARD, Esq.

HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.

WILLIAM SPRINGTHORPE DOWEL, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM MCCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

The Hon. Henry Norman MacLaurin, M.D., M.L.C., sworn, and further examined.—

Hon. H. N.  
MacLaurin,  
M.D., M.L.C.

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1586. *Dr. Garran.*] On your previous examination I understood you to say that, taking a large view of the wants of the metropolis, you thought that one of our wants was a moderately cheap but adequate hospital for the chronic sick poor? Yes.

1587. How many beds would you like to have in that hospital? I recommended from 350 to 380.

1588. You would not have it larger than that? That was the number that I could get into my scheme. My scheme left room for extension afterwards.

1589. And you think that that work could be done at a cost, for really necessary purposes, of £200 a bed? It could have been done for very much less than that if my plan had been carried out? My plan was to resume the Randwick Asylum, which was almost empty at that time, and make such changes in it—they would be of a very moderate character—as would be necessary. It seemed to me that the total expense of turning it into a place which might be used for the accommodation of about 350 patients would be between £7,000 and £8,000, or under £10,000. That would be for furniture and for remodelling the bathroom, lavatory, and closet accommodation.

1590. Seeing that three-fourths of the capital invested in that building was Government money, you think that the Government would have an equitable right to walk in and take possession of it? Yes.

1591. But they could not take possession of it without an Act of Parliament? No.

1592. They are laying out their money at the present time? I suppose so.

1593. They get no *quid pro quo* for what they have spent at Randwick? A very small number of children are kept there in proportion to the number that they could accommodate, and it seemed to me that these children could, in the public interest, be much better boarded out. The asylum seemed just the place wanted for a chronic hospital to relieve the two metropolitan hospitals, and, to a certain extent, the asylums for the destitute.

1594. You do not think that it is too near the sea breeze for a chronic hospital? I do not think so—it is very healthy.

1595. We had evidence given yesterday to the effect that a position a little inland, where the sea breeze is mitigated, is very beneficial? It depends on the place. There is no doubt that all chronic people like a little change of air sometimes, but we cannot provide everything. It would be quite reasonable to build a hospital a little further inland, but that would cost a very large sum of money, and it seemed to me that the Asylum at Randwick was exactly suited for a hospital for the vast majority of patients at less expense, while I thought that if it were found that some of the patients would be better inland, part of the Liverpool Asylum could be used by them.

1596. If the Government could buy out certain people who have rights in the Randwick building, that would be the cheapest way of establishing this hospital? Yes, and, moreover, part of that building would do exceedingly well for a Lock Hospital for women. It is perfectly sheltered and isolated, and would accommodate sixty or seventy persons, so far as I remember.

1597. If the Government could only obtain that building there would be an immediate relief to our hospital wants? Yes; and this hospital could be conducted at a very cheap rate. I calculated that the annual expense of carrying on the institution would not be much more than £40 a bed, and if we could treat the great majority of chronic cases at that cheap rate, we should not grudge spending at a higher rate on the patients really seriously ill in the Prince Alfred Hospital or the Sydney Hospital.

1598. You agree that, for accidents and urgent and operative cases, we cannot have a hospital too well equipped? We cannot object to any expenditure on such cases; but I object to treating chronic paupers at an expense far beyond what is necessary for them. I refer to persons of whose perfect recovery there is no prospect. I think that such people should be treated in an institution where they could be kept more economically.

1599. With all proper respect for, and humanity towards, the sick poor, you think that the expenditure of £200 or £250 a bed would absolutely meet their necessities? I should think so. The annual cost would be a little over £40, whereas in the other hospitals it is necessarily very much greater.

1600. You think that it is simply a waste of public money, and no real humanity to provide accommodation for these people at £800 a bed? I think so.

1601. Do you know the cost of St. Vincent's Hospital a bed? No.

1602. That is a useful hospital? Yes, but it cannot be turned to account so readily by the public as the other hospitals can.

1603. Yes; but I am talking of the building? It is a very good place.

1604. Should you think it would cost more than £250 a bed? I would not like to say. I have not seen the accounts, though I have no doubt the authorities would give you the accounts if you required them.

1605. That hospital is plain, simple, and useful? Yes.

1606. A hospital of that kind would suit chronic cases? Perfectly.

1607. You say £200 a bed would be enough? I would rather not give any figures as to the actual cost of construction, because I have not calculated that, though I should think that would be enough. A great deal, however, depends on the size of the institution. If you were building an institution for a small number of beds it would be more costly than if you were building an institution for a large number of beds. I think, for a hospital containing 350 beds, £200 or £300 a bed would be quite sufficient.

1608.

1608. How many beds would you fit up at Randwick? The present building would provide accommodation for 350, or, in case of emergency, up to 380. It is impossible to estimate exactly the expense of new furniture, but I believe that if it were bought judiciously and economically, £6,000 would be required.

1609. Do you think that if we cleared out of Prince Alfred Hospital and the Sydney Hospital all the patients for which these hospitals are not exactly suitable, and provided in them for all the patients who ought to be provided for, we should require 350 beds to accommodate the sick chronic poor? There are a good number of patients in the asylums who would be better treated in a hospital than where they are.

1610. You think you are not making too much provision? Not at all; I could have filled the building in a month.

1611. And you think that the expenditure would be a good one? That is a question that would require grave consideration. I think that we ought ultimately to provide accommodation for these people; but whether it would be a wise thing to spend £87,000 or £100,000 on this work at once is another question, because when you come to build a perfectly new institution you find that there are a great number of sources of expense that would not come in in a place like Randwick.

1612. Still we are not doing the right thing now; we are spending too much on some patients and neglecting other patients who ought to be better treated than they are in the asylums? Yes.

1613. So we are penurious on the one hand and wasteful on the other? I would not call it penurious; they get what is required, but the accommodation is not as it should be.

1614. Speaking as a doctor, you know that there are some cases in the asylums that should be better treated than they are? Yes.

1615. Suppose we provided 350 beds at Randwick or elsewhere, what effect would that have upon the enlargement of Prince Alfred Hospital, or upon the size of the Macquarie-street Hospital? Even with 350 chronic beds you could not do with less in Macquarie-street than the daily average number of 200 beds.

1616. We were told yesterday that it was very desirable, both for economic reasons and in order to improve the facilities for a Medical School there, to complete that building? I do not think it would be necessary to make that building much larger than it is. Prince Alfred's is a hospital which must always be run on expensive lines; it is impossible to treat patients there in an economical way, and, therefore, in justice to the public funds, we are bound to see that the people treated there are persons who are seriously ill. I think with 200 beds at Macquarie-street, and 250 beds at Prince Alfred's, we could meet all requirements for a few years, though if the population of the city and the country goes on increasing, it will be necessary to enlarge the accommodation for very urgent cases of sickness, surgical disease, and injury. At present I do not think that it is necessary.

1617. Still, we are told that for £40,000 we could put up two pavilions providing 130 extra beds. Would not that be the cheapest way of providing those beds? It might be, so far as the building went, but I do not believe that you could keep up that hospital at such a cheap rate as a hospital intended for chronic cases only, and for many reasons. In the first place, if you put 130 more beds in Prince Alfred Hospital, it would not relieve you from the necessity of having a hospital in town; you would still require that, and I do not believe that you would require 130 extra beds for acute and surgical cases, and severe accidents, in Prince Alfred's. I do not believe that the supply of patients there would be sufficient to fill them, so you would be compelled to keep mainly chronic cases there.

1618. I am trying to get at the limitation for Macquarie-street. If you severely limit the accommodation there to 200 beds, and that together with the accommodation at Prince Alfred's is not adequate, you have these two pavilions to fall back upon? Yes; and my idea was to have another hospital entirely under the control of the Government, where the expenditure would be looked after more accurately than it can be in any institution conducted by a Board. In that institution I should have only chronic patients, and, supposing it were built, I think 200 beds at the Sydney Hospital, and the present accommodation of Prince Alfred's, would be sufficient for severe cases. If the supply of those cases were greater than the accommodation afforded, we could then think about enlarging Prince Alfred Hospital.

1619. Then you would provide 200 beds in Macquarie-street? Yes.

1620. You would acquire the Randwick Asylum, and make provision there for chronic cases? Yes.

1621. If you then wanted more beds, you would add to the Prince Alfred Hospital? Yes, and part of my scheme was to retain the Little Bay Hospital entirely for infectious cases, and under the Government control.

1622. You would put the recovery of the Randwick Asylum, or the providing of equivalent accommodation, before the enlargement of Prince Alfred? Yes; because if we got that I think 200 beds at the Sydney Hospital, and the present accommodation at Prince Alfred's, would be sufficient to meet all the requirements of very severe cases.

1623. Would you provide for ophthalmic cases in Macquarie-street, or would you treat them elsewhere? They have a very convenient arrangement just now, treating them at Moorcliff. It is a matter of convenience.

1624. You would not think it necessary to provide beds at £800 each there? No.

1625. Would you treat the Lock patients there? By my scheme I would treat all the female Lock patients at Randwick. The male Lock patients would require to be treated in one of the main hospitals.

1626. But they are not urgent cases that must be taken immediately to the hospital? Some are and some are not; there is a great variety.

1627. But a great number of them are not urgent? No; but there is a great variety. Some are of the utmost urgency, and must be attended to at once, or the patients will probably die. Others, again, are distinctly chronic cases which might be treated anywhere.

1628. You do not require any large ward in Macquarie-street for a Lock ward? No; but you would need a ward for urinary diseases, which would require considerable surgical skill in their treatment.

1629. You would keep that hospital strictly for surgical cases? For accidents, surgical diseases requiring operations, and cases of grave internal disease.

1630. Cases coming from the country could go to any suitable hospital; there is no absolute necessity for providing for them in Macquarie-street? No; but in Macquarie-street you would provide surgeons of great skill and experience to deal with accidents there, and why not turn their abilities to account for the treatment of these cases?

1631. You would like to give them the advantage of the operating cases? I should give the operating cases the advantage of being treated by them. You cannot keep a surgeon dealing exclusively with compound fractures; you must give him a variety or he will get tired of his work.

1632. Have you ever thought of the Government taking sole control of the Sydney and Prince Alfred Hospitals? I have very often, but I do not think that it would be a good thing. The objections to it

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are, first, that the Government could not properly command, on the whole, the first-class medical skill of the town so readily as the Boards can. The Boards get the best surgeons and physicians in the city to attend the hospitals, and for nothing; but the Government cannot have any gratis service. The Government can only have service for which it pays, and it would often not be worth the while of the surgeon or physician who is aiming at the highest success in his profession, to become the paid servant of the Government.

1633. That is only an economic argument? Another argument is that there should be a certain amount of public supervision over institutions of this kind, and I think that the Board in this way exercise their functions very well. The fact of the matter is that the hospitals are more under the eyes of the public now than they would be if they were entirely under the Government supervision.

1634. But still they are less under the eyes of the Government. Do you think that if this hospital in Macquarie-street had been severely under the inspection of the Government, its cost would have sprung from £40,000 to £200,000 without the knowledge of the Government? That is the fault of the constitution of the Hospital Board, and especially of the constitution given to it by a late Act, when certain Directors were nominated by the Government. It was supposed at the time that, through these Directors, the Government would be able to exercise a distinct influence upon the actions of the Board, but it turned out to be quite the reverse. The Government nominees hold their office for life, and are responsible to no one, and the Government do not like to take the very strong step of dismissing a man from an office of that kind. These nominees know that they have never to come up for election again, and that they can do what they please. I remember on one very important occasion, when the Government proposed what I thought was a very right step in connection with the hospital, that the principal opponent of the action of the Government was a Government Director.

1635. Then it comes to this,—If this hospital is completed, as it would have been completed but for the interference of Sir Alexander Stuart, it would have cost something like £250,000, of which only £20,000 would be private money, and yet the Government is practically ousted from all control of the building—is that a right state of things? No; but the Government were to a certain extent to blame,—they should have kept a stricter watch.

1636. The plans were put before them, and they approved of them upon the information that the building was to cost £50,000. They were not approached again until the Committee had pledged itself to an expenditure of £210,000 as the minimum? I was not in any office under Government at the time, though I daresay that was quite true. The Government regulation now-a-days is, that before the Hospital Directors can spend any money, or before they can draw a penny of Government money, a plan of the proposed building must be submitted and approved of by the Government, and upon those plans the Committee must work. Plans and specifications must be submitted and approved before the Committee can draw a penny of public money.

1637. These plans were submitted and approved of, and then the Committee deviated from them? The only action the Government could have taken then was to refuse to pay any more money.

1638. That is what they did do, and their action led to the stoppage of the works. What I want to know is whether you consider that the Government ought to have had more control? I do not see how the Government could have prevented what happened. Putting the case in the way in which you have put it, it practically amounts to this, that the Board of Directors broke faith with the Government after engaging to carry on the work upon a certain scale by carrying it out on a very different scale.

1639. The Secretary of the hospital said that they did not quite know what they were doing? I did not know the circumstances at the time. I was not acquainted with any of the inner working of the case, and I know nothing whatever of the relations between the Committee and the Government. I only know what the rule now is, and that rule, for the last seven years at all events, has given the Government the most perfect and thorough control over the expenditure of hospital committees in constructing new buildings. The committees cannot spend any money at all without submitting plans and working drawings, which must be approved of, and a letter of approval must be sent by the Colonial Secretary to the committees before they can draw any subsidy.

1640. You think such a thing could not happen again? I do not know what private influence may do—that is an element which no regulation can prevent; but if the regular course of official business is carried out such an occurrence as you described could not happen now.

1641. Now, with regard to the number of beds in the Macquarie-street Hospital. It has been explained to us that the number of beds is determined by the number of windows in the wards, that you must have a bed between every two windows, and, therefore, these wards can only hold sixteen beds each. If we take the building two stories high, and carry out one pavilion, that will give exactly 203 beds. Do you think that that number is sufficient? You retain the south wing?

1642. Yes? Is it included in that accommodation?

1643. Yes? It would be more convenient if you had 220 or 230 beds—you would have an average daily number of 190 or 195 beds occupied, and you must always have a few beds for cases of emergency.

1644. That being so, would you rather have a third story, and provide thirty-two additional beds in that way, or would you complete the second pavilion with three wards of sixteen beds each? Giving a total number of 250 beds?

1645. Yes? And how many beds would it give you if you were completing the three stories?

1646. There would only be two additional wards? That would be thirty-two additional beds. That is a question which I should have to go into pretty carefully, and one which it would take me some little time to consider. I do not think there would be very much difference between the two, but it is objectionable in every case to have three stories.

1647. Sir Alfred Roberts thought that if a second pavilion were built it would check the sea breeze? It might—one would require to study the plans, and see how much of the open space it would occupy. In either case, as I understand from you, there would be three stories of wards.

1648. It is now proposed to put only two stories on the front building? Just so; that was one of the suggestions I made. Taking it altogether, much as I object to three stories, I should be inclined to put a third story on the front of the building in Macquarie-street.

1649. It would be a little awkward, however, to make the two front buildings two stories and the administrative buildings and pavilions three stories? Yes; taking it altogether, I think it would be best to put a third story in the front.

1650. Have you any dislike to westerly aspects? I do not like that aspect at all—I do not think that it is good for a house, or for anything else if you can avoid it.

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1651. The principal wards in this building all front the west? I objected to that at the time when the plans were under consideration.
1652. If we go and multiply the wards in the front, nearly every bed in the hospital will be in a ward having a westerly aspect? When you are in a corner you must make the best of it.
1653. You think we are in a corner? Yes. I think the best thing to do would be to pull down the building and build on a plan to suit, but that would be too unreasonable.
1654. We have spent nearly £70,000 on the work up to the present, and we are told that for £50,000 we could have put up a hospital in brick that would have answered all medical purposes—better than this hospital ever can do? That design was more in accordance with my views, at all events.
1655. Supposing that for £50,000 we could complete in brick a hospital having accommodation for 250 beds, we should have to put that £50,000 on the top of £70,000? Yes.
1656. If we cleared all that has been built away, and spent £50,000 on a fresh erection we should have for medical purposes not only as good, but, in some respects, a better institution than the one designed? Although you had an estimate to do it for £50,000, I question if it would be completed for that. You know that when you once begin to build a number of alterations have to be made.
1657. We have Mr. Dean's estimate that it could be done for £50,000? I know that.
1658. And Mr. Burdekin told us that if the doctors interfered with the work it could not be carried out for twice the money? The doctors had less to do with the expense of this institution than any one. There was a distinct difference of opinion between them and the Board, and they had to give way. Although an estimate has been given for £50,000, we must always allow a certain margin for necessary alterations.
1659. Still, Mr. Dean says that he could, in the present state of the labour market, carry out Mr. Kirkpatrick's design for £50,000? I think if we could get Mr. Kirkpatrick's hospital for £50,000 it would be better than anything we can do with this.
1660. Can we get anything as good on this building? I always thought that Mr. Kirkpatrick's plan was very much better than this.
1661. Could we, by spending £50,000 on the present building, get for medical purposes a structure as good as that designed by Mr. Kirkpatrick? No; I do not think you could. I think Mr. Kirkpatrick's plan would be a better plan, if he could put it up for £50,000, which I doubt.
1662. Then it comes to this: we must waste £70,000 in any case, because we shall have to spend £50,000 to make this building effective, and if we pull down what has been already built it will take £50,000 to put up another building? It would not be such a handsome building.
1663. Do you think that this building will be handsome if it is finished with two stories of brick? As far as it goes it is a very sound, strong building, and to pull it down would delay the completion of the hospital, and continue the risk of fire in the present structure.
1664. Putting the delay aside, and looking only to the question of expense, we should do as well financially if we pulled the present building down and began again? You could then build on a much better plan.
1665. If some one gave us £70,000 for the dressed stone already on the ground, we should be very much happier? I think so.
1666. Some of the witnesses have told us that the best thing we can do is to clear away and begin again? You would not have the best plan you can possibly get by completing this building in the way recommended, but you would have a good building, and it would save a great deal of time if you went on with the building now. Besides, it would be unnecessarily offensive to the Board of Directors to remove what they have built, and thus prove them guilty of public incapacity.
1667. You think that, having gone so far, we had better muddle through? I would finish the building in the way suggested.
1668. *Mr. Garvan.*] You have said that about 200 beds would be sufficient for this hospital;—why do you limit the accommodation to that number of beds? I think that would provide enough accommodation for the serious cases occurring in this part of the town; but I should want about thirty beds beside that for emergencies. I formed my opinion from the experience which I had when I was Medical Officer to the Government, and constantly inquired into the number of patients in the hospital, and the character of the cases there.
1669. Is there a demand for that number of beds? Yes; but at the present time there are always a few patients who are admitted because they must be admitted somewhere, but who need not go into such an expensive place as the Sydney Hospital if we provided accommodation for them in a cheaper chronic hospital. When I speak of 200 beds, I say that with that accommodation you will only be able to provide for severe cases, which must be taken in.
1670. Those severe cases will not necessarily come from the immediate neighbourhood of the hospital, but they may come from the country? Mostly, they come from round about the Circular Quay, Woolloomooloo, Surry Hills, Lower George-street, Kent-street, Clarence-street, Sussex-street, and those places.
1671. Are there not a considerable number of cases requiring severe surgical operations which come from different parts of the colony? There are always a few, but not many in comparison with those coming from the city.
1672. You do not think that the cases from the country will increase very much? I do not think so, because such cases can be as well treated in the Prince Alfred Hospital. What makes it necessary for us to have this hospital in Macquarie-street is the requirements of the population of the city itself. The number of persons who die in this hospital within forty-eight hours of admission shows that there is a constant stream of persons there so dangerously ill that they could not bear to be carried any distance.
1673. You think that 200 beds will always provide accommodation for such cases? I think if we could have an average daily number of 200 beds that would provide for the requirements of this part of the town.
1674. Is there any objection, from a medical point of view, to concentrating a larger number of patients there? I think that there is not space there for a very large hospital. I think that about 200 beds is what one would like to have, considering the site.
1675. Have you considered that the land is alongside the Domain? Yes; but however good the surroundings of a place may be, one must not crowd it too much.
1676. You think that anything much over 200 beds would be crowding it dangerously? I think that it would be injudicious to provide more accommodation than that.

J. Horbury Hunt, Esq., President of the Institute of Architects of New South Wales,  
sworn, and examined :—

- J. H. Hunt, Esq.  
5 Feb., 1891.
1677. *Chairman.*] You are President of the Institute of Architects? Yes.
1678. How long have you held that position? About two years. I was one of its founders in 1871.
1679. You have been in practice as an architect in this colony for a great number of years? I have been in active service for nearly thirty years.
1680. Has the practice of your profession led you to study any particular branch of architecture, or have you been engaged in architecture generally? Generally.
1681. Have you had much to do with hospital architecture? I did at one time give it considerable study, and at the present time I possess a very good library on hospital planning and construction generally; but things have been worked so strangely of late in our profession in regard to these matters that it is hardly worth one's while to offer his services, since those services are so many times sought in a manner which puts it beneath the dignity of a man who has any respect for his profession to offer, viz., by public competition.
1682. During the time you have been practising your profession, have you actually constructed hospitals? I have not, except the Hospital for Sick Children, which was not of much importance, and I have prepared designs for the Catherine Hayes and the Armidale Hospitals. In conjunction with Sir Alfred Roberts, I prepared, some years ago, a design to show what might be done in the arrangement of modern hospitals for our country towns. With your permission, I would like to refer to competitions in hospital buildings, and I will give instances to support what I have to say. Those hospitals designed under the competition system, are, I think, all of them unsuccessful. In my position as President of the Institute, I, with a few others, am endeavouring to get this system of competition put upon an honorable basis, more especially since the Government is now going to become a large patron of our profession—public works of the colony are to be given out to public competition; and I go so far as to say that there is no question pertaining to our building operations that is of more importance than this. I have been assisting the Minister, and Mr. Barling, and Mr. Vernon to try to frame a system of rules for public competition that will make the promoters, whether Government or private individuals, on the one side, and members of our profession on the other, respect the conditions issued, and that shall make the conditions binding on both parties.
1683. We are now engaged rather in considering a specific work than in inquiring into the general system of dealing with architects in connection with hospital construction, and we are anxious to get from you, as far as we can, your knowledge of the circumstances surrounding this hospital in Macquarie-street? I would beg a little indulgence but for a few moments. The opportunity of showing what these competitions have come to may never occur again.
1684. I am afraid that that is not our business? The evidence which I will give you will, I assure you, be most valuable to this Committee in dealing with public works which will come to you in the future under competition.
1685. There is a great deal of evidence which would be valuable to us which we have not now time to collect;—are the circumstances to which you refer connected with this building in any way? Well, I will confine my remarks strictly to this building. I am not a competing architect, and during all the years in which I have practised I have only entered into three competitions, in one of which I was successful. I was, however, asked by one of the Directors of this hospital to send in a competitive design for this work; but although I had been successful in the Catherine Hayes Hospital drawings, which were sent home to Miss Nightingale, and approved of by her, after those drawings came back a competition was brought about and determined in favour of Mr. Rowe, so that my labour was thrown away, and that bitter experience made me say "it was no use for me to touch this work under the strong conditions laid down, by which the competitors were bound to supply a certificate from a competent builder, to be forwarded with their design, in proof that it could be carried out for £45,000." In the event of it being proved that an architect's design could not be carried out for that sum it would be thrown on his hands, and he would not be entitled to his commission. I said, "It is impossible to undertake the work you have laid out there for the money. You will not see it many feet above the ground for £45,000." I do not wish to name the gentleman, he is now very old, and he said, "Mr. Hunt, do you suppose we are going to stick at £45,000 for a building that we take a fancy to," but I said that that would not be according to the conditions. The designs were exhibited at the Town Hall, and I took a great deal of interest in them, and I wrote a strong protest against the adoption of this design.
1686. Mr. Rowe's? The design that obtained the premium. I was not a competitor in this case, though I took a professional interest in the work, and two other designs were sent in which I considered very much superior to that selected—one was by Mr. Kirkpatrick, and the other by Mr. Backhouse. I named their mottoes in a letter which I wrote to the Press, and I did all I could to prevent Mr. Rowe's design from being carried forward. You see, as a rule, when these competitions are entered into the drawings that are sent in are never adhered to, and with all respect to Mr. Rowe and to other keen competing architects like him, I say that it is the object of the successful competitor, when his design is brought before the Board, to get it quietly shifted to one side by constant amendments on amendments, so that he shall be free from the contract entered into, and get something else done. If the original design were exhibited here and compared with that before the Committee you would see the great difference that there is between them—not only is stone substituted for brick, but one thing hitches on to another until the building becomes much more costly than was first proposed, while the architect eventually gets to be exonerated from all blame, because the Directors have themselves departed from the conditions first laid down. I looked upon Mr. Rowe's design as an unsuitable building to be placed on such a limited piece of ground as the site of this hospital is. He wanted to provide more accommodation on the land than it would carry.
1687. You objected to the design? Very strongly.
1688. Had you special reasons for doing so? Yes; because I felt that the competitor had violated the conditions laid down.
1689. That is that the design was estimated to cost what it could never be carried out for? He produced a design which could not have been carried out for £45,500.
1690. Was that design accompanied by a builder's certificate? I do not know about Mr. Rowe's design, but I know that Mr. Kirkpatrick's design was supported by a certificate from a well-known builder, Mr. Alexander Dean, and with the greatest respect for Mr. Dean ——— 1691.

1691. Can you tax your recollection to say that a builder's certificate accompanied Mr. Rowe's first design? I am sure there was not a builder's certificate with it. I know the position which I am in, and I am as certain as possible that the only man who supported his design by a builder's certificate was Mr. Kirkpatrick. I do not think he had left Mr. Blackett at that time. He was just starting in life, and was naturally anxious to make himself as secure as possible.

1692. Had you any objection to the design, except from your conviction that it could not be carried out for the price named? Would you allow me to explain one word more in regard to this certificate? I should like to point out to you—and I do it with the greatest respect to Mr. Dean—that no architect or builder can state a price for a building of that character by measuring it per cubic foot and give a certificate that would be worth the paper it was written upon. It is utterly impossible for a man to estimate the cost of a building per cubic foot if he has had no experience of that kind of work. With regard to the cost per cubic foot of the building in which we are assembled, and of the Lands Office, I was informed that although both buildings came out of, and were under the supervision of the same department, there was nearly 20 per cent. difference between them, and the style of architecture, as you see, is the same for both. That proves the fallacy of this system of estimating by cubic measurement. It is very well for wool stores or blocks of warehouses, when a number of them have been constructed from which you can get an average, while a fractional part of a penny per cubic foot in 100,000 or 1,000,000 cubic feet makes a great difference. The only way to get a true estimate is to finish the plans accurately, with all details, and then take the measurements, as they are taken in England, by quantity surveyors.

1693. You did not go particularly into the character of the design as far as its usefulness for hospital purposes was concerned? Yes, I did.

1694. Did you object to it on that ground? I objected to it on every ground. I thought it was an unsuitable design for the site.

1695. Do you think the site a good one? I do.

1696. Do you think it worth the expenditure proposed by this design? Yes, for a suitable building; but I think that the design is unsuitable for the site. It is too lumpy, and altogether unsuitable for a hospital. I do not know whether you are acquainted with this publication,—“Johns Hopkins Hospital.” This book was published for private circulation. A committee were charged with the erection of a hospital at Philadelphia, and they sought the assistance of five of the most able physicians and surgeons in the United States and England, whose suggestions and plans are here published. The Committee followed these suggestions, and had designs prepared accordingly, instead of having a sort of free fight competition among men who had no experience of the matter brought before them.

1697. Have you given any special attention to the accommodation provided by Mr. Rowe? I will not venture to criticise that. Although Mr. Rowe and myself are not at the present time on speaking terms—he is leading one section of the profession, while I am at the head of the Institute of Architects, and things have not gone on very smoothly between us—still, I am willing and ready at any time to assist him, or the Directors conjointly, with my advice pertaining to the construction of this hospital, and I think that if all hard feeling were put to one side this work could be carried through successfully.

1698. That is the building already begun? I would drop down the side wings, as proposed by Mr. Rowe, and as shown on the lithograph which I have here. These designs were worked out some ten years ago, but if a man of even less experience than Mr. Rowe were planning a hospital now he would plan it differently from this, because hospital architecture has walked ahead immensely since then. But I think that if Mr. Rowe, the Directors, and all hands buckled to, and worked with a will, this plan could be modified so as to meet requirements, without sweeping it all away.

1699. You could not tell approximately what the cost would be? I have always avoided giving these guessing estimates. The same thing occurred in connection with the Walker Hospital as occurred in this case. Architects were asked to compete for a hospital costing £27,000, and now contracts have been accepted for a work costing £46,000, though that is a private matter, nevertheless an unjust competition.

1700. *Mr. Tonkin.*] Do I understand from you that it is a usual thing with architects entering into competitions to send in plans that they know perfectly well cannot be carried out for the amount stipulated? It is a disgraceful practice, and becoming a common one.

1701. Is it done by the respectable class of architects? There are a certain class of men who push business, and if they are very pushing they are looked upon as very clever men.

1702. That is as a kind of clever blacklegs? No, they are generally acknowledged;\* and then there are some directors and members of the competitive committees who delight in this vicious system. I look upon the system as pitting one man against another to see who can tell the biggest lie on paper.

1703. Is this generally done? It is getting to be so general that it is of very great importance, and you will have any amount of this sort of work to deal with by-and-bye. I desired that my evidence pertaining to this vicious system of competition should be a warning note to the Secretary for Works, and make him the more cautious as to how he frames conditions that should be binding on both parties.

1704. How many architects are there in Sydney who would not lend themselves to this kind of thing? Perhaps half a dozen out of fifty are strictly non-competing architects.

1705. Have you made a study lately of hospital improvements? I am a very close student of my profession, and I study and read everything that comes before me, whether it deals with hospitals or anything else pertaining to my profession; but it is almost lost time, because you get no chance to use the knowledge you acquire. I was invited to draw a design for the hospital at Armidale, and, assisted by Sir Alfred Roberts, I sent in a design, but in their conditions they did not allow so much for the whole hospital as was required for the administrative department; and when I wrote to the Secretary and inquired if this was not a clerical mistake, he wrote back to say that the Board were quite able to manage their own business—in many instances the secretaries of these competitive committees treat our men as if we were pick-ups from the street. I replied, saying that any gentleman who had built a four-roomed cottage would see that the work could not be done for the money. In spite of my written warning as to cost my design was accepted. A law action arose out of the case, which went to the Supreme Court, and I won it, much to their discredit.

1706. You have been carefully through these plans? Not at present with the care that an architect should give to them.

1707. You know the positions of the wards, closets, operating-rooms, and so on? I have not seen these plans for many years before yesterday.

1708.

\* NOTE (on revision):—There is a class of men who, by persistent pushing, eventually get to be considered very clever men.

- J. H. Hunt, Esq.  
5 Feb., 1891.
1708. I want you to point out on them something that you are perfectly clear is wrong, according to the advanced knowledge of hospital science? Well, it is considered a bad thing to have a bed in a corner. The medical men always tell you that the cases in the corner beds progress most slowly, though this fault in planning was excusable when the plans were designed.
1709. Is there anything else which you see to be objectionable? Another objection is the stair communication. The stairs continue from the top to the bottom in the ordinary way, and make a big draught funnel, communicating with the wards through the lobbies. This, although it would not have been criticised then, would be severely criticised now.
1710. What is the modern improvement? To disconnect the wards as much as possible.
1711. Supposing they had lifts there, would they be outside? Yes. This is one of those features of hospital buildings which would be picked out quickly by the youngest medical man who might be criticising the design.
1712. Do you know how far the construction has gone up to the present? One story.
1713. Has it gone on too far to prevent the necessary alterations from being made? No; as I have said before, if all ugly feeling were put on one side, it might be done.
1714. Is it necessary for all the architects in Sydney to come together to make these alterations? No.
1715. How many would it be necessary to bring together? Another architect to act with Mr. Rowe as a mediator. He would be a consulting architect. If the Board were to select a man to help them and Mr. Rowe, he would act as a mediator, and could render a great deal of assistance.
1716. Do you know what is the estimated cost of finishing this building? I only know what I have read and seen here.
1717. Have you looked over the estimates? Yes; last night I read over this report of 1887.
1718. Do you think that Mr. Rowe is in a position to make an estimate of the cost of finishing the buildings without taking out the quantities and so on? He ought to be. A builder would require all of the details and specifications to be fully written out before he could be certain of the architect's intentions; but the architect himself has his intentions in his brain, and can make an estimate without specifications, because he knows what he has to do.
1719. Then, am I to understand from that that Mr. Rowe knew, at the time he started the present building, that they would cost £210,000? He ought to have known; but I think that Mr. Rowe is not all to blame, and that if the blame could be equally weighed a very large proportion would be divided among the Committee. He who knows least on the committee generally has most to say, and when he gets everything and every person into a mess, draws out and leaves the poor architect to stand in the breach.
1720. Is there anything else in these plans that you think should be altered? If I had a clear piece of ground to work on I should produce a very different design from that, and so would Mr. Rowe with his present knowledge and experience.
1721. Do you think it would be advantageous to pull down what has already been erected? No; I think it would be a great sin.
1722. Can you suggest any improvements, then? You could save a good deal by dropping down the front part, as proposed by Mr. Rowe. [*Witness here described on the plans the alteration he wished to suggest.*] You have had the opinion of medical gentlemen, which is of much more value than mine. I know that those of repute in the medical profession say that a one-story hospital is the most perfect you can put up; that two stories are admissible, and that anything after that reduces the efficiency of the hospital. Three stories are not so good, and four stories are very bad; though in a limited space, such as this, you cannot altogether go by that rule.
1723. If 250 beds are required, and that accommodation cannot be found without building a portion of the hospital three stories high, would you recommend that work? I would not recommend the carrying of the Macquarie-street front more than one story high.
1724. *Mr. Lee.*] One story higher than it is at present? One story beyond what it is now.
1725. *Mr. Garrard.*] Two stories and a basement? Yes.
1726. *Mr. Humphery.*] One less than shown on the design? Yes.
1727. *Mr. Tonkin.*] You would carry it out according to the design, except that you would have a story less? Yes. I also think the towers might be dispensed with, they are utterly useless. A less expensive roof over the whole.
1728. Would that affect the style of the architecture, considering that we have spent £68,000 principally on show? I think the towers in the amended design look much better than those in the original design. The original design looks too much like a coffee palace.
1729. *Dr. Garran.*] If you put another story on what is already built, would you make it of brick? I would not disgrace the name of the colony by patching a national building which has been started in stone with brick and cement, but I would never have built with stone in the first place. Our sandstone is the worst material possible for use in hospital construction.
1730. Would you put brick at the back? No; in a public building you should have all sides as fronts.
1731. Would you sacrifice the health of the patients to appearance? No; but as you have started I think you will have to go on.
1732. Having made one blunder we must blunder on to the end? That is what you must do, yet amend as you go. A plastic double pressed brick would be an unequalled material.
1733. The hospital should never have been built of stone, and since the building will probably last 100 or 200 years, would it not be better to clear away what has already been put up, and build with brick on the foundations? Many of the best authorities say that a hospital should not stand more than twenty-five years.
1734. They say now that with the new antiseptic treatment it may last indefinitely. You would not clear away what has been put up down to the foundations? If you did that, better to clear everything away and take advantage of the newest designs. You should not then stop at the foundations.
1735. Would you take down one story and build it up again with brick? I would not patch any part of it with different material.
1736. You see those little projections for closets, &c.—are they very expensive? They should be built with thinner walls. I would keep the exterior walls of stone, and modify the inside walls wherever possible.
1737. Three of these walls must be of stone? Yes; but all the sub-dividing walls could be brick.
1738. Then you would go on piling up stone when brick would do? Well, just fancy what the building would look like otherwise,

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1739. Would it not be cheaper to pull it all down? I think you should go on with the stone. With the saving you could make in several ways, the expense of stone would not be much more than the expense of stone facings and brick; but the stone is very bad. The stone of this building in which we are is fretting away, and from the fronts of some buildings you can scoop out pecks of disintegrated sandstone.

1740. If we are going to put up one story more in front, and build up two stories at the back, we shall have a great deal of stonework? Yes, and you would have to protect the parts that decay by painting, as they are now doing at the A.M.P. buildings.

1741. Do you recommend us to go on with stone instead of pulling everything down and beginning again? I think it would be better to find out what it would all cost in stone; you would then know your position exactly. If I saw any attempt to finish this building in brick plastered over with cement, I should oppose the proposal in the Press. It would be a crying shame to do the work in that way.

1742. If we are to build with brick at all we must pull down what has been already built, and you cannot say whether that is the best plan? If you go that far I should certainly say clear everything away.

1743. *Mr. Lee.*] Are you aware of the various estimates of cost given for the completion of this building? I only know what is here in the report before me; I have no other knowledge.

1744. Are you aware whether there is a specification in connection with the original or amended plan;—the amended plan is to carry the building two stories high instead of three stories? I have never seen it.

1745. Would it be possible for an architect or builder to give an accurate estimate of cost without specifications? The architect himself could, with such elaborate drawings as those now before us, but a builder could not.

1746. Could any other architect besides the person who designed the plans make an estimate? He should go nearer to a correct estimate than a builder would; but I should not like to put my valuation against Mr. Rowe's. He knows every little thing for which he is going to provide; he has it all in his head.

1747. This is not after all greatly a rule of thumb? No; not with properly prepared drawings. It would be with competitive drawings, and that is the cause of all this trouble.

1748. The Committee want to arrive at a definite estimate of the cost, and would like to ascertain what is the best way to get at it? Through the architect.

1749. Supposing it were thought desirable to have the assistance of an outside architect, would he be able to make an accurate estimate? He might, but it would not be so reliable as the estimate of the architect who designed the plans.

1750. In any case it would be merely an estimate? No, not with such drawings as these.

1751. But, in the absence of a specification, it is very hard for any man to prepare an estimate of cost? The specifications convey to a second or third party the architect's intention, while the architect himself knows his own intentions without writing a specification.

1752. I quite apprehend that; but supposing it were desirable to check the architect's figures, how could that be done? You could not do it without a specification.

1753. Is it your opinion that, to arrive at an accurate estimate of the cost of these buildings, it will be necessary to have a specification prepared? Yes; if you want builders to give you an estimate.

1754. *Mr. Garvan.*] You see that the casualty ward is below the ground level;—is it desirable in a hospital to have patients underground? Most undesirable.

1755. Even though that floor is only underground in front, you still condemn it as a ward for patients? You might excavate a clear area out to the line of street; that would give more air.

1756. *Chairman.*] Then you would have to go down from Macquarie-street? Yes; you might bridge across as well.

1757. Would not that take away from the sightliness of the structure? It would make the ward more healthy—better ventilated.

1758. *Mr. Garvan.*] Would it not have been better, instead of carrying out your suggestion, to have had the foundation 3, 4, or 5 feet higher, so as to make the floor level with the ground above? Mr. Rowe had to contend with the fall of the ground at the back, and he has in a sort of way halved the difference.

1759. Do you think that that was the best thing to do with the ground? He could not have done very much otherwise with the slope of the ground.

1760. You said that it was undesirable to have a ward underground? Yes.

1761. But then you say that what has been done was the best thing for an architect to do? No; I say that now that you have got the ward below the ground line, you can cut right away to the Macquarie-street alignment.

1762. Would you alter the elevation of the plan? You would not notice it from the other side of Macquarie-street, or even from the kerb-stone on the same side of the street. You would only notice it by walking right up to the wall and looking through the railings. I wish that was the worst difficulty you had to contend with.

1763. *Mr. Dowell.*] You have informed the Committee that you have a copy of the terms and conditions with regard to the competitive designs for the new hospital in Macquarie-street—those are the designs before the Committee? No; the competitive designs are not here.

1764. Well, these are amended plans? Yes; they are re-cast.

1765. You informed the Committee that you had a copy of the conditions? Yes; you had to pay £1. 1s. and copies were given to you—we have to pay these competition promoters to tell us what they want.

1766. You also informed the Committee that one of the conditions was that if the architect's estimate was exceeded, he would have to go without his commission? Yes; he would be thrown out.

1767. Which is the clause that says that? Clause No. 1 gives the Board power to reject designs that do not comply with the conditions, and, therefore, they would have power to reject a design costing £60,000, because they had stipulated that the building was to cost £45,000.

1768. There is nothing there about commission; would you not like to amend your evidence in this respect? I would amend it by saying that I interpret the conditions to amount to this: That if a design exceeded £45,000 the architect was disqualified from receiving a premium—failing to receive a premium he could not secure a commission.

1769. You told the Committee that you had had some experience with competitive designs, and that one of your designs was successful? Yes; but I had nothing to do with this competition.

1770. What was the practice adopted in the competition in which you were successful;—first you sent in a sketch plan? Yes; regular competition plan to a small scale.

1771. You sent in competition drawings, and afterwards prepared working drawings and specifications for the carrying out of the work? Yes; after adoption.

1772. Should not a specification have been prepared when these plans were accepted, to have entitled Mr. Rowe to carry out the work properly and to give the fullest information to the Directors? He would have to do that.

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5 Feb., 1891.
1773. Mr. Rowe has informed the Committee that no specification has been prepared to guide the Directors up to the present time? I think there must be some error there, because he has built one portion of the building, and the specification that would be required for that part would be required for the whole building.
1774. Mr. Rowe has informed the Committee that no specifications have been prepared to complete the remaining portion of the building, and that it would take two months to prepare such specifications; is that irregular or is it not;—when once a design is accepted, should not specifications be sent to the Directors so that the work might be carried on? This has been more than accepted—it has been partly carried out. The specifications for the first part of the building would guide them for the whole of it.
1775. Is it not right and proper that the architect should furnish the Directors, for their guidance, not only with plans, but also with specifications for the whole building? I suppose it is only an appendix or a few pages that are now required. The specification-in-chief must have been supplied to the builders who carried on the work.
1776. Are you in a better position to give evidence as regards the matter than is Mr. Rowe himself, who has stated that no specifications have been prepared for carrying out the remaining portion of the building? Mr. Rowe must know his own business better than I do.
1777. Was it not a very irregular practice for an architect's plans to be accepted by a Board of Directors without his furnishing specifications for their guidance, so that they might arrive at a correct estimate of the cost of the building? Yes, if such is the case.
1778. Would it not also have been the usual practice to have had the quantities taken out? That is a practice only now coming into use. At that time there was not a quantity surveyor in the colony, and now there are two in Victoria, and the Sydney builders and contractors have one in this colony.
1779. The architect would take out the quantities? Yes; he could do so.
1780. You have informed the Committee that, in designing a large building like this, you could carry the whole of the particulars in your head and arrive at an estimate? Yes.
1781. Would you not have to take out the quantities for your own guidance? I would scribble out bits of specification here and there, but I would not want such a specification as I should have to supply to a builder.
1782. You condemn the system of cubing? I do.
1783. Therefore you substitute something in its place? But there is no analogy between the two systems—one is as irrelevant to the other as the design of the Chairman's chair is to the architecture of this room.
1784. You, as a professional man, say that of late very great improvements have been made in hospital designs? Yes; and I repeat it is not fair to judge these plans prepared so many years ago with our knowledge of to-day.
1785. Would it be desirable or advisable that the Committee should recommend that this design should be carried out when you state that there are very many improvements which could be made in it? I say that there has been a great waste of money, but I think that the difficulties could be surmounted if all buckled to with a will, and worked together harmoniously. If they are pulling against each other, as I understand they are, what heart can the architect have in his work.
1786. Are the internal arrangements and general designs such as you would recommend the Committee to accept? You could not get away from them now; but improve when you can as you go on.
1787. Still you, as a professional man, say that the design is defective and faulty, and not up to the requirements of present scientific knowledge? Yes.
1788. Have you any suggestion to make to the Committee on the score of working expense? No; that is a question that belongs to the doctors.
1789. It does not come within your province? Not as an architect.
1790. Not to provide for the economical working of the hospital? The architects and doctors must work together. We should be guided by the doctors.
1791. Would you play second fiddle to the doctors? I would play third fiddle to them in many things, and be glad to have their support and assistance in a work of this kind.
1792. Under the circumstances, what do you think is the best thing to be done? Buckle to, consider it with the architect, and then see what can be done.
1793. But you are aware that there is no friction between Colonel Rowe and the Directors—they are on the best of terms? I know that some of them are not.
1794. *Mr. O'Sullivan.*] Your chief objection to the plan appeared to be that the buildings are too large for the site? They overdo the sight.
1795. If it is proposed to reduce the eastern pavilion and to get rid of the buildings at the back of it, will not that do away with your objection? I should like to retain it—the central line of wards.
1796. It has been suggested that the second part of the eastern pavilion should be abolished altogether;—do you think that that would be desirable? The medical men are, I suppose, the best to determine that; but I should prefer to build the central part straight through to the Domain boundary, and keep down the side wings facing Macquarie-street.

TUESDAY, 10 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.  
The Hon. FREDERICK THOMAS HUMPHERY.  
The Hon. WILLIAM JOSEPH TRICKETT  
The Hon. GEORGE HENRY COX.  
JACOB GARRARD, Esq.  
HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.  
WILLIAM SPRINGTHORPE DOWEL, Esq.  
EDWARD WILLIAM O'SULLIVAN, Esq.  
CHARLES ALFRED LEE, Esq.  
WILLIAM MCCOURT, Esq.  
JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

Hon. R. R. S.  
Bowker, M.D.

The Hon. Richard Ryther Steer Bowker, M.D., F.R.C.S., M.L.C., sworn, and examined:—

1797. *Chairman.*] You have been practising in Sydney for a considerable time as a medical man? Yes.  
1798. And you have taken some interest, at various times, in the Sydney Hospital? Yes.  
1799. You are aware of the circumstances under which the new buildings were commenced? Yes. 1800.

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1800. Were you then a member of the medical staff of the hospital? Not of the Sydney Hospital.

1801. Have you been at any time? Never, at any time.

1802. Did you give much attention to the different projects that were submitted at this time? I saw a project for building a large general hospital within the city of Sydney, and I knew positively that to do that was to sacrifice a number of innocent lives, so I therefore did all I could to oppose the project.

1803. You have opposed the design submitted? I have always opposed the building of a large general hospital, such as the one now in contemplation, within the city, for the reason I have just stated—that I know it would sacrifice a number of innocent lives.

1804. Do I understand that you propose the erection of any hospital building on this site? A small emergency hospital, in my opinion, might, or might not, be erected there. Such a hospital would do very well there, except that the position would not be quite so convenient to the locality from whence most of the patients come as a site which has been mentioned might be; I refer to the Flagstaff-hill. I never busied myself as to where this hospital should be. My object was to oppose the building of a large general hospital in this position for the reasons which I have stated.

1805. You have been consistent in your opposition to the erection of a large hospital on this site? I moved a motion in the Assembly ten years ago to the effect that it was not expedient to build a large general hospital—that is a hospital above a certain size, I forget the number of beds I mentioned, but I think sixty or seventy, to provide for emergency cases—on this site.

1806. You did not consider the competitive designs or plans very much one way or the other? No; the whole design—the building of a large hospital of over 200 beds on this site—was the matter to which I gave my attention.

1807. You have not considered the plans upon which the present structure was commenced? No.

1808. You have not considered the plan which was sent in by Mr. Kirkpatrick? No, except that I know that all the plans provided for a large number of beds—a larger number than, according to my notions, and to those of the scientific authorities of the day, should have been provided for.

1809. How many beds do you think there ought to be in this hospital? I should think certainly not above seventy—just sufficient to make it an emergency hospital.

1810. And you think the site the best for an emergency hospital? I think you might probably have a more convenient site. If it were, perhaps, in a more convenient or nearer place you could not object to it.

1811. Do you think that the site is too large and too expensive for a mere emergency hospital? Decidedly too large.\* If an emergency hospital were placed there the elaborate structure now designed would, according to my notions, be of no use whatever, but rather a hindrance.

1812. You are aware that already a large expenditure has been incurred in carrying out Mr. Rowe's design? I have considered that, but as in former times it was found necessary to pull down the hospital because it was unhealthy, so it will be found necessary to remove this hospital for the same reason.

1813. Do you recommend the completion or the demolition of the building? I am not an architect, but my notion is that it should be used for some other purpose if possible, or if it could not be utilised for any other purpose that it should be pulled down.

1814. Have you any reasons which you wish to give to show that the site is objectionable for a general hospital? Well, it is exposed to a more unhealthy atmosphere than a hospital a little way out of town would be exposed to. A town atmosphere is called by scientific writers *malaria urbana*, that is, an atmosphere impregnated with obnoxious elements which make it unhealthy for people who are well, and especially unhealthy for people who are sick. The atmosphere is made unwholesome by the breathing of so many people and by putrid human emanations. I have late modern works to substantiate what I say, together with my own knowledge and common sense.

1815. You think that these objections apply pointedly to this particular site? When the westerly wind blows it brings to that hospital an atmosphere laden with these mephitic human exhalations. It is known by experience that patients recover better in a healthy atmosphere. The late Franco-Prussian and American wars have been experiments on a very large scale on the sanitation of hospitals. But anyone may judge which is most likely to conduce to the recovery of patients—an atmosphere laden with these mephitic and putrid human exhalations or an atmosphere such as we should have in the country, fragrant with eucalyptus. Then we should have room for the expansion of the hospital as population increased and more accommodation was required. In every way I thought it would be an utter absurdity to build a large general hospital here.

1816. And with reference to the site as a position for an accident hospital, you think a better site might be chosen? An emergency hospital is a necessity, and we must submit to certain inconveniences and an injurious atmosphere in such a hospital. We cannot help ourselves, because the hospital must be in a place to which patients can be taken at once, though all who can go to the more healthy hospital should be sent there, or else innocent lives will be sacrificed to ignorance.

1817. Then how far from Sydney do you think it would be safe to go with the general hospital? I have not considered that very much. I have not examined the grounds. What I have done has chiefly been to see the faults of the present hospital. But it is the opinion of an authority on the subject—the person who was chosen out of all France to write a work upon hospitals—that within half an hour's march would do. By march I suppose he means transmission by rail or by any other conveyance—anywhere within half an hour. My notion would be somewhere about the Centennial Park, or North Shore, or on the line, or anywhere a little way in the country.

1818. How would that meet the convenience of medical men of skill, such as usually supervise the hospital patients? There would be plenty of medical men to go there, and it is well known that the difference between one medical man and another is counterbalanced by the surroundings and the proper sanitation of hospitals.

1819. You think the same medical skill would be available if the general hospital were moved out of Sydney? Without the least doubt in the world.

1820. Had you anything to do with Prince Alfred Hospital? I never had anything to do with any Sydney hospital. Mr. Frederick Dangar asked me to send in an application, but I had had a good deal of hospital practice, so I declined.

1821. *Dr. Garran.* Have you paid any attention to the question as to whether it is better to build hospitals of brick or of stone? After the Franco-Prussian war it was found that tents were actually more conducive to health than ordinary hospitals; but since then, in America, where they have built temporary hospitals with

Hon. R. R. S.  
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\* NOTE (on revision) :—Instead of site, I mean here the plan.

Hon. R. B. S. Bowker, M.D. with a view to pulling them down after a certain time, they have found that the hospitals have lasted longer than they were intended to last, and that they were an inconvenience, and therefore the science of the day seems to say that brick or stone will do best.

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1822. Do you know the Pyrmont stone? No, I cannot say that I know it very well.

1823. You admit that we must have an accident hospital in Sydney? I admit that.

1824. And we must have it of 200 beds? Nothing of the kind—it would be a sacrifice of life.

1825. You would keep it down strictly to the accident limit? To accidents and emergencies.

1826. Then the plan before us is altogether too large for your ideas? Altogether too large, and too elaborate; it is not simple enough in construction. It looks to me more like a mausoleum than anything else.

1827. You condemn it *in toto*? Yes; the plan, and site, and everything else, as far as a large hospital is concerned. I may say that a gentleman of very great experience of hospitals in Sydney—of more experience than any one else, I think—Sir Alfred Roberts, thought that about thirty beds would provide enough accommodation. My opinion is that that accommodation would be scarcely enough;—I think that more than that number of beds would be required.

1828. *Mr. Tonkin.*] Under the circumstances do you recommend that we should pull this building down, I may explain to you that it has already cost us £68,000, and that it is said that it will cost as much more, if not £100,000, to finish it. We are also given to understand that we can put up a very good hospital on this site for a great deal less money. Would you, under the circumstances, recommend that the building should be pulled down and another hospital built on the site in conformity with your ideas—a small accident and emergency hospital? I may say that it is found that the healthiest hospitals are those of one story only.

1829. Then you recommend the Committee to advise that this structure should be pulled down, and an altogether new building put in its place? If this building cannot be used for anything else I should have it pulled down. It will certainly save a great deal of expense to pull it down.

1830. You think that under any consideration it should not be gone on with for hospital purposes? Not as a large general hospital, nor as a hospital at all, I think.

1831. Do you think that one accident hospital would be sufficient for Sydney? At present I think it would, but you may perhaps require to enlarge it, and it is even possible that an emergency hospital in another position may be required in future, though at present I do not think it will be required.

1832. Do you think that the site which we are dealing with is the best that can be found in Sydney for an accident and emergency hospital? No; I think a more convenient site might be found.

1833. Where? I have heard the Flagstaff-hill mentioned. That is rather nearer the locality from whence patients mostly come.

1834. Have you made a study of the interior architecture of hospitals so far as late improvements are concerned? I have made a moderate study of them, but what I wish to show is that a large general hospital should not be built within the precincts of a town if it can be avoided. I have also studied the construction of hospitals so far as to be sure that one-story pavilions are the most conducive to the recovery of patients. It was found by Hunter—a very great name in medicine and surgery;—that more people died under exactly similar circumstances in upper wards than in lower wards, and I know that Miss Florence Nightingale, who is a very great authority, perhaps greater than any other living authority on hospitals—although I heard a speech in which it was said that she approved of the plan and position of this hospital—is distinctly of opinion that one-story hospitals are more conducive than others to the recovery of patients. From what she says, and from my own observation and reasoning, I am quite convinced that our hospitals should be only one story high.

1835. Have you had any chance of investigating the details of this plan? No.

1836. Then you do not know the particulars of the interior arrangements? No; the outside arrangements are quite sufficient to condemn the whole affair in my eyes.

1837. Then I understand from you that you think that in the interests of the patients it would be advisable to take down this building, notwithstanding all the money that has been expended upon it, and to erect a hospital for emergency cases and for accidents, having the general hospital at least two miles out of the city? Yes, certainly; though I would add that I do not consider this the most convenient site for an emergency hospital.

1838. But supposing we had to take this site for hospital purposes, you think it would be better to erect a smaller building there? Without the least doubt.

1839. And to put up with the first loss? Yes; because as sure as can be, you would have the same experience as you had before. The old hospital had to be pulled down, because the mortality there was too great, and the same thing would happen again, and this hospital would have to be removed also. One great authority says: "Remove all general hospitals out of town." That is, remove them if they are there already.

1840. The object of having only one story is to prevent contagion from the lower stories? It was found by experience that more patients died in the upper stories than in the lower, and the reason for that was supposed to be that the exhalations from the lower story affected those in the upper stories.

1841. Do you think that that evil could be averted, supposing there were no communication between the floors? Still there is a better circulation of air, and a hospital is more easily ventilated and is healthier when it is only one story high. I have an article here referring to the building of a new hospital at Halifax, in Yorkshire. It is to be of sixteen one-story pavilions, and they are just about getting out plans for it.

1842. Do you know how many beds it is to contain? I will read from the article before me:—

"A new infirmary is shortly to be built at Halifax, and the Committee have invited five architects to send in competitive plans. The new building will be erected on a site in Heath School-lane, but it is not proposed to proceed at once with the building of the entire scheme which comprises sixteen pavilions, an administrative block, and a nurses' house. At present nine pavilions only will be erected, together with a portion of the administrative block and of the nurses' house."

That gives an opportunity, as population increases, of enlarging the size of the hospital—

"The pavilions will all be one story high, but with a basement under—"

to allow the free circulation of the air,

"and will be connected with the administrative buildings by corridors. Of the sixteen to be eventually built, thirteen will each contain one long ward for twenty beds, and a separate ward for two beds

beds. The cubical space in the long wards will not be less than 1,500 cubic feet, and the floor space not less than 116 square feet to each bed, the intention being, apparently, to allow a height of 13 feet to be reckoned in calculating the cubic space." Hon. R. R. S.  
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1843. I suppose you have no doubt that this is the latest scientific mode of constructing a hospital? In Heidelberg they have these wards of one story high, and they have them also in a great many other places. The date of the paper from which I read is April 5, 1890. 10 Feb., 1891.

1844. *Mr. Dowell.*] The nearest approach which we could get to your ideas, without pulling down the whole buildings, would be to put a roof on the structure as it stands;—would you recommend that? No; the present structure is too elaborate, as if it were designed to shut out the air, instead of to allow the air to circulate.

1845. *Mr. Trickett.*] You have stated that you would recommend a hospital of seventy beds for the present? I did not say that number exactly, though that is more than Sir Alfred Roberts—who is a very famous authority on the subject—thinks necessary.

1846. Sir Alfred Roberts has been recently examined by us, and he recommends a much larger hospital than that, even for emergency cases. What I wanted to ask was whether, in recommending seventy beds, you have inquired into the necessities of the case? No; I say I merely guess at that number.

1847. Will you tell us what you meant by emergency cases? I meant broken limbs, accidents of any kind, wounds, and such sudden illnesses as it would not be safe to remove to the general hospital at once.

1848. Would you recommend Lock cases to be treated there? No; outdoor cases might be treated in dispensaries; but those that required other treatment might safely be dealt with at the general hospital.

1849. Would you recommend that ophthalmic cases should be treated there? I am not quite sure about ophthalmic cases. Most of those cases in this country are what they call granular ophthalmia, and it is well known that good sanitary conditions are of first-rate importance to getting them well, and, other things being equal, country air would, without doubt, be better for them; so that I think they would be better treated in the outside hospital, in all probability.

1850. This hospital, as designed, has three stories, besides the basement—do you think that that is desirable? I think that to build such a hospital would be to sacrifice lives on the altar of ignorance.

1851. We have an alternative proposal before us to take it two stories with the basement? Two stories are not as bad as three, but the best authorities say that one-story buildings are most conducive to the recovery of the sick, and therefore I advocate such buildings. We have plenty of land to be able to have the very best hospital accommodation. As Sir James Hector said in a speech at New Zealand, we ought to take advantage of all modern resources, and learn and improve by them.

1852. Do you know the area of land included in this hospital site—it is between 2 and 3 acres? Yes.

1853. How many people do you think we could safely provide hospital accommodation for there on your plan? According to the plan that is recommended by almost everyone, except, perhaps, where rivalry comes in, one-story buildings are the thing. But you could not accommodate so many people with one-story pavilions as you could with two-story pavilions, though an emergency hospital would not require so much accommodation.

1854. You have not calculated how many people we could accommodate on that area with safety? The old plan says you may put eighty to an acre, but I am sure that it is healthier to have much fewer, and that we should have our large hospitals outside, and let the patients breathe the emanations from the gum trees instead of the putrid emanations of man. To my mind it is quite out of the question to put this number or anything like it here.

1855. Do you think that this is a healthy site for a hospital? I have mentioned two or three times that it is not so healthy as a hospital site in the country would be, because of these human emanations.

1856. I do not wish to compare it with country sites, which, of course, would be better, but taking it as a town site, do you think it is suitable for a hospital? It is as good as any that could be got without resuming land. I may say, however, that there may be some reasons against its healthiness of which we do not quite know. We know positively that there was an undue mortality in the old hospital, and that lives were sacrificed there that should not have been lost. The building was pulled down in consequence of this mortality, but perhaps we are not quite sure of all the reasons for it, though we know positively that it took place.

1857. *Mr. O'Sullivan.*] According to the report of the Medical Superintendent of the Sydney Hospital for 1889 there were 1,116 cases of fracture, local injury, burns, poisons, &c., treated in this hospital. Do you think that seventy beds, as suggested by you, would supply that demand for accommodation? The data you give are not sufficient to reason upon. There might be cases of broken arms that could easily be taken to the general hospital outside the city without any harm to the patients. If the 1,100 cases of fracture were so urgent that they could not be removed to either Prince Alfred Hospital or to a hospital outside of the city your question would be answered in another way, but a great many of these fractures, no doubt, might easily have been treated in hospitals outside the city. It was found in the time of war that wounded people could be removed great distances very often without injury, so that your data cannot be reasoned upon, because we do not know the circumstances of the case. We cannot tell how many could have been removed out of town.

1858. *Mr. Garvan.*] You stated just now that the extreme number of beds that you would recommend for this hospital would be seventy; but you have also stated that you attach a great deal of weight to the opinion of Sir Alfred Roberts on the subject, and when you gave your opinion you said that you had in view the opinion of Sir Alfred Roberts that only thirty beds would be required. Now, in the evidence which has been given before this Committee, Sir Alfred Roberts stated that he placed the minimum at 150 beds, and in reply to several questions he stated that he would be favourable to a hospital containing 200 beds. Knowing of that evidence would you alter your opinion? Certainly not. I do not give an exact number, but I think in the motion which I moved in the Assembly I stated that there should not be more than 100 beds, and I say now at a guess that there should be about 70 beds. I think I modified the number a little from what Sir Alfred Roberts said, but I think that 200 is too many.

1859. *Mr. Lee.*] You are acquainted with the present temporary buildings used as the Sydney Hospital? I have only seen the outside of the buildings.

1860. Have you never been through the hospital? Many years ago I attended some cases there for old Dr. Douglas, but for many years I have not been inside of it.

1861. You are not aware of the present condition of that building? I was quite satisfied from the outside of it, and from its situation, that it was altogether wrong, and I did not give myself the trouble to go into it.

- Hon. R. R. S. 1862. You know the material of which it is built? Stone or brick, I think.
- Bowker, M.D. 1863. Mostly wood? The present building?
- 10 Feb., 1891. 1864. I am speaking of the building now in use? Oh, of wood—I know that.
1865. Do you think that that building is suitable as an accident or an urgency hospital for the city? I think some American hospitals have been built of wood, and they have been found to answer every purpose. It was found in France that what they call *hopitaux baragues*, i.e., hut hospitals, were more healthy than large stone hospitals.
1866. Is not such a building exposed to great danger from fire? I think there has been no fire hitherto in these wooden buildings, and I think they ought to be able to do away with the danger of fire—at any rate for a time. A book which I have here says that “in the Boston City Hospital there are two wooden one-story pavilions covered with corrugated iron, built as temporary structures in 1876,” so that in Boston, where the medical men are acute and sharp enough, they have not found these buildings too dangerous. The book from which I have quoted was published in 1886, so that these wooden buildings have been in existence for ten years.
1867. Well, to come back to my question—do you think that the building now used as the Sydney Hospital is sufficient for the purposes of an accident and emergency hospital for this city? I had not the least idea of these wooden buildings being continued. My idea was to have a small emergency hospital in the place of the proposed general hospital.
1868. Are you of opinion that the present building should be removed and a more suitable one erected? I am; but I do not say where it should be erected.
1869. You are clearly of opinion that the building should be removed? Yes.
1870. In view of the circumstances connected with the building partially erected, do you think it would be advisable to complete the structure which has been commenced, and upon which £68,000 has been expended, in stone, at a cost of £56,000, to give accommodation for 144 beds? No.
1871. Now, as an alternative, keeping all the circumstances of the case well in view, would you recommend that this structure be taken down—the stone portion? Either taken down or utilised for some other purpose.
1872. If it is utilised for something else the site will have to be disposed of, and in that case you will have to find another site? So much the better. Although where human life is concerned, I do not think much about expense, yet if we do consider it it would be far less expensive to sell this site and obtain a more convenient one in another place.
1873. But under no circumstances, I presume, would you recommend a large hospital within the city boundaries? Decidedly not.
1874. And you are clearly of opinion that an emergency hospital not exceeding 100 beds will be sufficient? I think it would; I am sure it would be sufficient. But if it were not sufficient together with Prince Alfred Hospital, we could have a general hospital a little outside the city, of which we might all be proud, and which would properly fulfil its work without any sacrifice of life.
1875. Do you not think that within a few years, when the population of the city and suburbs increases, more accommodation than 100 beds will be required? In that case, as I told you a little while ago, it might be advisable to have an emergency hospital in another position, unless there were sufficient land available to increase the existing hospital at Flagstaff-hill or anywhere else. A hospital might, under such circumstances, be expanded if it were not thought advisable to construct another emergency hospital somewhere else.
1876. If we decided to complete this building in stone two stories high, to provide for 144 beds, do you think that it would endanger the public health or the health of the patients in the building? Most decidedly. If one-story hospitals are most conducive to recovery, it is a matter of reason that two-story hospitals are not so conducive to recovery, and some lives would be lost in such a hospital that ought to be saved.
1877. Your evidence would be invaluable if we were discussing the commencement of a hospital, but this inquiry is to see how we can best complete a hospital already commenced? I think that the best way would be not to complete it at all.
1878. *Mr. Cox.*] You know St. Thomas' Hospital in London? Yes.
1879. Is not that a magnificent structure, built on the most approved principles of the science of the day? No.
1880. Is it now considered to be a mistake? It is by a great many.
1881. You would not think it desirable to perpetuate such another mistake in Sydney? Decidedly not. An authority says, “There are differences now in the rate of mortality in different London hospitals, especially with regard to surgical cases, evidently due to defective sanitary conditions,” so that we are not to follow the London example. Here we have an admission from a London writer that the hospitals there are not all so good with regard to sanitary conditions as they ought to be.

Frederick Milford, Esq., M.D., sworn, and examined:—

- F. Milford, Esq., M.D. 1882. *Chairman.*] You are a qualified medical man? Yes.
- 10 Feb., 1891. 1883. You have been practising in Sydney for some years? Yes; since 1858, with the exception of one year.
1884. Have you taken any interest in the proposed hospital arrangements? Oh, yes; I take as much interest in them as most medical men in Sydney, I think.
1885. Have you been on the Medical Board who attend to cases at the hospital? I have been on the Medical Board of New South Wales for some twenty years, but I am not on the Board of Health.
1886. You have had to do with hospital cases? I have been twenty-five years surgeon to the St. Vincent's Hospital, six months surgeon to the Prince Alfred Hospital, and two years at the Brisbane Hospital.
1887. Has your attention been drawn to the different designs which have been submitted with reference to the Hospital Buildings in Macquarie-street? Yes; I had a plan of them sent to me by Sir Alfred Stephen to look over.
1888. You know the nature of some of the designs that were submitted—do you know Mr. Rowe's design, upon which the buildings were commenced? That is the only one I know.
1889. Did you see Mr. Kirkpatrick's design? No, I never did. 1890.

F. Milford,  
Esq., M.D.

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1890. You do not recollect any other besides Mr. Rowe's? No; that is the only one I have seen.

1891. Did you examine Mr. Rowe's design when it was submitted to you? Yes.

1892. From your knowledge of hospital treatment and accommodation, did you come to the conclusion that it was a good design? Well, I think it is a little behind the modern designs of what hospitals should be.

1893. Do you think the site is a good one for a general hospital? Excellent—the best in the city.

1894. You do not participate in the opinion held by Dr. Bowker, that a site like that in the neighbourhood of a large city is undesirable for a general hospital? No; I think the hospital should be there for these reasons: first, that the site is in the midst of where the patients come from; and next, that it is in the midst of where the surgeons and physicians attending the hospital reside; so that the doctors can get quickly to their patients when they are required.

1895. You do not think that it is a site that should be used only for a hospital for accidents and emergency cases? I think acute cases should be treated there, and serious surgical cases—I do not think chronic cases should be.

1896. To what extent do you think accommodation should be provided there? I think for from 150 to 200 patients. I would not exceed the limit of 220 patients—that would give 250 beds. I should on no account give more accommodation than that, because there is, as I understand, less than 3 acres of ground there. In England it is held that one acre of ground can accommodate 100 patients, while in France they consider forty to the acre the correct thing.

1897. Do you know the reason of that difference—is it the result of climate? Possibly it is because of the more unsanitary state of the towns in France than in England. The drainage in the former place is not carried on so well as it should be. Even in Paris, a short time ago, the privies were in a very shocking state. That has something to do with it.

1898. Had you much experience of hospital life before you came to the colonies? I came here when I was 10 years old, so that it is not likely.

1899. You are aware of the extent to which this design has been carried out, the amount of money that has been expended, and the state in which the building is now? Yes, I went over it yesterday with Dr. Hall.

1900. Do you think it would be wise for the Government to proceed with the building, or to adopt some less expensive design, or to alter the design altogether? I understand that £68,000 has already been laid out on the walls, and they are, no doubt, very excellently built. I think that if another story were put on the pavilions, as they stand, and the basement story used for patients' dining-rooms, but not bed-rooms, the hospital would, for a long time, be free from hospitalism, if means were adopted internally to prevent it.

1901. Do you know of any better site in Sydney for the purposes of a general hospital than this one? No.

1902. And you think the situation is very good? Very good. I have had an opportunity of knowing, because I was there for four years as a student. I was in the old Infirmary between 1848 and 1852.

1903. Then you would go on with the present building in a modified form? Yes; there is only one thing antagonistic, and that is that the buildings in the neighbourhood are rather close. There is the Mint on one side, the Houses of Parliament on the other, and the private dwellings across the road. The eastern aspect is splendid—they have all the Domain there, and get the sea breezes.

1904. They have all the open space to the sea? Yes.

1905. Do you think that the alteration in design would deteriorate the architectural value of the building very much? I do not think so, with proper ornamentation, and so on. I think that would be a secondary consideration—the main consideration is the patients.

1906. You admit that the site is a very good one, and worthy of a building that would not be a discredit to the city? Yes, but it is important in building a hospital that there should not be more than two stories. In France the Tallet system is carried out with pavilions one story high, on arches. The arches are not covered underneath, but are perfectly open, so that there is a free current of air passing through them. I have got a small chart here showing the system.

1907. What are the main features of the Tallet system? Pavilions of one story, 25 feet high, supported upon a series of arches, which are from 12 feet to 14 feet high. Then there is a wall composed of wrought-iron pillars at intervals of 5 feet, with brickwork in between. The roof finishes in a pointed Gothic arch, and is also made of brickwork, lined inside with plaster, and the plaster is painted. The flooring is of pine boards, and has concrete or cement underneath. The roof is covered with tiles and concrete, and comes up into an arch to allow a free current of air to pass upward, and thus proper ventilation is secured, which is advantageous to the patients. These hospitals can be cleansed either by flame—for they cannot be burnt—or by water. Then the corners of the rooms are rounded so as to have nothing to stop the free flow of air. The walls are hollow to allow of the passage of air up through them, and there are openings in them at intervals of 4 or 5 feet below and above, with valves attached so as to allow the air to enter only below and have exit above.

1908. Buildings of that sort to accommodate a large number of patients would occupy a considerable space of ground? Yes; they only have about twenty patients in each ward, with a wall space of  $7\frac{1}{2}$  feet, a cubic space of 1,500 feet, and a ground space of about 100 feet or rather more. I believe there is one hospital there, St. Eloise, which has 400 patients. That would require ten pavilions, there being two wards in each pavilion.

1909. Is this style of hospital architecture of modern growth? Quite modern.

1910. And is it able to evade what is called hospitalism? That is the idea of it, and I take it that with ordinary care and good drainage hospitalism will be quite avoided.

1911. Is this class of building put up in the large towns? That is in the immediate neighborhood of St. Eloise.

1912. And where would that be—near Paris? I am not quite sure.

1913. Dr. Garran.] Were you for many years at St. Vincent's Hospital? For twenty-five years.

1914. Was that an effective hospital? Yes, it was very good at times.

1915. Did it give you good results? Excellent results. After the first eight or ten years hospitalism occasionally showed itself in bad cases, but now it is quite got over, and has been for some years.

1916. Do you know what that hospital cost per bed as it stands now? The whole of the land, buildings, furniture,

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- furniture, and everything connected with the hospital, together with the building belonging to the Sisters themselves, cost something like £40,000, and provided accommodation for 150 beds.
1917. Rather less than £300 per bed all told? Yes; that includes everything connected with the hospital.
1918. Of what material is it built? Of stone, and brick, and iron.
1919. Have you any preference for stone, brick, or iron for a hospital? I think the mode of building which I have just mentioned would be the best.
1920. If you had to choose between brick and stone which would you select? I take it that stone would be preferable.
1921. It is more expensive? Yes.
1922. Cannot you make a dry double wall with brick? I take it that good sandstone would not absorb moisture so much as brick does. I am not aware exactly which is the best.
1923. Your experience at St. Vincent's shows that £300 a bed is ample for a useful hospital? There was great economy displayed in the formation of that institution. It was not assisted by the Government in any way, except that at one time £1,000 was given towards it. The people there had to be very economical—everybody tried to do their best to enable the Sisters to get the hospital.
1924. Are you at present at Prince Alfred Hospital? No; I left it six months ago.
1925. You have been there? I have been for six months.
1926. Do you think better results were obtained at Prince Alfred's? No; I cannot say that I do. I had a case of hospitalism there—a case of corymbia originated in the hospital.
1927. You think St. Vincent's will stand comparison with the other hospitals? Decidedly, with any of them.
1928. Yet it was very much cheaper in construction? I believe so. I really do not know what Prince Alfred Hospital cost.
1929. You have paid some attention, have you not, to the influence of westerly winds on patients? Yes.
1930. Do you think them unfavourable? Decidedly; the cold ones. I do not think the warm winds are injurious.
1931. You do not mind the hot dry wind of summer? No; that is not injurious. I think it is beneficial.
1932. It is the cold biting wind of winter that you dislike? Yes; I think it is most injurious, and I will mention a reason for that: A school which I attend is exposed to westerly weather, and some seventy or eighty pupils board there. That school, as a rule, in north-easterly and southerly winds is perfectly healthy, but directly a strong westerly wind comes the pupils get croup in some cases, diphtheria, and bronchitis.
1933. Is that school at Hunter's Hill? No, it is not at Hunter's Hill; but I will not mention where it is.
1934. If you look at Mr. Rowe's plan you will see that a great many of the wards face the west? Yes; but the hospital is protected by the buildings in Macquarie-street.
1935. The upper stories are rather above the buildings in Macquarie-street? The upper stories are.
1936. Do you think that a disadvantage in the plan? Yes; I think that would be one reason why I should not be inclined to build so high, but only an inferior reason.
1937. We have had a plan submitted to us in which all the western part was given up to administrative buildings, by which the wards were sheltered, running at right angles at the back;—do you think that that is a better design? I think it would be; but as the building is now in existence I do not think it would be worth while to disturb it simply for this reason.
1938. If you had to begin again you would adopt that plan? Yes, or the Tollett system.
1939. Suppose with £70,000 you could build in brick a hospital on that plan, and it would cost you as much to finish the present hospital, which would you do? I would rather use the £70,000 in building another hospital on the same site.
1940. If you had £70,000, and it would either complete this hospital or pay for its demolition and the construction of a brick hospital on another plan, you would rather pull the existing buildings down and build a brick hospital? Yes, if I could get accommodation for 200 patients.
1941. But if it would be very much cheaper to complete the present plan you would complete it? Yes, I would. But on no consideration would I allow the bed of a patient to remain in the basement story. That I look upon as most improper.
1942. Is it not rather a convenience in the case of a broken limb to put the patient to bed without raising him? It might be for the moment, but it would be very inconvenient for the patient if he afterwards got pyæmia.
1943. You think he gets better air upstairs? Yes; I think the basement floor should not be used for any patient.
1944. You object to the accident ward on the ground floor? On the basement I certainly would. I would have that part perfectly free, with as much fresh air as possible passing through it, so as to prevent hospitalism in the future. Under any circumstances you would not get hospitalism for two or three years, but you want to keep the place altogether free from pyæmia or erysipelas.
1945. If you do away with sixteen beds on the ground floor in front, and sixteen beds on the ground floor in the pavilion, you leave no ground floor beds at all? No, I would not. I would use that floor for dining-rooms or music-rooms, or for anything else but sleeping rooms.
1946. Then you take away thirty-two beds from the plan? Well, I do not mind that.
1947. *Mr. Garrard.*] I do not like that to go into evidence. The so-called basement is only in the front part of the building—there is no basement at the back. Dr. Garran is reckoning the back building as a basement, when it is nothing of the kind? The basement is the floor in front—the lowest floor in the front of the building.
1948. *Chairman.*] That would only take away sixteen beds.
1949. *Dr. Garran.*] Do you call the ground floor of a pavilion a basement? Anything on the ground floor.
1950. You object to the ground floor? Yes, because it prevents the fresh air from passing underneath.
1951. *Mr. Garrard.*] If the floor is above the ground, do you not get the fresh air underneath? If it is raised on pillars or arches.
1952. *Dr. Garran.*] How far should the floor be from the ground—1, 2, or 3 feet? On an average 5 feet. If there was a hill the floor would be almost right on the ground at one end, and 10 or 12 feet off it at the other.

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1953. You would not have any part of it nearer than 5 feet of the ground? No.
1954. *Mr. Tonkin.*] I understood you to say that you would not recommend more than two stories for any hospital? Yes.
1955. Would you recommend that the upper story should communicate with the lower story from the inside? No; it would be much better without the communication. The stories should be divided as much as possible, and there should be cement and concrete over the roof of the first story.
1956. So that you would cut off all direct communication entirely, and have a lift or staircase on the outside? Yes; there should not be any communication between them.
1957. If you were told that there is that communication in this building, would you consider it a great drawback? I think it would not be desirable; I think it would be a drawback.
1958. Do you know how long these plans have been drafted? No, I know nothing about them.
1959. Do you think there has been much improvement in hospital architecture during the last ten or twelve years? I think the two plans I showed you are great improvements.
1960. Those are the latest? Yes.
1961. There have been vast improvements during the last ten or twelve years I suppose? Yes.
1962. Supposing those plans to have been perfectly up to the time twelve years ago they would be greatly behind the time now? I think if I had plenty of money and were building a hospital, I should build it after one or other of the plans which I have given you.
1963. Supposing you know that it will cost £70,000 or £80,000 to finish this hospital, and that we can construct a hospital giving the same accommodation on later and improved principles for the same money, would you recommend us to pull the existing building down and to start afresh? Yes, I think so; if you could accommodate 200 beds and do away with the basement, which I look upon as very detrimental to the hospital.
1964. You would build it entirely on the latest principles? Yes, I think so.
1965. You would prefer to do that to finishing the present buildings? I think so.
1966. You think that the health of the patients is of more importance than the appearance of the building? I think so. I think it is just possible that after a time hospitalism might be engendered in that building; but with great cleanliness, perfect ventilation, and good drainage, and the modern anti-septic system it is not nearly so likely as it was twenty or thirty years ago. The old building was full of hospitalism, and constant cases of erysipelas and pyæmia originated in the wards.
1967. At St. Vincent's Hospital is the accommodation equal to what it would be in this hospital? Quite equal—equal to that in any hospital in the world, I think.\*
1968. If that hospital only cost £266 a bed to complete, what would you say if you were told that the estimated cost of this building is £800 a bed without land or furniture? I really do not know anything about it.
1969. But, as a man of common sense, would you not think that it would be a waste of public money to pay £800 a bed for a building when an equally good place in every way could be built for something over £200? I think it would be better to pay the lesser sum than it would to pay the larger.
1970. Do you think it is necessary for hospitals to be built in such an elaborate manner as to appear to be made for show—for the ornamentation of a city? I think it would be better to have buildings that would please the eye as well as cure the patients.
1971. Would you advise the expenditure of the difference between £266 a bed and £800 a bed for the express purpose of making the outside of the hospital ornamental? No; I would not, though I would give a little more to improve the appearance of the building. I would rather not answer these questions, because I really know nothing about the matter, and I think the Committee are better able to answer them.
1972. *Mr. Dowel.*] You consider that a very great and fatal mistake has been made in the design of this building by constructing a portion of the first floor below the surface level of the ground, do you not? Yes; and in designing it for beds. I think there ought to be a free current of air underneath the first room that is used for patients, as there is now in the wooden building, which is supported by pillars. There is a fine current of air underneath that building.
1973. If the lower portion of the building, or the ground floor, were used for purposes independent of hospital purposes, you would have no objection to that particular floor? No; with great cleanliness, good ventilation, good sewerage, and the antiseptic treatment of patients.
1974. You have stated to the Committee that you consider that this building should not exceed two stories in height? Yes.
1975. Then you recommend that a roof should be put on to the present structure as it stands? No. I would add another story and so dispense with the basement.
1976. *Mr. Trickett.*] Do you consider the site a good one? Yes, I think so. I do not think the hospital would be so good with three stories as with two.
1977. On some former occasion did you not say that there were objections to the site? I do not recollect, I may have said so.
1978. Did you say anything about the Nightingale wing. Do you remember saying that it interfered very much with the north-east breezes? I may have said so. I said to-day that the buildings were too near to other buildings.
1979. You stated when you were examined before the Legislative Council that the hospital is protected against the sea breeze by the structure called the Nightingale wing, which interferes with the free air of the main building; then you said that if the Nightingale wing were taken down this would be the most suitable site in Sydney for a hospital? Yes; I think the Nightingale wing is a disadvantage there.
1980. Would you still recommend that it should be removed if the large structure were put up? Yes, I think so.

Walter Liberty Vernon, Esq., Government Architect, sworn, and examined:—

1981. *Witness.*] I should like to explain that I am giving evidence entirely on my own responsibility. I am not giving official evidence. I am here simply as an individual. I W.L. Vernon,  
Esq.
1982. *Chairman.*] Have you been engaged in practising your profession in Sydney very long? About eight years. I have been practising my profession about eighteen years altogether. 10 Feb., 1891.

25—K

1983.

\*NOTE (on revision):—I allude here to the new portions of the building.

W. L. Vernon, 1983. You were ten years before that? In London.

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1984. Have you had any experience during the practice of your profession, either here or in London, in hospital matters? I have no wish to give any evidence as to these buildings. I wish to give evidence, if I may, upon the question of the laying out of Macquarie-street with regard to the future buildings which the Government may eventually put up there. The alteration would to some extent affect the frontage of these buildings so far as they are constructed. It is upon this point alone that I should like to give evidence.
1985. Still you will not object to give such evidence as you can upon hospitals? I would rather not give evidence on that subject. The question to which I refer is a very important one if you like to raise it.
1986. Have you had experience of hospitals in London? To some extent I have, and in the country, too, in England.
1987. You know the buildings which it is proposed to construct in Macquarie-street? I have simply looked at their frontage so far as Macquarie-street is concerned—I have not studied them to any extent.
1988. Have you made yourself acquainted with any of the designs for a hospital in Macquarie-street which have been submitted? I cannot say that I have.
1989. Do you know the design which was accepted, and which has been partly carried out by Mr. Row? I have simply looked at it in connection with the frontage to the street.
1990. Have you gone over the building? Never.
1991. Nor over the ground? Never.
1992. Have you ever seen the plan submitted by Mr. Kirkpatrick? Only hanging in this room.
1993. You have not seen it otherwise? No.
1994. Is your knowledge of the proposed buildings of such a character as would justify you in giving an opinion as to whether they should be carried out? I think that as the buildings are in an unfinished state, and that as a question has been raised as to whether they should be there, it is an opportune moment to say whether they should not be altered to allow of the laying out of Macquarie-street in a manner suitable to the public buildings that may be erected there.
1995. Have you thought of any alteration? I have a plan showing my scheme here.
1996. You would widen Macquarie-street? At present Macquarie-street is only 39 feet wide, as far as the roadway is concerned. I propose to widen it by taking in the 12 feet pavement on the eastern side, which brings the road up to the shrubs, which are too valuable and too handsome to be destroyed, so then I propose to have a walk or a pavement 40 feet wide from Chancery-square right down to the Government Guard House, so that the whole of the Government buildings shall have presentable frontages, plenty of access, and a handsome appearance. I have an imaginary sketch of my proposal here, which will give you some idea of what I mean.
1997. You think, then, that this would be an improvement to the street? I think it is absolutely necessary to consider something of the kind.
1998. How would that affect the proposed buildings themselves;—can you show us about the line it would cut off? It would cut off the lavatories in front, and a portion of the central building, but it would leave the whole of this colonnade wing entirely untouched.
1999. I suppose that you see that it would considerably mutilate the design as it stands before us? I do not see any difficulty in getting over that.
2000. You think that this site is a good one for a hospital generally? I would rather not give an opinion, if you will allow me. I have not thought it over. I should like to say that this is the only building which would interfere with a scheme such as I suggest.
2001. For the rest it would only take in open space? Or temporary buildings which must, sooner or later, be taken down.
2002. *Mr. Lee.*] You have not studied the drawings that have been submitted to this Committee? No, I have not, excepting in regard to my suggestion.
2003. The Committee are given to understand that no specifications have been prepared from these drawings, and yet several estimates of cost have been submitted. Now, do you think that a reliable estimate of cost can be given in the absence of a specification? I do not. An approximate estimate can be given, but only an approximate estimate.
2004. Then you think that to find an estimate of sufficient accuracy to guide the Committee in coming to a conclusion it would be necessary, in the first instance, to have a specification prepared? I think so, most decidedly.
2005. Do you think that any architect who might draw a set of designs could fairly accurately give an estimate of the cost of the proposed buildings, in the absence of specifications? I would answer the question this way: A block of buildings may vary to the extent of £100 a bed entirely on the specification. The specification might be such that the work would cost £250 a bed, or £350 a bed, and yet the design on the plans would be exactly the same.
2006. Would it be possible for any other architect, besides the gentleman who prepared the designs, to take them up as you now see them and give a proper estimate of the cost of the work? He would give an approximate estimate, using a two-foot rule.
2007. By cubing up? Yes, but it is a very bad way of estimating.
2008. Then it may be found that this work will cost £20,000 more than the estimate submitted to the Committee? I cannot say.
2009. Do you think it would be possible for there to be that difference in cost? I cannot say with regard to this particular case; but it would be possible.
2010. Would the Committee be safe in accepting an estimate of this character in the absence of a specification? I think they would be safer in having a written specification.
2011. It is quite possible, when the specification is written, and a proper estimate made, that the present estimate may be exceeded by £20,000? It is not altogether reliable—there is no doubt about that.
2012. This is a semi-Government building. Have you any opinion to offer as to the preparation of specifications before the work is taken up? Simply this: that you get a more reliable estimate from a specification than you do without it.
2013. But supposing the Government of the country were to say: "Well, it is estimated that this work can be carried out for £56,000, and tenders were called for it, is it not within the range of possibility that the work might cost £20,000 more?" Quite within the range. But there is a general rule which allows about 10 per cent. variation from an approximate estimate. It is impossible to arrive at a correct estimate without a specification—even contractors cannot do it.
- 2014.

2014. Would you counsel the specification being drawn out before any expenditure was entered upon? *W. L. Vernon, Esq.*  
Decidedly.

2015. *Mr. O'Sullivan.*] You suggest that Macquarie-street should be widened by 40 feet? By the eastern pavement; and then that 40 feet of pathway should be put inside the shrubs again, leaving a space of 12 or 14 feet for the shrubs. *10 Feb., 1891.*

2016. The carrying out of that work would, as you have shown, necessitate the cutting down of some of the present hospital buildings? It would cut off the projection of the pavilions.

2017. Bearing that in mind, and as it is likely that Macquarie-street will be altered in the way you suggest, would it not be better to take away the present buildings, and to build a fresh hospital? It would be far better to set them back.

2018. Then you recommend that the present walls should be pulled down, and that a fresh hospital should be erected? I say that the projected pavilions should certainly be cut down. I will not express an opinion as to the remainder of the hospital—the scheme affects no important portions of it.

2019. But would it not look rather peculiar if the buildings were rasped off just to suit your particular design? They might be rebuilt, but I do not like to express an opinion upon that point. My object is to get sufficient public space in front, and, of course, to make the building conform with any future public buildings. The Law Courts might come on the other side of it, and the Houses of Parliament on the other side. If the hospital stood out between the two as a projection it would spoil the effect.

2020. With that probability would it not be better to pull the walls down and to construct a fresh hospital further back? Yes.

2021. *Mr. Humphrey.*] You say it would only be necessary to take off a portion of the pavilions? Yes; the lavatory projections and the central façade.

2022. Then you would have to take in a great portion of the administrative department? A comparatively small portion.

2023. You would have to take off the balconies and the front rooms? No; you do not touch the balconies.

2024. You would have to take off the approaches? Yes.

2025. And the front rooms? A portion of the front rooms, and the water-closets, and find a space for them in the rear.

2026. Would the remainder of the building then come up to your alignment? It would be a few feet behind it.

2027. How many feet back from your alignment would the main building then be? Only 4 or 5 feet.

2028. *Mr. Tonkin.*] From an architectural point of view what appearance would that building have if you cut off all those projections? I do not think it would by any means ruin it, because there are many façades which are flatter in appearance than the present design.

2029. You would take off the whole of the projections so that it would be perfectly flat all along? Almost so; but then you get the projection again in the slope of the roof. I admit that it will not improve it.

2030. Would it not have a very peculiar effect upon the building. The beauty of the building, from an architectural point of view, is its projections? Yes, to a very great extent.

2031. If your scheme were carried out, would it not do away with all the beauty of the building? It would deteriorate it, there is no doubt.

2032. Under these circumstances do you not think it would be better to take it down altogether and put it further back? I think it would.

2033. You do not wish to say anything about the plan? Nothing whatever.

2034. If the Committee thought that a different plan should be carried out, and recommended that the existing structure should be pulled down, that would be what you wish? Yes. I should then set the building back as many feet as you could possibly spare.

2035. As many feet as would be necessary to make it compare with other frontages which you had here? Quite so.

2036. How many feet do you think that would be from the present position? I would say 30 feet at least.

2037. Are there no other buildings, except the little insignificant buildings below Parliament House, that would be affected by putting the alignment back 30 feet? I would put it back 40 feet. There are no buildings that would be affected by it. They are all temporary.

2038. Are you referring to Parliament House? To Parliament House, the Mint, and the Law Courts.

2039. You would not touch the Law Courts? I presume they will be rebuilt at some time.

2040. Do you propose to go in front of them? No; the alteration will start from the bend in Chancery-square.

2041. Do you think that the great improvement which the widening of this street would make in the city would, independently of any other question, warrant the Committee in recommending that a portion of the present hospital buildings should be pulled down? Taken in connection with the probable building of new Houses of Parliament, I think it is absolutely necessary if you wish to beautify the city.

2042. *Mr. Dowel.*] Have you given any special attention to hospital construction as regards modern improvements lately? I have always had my eyes open to it one way or another.

2043. Have there been many improvements in hospital construction during the last thirteen years? A great many.

2044. Are you aware that this design was prepared twelve or thirteen years ago? I know it of repute as having been made some time ago.

2045. You are clearly of opinion that since that design was made great improvements in hospital construction have been going on in other parts of the world? I presume so. I cannot say that that plan is in advance of the times, or that it is equal with the times, because I do not know about it.

2046. Still, you know that within the last thirteen years very material improvements have been made in hospital construction? Undoubtedly—they are being made every day.

2047. Have you given any attention to the terms and conditions with regard to competitive designs for public buildings? I have.

2048. It is the policy of the Secretary for Works, I believe, that public buildings should be competed for? I understand so.

2049. Would you consider it a condition that a specification should be submitted after a design has been accepted?

- W. L. Vernon, accepted? The first condition would be that a sketch plan should be submitted. The best of these plans is then dealt with, and proper drawings and specifications are prepared on the strength of the sketch.
- 10 Feb., 1891. *Esq.* 2050. You would not consider the competitive designs complete without specifications? Certainly not—  
one is a part of the other.
2051. Would you be surprised to learn that there is no specification for the completion of this building except for the work that has already been proceeded with? I was not aware what had taken place.
2052. You would be surprised to learn that that is the fact—that no specification in connection with this design has been prepared up to the present time? Probably Mr. Rowe was not instructed to prepare one. I do not know how that would be.
2053. I asked whether it is not the practice, and whether you would not insist that a specification should accompany a design after a sketch had been prepared? Yes; but it depends upon the instructions given to the architect. The competition is open to the world; then a man is selected, and he has instructions what to do. If he is instructed to prepare drawings he prepares drawings only; if he is instructed to get everything ready for contracting he necessarily prepares a specification. I do not know the circumstances under which this work was carried out at all.
2054. Do you, as a professional man, think that a correct estimate of the cost of work could be prepared without specifications having been first written out? Not within 10 per cent. at the very least.
2055. In a design for a hospital would you approve of a portion of the ground floor being below the surface level? Certainly not for patients—administrative offices might, under certain circumstances, be below or half below.
2056. You would consider it a radical defect in the design that one portion of the ground floor should be below the surface level? If it were intended for the use of patients I certainly should.
2057. In carrying out the plan which you have submitted to the Committee for the improvement of Macquarie-street, are there any difficulties as to the resumption of land? With the exception of the Mint there would not be any. I do not know how that matter stands, but I understand that the Mint is held by the Imperial Government. Besides that there is no difficulty at all.
2058. Would there be no difficulty with the hospital authorities, Directors, or Trustees? Of course there is the hospital question, but I always understood that it is a semi-Government scheme.
2059. But are you aware that the ground is vested in Trustees outside of Government control? I presume that it is, but still I think that the Government have full power to resume.
2060. Still, under these circumstances, you recommend that your scheme should be carried out? I think that some such scheme as that should overcome all difficulties because of its importance.
2061. *Mr. Trickett.*] An alternative scheme has been proposed to this Committee. It is suggested that instead of the hospital building being three stories high it should be two stories high. Looking at the plan, will you state what you think the effect would be, from an architectural point of view, to make the alteration, keeping the same roof? I think it would rather improve the building to take the top story off. I do not think those lofty buildings are altogether the handsomest.
2062. Is not the roof a very heavy one? I think that in construction it would appear very much smaller. A geometrical drawing always exaggerates the roof, compared with the ordinary perspective view from the street level.
2063. Looking at the roof on the plan it is very heavy? To my eye it is not. I am accustomed to see them geometrically—ordinarily you see them in perspective.
2064. You do not think it would seem heavy? No, it recedes or fore-shortens.
2065. Would you look at the back lavatories and water closets;—they are very small rooms are they not? Yes, the lavatories are very small.
2066. Do you think it is necessary that the walls for these small rooms should be of the thickness indicated by the plan—of the same thickness as the walls of the main building? They appear very thick, but that has to do with the monumental character of the building. The stonework, so far as the lavatories are concerned, is not needed, but so far as the appearance of the building is concerned it is needed.
2067. Supposing for the same money we can pull down the present structure and erect a new building, giving the same accommodation for the same money as would be required to complete this building, which would be the best thing to do? Having in view the scheme which I have put before you, I should say build a new hospital; but I should not say that with regard to the hospital accommodation itself. I do not wish to give an opinion about that.
2068. But, independently of your scheme, if you could build a hospital of more modern principles and giving the same accommodation for the same price as you can complete this for, which would you do? I doubt if you can do that.
2069. But supposing that you can? I would rather not give an opinion.
2070. The original design contemplates the completion of the back pavilions in dressed stone. From your experience of hospitals, and considering that these buildings would be out of sight from the street, do you think that brick would be as good as stone? I think so.
2071. Would not bricks be cheaper than stone? Yes, much cheaper. You have to protect the brick-work against the rain in wet weather. If you did that with cavity walls it would be all right.
2072. I would ask you the same question with regard to the front of the hospital;—would it be desirable to complete that in stone or brick? I should say stone, because stone is the national material.
2073. But for the sake of effect? Stone. The buildings on either side would be of a handsome character, and it would be a pity to spoil them.
2074. But for the back? I think for that part of the building which would simply be seen from the Domain we might economise and use brick.

WEDNESDAY, 11 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHERY.

The Hon. WILLIAM JOSEPH TRICKETT.

The Hon. GEORGE HENRY COX.

JACOB GARRARD, Esq.

HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.

WILLIAM SPRINGTHORPE DOWEL, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM McCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

Thomas Rowe, Esq., Architect of the Buildings, sworn, and further examined:—

2075. *Dr. Garran.*] You have already given evidence to the effect that, after your original design was submitted, modifications were considered by yourself and the Committee? Very considerable modifications; in fact, an entirely new plan I should say.

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2076. One of those was the substitution of stone for brick? Yes.

2077. Was that your suggestion? No.

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2078. It was suggested to you? It was suggested, and my opinion was asked. I always advise city buildings to be erected of stone, and twelve years ago there was not so much brickwork—that is the superior kind of brickwork—done as there is now.

2079. This change did not originate with you? It did not.

2080. Some witnesses have stated that for hospital purposes they preferred brick to stone, because it admits of a double, and, therefore, a dry wall;—have you thought of that? I have built many buildings of hollow walls, and on that principle I erected the Nightingale wing, which is built of hollow walls. I am an advocate of hollow walls in some cases.

2081. It is very important in a hospital that we should secure dry walls? It is important; but I do not mean to say that stone is not dry.

2082. Is not the Pymont stone somewhat absorbent? It is, but I have made tests of it on that very ground, and the stone absorbed less than the brick. I can give you that test if you like to see it.

2083. Does it not often happen that the Pymont stone, during the first year or two, lets the wet come right through? I have never known it to occur in substantial buildings with thick walls, and I have erected as many such buildings as most people in the city.

2084. As an architect, you see no reason for preferring brick for a hospital? I do not. The test I speak of was quite in favour of the stone. The stone was obtained from Pymont quarries; it was what is termed best bottom block stone, and was cut into the size of bricks,  $9\frac{1}{4} \times 9 \times 4\frac{1}{2}$ . Two of these pieces were cemented together, and two good double pressed bricks were obtained from the Government Printing Office, and also cemented together. Both the stone and the bricks were then dried for a considerable length of time on the top of a furnace and weighed. The bricks, dried, weighed 25 lb. 13 $\frac{1}{2}$  oz., the stone, dry, 31 lb. 15 oz. After 30 minutes' spray had played on the bricks they weighed 26 lb. 13 oz., and after the stone had been under the spray for the same length of time it weighed 32 lb. 1 oz. After 2 $\frac{1}{2}$  hours' spray the bricks weighed 27 lb. 11 oz., and the stone 32 lb. 4 oz. After 4 $\frac{1}{2}$  hours the bricks weighed 28 lb. 3 oz., and the stone 32 lb. 6 oz., and after 6 hours the bricks 28 lb. 6 oz., and the stone 32 lb. 7 oz., so that in each case the test was in favour of the stone.

2085. Then, except for the bricks admitting of a double wall, you do not see that they give any advantage in the way of dryness? A double wall has this advantage in all house buildings, that it can be more easily ventilated than an ordinary wall. You can put in a ventilator anywhere.

2086. But does it not guarantee a dry inside wall? It does.

2087. Which is a matter of supreme importance in a hospital? Yes. At the same time do not suppose for a moment that water can penetrate 2-foot solid stone walls.

2088. Is cement as permeable to water as brick? It all depends upon the quality of the brick.

2089. Because in your experiment you had two bricks cemented—would the fact of their being cemented give you two qualities of material? They were only cemented together—not covered with cement. The stone was treated in the same way.

2090. Had not your original design only two stories? No, I have three.

2091. I refer to your original design? It is here somewhere, and had three stories, I think, though it is so long back that I forget.

2092. Both in the front and in the pavilions? Yes; they were running north and south. I am sure it was three stories high, though I should like to refresh my memory.

2093. Was the subdivision in the first plan the same as it is now? It is a vastly different plan altogether now.

2094. You divide your present plan into wards of sixteen and twenty beds each, and each of these subdivisions has thick strong walls all round, so that that makes a very large quantity of stonework? Certainly.

2095. And stonework is dearer than brickwork? Yes.

2096. How much per cent.? Twenty to 25 per cent.

2097. At the corners of the pavilions there are small buildings for lavatories and other purposes, all of which have thick stone walls? Yes.

2098. You see the immense quantity of stonework that there is in the plans? Yes.

2099. All that, I presume, has helped to mount up the expense? Yes; but the building was to be carried to a considerable height, and it was intended to store water for the use of the lavatories and sanitary arrangements under the towers. Then there was gearing and machinery in other parts of the building.

2100. You do not think that the walls are unnecessarily thick? I could, of course, have constructed the building of less thickness, but in designing a public building that was to stand for ages the desire was to erect one that could not be found fault with in regard to strength.

2101. Is not the quantity of thick stone walls very large indeed in comparison with the area enclosed? I do not think so, though, of course, another architect might say so.

2102. All this helped to pile up the expense? Certainly; the more substantially you build a place the more expensive it is.

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2103. In some of the other plans submitted to us, instead of two detached buildings in the rear of the main building there were long wards. Would these long wards not be cheaper, because they would not require so many walls? They would be a little cheaper, but there would be cross walls, and it would not be possible to put such large wards under one nurse.

2104. There never is only one nurse in these wards. Did you have any particular object in breaking up the wards to accommodate sixteen and twenty beds each? In that particular arrangement of the site it works out in that way. Placing the administrative quarters in the centre, there is only room for that length of ward on each side of the administrative department. Then, breaking down the centre again, with the fall of the ground it also works out in that way, leaving proper space between the extreme eastern wall and the Domain.

2105. Could you not have put the two pavilions together and made one long ward, thus saving expense? I could have done so, but I do not think it would be desirable. As the building is broken up now, a doctor leaving his quarters at night on any floor of the administrative department could travel over the whole of it by means of the balconies.

2106. Was this arrangement of wards submitted to the doctors at the time? On several occasions.

2107. And they all approved of it? Yes. On one occasion I sent in a request asking to be allowed to meet the doctors to discuss with them the position of the wards, and a time for the meeting was fixed. Dr. Jones was in the chair, and several members of the profession were present. The meeting was called by Dr. Dixon. I have the notice here now. I remember addressing that meeting for nearly three-fourths of an hour upon the matter of the position of the wards, as to whether they should be north and south, or east and west. The meeting was convinced that my plan was a correct one. Dr. Jones agreed with me and the opinion was forwarded to the Board, and, after several sketches had been submitted, this plan was adopted. Of course, as I have stated before, the intention of the Board to take down the southern wing, led to the adoption of these new apartments. I should like to say a word about the position of these wards. Of course, you cannot throw a ward upon a comparatively small site like this, in any way you like. You cannot face it north-east, anglewise, across a valuable piece of land like this frontage in Macquarie-street. You are bound to build parallel with the street, or with the side lines, and so you have to build either north and south, or east and west. It then becomes a question which is the better position for a ward, and I have strong opinions that north and south is the better position for a ward on that site. I know the objections that were made to it, viz., that it throws a flank side open to the west; but, admitting that, you must remember that there are deep balconies in front. The buildings are protected with piers and arches, and the heat of the sun can always be regulated by blinds. Now we come to the east and west position, which many think the best. With that position you throw the entire flank of the ward, say 80 or 100 feet, to the south, and it is well known that patients along a cold southern wall do not succeed like they do along a northern wall. That has been proved, and when the patients have been moved from the south to the north they have succeeded better. Many lives, no doubt, have been lost by reason of the cold wall. But the other position is open to no such danger. What I have said about the southern wall has been proved in many instances. In the lanes and alleys of the city, and in terraces, wherever the flank walls face the south, the children do not thrive so well, plants will not grow properly, and there is sickness generally. I proved that to the doctors, and they agreed with me.

2108. The best aspect for houses is north-east and south-west? I would place my building so that it could be bathed by the sun throughout the year, though you cannot do that in the streets of Sydney.

2109. Would not that give you a north-easterly and a southerly aspect? Not directly. If you bathed the house all the year round you would have no part of the building to the south. We know that the sun is the greatest blessing we can enjoy, and a great scavenger.

2110. A north and south position makes half the house good and half of it bad? By a little arrangement you could get the sun to dry it properly.

2111. By turning it a little more to the north-east? Yes.

2112. Do you mean to say that this question of throwing so many wards to the west was thoroughly worked out by the doctors? Yes, by a committee of doctors called at my own request. It was, I believe, agreed to unanimously. Dr. Jones agreed to it, and the opinion was forwarded to the Hospital Committee.

2113. We have medical evidence to the effect that some doctors always disapproved of this arrangement, and preferred to have a screen to the front, and all the wards at the back? Doctors differ, and of course some doctors have never made a study of the matter. There are some doctors who have made a great study of it, but they are only a few, I think.

2114. You are quite clear in your own mind that this matter was considered and approved of? Certainly, I swear to it.

2115. The whole question of a westerly aspect was gone into? I lectured the doctors for nearly an hour on the question, bringing evidence from Russia and from other parts, which I had read up. I showed that the fences of the colony are moss grown on the south side, and that all our trees droop to the west.

2116. In the case of a southerly aspect, if the buildings were arcaded, would not that protect it from all damp? I do not think so—weather comes in horizontally sometimes. I do not say from damp, but I mean that the wall would be cold. The temperature along the south wall inside will be vastly different from the temperature along the northern wall.

2117. Has not the present south wing of the Infirmary got one side exposed to the south? Yes.

2118. We hear that that ward answers all purposes admirably? Yes; but when life was suspended by a thread the temperature along that wall would make a difference.

2119. Do you know of any medical man in the colony who has testified to this fact? I do not know of any.

2120. Are not several of the walls of Prince Alfred's exposed to the south? If the wards run east and west they must be.

2121. Have you heard of any objections being made to that building on the score of position? I have not heard of any; but I have not made any inquiries. I know that the old building that stood in Macquarie-street was a very successful building. Some wonderful cures were performed there.

2122. Was the question of making this accident ward in front, on the north basement, considered by the doctors? I presume the whole thing has been brought before numerous doctors, some of whom are now dead, and they must have approved of it. Various designs were submitted in pencil before this was fixed upon.

2123. You have heard no objection to it made? I have not. That floor is raised, I think, 3 feet, with apertures

- apertures under every window big enough for a man to get in. The ground below floor is to be concreted and asphalted. T. Rowe, Esq.
2124. Still, the floor is a basement? It is not even a half basement. It is a ground floor on the other side of the building, so that it is not correctly a basement, being 3 feet below the level of the ground, which is 15 feet away from wall of ward. 11 Feb., 1891.
2125. You have never heard any objection to that floor being used as a ward? I have not. Every provision has been made for its ventilation.
2126. Do you recollect the name of the builder who gave you a certificate? I do not. I have been trying to think.
2127. Do you recollect whether you had a certificate? I presume I must have conformed with the conditions, but I have no knowledge.
2128. Mr. Russell, the Secretary, reports that he has no record of any certificate being sent in—you cannot charge your memory with the fact? I cannot.
2129. If there had been a certificate sent in to the effect that the work could have been done for £45,000 would it have been worth anything? No.
2130. You know yourself that it could not have been done for twice that money? Not in a substantial manner, as a public building should be erected.
2131. After all that has been said, and you have had access to the evidence I believe, do you still see any reason to find fault with your own plan? I know of no improvement in hospital construction, with the exception of what are termed circular wards, and I do not think that they have found much favour. Then, of course, in sanitary matters there has been a great march of improvement since these plans were designed. I do not mean in the arrangement of the lavatories and closets and so on, but in the plumbing and other work. There have been vast improvements in these matters, but they are the only improvements that have taken place that I know of. When I designed this plan I had the plans of all the largest hospitals in England before me. I made the work a study, and delighted in it, and since then I have seen many of these hospitals myself, and I know of nothing better than is shown here. All the conveniences are thoroughly cut off by passages, and double provision almost is made to prevent anything connecting the wards.
2132. At the time you submitted your plans did any of the doctors object to three stories? I cannot say. I dare say there may have been a difference of opinion on that subject, but I do not remember any conversation in particular about it. The arrangement was adopted, of course.
2133. You have submitted some estimates for different proposals for finishing the work—are any of them based on thought-out details? The estimates now submitted are based upon the works already carried out, and detailed estimates have been gone into, but that has only been done of late years, during the time of the Stuart Government, when estimates were asked for.
2134. Do you think that these estimates are really trustworthy? I do; they are based upon work already performed. All the finishing work has been gone into in detail.
2135. Could you guarantee that they would be within 10 per cent. of the cost? Of course, it would be very uncustomary for an architect to give such a guarantee, but I venture to say that I could guarantee them within 10 per cent.
2136. Do you think it would be a very great mistake to finish the front of this building in brick? It would—not that I am opposed to the use of brick, but having started with stone, I think it would be a pity to complete even a part of the building with brick. There is really no back to this building. The Domain side is as much exposed to view as is the Macquarie-street front, and I think that having already started in stone it would be a great pity to use brick.
2137. If the front were done in stone you would have the back also done in stone? I think so. To build one side of stone and the other of brick would be a mistake with a building of this kind and such a magnificent site, where it may possibly become a neighbour to splendid public buildings on either side. The Mint and Parliament Houses will probably give way, and the building will then be more open than it is now, and it should be a worthy companion to any new Government structures there.
2138. Your cheapest estimate for finishing in brick you, as an architect, throw over entirely? That estimate was asked for by the Committee; I do not agree with the intention, and I think that to use cement would be abominable.
2139. The only reduction you would propose would be to take off a story and to finish in stone? Yes; but then, of course, there would be a waste of material in the present walls, they being unnecessarily thick for only one story more.
2140. Their thickness has been planned for carrying four stories? Yes.
2141. The only economy you could suggest would be to take off a story and to finish with stone? It was not suggested by me. I was requested by the Committee to give estimates for various proposals.
2142. Do you think that the building could be completed with one story less for £56,000? I think so.
2143. You know that up to the present we have spent nearly £70,000 upon the foundations and the first story for stonework only. Now to put on the second story there would be as much stonework as there is in the first story, and the roof would be as costly at least as the foundations? The roof would, of course, cost as much for this building as for the completed structure.
2144. Would the roof cost more than the foundations? I do not think so.
2145. But then you have all the internal work to do? Yes. When you speak of the foundation you mean the basement part only.
2146. Yes? That cost £25,600. The roof would not cost that.
2147. Do you think you can put another story and the roof on the building, and do all the internal work for less money than you have spent in doing what you have already done—one story and the basement? I think another story could be put upon the building, and the whole work, providing for 144 beds, finished for about £56,000.
2148. You think that the extra work could all be done for less than you have already spent? I think so.
2149. What was the cost of the foundations? The cost of raising the walls one story from the ground was £25,642 9s. 6d.
2150. What was the cost of the next story? £23,701 6s. 3d. There were some sundries amounting to £463 16s. 6d.
2151. Then the next story, by itself pure and simple, could be done for another £23,000? Yes; I think the market is a little more favourable now than then.

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2152. In this estimate of £56,000 you have included one pavilion, have you not? Yes; at the back.
2153. That is only one story high at present? Two stories high.
2154. It is the same height as the rest of the building? Yes.
2155. Do you think that you could complete it and all the work in front, together with all the interior work for both buildings, for £56,000? That is the estimate.
2156. Remembering that you have spent nearly £70,000 on what has already been done? The £70,000 includes the kitchens, which cost £6,793, the excavation, and the laundry and engine house.
2157. You see no reason for doubting the soundness of this estimate? No, I do not, because the walls would be slightly lighter if we had not to go so high, though the building would look a miserable dwarfed thing. There is no reason why another floor should not be given to get the extra accommodation, seeing that the foundations cost so much, and that it will cost so much to roof the building. It would be a positive loss not to put another story between the roof and the foundations, while it would lessen the cost per bed to do that.
2158. If you take off a story the cost of the roof will be about the same as if it were built according to design? Yes.
2159. Will it look squat on your plan to take off a story? Very, indeed.
2160. You will not like it? It will not look well at all, and then if you run up the administrative block to the full height it will make it look still worse.
2161. The Government Architect, yesterday, proposed to widen Macquarie-street, and he would like to take off the corner projections and the front rooms of your central department;—would not that give the building a long uniform façade? How could you take those conveniences away from the hospital?
2162. You would have to provide them somewhere else? It is not so easy to do that, and to make the thing perfect in itself.
2163. If that were done, would it not be possible to push the building further back? It would be possible to take a few feet along the frontage, but it would be a pity to go as far as you suggest.
2164. You think it would very materially interfere with your plans? Very. Of course it is a very desirable thing to have a broad street there, but for all practical purposes it is wide enough now, and when new Government buildings are erected they will naturally retire from the street.
2165. The question is, before we complete this building should we adopt the Government Architect's plan and adapt ourselves to it? That would be a very difficult matter to express an opinion upon hastily. The street might be widened as far as the steps entering the administrative blocks—10, 12, or 15 feet.
2166. You would not recommend an interference with your frontage at all? I certainly should not.
2167. You would rather diminish the width of the proposed broad pathway? It would throw the whole thing into confusion.
2168. *Mr. Tonkin.*] Did I understand you to say just now that there have been no improvements in hospital construction since these plans came out? With the exception of the circular ward system.
2169. Have you not heard that one-story buildings are now advised for hospitals in the Continental cities? Many have thought for years that such buildings should be used, but there is a great difference of opinion upon the subject, owing to improved modes of surgery and so on; they are now not afraid to go in for three or four stories, though some advocate one-story buildings as the best.
2170. Is it a good policy to have beds, as shown on your plan, right in the corner of the room? They are away from the corners. I do not know of any right up in the corners. There is a fair space for the nurses to get by.
2171. Is there room for the nurse to get round on the other side? Yes; a space is left.
2172. Do you think there is any objection to a staircase in a hospital? There are no staircases in the wards. They are all outside, away from the wards.
2173. But the staircases are inside the building? Inside the walls, of course, but outside the wards.
2174. But they are in the passages leading to the wards? Yes; from the staircase landings you go into a lobby and then into the wards.
2175. Do you think it is advisable to have such a connection between one ward and another—between the upper and lower stories? I see no evil in it where the wards are cut off and properly ventilated with opposite currents and air shafts.
2176. Has this subject been discussed by medical men? All these points have been discussed and provided for.
2177. Supposing it was decided to complete this building, would you suggest that tenders be called for the entire work, or would you do it piecemeal as the other part of it has been done? Tenders could be called for the entire work. The reason that it was done in a piecemeal way before was for the sake of convenience, to meet the funds in hand. The unfinished portion could be completed in one tender, if necessary.
2178. Have you specifications prepared for calling for tenders? I have done nothing; I have done nothing for many years.
2179. The estimate which you give is made purely from your mental calculation? Yes. Of course we know from previous tenders what the masonry will cost, and I have the plans before me, so that I could measure up floors, and count the doors and windows and so on.
2180. Would there not be a large amount of internal work that you have not had to call tenders for? I know all about those estimates. There is no uncertainty about that.
2181. You are quite satisfied that the work can be carried out for the price you estimate? Within 10 per cent. of it. There must always be a margin one way or another.
2182. Then you must have known at the time you put your plans in that the work could not be constructed for the estimated cost? When those plans were completed I knew what they were worth, and I stated that the work would cost £200,000.
2183. But I am speaking of the first plans—the competition plans? Well, I am speaking of these plans.
2184. But in regard to the competitive plans, I say that if you knew from your mental calculations what it would cost to finish this building, you must have known when you put those plans in that they could not be completed for £45,000? The structure could be built for that money, but not in the way a public building should be erected. There are so many degrees of excellence. There is a cotton dress and there is a silk one, there is tweed and there is broadcloth.
2185. But is it not a usual thing that the work should be done in a workmanlike manner; when tenders are called for is that not stated? Those plans were set aside altogether. This is an entirely new design.

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2186. I know that very well. Do you know a gentleman named Horbury Hunt? Yes, I know Mr. Hunt.
2187. He is a prominent man in your profession, I believe? I suppose so.
2188. Does he hold a prominent position? Yes; he holds a prominent position.
2189. If he should tell this Committee that out of the whole body of architects in Sydney there were only five who would give in a proper and fair estimate of the cost of a competitive design, would he be stating a fact? I should take it that that was a sort of libel upon the profession.
2190. But is it a usual thing for the profession to hand in competitive plans of a building at a much less price than they know these plans can be carried out for? It is frequently done. These competitions take place all over the colonies, and everyone vies with the other, each in trying to do the utmost he can for himself. These competitions are not satisfactory things.
2191. But that is acting in a very dishonest manner. If you lead people to believe that a building will only cost £45,000, when you know that it will cost £100,000, is that honest? Well, I say I can do it in a way as it were, but not as a substantial public building ought to be erected.
2192. But did you not know that it was a public building that you were competing for, and that it would have to be built in a substantial manner? But I want to know what that has to do with this other plan?
2193. I want a reply to my question? I have answered the question over and over again.
2194. What is your reply? That I competed for this work, but I do not know if I sent in a builder's certificate, though I think I did. The Committee said, "We want a building containing so many beds, for £45,000," and I competed with thirty-two others, who all considered that they were abiding by the conditions of competition, for the work.
2195. And you knew at the time that your plan could not be carried out for the money? Not in the way I should like the work to be done.
2196. Could you have carried out your original plan in any way for £45,000? I believe it could have done it in some way—in an inferior manner.
2197. What would have been the difference? I think that the work they asked for was worth over £100,000 to carry it out in a substantial manner, as a public building should be erected on a site of such importance.
2198. Do you hold with what Mr. Hunt says, that there are not more than five gentlemen in your profession who would not lend themselves to that? I should be very sorry to say so. I said that the statement was a libel on the profession. Mr. Hunt's ideas of things and mine are different.
2199. What amount of commission have you received on this building already? I have received £3,226 as commission.
2200. Was there not £140 more for something else? There may have been commission for other things—I think there were. I had to do with the ophthalmic hospital at Miller's Point, and with preparing the buildings for carrying on the hospital work in the Domain—various things which do not belong to the permanent structure work; but the amount which I have stated is the amount of commission which I have received for permanent structure work.
2201. In the event of this building being completed according to the modified plan, would you expect a commission upon the outlay—that is, supposing one story were taken off, would you expect the commission upon the cost of completing the building? As if the four stories were completed?
2202. No. Supposing we took off the top story, to reduce the cost of finishing the building, would you still expect your commission on the work? Certainly; and I am entitled to a percentage on the cost of the story deducted, upon the work not carried out.
2203. You would expect a commission upon the original plans? I am entitled to it. What I would do is a different thing. If this work is never completed I shall most distinctly claim my percentage on the transaction, and, dead or alive, it is a part of my estate.
2204. Suppose the Committee decide that the portion of the building erected is not fit for hospital purposes, and that it should be cleared away and another put in its place, would you still expect commission? Yes. I can prove that it is a suitable building, perfect in every respect, and my plan has been adopted. It is not my fault that the work has broken down. I am entitled to the commission, according to the rules of the Architects' Institute both here and in England.
2205. But if the weight of evidence taken before this Committee should go to prove that this is not a proper building for a hospital? It was accepted as a proper plan by a number of medical men, and I defy any one to prove that it was not. That cannot be proved. It is impossible. Because prejudiced men, and the green-eyed monster have interfered in this work, that has nothing to do with a straightforward transaction of mine. The plans have been accepted, the work has been commenced, and it is not my fault that it has been discontinued, so, therefore, I am entitled to my commission.
2206. Have the Committee been misled in any way as to the actual cost of this building? I have been forty years in this city, and I am the father of a large family, and I defy any man living to charge me with doing anything dishonorable. I knew what this work would cost, but I was never asked; and was it my duty to force my business upon the Committee? The Committee were vying with the Prince Alfred Hospital people, Dr. Renwick against Dr. Roberts, and the desire was to have a city hospital equal, if not superior, to the Prince Alfred Hospital. There was no desire to know the cost—I am sure of it. There is no letter in existence finding fault with me or my conduct in connection with this hospital building. There is not one. The Secretary cannot produce such a letter, and I have none. For five years I was never asked the cost of that building, and I have never received a letter complaining of its cost.
2207. Then, so far as the expenditure is concerned, you had *carte blanche* to do as you thought proper with the building? I do not say that—certainly not. This plan was adopted, and there was a desire to have a perfectly substantial building. These shrewd business men knew what they were doing, and they desired to have a good building, when they found out that the miserable £45,000 would not do it.
2208. Mr. Trickett.] Will you look at the plans "Elevation to Macquarie-street." You will see that the basement is indicated there as being half below the level of the ground as it were;—is it intended that patients shall be treated in that bottom story? Yes.
2209. And in the right-hand pavilion as well? No; the out-door patients go down the stairs there into the verandah, and take their seats. They are then drafted through to the doctors on each side, who examine them and give them their prescriptions, and then they pass through the dispensary, obtain their medicines, and go out. One side is for out-door patients, and the other is the casualty ward.
2210. The southern basement is for out-door patients? Yes.
2211. And the northern basement is for casualty cases? Yes. I should like to explain to the Committee that

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that the doctors can go all over the institution on each floor (*pointing out the convenience on the plan*). I am very sorry to say that the green-eyed monster has had a great deal to do with this matter from the start. It has been most irritating for the last twelve years.

2212. *Mr. Copeland.*] You have been carrying out works of this character for many years in Sydney, have you not? I think I have built as many hospitals as any man here. I built the Catherine Hayes Hospital out at Randwick—the Randwick Asylum, a hospital in Newcastle, another in Singleton, and some others. This matter has been on my mind for twelve years or more.

2213. And I suppose you have also acted as architect for other large buildings in different parts of the colony? Nearly as much as any man. I do not say more than any man; but I have been practising as an architect for over thirty years.

2214. In this colony? Yes.

2215. When you were last examined by the Committee you stated that you had a letter sent to you by the Hospital Committee, accepting your plans? Yes, I have it here.

2216. Will you read it, so that it may go in as evidence? It is dated the 12th August, 1879:—

Sir,—I have been desired to inform you that, at a meeting of the Board of Directors, held on the 6th inst., you were appointed as architect to this Institution.

Your obedient servant,  
H. D. RUSSELL.

2217. That letter simply informs you that you were appointed architect? Yes.

2218. Did it imply that your plans were accepted by the Committee? I think not, because that must have been after the competition was decided. I was then appointed architect, and I had the competitive plans handed over to me. There was my own plan, and two sets of plans from Mr. Backhouse, from which I had to get out other plans. Then the doctors' meeting took place, and various other meetings, and pencil sketches were submitted of new arrangements. After a long discussion, at different times, the Committee decided to take down the southern wing, and to strike out upon this new work in the form of a letter 'T', giving more accommodation.

2219. So that as a matter of fact, after you were appointed architect to the hospital, your plans were entirely disposed of? They were set aside altogether.

2220. These new plans were then adopted by the Committee;—is that so? That is so.

2221. When those plans were adopted I suppose they were fully discussed, and considered at various times? They were.

2222. Can you tell us the names of the members of the Hospital Committee at that time? I could not tell you the whole of the members.

2223. Can you tell us a few of the leading members? It is unsafe for me after so long a time to venture. Dr. Renwick was president.

2224. We have a list here of the present Directors of the Hospital. Was J. R. Street a member? Yes.

2225. John Pope? I am not certain.

2226. Sydney Burdekin? I think so.

2227. Mr. Abigail? I am not certain; I think so.

2228. Michael Chapman? Yes.

2229. The Hon John Davies? I am not certain;—he may have been.

2230. Alexander Dean? No.

2231. James Ewan? No.

2232. W. H. Flavelle? I do not think so.

2233. Joseph Graham? I am not certain.

2234. G. N. Griffiths? I think so.

2235. John Hardy? No, I think not.

2236. John Hourigan? No, I do not think so.

2237. I. J. Josephson? Yes.

2238. S. E. Lees? I think not.

2239. Dr. Mackellar? Yes.

2240. James Martin? No, I think not.

2241. Richard M'Coy? Yes.

2242. Dr. Charles Mackay? Yes.

2243. B. B. Nicoll? I do not know.

2244. Frank Senior? Yes.

2245. R. Burdett-Smith? I am not certain.

2246. John Starkey? I think so.

2247. In addition to that Committee did any other committee of medical men inquire into this matter? There was a committee of medical men.

2248. Do you remember their names? Two or three of them are dead now.

2249. Still, they were living at that time? There was a large committee. Dr. Jones was one, Dr. Dixon, I think, was another. A very good doctor was the doctor of the institution. He knew a good deal about the matter; but he is now dead; I cannot remember his name. There were ten or twelve doctors present at the meeting.

2250. All of whom were prominent men? Yes; the greater number of them were men of standing.

2251. This Committee, I suppose, devoted some considerable time to the matter before they ultimately decided to adopt these new plans? They had several meetings among themselves, at which I was not present.

2252. Were you present at any of the meetings? Yes, I think so.

2253. Did they make any amendments on your plans? All their suggestions were gathered up and worked into form, and eventually submitted to the Board.

2254. They made suggestions, and you adopted them;—you gave effect to them in your new plans? Yes.

2255. The old plans which were submitted on the price of £45,000 were utterly abandoned? Yes.

2256. Did you ever inform either the medical committee or the general Committee that you could carry out the erection of those buildings for £45,000? Never.

2257. Did you ever give them to understand that you could carry them out for anything like that? I was never asked. The thing speaks for itself. How could the Committee spend £68,000—the first large contract

contract was for £25,600 odd, the second for £23,000, and another for the kitchens, £6,793, and for the laundry, £5,700 odd—for a little more than one-third of the whole structure, and expect that work to be completed for £45,000? They said nothing about the expense to me, but as business men they knew thoroughly well that if a little over one-third of the building cost that amount the whole thing would cost something like £200,000.

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2258. The original plans were for a building to cost £45,000;—can you say what was the difference between that building and the building now proposed, that is, with regard to accommodation and the nature of the work? This building has, of course, more accommodation, and is designed for masonry, and it is of a more substantial and of a better character altogether.

2259. What accommodation is provided for in the original plans? Accommodation was provided in accordance with the conditions of the competition.

2260. Do you remember how many beds? I cannot tell you from memory, but I think 180.

2261. Can you furnish the Committee with a copy of your original plans? I brought them here on my first visit, together with the map of the city, showing that this site is the most central that could be selected.

2262. Did those plans provide for an equal amount of accommodation for the nurses, medical men, and the rest of the staff? I think so, in proportion to the size of the building. It was laid down in the conditions that all that was to be provided for.

2263. I suppose then, that the Committee may understand that the original plans provided for the same accommodation throughout, except that there were 180 beds instead of 240, and that the same conveniences were provided in the first design, only not upon such a substantial scale? Yes. I think there may be a little extra convenience provided here, but generally speaking there were the necessary conveniences for the carrying on of the hospital in the other plan.

2264. Only, I suppose, the building did not pretend to be upon such a palatial scale as this is? Certainly not—not of so large or so substantial a character.

2265. Was the original design similar to this in appearance—had it the same elevation, the same number of stories—was it T shaped? It was arranged differently. The arrangement in front was similar.

2266. It was drawn to scale? Yes.

2267. Did it give the same thickness of walls? No.

2268. Was it the same elevation? No.

2269. Were the principal rooms the same size? I could not say, but I should not think so. I do not think there is a likeness between the two plans, or at all events it is very small.

2270. At any rate those plans were deliberately put on one side by the Committee, and you were instructed to draw out altogether fresh plans? They were deliberately set aside.

2271. Do you know whether there was any opposition to the work at the time—whether any section of the Committee opposed the proposal? No; I do not remember any such opposition.

2272. Your impression is that the plan was agreed to almost unanimously? I have no recollection of any opposition. I should have remembered it, I think, if there had been any great amount of opposition.

2273. So that the Committee went into this new proposal with their eyes thoroughly wide open? As business men they must have known what they were doing. When Governor Loftus was laying down the foundation stone, I told a member of the Committee that the work would cost over £200,000.

2274. You stated that publicly? I stated it to one of the Committee.

2275. Did you make the statement publicly? No.

2276. Do you remember the name of the Committeeman? I do, perfectly well, but I would rather not mention names—it was a casual conversation; it was not official.

2277. I suppose the Committeemen were constantly in the habit of viewing this new building? Every week, and some of them every day almost.

2278. Was there any meeting called with a view to countermanding your action and stopping the progress of the work? None whatever.

2279. Was there any meeting called expressing dissatisfaction with the work? I never received a letter nor heard a complaint made verbally with regard to the cost.

2280. Can you say when you first began to hear dissatisfaction expressed with the expense? I have never heard any dissatisfaction except from outside. I never received a word of it from the Committee. When money was required and the Government was approached, I was requested to prepare estimates of the cost of completing the building.

2281. So that right up to the time that the erection of the building was stopped, you never heard any expressions of dissatisfaction from the Committee? Never; not one word.

2282. At that time they knew what the building would cost—over £200,000? At the time they applied to the Stuart Government they knew. No estimate had been sent in previously, because it was never asked for.

2283. I suppose it is the practice throughout the profession, whether for Government buildings or private buildings, in this colony, or in any other colony or country, that whenever plans are approved of by a committee, and they take upon themselves the responsibility of adopting them, the architect becomes legally entitled to his commission? I take it so—certainly.

2284. Is that the practice in the profession? Certainly. I hope the world do not suppose that the 5 per cent. is all profit to an architect. If he gets 1½ per cent. out of the transaction he is perfectly satisfied.

2285. What commission did you get on this work? Five per cent., but that is not all profit. If an architect gets 1½, or 2 per cent. at the very utmost, he is very pleased. He has got his rent and his staff of draughtsmen to pay. I merely mention this because some gentlemen think that the 5 per cent. drops into the architect's pocket. If a merchant could call all that he sold profit, an architect could call all his 5 per cent. profit.

2286. What is the nature of your services? Producing plans and specifications in duplicate, working out details, supervising the work from the time of its commencement up to the time of its completion, and making out quantities for checking payments. Every payment has to be checked by measurement, and every detail is a separate study. There are always a number of draughtsmen at work upon important buildings getting out details, from the time of its commencement until the time of its completion.

2287.

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2287. You necessarily have to employ draughtsmen and other persons to do the work? Yes; and some men at from £250 to £300 a year.
2288. All of whom have to be paid out of the 5 per cent.? Certainly. Looking at it in that light, I have really had very little out of this transaction.
2289. Was there room to have erected the building further back from the street? I think not, because of the extreme eastern wing, which would have gone too far out into the Domain. The building could not have gone further back, besides, the present Nightingale wing would then have been in the way, because the northernmost wing overlaps the Nightingale wing.
2290. So that you were forced to bring the building as far to the front as you have? Yes; it is adapted to the site, to the inch almost.
2291. You had to adjust the buildings to the size of the land, and to the position of the existing buildings, which had to be used during the erection of the new building? Yes.
2292. I suppose if the suggestion of the Government Architect about widening Macquarie-street were carried out, it would completely destroy this building? I think it would wreck the whole arrangement. I am not speaking as to its beauty, but it would affect the general arrangement of the hospital. I do not think you could make a perfect building of it afterwards unless you took it all down and re-designed it.
2293. In any case it would bring the building flush with the side of the street, would it not? Nearly, I presume.
2294. Five feet back from the side of the street. Is it your opinion, as an architect, that that would very much destroy the appearance of the building? It certainly would. I like Mr. Vernon's idea. I think it is very praiseworthy on his part to attempt something of this kind, but the question is has he not attempted too much. If we could give him 4 or 5 feet to alter the street a little, it would be advisable.
2295. Suppose the Government were to entertain the idea of pulling down this building, would it be possible to utilise the stonework again, putting the blocks up in the same positions, so as to re-erect the building on the same plan further back? If you followed the same plan further back you could utilise the stone, but the moment you go off to any other design, you naturally destroy a large portion of the stone. All material, when taken down in that way, depreciates to a very great extent—you would not get its full value.
2296. Still you could use the material again? You could use a great deal of it.
2297. So long as you retained the same design? Yes.
2298. To do that, it would be necessary even to root out the foundations? Yes; you would have to commence *de novo*.
2299. You think there could be 5 or 6 feet spared for the purpose of widening the street? I think so. There are nearly 14 feet from the building line up to the wall of the entrance steps. There could be 12 or 14 feet taken along there for the purpose of widening the street. This would apparently throw the building nearer the street, but it would, in fact, be no nearer than it is now, and if the street were asphalted it would prevent the noise from reaching the patients. I think this will have to be done in any case.
2300. Seeing that the street would not be a narrow one, this would not take away from the beauty of the building, especially when it was looked at from the opposite side of the street? I do not think it would in any way take away from the beauty of the building to give up 10 or 12 feet there; but some would complain that it was too near the building line, though that is complained of now. Really it would have no effect upon the working of the hospital.
2301. That is, if the street were asphalted? Yes. There would be really no difference to the comfort of the patients.
2302. Do you think it would be a great improvement to have Macquarie-street widened in that way? I strongly advocate the widening of the street if it can be done.
2303. With regard to the carrying out of the original design, I suppose you are pretty well read in all the modern literature upon hospitals, and know the designs of hospitals in other countries. Can you tell the Committee of any buildings that are already erected, and have been recently erected for hospital purposes, three or four stories high? St. Thomas' Hospital, London, is four stories high—it is the best in London.
2304. But it was built some time ago, was it not? Yes.
2305. When was it built? Twenty years ago, perhaps.
2306. Do you know of any recent erection three or four stories high? I cannot call any particular one to mind, but I have seen several in *The Builder*.\*
2307. Can you, as an architect, see any strong and valid objections to a hospital building being three stories high? I cannot see any. The patient, bed, and everything, is put into a lift, and taken to the highest story, if necessary. There is no inconvenience. The only objection that could be raised is that there may be communication between the wards, but I think there is very little chance of that in such a site. The site is open and breezy, and the hospital is well ventilated, and has windows for an opposite current, and flues in the walls, and I cannot see how there can be any communication between one floor and another. I certainly know of no objection to a four-story hospital, and I think it is all nonsense to say that there is an objection. If there is an objection to four stories, there must be an objection to three, and so it comes down to one story. I say that there can be no objection, because hospitals are kept so remarkably clean as to prevent harm arising. The wards are cut off by lobbies from the landings of staircases by two sets of doorways.
2308. Can you say whether in other structures—leaving hospitals out of consideration—the upper rooms are more unhealthy than the lower rooms. Supposing I was sleeping in a garret, in which there was plenty of air, at the top of a six-story building, would it be less healthily situated than on a ground floor? The illustration hardly applies, because there would be direct communication from the staircase, and a hot roof, but in this hospital there is an enormous roof space, and the wards are well ventilated, and there is no direct communication with the air in the staircases.
2309. Is altitude a disadvantage generally? Some say that it is an advantage—that the higher you go the purer the air. If any of the gases or smells from the lower floors were permitted to go up into an upper floor, it would be objectionable; but that being prevented, it must be an advantage to be high up.

2310.

\* NOTE (on revision):—There are two or three in Edinburgh and Glasgow.

2310. Would the emanations from the ground or second floor be likely to rise in the atmosphere? I do not think so. T. Rowe, Esq.
2311. Would they be lighter than the atmosphere, and so rise? I do not think they would affect the upper stories. All these places are ventilated out through the balconies, taking anything that might arise out to the depth of the balcony, 9 or 10 feet from the walls. 11 Feb., 1891.
2312. These emanations having once gone out by the windows or doors, would they be likely to rise and enter the top story? I do not think so.
2313. If they did, you would consider it a very valid objection to the construction of a hospital here at all? It would be objectionable, but there is nothing objectionable about a hospital ward when it is kept perfectly clean. The nurses in all these places are perfectly healthy, and look as well, if not better, than most other people.
2314. Speaking as a professional man, if you had to draw plans for another hospital, would you recommend that it should have three stories? Yes, or more.
2315. Especially upon a site where the space was limited? I would. If I knew of any alterations that would improve that set of plans, I certainly would distinctly state them to the Committee. I know of no improvements that I could make on these plans, except with regard to sanitary matters, I was going to say; but those arrangements cannot be shown on the plans. I know of no improvement in the arrangement of the hospital, and I should like any one to prove the contrary. It is impossible—though from prejudice, jealousy, or something else, they say that it could be better. I say that this is a perfect set of hospital plans.
2316. When you spoke about the experiment as to the absorbent character of bricks and stone, you did not give the net results; after exposure to the spray for six hours the bricks had, according to your figures, absorbed 2 lb. 6½ oz. of moisture, while the stone had only absorbed 8 oz.;—what kind of bricks were they? Two bricks taken from the building in course of erection at the Government Printing Office—two red pressed bricks. A man was sent down to obtain them.
2317. And from the experiment you learnt that stone is less likely to be damp than brick? That is a correct statement.
2318. So far as the inside is concerned, is it not customary to cover the walls with some kind of cement? In this case it would have to be done. Tiles are really the best—non-absorbent, glazed tiles, or even glass. There are cements—Parian cement and others—that are not absorbing material, which would have to be adopted for the interior walls; something smooth, that could be washed down with ease.
2319. Whether stone or brick were used? Yes.
2320. Mr. Dowel.] In reply to a question by Mr. Copeland just now, you stated that the test which you mentioned was in favour of the stone? Yes.
2321. Is it not a fact that the bricks with which you made the test were not compressed bricks? It was a double-compressed brick. I would not make the experiment with an ordinary stock brick, and I would not say that we are not making possibly better double-compressed bricks now than then. I do not wish to deprecate the use of bricks in any way. This was a practical experiment; but there may be better double-compressed bricks now.
2322. When you sent in your competitive plans, can you remember who was president of the Board of Directors? Dr. Renwick.
2323. Then I supposed you recognised him as a prominent man on the Board, and also, to a certain extent, as its mouthpiece? Yes; and he is an authority, too, on this kind of work. Well, Dr. Renwick, in reply to question 50, says:—"The Board then decided to employ Mr. Rowe as their architect, and from the competitive designs to arrange a new design; of course, for the same cost and under the same conditions as were contained in the original memoranda, and this design the Board understood was to be carried into effect."
2324. Was that so? That is impossible; it is a mistake.
2325. Dr. Garran asked him this question:—"You increased the cost from £45,000 to what?" and to it he replied, "We were not aware at the time that we were increasing the cost, but afterwards, when the stone structure had been commenced, it was explained that the cost of the building would be increased." The minute in the hospital books will prove it. When I was asked the question what stone would cost, no contract had been entered into.
2326. You gave the Committee some answer in reference to this particular question? A resolution was moved by Mr. Josephson. He asked, "What would it cost to build with stone?" and my reply was "From 20 to 25 per cent." I believe it was a resolution of his that was carried at that meeting. No works had then been carried out. Their minute book would prove this.
2327. Would you consider that Mr. Russell was a tolerably competent authority on this particular question? He ought to remember, but he is, of course, the servant of the institution.
2328. In reply to question 324:—"Was it the impression of the Board that the amended designs could be carried out for the proposed original cost?" he said, "Yes." Well, that is absurd.
2329. Then in reply to the next question:—"Was that ever reported to them at any time?" he replied, "It was never reported to them by the architect." Then a further question was put to him:—"Was there not any discussion when it was decided to use stone instead of brick?" to which he replied, "Yes; the architect was asked at a Board meeting if it would cost very much more to build it in stone than if it were built in brick, and the architect said that it would cost more. They asked him how much more—would it cost 15 per cent. more. He dared say it would cost 15 per cent. more"—not 25 per cent., as you state now? I said from 20 to 25 per cent.—that is my experience.
2330. Do you think that the witness represented the impression which you conveyed to the Board of Directors when he said, "They thought that for about £60,000 the buildings could be erected in stone." That was 15 per cent. in addition to what you estimated? I do not know what they thought. I was not asked to give an estimate.
2331. Question 327 is very plain and direct:—"Did they think the whole of the work, according to the present design, could be completed for about £60,000? Yes." The transaction speaks for itself. How could a body of men spend £68,000 on a little more than one-third of the building, and expect the whole work to cost £60,000. It is utter nonsense.
2332. But this was when your designs were first accepted, and brought before the notice of the Directors. There is Dr. Renwick's statement, that he is under the impression that the whole of this work could be carried out for £45,000? Dr. Renwick never expected to have this design carried out for £60,000, when it took an expenditure of £69,000 to carry out a little more than one-third of the building. 2333.

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2333. But at that time no part of the building was erected. I should like to draw your attention to question 357, which was put to Mr. Russell:—"Then the Government gave its sanction to an expenditure of £45,000, and did not know until it was too late that the Committee had committed itself to an expenditure of £210,000? I think that is correct."—did you know anything of that;—can you say that the Government were aware at that particular time that this increased expenditure would be the result of carrying out your plans? I do not know. I only know that when the Stuart Government were in power the Committee went to them for money, and I think I, as their architect, went with them. I had made previous calculations, but I never informed them on any occasion. I had nothing to do with them in the matter.

2334. Then Dr. Renwick is not correct when he states that you informed the Board of Directors that the additional cost for stone would be 15 per cent. on £45,000, making a total of £60,000? No, I never said anything of the kind. He is in error.

2335. And so is the Secretary? Yes.

2336. Did you ever at any time inform the Directors officially that this building was going to cost £210,000? No, certainly not; not until the expenditure of £69,000. There was no estimate made for the completion.

2337. But in an informal manner, when the foundation stone was being laid, you told one of the Directors that the cost would be £210,000? Yes, I did; in the presence of a witness.

2338. Did you at any time have any conversation with the Government officials to give them information as to the cost of this building? I do not remember. I went round the building with Mr. Barnett on one occasion, but I think that had nothing to do with the outlay. I think it was to see whether the building could be converted into something else.

2339. Are you not aware that during the time the plans were under consideration they were submitted to the Government for inspection and approval before the Government would commit themselves to this expenditure;—did you have any conversation with any architects with reference to this matter? I think a set of the plans were sent to the Colonial Architect on behalf of the Government.

2340. And they were approved of by the Government previous to the expense being incurred? Yes, I think that is correct.

2341. But at that time you had not submitted this estimate of the total cost of the completion of the work? No, I was never asked. The Colonial Architect must have reported to the Government, I presume. I cannot tell whether he approved of the plans, but I presume he did.

2342. *Mr. Copeland.*] There is nothing to show that he did not approve of them? Not that I know of.

2343. *Mr. Dowel.*] At that time had any discussion arisen as regards the additional cost of the buildings through the alteration of the designs? Certainly not.

2344. No discussion had arisen? None whatever.

2345. The evidence of Dr. Renwick and Mr. Russell was correct when they said that £15,000 was the amount that you were limited to as regards the cost of construction? You are now going back to the original plans.

2346. No; I am referring to a statement of Dr. Renwick, who said that the Board employed you to arrange a new design, of course, for the same cost and under the same conditions as obtained under the original memoranda, and this design was to be carried into effect? That is utterly impossible. How could I put in sixty or seventy more beds, and build in stone, for the original amount. The doctor is wrong.

2347. *Mr. Garrard.*] With regard to the memorandum of outlay furnished by you, the item "excavation, £2,194 15s.," is for the whole building—the incomplete portion as well as the portion that has been completed? That is for levelling the surface, to make a level plateau upon which to start the building.

2348. What you call the north, south, and east pavilions, and the centre administrative building, besides the laundry and other places? No; not the laundry and kitchen. Many years ago it was thought that that site was impregnated with disease, and some of the doctors suggested cropping it. I cropped it by taking away thousands of loads, and levelling it down, preparing for this new erection.

2349. The excavation, kitchen premises, and laundry and engine department cost £14,700 odd? Yes.

2350. That department is actually complete? Yes. The kitchen means kitchen, scullery, pantry, and servants' room; but it has been reported in Parliament that the kitchen itself cost £16,000.\*

2351. Then the first story of the three pavilions and the administrative building cost £25,642 9s. 6d.? Yes.

2352. The next story over that cost £23,701 6s. 6d., or, in other words, £1,941 less? Yes; but then there are £463 for sundries.

2353. Is that a charge against the second story? I think so.

2354. Well, at any rate, the second story cost something like £1,500 less than the first? Yes.

2355. Going by that, what would it cost to carry up the building another story higher? I think you have the estimate before you;—£56,000 to build another story and complete the whole.

2356. But I want from you an approximate estimate of what the third story would cost? I do not know.

2357. There is £1,500 difference between the cost of the first and second story? You are speaking of the masonry only?

2358. Just what you have already done? If you take £23,000 for the cost of the second story, the next story would be somewhat like that.

2359. I find that there is a difference of £1,500 between the cost of the first and second story? That is accounted for because of the massive foundations, broad footings, and larger masonry used in the first story.

2360. I understand that; but I want to get at the probable cost of the stonework of the third story? I should say £23,000 or £24,000, and the second story would cost £24,000 if the £463 were chargeable to it.

2361. Now, what will it cost approximately to add one story more to the administrative building only—about one-fourth of that? Well, I do not think that you are far off.

2362. Say £6,000? That would be about a reasonable thing. You could not put it at one-third, because there is not so much in the middle as there is at the wings.

2363. Am I right in saying about £6,000? I think so.

2364. Now can you give me any idea of the cost of roofing in the whole of these buildings, including the administrative block? No; I could do that at my office; but I could not do it here. I have the whole of the roofing taken out in squares at the office, and the whole of the detail estimated.

2365. You would not like to give me an approximate idea now? I could not answer the question.

2366. Would I be safe in assuming £5,000? That would not do it.

2367.

\* NOTE (on revision):—Its actual cost was £6,793 3s. 10d.

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2367. Can you give me any idea of the probable cost of the internal fittings of these three pavilions, and of the administrative buildings, for three stories and for four? I could not take them out in that way.

2368. You have some idea, I presume? I have no desire to speak roughly. I can vouch for the correctness of the estimates which I have given on paper at the request of the Committee; but to go into another kind of estimate now without figures before me, would be an exceedingly dangerous thing.

2369. Is there not some rough proportion between the cost of the internal fittings of a building when the roof is on, and the cost of the building itself? No; you must take out the quantities, and a great deal depends upon the quality of the fittings. You must take them out in detail.

2370. I suppose the internal fittings of a hospital would not cost as much in proportion as the internal fittings of an ordinary building? In a large ward there are not so many doors, but there are more windows. The administrative part is merely a residence. The hospital walls would have to be tiled or finished in some other expensive way.

2371. What is the height of the ground above the ground floor in front—what is that floor below the street level? Not more than 4 or 5 feet, I think.

2372. How high is the floor of the eastern pavilion above the ground? I think it will average about 3 feet or 3 feet 6 inches. There is ample space to get underneath.

2373. Roughly, the rear portion of the north and south pavilions being 5 feet below the level of the ground at the front, would be about level with it at the back? No; it would be about 3 feet 6 inches above it at the back.

2374. Some witnesses have spoken of that floor, owing to its being below the ground level in front, as a basement, while on your plans it is called the ground floor. I suppose that is a matter of taste? No; this is not a basement, it is a ground floor.

2375. A basement would be a floor below the ground level all round, more or less? Yes.

2376. Where it is only below the ground level in front and above at the rear, you term it a ground floor? Yes.

2377. It is proposed that the ground floor of the northern pavilion should be a casualty ward. Has there ever been any objection by the hospital authorities to its use as a ward? I have never heard of any.

2378. Do you think it undesirable that a room partially below the ground level should be used as a ward? I see no objection for a casualty ward, if it is well ventilated underneath. I described to the Committee just now that there are openings under every window. A man can walk about there almost. It is concreted and asphalted below the floor.

2379. Is it intended to slope the ground down from the street level to the front of the building, or will you only leave a space immediately in front for light? It is intended to level the present surface as low as we can, to admit all the light and air possible into the ground floor.\*

2380. Supposing the medical fraternity thought it undesirable to use that room as a ward, it would only deprive the hospital of sixteen beds? Yes.

2381. Do you think there can be any objection to using the ground floor of the first eastern pavilion as a ward? Certainly not.

2382. That floor would be 3 feet 6 inches above the ground level? Considerably more; the ground slopes away.

2383. It is well ventilated underneath? Certainly; there are large openings under each window on each side, so that a current of air can go through and through.

2384. If the building were erected on the modified scale, it would give us on the ground floor a casualty ward containing sixteen beds, and the eastern pavilion ward also containing sixteen beds; on the first floor of the north and south pavilions forty beds, twenty in each; and in the eastern pavilion sixteen beds; and on the second floor a similar number of beds? Yes.

2385. Do you know the number of beds in the present south ward? I do not know the exact number.

2386. Would there be any serious objection to retaining that ward—I understand that it is in good preservation? Inside it is not bad, but it would want a lot of doing up, and, if it remained, it would materially affect the completeness of the building, because the kitchens are driven close up to it. We should never have thought of putting them there if it had not been intended to remove that wing.

2387. The new building would give us 144 beds, and there would be seventy-eight beds in the existing south ward? Yes.

2388. That would be forty-eight beds for surgical cases and 174 for medical cases? Where the southern wing stands it was intended to put up an infectious diseases ward, a pathological museum, and other buildings.

2389. That is not in the project before us? It is, if you complete the whole buildings; but, if you only complete a portion, of course it is not.

2390. What will it cost to remove the present temporary wooden building? It would not cost much. Anyone would take it down for the material, I think.

2491. *Mr. Humphery.*] In the original design the administrative block showed one story less than in the present design? Yes; but because of the number of young doctors likely to study there it was necessary to increase the accommodation.

2392. If, in the original design, the administrative block was one story less than it is in this design, in what way would the diminishing of the present buildings spoil their design? To lessen the side wards would spoil the design.

2393. Is there any reason why the administrative block should not now be four stories instead of five? I had no reason for making it five, but I think it was necessary to provide accommodation for the number of young doctors likely to go there to walk the hospital. There were not sufficient beds to accommodate them.

2394. As far as the design is concerned, did not that, in your opinion, injure the appearance of the elevation? No, I do not think so much of that. That part would better bear reducing than the ward buildings.

2395. It will simply be restoring the building to the original design? No; I do not say that.

2396. It will simply be reducing the administrative block to what it was in the original plan? Yes.

2397. Would not the south and north pavilions bear reducing by one story if the design of the roof were altered? The design of the roof is altered in the sketch before the Committee.

2398. Could it not be altered so that the whole of the buildings would be in harmony? You have massive foundations and wards' walls that would bear another story, and it would be a very great sacrifice to lose that story.

2399.

\* NOTE (on revision):—The dwarf wall supporting the bank will be 15 feet away from main wall of ward there will be no obstruction of light whatever, being only 4 feet high, more or less.

T. Rowe, Esq. 2399. Leaving out of sight the thickness of the walls, could not the design be reduced by one story without destroying the harmony of the block? In my opinion it is not desirable; but others may think that it would not affect it. I myself prefer the higher building, though, in one sense, it does not matter to me what is done.

11 Feb., 1891.

TUESDAY, 17 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. FREDERICK THOMAS HUMPHERY.	HENRY COPELAND, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	JAMES EDENEZER TONKIN, Esq.
The Hon. GEORGE HENRY COX.	EDWARD WILLIAM O'SULLIVAN, Esq.
JACOB GARRARD, Esq.	CHARLES ALFRED LEE, Esq.
JAMES PATRICK GARVAN, Esq.	

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

Walter Liberty Vernon, Esq., Government Architect, sworn, and further examined:—

W. L. Vernon, Esq. 2400. *Mr. Garvan.*] Do you know the site of the Sydney Hospital, in Macquarie-street? Yes.  
 2401. You know the buildings which are upon it at present? I have not been through them.  
 2402. Do you know them sufficiently well to speak with any degree of definiteness? No, I do not.  
 2403. Unless you know the place well it will be of little use me asking the question I wish to ask;—I wish to ascertain from you, as an architect of undoubted eminence in the city, what your opinion is as to what is best to be done with these buildings in view of the instructions given to this Committee;—have you ever been over the place? No; I have seen it from the street and from the Domain.  
 2404. *Mr. Garvan* suggested that the witness be invited to examine the buildings.  
 2405. *Chairman.*] Supposing the Committee came to the conclusion that it would be desirable to remove the present structure back for some distance, to fall in with your project of widening the street,—could you give us some idea of the approximate cost of the removal of the building? In its present form?  
 2406. Yes? I could arrive at it approximately.  
 2407. *Mr. Copeland.*] In forming your estimate you would take into consideration the fact that the stone could be used again? Undoubtedly.  
 2408. Supposing you were to make Macquarie-street 120 feet wide, would that allow space enough on the hospital grounds to re-erect the hospital buildings, according to the present design? I will look and see. I could not tell you now.

17 Feb., 1891.

WEDNESDAY, 18 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.	HENRY COPELAND, Esq.
The Hon. FREDERICK THOMAS HUMPHERY.	EDWARD WILLIAM O'SULLIVAN, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	CHARLES ALFRED LEE, Esq.
The Hon. GEORGE HENRY COX.	WILLIAM MCCOURT, Esq.
JACOB GARRARD, Esq.	JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

Louis Ralston Huxtable, Esq., M.B., Mast. Surg., Hon. Physician, Sydney Hospital, sworn, and examined:—

L. R. Huxtable, Esq., M.B. 2409. *Chairman.*] What is your position in the Sydney Hospital? I am an Honorary Physician to the Sydney Hospital.  
 2410. How long have you been in that capacity? About twelve months.  
 2411. Have you been very long in the colony? I have been a resident here for upwards of three years.  
 2412. You naturally take a considerable interest in the hospital accommodation and requirements? A great amount of interest. I may say that I attended to submit to you, on behalf of the Honorary Medical Staff of the Sydney Hospital, a statement which the staff has drawn up of its views on the question of the completion of the hospital, which statement I should like to read to the Committee.  
 2413. Who are the medical men by whom the pamphlet has been drawn up? Dr. Tarrant, Dr. Brady, Dr. Goode, Dr. Chambers, Dr. Ellis, Dr. T. Dixon, Dr. Munro, Dr. Odillo Maher, Dr. Thomas Evans, Dr. Worrall, Dr. Wilkinson, Dr. Pickburn, Dr. Rennie, and myself. There is one member of the medical staff whose signature and approbation has not been as yet secured, owing to his not having been present at the meetings of the staff at which the statement was prepared.  
 2414. *Mr. Cox.*] Who is the other doctor? Dr. O'Connor.  
 2415. *Chairman.*] Will you be good enough to read the statement? (*Witness read the following statement*):—

To the Chairman and Members of the Parliamentary Standing Committee on Public Works.

Gentlemen,

We, the members of the Honorary Medical and Surgical Staff of the Sydney Hospital, beg respectfully to submit to your Committee the following statement of the opinion which we entertain upon the question of the completion of the hospital, together with a number of important facts relating to that question, upon which facts our opinion is based.

In order to place the matter before the Committee as concisely as possible, it will be well to state briefly the opinion we have arrived at, and to add thereto the considerations upon which it is based. We are, then, of opinion that the Sydney Hospital should be completed upon the plan, or some modification of the plan, of the present unfinished building, and that it should be designed ultimately to accommodate 300 patients, or thereabouts. The considerations upon which these opinions are based are as follows, namely:—

- I. The demand for hospital accommodation, as shown by the statistics of the hospital to the present time.
- II. The nature of that demand.
- III. The estimated increased demand for hospital accommodation in the future.
- IV. The site of the hospital.
- V. The nature of the building which it is proposed to erect.

As the Committee are aware, the accommodation at the Sydney Hospital is at present as follows:—

In Macquarie-street .....	224 beds
In the Ophthalmic Branch at Miller's Point.....	60 "

Total..... 290 and

For the sake of convenience in compiling statistics, it has been the practice hitherto to include all patients treated by the hospital in one return. The number of patients treated in the Macquarie-street Buildings may, therefore, be accurately arrived at by subtracting from the gross numbers those treated at Miller's Point, namely, for 1889, 362 cases, and for 1890, 364 cases, the approximate number of inmates daily being 50.

In the year 1889 3,296 cases were treated in hospital, and allowing each case a residence of thirty days—which would be about a fair average, the average residence in English hospitals being thirty-one days (Mulhall)—274 or 275 beds would be required to provide for this number of patients. To this should be added, as has been found necessary in all general hospitals, a provision of 10 per cent. of beds occupied: for temporarily occupied beds, cleaning, &c., say twenty-seven beds, making a total of 302.

In the following year, 1890, there were under treatment in the hospital during the year 3,416, which, on similar calculations, would show a necessity for 284 beds which, with the 10 per cent. addition explained above, would amount to 312 beds in all.

As may be seen, however, by referring to the statistics of the hospital, the average duration of stay during the last two years has fallen considerably below thirty days, being for 1889, twenty-seven days, and for 1890, twenty-five days.

This diminution in the average stay of the patients serves to mark the fact that they have been discharged at a very early period, perhaps in some cases earlier than the medical staff would have considered wise or safe, a course of action which is, however, imperative with the present accommodation in order to make room for new urgent cases.

As special mention has been made by witnesses before the Public Works Committee of three classes of cases treated, namely the Lock, Gynaecological, and Ophthalmic cases, we wish to place the following considerations before the Committee.

Accommodation is at present afforded for twenty Lock patients, male and female. It will be conceded that it is desirable not to treat this class of case in general wards. Unless, however, some provision is made for treating urgent cases among these unfortunate persons, great suffering in many, and undoubtedly death in some, would be the result. Every medical man is acquainted with the urgent nature of some of these cases, and the high surgical skill required to treat and operate on them. These remarks are quite as applicable to the Gynaecological cases.

It seems, therefore, to the staff of this hospital that some accommodation for these cases is absolutely necessary, and as a matter of experience it is found that the very limited accommodation at present provided for these two classes of cases is insufficient to meet the demand made upon it.

With regard to the Ophthalmic cases, the majority of them cannot be looked on as urgent ones.

A small number are, however, extremely urgent, if an attempt is to be made to save sight of injured or, in some cases, diseased eyes.

Deducting, however, the number of beds provided in the Ophthalmic Department from the total requirements under average condition, as shown above, viz., 312, we find that a total of 246 beds are immediately required for absolutely urgent cases at the Macquarie-street site.

It is true that up to the present time the rapidly increasing demand has been met by the 224 beds available in Macquarie-street, in the manner shown above. But the reduction of the period of residence in hospital to so low an average as twenty-five days, cannot be regarded as satisfactory, nor in many cases as justifiable.

As shown above, there was an increase of demand between the years 1889 and 1890 of 120 cases, and it is clear that this increasing pressure cannot much longer be met by any temporary expedients.

Having thus shown the demand which exists for increased accommodation, we desire to consider.

#### II.—The Nature of that Demand.

The opinion has been repeatedly expressed that a large number of the patients admitted to the Sydney Hospital are cases which are not urgent and might be treated in a hospital situated at a distance from the city, as well or better than in this hospital. Now we, the members of the staff wish emphatically to dissent from this opinion, and to state that to our personal knowledge cases admitted to the Macquarie-street Hospital are invariable cases of urgency, and that in very few instances could any of them be removed to a more distant hospital; in fact, that as the hospital is at present administered it is emphatically an emergency hospital.

Sir Alf. Roberts, in his evidence on this subject before the Committee, has stated that, in his opinion, during 1889 only 1,116 of the cases admitted to the Sydney Hospital could be considered as urgent ones, and that the remaining 2,180 were of the nature noted above, that is to say not urgent. In support of this statement, he handed in an extract from that year's published statistics, with notes appended to show how he arrived at this result.

Upon referring to these, it will be seen that Sir A. Roberts takes the cases of injury and poisoning, amounting to 873, and to these adds 10 per cent. of the other cases, that is to say 10 per cent. of 2,423, viz., 243, to arrive at the number mentioned above.

Now, the number of deaths occurring among inmates of the hospital in that year was 282; of these from injury and poisoning died sixty; leaving a balance of 222 deaths among that class of cases of which Sir A. Roberts estimates that only 243 were really eligible as cases of emergency; that is to say, either Sir A. Roberts is of opinion that only cases in an absolutely moribund condition are to be regarded as cases of emergency, or he must have made an error in his calculations so egregious as to invalidate altogether the deductions made from them, for even to a layman it must be obvious that a very large proportion of cases over and above those in this extreme condition must occur as genuine cases of emergency, demanding immediate admission to hospital.

Sir Alfred Roberts, moreover, stated in his evidence that no report as to the result of the cases treated appeared in the Medical Superintendent's report, from which he drew his information. As a matter of fact, the result of every case treated, and of every operation performed, is contained in that report, and is as full and as complete as is the report of any other hospital in any part of the world.

Further, with respect to the class of people by whom this institution is used. Some light may be thrown upon this question by taking note of the amount received from paying patients as compared with the returns from other hospitals. In the year 1889 this amount was £1,445.

During the same year the amount received from patients in the Prince Alfred Hospital was £3,881, and in St. Vincent £2,991. And here it should be noted that in every case admitted to the hospital a strict examination of the circumstances of the patients is made, and payment demanded and secured whenever practicable.

It will thus be seen that the Sydney Hospital is more largely devoted to the use of the absolutely destitute sick than either of the kindred institutions alluded to here.

#### III.—The estimated Increased Demand in the future.

The constantly increasing demand for hospital accommodation, which proceeds *pari passu* with increasing population, has hitherto been met by the whole of the Metropolitan Hospitals, namely, the Sydney Hospital, the Prince Alfred Hospital, and the St. Vincent, together with accommodation for certain classes of cases at the Coast Hospital, Little Bay. The last named must, on account of its remote position, always be restricted in its use. Of the others, the limit of accommodation possible on the sites occupied by them respectively is already almost reached in two, namely, by the Sydney Hospital and St. Vincent. There remains, then, the Prince Alfred Hospital with scope sufficient for very considerable extension, and upon this institution will necessarily fall the onus of providing for the increase which must take place in the future. The hospital accommodation at present provided in general Hospitals within the Sydney Metropolitan area is as follows:—Balmain Cottage, 8; North Shore Cottage, 12; Little Bay, 272; Parramatta, 23; Prince Alfred, 224; St. Vincent, 133; Sydney Hospital, 290; total, 962 beds for a population of 400,000. Now, the increase of population in Sydney during the past decade has amounted to 157,509, and it is estimated by the Government Statistical Department that the population in the year 1900 will amount "to from 550,000 to 600,000."

The proportion of beds available at present to population is one to 415, as may be seen from the figures given above, and upon this basis we may safely conclude that we shall require to provide, within the next ten years, from 363 to 483 additional beds. This demand will have to be met, as has been shown, by the Prince Alfred Hospital, or by the construction of some other general hospital, and it is therefore clear that the site of the Sydney Hospital being dedicated to hospital purposes, and being suitable for the purpose, should, if only from the economic point of view, be utilised at once to its fullest capacity. For it is plain that we are within measurable distance of a time when, even having made the fullest possible use of the means at our present disposal, we shall have to look outside those means to meet the demand of the near future.

IV.—The Site of the Hospital.

L. R.  
Huxtable,  
Esq., M.B.  
18 Feb, 1891.

The area of the site is 2 acres 3 roods 19 perches, or almost 3 acres. English authorities on hospital construction are agreed that 100 beds to the acre may be allowed as a fair average under average conditions. The Sydney Hospital site is therefore capable of carrying 300 beds, or close upon it.

Little remains to be said as to the eligibility of the site, for the reason that with respect to it there can be but one opinion, namely, that whether regard be had to its central position, its elevation and exposure, its soil and surroundings, it is in every way a site which, for hospital purposes, it would be difficult anywhere to equal, and impossible to excel.

The site occupies a slight eminence, the fall being towards the Domain and the city. It is bounded on one side by our largest city park, and is separated only by the Mint from the wide expanse of Hyde Park and its annexes. On either side of it stand public buildings, and from these facts and the fact that between it and the quarter from which our prevailing winds, north-east, come, there stand nothing but wood and water, it is not too much to say that for hospital purposes the site is an ideal one. The only objection, in fact, that has ever been raised to it, even by the most positive opponents of the hospital, has been that it is too good, that is to say, too valuable a site for the purpose. In addition to the purely sanitary aspect of the site, there must be taken into consideration its central position, a point, in many ways, of the utmost importance with respect to the work done by this hospital.

Within a few hundred yards of it lies densely populated Woolloomooloo, and, extending from this, Paddington and Surry Hills, of equally dense population, and all of them of the class from which hospital patients are drawn, no part of either being too remote to be effectively served by the hospital. The Darling Harbour district, of a character similar to the foregoing, lies within half a mile of the hospital to the west, and it would be impossible to have a hospital more advantageously placed with respect to the great wharves of the city, a never-failing and ever-increasing source of cases of accident and urgency.

V.—The Character of the Proposed Building.

Much of the opposition to the completion of the hospital has been based upon an impression, which has gained with the public some degree of currency, to the effect that the plans of the buildings now standing unfinished provide for a hospital which would be unsuitable for hospital purposes, and that they are in every way bad plans; and further, that they are generally recognised to be so, and generally condemned by the members of the medical profession.

The staff of the hospital desire to place on record their strong protest against this impression, inasmuch as, from their personal knowledge, it is not in accordance with facts. For themselves, as well as for a large majority of the medical profession, they are in a position to state emphatically that the plans are by no means to be regarded in the unfavourable way noted above. In the design of the hospital all the essentials of hospital construction have been rigidly adhered to. The building is designed on the pavilion system, now universally acknowledged to be the best system hitherto adopted; the wards are well proportioned (an average cubic space of upwards of 1,700 feet to each bed has been, with extra space where demanded by infectious wards, &c., provided for); due provision has been made for excellent lighting and ventilation; the sanitary arrangements are admirable throughout, the wards and the pavilions are so disposed with respect to one another as to give the best possible opportunity of economic and efficient administration; and the plan provides for a hospital complete in every department. The arrangement of beds in the wards is the best arrangement known, each bed being placed between two windows. This is so throughout all the pavilions, and is only noted here because it has been stated to the Committee that the beds are not, and cannot, on account of the design of the ward, be so arranged.

These are briefly the salient facts of the case with regard to the plans.

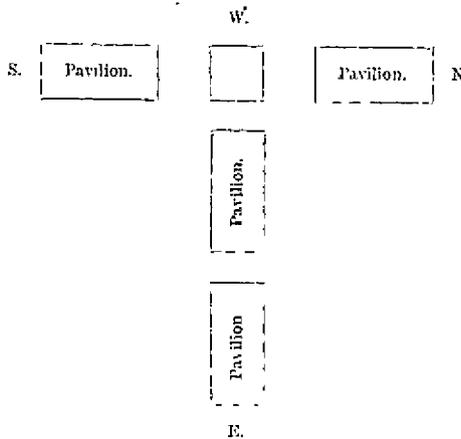
Now, by those who have adversely criticised these plans, two objections to them have been raised:—

1st. The fact that the pavilions run north and south instead of east and west.

2nd. The fact that the height of the pavilions is four stories.

In the opinion of the staff the first of these objections is altogether invalid, and the second, if admitted to have weight elsewhere, does not apply in the conditions obtaining here.

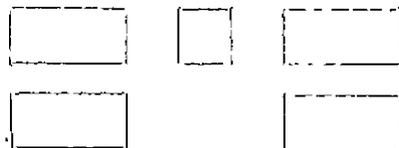
The facts with regard to the disposition of the pavilions are these: Two of them front Macquarie-street, and face, therefore, east and west. The others stand at right angles to the foregoing and face north and south. The buildings are therefore arranged in T form, and it should be specially noted that the stem of the T abuts from the horizontal portion, opposite the central administrative block, and not opposite either one of the first-named pavilions, thus:—



The ideal disposition of hospital buildings under average conditions is, that they should run north and south, and face east and west, the advantage of such position being that the sun's rays may thus be daily distributed as equally as possible on both faces of the buildings. Certain local conditions may render a modification of this arrangement necessary in individual cases, and among these most important is the question of prevailing winds in localities where the climatic conditions are extreme or severe. In our climate, and on this site, such modification is unnecessary, the only wind from which it is at any time necessary to protect being the cold westerly wind of winter, which prevails only for from ten to twelve weeks during the year, and is very intermittent, which, as compared with the biting easterly wind of England and Scotland, is of a very mild character, and from which an efficient protection is afforded by the lofty buildings of the opposite side of Macquarie-street.

But, as has been stated above, the remaining two pavilions face north and south, which on the facts given above may be argued not to be the best possible arrangement. This might be at once granted were there no other factors to be considered. But, taking the whole of the facts into consideration, the proposed building will be found to be admirably arranged for, had the last-named pavilions been placed parallel with the first, and so facing west and east, the free access of light and air, and the outlook must have been interfered with in a way which is impossible under the present plans, and which would have far outweighed any possible advantage to be gained from the east and west aspect. And the staff would again direct special attention to the first diagram given, in which it is shown that the two latter pavilions do not abut upon any portion of the east and west pavilions, but only approach the administrative part of that building, whereas had the north and south pavilions been placed parallel to the others they must have approached them more or less nearly throughout the whole length, as shown in the second diagram.

Diagram II.



With

With respect to the second objection to the present plans, the height (four stories) of the pavilions, the staff would, in the first place, point out that the objection had very special weight in days in which the enormous advantages of lifts or elevators were unknown. Since the introduction of these appliances, with which all the pavilions of the hospital as planned are to be provided, more than half the force of this objection to buildings of the contemplated height has been removed, the conveyance of patients and stores from floor to floor being made an easier, and, in the case of patients, a less irksome matter than the travelling through very lengthy corridors. As far as economy of administration goes, the arrangement in four stories has a decided advantage over any less height, as far as the transport of patients is concerned it has an advantage, and there remains only the purely sanitary aspect of the question. It must at once be granted that to crowd very lofty buildings on a restricted area would be an unwise course to pursue, since such an arrangement must interfere more or less with access of free light and moving air, two most important elements of health. It is for instance obvious that to surround a relatively small quadrangle with lofty buildings so as to create a pool of stagnant air and to interfere with the admittance of sunlight would be a serious error. This would be especially true in a climate damp and comparatively sunless, and in a closely pent city site.

But these objections do not in any wise apply to the plan of the Sydney Hospital, which has been so arranged that each pavilion is completely free and open on both sides, and they still less apply in a climate where, as in ours, the amount of sunlight during the year is so great.

It may be here pointed out that some of the largest and most important, and one at least of the newest London hospitals have been built of *at least* this height without any ill consequences in a climate where the degree of sunlight is perhaps one-fourth of that which we enjoy. St. Thomas', St. George's, St. Bartholomew's, and the London are all of them of four, and, here and there, of five stories.

In conclusion of this part of the subject, the staff would remark that they should have felt it unnecessary to enter so fully into this matter of the character of the building, had it not been that a large amount of misapprehension has been in vogue with respect to the building, and that a feeling has apparently obtained with the public to the effect that the building planned is in some way hopelessly and utterly unsuited for hospital purposes, and that to complete it would be only to perpetuate an error. The staff believe that they have shown, on the contrary, that the buildings, if completed as planned, would provide an admirable and complete modern hospital, which would be of lasting benefit to the community for which it is intended. Apart from their own personal knowledge of the state of medical opinion on this subject, the staff would direct attention to the fact that, at a special and largely attended meeting of the British Medical Association some months ago, a resolution embodying that opinion was passed unanimously.

One more point under this head may be regarded as having special significance. The present temporary buildings have consisted of pavilions running both north and south and east and west. They have been pavilions in every way inferior to those which would be provided in the new building. Nevertheless, for some years past, the results obtained in both surgical and medical cases have been all that could be desired.

The impression which at one time obtained among members of the medical profession in Sydney, that the east and west frontage was a disadvantageous one, originated at a time when the Sydney Hospital, which fronted east and west, was the only one existing here, and when the bad results, which were frequent in it, were due to an extremely defective sanitary condition, when, in fact, patients were lying above, and operations were performed over what was afterwards proved to be a large collection of sewage matter. In ignorance of this condition of affairs, many causes were assigned, and among them the western aspect, for the bad results obtained.

#### *General Considerations.*

Of these, there are some which, while of considerable importance, appear to the staff to be not of vital importance, and, moreover, to involve issues which may be regarded as being somewhat outside their special province. Such is the purely æsthetic aspect of the matter, namely, the question of the completion of the building on a plan which shall be not only a thoroughly well equipped and useful hospital, but at the same time a building architecturally worthy of this great city and of this noble site. The question has, however, its utilitarian as well as its æsthetic side.

Want of popular interest in our public charities is one which is keenly felt by all who have to do with their administration. The difficulty of rousing that interest is shown by our scanty subscription lists as compared with the number of our well-to-do population. The causes of this want of interest are no doubt complicated, and the correction of it must be a matter of time and of education in the duty of the public with respect to our charities. But one thing is true of our people here, as it is true of people elsewhere, *viz.* that their interest is much more readily roused and held by an institution occupying a conspicuous site and housed in a handsome building, than by one of mean proportions and remote position. It is not too much to hope that by completing a structure of which the citizens, as such, might be proud, the increase of subscriptions may be a very substantial aid to its maintenance in the future.

To illustrate the force and truth of the foregoing we may draw attention to the fact that the amount of subscription to the Sydney Hospital has considerably decreased of late. It cannot but detract from public sympathy with the hospital that its Patron, Lord Carrington, should have strongly and publicly expressed his disapprobation of the condition of the hospital buildings, but it must be acknowledged that such criticism is not only permissible but is demanded by the present state of affairs, and it is clearly impossible to regain lost sympathy except by removing the cause of dissatisfaction and distrust. There are notoriously many citizens, as may be seen by the statement of our collector, who decline to subscribe to a hospital which they properly regard as being at any moment a possible scene of dreadful disaster. We cannot deny that were the hospital to take fire a terrible loss of life must inevitably occur, and the near possibility of such a calamity was strikingly shown by the recent great fire in the city.

But there is a consideration which may with propriety be discussed here, and on which the staff feel that they may be permitted to express a strong opinion, falling as it does within their special province. It is a truth, universally accepted as such by all those whose practical experience of hospital work entitle them to form an opinion upon the subject, that the work of a general hospital of large size is never carried out to the best possible effect unless students are attached to and work in it. Were it necessary to support this statement by authorities it could not, perhaps, be done more weightily than by quoting the words of Sir James Paget, whose utterances on this matter are entitled to the greatest respect. Speaking of the opening of the new Liverpool Hospital a few weeks ago, he said, "But with that hospital, admirable as it is, great as is the good it may do, I should like to say I believe it will be very imperfect unless the means of science teaching and of the whole teaching of medicine in the school be quite equivalent to it. The best working of a hospital of that magnitude, and of any place like it, is that there should be a medical school of high equal order with it. I doubt very much whether one good man in a hundred would do the best he possibly could in any one hospital of large size, unless he were a teacher at the same time—unless there were pupils around him, not only for him to have the satisfaction of teaching, but for him to be conscious that they are watching, and carefully estimating, and sometimes not unkindly criticising his work. It increases his sense of responsibility and his desire for repute, and the zeal for which everyone works, if he is conscious of being watched and praised or blamed by those who are competent to judge of him, and who are educated up to the full capacity of doing so perfectly; and this can only be when a medical school of the highest level is combined with a hospital such as this will be." And Sir A. Roberts, in his evidence before the Committee, states: "It is practically known to be an advantage to the patients to be in a hospital with a medical school attached to it."

It cannot, therefore, be regarded in the light of a reflection upon the manner in which the staff of any hospital discharge their duties to say that no matter how well that work may be done in the absence of students it will be better done with their aid, and the staff of the Sydney Hospital feel very strongly that the work of that hospital will never be done to the best possible advantage until the teaching of students within the hospital be made possible by the provision of suitable accommodation. For years past such use of the hospital has been out of the question. Several years ago the Senate of the University approached the Sydney Hospital authorities on this matter, and it is well known that up to the present time the amount of clinical material available at Prince Alfred Hospital is insufficient to meet the demand for teaching purposes. By providing a hospital in which it might be possible to make use of the valuable teaching material which is already in every other way available, but which now is utterly wasted, a double benefit would accrue, namely, a distinct advantage to the hospital and its patients, and a much-needed addition to the opportunities of clinical training now enjoyed by the students of the University.

One more point must be noted here, though the desire of the staff to avoid unnecessary length prevents their entering fully into the matter. A department of the hospital of the utmost importance to the sick poor, *viz.* the out-patient one, is at present carried on in the temporary shed in the Domain. This department consists of Eye, Ear, Nose, and Throat, and Gynecological branches, under members of the Honorary Medical Staff, and departments for general diseases under the District

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District Surgeons and Resident Medical Staff. In these various branches 14,204 new patients were treated last year. To these patients it was a matter of great moment that they should be able to have medical advice at so central an institution as the Sydney Hospital, instead of being compelled to travel to an institution in one of the suburbs. Should the hospital be deprived of the use of the temporary building, this large section of the public would at once be compelled to go without medical advice, or to go to the expense and loss of time of travelling to a more distant institution, there being no other place in the present building where they could be attended to.

Many a case of disease thus early and efficiently treated is arrested, the sufferer spared a long and grave illness, and the hospital the necessity for providing in-door accommodation and attention.

In respectfully submitting to your Committee the foregoing statement, the staff of the hospital desire to recapitulate the points which they have endeavoured to prove in support of their opinion as to the necessity for the completion of the Sydney Hospital:—

- I. They have shown the urgent need for increased and improved accommodation.
- II. They have shown the class of persons, namely, the absolutely indigent poor, by whom the hospital is almost exclusively used.
- III. They have estimated the probable increase of demand in the near future, and shown that in view of it, the utmost capacity of the Sydney Hospital site will soon be demanded for use.
- IV. They have shown that the site of the hospital, as a city hospital, is in every way most eligible.
- V. Finally, they have shown that the proposed building, if completed, will provide a perfect modern hospital.

In conclusion, the staff of the hospital desire that the facts and figures contained in their statement may be strictly investigated, feeling sure that the position they have taken up will be, by such investigation, fully corroborated.

HARMAN J. TARRANT, Chairman Medical Committee, Hony. Surgeon, Sydney Hospital, since 1880.

MAURICE J. O'CONNOR, Honorary Surgeon.

A. WATSON MUNRO, Hon. Physician.

THOMAS DIXSON, Hon. Physician.

W. H. GOODE, M.D., Hon. Surgeon to the Sydney Hospital, late Honorary Surgeon, for six years, to the Prince Alfred Hospital.

GEORGE E. RENNIE, M.D., Honorary Pathologist.

W. CAMAC WILKINSON, M.D., late Hon. Phys., now Phys. to Ear and Throat Dept.

W. ODILLO MAHER, M.D., Honorary Ophthalmic Surgeon.

A. J. BRADY, Hon. Surgeon, Ear, Nose and Throat Department, connected with Medical Staff of Sydney Hospital since 1874.

THOMAS PICKBURN, M.D., Hon. Physician, Sydney Hospital.

HENRY A. ELLIS, Hon. Surgeon.

T. CHAMBERS, Physician to the Department for Women.

RALEIGH WORKALL, Hon. Assist. Surgeon to the Department for Women.

THOMAS EVANS, Ophthalmic Surgeon, since 1882, formerly Ophthalmic Surgeon to the Prince Alfred Hospital for six years.

L. RAISTON HUXTABLE, Honorary Physician.

I should like to state that I will be able to forward to the Committee to-morrow a corrected copy of this statement, along with the signatures of the honorary medical staff attached.

2416. Then the copy which you have read is not signed? It is not.

2417. *Mr. Garrard.*] Objection has been taken to placing patients on the ground floor (some people call it the basement)—that is, the lower floor, in the northern pavilion; do you think there is any serious objection to persons being placed in that portion of the building? I do not see how there can be any possible objection; the floor is not a basement floor; it is strictly a ground floor. Underneath it there is an open space, freely ventilated from side to side; between each of the windows there are manholes, and the space below the ward is to be concreted all over, so that there will be free access of light and air.

2418. But, as a matter of fact, the floor level will be considerably lower than the level of the street in the front? It happens that it will be a few feet lower—perhaps 3 feet—than the greatest height of Macquarie-street level, which is, of course, an artificial height, but on the eastern aspect the floor of that ward will be 3 feet above the natural ground level.

2419. And the floor level of the eastern pavilion will be higher still above the ground level? Yes.

2420. At all events you do not attach much importance to any objection which can be raised? There cannot possibly be any importance attached to it.

2421. Therefore, in estimating the capacity of this proposed building we can reasonably take that floor as a ward? Undoubtedly; even if it were possible to conceive that as a reasonable objection, only one ward in the whole hospital is in that condition. The corresponding wards on the other side of the hospital—that is the southern wing of the western pavilion—are entirely devoted to out patients' departments and offices. Therefore, the condition referred to applies only to one small ward for casualty cases, which only remain in the hospital one night. They would not remain in the ward more than twenty-four hours.

2422. I gather from the statement which you have read that the medical staff are clearly of opinion that the building should be completed as originally designed? That is so.

2423. They do not recommend the alternative design of taking off one floor? No.

2424. The argument all through the statement is that the two eastern pavilions should be built. At present only a portion of one of them is built. It is not intended to go on with the more eastern one at present? I understand that it is intended to allow the south wing to stand.

2425. The southern wing is not a very old building? Not very old.

2426. It is good enough for all practical purposes? It is an excellent temporary expedient.

2427. If the alternative plan is carried out, and the southern wing is retained, it will give sufficient accommodation for some years to come? For some years to come, if the now unfinished pavilions be completed according to the original plan.

2428. And we can, if necessary, build an additional eastern wing afterwards? Exactly.

2429. There is no fear of any disease being transmitted from one floor to another by any staircase? None whatever.

2430. As a matter of fact, the openings from one floor to another are entirely separate from the wards? Entirely.

2431. And there are lifts to each of these pavilions? Yes.

2432. Is Dr. O'Connor antagonistic to the statement you have put in;—did he refuse to sign it? I have not had an opportunity of ascertaining his views. The final meeting of the staff was only held on Monday evening, when the statement was drafted into its present form. Dr. O'Connor was not present at the meeting.

2433. Was this statement drawn up by one or more medical men, the others signing it after perusal, or was it the outcome of several meetings and deliberations? It was considered by a general meeting of the staff. It was considered desirable, in view of the very brief time we had at our disposal, to appoint a sub-committee. That sub-committee consisted of Dr. Tarrant, Dr. Brady, Dr. Goode, and myself. The sub-committee

sub-committee prepared a report, considered it several times amongst themselves, and finally submitted it to the staff, when it was, after some alterations had been made, accepted.

2434. Before being adopted, was it sent round to each member of the staff, so that they could go through it at leisure, or was it merely read at the last meeting and adopted? The various members of the staff had an opportunity of considering the most important parts of it, as it was printed. It was printed in sections, and many of the members of the staff had an opportunity of considering it then.

2435. *Mr. Trickett.* Are you aware that these plans were prepared thirteen years ago? Yes.

2436. Is the Committee to understand that the medical men, whose report you have read, unanimously agree that no possible improvement can be made in the plan—that it is a perfect one? I could only give my own opinion. I think it is impossible to conceive any hospital which has ever been built in regard to which it would not be possible to find some defect. The whole history of hospital construction has been one of constant advance.

2437. Seeing that these buildings were constructed thirteen years ago, is there any improvement which can be suggested now? No improvements of any vital importance. We have shown in the statement presented that in all essential particulars the hospital is a modern one, designed on the best known system, and for administrative purposes everything is admirably arranged. If we went into matters of minute detail, I could point out an objection, but it is so slight that it really ought not to be considered. For instance, one bed is placed in the corner of the ward, and not between two windows. That is a thing which, if the hospital had to be built over again, would no doubt be altered.

2438. I am not referring to anything so trifling as that—I am referring to general construction? We are satisfied that it is a perfect modern hospital.

2439. Have not circular wards come into vogue lately? I do not know of any hospital in which they are actually in use.

2440. Have not hospitals of one story come into vogue of late? I ought to mention that I am acquainted, more or less, with the construction of the New Royal Liverpool Hospital, which is of the size of the one proposed to be constructed here. It has 300 beds, and there is, I believe, one circular ward; but I am not certain.

2441. The circular ward system is not a general one? It is not; it is exceptional.

2442. What is the modern practice in regard to building hospitals; do they not often build them of one story, upon piles, with a current of air underneath them? I know of no hospital built upon piles.

2443. Upon arches, with a current of air beneath;—are not French hospitals built in that manner? I cannot answer from personal experience.

2444. With regard to American hospitals—have you not heard that the new hospital being constructed at Halifax is built on that principle? I am quite ignorant of it. The most modern hospital I am acquainted with is the Royal Liverpool Hospital, to which I have alluded, which is built in pavilions, in the same way as it is proposed to build the Sydney hospital.

2445. How many stories has it? Two.

2446. Is it an advantage or otherwise to have three stories? From an administrative, economic point of view, it is a decided advantage. With regard to the sanitary point of view, we have shown in the statement presented that there can be no possible disadvantage attaching to it.

2447. And you think there is no fear of infection going from one story to the other? I cannot conceive any possibility of it.

2448. That is a matter which has received your careful consideration? The staircase is completely outside the ward,—it may be regarded as a separate structure.

2449. Would you recommend cases of eye disease being treated in this building, or in a separate hospital? In a big city like this we ought to have an ophthalmic hospital.

2450. You think these pavilions would not be suitable for the treatment of ophthalmic cases in their various stages? It would be possible to find suitable accommodation for a limited number, as is proposed to be done.

2451. Do you not want a number of rooms for ophthalmic cases? You require dark rooms, operating-rooms, and so forth.

2452. These do not seem to be provided for? It is not contemplated, excepting for cases of absolute emergency, with which every general hospital has to deal.

2453. I gather from the statement put in, that you recommend that Lock cases should be treated in the hospital? Only cases of absolute urgency. As a matter of experience it has been found, in the Sydney Hospital, that the twenty beds which have been provided for that purpose are fully demanded.

2454. Have you seen the analysis of cases which Dr. Roberts put in when giving his evidence? Yes.

2455. Did it not strike you that a great many of them were cases which could be treated as well at the Prince Alfred Hospital, or at some distance away, instead of being brought to a hospital in the centre of the city? I think that matter is very fully dealt with in the statement put in.

2456. I should like you to go through the list which Dr. Roberts put in, and see whether your views agree with his. For instance, he only takes cases of fractures, local injuries, burns, and poisons, as apparently being the cases which should be treated in the hospital? Then he gives a string of other cases—diseases of the respiratory organs, and so on.

2457. Are all these cases, excepting the three I have named, cases which could be treated as well at the Prince Alfred Hospital as at the Sydney Hospital. For instance, take the case of a person suffering from derangement of the digestive system. There are 209 of those. No harm would be done if some were taken to the Prince Alfred Hospital? The cases relating to the digestive organs taken to a hospital are always, or nearly always, extreme cases. They are not cases of mere indigestion. A man who comes to the hospital suffering from indigestion is never admitted. They are cases of grave organic disease, cases of cancer in the stomach, or some such serious mischief. Therefore you will not gather that we have taken in 209 cases of indigestion. We deal with that matter in the statement put in. We took the total which Sir Alfred Roberts had given to the Committee.

2458. He gives 1,116 out of 3,296? Yes; he gives, as you see, 243—that is 10 per cent. of the cases,—as possible admissions. We have shown that out of the 243, 222 actually died. We have taken the cases of death from all these other complaints—that is, from fractures, dislocations, local injuries, burns, and poisoning—and the remaining deaths amount to 222 cases out of 243, which Sir Alfred Roberts has stated to be eligible, in his opinion, as cases of emergency. Plainly, there must have been a very much larger number than that. It would simply mean that one would not take into the hospital any patients unless they were absolutely dying.

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2459. Do you think the institution is much abused by people entering it who could well afford to pay? That is a matter outside my province, but the staff have made inquiries, and I think they have satisfied themselves that in every case a very strict investigation is made, and payment is secured wherever possible.

2460. I asked the question because the figures you read in the statement put in seemed to give such a low proportion of people who pay to the Sydney Hospital compared with other hospitals? The difference is due to the class of persons treated. The Sydney Hospital is undoubtedly the hospital of the people.

2461. And, as far as your observation goes, you think there is not any great abuse by people entering it and not paying when they are able to pay? I believe there is a certain amount of abuse in every hospital; but it is as little in the Sydney Hospital as in any with which I am acquainted.

2462. Is there any officer who makes inquiry before the patients are received as to whether they can pay or not? I cannot give you any information as to the method of inquiry, but I know from personal observation that every official connected with the institution is only too keen to obtain funds for its support.

2463. We have several schemes under consideration, one of them being that these back buildings should be completed with brick;—what are your views in regard to that matter? That is purely an economic question. In my opinion it does not matter whether they are completed in stone or brick.

2464. Is there any objection, from a medical point of view? Not the least.

2465. It would not affect the heating properties of the hospital, if it were properly constructed? Not in the least.

2466. As a matter of fact, would not hollow brick walls be cooler and drier than stone walls? I should like to qualify my statement to this extent. I consider—although the question of expense is no doubt a serious one—that the putting up of these very massive stone walls facing the west, from which we get the very hot westerly sun, will prove to be a distinct advantage. In other words, these massive stone walls will undoubtedly keep the temperature of the wards more equal in winter and summer; but such an arrangement as you suggest, a cellular wall or a double-brick wall, would undoubtedly answer the same purpose.

2467. You have had no experience of the old hospital buildings? None, excepting what I have heard from students and residents.

2468. *Mr. Copeland.*] It has been suggested by the Government Architect that it would be very desirable at the present juncture to widen Macquarie-street; to do that it would be necessary to pull down a portion, if not the whole of the present new structure;—what is your opinion in reference to that matter;—do you think it would be at all feasible to widen the street to (say) another 40 feet, and so bring the front steps of the present building—that is, without pulling it down—flush with the side of the street;—*Mr. Rowe* says:—

With reference to the widening of Macquarie-street to 100 feet, as suggested by the Government Architect, the idea may be a good one, but it certainly cannot be done unless the entire structure parallel with Macquarie-street, viz., the north and south wings, together with the administrative block, are taken down, leaving the eastern wing (which is doubtful), kitchen premises, laundry, engine-house, &c., standing.

The entire site would then have to be rearranged with the greatest difficulty, proportionate loss on works erected being about £40,000.

My suggestion of 80 feet for said street would not affect the hospital buildings much by giving 14 feet up to wall of steps leading to administrative block, which would become the building line of street with dwarf wall on same.

Supposing this suggestion were carried out to make the street 80 feet wide, the steps of the building will be brought flush with the side of the street;—would that in any way do away with the usefulness of the building, by there being too much noise near the windows? I do not know that it would be a very serious disadvantage; because I apprehend that even were the walls too near the road for comfort, any noise caused by street traffic could be overcome by altering the pavement of the street—by making it a noiseless pavement.

2469. Supposing it were deemed desirable to pull down the new building, and to remove it back, so as to carry out the suggestion of the Government Architect to make the street 120 feet wide;—do you think it would be feasible to pull down the building now, and could we find space to re-erect the building, so as to give the necessary amount of accommodation? Certainly not the amount of accommodation which is at present demanded. Of course I cannot at once calculate how much would be taken off; but it is extremely undesirable, whatever height you may make your hospital buildings, to put more than 100 beds to the acre.

2470. What do you say is the exact area available? It is close upon 3 acres, and an arrangement such as that suggested would seriously encroach upon the area available for the hospital site.

2471. The present plans of *Mr. Rowe* only anticipate providing for, I think, 230 beds;—according to your scale only  $2\frac{1}{2}$  acres would be required for that number;—what is your opinion in regard to pulling down the structure and re-erecting it on the same plans a little further back, so as to enable the street to be widened, say to 140 feet? I am afraid my opinion on that point would not be worth much. I have had no opportunity of calculating the area of ground which would be left after widening the street, nor of studying the necessary rearrangement and disposition of the pavilions.

2472. Will there be room for another pavilion, or for an alteration of the position of the pavilions? I think it is possible that that might be done, if sufficient area for the hospital is left. Possibly the ground could be so arranged as to carry the number of beds required.

2473. Do you not think that the fact of the Domain being behind the building to some extent does away with the necessity of having such a large area of ground for a certain number of beds;—I take it that the scale you have alluded to, of 100 beds per acre, does not contemplate large grounds being attached to the hospital;—for all practical purposes the whole of the Domain is attached to the hospital, and could we not make an allowance on that ground? Yes; I think that might be done.

2474. The pulling down of the new structure would not in any way interfere with your relief of the outside patients in the meantime; I think they are not in any way connected with the new building? When the new building is completed they will be treated in it. At present they are only temporarily accommodated in a galvanised iron shed in the Domain.

2475. The pulling down of the new structure and putting it further back would not in any way interfere with the relief of the outdoor patients? No; providing that the accommodation in the Domain is not interfered with. We possess that accommodation only on sufferance; it may be taken away by the Government at any time.

2476. *Mr. Humphery.*] When were you last on the site of the Hospital Buildings? This morning.

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2477. Can you say from your examination of the buildings, according to the design of Mr. Rowe, whether, if they were removed, they could be placed nearer the Domain without taking down the existing south wing, and also the Nightingale wing? I just now expressed some diffidence in giving an opinion on that point, because, obviously, such an opinion cannot be worth much. I have never contemplated such a thing, nor have I had time to think of it.
2478. Are not the existing buildings in close proximity to each other—the Nightingale wing, the hospital buildings, according to Mr. Rowe's design, and the southern wing? No; there is a space between the Nightingale wing and the eastern pavilion, now partly completed—I suppose there must be 30 yards between the two.
2479. What about the northern pavilion—the pavilion fronting Macquarie-street? As far as I recollect, there is very little space between that and the Nightingale wing.
2480. Do you think it would be possible to shift that portion of the design further westward without taking down the Nightingale wing? I think it would be hardly possible to move it further westward without interfering with the Nightingale wing. I give this kind of evidence with great reluctance, because it is obvious that, as I had not time to think the matter out, my opinion cannot be worth much.
2481. You know where the south wing is? Yes.
2482. Is it in close proximity to the south wing on Mr. Rowe's design? As far as I recollect, it almost abuts upon it.
2483. Do you think it possible to remove that portion of Mr. Rowe's design without destroying the south wing? No.
2484. You have said that very admirable results have been experienced in the treatment of cases in the present temporary wooden building? Yes.
2485. Have similar results been obtained in the southern wing? I do not know that any comparison has been made. I have, however, a ward in each, and the results, according to my experience, have, during the past twelve months, been equally good.
2486. There is, therefore, no reason whatever for the removal of the south wing, with the view of obtaining better results from the treatment of cases? No.
2487. Do you know what building it is intended should occupy the present site of the south wing? Yes; some small one-storied wards for infectious cases.
2488. Is it not a chapel? No; the chapel is on the other side.
2489. The present south wing accommodates about seventy-eight beds? Yes.
2490. Do you think it would be wise to remove that wing for the purpose of carrying out the entire design, or would it be better to carry out such portion of the design which may be completed without necessitating the removal of the south wing? In the present state of affairs, it would be far better to complete that portion of the hospital which has been started, namely, the north and south wings, and the eastern pavilion, and to leave the south wing to stand for the present. I believe we should then have very efficient accommodation for a long time to come.
2491. *Dr. Garran.*] I understand from the memorandum put in that you agree to the plans of this hospital on the ground that it should be made a complete general hospital? Yes.
2492. Are you aware that four highly competent witnesses, three of whom have been Government Medical Officers, and the other is Sir Alfred Roberts, have stated that it ought not to be a general hospital, but should be restricted to an emergency hospital? Yes.
2493. Then your statement is made knowing the authority which is arrayed against you on the other side? The statement was made in full knowledge of the evidence given to the Committee, which was supplied to the staff of the hospital.
2494. Then there is a difference of opinion amongst the medical authorities on the subject? Apparently.
2495. Are you aware that in order to ease the pressure on the hospitals, Dr. MacLaurin, Dr. Mackellar, and Dr. Manning, and, I think, Sir Alfred Roberts, plead for a comparatively economically constructed hospital to receive the cases of the chronic sick poor? Yes.
2496. If that were done, would it not greatly relieve the pressure on the Sydney and Prince Alfred Hospitals? I believe so.
2497. And would there then be the same necessity for a large hospital of 300 or 400 beds on this site? Even if we were relieved to a considerable extent there would still exist the necessity for a hospital of the size for which we have pleaded. We have shown that the average stay in the hospital has been reduced from what has been universal in English hospitals, viz., thirty-one days to twenty-five days. Over and over again we are absolutely compelled to dismiss a man before we are satisfied in our minds that we ought to do so, in order to make room for a still more urgent case. The reduction from thirty-one to twenty-five is a serious one indeed. I cannot say anything which indicates more strongly the pressure which is borne by the hospital at present or the unfavourable conditions under which it is worked.
2498. Am I to understand that there are no cases taken in which are not strictly emergency cases? Speaking generally, that is true. Of course, it is impossible to say that no other cases come in during the twelve months.
2499. Then you do not think a hospital of 300 beds would be too large upon that site? I do not think so.
2500. And that the site, with its airiness in the rear, would carry 300 beds? Easily. The estimate is made by taking average sites in average cities, and our site is one with which it is absolutely impossible to find fault. It is practically in the country.
2501. You have looked upon the question purely from a medical point of view? Not from the financial point of view.
2502. Not from the architectural or economical point of view? Only from the architectural point of view as far as it relates to the construction of the wards.
2503. What do you consider the best size for a ward? The most economically worked ward would be, in my opinion, one of about twenty-five beds.
2504. Would one sister be required for each ward? Yes, to work the hospital efficiently.
2505. And you would want as many sisters as you had wards? Yes.
2506. And how many nurses? I suppose we should require four nurses for each ward.
2507. You are aware that there is no ward here containing twenty-five beds? I am aware of it.
2508. They have either twenty or sixteen beds? Yes.
2509. How many nurses are there for twenty beds? Four.

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2510. Then it is rather an uneconomical plan for twenty beds? Yes.
2511. Supposing we have a three-story building, would it do to put the nurses in the top story, and take the Nightingale wing for an ophthalmic ward? That is a question which I have not considered, but I suppose it would be possible to do it.
2512. Are not the nurses at the Prince Alfred Hospital accommodated in the upper story? I believe they are, but I am not personally acquainted with their quarters.
2513. I gathered from your answers to Mr. Humphery, that you do not think it would be very possible to put the front of this building back without destroying the other buildings which are there? I think it would be quite impossible to put the pavilions facing Macquarie-street further east without doing so.
2514. Do you know of any other site which would be equally good for the hospital? I know of none so good.
2515. It has been suggested to the Committee that Cook Park, near the Museum, would be an excellent site? It is a very good site, indeed.
2516. Is it better or worse than this? It is certainly not better. Our site is certainly better if only for this reason, that the Macquarie-street site has a fall in both directions. It occupies the crest of the hill. It has a fall toward the Domain, and from Macquarie-street, towards the south. The other site has not that advantage. The ground rises for some distance. The crest of the hill, in fact, is in Hyde Park.
2517. But that crest of the hill would be a little on the westerly side? Yes.
2518. Where you would want a little screening off? Yes; but it would shut off so much sun.
2519. Do you not think you would get sun enough? I doubt it.
2520. Have you ever been in the Museum or the Grammar School on a hot summer's afternoon? No.
2521. If the easternmost of these pavilions is built, will it necessitate the pulling down of the south wing? No.
2522. You need not pull down that wing unless you want to erect the small structures which are on the plan? It may be a desirable thing, as I pointed out just now, in regard to the economic and efficient administration of the place, but it certainly would not be absolutely necessary—that is to say, there is plenty of room for the south wing to stand without interfering with the east pavilion.
2523. And these scattered buildings are not absolutely necessary for the working of the hospital? Isolation wards are highly desirable.
2524. For what cases? Infectious cases.
2525. Do you have any infectious cases? Not if it is possible to avoid them.
2526. We have been told distinctly that you take in no infectious cases? They occasionally arise in the hospital.
2527. But you do not take them in as infectious cases? Certainly not.
2528. Then you do not propose the small wards for cases to be taken in? No.
2529. But only for infectious cases arising within the hospital? Yes.
2530. It has been stated that the beds on the southern wall of the hospital are not, in this climate, so favourable as beds on the northern side—is that your experience? It is not. I have beds on the south side of the south wing, and in the easternmost pavilion, and during the last twelve months I have satisfied myself there is no serious disadvantage in the southern exposure.
2531. And you see no objection to that at all? Not under the conditions which prevail there.
2532. Nor with regard to the two pavilions behind the hospital—you do not think the southern wall would be any disadvantage? No. There is a wide, open space there which would, to my mind, remove any possible objection.
2533. But it is not the want of open space, but the coldness of the ward, which may be an objection? I can only judge from my experience in the south wing of the present hospital, and it has been as I have stated.
2534. There is no perceptible difference in the temperature on the southern and northern wall? No.
2535. Have you tried it with a thermometer? No; I speak from ordinary observation.
2536. You think that the aspect on the one side is as good as on the other? Certainly.
2537. East or west, north or south, the beds are equally well placed? Exactly.
2538. *Mr. Garvan.*] You attach considerable importance to abundance of light, sun, and air for a hospital? Yes.
2539. If there was anything in the structure of the building which militated against the free access of light and air it would be a drawback? Undoubtedly.
2540. Will you direct your attention to the plan. Take notice of the towers or pavilions. One tower wall extends about 24 feet out beyond the windows of the dormitories. The same thing occurs at both ends. Do not these projecting walls tend very much to prevent that free circulation of light and air which we should possess in their absence? They do tend to do so, but any walls of any sort must interfere with light and air to a certain extent, but, in my opinion, these projections are no disadvantage. You will have the full morning sun shining upon that part of the building.
2541. The wall of that tower is, you think, no obstruction to light and heat, and would not militate against the health of the patients? No.
2542. Would it be an advantage to remove the tower, so as to allow free access of light and air along the balcony? My impression is that with the ventilation such as exists there you have as much light and air as you could wish for. There is a limit, of course, to the amount of air required. You want a certain amount of protection from sun and wind, and so on. I cannot see any reasonable objection.
2543. You do not think it would be any great advantage, from a health point of view, to have these walls removed altogether? No.
2544. You speak in reference to using the ground floor as a ward. You expressed the opinion that the fact of it being a little underground did not militate against its healthiness? I pointed out that the floor of the Macquarie-street aspect is some 3 feet below the utmost elevation of Macquarie-street, which, of course, is an artificial elevation; but, on the other hand, on the eastern side the floor is 3 feet above the ground, and beneath the floor there is a large space which is asphalted or concreted, and from side to side there is ventilation through a series of manholes. It is impossible for anything of a deleterious character to lodge underneath that floor.
2545. If the ward were below the natural level of Macquarie-street, would that be a disadvantage? It might be, possibly, but not necessarily. If it were in such a position that light and air were excluded it might be objectionable, but not where plenty of light and air is obtained.

L. R.  
Huxtable,  
Esq., M.B.  
18 Feb., 1891.

2546. You would have no objection, if you were a patient yourself, to being in one of these wards on the ground floor? None whatever. I should like to point out that this is the only ward in the hospital which occupies that position, and it is a casualty ward, which contains ten or twelve beds. A casualty ward is one into which a patient who has been brought into the hospital suffering some injury is placed—a cut head, for instance, requiring to be stitched. The patient, perhaps, is unconscious, and he is put there so as not to disturb the other ward, and he remains there until he has recovered, and he is then turned out.
2547. You express an opinion rather favourable to an easterly and westerly aspect? Yes.
2548. In expressing that opinion, am I to understand that you are opposed to the pavilions with a north and south aspect? No. In the statement put in we have pointed out that, taking all the circumstances into consideration, the arrangement proposed was decidedly the best.
2549. Would it not be more desirable to adopt a smaller easterly and westerly aspect with sufficient space between the two? No; because there are still other matters to be considered. In the first place, you set up an ideal, and say that that is the best thing that could be had, but you have to carry it out. If you place a row of pavilions here, and another there, it would be impossible to work the hospital—that is to say, it would be necessary to have two administrative blocks.
2550. Even though it may be advantageous from a theoretical point of view, you could not recommend it from a practical point of view? That is so. I should like to state that it so happens that I was the mover of the resolution which resulted in the statement which has been presented being drawn up, and it is upon this account that I have been called to give evidence. As a junior in my connection with the institution, I feel that my evidence is not as strong, or weighty, as would be the evidence of those who have been longer associated with it—Dr. Tarrant, Dr. Brady, or Dr. Goode, who were associated in preparing the statement presented. I consider that the Committee would obtain most valuable information, as indeed the hospital staff has obtained it, from Dr. Hull, the Medical Superintendent of the Hospital, whose information upon these points would be very valuable indeed.

Oswald H. Lewis, Esq., Architect, sworn, and examined:—

2551. *Chairman.*] You are an architect in Sydney? Yes; I am the senior architect. I have been in O. H. Lewis, Esq.  
practice here for thirty-six years. 18 Feb., 1891.
2552. Have you had anything to do with the construction of the Sydney Hospital? No. I built St. Vincent's Hospital.
2553. You were the consulting architect of St. Vincent's Hospital? Yes.
2554. Have you given much attention to the principles upon which the new Sydney Hospital is proposed to be built? No. I examined the plans when they were exhibited, but those which are here to-day are not those which I saw at the Town Hall.
2555. Have you seen these plans before? Yes. I have had a look at them since I came here to-day.
2556. Have you made yourself well acquainted with the construction of hospitals generally? I have.
2557. Do you consider these plans suitable? I never did. I never believed in any hospital over two stories high.
2558. The height is your principal objection? Yes.
2559. What do you think about the site from a sanitary point of view? It is a good site, but I do not think there is land enough for a hospital. There are only about 2½ acres. The buildings will take up one acre.
2560. For an emergency hospital, would it not be difficult to get a site sufficiently large? It is a very good site for an accident hospital; you could not better the situation.
2561. How many beds are there in St. Vincent's Hospital? One hundred and seventy-seven. It was built for 200, and we allow 2,250 feet for each patient.
2562. Do you think that is sufficient? In England, 1,500 to 2,000 feet are allowed. All hospitals should be built upon arches.
2563. Considering the progress which has been made with the proposed Hospital Buildings in Macquarie-street, would you recommend their abolition or completion? I should take them down.
2564. Would you abandon the site, or put up another building? Put up another building for an accident hospital only.
2565. Are you aware of the amount of money which has been expended there? I hear it is about £70,000.
2566. In the face of that, you would still recommend the removal? It would, I think, be a great saving. I have heard some talk about setting the hospital back, but that is an impossibility. Besides, you have not ground enough.
2567. Do you think it is desirable to widen the street? No. You could not keep the present building up to make anything of it, even if it was for an accident hospital.
2568. Do you think it would be desirable to widen the street as far as it could be widened without interfering with the buildings? I do not see the necessity for widening it.
2569. I suppose, if you were to suggest a design, it would be on a different principle altogether? It would be on a far cheaper principle.
2570. *Mr. Garvan.*] What was the cost of St. Vincent's Hospital? £37,000.
2571. Have you much knowledge of hospital construction? Yes; from books.
2572. I suppose you have paid some attention to the question of hospital construction? Yes; there have been great improvements during the last two or three years.
2573. Has your attention been directed to the advantage or otherwise of what are called circular wards? Yes; you ought never to have any angles in hospitals.
2574. You think circular wards would tend to the greater healthiness of the hospital? No doubt.
2575. Would you recommend them in the construction of the Sydney Hospital? Certainly.
2576. Would it increase the cost per bed much? It would make very little difference.
2577. Are you in favour of high-built hospitals? I would never exceed two stories. All the books of modern date would tell you not to exceed that height. It is also best to build upon arches, so that the air may pass underneath.
2578. You would have every ward, then, at least from 3 to 5 feet above the level of the ground? Yes.
2579. According to the plan, one of the wards is below the level of Macquarie-street, though higher than the level at the back;—do you think that that fact will militate against healthiness? There is no question about it.
2580. What is your reason for making that statement so decisively? I think most of the doctors and nurses are of my opinion. There is always a nasty smell arising from the floors of hospitals.

- O. H. Lewis, Esq.  
18 Feb., 1891.
2581. And you think it would be undesirable to have any beds upon what is called the ground floor of this hospital, it being partly below the level of Macquarie-street? No ward should be below the ground.
2582. I understand you have seen the plans which are here to-day, or corresponding ones? I have seen the corresponding ones.
2583. Do you approve of the building altogether as a hospital? No.
2584. Why? On account of the height, and I prefer that the foundation should be built upon arches.
2585. In view of the fact that £70,000 have been already expended, what would you recommend should be done with the building? Take it down altogether, and reconstruct it.
2586. On a different plan? Yes; there have been great improvements in hospital construction during the last twelve years.
2587. And you think that the construction of hospitals has so much improved that it would be desirable to adopt new plans? Yes, on a more modern system, and at less cost. To finish the present building will cost more than has already been spent.
2588. Would there be any objection to finishing the building in brick and cement instead of stone? It would not look so nice.
2589. Could you not carry it out in the same dimensions in brick and mortar as those indicated in the stonework? Yes; but it would not look as well. It would spoil the building.
2590. What difference would there be in the cost between brick and cement and massive stonework? Massive stonework will cost about £100,000.
2591. What is the difference in percentage between brick and stonework? Brickwork would be done for about half the cost. The present stonework is a fine bit of work, and it is very expensive.
2592. Is there any advantage, from a hospital point of view, in putting up a building of stone? I should prefer brick.
2593. Even apart from the economical question? Yes; it forms a better key for cement. All walls of hospitals should be of cement, for washing-down purposes.
2594. On the whole, you think it would be wiser not to finish this building at all? I think so.
2595. But to reconstruct it on what you call a better plan? On a more modern system.
2596. We have had evidence to the effect that the plan was sufficiently perfect to warrant the Government in going on with it;—you do not agree with that? No, I do not.
2597. *Mr. O'Sullivan.*] You appear to have great faith in arches for the basement of hospitals? Yes.
2598. Why did you not build St. Vincent's Hospital on arches? You might call them arches, only they are termed "square."
2599. Would it be possible to convert this basement into arches now? If there is a basement to it. There is no doubt that arches from 3 to 5 feet high are more modern.
2600. You think, then, with your knowledge as an architect of long experience, that this design is obsolete? Yes.
2601. And that we ought to go in for something more modern? Yes.
2602. More for the purpose of utility than of ornament? Yes.
2603. Do you recollect how many beds there are in each ward of St. Vincent's Hospital? No; I built for 200 beds altogether.
2604. You do not know how many wards there are? I have not the plans—it covers about an acre of ground.

Thomas Rowe, Esq., Architect of the Buildings, sworn, and further examined:—

- T. Rowe, Esq.  
18 Feb., 1891.
2605. *Mr. Garrard.*] You furnished the Committee with a statement as to the various contracts which have been taken for the Sydney Hospital, and also with certain suggestions as to the widening of the street;—you are aware that Mr. Vernon suggests that the street should be widened to 100 feet? More than that, I think.
2606. Then that would necessitate the pulling down of the whole of the northern and southern blocks? Yes.
2607. They could not be erected, then, without also removing the eastern pavilion? It could not be done unless you pulled down the eastern pavilion, the Nightingale wing, and part of the southern. It will affect the whole of the arrangement.
2608. The whole of the north, south, and eastern pavilions, and an interference with the Nightingale wing and the southern wing? Yes.
2609. Unless, of course, you altered the design? The whole of the site will have to be rearranged and the hospital entirely re-designed.
2610. And then some of the material which has already been placed there might be utilised, and other portions of it would be useless? The greater portion would be valueless.
2611. In the paper which you sent in, you suggest that it would be possible to widen the street to 80 feet, bringing the building-line up to the wall of the steps which give access to the administrative portion of the building? Yes, I suggested that.
2612. Then if the hospital were erected to its full height afterwards, would it not have a towering appearance above the street? I do not think so.
2613. Is not one of the objections to the height of the building the fact that it does not stand sufficiently far back from the street? From the western side of the street the appearance will not be altered. It will certainly affect the height in walking along the new eastern pathway. The height would appear greater then.
2614. But you think it would not interfere very materially with the appearance of the building, even if the road were widened to 80 feet? I do not think it would be a very serious matter.
2615. But do you think it desirable that the street should be widened? As there is such a desire for broad streets, I think the matter is one which ought to be considered.
2616. But is not the desire for wide streets more for the purpose of giving room for traffic? For both traffic and effect, I presume.
2617. We can never anticipate very much traffic in Macquarie-street? I should be sorry to say that. I think the time will come when the traffic from there to Circular Quay and the wharves will be very considerable.

2618. You are looking forward to the time when the Government House grounds and Farm Cove will be utilised for warehouses? I certainly do think that in fifty or 100 years' time the traffic will be considerable, and the time may come when persons may regret that the street has not been widened.

2619. You are aware that it is proposed to erect large buildings for Parliament House upon a site just beyond the present Parliament House;—do you think it likely, in view of that fact, that Farm Cove will be given up for business? I think it is quite possible. I often think there will be a road right through Hyde Park. The Park must give way to the progress of the times. I might mention that the erection of the hospital upon its present site will not prevent the resuming of 14 feet of land at any time. There will be no buildings along that 14-foot line.

2620. Have you anything further to say in addition to that with which you have already furnished us? No. I heard a very amusing statement made just now by Mr. Lewis. I do not think he has ever seen the plans.

2621. He admitted that he had only seen them since he came into the room? Yes, and yet he contends it is not a modern hospital. I should like to mention that I sent these plans twelve years ago to Miss Nightingale, in England, but unfortunately they got mislaid in the Orient stores at home. I expected to find them when I visited England subsequently, but could not. I afterwards received them upon my return. I mention that to show that it was my intention to have visited Miss Nightingale with the plans, and to have explained them to her, and to have obtained her approval of them if she thought well of them, but I was defeated in my object. I have no fear of meeting the greatest authority in England with them. If the Committee will take them and send them to the highest authority in England, I think it will be the means of setting aside all these nonsensical quibbles which have arisen from persons who are really no authorities whatever.

2622. *Mr. O'Sullivan.*] Are we to understand that your plans cannot be modified or altered so as to fall in with the idea of Mr. Vernon for widening the street? It is utterly impossible to move the buildings back. The entire site is adjusted to present arrangements to a few inches. It is so carefully adjusted that you could not take the building down without rearranging and readjusting the whole.

THURSDAY, 26 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHREY.

The Hon. WILLIAM JOSEPH TRICKETT.

The Hon. GEORGE HENRY COX.

JACOB GARRARD, Esq.

HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.

WILLIAM SPRINGTHORPE DOWEL, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM MCCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

Walter Liberty Vernon, Esq., Government Architect, sworn, and further examined:—

2623. *Mr. O'Sullivan.*] Will you read your Report on the widening of Macquarie-street, and the removal of a portion of the Sydney Hospital Buildings? Yes.

Report re widening of Macquarie-street, and the necessary removal of a portion of the Sydney Hospital Buildings, now partially erected.

Sir,

Sydney, 20 February, 1891.

In reference to the proposed scheme for widening Macquarie-street, and the probability of setting back the present stone carcass of the Sydney Hospital, in order to be in accord with that scheme, also as to the cost of such rebuilding, I have the honor to make the following Report:—

I have personally inspected the buildings of the Sydney Hospital, and find that in order to fall in with the scheme for widening Macquarie-street, now before you, it will be necessary to take down the front central block, and the side wings apportioned for accident and medical cases, and to rebuild them at least 35 feet in the rear of their present position. This will affect the western wing of the Nightingale wards to some extent, but will not do so with the permanent kitchens and other offices. The site of infectious wards' building would, however, have to be reconsidered.

The central ophthalmic ward buildings will also be affected by the proposal, and it appears to me there are two alternatives for meeting this latter difficulty, viz.:—1st. By rebuilding the main central building close up to, and contiguous to, this ward, omitting the present courtyard gangway, and leaving this ward and also the eastern ophthalmic—as shown on the plans—entirely untouched, and capable of completion. 2nd. By rebuilding the central ophthalmic ward to the eastward of its present site, utilising, however, its eastern lavatories, &c., by making them its western ones, and producing the ward indefinitely towards the Domain boundary, and omitting altogether the separate eastern ophthalmic ward hereinbefore referred to.

These modes of treatment will give, in the first alternative, a total accommodation of 224 beds and twenty-four private wards; and, in the second, about 184 beds and twenty-four private wards. Having regard to the question of light, air, &c., and for other important reasons, I consider the second is the preferable one.

I estimate the cost, approximately, of removing and rebuilding the present stonework, &c., as indicated in the first alternative, at £10,500, and in the second alternative at £14,500.

If, however, the question of leaving the whole of the buildings untouched, and widening Macquarie-street only up to the building frontage, is considered, I would point out that the front entrance steps, by a slight alteration in the internal arrangements, could be kept entirely within the building, so that the street alignment could be identical with the stonework of central building; but, against this proposition, I would respectfully and strongly urge that its adoption would mean the serious curtailment, for all time, of an improvement for which so good an opportunity now presents itself.

In addition to which the accident and medical ward (partly in half basement) would be brought into most objectionable proximity with the noise and publicity of a great thoroughfare.

I have, &c.,

W. L. VERNON.

The Chairman, Public Works Committee.

2624. By your No. 2 scheme, costing £14,500, you would not very materially interfere with the present design? Excepting that I leave out one ophthalmic ward entirely.

2625. But you would not interfere very much with the design of the front of the building? Not at all;—it would be precisely similar; it would be rebuilt in fact.

2626. The building then, would present a bold appearance to this new broad street which you would construct? It would have the same appearance as that shown on the design at present.

2627. And you think that building would be capable of carrying 224 beds, and twenty-four private wards? That is the calculation I make.

2628.

T. Rowe,  
Esq.

18 Feb., 1891.

W. L. Vernon,  
Esq.

26 Feb., 1891.

- W. L. Vernon, Esq.  
26 Feb., 1891.
2628. If this proposed modification is not carried out, but the alteration of the steps is carried out, the building will be right up to the street alignment? Close up.
2629. Would it not be in the way of this new street? I think it would—decidedly.
2630. To see a building standing out so much as that would be a blemish on the street? It would.
2631. Having in view the fact that this improvement will possibly stand for all time, and that now or never we can make this improvement whilst all the buildings are public property, you recommend that your No. 2 scheme should be adopted, so that this widening of the street may take place? I think the expense in attaining that object would be well incurred. I think it is worth it.
2632. Supposing the old building at the back called the south wing were allowed to stand? It does not interfere with that.
2633. Your modification would not interfere with the existing building called the south wing. The building I refer to is the old building there now—a stone building? Of course, that goes entirely.
2634. That would have to be pulled down if your modification is carried out? Yes, I think it is taken away in this design.
2635. Then you have taken Mr. Rowe's design, and have endeavoured to modify it? I have seen how it is possible to modify the present design, and shift the building further back.
2636. In the event of the south wing being allowed to stand, that building, to comply with your modification, would have to go? If it is the old building, certainly it would.
2637. The Nightingale wing also would have to go? A portion of it.
2638. I suppose you can utilise the greater portion of it? I think so.
2639. You would, I suppose, simply cut off the western end? Yes.
2640. And you consider the whole of this modification can be carried out at a cost of £14,500? It would, so far as the present stonework is concerned.
2641. And the imposing design which we have now would still be retained? It would re-erect the present stone in a new position.
2642. At the same time allowing you to carry out this improvement of widening Macquarie-street? Yes.
2643. What would the total width be then? From 115 to 120 feet.
2644. *Dr. Garran.*] If you pull down all that you propose to pull down, what proportion will you leave untouched? I say about £4,000.
2645. But would you leave untouched about one-fourth? Yes.
2646. Now, as to the second scheme? In the second scheme I take down nine-tenths.
2647. And you could use up the stone? Yes.
2648. Without damage? I allow for waste and damage in my estimate.
2649. The second scheme, therefore, which you prefer, is to all intents and purposes a rebuilding? Yes.
2650. New foundations? Yes.
2651. Merely using the same material? Yes.
2652. You have allowed for the cost of taking down, I suppose? Yes.
2653. And putting up? Yes.
2654. And you utilise all the material? Yes.
2655. And you allow 10 per cent. for damage? We allowed rather less than that.
2656. Under the circumstances, would it not be worth while to study the whole site *de novo*, and consider the new plan? I can hardly give an opinion.
2657. What do you consider the cash value of the stone stacked? Very little, unless it is to be used again for the same purpose it is worth almost nothing.
2658. What would be the cost of cutting the stone again? I presume what it cost originally.
2659. You do not know what that is? Between £50,000 and £60,000.
2660. Mere material alone? Do you mean the stone alone?
2661. Yes? The stone would come to about one-fifth of the cost.
2662. £10,000? I should say so.
2663. I asked that because a great many witnesses, some architectural and some medical, have said that if we were beginning again brick would be a preferable material for the building. Is it worth while, for the sake of using that £10,000 worth of material, to stick to stone? My opinion is that if you build in Macquarie-street you should build in stone.
2664. For ornamental and architectural purposes? Yes; that is, the portions facing Macquarie-street.
2665. Of course, a medical witness naturally considers the medical aspects, and we are told that with a double wall we can ensure a dry building more than we can with fixed stone. Our stone is, to a certain extent, porous, and more likely to give us a damp wall. It is rather an argument against that site if you are obliged to use stone there, especially as brick will be best for medical purposes? I have no opinion on the hospital as a hospital.
2666. If you put your road back, and make this a grand façade, would it not be better to keep the whole of that for offices, and not have a hospital interfering with it at all? I do not, of course, know the future scheme of the Government for filling up the whole of that street, and I cannot possibly tell.
2667. A hospital would not interfere with another line of public offices there? I do not think so.
2668. If you adopt either of these two plans you have a broad footpath between the road and the buildings? Forty feet.
2669. But, in dealing with the hospital we must bring the patients as close up to the lift as we can by means of ambulances;—how do you provide a roadway into the front? I should take roadways across into the interior of the premises, and drive right into the court-yard.
2670. But there is no provision for a court-yard here? I think it would have to be considered.
2671. And that would knock away some room? There are two gateways and archways.
2672. Could you get in at the back of the mall? You could get through here (*pointing to the plan*).
2673. You must make a roadway in some way or other? Yes.
2674. Would you cross the mall? Yes.
2675. Then it would not be an unbroken pathway? I would not define the roadways, but I would put breaks in the shrubbery in front.
2676. You do not think it would be better to make the shrubberies and small roadways on either side, so as to bring carriages close to the front? I think myself, that a wide path would give a handsome appearance to the building, and you could have the traffic further from it.

2677. But whatever building is put there, whether Parliament House or any other building, the people will want to be driven close up to it? Yes.
2678. And if you intersect your mall with so many of these roadways you cut it up? It is put down elsewhere.
2679. But if you go the other way you will have a long line of shrubbery in front of your building? That is a minor matter; if one can get the space, I think that is the great object.
2680. You said it would be necessary to pull down the south wing, but Mr. Rowe does not propose to pull it down, unless he builds those small infectious wards;—would you, when you back your frontage, hit the south wing? I should hit the infectious ward.
2681. Would you shift the present south wing 35 feet back? I think so.
2682. You practically take away part of the Nightingale wing and part of the south wing? Yes.
2683. Then we should want more nursing accommodation? I think in any case the south wing ought to be removed.
2684. But if we remove the Nightingale wing we shall want more room for the nurses? You would have room in the spaces to rebuild.
2685. There is very little space between the proposed building and the Nightingale wing? I do not think it is possible to put a very large amount of accommodation on that site in any case.
2686. You have not considered the question of the number of beds to fill that site? I have simply numbered them on the plan.
2687. But you have not separately studied that matter? No.
2688. If you push that back 35 feet you reduce the area considerably? Yes.
2689. It is only 2½ acres now;—would you bring it down to 2 acres? Probably I should.
2690. So that it would be less available for a large hospital even than it is now? The accommodation undoubtedly would be diminished.
2691. Do you think that the building is too near the Mint to be suitable? It has struck me that a portion of it is already part of the Mint—one and the same building.
2692. No; there is a space of about 10 feet between the two, and about 10 feet on the other side, between the Nightingale wing and the Legislative Council Chamber. Does it strike you that it is rather close? Very close for a hospital.
2693. Is not that rather against the site as it is? Undoubtedly.
2694. And you are going to make it smaller still? I do not propose to decrease the space between the hospital and the general building.
2695. But you are going to reduce the building accommodation? I decrease it from east to west, not from north to south.
2696. That will decrease the building accommodation? Yes.
2697. You are going to take away practically three-quarters of an acre? Pretty well that.
2698. If your second plan is really the preferable one, do not you think that it is such a complete *boulevardement* that the Government would be justified in reconsidering the whole question of the construction of a new hospital altogether? I think there is no doubt that the matter should be reconsidered to some extent. I cannot say to what extent, because I do not like to give an opinion.
2699. Some of the medical witnesses are in favour not merely of an accident hospital, but of a good, full-sized hospital, with a medical school. Do you think, with your reduced area, you could possibly put that up? It is impossible.
2700. Then if we take your plans we must rigidly confine the hospital to a moderately-sized building? I think you must.
2701. Have you read the medical evidence which has been given? No.
2702. You have simply studied it in the light of an architect to whom, to some extent, is committed the future adornment of the city? Simply in the light of the street frontage.
2703. If we have a small hospital there you would like a two or three-storied building? Do you mean from an architectural point of view?
2704. Yes? I think there would be no objection to a three-storied building.
2705. Would not a two-storied building look rather stumpy, in view of the buildings that are going to be erected there? Owing to its long frontage it might do so; but there are buildings and buildings. I do not think that if this were reduced to two stories it would affect the design. I think it would be sufficiently high for architectural effect.
2706. The construction of the roof, of course, will have to be reconsidered? The roof would look heavier than it is now.
2707. Would it not look heavier from the street? Not so heavy as it looks on the drawing.
2708. But still, would it look nice? I hardly like to express an opinion.
2709. I am only putting it in this way because it is not worth while making a great sacrifice to architecture and then not get a satisfactory result? There is no doubt that the roof ought to be kept in proportion to the two stories.
2710. If you are going to diminish the area upon which the building rests, would not that be a stronger reason for making a three-storied building instead of two? To provide accommodation it would.
2711. Do you think the Nightingale wing keeps the sun off at all? Not to a great extent.
2712. If this building is carried out we shall have three parallel buildings at right angles to the main front—the Nightingale wing, the central pavilion, and the south wing;—do you think they stand in each other's way at all in regard to the sun and light? The central wing would, no doubt, in the middle of the day, take some sun off the southern wing; but then you get the southern wing right down the court-yard.
2713. Will not the Nightingale wing, to some extent, keep the sun from the eastern side of the central row of buildings? It would in the middle of the day, but not to any serious extent.
2714. Will not these pavilions keep the sun out of the south wing? It might a little out of the Nightingale wing.
2715. Is it desirable on that bit of land to have three or four parallel rows of buildings? I think it is making the site carry a great deal.
2716. The Legislative Council Chamber keeps the sun off the Nightingale wing on one side? A little.
2717. And the other side faces the south? Yes.
2718. Does much sun ever get into the Nightingale wing at all either way? Not on the southern side; but I think it does on the east and west.

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2719. The bulk of the rooms do not get the sun? I saw it with the sun on the southern front, to some extent, at a sharp angle. It was covering the whole of the front when I saw it.
2720. Would the Nightingale wing cover the central pavilion in the same way as the Legislative Council Chamber covers the Nightingale wing? Probably to some extent; but it is not so near the central wing as the Council Chamber.
2721. Do you think they will get sun enough on that side? I do not; the buildings will shut it out to some extent.
2722. Not even to the lowest story? I do not think so; it might in the winter-time, when the sun is lower in the horizon.
2723. If these pavilions are put up to the height of three stories, do you think they will shadow the south wing? They will do more than the Nightingale wing would shadow the centre.
2724. They will be loftier buildings? Yes.
2725. So that the south wing will not be so sunny and light if this plan is carried out as it is now? I do not think the lower portion will get quite so much sun; but then I presume the southern wing will be taken down.
2726. All these considerations point to the fact that we ought to reconsider the whole plan if we are going to alter the structure? There is no doubt that the question of pushing the front back does require reconsideration.
2727. It is such a complete change as to justify fresh consideration? I think a fresh site for an infectious ward, for instance, is required.
2728. *Mr. Copeland.*] What is the present width of Macquarie-street? 61 feet.
2729. Have you measured it? Yes; it was evidently intended to be a chain road, but it has been encroached upon.
2730. Is that from building to building? Yes.
2731. Is that opposite the hospital? About; but the frontage is a little irregular in places. Some of the houses break out more than others, but this width was taken opposite the hospital.
2732. If you could get an extra 20 feet added on to your 61 feet, do you think that would be a satisfactory solution of the whole question without disturbing the present buildings? Twenty feet is better than nothing at all, I admit.
2733. Would it not be a very substantial improvement? It would; but I do not think it would be an improvement equal to the necessities of the occasion.
2734. Would it not be possible for you to carry out the idea to a great extent when you get past the hospital—when you get down to what are the present Parliamentary Buildings. Supposing you got 20 feet opposite the hospital. You could get 19 feet 7 inches, I understand, additional, without interfering with the building at all, by taking the street up to the front of the steps. You could get that additional width, so that that would make the street 80 feet wide. Would not that be a very respectable width, and save all consideration of destroying a considerable amount of really good work which has been done in the past? It would, of course, prevent any disturbance of the present front of the hospital.
2735. Would it not be better, in view of all the risks and chances which may occur if once we commence to pull the building down, to make sure of getting 20 feet, or 19 feet 7 inches, which I understand from Mr. Rowe is the actual distance between the present street and the front of the steps? I think it would make such an awkward break in the improvement that it would be self-condemned when it was completed. It would be a standing eyesore.
2736. Do you know of any buildings which are similarly circumstanced, where the steps come right down to the side of the street? Yes.
2737. Do you know the Melbourne buildings? Yes.
2738. Do you know that the steps to the Parliamentary Buildings come down to the front of Spring-street? Yes.
2739. The Treasury Buildings;—in all these buildings the steps come down to the front of the street? But then they have a street from 160 to 200 feet wide. It makes all the difference.
2740. The Treasury Buildings have a much narrower street than that? I cannot tell from memory.
2741. At any rate, it appears that you can get, without any interference whatever with the present buildings, and without interfering with the original design, an extra width of 19 feet 7 inches; that would bring the street up to a total width of 81 feet 7 inches;—would not that be a satisfactory solution of the question? It would, of course, meet it to a certain extent, but in doing it you would have to sweep away the whole of these shrubs from one end to the other.
2742. Which shrubs? The existing shrubs—not opposite the hospital, but those opposite the buildings adjoining. There is a row of valuable shrubs, which it would be a thousand pities to disturb.
2743. You mean along the Gardens? Yes.
2744. Those shrubs, in any case, would have to go? I propose to retain them.
2745. Those shrubs are of no special value—similar shrubs could be grown again in a very few years? Probably; but it seems a pity to cut shrubs down.
2746. Are there not similar shrubs all through the Gardens? They have all the advantage of mature growth, which gives them a handsome appearance. You can replant, but it takes years before they grow up.
2747. Would not these shrubs, in any case, soon lose their healthy appearance if a roadway were taken on either side of them? I do not think so. I think they would rather improve.
2748. By having dust on both sides? There would be no dust in that street—it is all paved. You could not retain the shrubs of the existing Hospital Buildings in the way you suggest, because they will take at least from 10 to 15 feet width, and that would leave only about 4 or 5 feet between that and the hospital, which would be nothing at all. The shrubs would have to go entirely.
2749. But there are no shrubs in front of the Hospital Buildings? There are none opposite the hospital, but there are on either side.
2750. Would you still have a space from the bottom of the steps to the wall of the building; you could plant shrubs there, if you wished, for ornamental purposes? That could be done.
2751. Then there is nothing which need trouble us in moving from there down to opposite Hunter-street;—there are no shrubs of any consequence down to Hunter-street? There are some in front of the present Parliament House.

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2752. Supposing you get as far as Hunter-street without destroying any shrubs, what difficulty would there be in carrying out this shrubbery idea down to the Government House gates? The present shrubs could remain there without being touched.

2753. And when the new Parliament Houses are built, you could provide for continuing these shrubs in front of them, and then, when other buildings are put in place of the present old Parliamentary Buildings, you could still make provision for carrying out the shrubbery so as to bring it back again, ultimately, right up to the Hospital Buildings? I think the front of the hospital would look very awkward standing out in the pathway.

2754. In your plan do you propose to take the street the full width right down to the water? No; to the Government House gates.

2755. Where would be the difficulty of having the street a little bit narrower at the upper end any more than having it a little bit narrower at the lower end? One likes to make the road symmetrical if possible.

2756. If this building were not in the way no doubt it would be an excellent idea to give effect to it; but would not this be an excellent way of compromising the difficulty, by being satisfied to take the width of the street right up to the foot of the steps, the same as is done in connection with many other public buildings, and thereby getting 80 feet width of a street; are there any other streets in Sydney 80 feet wide? Unfortunately not many. It is as wide opposite the Town Hall.

2757. At any rate, 80 feet is a very satisfactory width? It is for ordinary commercial buildings, but not for the public buildings of the colony.

2758. Is there anything to prevent you from putting back a public building as far from the front of the street as you choose;—for instance, the new Parliament House Buildings; would you put them as far back as you could? I would, certainly.

2759. Would not that have a similar effect to having a wide street? Not if the hospital were left in its present position. It would spoil the whole perspective of the street.

2760. Supposing the street were carried 80 feet wide from one end to the other, would it spoil the appearance of the street to have one building projecting a little beyond the others? In this case the projection of the hospital would be so excessive that it would look very unsightly. Of course, you do not want a tame uniformity of building line, especially in large important buildings, but this would be so pronounced in actuality that it would always be an eyesore if you widen the street at all.

2761. Perhaps it would add to the additional beauty of the Parliament House Buildings by showing them off a little further back? That is a matter of individual taste.

2762. Would not there be a little additional beauty in having some variety in the position of the front of the buildings? I admit that, but in this instance it is too pronounced.

2763. You think a street with a width of 80 feet would not be sufficient? I do not think it is enough at all.

2764. All the circumstances considered, rather than be satisfied with a width of 80 feet of street, you would pull down the whole of the work that has been done? I think the cost—£14,500 or whatever it may be, should not stand in the way of the improvement.

2765. But I understand the cost, £14,500, will not give us back the same buildings which are intended to be erected there now? It gives you them back, excepting about forty beds.

2766. Is it not desirable, considering the rapid increase of Sydney and suburbs, to have as large a building as convenient? I am not prepared to give an opinion on the hospital itself.

2767. You know that the population of Sydney and suburbs has doubled itself in fifteen years? I suppose so.

2768. Considering the time it will take to finish this building, is it not desirable to have it as large as we conveniently can, without crowding the ground too much? I think if you build a hospital you should build it to meet the requirements of the place.

2769. Seeing that we are utilising such a valuable piece of ground, is it not desirable that we should continue to have as much space as possible, so as to give as much accommodation as possible, in view of the rapidly increasing population? That depends very much on the views you hold as to the accommodation required.

2770. You would not favour being satisfied to allow the buildings to remain, and to have the street 80 feet in width? Eighty feet is better than nothing, but I should not be satisfied, from an architectural point of view.

2771. *Mr. Tonkin.*] Have you studied the plans or buildings from a hospital construction point of view? I have not; I have simply studied them in regard to the cost of taking them down and rebuilding them.

2772. You could not give the Committee any idea of your own in regard to the science of building modern hospitals? I am not prepared to give evidence on that point at all.

2773. When you studied the question of the number of beds which would be required if you moved the building back, did you take into consideration the doing away with the south wing altogether? I have paid no attention to the south wing.

2774. What number of beds do you say you would accommodate? Two hundred and twenty-four beds, and twenty-four private wards.

2775. That is not the alteration you would propose? No.

2776. The other would be for 184 beds, and twenty-four private wards? Yes.

2777. That is for the building itself, independent of any other out-buildings which now exist? It is the accommodation on these plans.

2778. Independent of any other? Yes.

2779. That is for a three-story building? Yes.

2780. But I understand that would diminish the accommodation for the nurses in the Nightingale Ward;—you would cut off a portion of that? It would cut off the western wing, no doubt.

2781. Then it would not leave sufficient accommodation there? I should say not.

2782. Supposing we had to utilise the main portion of the main building for the nurses, that would again reduce the 184 beds? If you reduced the ward it would; but it is possible to find accommodation without reducing the wards.

2783. Where could it be found? I would suggest that it could be found in the upper story.

2784. How many beds would your proposal find accommodation for if there were only two stories to the building, as is suggested by many of the witnesses? Sixty-two less.

2785.

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2785. That would not interfere with the twenty-four private wards? No.
2786. If the whole of the buildings were pulled down, what would be the approximate value of the stone now on the ground for the purposes of any other building;—supposing it were decided to construct the building on other plans, what would be the value of the stone on the ground now? It is difficult to tell—it might be worth £4,000 or £5,000, but there is a great deal of brickwork.
2787. Would you advise, under any consideration, the construction of the building of stone if constructed in this street? Undoubtedly.
2788. Would it not do for the back to be of brick? Yes.
2789. All you wish the stone for is to improve the architectural appearance of the street? Yes. It would be a great pity to cut off the projections. It could be done, but it would interfere with the design.
2790. How far back from the edge of your suggested footpath would you commence to build? I would go back 30 feet to the projections, and 35 feet to the building.
2791. That would be 130 feet or 135 feet from the houses on the opposite side of the street? About that.
2792. *Mr. Humphery.*] What is the width of the steps leading up to the administrative block? The steps stand out from the wall about 15 feet.
2793. If these were removed, and an entrance were made into the administrative block without steps you would have 95 feet? Yes, up to the building.
2794. If you effect an entrance to the administrative block by means of an archway instead of steps, you could have 95 feet between the main wall of the administrative block and the houses on the opposite side? About 94 feet.
2795. And you are seeking for 100 feet? Yes, but I am wanting to set the building back in addition.
2796. *Mr. Dowel.*] With regard to the Royal Mint, would you remove a portion of those buildings? The outside of the buildings.
2797. What do you estimate the cost of that portion of the work to be? I have viewed it more in the light of the fact that the Mint some day will have to be rebuilt.
2798. It would involve some cost? Probably some accommodation would have to be found elsewhere.
2799. You have estimated the cost of the removal of the Sydney Hospital Buildings at £14,500;—your plan also would involve the removal of a portion of the Lending Library? I do not propose that the whole thing should be done at once. It would undoubtedly have to be rebuilt some day.
2800. At what do you estimate the total cost of the improvements which you suggest? I have not gone into it.
2801. You have made no calculation as to it whatever? No.
2802. You are aware that a large quantity of wool and other merchandise passes along Macquarie-street? Yes.
2803. And that would be a good reason for putting the hospital further back from the street? Undoubtedly.
2804. *Mr. Lee.*] Does the £14,500 include the re-erection of that building as well as taking it down? Yes.
2805. Restoring it to the same condition in which it exists now? Exactly.
2806. *Mr. Garvan.*] Do you attach a good deal of importance to the widening of Macquarie-street? I do.
2807. Do you know of any cities in the world where streets of that character are laid out? I know a great many, having travelled a good deal. I do not know of any street so narrow for its public buildings, or so mean looking.
2808. Could you name any of the great cities of the world where a street of that character is laid out as wide as that, and as wide as you propose? I do not know one so narrow. I have seen a great many of the Senate Houses in the States, and in European capitals. I have seen public buildings in India which have a wide space in front of them.
2809. Quite as wide as this street? Far wider. In Bombay, for instance, the street is probably 400 feet wide. There is a range of public buildings, probably a quarter of a mile long.
2810. Do you know the width of the street in front of Parliament House, Melbourne? I should judge it to be from 160 feet to 200 feet from the White Hart Hotel to the railings of Parliament House.
2811. That would be wider than even what you propose to increase this street to? It would. I am speaking from memory.
2812. You are almost certain, at any rate, it is not a less width than what you propose now? I am certain of that.
2813. Do you think it would add very much to the beauty of the city if the street were widened to the extent you propose? Having in view the new buildings which will probably be put up, I think it would.
2814. I presume if we do not do it now, and we place any large public buildings on the ground, it will become almost impossible to do it in the future? It will become more difficult, at any rate.
2815. There will be no cost involved upon the Government of the day other than the mere cost of removing these buildings? As the public buildings are put up, I suppose the widening will take place at the same time, but I do not propose to widen it at once, but as the buildings are erected, therefore the cost will go into the cost of the buildings.
2816. How long would it take the shrubs you refer to to attain the point of perfection which they are in now? Some of the trees which are there now are probably 20 years old.
2817. If we were to do away with them it would take a similar length of time to bring them to their present condition? I think so.
2818. In your opinion the trees and shrubs add very much to the beauty of a place? Very much, especially where you can get the semi-tropical foliage which you can get in Sydney.
2819. You think it an important feature of your proposal to be allowed to retain the shrubbery? It adds to the general handsome appearance. I should be sorry to see them done away with.
2820. You have shown in your sketch plan an extension from Moore-street;—is that in direct line with the street in front of the Post Office now? Yes; it is only a suppositious opening however.
2821. You bring it out in a direct line? Yes.
2822. Have you made any special study of hospital buildings? No. I have had to do with them more or less.

2823. Have you ever designed any, or had them constructed under your supervision? I have designed one or two cottage hospitals, but not a large one of this description. I have worked on them in my younger days.
2824. *Mr. Trickett.*] Do you know St. Thomas' Hospital, London? Yes.
2825. Do the buildings there come right out to the street, or have the patients, in order to enter the building, to go inside a wall or rail? Yes; it stands back from the street on the one side, and faces the Thames Embankment on the other.
2826. Therefore, in order to get patients into the hospital you would not have to discharge them in the street, but take them inside the enclosure? The only street steps attached to the hospital lead to the treasury department.
2827. Seeing that in the Macquarie-street building the accident ward is on the basement on the northern side, and under your arrangement you could come right under the building from the street, do you think it desirable that people suffering from accidents should be lifted out into the street, and carried right into the accident ward? I think it is very undesirable.
2828. Is it not desirable that a building of that character should stand back some distance from the street? It should do, as it does at present.
2829. But, according to one of your proposals, if we bring the street right up to the building that inconvenience in regard to patients would occur? It would.
2830. Is it not desirable to alter that if possible? I think so.
2831. Therefore you lean towards shifting the building back? I do.
2832. *Mr. O'Sullivan.*] What is the object in having this wide street? As a good setting to the buildings.
2833. To show off the buildings? And also for the purposes of the increased traffic which must arise.
2834. Would not these plantations of shrubs be in the way of a good site for those buildings? No; I think they would all help the general appearance.
2835. Would they not interfere with the view of the building coming down the street? Not of that height.
2836. Would it not be better to remove the shrubs, and have beds of variegated flowers in their place? Anything of that kind improves a building.
2837. Do you recollect the position of the foundation stone of the new Houses of Parliament? Yes.
2838. Have you considered the site of the new Houses of Parliament as subordinate to your present proposal? I have marked the site of the Parliament Houses on the sketch plan, because I have an idea, and it is the general idea, that the Parliament Houses were to go down by the statue, and to face down Bent-street.
2839. Do you know that the site between the present Parliament House and the Domain was purchased partly for the site of a new Parliament House? I do not know it as a fact—probably it may be.
2840. I see you propose making a main entrance to the Domain opposite Hunter-street? I assumed that the Parliament Houses were going below that, and then you would require a fresh entrance to the Domain.
2841. Are these three minor entrances shown on the plan? Those are assumed entrances to Parliament House.
2842. Under those circumstances you provided for the extension of the new Parliament Houses below Bent-street? Yes, northward.
2843. Is the road you propose on the northern side of the shrubbery supposed to be a vehicular road, or simply for foot traffic? For foot traffic; but it could be laid down for other purposes.
2844. Under your proposal you will retain the street as it is at present, leaving the shrubbery, and then a street east of that again? Yes; but I would put the present pathway on the eastern side right into the road itself.
2845. Speaking of the lower part of Macquarie-street, between Bent-street and the entrance to Government House, do you think that will be an improvement? I think it would give a greater idea of breadth if the street were taken all the way down.
2846. But will it not destroy these beautiful grounds in front, which are now laid out so beautifully, and which have such fine lawns? Well, it is a matter for consideration.
2847. You think it is a matter of taste between the landscape gardener and the architect? No; I say the landscape gardener should come in there; but I think the fact of making the fencing further back would have very little effect upon the general appearance. It would still have that park-like and garden-like appearance, and it would give you a broader street generally.
2848. As a matter of fact, are you taking steps in reference to the new Houses of Parliament? None whatever yet.
2849. Of course, if you were doing so, you would consider more definitely the proposal you are making with reference to the widening of the street? Yes.
2850. And it is just possible your design of the Houses of Parliament would be such as to interpose to prevent the carrying out of your design of widening the street? I do not think that is likely.
2851. Then do you propose to encroach upon the Domain? I should, of course, design the Houses of Parliament to be placed where Parliament wished them to be placed.

Thomas Rowe, Esq., Architect of the Buildings, sworn, and further examined:—

2852. *Mr. Trickett.*] You see the plan before you in regard to the proposed widening of Macquarie-street? Yes.
2853. Will you kindly give the Committee your advice in regard to it as affecting the building which you have designed for a hospital? As I have stated before, if Mr. Vernon's plan is carried out it will, I think, necessitate the rearrangement of the entire site.
2854. You have heard Mr. Vernon examined. He submits two proposals—one to bring Macquarie-street right up to the face of the present buildings, and to take away the steps and make an arch entrance into the administrative part of your design. What are your views in regard to that? I rather disagree with Mr. Vernon there. I should prefer leaving the steps, and, instead of taking the whole of the vacant space between the building and the street line, as Mr. Vernon has proposed, I would give him half that space. But if it were a desirable thing to take the line of the street up to the front of the building—that is the line doing away with the steps—it would be a very difficult matter to put the steps as suggested by Mr.

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Mr. Vernon. There is 9 feet in height to get up from the level of the street, and that would necessitate eighteen steps. With each of these a foot deep you would require some 17 or 18 feet to get into the lobby, which would entirely ruin the interior part of the building. If desirable, it could be done in a different way from that. If the building line were taken right up to the front of the administrative part of the building these steps could be erected, and the administrative block could be entered from the side by steps instead of, as Mr. Vernon suggested, by means of steps inside the porch.

2855. There is plenty of width there for a good approach? Yes. I merely suggest it as possible to do that, but I still contend it would be far better to leave the outer steps and bring the building line up to the wall of the steps.

2856. What is the width of the passages on each side of the administrative block? Eighteen feet.

2857. If you had steps there would they not interfere with the drive for the purpose of getting patients in? No.

2858. You have studied hospital construction very largely;—can you tell us of any hospital of such large proportions as this which goes right up to the street? I cannot. There are some, I know, but it is not a desirable thing for any public building to be close to the street.

2859. With regard to a hospital in a city like Sydney and in a street like Macquarie-street, where the traffic is likely to increase year by year, is it not very desirable that a building should be kept back from the roadway? I must admit that it is a desirable thing.

2860. The same as you have designed it now—you have kept it back? But if Mr. Vernon's plan was adopted, or an amendment upon this plan, and the building line was brought to the front of the administrative block, and there were a shrubbery and a broad path along there, the traffic would be where it is now. It makes no difference whatever.

2861. And ample means could be left for getting patients in without their having to be taken out into the street? It was never intended.

2862. Even if you have your steps on the north and south sides of the administrative branch, could provision be made for taking in the patients conveniently? If the plan is carried out the old southern wing, or a portion of it, should be taken away.

2863. It would necessitate the southern wing coming away? Yes.

2864. If these steps were taken away from the front of the building, would it not very much detract from its appearance? Yes, certainly; I prefer the steps. There is no necessity for the street line to be straight. There can be no objection to a broken line; it frequently adds to beauty.

2865. Agreeing that it would be a great city improvement to widen the street, as suggested by Mr. Vernon, you think the hospital could remain in its present position without being a disfigurement? Yes, and retain the steps.

2866. You do not think it would be a disfigurement to have a slightly broken line? No.

2867. You have heard Mr. Vernon state that the foundations could be removed back for £14,500;—do you agree with him or not? To take the whole down?

2868. To take down the whole of the front buildings, and the pavilion, and move them back? I understand his suggestion is to take down the three front blocks. I do not agree with him. I prefer rearranging the whole; it would ruin the Nightingale wing.

2869. Have you had time to consider whether you agree with his estimate of the cost of doing that work? I have not had time to estimate.

2870. But if that had to be done, would it not alter your design very much? It would alter the whole thing, so that it would be better to commence over again. The building is so nicely adjusted now on the site that if you touch it you must take down the whole and rearrange.

2871. There is a little confusion in my mind as to the south-eastern buildings; in your design is it intended to leave them there—the portion which now is occupied as a Lock hospital? That is to be entirely demolished—the whole of that southern building which is a Lock ward, &c.

2872. The only portion which would remain would be the portion used as a dead-house and for other offices? Yes.

2873. The whole of the remaining southern portion would have to be removed? Yes.

2874. Am I to take it that you dissent entirely from Mr. Vernon's proposal? Not entirely. I disagree with the idea of moving the buildings back.

2875. *Mr. Humphrey.* When you say it will be necessary to remove the south wing, you mean to carry out your design in its entirety? Yes.

2876. There is nothing to prevent the completion of what is called the eastern wing, and the Macquarie-street frontage, without touching the south wing? No; there is nothing to prevent that, but you cannot carry out the design ultimately without taking down that wing; neither could you get proper access to the accident cases, as they come in from the southern gateway.

2877. Is there not ample space on the northern side of the block? It is possible when the little buildings which are there are taken down.

2878. And, excepting for the purpose of gaining access to the eastern pavilion, it is not necessary to remove any portion of the south wing? No.\*

2879. So that it would be really an advantage to enter by the north instead of by the south side? It would.

2880. Are the buildings you propose to put on the present site of the south wing absolutely necessary to the hospital? It was considered so at the time.

2881. What are the buildings intended to be? Three infectious diseases wards, the nurses' room, an inquest room, a post mortem room, and a waiting room. Over the chapel is the operating ward.

2882. None of the buildings you mention are immediately necessary or absolutely essential? It would be an imperfect hospital without them. They have them in wooden buildings at present. The operating ward is in the present old wooden building which will be demolished by-and-by.

2883. If the evidence we have before us shows that the south wing can stand, and that the Macquarie-street frontage with the eastern pavilion complete would give all necessary accommodation—would you agree with that evidence? I say it leaves the hospital imperfect. The kitchen, as I have stated before, was placed very close to the front portion of the southern wing. It would never have been placed there had it been

\* NOTE (on revision).—But if steps to the administrative portion are to be placed at the sides, it would be necessary to have an entrance in the south end also. Therefore a portion of the south wing would have to come down.

been intended to take the southern wing down. It is out of place at present and crowded, but when the southern wing is taken down, and the other buildings erected, it will be more open and perfect in itself.

2884. You do not agree with the opinion expressed by some of the members of the Hospital Committee that it would be undesirable to remove the south wing? I do not. The south wing will require a great deal to be done to it. The balconies and verandahs are defective, and I think it will take some thousands to put it in a proper state of repair.

2885. Do you know that the results have been most satisfactory in that south wing—equally satisfactory to those obtained in the present wooden building? I have not heard anything to the contrary.

2886. *Mr. Garvan.*] If you had not been committed to the building, would you favour the idea of a street as wide as is suggested by Mr. Vernon? I do not know that I should have gone so wide as Mr. Vernon. I think it is rather unnecessary. It is sacrificing valuable ground. Eighty feet is my favourite width for a street in this colony.

2887. You think 80 feet would be sufficient even for the purpose of showing to advantage a magnificent building such as the hospital? Yes. I am afraid if Mr. Vernon took away so much ground he would have a difficulty with his new Houses of Parliament for want of space.

2888. Take your mind away from any question of the difficulty there may be of finding room for the Houses of Parliament. If you were laying out the street originally, you would still keep to 80 feet, instead of 110, as is suggested? I think 80 feet is wide enough. Too wide a street in a colony of this kind is irksome.

2889. For the purposes of beauty or health you would not have any street wider than 80 feet? I certainly have long been under the impression that if I were going to lay out the city on its present site I should adopt 80-foot streets. I am not a great favourite of planting in the streets. We have our reserves, parks, and so on.

2890. Are you aware of the locality of some of the great hospitals in the world, and whether their distance from other buildings is greater or less than is the case in Macquarie-street? They vary very much. Some are up to the road, and others retire considerably from the road. It all depends on the site they have had to work upon. Here we have had a difficulty to contend with, but if the site had been half as deep again I would have gone back 40 or 50 feet more.

2891. Do you think it would be an advantage for them to be further back? I certainly think so. Any one would prefer living 40, 50, or even 100 feet back from the street.

2892. Admitting that it is an advantage to shift them further back from the street, would you be prepared to say that we might incur some expense in carrying out that idea of yours? No expense would be incurred by carrying out my idea.

2893. Supposing we could give effect to your idea of putting the buildings 40 feet back, do you think we would be warranted in going to any expense to do that? I do not think so in this particular case. It would so wreck the whole arrangement, and the cost would be so considerable, that I should not advise it. I do not see the necessity of sacrificing so much money for the sake of widening the street to the width suggested.

2894. Mr. Vernon, in his plan for widening the street, made a suggestion to the effect that whilst still retaining the general width we should arch round in front of the buildings? Exactly.

2895. And that would carry out Mr. Vernon's idea in its main points without interfering with the site of your building? Just so.

2896. Do you not think that that might be favourably considered? I think so; it would be a broken line, and I am always an admirer of a broken line, especially where there are trees.

2897. If that idea were adopted it would still bring the hospital, comparatively speaking, very close to the street—that is, to foot passengers? Yes, but not for vehicular traffic.

2898. Is there much disadvantage in having a hospital so close even to the foot passenger traffic of the street? I do not think so.

2899. Would there be any danger to the health of the public in passing so close to a hospital full of sick people? I do not think so—not in this case; it is the administrative block only which would be very close. The other parts are still retired a considerable depth from the building line. The ward wall would be back, I suppose, 25 feet from the building line.

2900. Supposing it became the policy of the Government to take in a portion of the Domain, and to give you unlimited room for the erection of a hospital, do you think, then, that it would be desirable to go to an expense of say £20,000 to shift the hospital 40 or 50 feet back from Macquarie-street? If the Government submitted to that it would be desirable.

2901. Even if it cost £20,000? I think so.

2902. Your objection at present to go back is by reason of the actual condition of things? Yes.

2903. And it was in view of that that you designed the actual location of the hospital? Yes.

2904. But there would be a decided advantage to have room to go back? Certainly.

2905. *Dr. Garvan.*] I understand you to say you would like to reconsider the whole of the structure if you are to adopt either of Mr. Vernon's plans? It would have to be reconsidered if Mr. Vernon's plan is adopted.

2906. If you are compelled to put up your hospital on 2 acres instead of 2½ acres, you would like to rearrange the whole of the place? Certainly.

2907. You would hardly recognise your own work if it were altered to suit a different-sized ground? It would have to be taken down to suit a different size.

2908. If you were reduced to 2 acres, do you think you could give the accommodation you originally designed? It is possible to do it with a four-storied building.

2909. You could not do it without overcrowding? I do not say that we should overcrowd the site. It would simply be a case of going up higher.

2910. You cannot get extra ground either to the north or south? No.

2911. You are as close to the adjoining buildings as you ought to be? Yes.

2912. It would be better to have more ground if you could? Yes.

2913. Your opinion is that we must either go on with the present plan or reconsider the whole matter entirely? I think so.

2914. And if we have a smaller area there is no doubt but that we must go higher? It must be so; and I am still of opinion that, in order to get the accommodation, we ought to have four stories now. I think it will be a great pity to omit the fourth story whilst we have such massive foundations already erected.

T. Rowe,  
Req.

26 Feb., 1891.

T. Rowe,  
Esq.  
26 Feb., 1891.

2915. After all the medical testimony you have heard you are quite in favour of the full height? I am.  
 2916. I would like to point out there is no communication in connection with these staircases for bad air; they are doubly cut off by walls. At the head of the staircase there is a door, and then you enter into a lobby, and then there are doors into the ward again. It is impossible, because of the perfect ventilation, for any bad air to escape from the ward. There can be no possible communication with the staircase.  
 2917. You do not think any bad air can be sucked into that lobby and then up the staircase? I do not.  
 2918. If we diminish the area of the ground we must go up in height? Yes.  
 2919. If going back does away with part of the Nightingale wing, we should have to put another story upon that wing, or accommodate the nurses in the highest story of the building? The Nightingale wing will not bear another story,—it is wholly of slight brickwork. I erected it more than twenty years ago.  
 2920. If we take a third or a fourth part of that we shall be short of nurses' room? Yes. We shall have to provide for them.  
 2921. Either off the premises or in a higher story? Yes. The nurses are entirely shut off now in that wing to themselves. If you place them in the extra story at the top of main building they will not be isolated. The object is to have them in one building to themselves.  
 2922. To give them as much change as possible? Yes, and to keep them away even from the patients.  
 2923. On the whole, looking at the cost, you say, "Stand to the present plan"? I do.  
 2924. And you do not object to a moderate widening of Macquarie-street, but not to so much as would interfere with any part of your plans? That is so.  
 2925. *Mr. Humphery.*] What is the cost of the Nightingale wing? £8,000 or £9,000. It has four stories with an attic.

TUESDAY, 3 MARCH, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.  
 The Hon. FREDERICK THOMAS HUMPHERY.  
 The Hon. WILLIAM JOSEPH TRICKETT.  
 The Hon. GEORGE HENRY COX.  
 JACOB GARRARD, Esq.  
 HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.  
 WILLIAM SPRINGTHORPE DOWEL, Esq.  
 EDWARD WILLIAM O'SULLIVAN, Esq.  
 CHARLES ALFRED LEE, Esq.  
 WILLIAM MCCOURT, Esq.  
 JAMES PATRICK GARTAN, Esq.

The Committee further considered the proposed Hospital Buildings, Macquarie-street.

Walter Hull, Esq., M.D., Medical Superintendent of the Sydney Hospital, sworn, and examined:—

W. Hull,  
Esq., M.D.  
3 Mar., 1891.

2926. *Chairman.*] You are Medical Superintendent of the Sydney Hospital? Yes.  
 2927. How long have you held that position? Over two years.  
 2927½. Then the Hospital Buildings have been in a state of stagnation during your time? Yes.  
 2928. Do you desire to tender any special evidence? I have prepared a statement of my views, because I think that I can state my chief points more briefly in that way. I may state that I am not a member of the honorary medical staff; therefore I am not in any way responsible for the former statement, which was a statement from the honorary medical staff. I, as one of the paid executive officers of the hospital, wish to offer evidence on my own part entirely.  
 2929. It is simply upon the evidence that you wish to speak? Yes. With regard to the points mentioned in my letter to the Committee, I think it is desirable to take those points *seriatim*. With regard to the first point—the number of beds absolutely required at the present time—I wish to say that the number of cases admitted into the Macquarie-street Hospital during last year was 2,874, and when the list of diseases, which has been made as full as possible, is examined in detail, it is, in my opinion, easy for anyone, without special medical training, to see that, on the whole, the cases admitted were of great gravity, and required hospital treatment. To the non-medical mind, perhaps, the bald statement that 274 cases of disease of the digestive system were treated might not convey much information, but when it is pointed out that cases of cancer of the abdominal viscera, cases of peritonitis, of ulcer of the stomach, of intestinal obstruction, and strangulated hernia, together with many other cases equally urgent, are included in this class the matter is made clear. Some of the diseases, such as the cases of gastritis and dyspepsia, it may be said might have been treated elsewhere, but in nearly all these the symptoms were so grave at the time of admission as to lead the receiving medical officer to suspect some more dangerous complication in the background, as in large numbers of them was the case. I am prepared to express the opinion that, having seen all the cases admitted to the hospital during the last two years, and knowing that many have been refused admission who would, had more space been available, have been taken in, some accommodation over and above that at present available is highly desirable, and I think that that would be met by completing the portion of the building already begun, according to the original plan. This would give room for 200 beds in the new structure, and the number of beds in the south wing could be reduced. It would be difficult to conceive of stronger corroboration of the facts mentioned above than is contained in a Report presented by the Government Medical Adviser to Parliament, dated 1st May, 1890. In that Report Dr. Strong, the late Government Medical Officer, stated as follows:—"Could I do as I would wish I would send more pauper patients to the Prince Alfred Hospital, for the authorities there are particularly obliging, and have never refused admission to any case sent with my order, which I cannot say of the sister hospital." It must be explained that Dr. Strong issued orders for pauper patients, the expenses of whose treatment was borne by Government. It was not from any desire to be disobliging that many of his cases were not taken into the Sydney Hospital; indeed, from a money point of view, the hospital was acting in direct opposition to its own interests by taking in free patients and refusing those sent by Dr. Strong, but it was owing to the Hospital beds being required for cases of a more urgent nature than these, although, as may be implied from Dr. Strong's words, he would not have sent cases to the Sydney Hospital had he deemed it safe to send them on to the Prince Alfred. I may also state that during the last two years it

has

has frequently been my unpleasant duty to have to go into the wards and discharge patients before I considered they were quite fit to be discharged, in order to take in more urgent cases presenting themselves for admission at the gates of the hospital.

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With regard to my second point—the area being sufficiently large to accommodate the patients necessary—I may state that during the last nine years there have been 225 beds provided in the temporary structures, and for the greater part of that time they have been utilised to the fullest extent. Now, the space occupied by the unfinished portions of the hospital precludes the use of fully two-thirds of the area otherwise available. Supposing the accumulation of numerous buildings upon a small site to be an obstacle to free circulation of air and access of sunlight, as it undoubtedly is, there should have been during this period marked evidence of the bad results occurring from this source, if, as has been stated, 300 beds is too large a number for the whole site (three times more) to carry. I am in a position to state that during the last two years it has not been possible to trace any bad result to the accumulation of the patients upon this fraction of the hospital grounds; there has not been a single case of erysipelas in any of the surgical wards during that time; in short, both medical and surgical wards have been as free from anything denoting the prejudicial effect of overcrowding as I should wish to see. I consider this a remarkable fact from two points of view, viz., 1st. We have, as before stated, the unfinished buildings occupying the larger moiety of the space; they are unroofed, and the rain has free access to the interior of them; the rain during the wet seasons, which have been frequent for the last two or three years, cannot be got out of the foundations at once, and although nothing insanitary is allowed to remain in them, the buildings are less free from objection than they would be if fully finished and inhabited. Again, owing to the great pressure for beds, the south wing is made to accommodate more patients by at least ten than it should. Having had the opportunity of observing the housing under these unfavourable conditions of almost as large a number of patients as the proposed new Hospital Buildings will accommodate, I have no hesitation in expressing the opinion that the site is quite capable of carrying with safety more patients than are proposed by the completion of the new buildings to be placed upon it.

With regard to the central position of the hospital, I have prepared a table which shows that patients are drawn chiefly, and nearly equally, from all quarters within a radius of less than a mile of the present site. As the residence of those patients, the subject of accident would have no significance, owing to the fact that accidents occur away from home, these cases are grouped alone, and it is safe to conclude that they were tolerably equally distributed among the districts adjacent to the hospital. The patients under the heading "no home" were those brought by the police, many of whom were found lying in a dying condition in the Domain, or recent arrivals, whose serious condition prevented their being sent on to the Benevolent Asylums; moreover, many of the medical cases, some of whose addresses were given as in the country or suburbs, were really seized with acute illness in the neighbourhood of the hospital; but as it is impossible to obtain from the records the exact number in whom this was the case, all cases with the exception of accidents are tabled with reference to their homes. The return is as follows:—

Table showing the number of Patients admitted to the Macquarie-street Hospital during the years 1889 and 1890, from each part of the City and Suburbs, and the number from the Country:—

From the City proper:—	
Electoral Districts—	
East (including Woolloomooloo, east of George-street .....	613
West (including Pyrmont and Ultimo), west of George-street.....	877
South (including Surry Hills), between Liverpool and Cleveland-streets .....	553
* No home .....	496
* Accidents .....	1,678
	4,217
	* Chiefly from the City.
North-western Suburbs—	
The Glebe.....	148
Balmain .....	85
	233
Eastern Suburbs—	
Woollahra .....	58
Waverley .....	56
Paddington .....	138
Randwick.....	17
	269
East Central Suburbs—	
Redfern and Waterloo .....	239
Newtown .....	95
	354
Northern Suburbs .....	71
Western and Southern Suburbs .....	225
Country .....	282
	5,651
	Summary.
From the City.....	4,217
North-western Suburbs.....	233
Eastern Suburbs.....	269
East Central Suburbs.....	354
Northern Suburbs .....	71
Western and Southern Suburbs .....	225
Country .....	282
	5,651

With regard to the fourth point—medical education—a striking fact which is observed when the Sydney Hospital statistics are examined in detail, is the relatively large number of cases of medical and surgical emergency treated in both the in-door and out-door departments. The Sydney Hospital is so situated that nearly all the accidents occurring about Sydney will be, for many years to come, brought to its doors. Upon comparing the statistics of the Sydney and Prince Alfred Hospitals, as contained in the two last published Annual Reports, viz., for 1888 and 1889, the importance of the Sydney Hospital, as far

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far as this department of its work is concerned, is very apparent. During 1888, 115 cases of fracture and dislocation were admitted to the Prince Alfred Hospital, as compared with 310 to the Sydney Hospital. During 1889, the numbers were respectively 123 and 311. The number of accident cases admitted to the Sydney Hospital during this time were more than double those admitted to the Prince Alfred Hospital. Whilst the attendances at the Prince Alfred Hospital averaged about 175 a week, those at the Sydney Hospital averaged between 700 and 800. As illustrating the great difference in the class of cases applying for relief at the two hospitals during 1889, *one* dislocation of the shoulder was reduced at the Prince Alfred Hospital, as compared with *twenty-seven* at the Sydney Hospital. *Three* amputations of the finger for accident were performed at the former, compared with *thirty-seven* at the latter. This fact, which I have ventured to emphasise here, has a most important bearing upon the question of medical education. In the practical education of medical men great importance is always attached to the work done by students as dressers and clinical clerks. An indispensable condition for turning out good men is for them to have had the opportunity of gaining the confidence and readiness of resource which assisting in a large casualty and accident department will alone give. There is ample material for the education of a large number of students in this important element at the Sydney Hospital, and in my opinion this is essentially the field in medical education which should be filled by that institution. For it to fulfil this object worthily it must be a general hospital, although no doubt the number of beds set apart for accidents and the most urgent medical cases will far exceed those set apart for comparatively less urgent ones. It requires little reflection to convince anyone that no surgeon worthy of the name would be willing to confine his attention to fractured skulls and other injuries, or that the physicians would be content to treat cases of cerebral hæmorrhage only. Supposing that able men were willing to undertake such duties, they would soon deteriorate. It is therefore necessary, in order to allow the hospital to secure a capable staff, and for the sake of maintaining it at a proper level of excellence, that a fair number of general severe cases should be treated there.

2930. *Mr. Humphery.*] How far does the eastern boundary of the hospital district extend? As regards the cases in the table, cases coming from Woolloomooloo, and from Woollahra, and so on, are tabled as cases from the eastern suburbs.

2931. You will see, according to your own statement, that the number of cases coming from the eastern district is very disproportionate to the number coming from the western district? The number from the eastern district is 613, the number from the western district is 877, and the number from the southern district is 553; the southern district includes Surry Hills. The cases from the southern and eastern districts are largely in excess of the cases from the western district only. It was with a view of showing that the hospital is centrally situated that I quoted the figures. There is no doubt, of course, that a larger number of cases come from the western district; but the hospital is fed by patients coming from the other two districts almost equally. I mean that there are 1,100 or 1,200 patients coming from the eastern and southern districts who would be very much further from the hospital if it were placed anywhere nearer the western district than it is.

2932. It has been suggested that Cook Park would be a suitable site for the hospital—would that site be more central than the present site according to your table? I am not quite sure. It is a very short distance from the hospital. I should not like to express an opinion.

2933. It would be equally central as a site? It would be very nearly as central.

2934. Would it in your opinion be equally as good? I do not know whether there is sufficient space available there. I have not given that any consideration. Of course, the points upon which I am ready to express a strong opinion are points which I have carefully studied. I have not studied this other question at all.

2935. You cannot, then, offer any assistance? I am afraid I cannot in regard to that point.

2936. I think you stated that the very best results have been secured in the present wooden structure and the south wing? Quite so.

2937. Notwithstanding that a fraction only of the ground is occupied by those two buildings? Quite so.

2938. Do you hope for any better results from the completion of these large stone buildings? We always hope to improve our results. Our general experience is that we get improved results as the years go on.

2939. What are your grounds for thinking that you will be able to do even better by completing the present stone structure than by using the temporary wooden structure? I do not think I expressed any opinion as to our doing better at all in the remarks I made. I said I think that I could trace no results to improper crowding in the present hospital. But the points I wish to emphasise are these: That we have not a sufficient number of beds to accommodate the patients applying for admission, and that in my opinion the patients at present, in some portions of the building at any rate, are too closely crowded, although fortunately we have not been able to trace any bad results to that.

2940. Do you advise the removal of the south wing, or do you think it should remain? I think, under present circumstances, it might remain with great advantage.

2941. Then you would not recommend the removal of the south wing with a view to completing the buildings, which, according to the designs on the easel, are to be erected on the site which that wing now occupies? Well, of course it depends upon what point of view one looks at the subject from. If the Committee wish to have an architecturally very fine building there, there is no doubt that the proper thing would be to take away the south wing and build another pavilion, which would cost a large sum. But if it is desirable to save money, my opinion is that the present south wing should remain where it is, as being quite capable of supplying the wants which many of the hospital patients require, and if at some future time it is felt desirable to pull down the south wing, to make the buildings architecturally more beautiful, it can be done.

2942. Do you think the requirements of the hospital would be met if the buildings which are already commenced were completed up to one story less than this plan shows—not the original design, but the improved design? I certainly do not think that the accommodation would be sufficient for present purposes.

2943. You think it is absolutely necessary to have four stories? I think it is absolutely necessary to have as many beds in the hospital as we have at present, and I think it is highly desirable to have a few more beds than we have. I think I have shown clearly that many patients who have applied for admission—cases of an urgent nature requiring admission—could not be taken in, and that we had to discharge many

many patients before they were quite fit to go. We have also had to crowd the wards in the south wing, although that wing at present is made to accommodate more beds than in my opinion it ought to do. We have had to put up extra beds in that wing for patients.

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2914. How many do you think should occupy that wing? It accommodates at present seventy-six patients. I think that at least ten should be taken from that number.

2915. You think that sixty-six should be the maximum number of patients? Yes.

2916. And with 200 beds in the completed buildings you would have 266 beds? Quite so.

2917. Do you think that that would meet the requirements for some years? I think it would.

2918. You think it will be necessary to build the second eastern pavilion—that is, the most eastern pavilion? I think not.

2919. Do you think it is necessary at all? I do not think it is necessary at the present time.

2920. Having studied the plans, do you think it would be an advantage to the hospital that it should not be erected? No, I do not think that.

2921. Giving, as it would, more open space? I think there is sufficient open space.

2922. Even if that pavilion were erected? Quite so. I think the most eastern pavilion should not be erected unless the south wing is pulled down. If the south wing is allowed to stand I do not think there is any necessity for building the most eastern pavilion.

2923. Only in the event of the south wing being pulled down you would recommend that the most eastern pavilion—that is the one not yet commenced—should be erected? Quite so.

2924. Mr. Vernon, the Government Architect, has submitted a plan for the improvement of Macquarie-street, which he proposes to make 100 feet wide, and in order to increase the width to 99 feet the street would be brought up to the front elevation of the proposed Hospital Buildings, after removing these steps, making it necessary, perhaps, to enter by means of the archway or by steps on the other side of the administrative block. Do you think that would disfigure the building or cause the slightest inconvenience in the management of the hospital? Of course, it is a matter of opinion as to whether it would disfigure the building; many persons could form a better opinion on that point than I could.

2925. Would it be inconvenient in the management of the hospital? Certainly it would inconvenience the management.

2926. In what way? A portion of the administrative block would be taken up with increased staircases and steps, I presume.

2927. Hardly, as you will see if you look at the plan of the centre block. Suppose that, instead of this opening being made in the masonry for the steps, a larger archway were made into the ground floor or basement, do you think that that would materially inconvenience the management of the hospital? It would inconvenience it to a certain extent, because that is a waiting-room for out-patients requiring medicine, and so on. I do not say it would make any material difference. I daresay some other arrangements might be made.

2928. You know that originally the administrative block was one story less than is shown on this design on the easel? I was not acquainted with that fact.

2929. With the exception, perhaps, that other provision would have to be made for people waiting for medicine, do you think anything would be likely to accrue that would greatly inconvenience the management of the hospital if that alteration were made in the entrance? Nothing occurs to me at this moment with regard to the management.

2930. Would it inconvenience the management in any way if the entrance were made at the northern instead of the southern end of the building? I do not know that that would inconvenience the management; but, as a matter of fact, this portion of the ground floor is cut up for small consulting-rooms for the doctors who see out-patients. I think it would be very difficult to remove the walls which divide this part of the ground floor.

2931. *Dr. Garran.* You say that your results are good in this wooden hospital;—are they as good as the average results obtained in other parts of the world? I think they are quite as good.

2932. For the number of beds your patients do as well as patients do in any other hospital in the world? I think they do.

2933. You have at present 76 beds in the south wing—how many beds have you in the wooden building? About 150. We have altogether 224 beds.

2934. You will have 266 beds in the new hospital? Quite so.

2935. You will only get that small difference of gain—about thirty beds—at a cost of £80,000 or £90,000? I do not pretend to know anything about the cost at all.

2936. Your cases from the city are 4,217, as against 5,651 altogether? Quite so.

2937. Nearly four-fifths of your cases come from the city proper? Yes.

2938. This hospital is not absolutely in the centre of the accident area—it is on the margin of it? I do not know what you regard as the accident area.

2939. Take all the cases which come from the western side of the hospital? I have shown in the table that 877 cases came from the western portion of the city, including Pyrmont, Ultimo, and Darling Harbour, and that from the eastern and southern portions of the city there came about 1,200 cases.

2940. You have not mentioned here where you include Circular Quay and Darling Harbour cases? I have given a very full and detailed statement in the table.

2941. You say "accidents, 1,678," but you do not say where they came from? It is impossible to say. In order to do so it would be necessary to report in the hospital books the addresses of the patients and the places from which they happened to have been casually brought. That is never done anywhere to my knowledge.

2942. Do not accidents mostly take place at the wharves, in factories, and in connection with the erection of public buildings? No doubt they do. I think that a great many come from the wharves at Woolloomooloo; many cases come from the Woolloomooloo district.

2943. There is only one wharf there, Cowper Wharf? There is only one wharf, but a great many cases come from the Woolloomooloo district and from Surry Hills. A large number of the accidents occur in street brawls and so on. I cannot say the actual proportion of accident cases which come from wharves and from the streets, but I should say quite as many come from the one as from the other.

2944. Is the present situation of the hospital central for accidents, as a rule? I think so.

- W. Hall,  
Esq., M.D.  
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2975. You recommend, I understand, that the hospital should be put up to the full height? I think we require the number of beds it would give us, and I do not see any objection to its being done from a medical point of view.
2976. No risk of effluvia passing from a lower tier of beds to a higher tier? No. I may say that I lived in hospitals in England for five years, almost without intermission. One of the hospitals had five stories—not five tiers of patients, but four tiers of patients and a story above, in which the nurses were accommodated—and no bad results were obtained in that hospital. Both medical and surgical cases were treated in the top wards, as well as in the bottom wards.
2977. In your present hospital you have nothing but two stories? No.
2978. Do you find any difference in the upper story over the lower story? I do not see any difference.
2979. Not the slightest? We treat medical cases upstairs and surgical cases downstairs.
2980. You do not attach much importance to the aspect of the windows of the hospital? I attach no importance to that.
2981. You do not oppose a westerly aspect? I am speaking from an experience of two years in the colony.
2982. Has the south wing any windows on the southern side? It has windows on both sides.
2983. Below and above? Yes.
2984. Do you get much sun into the wing? Yes, there is sun—quite sufficient sun.
2985. You do not want more sun? I do not think we want more sun.
2986. You think it is not a colder hospital than the wooden one? No, I do not think there is very much difference between the two.
2987. Does the wooden building screen the sea breeze from the south wing as it stands now? No. I do not think it does. I have noticed nothing appreciable in that way.
2988. It would be all the better for the south wing if the wooden building were away? I think it would be much better, because the hospital would then be put in a position in which it could be administered properly.
2989. Then the south wing would get more sea breeze than it does if it were away? It certainly would get more.
2990. Your recommendation is that the front should be put up to three stories? It should be put up to the full height as originally planned—that is to say, four stories.
2991. The eastern pavilion, if built four stories, would have twenty beds in each ward? No, sixteen beds.
2992. You could not do without sixty-four beds altogether? I think about 260 beds are wanted altogether.
2993. You spoke as if you wanted a medical school attached to this hospital—do you think it can be built large enough to make a medical school? I am afraid that I have been misapprehended. I did not say that I wished to make the hospital a medical school—only that it should act as a supplement to the Prince Alfred Hospital, which I consider is not, and will not for many years to come be in a position to teach students certain departments of their work, and the material for teaching those departments being sufficiently ample at the Sydney Hospital, I consider that it will be greatly to the advantage of the Medical School for students to attend there.
2994. I understand you to point out that there is an immense deal more accident experience at the Sydney Hospital? Quite so; but the education of students depends only partly on training in accident cases. I consider that students cannot be trained anywhere else so efficiently in that class of cases as they can be trained at the Sydney Hospital.
2995. You have not the present appliances for a medical school? We have no accommodation.
2996. If you want to attach a medical school to the hospital you will want more? We should want no more than we should have by having the building properly completed.
2997. You will want a lecture-room, a pathological museum, and a variety of other things? That is not at all necessary. It is desirable that a room should be used for lectures, and it is intended that the operating theatre should be used on occasion as a lecture-room for giving clinical lectures, and so on. It is not intended to erect a museum and carry on the whole teaching of medical science at that hospital. What is intended to be done is simply to teach those portions of medical work which can be taught more efficiently there than at the Prince Alfred Hospital.
2998. Do you think that in ten years' time we should really want a city hospital proper, capable of holding 300 or 400 beds? I think it is quite possible that in ten years' time more hospital accommodation will be required in Sydney than even the completion of this building will afford. We shall be short of beds in ten years' time even with the erection of this building.
2999. Even if we added this new building, we should be short of beds in ten years' time? I think it is not at all unlikely.
3000. Would you put up an extra pavilion then, or go in for a new hospital? I prefer not to express an opinion on that subject.
3001. You say that if we put up an extra pavilion we must pull down the south wing? I do not say it is absolutely necessary. I say I think it would be desirable to do so.
3002. You will only get sixty-four beds in the new pavilion, and lose sixty-six beds in the south wing? Quite so.
3003. You would gain in architecture, but you would gain nothing in accommodation? Quite so.
3004. *Mr. Tonkin.*] I understand that you are in favour of retaining the present south wing as it is? Yes.
3005. Do you find any inconvenience from the proximity of the kitchen to that building? No. There is inconvenience in administration, but I have noticed no detriment to the patients. The offices of the kitchen are close to the building, but the kitchen itself is a great distance from the south wing.
3006. You find no inconvenience at all from its proximity? I notice no insanitary inconvenience.
3007. Do you think one emergency and accident hospital is sufficient for the city of Sydney? I think that this hospital, when completed, will be sufficient for a very long time.
3008. Do you think it would be better if, instead of having one hospital of 260 beds, we had one hospital on that site with 130 beds, and another hospital, say on Flagstaff-hill, with 130 beds? I think it would be highly undesirable, in the interests of the patients at any rate. It might be a good thing for certain members of the medical profession who are anxious to be connected with a hospital, but it would certainly be undesirable in the interests of patients to have two hospitals of that character. It is desirable that a hospital of a fair size should have a certain number of medical men to form its staff, and a small hospital would not be so likely to attract medical men of some standing as a larger hospital would. 3009.

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3009. You think it is entirely in favour of the patients to have one large hospital? I think it is more desirable that the present building should be finished than that two smaller buildings should be erected in different parts of the city.
3010. If two hospitals were built would they not be more in the neighbourhood of accidents? There is no doubt that some patients would be nearer one hospital and that other patients would be nearer the other hospital.
3011. Would that be any advantage? I think that, taking the whole of the circumstances into consideration, the advantages accruing from that arrangement would not counterbalance the advantages accruing from a properly appointed hospital erected in one position.
3012. Would not the expense of administration be reduced if the patients were concentrated in one position? With hospitals below a certain size the administration is more expensive.
3013. Is that one of the reasons why you advocate the erection of a large hospital, or are you speaking entirely on behalf of the patients? I am speaking now on behalf of the patients.
3014. Do you take into consideration at Sydney Hospital the expense attached to the treatment of patients? I do, certainly.
3015. Would there be any difference if the hospital contained 260 beds, or 160 beds? Certainly, the expense per bed would be much larger in the latter.
3016. Do you find any difference in the administration of a hospital if it has four stories, instead of one of two stories? My opinion is that a four-storied building is as easily administered as a two-storied one.
3017. And with as good results to the patients? I think so, other things being equal. Of course, if you put up a four-storied building in a very narrow lane, I do not suppose it would be so; but under the conditions that apply to the Macquarie-street site, I think it would, certainly.
3018. But is not the latest suggestion, from the medical point of view, that a hospital should be only one story high? I am not aware of that fact. I know a large number of the hospital buildings in London very intimately, and I know that many hospitals have been built there with four or five stories during the last ten years.
3019. And they are considered to be very highly satisfactory? The results are satisfactory.
3020. You have no fear on that score, whether the Sydney Hospital is a four or a three-storied building? I have none.
3021. But you seem not to be satisfied with any reduction in the number of beds. If we reduce the buildings by one story, as has been suggested, you think the hospital will not meet the requirements? I think not.
3022. Do you think there is any particular plan on which the hospital could be erected without taking up the whole of that frontage—do you think it would be in any way advantageous to erect the administrative department in the opposite direction, running east and west instead of north and south? I think not.
3023. You have no complaint about the building facing the west, as it does? I have none.
3024. *Mr. Dowel.*] How many patients were treated in the Sydney Hospital during 1890? 3,416 cases.
3025. How many surgical and medical cases were there in that number? Speaking approximately, there were about 1,200 or 1,300 surgical cases, about 365 eye cases, about 200 gynecological cases, about 100 Lock cases, and the remainder would be medical cases.
3026. How many accident and urgent cases were admitted? I consider that 95 per cent. of the cases admitted to Macquarie-street were urgent cases.
3027. Does that statement bear out the Report of the Hospital Committee? I think so, certainly.
3028. Do you think it is desirable or wise that cases "other than accident or urgent cases" should be treated there? I have already expressed an opinion upon that matter. I observe that you have a copy of the Hospital Report in your hand; and perhaps I may be permitted to say that I have spoken to the Secretary about the use of that expression "other than accident or urgent cases." It is a very misleading expression which will be omitted from the Report for this year. What is meant by the expression "accident and urgent cases" is, as is shown further on in the Report, accident and urgent cases admitted without orders from the Government or from subscribers—cases which present themselves at the door, and are taken in simply on account of their urgency. Many of the urgent and accident cases come armed with an order from subscribers, or armed with orders from the Government. They are just as urgent as the other cases, but they are not put down in that list. It has always been the habit of the Hospital Committee to put down as urgent and accident cases only cases which have not been paid for by anybody.
3029. In your opinion is the proposed and partially constructed building too near Macquarie-street? I think not.
3030. Do you anticipate that the very large amount of traffic in the street will have an injurious effect upon the patients? I do not think that it is at all likely that any injurious effect can be produced in that way.
3031. If you had an opportunity of setting out that building yourself on that particular site, would you place it farther back from the street? I should not.
3032. You approve of the distance it is from the road? I do.
3033. Do you anticipate any great danger to human life from the inflammable character of the present wooden hospital? I certainly think there would be very great danger to life if the building caught fire. I certainly think there is a risk to the patients. Although every precaution is taken to prevent the occurrence of a fire, yet a fire is not an impossible thing there.
3034. With an intimate knowledge of the whole of that site, do you think that the building could be placed further back with advantage, (say) 50 feet further back than it is? I think it would very seriously curtail the amount of space available for hospital work.
3035. You would not recommend, therefore, that the building should be put back any further than it is? No.
3036. *Mr. Cox.*] You say that 95 per cent. of the cases in 1889 were really urgent and emergency cases;—who is responsible for the admission of the other 5 per cent.? I am responsible for their admission.
3037. How do you account for the admission of so many cases which are neither urgent nor emergency cases? It is highly difficult to exclude some cases which may not be actually urgent. It is not easy, and sometimes not possible, to draw a line between urgency and non-urgency. Cases sometimes are admitted for a night or two where a small operation is desirable. There is always a certain small percentage of cases of that nature admitted to every hospital.
3038. Five per cent. means 170 patients a year;—might not some of these emergency cases be treated outside

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- outside—might not some of the persons be sent to their homes and treated there? It is always a matter of what one is able to do. For instance, one might admit a man who comes there insensible from a blow on the head, and from drink. If there is no bed in the hospital he must, of course, be taken to his own home, and he might have nothing the matter with him; but, on the other hand, he might have a fractured skull, and it is highly desirable, therefore, that he should be detained in the hospital. If there is no accommodation one has no alternative but to send him home, and let him run the risk. There are a large number of cases of that nature admitted to every hospital, and it requires great judgment not to take in cases unnecessarily, and, on the other hand, not to send away those who ought to be admitted.
3039. You spoke just now of admitting dyspeptic patients—surely they do not require beds? Many of these cases are very urgent. Some persons who suffer from acute dyspepsia and gastritis diseases, which run into one another, die within a short time of coming into the hospital; others get better and go out. It is impossible to draw strictly a line between cases of dyspepsia, such as we admit, and cases of a more grave nature.
3040. Is it necessary to treat all ophthalmic cases in the hospital? No; such cases are included in the table which I read. They are treated at Miller's Point Hospital.
3041. There is no necessity to give them beds then? Not so far as their urgency is concerned. With the exception of quite a trivial number in the general hospital, they are very well provided for at present at the Miller's Point Hospital.
3042. Are cases of lesser importance, such as broken arms and legs, treated in the hospital and provided with beds? There were 200 cases of fractures of elbow and other fractures in the out-patient department last year. In 1889 there were twenty-seven cases of dislocation of shoulder; they were treated largely as out-patients.
3043. Do you provide beds in any case for small fractures of that kind? We find no beds for patients unless we consider it would endanger their welfare to send them away.
3044. *Mr. Trickett.*] Is it your idea that this should be a large general hospital, and not an urgency one? My view is, that the Sydney Hospital should be a hospital of about 260 beds—that the number of emergency cases presenting themselves to the hospital are so numerous that the number of beds available is insufficient to meet absolute requirements for that class of cases.
3045. You say that all these beds will be required for emergency cases? Quite so.
3046. According to your evidence, the larger proportion of cases are medical cases? There are more medical than surgical cases.
3047. Could not these cases be well treated at suburban hospitals, such as the Prince Alfred Hospital? I think not.
3048. Why not? Because they are of too urgent a nature. Most of the medical cases are more urgent, with regard to the desirability of getting them quickly into hospital, than are most of the surgical cases. Take, for instance, such cases as typhoid fever. Last year there were about twelve or fourteen deaths from typhoid fever within a few days of their admission—that shows the great urgency of the cases, and how bad the patients are when they come. No doubt some of the other cases, if they had not been brought to the hospital which was closest, would have died. I consider it is much more important to take a case of bad pneumonia or typhoid fever, and many other diseases, to a hospital quickly, than it is to take a man with a broken leg, although it is highly desirable that both cases should be treated quickly. Still, if one has to choose between the two cases, one must give the preference to the case of pneumonia. In one case a patient is simply inconvenienced and put to pain by having to travel a longer distance, while in the other case a patient would probably be killed by the longer transit.
3049. Is it desirable to have typhoid fever patients treated right in the heart of the city? It is absolutely necessary, unless the patients are to die in transit. I may say that there is no chance of infection or anything of that kind likely to arise from the treatment of such patients in the city.
3050. Has not the treatment of typhoid fever patients been very successful at the Little Bay Hospital? I believe it has.
3051. Is that too far to take typhoid patients in a severe stage? I am in a position to state that no cases of a severe type are ever taken down there.
3052. For what reason? Because it involves a risk to the patients.
3053. What inquiry is made as to the ability of patients to pay for their treatment at the Sydney Hospital? Every applicant for admission is questioned as to his circumstances, and if, upon due inquiry, it is considered that he is in a position to contribute towards his maintenance, he is compelled to contribute, so far as we can compel him. Of course, if a patient comes to the hospital in a seriously low condition, we do not wait to get the money from him before we admit him. We admit him, and trust to his honor to give us the money when he can. But in many cases, unfortunately, they do not do so.
3054. Do you think the Sydney Hospital is subjected to much abuse in that direction? I think it is subjected to very little abuse indeed.
3055. According to the plan submitted to the Committee, some ophthalmic wards are provided for;—is it desirable to treat ophthalmic patients in large wards? It is not a desirable way of treating the majority of ophthalmic cases, such as we treat in this hospital. But I may point out, with regard to the inscription on the plan, that the wards will be just as suitable for treating surgical or medical cases as they will be for treating ophthalmic cases.
3056. Do you think it is desirable that ophthalmic cases should be treated in a hospital of this character? I do not think there is room to treat them at the present moment at the Sydney Hospital.
3057. If there were room there, would it be a good thing to have cases of that kind there? I think it would not be a disadvantage to do so.
3058. If proper accommodation were provided? Quite so.
3059. For the treatment of ophthalmic cases, is it not desirable to have a suite of rooms where different degrees of light can be obtained? For certain cases it is.
3060. There does not seem to be any provision of that kind made according to the plan? There is no provision made. As a matter of fact, if the ophthalmic cases treated at the Miller's Point branch were treated at that hospital it would be necessary to provide at least fifty more beds.
3061. Therefore, those letters inscribed on the plan are deceiving? Quite so. The plans were prepared over ten years ago, and the requirements of the city no doubt have increased very largely in the interval. The city and the suburbs contain 150,000 more persons than they did ten years ago, and there is no doubt that the strain on hospital accommodation in Sydney is much larger now than it was ten years ago. It is much larger than it was five years ago.

3062. Do you think it is also desirable to treat Lock cases in a general hospital? I think it is absolutely necessary to treat a certain number of them in a general hospital.
3063. Would it not be better to have a more retired place for a Lock hospital than this site affords? It might be if it were considered necessary to provide for a large number of Lock patients.
3064. Is that particular ward overcrowded at present? No. In one or two cases only have I found any difficulty in accommodating all the Lock patients who present themselves and require indoor treatment. I have been put to a little difficulty to provide for a case now and then, but, as a general rule, we have about sufficient accommodation for the Lock patients that we have to provide for.
3065. We have had some evidence that these foundations can be removed, and that another hospital of a purely modern character can be provided, giving the same accommodation as is proposed in these plans, for the same money. Do you think it is desirable to raise the foundations and build a new hospital? I certainly think it would be undesirable from my point of view. The question requires to be dealt with at once. The thing has gone on so long that there will be great scandal if proper accommodation is not very soon provided for the patients. I consider that the thing has gone on so long that it is really impossible to go on much longer without scandal arising. I think it would be highly undesirable, therefore, to delay the work. I think that the present hospital, as projected, is a very good one indeed. I do not see that there is any need for altering it at all.
3066. *Mr. Lee.*] Have you given the question of cost any consideration? The cost I have considered, but I would rather not give evidence on that subject, because I do not consider that I am qualified to do so.
3067. Are you of opinion that the hospital should be completed at a cost of £750 per bed? I am aware of the fact that many hospitals in other parts of the world, in England for instance, have cost as much or more. I am also aware that the expenses of hospital building are very great—probably greater here than in England.
3068. Can you cite any instance where the cost has equalled the proposed cost of the Sydney Hospital? I believe the cost of building St. Thomas' Hospital in London was quite equal to the proposed cost of the Sydney Hospital?
3069. Have you been connected with any hospitals in the old country? I was a student of St. Thomas' Hospital, and I lived in that hospital as resident medical officer in various capacities for three years.
3070. It is built on the pavilion plan? Yes.
3071. Somewhat similar to the plan of the Sydney Hospital? Very similar to this plan.
3072. Has it attained the highest percentage of results? It has always been noted for obtaining very good results. It has always been a surgical hospital; more beds are set apart for surgical cases than for any other cases.
3073. I suppose you are aware that the portion of the second story which has been erected has cost £68,000, and that the Government have already contributed £45,000 towards the work;—are you of opinion that the hospital should be carried out in its entirety even at a cost of £100,000? I am not considering the cost at all.
3074. You prefer not to touch on that point? I do not feel qualified to do so.
3075. You are aware that even if it is completed the accommodation will amount to 200 beds? Yes; that is to say, the portion already commenced, if completed according to the original plan, and excluding the accommodation in the south wing.
3076. *Mr. O'Sullivan.*] Has there not been for some time past a feeling of rivalry between the Sydney Hospital and the Prince Alfred Hospital as to which should have the grandest and completest establishment? I have never seen or heard of any evidence pointing to that.
3077. Supposing it has been admitted here by a witness competent to speak on the subject, do you think there is any truth in the statement? I really do not know, I do not know anything one way or the other. As far as my acquaintance goes with the Directors on the Board of the Sydney Hospital, they have never expressed, during my residence there, any feeling at all either antagonistic to, or in rivalry of, the other institution. That is all I can state on that point.

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Esq., M.D.  
3 Mar., 1891.

## PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## Hospital Buildings, Macquarie-street.

## APPENDIX.

## A.

## PRECIS OF PAPERS RELATING TO THE SYDNEY HOSPITAL.

- August, 1883. On the 9th October, 1883, papers were laid before Parliament in connection with Sydney Hospital accommodation and position. These comprised a minute by Sir Alexander Stuart in reference to the request of the hospital for a further grant of £50,000, and giving reasons for his opinion that "it would be better to cease further aid to the erection of the Sydney Hospital, and that Government should resume it and expend its present value in completing the Prince Alfred, and in proceeding with some of the other hospitals alluded to." Opinions on the general question were then obtained from Drs. MacLaurin, Mackellar (President of the Board of Health and Medical Adviser to the Government), J. C. Cox, Sir Alfred Roberts, and George Fortescue, M.B., and attached to the papers was a block plan for Sanatorium at Little Bay.
- 10 September, 1883. The Principal Under Secretary, by direction of the Colonial Secretary, then wrote to the Board of Directors informing them that Cabinet had decided not to advise the granting of any more money for the building now in progress, but offering—should they decide to abandon the project—to entertain the resumption of ground and buildings, and to expend the value thereof in other hospital accommodation, as the needs of Sydney or the colony required.
- 17th November, 1884. The Superintendent of Metropolitan Fire Brigades reported on the condition of the buildings at present used. On November 17th, 1884, he wrote to the effect that the female wards were held to be substantial, and almost free from external risk of fire. The male wards, however, as regarded protection from fire, were most dangerous. Although supplied with plenty of hydrants, these would be useless, on account of the short lengths of the hose, if fire broke out in the lavatories, theatre, or more remote parts of the buildings.
- 16th November, 1885. A minute dated 2nd September, 1885, was written by the Colonial Secretary (Sir Alexander Stuart) on the position of Government with respect to the hospitals and the maintenance of patients therein. This dealt especially with the alleged inadequacy of the Government contributions and suggested a plan for a basis of operations:—(1) That a general Hospital Board be formed; (2) The completion of Prince Alfred Hospital Buildings; (3) That the Sydney Hospital Committee should sell to Government at a valuation their present site and buildings. The minute also dealt at length with other matters connected with hospitals other than the Sydney Hospital.
- The Medical Adviser to the Government in his report on the above minute gives his views on the whole question, with especial reference to the maintenance of Government patients. He was of opinion, after consideration of the *pros* and *cons*, that the buildings should be completed, to contain 140 beds at a cost of £50,000; and that a sum of £5,000 should be expended on the Prince Alfred Hospital to complete the present design, providing an accommodation of 204 beds. He also reported that it was absolutely necessary that hospitals should be established for the especial treatment of contagious diseases.
- On the 9th April and 2nd September, 1885, the Secretary of the Sydney Hospital wrote asking that the Government would pay the overdraft of £10,000 which had been incurred in connection with the hospital, and for which certain members of the Hospital Board had made themselves personally liable. The Colonial Secretary replied that he would be glad to confer with the President, but that no payment could be made without the consent of Parliament. The Sydney Hospital authorities on the 11th February, and again on the 15th March, 1886, requested the Colonial Secretary to receive a deputation asking that a sum of money be placed upon the Estimates for the purpose of finishing the Hospital Buildings; and on Easter Monday of the same year Sir Alfred Stephen wrote advocating the conversion of the unfinished structure into Houses of Parliament.
- On the 14th August, 1886, the Secretary of the Sydney Hospital again wrote to the Colonial Secretary on the subject of the overdraft, requesting that the amount of £14,307 8s. 10d., then due to the Bank of New South Wales, might be liquidated by the Government, as the Board of Directors were being charged 8 per cent. interest for the same; he further drew attention to the fact that previous Governments had promised to pay it off, and that since the meeting of the Board they had been further embarrassed by a demand from their architect for the payment of £1,000 due to him as commission.
- On the 4th November, 1886, the Secretary wrote asking for a reply to the above letter, and on the same date for the favour of a deputation re completion of Buildings.
- A report was received on the 1st December, 1886, from the Superintendent of Metropolitan Fire Brigades, relating to a slight accident which had occurred at the Sydney Hospital, and which might have been of a most serious character, by a great part of the ceiling in north end lavatory of G ward falling, thereby breaking a gas bracket, allowing the gas to ignite between the lining boards of the lavatory and the ward itself. He recommended that steps should be at once taken to have the structure removed, as, if a fire once got a firm hold, nothing could prevent its destruction in fifteen minutes.
- The Principal Under Secretary then forwarded this report to the Secretary, Sydney Hospital, pointing out the urgent necessity for a remedy being taken to avert such a catastrophe.
- On the 2nd December the Secretary of the Sydney Hospital acknowledged the receipt of the report, and asked for a postponement of the deputation, which had been arranged for Friday, the 3rd instant, in order to consider the request and prepare suggestions. The deputation was received on the 10th December, when the Colonial Secretary was requested to place an additional £50,000 on the Estimates for the completion of the hospital, together with the sum of £10,000 for which the Directors had become responsible with the Bank of New South Wales.
- The question of accommodation was gone into fully, and Mr. Dibbs informed them that he would think the matter over in consultation with Dr. Renwick, and, if possible, submit to the Cabinet their joint proposal for the future hospital.
- After the next meeting of the Sydney Hospital Board the secretary wrote for the information of the Colonial Secretary, that the Directors desired, before considering the question of the removal of patients, to ascertain the intentions of the Government as to placing a sum of money on the Estimates to complete the hospital. The Colonial Secretary replied that he must decline to discuss the question of further progress until the removal of the patients from the impending danger; he viewed the letter from the Board as a distinct refusal to move in the matter, he had therefore directed the Health Officer to cause an inspection to be made of each of the inmates in the temporary building, so that the Government patients might be removed forthwith, and the Medical Adviser to the Government was requested to furnish an opinion and report as to the most suitable place for the removal to, of the patients in the temporary structure, and, on receipt of above report, prompt action would be taken.
- On receipt of this letter the Board of Directors met, the result being that it was discovered that a serious omission had been made in not forwarding to the Colonial Secretary a copy of the resolutions passed on the 20th December, which they feared might have misled the Colonial Secretary as to their real intentions, and asked for a reconsideration of the matter.
- 12th January, 1887. A change of Ministry having in the meantime occurred, Mr. Dibbs on leaving office left on record a minute containing certain recommendations with regard to the prevention of fire at the Sydney Hospital, emphasising the great danger to patients in the present structure, and suggested that the matter should be dealt with before the meeting of Parliament,

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Parliament, or, at least, before the Estimates for 1887 were submitted. He further pointed out that the whole of the Government patients had been removed, but that there were still a large number of ordinary patients in the building exposed to wholesale destruction in the event of fire. A copy of this minute was forwarded to the Board of Directors.

The next communication from the Directors was dated 4th March, 1887, reiterating their former request for a sum of money to be placed on the Estimates to complete the buildings and pay off the overdraft, and asking for a deputation on the subject. 14th January, 1887

Before receiving them the Colonial Secretary asked for details as to the amount already expended, and the number of patients provided for by plans.

Full details were accordingly supplied on the 15th March, showing that the total amount expended to date was £68,218 1s. 3d., of which £45,000 was contributed by the Government, and £23,218 1s. 3d. from the Hospital Funds, and that to complete the buildings according to the original plan providing for 270 beds would require £216,000, and suggesting that a smaller scale of hospital might be completed at a cost of £50,000. Appended to this letter was an estimate by their architect as to probable cost of alternative plans for completion of buildings.

The Colonial Secretary, Sir Henry Parkes, received the Board of Directors on the 18th March, 1887, and informed them that he was in favour of continuing the buildings, and that he would lay the matter before his colleagues as early as possible.

Another deputation took place on the 16th November, 1887, but nothing definite was arrived at.

On 14th April, 1888, the Government Medical Officer drew the attention of the Medical Adviser to the Government to the great dearth of beds in the Metropolitan and Coast Hospitals, and asked for assistance in devising some means for further hospital accommodation. The Medical Adviser then wrote to the Directors of the Sydney and Prince Alfred Hospitals on the above subject, and received in reply from the former, a letter, stating that they could see no way to assist the sick poor, unless the Government would provide house accommodation, or premises adjacent to the hospital, in which case their honorary medical staff would freely give their services.

The Directors of Prince Alfred Hospital suggested that suitable tents should be erected in their grounds as a temporary means of relief, until permanent buildings could be put up, and in the absence of any Government scheme for a separate Lock hospital, a weatherboard building should be provided in the grounds. They further pointed out that three additional pavilions, contemplated in the original design, which would accommodate 240 more patients, could be at once proceeded with.

On these questions the Medical Adviser to the Government reported adversely, and advised that the building of the Randwick Asylum should be used for the purpose, by which 350 beds would, in a very short time, be added to the accommodation available for the sick poor. 5th June, 1888.

About January, 1889, the Medical Adviser to the Government (Dr. MacLaurin) was requested by the Colonial Secretary to report upon what action had been taken with reference to the wooden building attached to the Sydney Hospital. He reported that it was still used for the reception of male patients, and concurred in the opinion of the Superintendent of Metropolitan Fire Brigades as to the great danger of fire, and its unsuitability for the reception of patients. He suggested that the Board of Directors should be requested to offer any suggestion they might think proper as to the best means for immediately removing the patients from that dangerous building.

Another report, on verbal instructions from the Colonial Secretary, was, on the 15th April, furnished by Dr. F. Norton Manning, who had succeeded Dr. MacLaurin as Medical Adviser to the Government, stating that a hospital in a central position in Sydney was an absolute necessity for the treatment of accidents, &c.; also, that he considered the present site was a healthy one, and well suited to the treatment of accidents and acute diseases; that although other sites might be found, none possessed its advantages, and although somewhat limited in area and not large enough for the General Hospital originally planned, it was sufficient for accidents and acute diseases.

## B.

## SYDNEY HOSPITAL BUILDINGS.

(PARTICULARS RESPECTING.)

Ordered by the Legislative Assembly to be printed, 3 December, 1890.

## SYDNEY HOSPITAL BUILDINGS.

Portions completed and partly erected.

THE portions of the buildings completed are—Kitchen premises, also laundry and engine department.

The kitchen premises consist of kitchen, pantries, scullery, servants' hall, servants' bedrooms, &amp;c.

Portions completed.

The laundry and engine department comprises laundry, linen-rooms, drying-room, engine-room, boiler-room, engineers' and carpenters' shops. A portion of the building is used as a mortuary.

The portions of the buildings partly erected, viz., to the height of two storeys from the ground level, are the north, south, and east pavilions, also the centre administrative building. Portions partly erected.

The outlay on the above works has amounted to £68,923 7s. 8d., as follows:—

Outlay.

<i>Outlay.</i>		£	s.	d.
Excavation.....		2,194	15	0
Kitchen premises—				
Mason work .....	£	4,346	14	6
Finishing trades .....	£	2,404	19	4
Gas-fitting.....	£	41	10	0
		6,793	3	10
Laundry and engine department .....		5,731	16	7
North, south, and east pavilions, also centre administrative building—				
1st contract—Raising walls one storey from ground .....		25,642	9	6
2nd contract for same—Building walls two storeys from ground (present stage of buildings) .....		23,701	6	3
Sundries .....		463	16	6
Clerk of Works' salary .....		1,170	0	0
Architect's commission .....		3,226	0	0
		68,923	7	8

Completion of buildings (partly erected) according to original plans, in stone walls.

*Approximate Estimate.*

North, south, and east pavilions, also the centre administrative building—four storeys high in pavilions, and five storeys in height for administrative building—providing accommodation for 200 beds .....

£50,000

200 beds.

or £744 per bed.

Completion of buildings (partly erected) one storey less in height than indicated upon original plans, in stone walls.

*Approximate Estimate.*

North, south, and east pavilions, also the centre administrative building—three storeys high in pavilions, and four storeys in height for administrative building—providing accommodation for 144 beds.....

£56,000

144 beds

or £360 per bed.

*Note.*—The foundations and substructure having been prepared for the massive walls arranged upon the original plans it would be undesirable to reduce the buildings by one storey of their intended height. The buildings covering, as they do, a very large area of ground, the height, as designed, is necessary to be built to prevent the whole looking squat, as there would be a chance of them appearing, if curtailed in height. Completion

Completion of the whole of the buildings in stone walls according to original plans.

The buildings are eleven in number, and comprise the following :—

Administrative Block.  
North Medical Ward.  
South Medical Ward.  
Surgical Ward.  
Eastern Ward.  
Infectious Ward.  
Mortuary and Pathological Museum.  
Chapel: Operating-room and Lecture Theatre.  
Kitchen premises.  
Laundry and Engine premises.  
Stores.

264 beds. *Approximate Estimate.*  
To complete the whole of the above, providing accommodation for 264 beds... £140,000  
or less than £500 per bed.

Completion of buildings (partly erected) in brick walls, and cemented.

*Note.*—It is very undesirable to change the material already adopted, stone being preferable in every respect. The character of the buildings would be very much lessened, being brought down to the level of the commonest street architecture by the introduction of brick and cemented walls. Double-pressed bricks would be the only permissible alternative material from stone, but their cost, with stone dressings, would amount to about the same price as stone.

200 beds. *Approximate Estimate.*  
North, south, and east pavilions, also the centre administrative building—four storeys high in pavilions, and five storeys in height for administrative building—providing accommodation for 200 beds ..... £65,000  
or £670 per bed.

Completion of buildings (partly erected) one storey less in height than indicated upon original plan, in brick walls and cemented.

144 beds. *Approximate Estimate.*  
North, south, and east pavilions, also the centre administrative building—three storeys high in pavilions and four storeys in height for administrative building—providing accommodation for 144 beds ..... £45,000  
or £300 per bed.

Completion of the whole of the buildings in brick walls and cemented.

The buildings are eleven in number, as described above.

264 beds. *Approximate Estimate.*  
To complete the whole of the above—providing accommodation for 264 beds ..... £105,000  
or about £660 per bed.

The original conditions of competition required buildings to cost £45,000, which was an utter impossibility to provide, unless being built in a fragile manner of slight brickwork.

After the competition was decided the present old southern wing caused a serious difficulty in the arrangement of the new pavilions. It was therefore decided to eventually demolish it, and the accommodation of same to be provided in new structures in the form of the letter T. This, together with the decision to build of stone, increased the expense of the buildings. The whole scheme was made further perfect from constant consultation with the Board and medical men.

Granted that £50,000 per annum was expended for three years, the whole of the works would be completed, leaving a noble monument, perfect in its arrangement and construction, which would reflect credit and honor upon Sydney and the colony for generations to come.

Vickery's Chambers, Pitt-street,  
3rd December, 1890.

THOMAS ROWE,  
Architect.

### C.

[To Evidence of Critchett Walker, Esq.]

GOVERNMENT CONTRIBUTIONS TO SYDNEY HOSPITAL FOR BUILDING PURPOSES.

Dear Sir,

I forward herewith the information, as promised to your Committee by me when giving evidence with reference to the Sydney Hospital. 4 February, 1891.

Yours, &c.,

CRITCHETT WALKER,  
Principal Under Secretary.

The Secretary, Parliamentary Standing Committee on Public Works.

Question 12.—Of the £68,923 7s. 8d. spent upon the buildings the Government has contributed £45,000, the balance, £23,923 7s. 8d., being paid by the Hospital authorities.

Questions 13 and 14.—The amount contributed by the Government for building purposes only is £45,000, made up of two instalments of £12,500 each, and one of £20,000.

Question 16.—These papers are now in the possession of Mr. Lyne, Secretary, Works Committee.

Questions 17, 18, 19. Do do do

### D.

[To Evidence of Sydney Burdekin, Esq., M.P.]

PATIENTS ADMITTED INTO SYDNEY HOSPITAL DURING 1889 AND 1890.

WITH insignificant exceptions the cases admitted into the Sydney Hospital were all urgent ones, as the following statistics will show :—During 1889 there were 3,296 cases under treatment. Of these cases 1,293 were urgent and accident cases admitted without orders from Government or subscribers. It is not implied by this statement that the other cases were not urgent; in fact these cases were, on the whole, as urgent as those admitted without orders—as on account of the great pressure cases have to be carefully selected according to their urgency. The medical cases under treatment were 1,368, of whom 200 died, a mortality of nearly 15 per cent. The surgical cases amounted to 1,193, of whom 76 or 6½ per cent. died. The gynaecological cases numbered 141, of whom 7 died, a mortality of 5 per cent. Lock and ophthalmic cases were 586, with no mortality.

In 1890 there were 3,416 cases under treatment, of whom 3,177 were admitted during the year. 1,349 of these cases were admitted as accidents and urgent cases without orders from Government or subscribers. The cases treated may be classified as follows :—Medical, 1,485, with a mortality of 251, or 17 per cent.; surgical, 1,251, with a mortality of 6·5 per cent.; diseases of women, 168, with a mortality of 7, or 4·1 per cent.; Lock and ophthalmic cases, 439, with no mortality.

In 1889 the average number of occupied beds was 236, and the largest number in occupation at any one time during that year was 264. The average duration of stay was 27 days.

In 1890 the average number of occupied beds was 240, and the largest number of beds occupied at any one time was 271. The average duration of stay was 25 days.

E.

## E.

[To Evidence of H. D. Russell, Esq.]

COPY OF MINUTES OF HOSPITAL BOARD.

MR. H. D. RUSSELL, Secretary to the Board of Directors of the Sydney Hospital, when under examination by the Committee, respecting the Hospital Buildings, promised to endeavour to obtain for them a letter from a builder which he believed accompanied the plans of Mr. Thomas Rowe, certifying that the building represented by the plans could be erected for £45,000. He afterwards informed the Secretary of the Committee that this letter could not be found, and he forwarded the following letter, together with a copy of all the minutes connected with meetings of the Hospital Board, relating to the subject of the plans for the new hospital.

Sir,

I forward herewith copies of all Board minutes bearing upon the adoption of the plans of the new hospital. You will observe that the present accepted plan is not the original one which gained the premium. The amended plan combined some of the best features of the three first prize plans, together with those of "Health" (Mr. Kirkpatrick's plan).

You will observe that Mr. Rowe had promised to give the Directors the estimated cost of the new plan, but he never did, and the plan was sent to the Government for approval without it.

The builder's certificate (which was attached to every competitive design) was never left at this office; it went away with the original plan when it was taken away by Mr. Rowe for alteration; and the alternative plans subsequently exhibited did not possess the "builder's certificate of cost."

Sydney Hospital, 28 January, 1891.

I remain, &amp;c.,

H. D. RUSSELL,

Secretary.

To the Secretary, Parliamentary Standing Committee on Public Works.

## EXTRACTS from Monthly Board Minute Book in reference to Plans of new Hospital.

A letter was received from the secretary of the Honorary Medical Staff, stating that the most suitable of the plans selected by the Sub-committee for the permanent building are "Specs," "I Bide," and "Bono Operi," and that the plan bearing the motto "Health," is worthy of reconsideration, being approved by some of the members of the staff.—Referred to the Temporary and Permanent Building Committee. 1st April, 1870. Monthly meeting.

A letter was read from the Honorary Consulting and Honorary Medical and Surgical Officers of the Institution, stating that a meeting of the staff had been held, Dr. Renwick in the chair. Drs. P. Sydney Jones, Cox, Morgan, O'Rielly, Belgrave, Dixon, and West were present, and it was resolved, on the motion of Dr. Cox, seconded by Dr. P. Sydney Jones, that the present site of the Sydney Infirmary is an excellent one, and well adapted for the erection of a city hospital. 7th April, 1870. Adjourned meeting.

A letter was also read, signed by Drs. McKay and Quaise, notifying their concurrence with the above resolution.

It was moved that this Board do proceed to the selection of three designs by ballot, and then proceed to arrange (by ballot) the plans in order of merit. 8th April, 1870. Special Board meeting.

Moved, as an amendment, that the recommendation of the Honorary Medical Staff and the Sub-committee, as to the three most suitable plans, be adopted.

The amendment was carried and a ballot was taken with the following result (Messrs. Senior and Clarke having been appointed scrutineers):—"Bono Operi," 15 votes; "I Bide," 4 votes; "Specs," 2 votes. The result of a second ballot to decide as to the second and third premiums was as follows:—"I Bide," 12 votes; "Specs," 8 votes.

A letter was read from the Honorary Medical Staff, recommending that the pavilions of the proposed new hospital should run from east to west, and that the south wing be removed as incongruous in appearance to the new structure, and recommending the basement plans of "I Bide" and "Specs" as most suitable, and condemning that of "Bono Operi," and objecting to any drainage system that is brought under the buildings. 1st July, 1870. Monthly meeting.

The Permanent Structure Committee reported progress, and stated it was recommended that the remuneration of the architect should be at the rate of 5 per cent, and that the representatives of the Honorary Medical Staff should be added to the Committee. 5th August, 1870. Monthly meeting.

The Board proceeded to the election of an architect. Messrs. Benjamin Backhouse and Thomas Rowe were nominated, and a ballot was taken which resulted in favour of Mr. Thomas Rowe by two votes.

After some discussion as to the amount of the remuneration to be paid to the architect, it was resolved to leave the settlement of the question in the hands of the Permanent Structure Committee.

The Permanent Structure Committee reported they had agreed to recommend that the architect's rate of remuneration should be 5 per cent. That Mr. Rowe had been instructed to prepare:— 2nd Sept., 1870. Monthly Meeting.

(1.) Alternate plans of a hospital; one showing the south wing standing, the other with the south wing cleared away.

(2.) That all pavilion wards shall run from east to west.

(3.) That as far as possible the basement plan of "Specs" to be adopted—not insisting, however, that the basement should be completely out of the ground.

(4.) That the proposed new buildings shall be of two stories only as far as wards are concerned.

(5.) That provision be made for from 200 to 250 beds, on condition that 100 square feet or 1,500 feet (cubic) be provided for each patient.

(6.) That all wards shall be 50 feet from the street, and not less than 25 feet from the Domain wall. (This does not apply to the administrative block.)

Resolved, that the report of the Permanent Structure Committee be adopted.

The President reported that the architect had been instructed to draw up as far as possible from the premium plans a suitable design for a new hospital, that he had done so, and that after several consultations with the Permanent Structure Committee and the Medical Staff, the designs now laid on the table had met with unanimous approval. 23rd Sept., 1870. Special Meeting.

A letter was read from the secretary of the Honorary Medical Staff, conveying a copy of the following resolution, passed by them at a meeting held on 19th instant, viz.:—"That the new plans submitted by Mr. Rowe met with the general approval of the Honorary Medical Staff."

The architect produced and explained the plan to the Board.

It was moved, "That the plans now submitted be adopted, and that the Board directs them to be referred to the Government for approval."

It was moved as an amendment, "That this meeting adjourns to this day week, and that the plans in the meantime be exhibited in the Board room."

The amendment was carried, and the Secretary was instructed to allow only the Directors to examine the plans.

It was resolved, "That this Board adopts the plans now submitted, and directs them to be referred to the Government for approval." Adjourned meeting, 30th September, 1870.

It was resolved, "That in the opinion of this Board, the main portions of the new hospital should be built of stone."

The architect stated that as soon as he has completed the plans to submit to Government he will be in a position to give an estimate of the cost of the building.

The President reported that the architect had prepared the plans for the new hospital, which are now on view in the Board room, and recommended for the approval and adoption of the Board, subject to the further consideration of the Honorary Medical Staff. The Permanent Structure Committee further recommended that the architect be instructed to call for tenders for the erection of the new kitchen as early as possible. These recommendations were adopted. Monthly meeting, 3rd February, 1880.

The President reported that the new plans of the hospital building have been examined by the Honorary Medical Staff and approved, that plans of a new kitchen (as authorised) have been prepared, and are now under the consideration of the Medical Staff. Monthly meeting, 2nd March, 1880.

It was reported that the following tenders for the erection of a new kitchen had been accepted, viz., Mr. Gawthorpe for masonry and brickwork, £4,100; Messrs. Bynall and Clarke for finishing trades, £2,164; and that a period of eight months was allowed for the erection. The report was adopted. Monthly meeting, 6th April, 1880.

The President reported that the plans of the proposed new structure, which have been approved by the Honorary Medical Staff and the Directors, had been forwarded to the Colonial Secretary. Monthly meeting, 6th July, 1880.

F.

## F.

[To Evidence of Hon. C. K. Mackellar, M.L.C.]

## NECESSITY FOR ESTABLISHMENT OF A LOCK HOSPITAL IN SYDNEY.

Sydney, 30 January, 1883.

Sir, As to Necessity for Establishment of a Lock Hospital in Sydney. In accordance with your desire that I should express my opinion as to the necessity for the establishment of Lock Hospitals in this city, I have the honor to forward to you herewith an epitome of my views thereon.

I have, &amp;c.,

CHARLES K. MACKELLAR, M.B.,  
Medical Adviser to the Government.

The Hon. the Colonial Secretary.

[Enclosure.]

## LOCK HOSPITALS.

THE fact that venereal disease exists to an alarming extent in all classes of this community no one can doubt, nor is there any question that the hospital accommodation at present available for its treatment entirely fails to exert any marked influence in lessening the number of those affected; this failure is due to a variety of causes, but I believe that it is chiefly owing to the exceedingly scanty accommodation afforded by the hospitals of this city for the treatment of such ailments.

I have the authority of Mr. Fosbery, the Inspector-General of Police, for saying that there are about three hundred (300) women in Sydney who live wholly by prostitution, and I think that I may safely estimate the number of those who occasionally supplement their earnings by the same mode of life at fully double the number, so that we have a grand total of nine hundred (900) women very likely to acquire and disseminate the disease.

One of the secretaries of the "Association for promoting the Extension of the Contagious Disease Act, 1886, to the civil population of the United Kingdom," says that the proportion of diseased to healthy prostitutes in London is one in three, whilst Mr. Simon, F.R.C.S., the late Medical Adviser to the Privy Council, in a recent paper upon prostitution deemed the proportion of diseased women to be one in six; if we adopt the latter estimate we have one hundred and fifty (150) women constantly affected, while for their treatment at the present time there are in the Sydney Hospital only 10 beds available, and none at either the Prince Alfred or St. Vincent's Hospitals.

The Secretary of the Sydney Hospital informs me that "the female Lock ward is always full, and that females are frequently treated as out-patients both for gonorrhœa and syphilis, whilst males with gonorrhœa are as a rule not admitted to the hospital, but treated as dispensary patients."

It is clear therefore that a very much larger accommodation for the treatment of the disease is absolutely necessary; but in my opinion merely increasing the number of female Lock beds in the general hospitals would not meet the difficulty, as those institutions afford no special facilities for the treatment of these cases, and, further, a considerable amount of publicity, which is very much objected to by such persons, is unavoidable in their treatment in a general hospital. Under these circumstances it is not surprising that both syphilis and gonorrhœa are rapidly disseminated throughout the community.

It is in vain to expect that a woman of the town will at once desist from prostitution on being infected with venereal disease; she is usually totally destitute of means wherewith to pay for her maintenance and treatment whilst ill, and as a natural consequence continues to practice her calling very much to the detriment of her own health, and with destructive results to the general community.

I have given much careful and anxious consideration to this subject, and am forced to the conclusion that State interference in some way is absolutely necessary, either by police supervision and medical inspection, which, however, is objected to by a large portion of the community, on both moral, constitutional, and even medical grounds; or the establishment of Lock hospitals where diseased women could readily, without charge, and with a reasonable amount of privacy, obtain the most skilful treatment.

I desire to give my emphatic opinion that the latter course is in every way the most desirable.

I would recommend that a special institution, wholly under Government supervision, should be opened for the treatment of females suffering from venereal disease; that in it every facility should be offered for the ready and skilful treatment of such disorders; and although I fully recognise the difficulty likely to be encountered in administering such an institution, I would, nevertheless, recommend that it should be on the voluntary principle, *i.e.*, that the inmates should be free from police supervision, and subject only to the regulations under which all public hospitals are governed.

Institutions of the kind suggested have been created in some districts of the United Kingdom, notably in Glasgow, where their establishment has been attended with a large amount of good.

As regards the treatment of the male portion of the community, I think that the present arrangements in the general hospitals are quite adequate, and that all that is required is that a large number of beds should be allotted to venereal disease. I do not think that any good result would follow their treatment in a special institution.

CHARLES K. MACKELLAR, M.B.,  
Medical Adviser to the Government.

Sydney, 27 January, 1883.

## F 1.

## DESIRABLENESS OF ESTABLISHING A LOCK HOSPITAL IN SYDNEY.

Minute by the Colonial Secretary.

IN a debate last session upon the second reading of the Contagious Diseases Bill, I took occasion, when opposing the introduction of the Contagious Diseases Act, to point out that no attempt had been made to establish a Lock Hospital as a remedial measure, and that no time should be lost in doing so, so as to do something to stop the ravages of the foul disease without having recourse to the demoralising agency of the Contagious Diseases Acts.

I have since then had the question further impressed upon me by the perusal of the minority report of the Select Committee of the House of Commons last year, and the report of Dr. Nevins to the Home Secretary, dated March, 1876.

Without at present entering into the *quæstio verata* of the application of the Contagious Diseases Acts being beneficial or otherwise, it is undeniable, from the perusal of these documents, that the benefit of well administered Lock Hospitals for females is proved beyond a doubt.

The evidence is very clear that when such hospitals are conducted with kind and thoughtful sympathy on the part of the matron, they are valued by the poor unfortunates who seek the shelter of such institutions, and in the main they are content to remain until fully cured, without any legal powers of restraint or detention being required.

Men can shift for themselves as hospital out-patients, but the women, if common prostitutes, have neither the comforts of home nor the ability to bear the expense, and thus are, by the circumstances of their surroundings, forced to continue their prostitution, often to their own detriment, and certainly to the spreading of the disease throughout the community.

I am desirous, therefore, of taking the earliest opportunity, after my accession to office, to express my desire that a Lock Hospital be established in some convenient neighbourhood without unnecessary delay.

I invite the attention of the Medical Adviser to the Government to the documents to which I have alluded, and which will be found herewith, and generally to the whole subject of establishing a Lock Hospital, as the first step to be taken towards remedying or alleviating this scourge of society.

A.S., 31/1/83.

## G.

[To Evidence of T. Rowe, Esq.]

## HOSPITAL BUILDINGS, MACQUARIE-STREET.

ARTER my sixteenth to an inch scale sketch, competitive plans were selected. Numerous meetings were held for consultation by the Committee and medical men

A new idea was then determined upon, viz.: to demolish present old south wing, and include accommodation of same on an entirely new arrangement.

I was thereupon instructed to submit other sketch plans, and eventually I was instructed to prepare the working drawings, which consist of ten large sheets of plans, sections, and elevations, representing eleven distinct blocks of buildings, two only of which have been completed, and four others in course of erection.

The accommodation thus represented provides for 264 beds, in place of 182 beds, being an additional number of eighty-two beds over the accommodation indicated in the original competitive plans.

All the buildings were to be built of Pyrmont best bottom block stone in place of brick.

When the plans were completed no estimate was requested from me, but estimates were given for the separate contracts entered into, the dates and amounts being as follows:—

	£ s. d.	£ s. d.
No. 1 Contract, 23rd November, 1879.—Excavation of site: Contractor, Adam Sharpe .....	.....	2,194 15 0
No. 2 Contract, 25th March, 1880.—Kitchen, scullery, servants' hall, and servants' bedrooms, &c.: Contractor for masons' work, Gawthorpe .....	4,346 14 6	
Ditto for carpentering and finishing trades (Bignell and Clark) .....	2,404 19 4	
Contractor for gas-fittings, Keating .....	41 10 0	
	<hr/>	6,793 3 10
No. 3 Contract, 20th October, 1880.—Laundry, engine house, &c.: Contractor, Moxon .....	.....	5,731 16 7
No. 4 Contract, 24th November, 1880.—North, south, and east wings, also centre administrative buildings, foundations, and one story only: Contractor, Aulston .....	.....	26,642 9 6
No. 5 Contract, 28th August, 1882.—North, south, and east wings, also centre administrative block, one more story on top of No. 4 contract: Contractor, Aulston .....	.....	23,701 6 3
Commission .....	3,226 0 0	
Clerk of works .....	1,170 0 0	
	<hr/>	4,396 0 0
		<hr/>
		£68,459 11 2

Consequently, it will be seen that five contracts were entered into in succession from 23rd November, 1879, to 28th August, 1882, amounting in all to £68,459 11s. 2d.; for less than one-third of the whole value of the works shown on the plans. All these contracts were duly accepted, legally entered into, and moneys certified by me from time to time. Not one of these certificates were dishonoured, and no complaint ever reached me either verbally or in writing.

The last certificate was given in the beginning of 1884, and an estimate for completion of portion, and the whole of buildings was given in June, 1893, for the information of the Stuart Government, and even after that report no complaint reached me.

Since that date the works have been idle and exposed to all kinds of weather. I think it only right to say that the exposed works have depreciated in value, and will cost about £2,000 to put in proper repair. This should be provided for in the present estimate. If the Committee had anticipated such a delay no doubt the exposed portions of the work would have been protected.

I herewith enclose a copy of the report of 16th September, 1890.

With reference to thickness of walls, they are in accordance with the "Building Act" (see Building Surveyor's signature on plans), and not stronger than necessary for the strains and weights they have to support. The floors are intended to be fire-proof, concreted on iron girders, with joisting and flooring over same, giving an area of 82 feet long x 26 feet wide.

The corner towers are arranged to support water tanks, to contain several day's supply for baths, lavatories, w. c.'s, urinals, and other purposes, and gearing for lifts. The cupolas over same will not look too high when executed, viz, at a height of 80 feet from ground level. The wards communicate by doorways with lobbies on every floor. From these lobbies there is access through doorways to staircases, lifts, passages, balconies, lavatories, &c.

With reference to the widening of Macquarie-street to 100 feet, as suggested by the Government Architect, the idea may be a good one, but it certainly cannot be done unless the entire structure parallel with Macquarie-street, viz., the north and south wings, together with the administrative block, are taken down, leaving the eastern wing (which is doubtful), kitchen premises, laundry, engine house, &c., standing.

The entire site would then have to be rearranged with the greatest difficulty, proportionate loss on works erected being about £40,000.

This does not include the value of stone and other materials which could be utilised if same design is carried out.

This arrangement would probably entail a loss of about £35,000.

My suggestion of 80 feet for said street would not affect the Hospital Buildings much by giving 14 feet up to wall of steps leading to administrative block, which would become the building line of street with dwarf wall on same.

The Sydney Hospital I always thought would be a crowning effort of my long architectural career, but of late years the subject has become wearisome and annoying through the persistence of a few, and, doubtless, the "green-eyed monster" has had a great deal to do and say in the matter.

In conclusion, I must again say that the whole should be erected in accordance with the approved plans, providing Sydney with a handsome and perfect hospital for all time to come.

But if it is considered desirable to widen Macquarie-street, in accordance with the plans submitted by Mr. Vernon, it will be necessary to curtail the accommodation, and rearrange the whole on a smaller scale.

I do not think it would be desirable to build one or even two stories up on the present walls and having no provision for its completion, thereby leaving it an imperfect hospital without the accessory buildings required for the purpose of properly carrying out hospital work.

The whole of the buildings should be built to the present plans, or smaller erections, which should be as perfect as it is possible to arrange them under the circumstances; even then the difficulties to overcome would be great.

THOMAS ROWE,  
Architect.

The Parliamentary Standing Committee on Public Works.

## 61.

## SYDNEY HOSPITAL BUILDINGS.

Copy of Report forwarded to Hospital Committee.

ACCORDING to request I have carefully examined the various works connected with the different buildings, and have the honour to report as follows:—

The walls throughout show no indications of settlement, standing as solidly as when first built.

No indications of damp are visible, arising from foundations; the extra precaution taken at the time of erection, by building the walls in cement, and laying two damp courses, having been an effectual preventive.

Between the administrative block and wings, however, where roadway is intended to be lowered, the stonework is affected by the damp from temporary roadway, which is generally above level of damp courses.

The stonework generally is discolored, the effect of wind and weather being allowed to affect it from every quarter.

From a similar cause, including thorough saturation from time to time on top of walls without cover, nearly all soffits of topmost cornice, and several sill courses are fretted, the bed mouldings in many instances having lost their original form.

The surface of some of the rubbed stonework, particularly near the top of walls, has been injuriously affected by the severe exposure, particularly caused through the heavy rainstorms which we have just experienced.

The damage to mason work can be repaired to a great extent, it being improbable that any portion of it will require to be replaced by other materials.

The mason work of kitchen and other premises is wearing well, showing no signs of deterioration, having had the necessary advantage of being covered where intended. The ground floor of the various apartments has been laid with asphalt. This, I would recommend, should be replaced with tiles, which can now be laid at a reasonable cost, and produce a clean and healthful floor.

The brickwork is still in good order.

The iron girders have begun to rust, and should be hammered all over at once, and painted four coats of best oil paint.

All the timber work seems sound, the precaution having been taken some time ago to kerosene the whole of exposed portions.

Steps should be taken without delay to carefully clean down and rub with sandstone all the rubbed stone work, including mouldings. This would arrest the decay which has commenced.

Thereafter, the whole of the top of the walls should be cemented their full breadth with Portland cement one inch thick, and all joints carefully puttied.

Vickery's Chambers, Pitt-street, 16th September, 1890.

THOMAS ROWE,  
Architect.

21 October, 1890.

Sydney Hospital Buildings.

Dear Sir,

In reply to your letter of the 23rd ultimo, I have carefully calculated the probable cost of repairs suggested to be executed in my report, and find that they amount to about the sum of two thousand pounds (£2,000).

The repairs as suggested by me are urgently necessary, to prevent a decay which is certain to be more rapid in the future than it has been in the past, now that deterioration has decidedly set in.

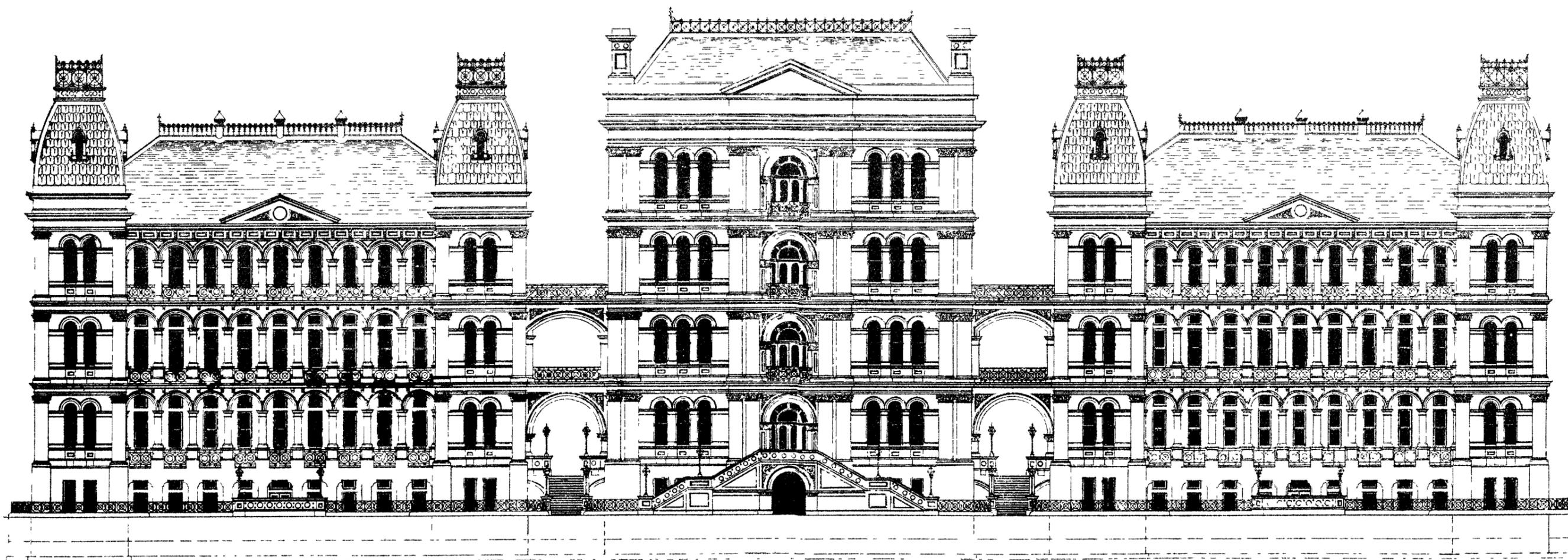
Yours faithfully,  
THOMAS ROWE,  
Architect.

H. D. Russell, Esq., Secretary, Sydney Hospital.

[Six Plans.]

PLAN I. PROPOSED HOSPITAL BUILDINGS, MACQUARIE STREET

ORIGINAL DESIGN OF FOUR STORIES.



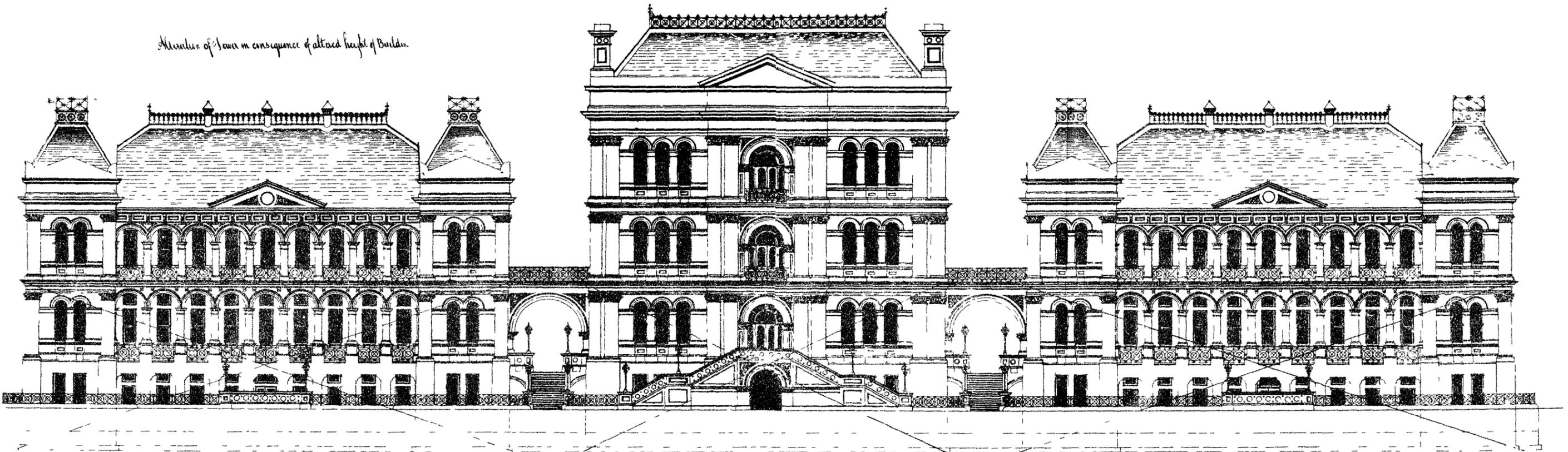
ELEVATION TO MACQUARIE STREET

PLAN II.

# PROPOSED HOSPITAL BUILDINGS, MACQUARIE STREET

AMENDED DESIGN OF THREE STORIES.

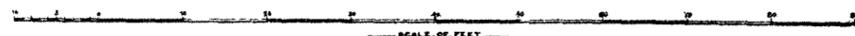
*Alteration of tower in consequence of altered height of Building.*



ELEVATION TO MACQUARIE STREET.

*N.B. Crossed lines show work already Executed (Masonry Only)*

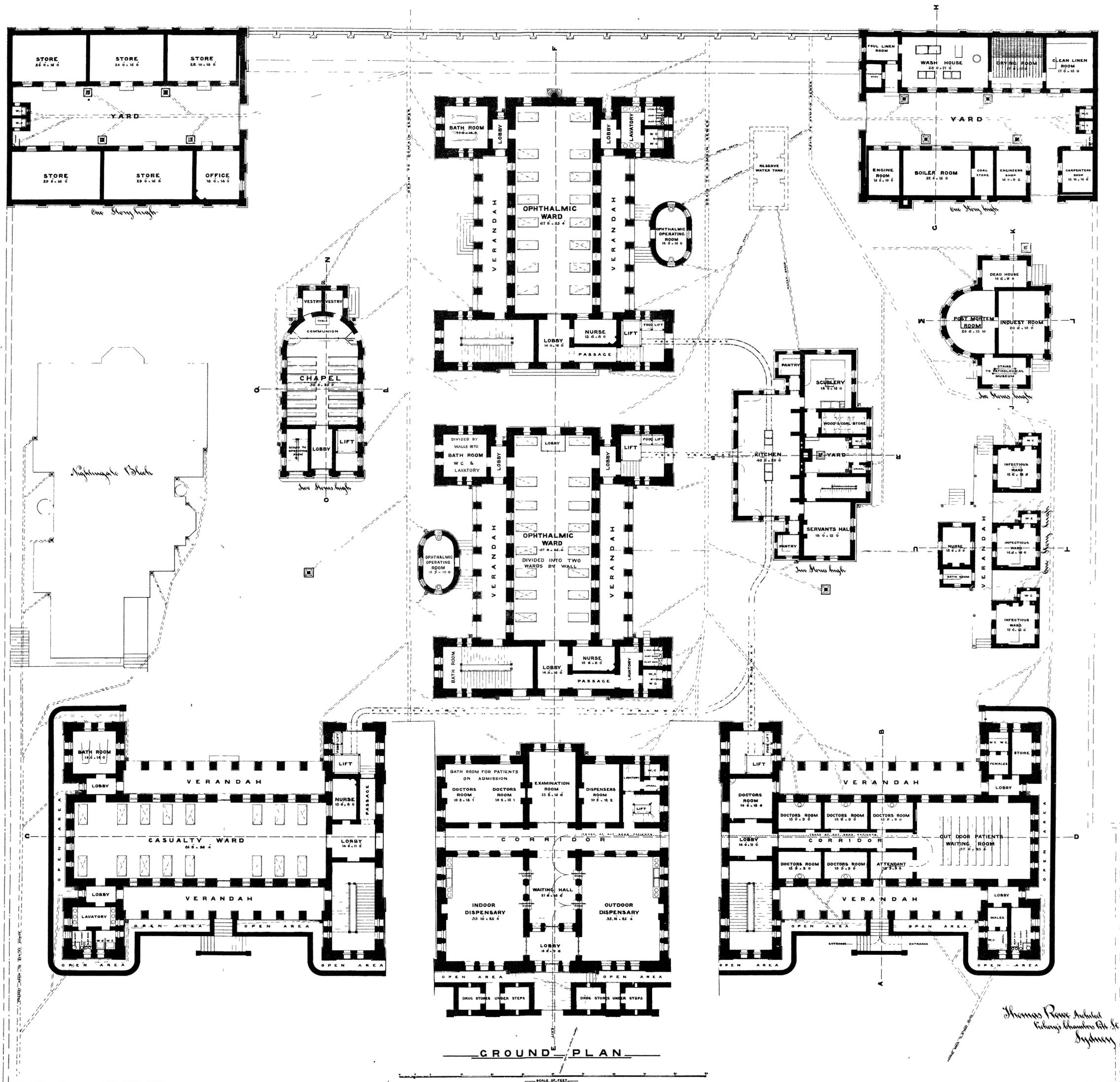
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PRINTED AND PUBLISHED BY J. B. BENTLEY, 111, NEW SOUTH WALKS, SYDNEY.

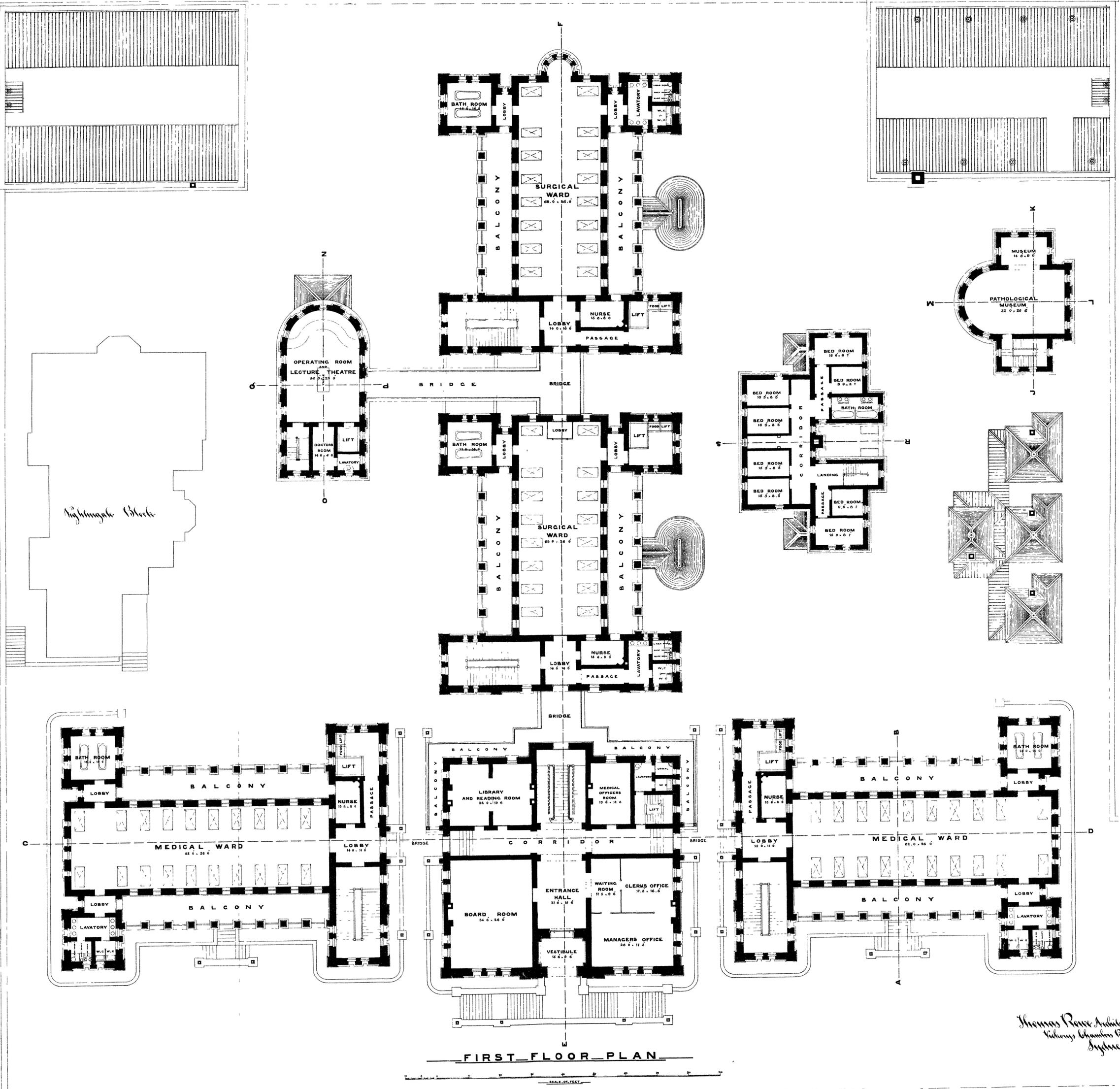
*Thomas Rowe Architect  
Richard Chambers Rchd &  
Sydney*

PLAN III



Thomas Rowe Architect  
Victoria Chambers Pitt St  
Sydney

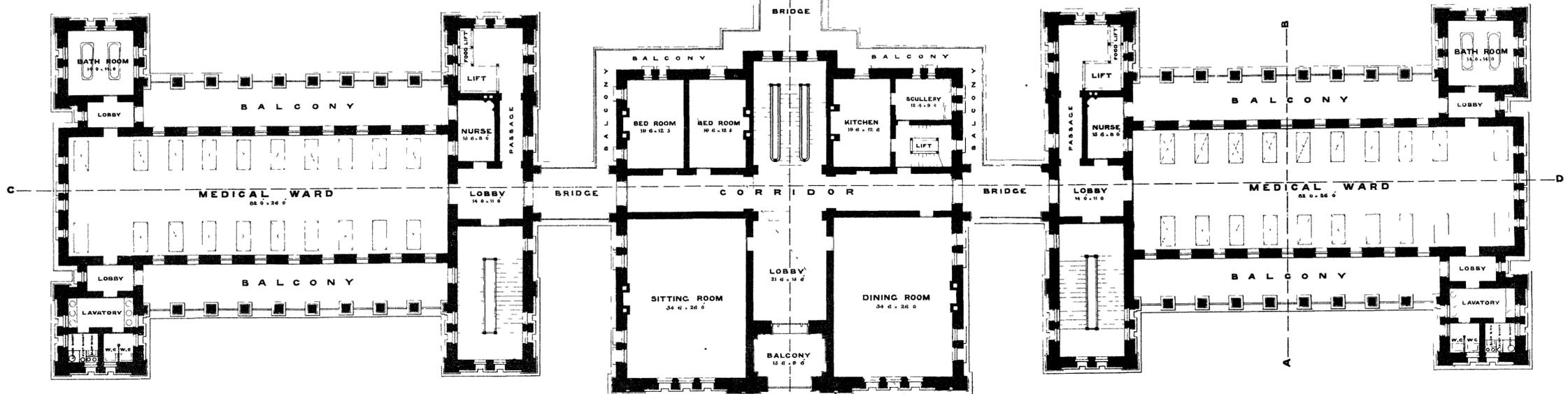
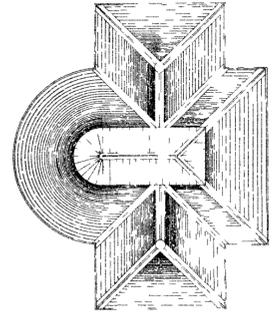
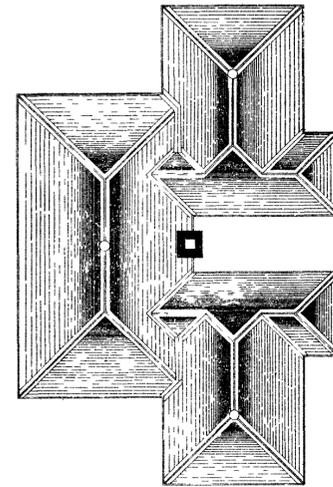
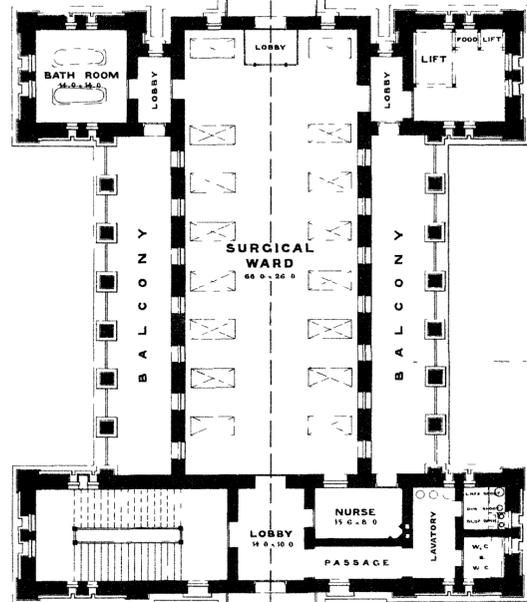
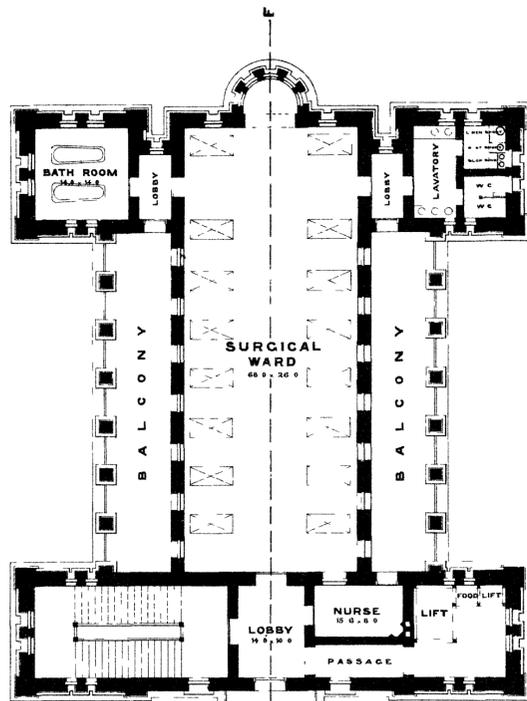
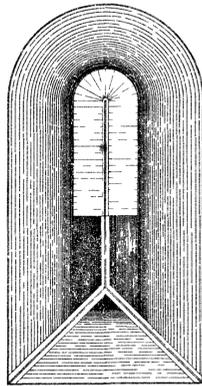
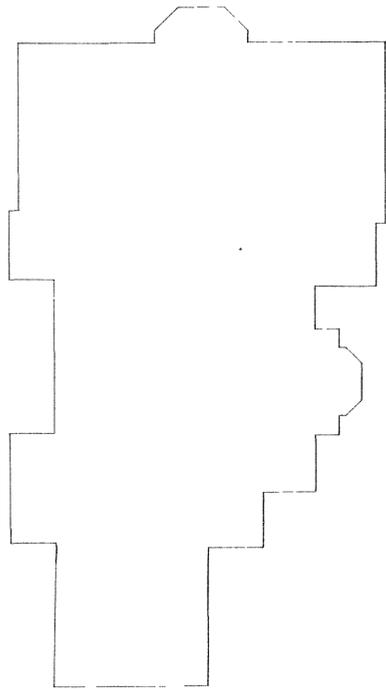
PLAN IV



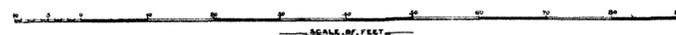
FIRST FLOOR PLAN

Thomas Rowe Archibald  
 Sydney, Chambers Pitt St  
 Sydney

PLAN V



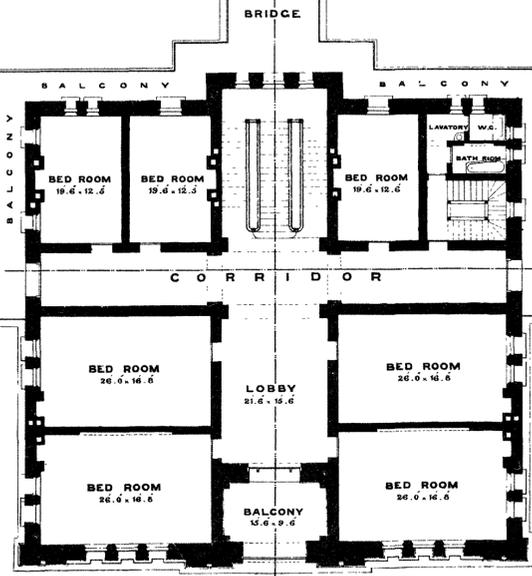
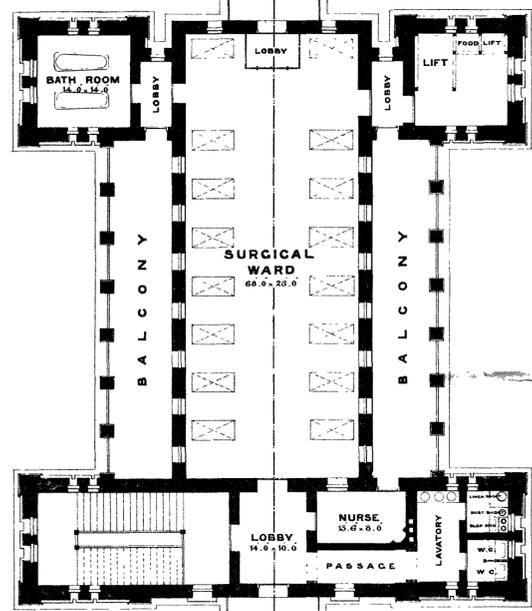
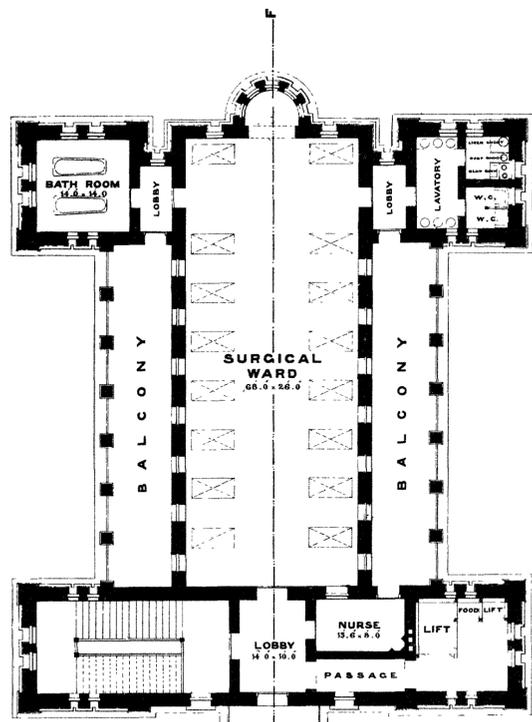
SECOND FLOOR PLAN



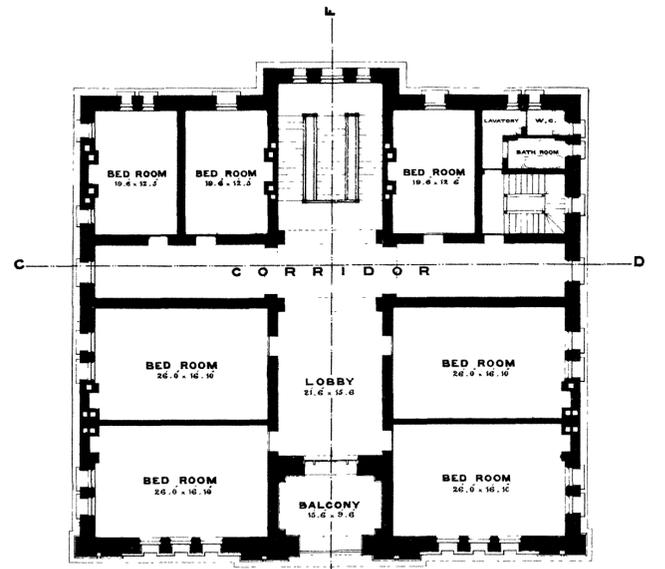
(Sig 25).

Thomas Rowe Architect  
 115 King Street Sydney

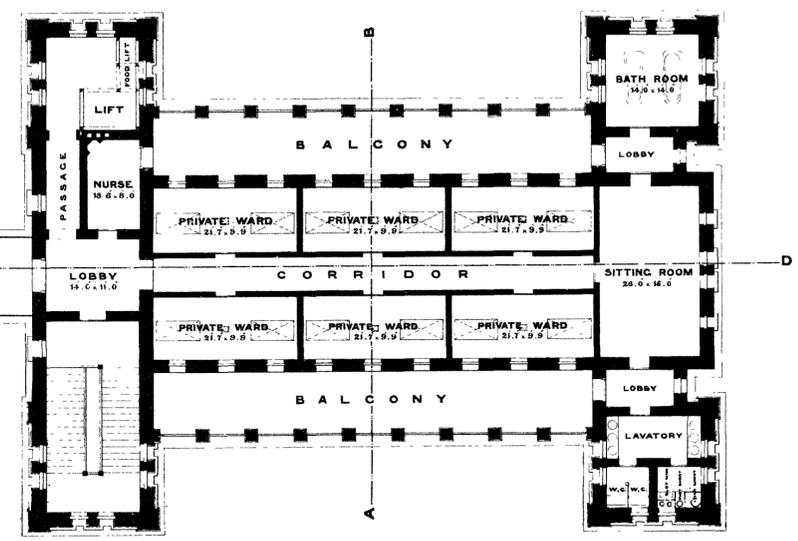
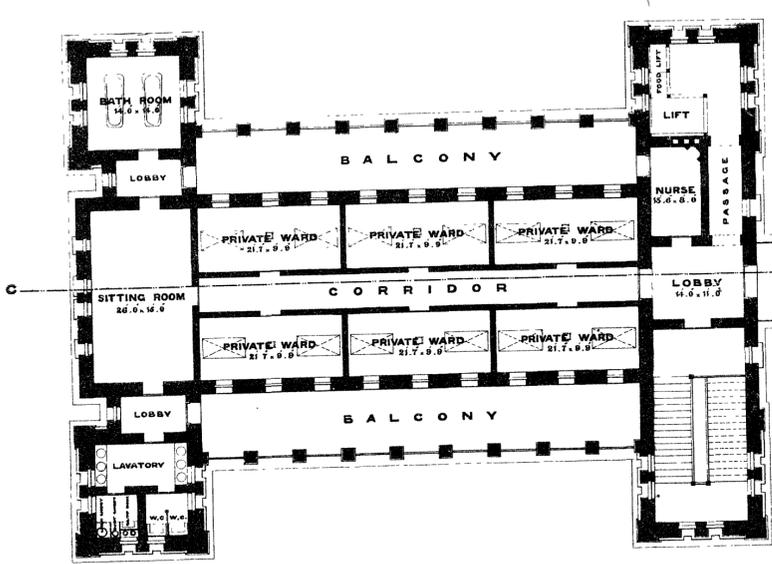
PLAN VI.



THIRD FLOOR PLAN



FOURTH FLOOR PLAN

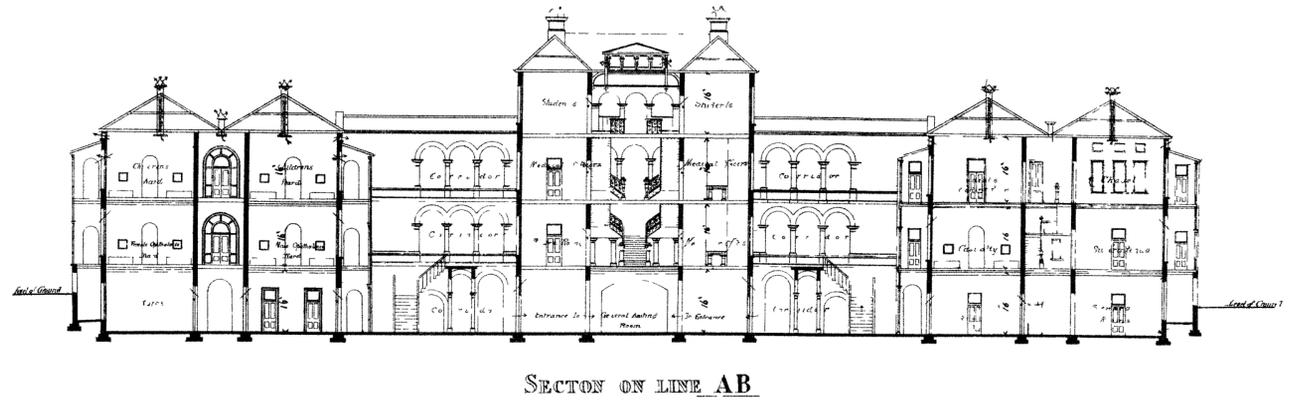


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SCALE OF FEET  
PHOTO-LITHOGRAPHED BY THE ARCHITECT'S OFFICE  
ADELPHI NEW SOUTH WALES

Thomas Rowe Architect  
Kings Chambers Pitt St  
Sydney

PLAN VII.



DESIGN  
 by John Kirkpatrick, Architect,  
 submitted under the Motto: "HEALTH" in Competition  
 for  
 New Sydney Hospital  
 in the Year 1878.

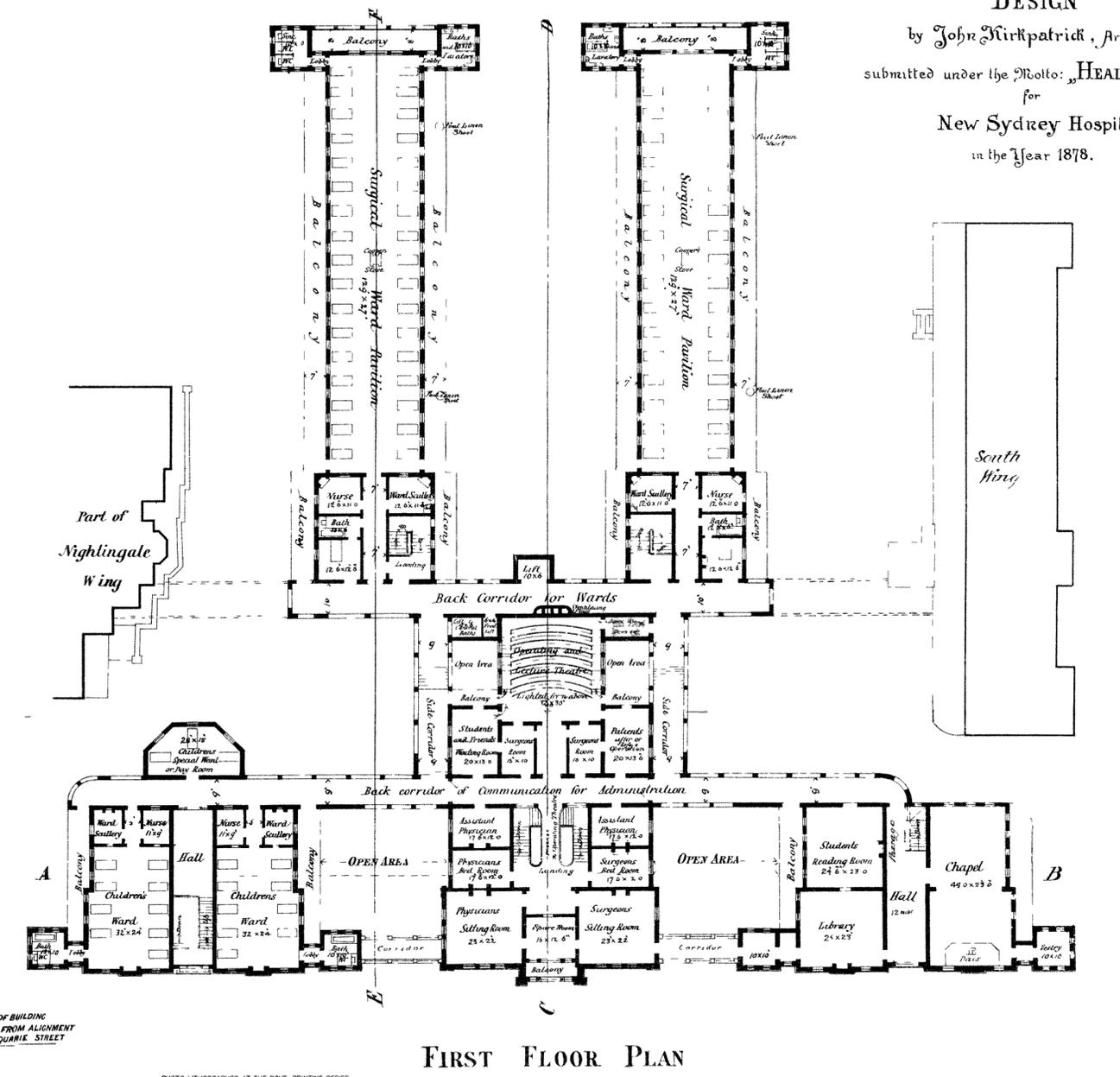
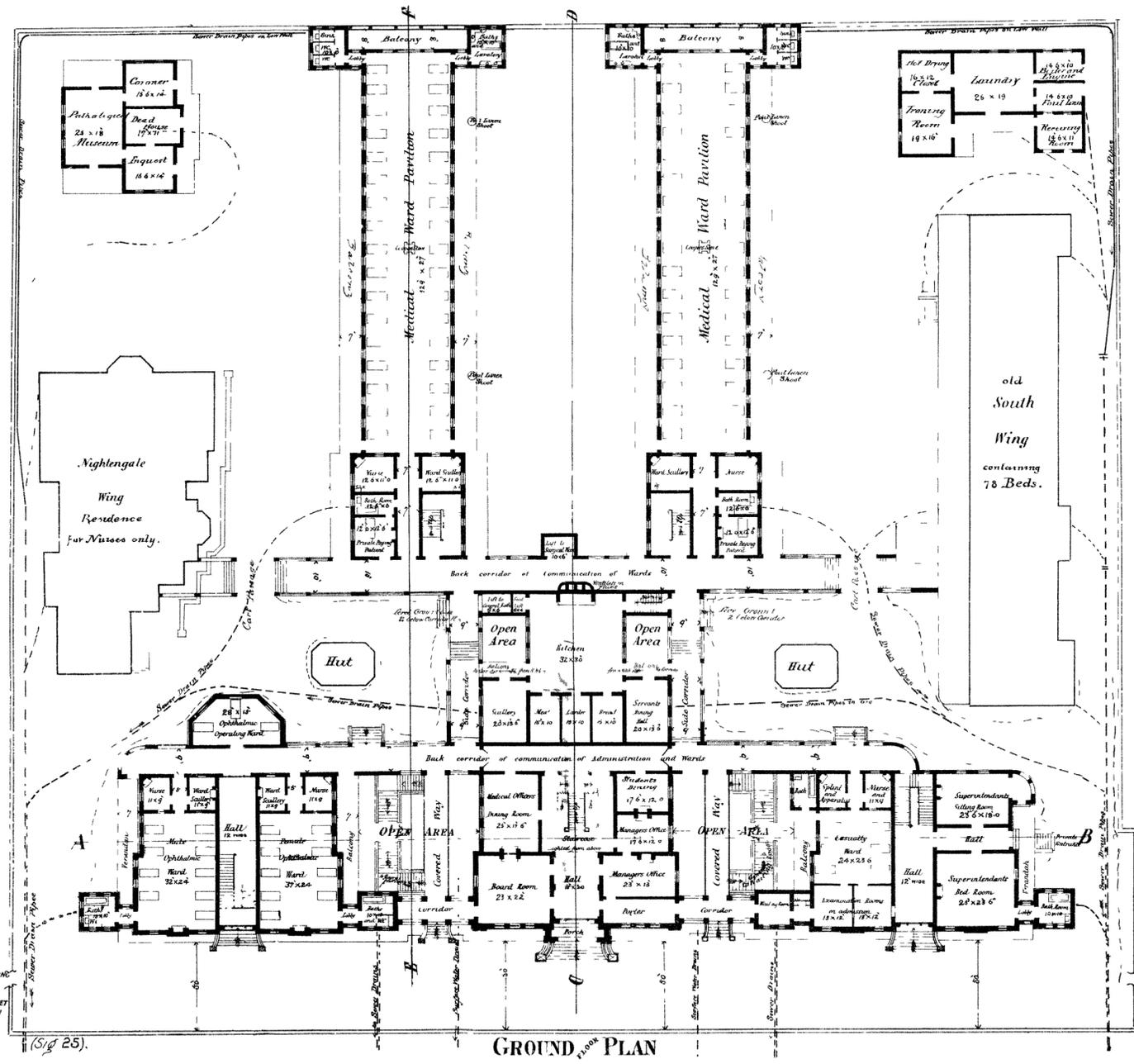
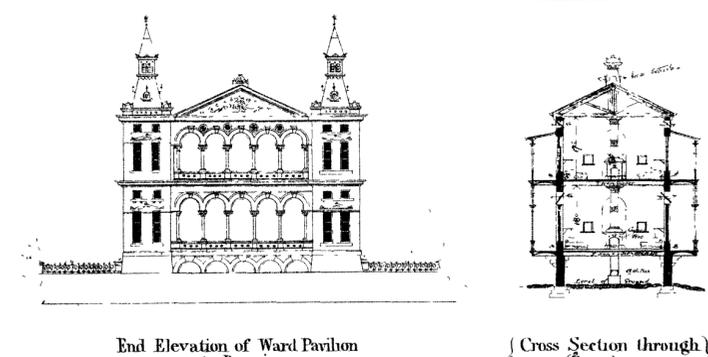
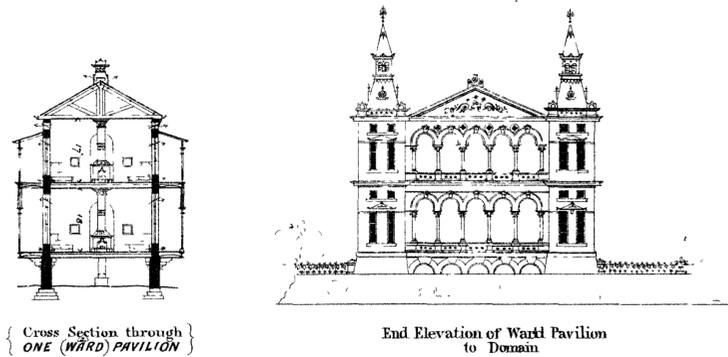
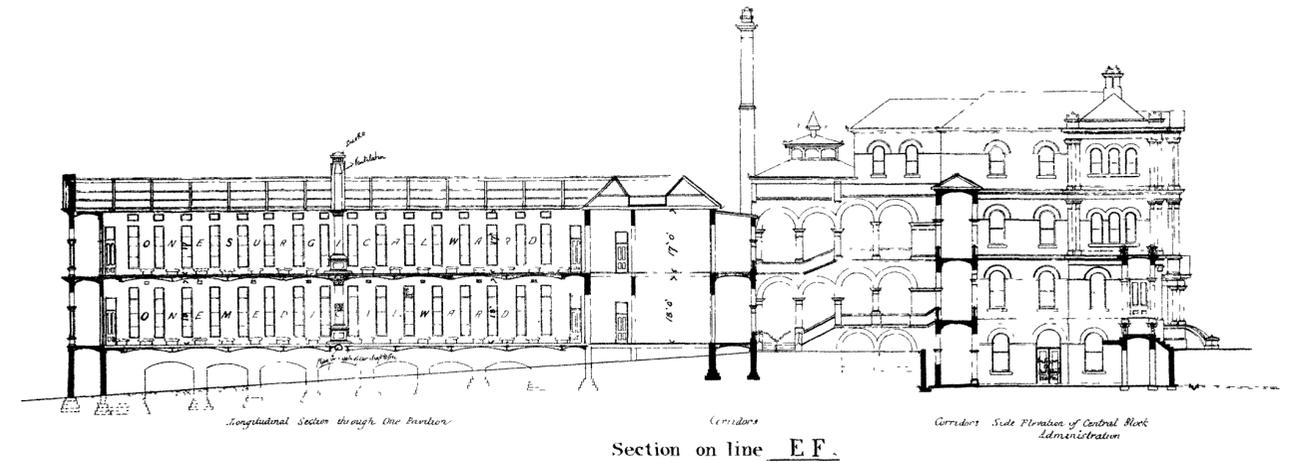
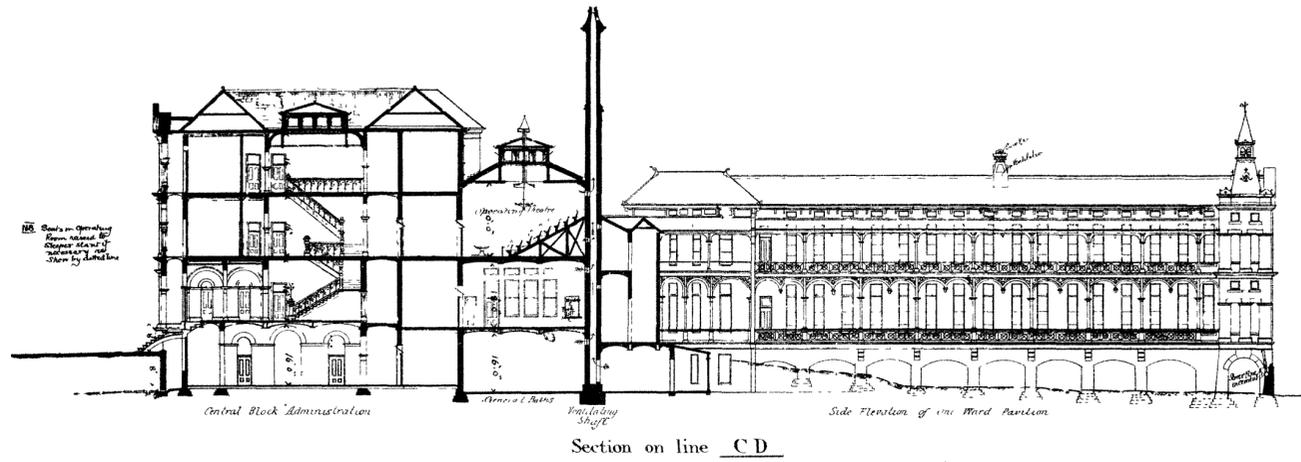
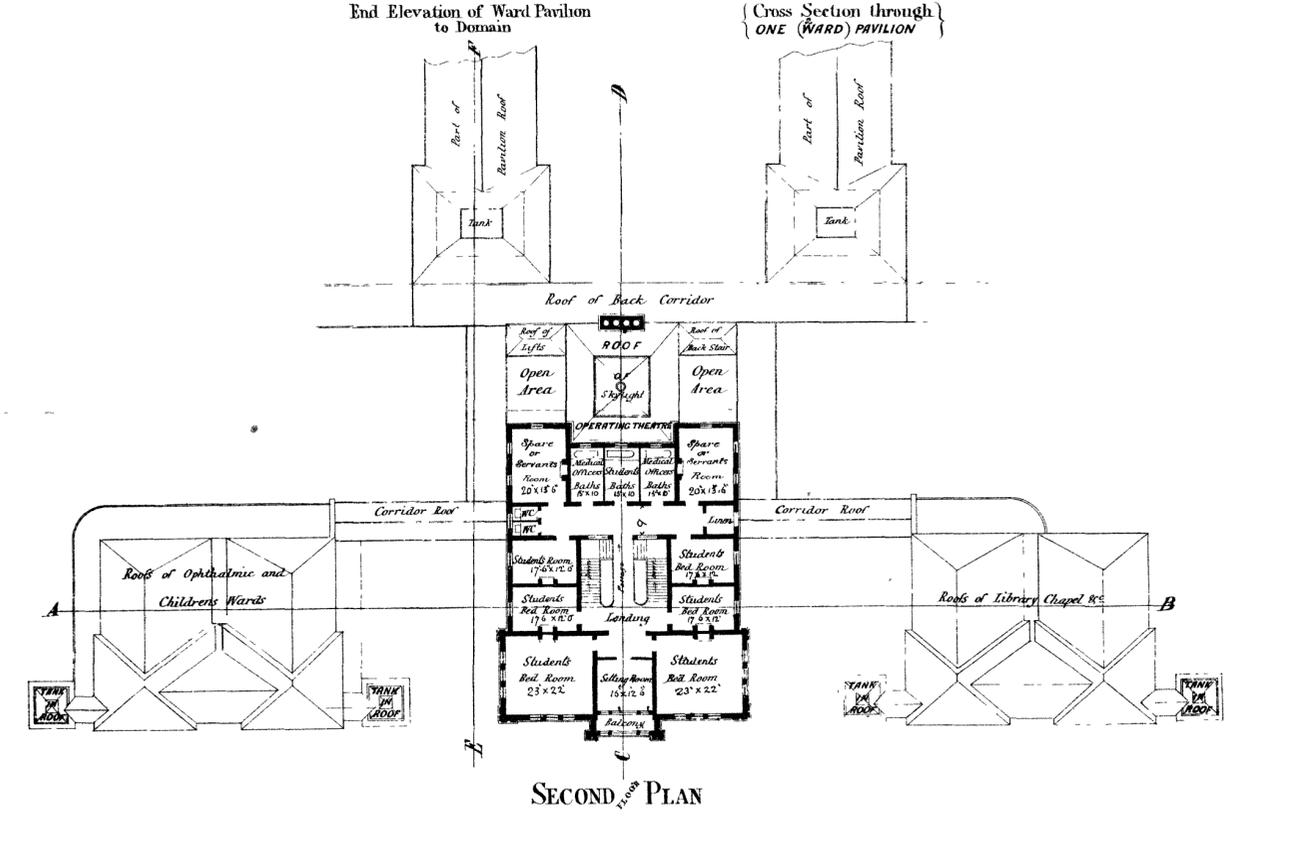
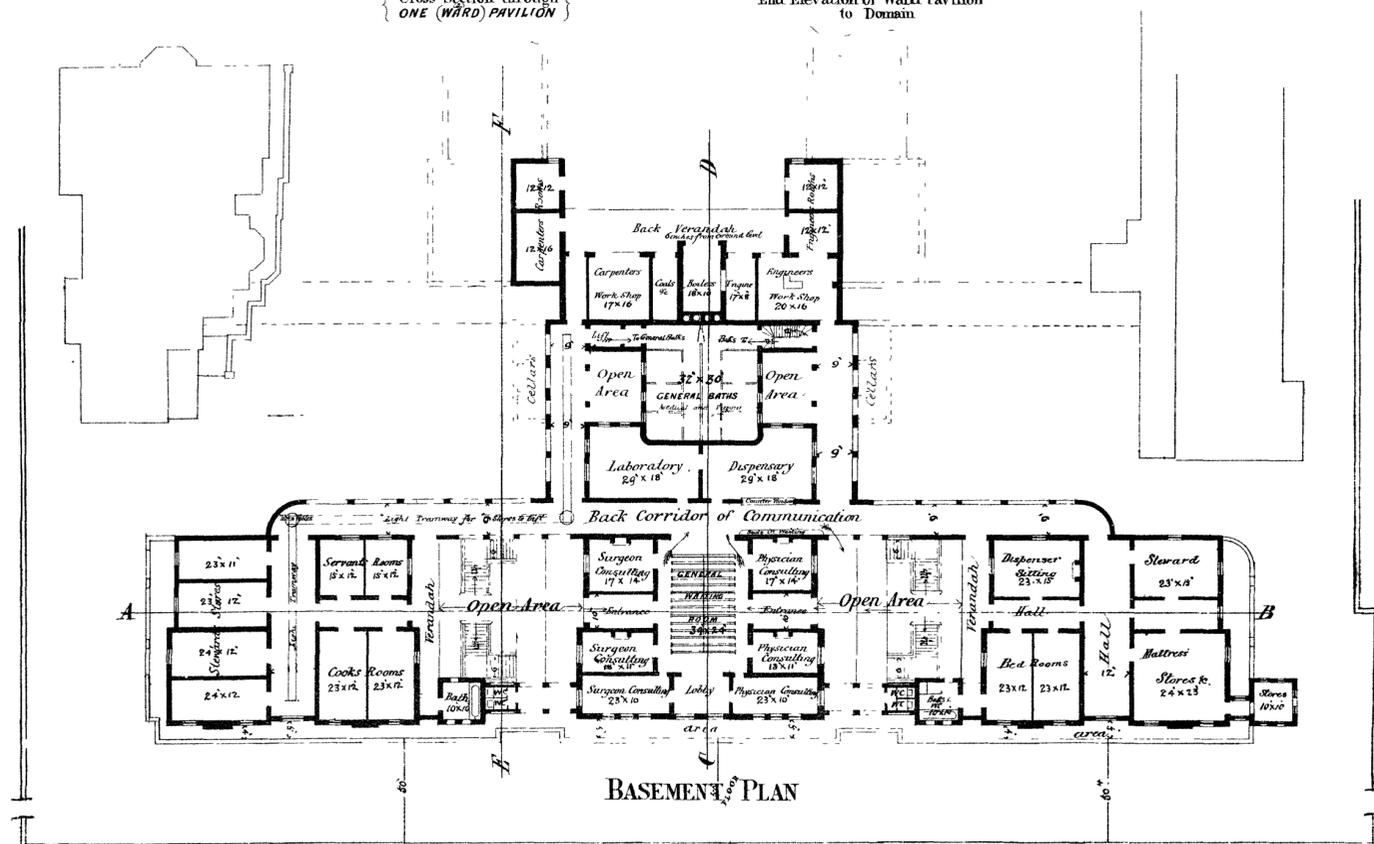


PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE  
 SYDNEY NEW SOUTH WALES

PLAN VIII.



DESIGN  
by John Kirkpatrick, Architect,  
submitted under the motto: "HEALTH" in Competition  
for  
New Sydney Hospital  
in the Year 1878



PLAN IX.

196  
51  
**PROPOSED WIDENING OF MACQUARIE STREET**

Scale of Feet.

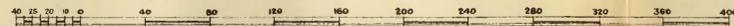
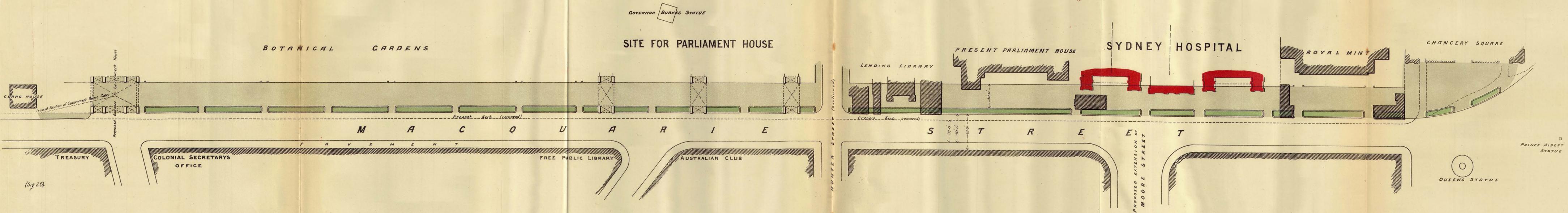
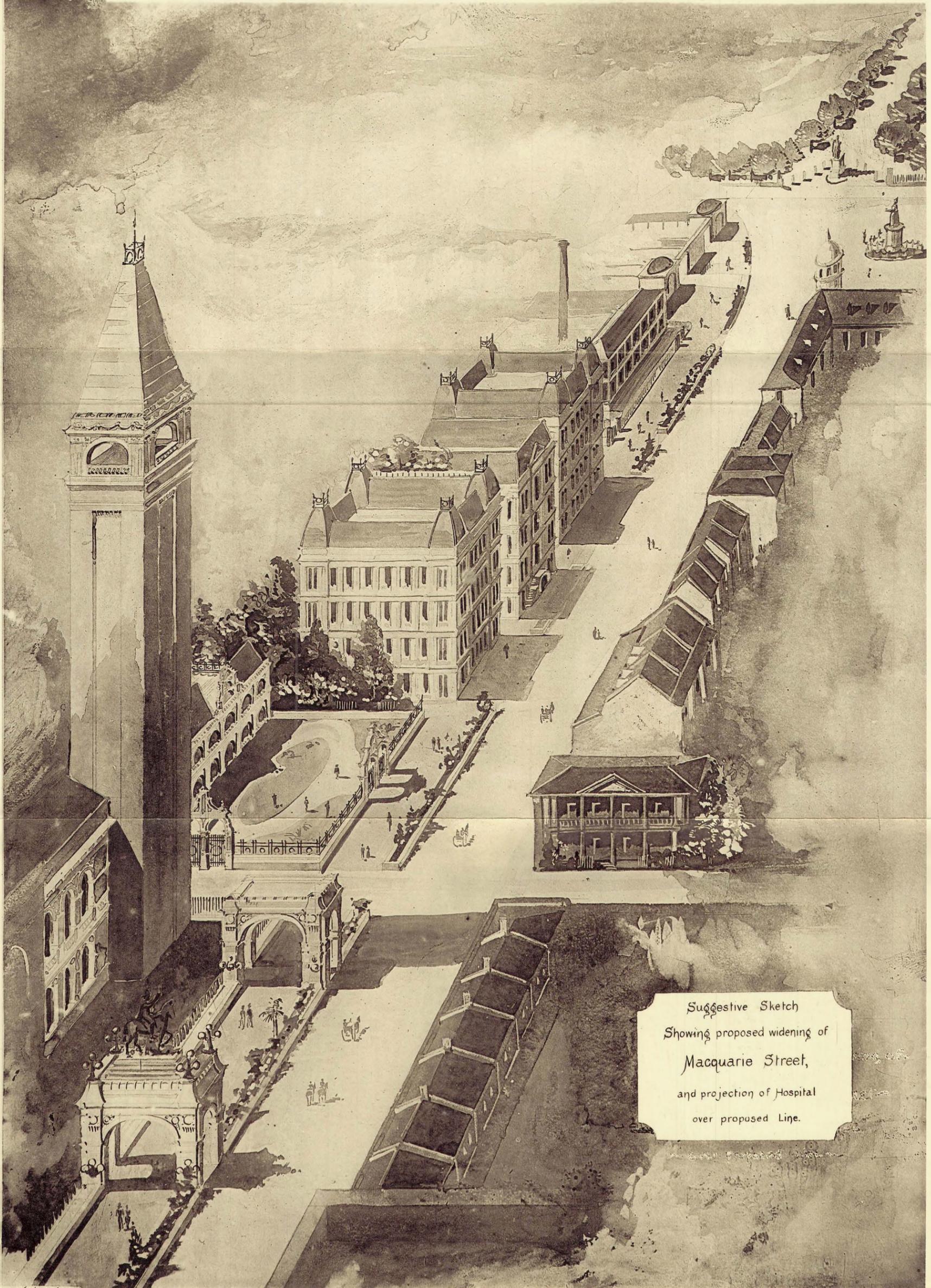


PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES.



(Sig 25)

PLAN X.



Suggestive Sketch  
Showing proposed widening of  
Macquarie Street,  
and projection of Hospital  
over proposed Line.

1891.

## NEW SOUTH WALES.

## RAILWAYS AND TRAMWAYS.

(REPORT OF RAILWAY COMMISSIONERS FOR QUARTER ENDING 31 DECEMBER, 1890.)

Presented to Parliament, pursuant to Act 51 Vic. No. 35, sec. 44.

Offices of the Railway Commissioners of New South Wales,  
Sydney, 30 January, 1891.

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 the 31st of December, 1890, upon the subjects specified, viz. :—

- (I.) "The state of the traffic returns, with the approximate cost and earnings of trains per ton per train mile, in respect of goods and passengers, respectively, carried during the past quarter."
- (II.) "The general condition of the lines, and accommodation for the traffic."
- (III.) "The special rates (if any) which have been made, and the reasons for making such rates."
- (IV.) "The appointments and removals, with the circumstances attending each case."

## I.—STATE OF THE TRAFFIC.

Railways.	Quarter ending 31st December, 1889.	Quarter ending 31st December, 1890.
Miles open ... ..	*	2,182
Revenue ... { Passenger ... 1889. 1890.	£280,454	£306,192
{ Merchandise ... 526,171	607,649	
Expenditure ... ..	£428,561	£495,324
Train miles run ... ..	2,167,037	2,230,595
Earnings per train mile ... ..	7/5½	8/2½
Expenditure per train mile ... ..	3/11½	4/5½
Percentage—Expenditure to earnings ... ..	53.13	54.18
Number of passengers ... ..	4,350,857	4,885,357
Tonnage of goods traffic ... ..	884,172	964,269
Tonnage of live stock traffic ... ..	29,734	29,079

NOTE.—Information as to the cost and earnings of trains per ton per mile cannot be given for goods and passengers separately, as a large proportion of the train mileage is used for carrying both goods and passenger traffic.

\* This column shows the adjusted figures after final settlement of accounts for the quarter.

S—A

[1,453 copies—Approximate Cost of Printing (labour and material), £13 18s. 9d.]

Tranways.	Quarter ending 31st December, 1889.	Quarter ending 31st December, 1890.
	*	
Miles open ... ..	39½	42½
Revenue from all sources ... ..	£69,600	£74,448
Expenditure ... ..	£59,567	£63,329
Train miles run ... ..	414,597	436,184
Earnings per train mile ... ..	3/4½	3/5
Expenditure per train mile ... ..	2/10½	2/10½
Percentage—Expenditure to earnings ... ..	85·57	85·06
Number of fares collected ... ..	16,015,250	17,308,988

\* This column shows the adjusted figures after final settlement of accounts for the quarter.

#### TRAM EXTENSIONS.

To Waverley Cemetery, 60 chains ... .. Opened 20 October, 1890.

Leichhardt to Five Dock, 2 miles 39 chains ... .. Opened 14 October, 1890.

#### 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 5.

#### IV.—STAFF.

These Returns are given as an Appendix, pages 5 to 9.

#### GENERAL REMARKS.

##### RAILWAYS.

The revenue for the quarter shows the large increase of £107,000. This is all the more satisfactory as the traffic during the first month of the quarter showed a decrease in consequence of the Maritime Strike.

The traffic during the months of November and December was so abnormal, and taxed the present resources of the Department so severely, that it may be mentioned that the mineral traffic carried during November and December amounted to 441,824 tons, as against 82,695 tons during September and October. At the end of October the wool traffic showed a decrease of 60,994 bales, whereas at the end of December this decrease had been overtaken and an increased traffic was shown of 34,052 bales, a total of 321,952 bales having been carried in the two months, an increase of 95,046 bales over the corresponding period of the previous year.

The greater facilities afforded for passenger travel continue to materially increase the revenue from this branch of the traffic, over half a million of additional passengers having been carried during the quarter.

An entirely new traffic is being created by the running of cheap Excursion Trains, by means of which passengers can travel, second-class, Sydney to Bourke and back, a distance of over 1,000 miles, for 35s., Sydney to Albury and back, nearly 800 miles, for 25s., &c.

In

In consequence of the Strike the supply of fuel to the Locomotive Department led to an increased cost for the quarter of £10,000, and the arrangements we were compelled to make so as to obtain supplies during the period of difficulty will cause the expenses in this Department to be increased during the coming year.

It will be seen from the table at the beginning of the Report that a substantial increase to the train earnings per mile has been effected, and that, after deducting the expenses, a net earning of 3s. 9d. (an increase of 3½d.) per train mile on a mileage of 2,230,595 miles has been secured.

#### CONDITION OF THE LINES AND ACCOMMODATION FOR THE TRAFFIC.

The work of relaying and reballasting the lines is being pushed forward as rapidly as possible.

The facilities for dealing with the traffic are being improved in various directions.

The terminal accommodation for goods traffic in Sydney requires to be considerably enlarged, and the work of connecting the existing lines with the Darling Island property is about to be commenced, and by this means and by rearranging the working of Darling Harbour we trust that the public requirements will be much more conveniently met.

The various duplication works are progressing satisfactorily, and it is expected that the second line between Como and Sutherland (thus completing the double line as far as Waterfall, a distance of 24 miles) will be open before Easter, and also that the Main Southern Line duplication will be completed for the greater part of the distance to Campbelltown by the same date.

#### TRAMWAYS.

The traffic shows a fair increase; the expenses were, however, seriously affected by the cost of fuel during the Strike, an increase of over £3,000 occurring under this head. It is therefore satisfactory to state that in addition to meeting this expense, 5 new tram-cars and one new motor have been paid for out of revenue and an increased profit of £1,077 made.

We have the honor to be,

Sir,

Your most obedient Servants,

E. M. G. EDDY,  
Chief Commissioner.

W. M. FEHON,  
Commissioner.

CHARLES OLIVER,  
Commissioner.

## APPENDICES.

## APPENDIX I.

Minute from The Engineer-in-Chief for Existing Lines to The Secretary to the  
Railway Commissioners.

New South Wales Government Railways,  
Engineer-in-Chief for Existing Lines Branch, Sydney, 29 January, 1891.

Report on Condition of Lines for the quarter ending the 31st December, 1890.

Sir,

I have the honor to report, as under, on the condition of the Railways for the quarter ending 31st December, 1890:—

The more favorable weather that has prevailed during the past quarter has enabled the road in all Divisions to be maintained in a more satisfactory condition.

The draining and reballasting of the Suburban Line has not progressed so rapidly as could have been wished, but now that a more abundant supply of metal is available it is hoped that the progress will be much more rapid.

On the other Divisions the work is being energetically pushed forward, and as more engine power and trucks are now available the progress in the future should be very considerable.

The quarry at Bowral is now open.

The work of resleepering has been seriously retarded on all Divisions by reason of the slow delivery of sleepers, with the exception of the Western Division, where the supply is obtained from Dubbo.

With regard to the duplication of the Suburban Line, good progress has been made with the section from Redfern to Macdonaldtown, on a portion of which the rails are already laid and ballasted. The section from Macdonaldtown to Petersham has been let, and the work is making good progress. A further length between Petersham and Croydon is also let.

The widening between Strathfield and Flomington is going on rapidly, and the loop between Homebush and the Northern Line is in a forward state, and will be opened for traffic shortly. Very good progress has also been made with the works in connection with the new Marshalling Sidings at Clyde.

The duplication between Oatley's and Como, and Loftus and Heathcote, was opened for traffic in November last, and the next section, between Heathcote and Waterfall, in December. The length between Como and Sutherland will, it is hoped, be ready for traffic towards the end of next month.

With regard to the widening of the Southern Line the portion between Granville and Merrylands was opened for traffic on the 1st instant. A further section, including Guildford, will be brought into use on the 1st proximo. The works between this point and Campbelltown are being energetically pushed forward, and it is hoped that a considerable portion of this length will be ready for opening in the course of the next two months. The widening between Campbelltown and Picton is making satisfactory progress. The grades on both these portions of the line are being considerably improved. Tenders have been called for widening the line between Mittagong and Bowral tunnel.

With regard to the widening between Strathfield and Ryde this is being completed, and, it is hoped, will be ready for opening at an early date. A further section from Ryde to Hornsby has been let.

Between Adamstown and Teralba the laying of the rails is going on as rapidly as the supply of sleepers will permit.

The raising of the embankment between East and West Maitland is in progress.

The deviations for improving the curves between Springwood and Katoomba are being proceeded with.

The work of deviating portions of the Mudgee Line has been rapidly pushed forward, and the permanent way is now being laid.

A large number of Contracts for station buildings, goods-sheds, guards' barracks, &c., have been let and are proceeding satisfactorily, and extensive repairs have been carried out to existing structures.

I have, &c.,  
J. ANGUS,  
per WILLIAM T. FOXLEE,  
Deputy Engineer.

The Secretary.

## 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, 1890.

Article.	Rate.	Reason for such Rate.
Shunting trucks into the Farmers' and Dairymen's Milk Company's Siding, Darling Harbour.	2s. 6d. per truck .....	Special arrangement.
Patent asphaltum, 7 bitumen, in bags or blocks.	A rate and conditions .....	To induce traffic.
Metal from Narrandera to Jerilderie, for Municipal Council.	If sent at Department's convenience, 3s. 1d. per ton...	To secure traffic.
Roofing tiles .....	A rate minimum, 2 tons .....	To increase traffic.
Boats and outriggers .....	Minimum charge, 10s. each .....	do
Buggies .....	do 7s. 6d. each .....	do
Bullock drays .....	In 4-wheel truck, minimum charge, 15s. each .....	do
Do .....	In 4-wheel or large 8-wheel trucks, minimum charge, 20s. each.	do
Yearly season tickets, to include sleeping-berths between Sydney and Melbourne, permitting the journey to be broken at intermediate stations.	£85 per annum, to take effect from 1st January, 1891	do
Coal loaded in owners' trucks, and hauled by owners' locomotives over Mount Keira branch line.	½d. per ton per mile .....	To encourage traffic.
Coal in owners' trucks, and hauled by owners' engines, Corrimal to Mount Keira Junction.	2d. per ton minimum ; 5 tons per truck.	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 of October to the 31st of December, 1890.

Date.	Name.	Position.	Rate.	Remarks.
SECRETARY'S BRANCH.				
1 Nov. ...	Mahony, Thomas .....	Clerk .....	£150 per annum	Transferred from Traffic Branch, <i>vice</i> R. Duff.
11 " ...	Kneeshaw, John .....	" .....	£300 "	<i>Vice</i> A. Price.
CHIEF ACCOUNTANT'S BRANCH.				
Nil.				
TRAFFIC AUDITOR'S BRANCH.				
Nil.				
ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH.				
1 Oct. ...	Hawkes, James .....	Inspector of Buildings. ....	£250 per annum	<i>Vice</i> Morrison.
2 " ...	Bambach, Andrew .....	Guard .....	9/- per day .....	From Traffic Branch.
10 " ...	Maxwell, George .....	Labourer .....	7/6 " .....	From Contractor's.
16 " ...	Grooms, Benjamin .....	" .....	7/6 " .....	" "
17 " ...	Fraser, James .....	Divisional engineer .....	£450 per annum	From Construction Department.
30 " ...	Rees, R. ....	Stationary engine-driver .....	10/- per day .....	From Locomotive Branch.
4 Nov. ...	Ryan, Thomas .....	Ganger .....	10/- " .....	Re-employed.
11 " ...	Martin Thomas .....	" .....	10/- " .....	From Contractors.
11 " ...	Richards, William .....	Labourer .....	7/6 " .....	Re-employed.
13 " ...	Huggins, George .....	Guard .....	10/6 " .....	From Traffic Branch.
17 " ...	Leck, William .....	Inspector of buildings .....	£250 per annum	<i>Vice</i> Brown.
19 " ...	Doherty, James .....	Guard .....	9/- per day .....	From Traffic Branch.
20 " ...	Lynch James .....	Labourer .....	7/6 " .....	Re-employed.
26 " ...	Lees, Thomas .....	Bricklayer .....	11/- " .....	"
29 " ...	M'Kander, James .....	Labourer .....	7/6 " .....	"
4 Dec. ...	Lewis, William .....	Ganger .....	10/- " .....	From Contractors.
5 " ...	Acland, Samuel .....	Bricklayer .....	12/- " .....	From Interlocking Branch.
5 " ...	Jones, Henry .....	Labourer .....	7/6 " .....	Re-employed.
8 " ...	Joyce, John .....	" .....	7/6 " .....	Re-instated.
9 " ...	Menzies, Robert .....	Guard .....	9/- " .....	From Traffic Branch.
9 " ...	Davis, J. R. ....	" .....	9/- " .....	" "

Date.	Name.	Position.	Rate.	Remarks.
LOCOMOTIVE ENGINEER'S BRANCH.				
14 Oct.	Burchmore, George	Machinist	8/8 per day	From Locomotive Branch, Tramways.
21 "	O'Keefe, James	Rollermaker	9/4 "	Vice Paton.
24 "	Taylor, William	Labourer	7/- "	From Permanent Way Branch.
28 "	M'Roberts, Leslie	Cleaner	4/- "	Vice Walsh.
30 "	LeMessuire, Mary	Caretaker of Barracks	20/- per week	
1 Nov.	Mulholland, Phillip	Inspector	£290 per annum	From Locomotive Branch, Tramways.
1 "	Townley, John W.	Clerk	£165 "	From Traffic Branch.
9 "	Claridge, W.	Cleaner	4/- per day	Vice Harrison.
14 "	Wallace, George	"	4/- "	" Rees.
20 "	Cornmack, P. A.	Labourer	6/6 "	From Supernumerary Staff.
4 Dec.	Stephenson, W. H.	Storeman	8/- "	From Permanent Way Branch.
16 "	Sykes, C.	Tinsmith	10/- "	" "
26 "	Fewkes, G.	Fireman	10/- "	From Locomotive Branch, Tramways.
29 "	Bradley, John	Labourer	7/6 "	From Permanent Way Branch.
30 "	Osmond, John	" (Youth)	5/- "	" "

## CHIEF TRAFFIC MANAGER'S BRANCH.

19 Sept.	Malcolm, Mary	Gatekeeper	7/- per week	Vice E. Brown.
1 Oct.	Edmonds, T. D.	Clerk	10/- per day	From Supernumerary Staff.
10 "	Bradshaw, A.	Porter	6/6 "	" "
30 "	Herman, W.	"	6/- "	Vice Boyton.
1 Nov.	Bull, T. J.	Junior Porter	2/6 "	From Supernumerary Staff.
7 "	Taylor, A. E.	"	5/- "	" "
7 "	Salmon, D.	Porter	6/- "	" "
7 "	Elliott, W.	Junior Porter	2/6 "	" "
7 "	Dick, Mary	Gatekeeper	7/- per week	Vice M. Jones.
8 "	Siddons, W.	Junior Porter	3/4 per day	Vice Walsh.
13 "	M'Fadden, A.	Gatekeeper	7/- per week	Vice Mary Keading.
20 "	De la Court, Chas.	Porter	7/- per day	From Permanent Way Branch, vice Morris.
21 "	Dargin, J.	Guard	9/- "	From Permanent Way Branch.
1 Dec.	Saunderson, G.	"	19/6 "	" "
1 "	Seale, John	Chief Booking Clerk	£430 per annum	From Traffic Audit Branch, vice V. Taylor.
3 "	Cavanough, Alex.	Junior Porter	3/4 per day	Vice Griffiths.
4 "	M'Keeley, Thomas	Labourer	7/- "	From Permanent Way Branch.
8 "	Carroll, J.	Junior Shunter	5/- "	Vice Nicholson.
10 "	M'Lean, W. R.	Gatekeeper	3/4 "	" L. Heuger.
23 "	Holloway, A.	"	5/- "	" McGee.
29 "	M'Closky, O. P.	Junior Porter	2/6 "	" Colls.

## COMPTROLLER OF STORES BRANCH.

13 Oct.	Tankard, Arthur J.	Junior Clerk	£30 per annum	Vice W. Hogg.
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## SIGNAL AND INTERLOCKING BRANCH.

1 Nov.	Bond, Chas. G.	Clerk	£195 per annum	From Supernumerary Staff.
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## PROPERTY AND ESTATE BRANCH.

Nil.

## TRAMWAYS—LOCOMOTIVE BRANCH.

14 Oct.	Parker, Hugh	Machinist	8/8 per day.	Vice Burchmore.
21 "	Fitzgibbon, A.	Cleaner	4/6 "	" Entwistle.
29 "	Murray, James	"	5/6 "	" Gray.
29 "	Harding, Thomas	"	5/6 "	" Mulholland.
21 Nov.	Murden, Francis	Apprentice	10d. "	" Davy.
26 Dec.	Ellis, Thomas	Cleaner	5/6 "	" Fewkes.
30 "	Wythes, Frederick	"	5/6 "	" Pepperbill

## TRAMWAYS—TRAFFIC BRANCH.

Nil.

## TRAMWAYS—MAINTENANCE BRANCH.

Nil.

A large number of appointments are in abeyance, pending a settlement of the insurance question.

APPENDIX

## 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 of October to the 31st of December, 1890.

Date.	Name.	Position.	Rate.	Remarks.
1890. SECRETARY'S BRANCH.				
1 Nov.	Price, Arthur	Clerk	£350 per annum.	Resigned.
30 "	Duff, Robert	"	£245 "	Discharged.
CHIEF ACCOUNTANT'S BRANCH.				
30 Dec.	Lane, Albert	Clerk	£125 per annum.	Retrenchment.
31 "	Miller, Robert	"	£170 "	"
TRAFFIC AUDITOR'S BRANCH.				
1 Dec.	Seal, John	Assistant Traffic Auditor	£430 per annum	To Traffic Branch, vice Taylor.
ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH.				
1 Oct.	Kennedy, James	Labourer	7/6 per day	Discharged.
1 "	Alchin, Arthur	"	7/6 "	"
1 "	Bedford, Edward	"	7/6 "	Transferred to Contractors.
1 "	Poll, William	"	7/6 "	"
1 "	Sheridan, Thomas	"	7/6 "	"
1 "	Hanbridge, Richard	"	7/6 "	"
1 "	Maher, Michael	"	7/6 "	"
1 "	Jepson, John	"	7/6 "	"
1 "	Jones, Henry	"	7/6 "	"
1 "	Pendergast, Michael	"	7/6 "	"
1 "	Carlton, Thomas	"	7/6 "	"
1 "	Richards, William	"	7/6 "	"
1 "	Hanrahan, Patrick	"	7/6 "	"
1 "	McCarthy, Patrick	"	7/6 "	"
1 "	Sullivan, Con.	"	7/6 "	"
1 "	Clay, William	"	7/6 "	"
1 "	Sheehan, Mat.	"	7/6 "	"
1 "	Kent, William	"	7/6 "	"
1 "	Foley, Andrew	"	7/6 "	"
1 "	McGuire, John	"	7/6 "	"
1 "	McGuire, Stephen	"	7/6 "	"
1 "	Haslin, Michael	"	7/6 "	"
1 "	Roderick, John	"	7/6 "	"
1 "	Dwyer, Mat.	"	7/6 "	"
1 "	Connolly, John	"	7/6 "	"
1 "	Kilt, Michael	"	7/6 "	"
1 "	Maxwell, James	"	7/6 "	"
1 "	Harris, James	"	7/6 "	"
1 "	Morrissey, Patrick	"	7/6 "	"
1 "	McMahon, James	"	7/6 "	"
1 "	McGuire, Hugh	"	7/6 "	"
1 "	McHugh, John	"	7/6 "	Discharged.
1 "	McGinley, Denis	"	7/6 "	"
1 "	Healey, Bartholomew	"	7/6 "	"
1 "	Smith, Thomas	"	7/6 "	Resigned.
1 "	Coil, Edward	"	7/6 "	"
1 "	Speer, John	"	7/6 "	Discharged.
1 "	Bond, Adam	Bricklayer	12/-	"
1 "	Griffiths, Samuel	Labourer	7/6 "	"
1 "	Tall, Samuel	Machinist	8.2 "	"
1 "	Briggs, Thomas	Labourer	7/6 "	Resigned.
1 "	Ward, Edward	"	7/6 "	Discharged.
2 "	Ashford, Robert	"	7/6 "	Transferred to Contractors.
2 "	Horne, Thomas	"	7/6 "	"
2 "	Moore, Walter	"	7/6 "	"
2 "	Akers, Henry	"	7/6 "	"
2 "	Richards, John	"	7/6 "	"
2 "	Winters, Anthony	"	7/6 "	"
2 "	Thorn, Lindsay	"	7/6 "	"
2 "	Caldwell, Thomas	"	7/6 "	"
2 "	Aldridge, W.	"	7/6 "	"
2 "	Sykes, Robert	"	7/6 "	"
2 "	Murray, Joseph	"	7/6 "	"
2 "	Neil, Stewart	"	7/6 "	"
2 "	Reynolds, William	"	7/6 "	"
2 "	Powell, Thomas	"	7/6 "	"
2 "	Sands, John	"	7/6 "	"
2 "	Morton, Thomas	"	7/6 "	"
2 "	Field, Patrick	"	7/6 "	"
2 "	Hedges, John	"	7/6 "	"
2 "	Regan, Michael	"	7/6 "	"
2 "	Wallace, Morris	"	7/6 "	"
2 "	McGrath, Patrick	"	7/6 "	"
2 "	Creech, James	"	7/6 "	"
2 "	Kirk, Thomas	"	7/6 "	"
2 "	Bennett, James	"	7/6 "	"
2 "	Maxwell, George	"	7/6 "	"
2 "	Speer, James	"	7/6 "	"
2 "	O'Hee, John	"	7/6 "	"
2 "	Duncan, George	"	7/6 "	"

Date.	Name.	Position.	Rate.	Remarks.
ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH—continued.				
2 Oct.	Gannon, M.	Labourer	7/6 per day	Left.
2 "	Room, Joseph	"	7/6 "	Resigned.
8 "	Howell, John	"	7/6 "	"
10 "	Morrison, Peter	Inspector of Buildings, &c.	£350 per annum	Retired.
14 "	Grimble, Arthur	Boy	2/6 per day	Resigned.
14 "	Walsh, Jeremiah	Labourer	7/6 "	"
16 "	Marshall, Colin	"	7/6 "	"
22 "	Vincent, Henry	"	7/6 "	Discharged.
23 "	Taylor, William	"	7/0 "	To Locomotive Branch.
23 "	Page, Charles	"	7/6 "	Resigned.
28 "	Heffernan, Luke	"	7/6 "	"
30 "	M'Grath, Terence	"	7/6 "	Retrenchment.
31 "	Fleeknoe, Robert	Carpenter	9/- "	"
1 Nov.	M'Kander, James	Labourer	7/6 "	Discharged.
6 "	Ryan, Thomas	Ganger	12/- "	"
6 "	Joyce, John	Labourer	7/6 "	"
14 "	Bell, William	"	7/6 "	Retrenchment.
14 "	M'Hugh, M.	"	7/6 "	Resigned.
14 "	M'Keeley, Thomas	Labourer	7/6 "	To Traffic Branch.
16 "	Anthes, John	Ganger	9/- "	Discharged.
16 "	Hansen, Gerard	"	7/6 "	Resigned.
17 "	Brown, John	Inspector of Buildings, &c.	£250 per annum.	Retired.
18 "	De La Court, Chas.	Labourer	7/6 per day	To Traffic Branch.
19 "	Sykes, George	"	7/6 "	Transferred to Contractors.
19 "	M'Coy, R.	"	7/6 "	"
20 "	Shaw, James	"	7/6 "	"
21 "	Dargin, James	Guard	9/- "	To Traffic Branch.
22 "	Fuller, William	Ganger	9/- "	Discharged.
25 "	Osmond, John	Youth	5/- "	"
25 "	Carpenter, James	"	4/- "	"
25 "	Ambrose, John	Labourer	7/6 "	To Locomotive Branch.
27 "	Funnell, Edwin	"	7/6 "	Resigned.
1 Dec.	Shaw, P. W.	Draftsman	£275 per annum	To Construction Department.
1 "	Saunderson, George	Guard	10/6 per day	To Traffic Branch.
4 "	Boyle, John	Labourer	7/6 "	Resigned.
4 "	M'Alister, Robert	"	7/6 "	Discharged.
4 "	Mitchell, James	"	7/6 "	"
4 "	Carroll, Thomas	"	7/6 "	"
4 "	Maltby, William	"	7/6 "	"
4 "	Stephenson, W. H.	"	7/6 "	To Locomotive Branch.
4 "	Sorrell, John	Labourer (boy)	6/- "	Discharged.
6 "	Peacock, David	Labourer	7/6 "	Resigned.
8 "	Say, Daniel	Inspector	12/- "	Retrenchment.
8 "	Adams, Thomas	Carpenter	10/- "	Deceased.
10 "	Fisher, B.	Labourer	7/6 "	Discharged.
13 "	London, Charles	Ganger	9/- "	Resigned.
16 "	Sykes, Charles	Tinsmith	10/- "	To Locomotive Branch.
20 "	Hampton, Aaron	Sub-Inspector	£280 per annum	Retired.
20 "	Momles, Frederick	Ganger	8/6 per day	Resigned.
20 "	Bunyan, James	Acting Inspector	12/- "	"
22 "	Craddock, Patrick	Labourer	7/6 "	Discharged.
24 "	Tomlinson, Henry	"	7/- "	"
24 "	Rowe, Thomas	Fettler	7/6 "	"
24 "	Martin, Henry	"	7/6 "	"
25 "	Reilly, Robert	"	7/6 "	"
27 "	Greig, John	"	7/6 "	"
29 "	Martin, James	"	7/6 "	Resigned.
29 "	Bradley, John	Labourer	7/6 "	To Locomotive Branch.
31 "	Burns, Joseph	Carter	12/- "	"
31 "	Todd, William	"	12/- "	"

## LOCOMOTIVE ENGINEER'S BRANCH.

1 Oct.	Harrison, Edward	Driver	15/- per day	Retired.
1 "	Heron, John	Inspector	£370 per annum.	"
2 "	Strong, William	Driver	14/- per day	Resigned.
8 "	Paton, A.	Boilermaker	9/4 "	Discharged.
9 "	Walsh, J.	Fireman	10/- "	"
21 "	Hayes, John	Painter's Assistant	7/6 "	"
23 "	Jones, John	Oiler	8/- "	Resigned.
29 "	Rees, Rees	Head Cleaner	11/- "	To Permanent Way Branch.
29 "	Burness, Henry	Boilermaker's Assistant	7/6 "	Resigned.
1 Nov.	Frost, Chas.	Driver	15/- "	Retired.
7 "	Griffiths, Thomas	Labourer	7/6 "	Discharged.
18 "	Lyons, Thomas	Boilermaker	10/- "	Deceased.
14 "	Ballanger, Patrick	Fuelman	6/6 "	Discharged.
17 "	Crawford, Leslie	Foreman	£270 per annum.	Retired.
18 "	Cornwall, Percy	Fireman	10/- per day	Resigned.
20 "	Kettley, Henry	Machinist	10/- "	Discharged.
20 "	Kenyon, W.	Striker	7/6 "	"
20 "	Meadows, J.	Labourer	7/6 "	"
20 "	Daniels, J.	Painter's Assistant	7/- "	"
20 "	Clarke, Joseph	Fuelman	7/6 "	"
25 "	Nicholls, Francis	Clerk	£225 per annum.	"
30 "	Duncan, Frederick	Stat. Engine-driver	9/- per day	Retired.
1 Dec.	Wrightson, Chas.	Fitter	12/2 "	Resigned.
4 "	Parry, Frank	Driver	11/- "	Discharged.
10 "	Mulvrens, John	Labourer	8/6 "	"
11 "	Lee, Arthur	"	7/- "	"

Date.	Name.	Position.	Rate.	Remarks.
<b>LOCOMOTIVE ENGINEER'S BRANCH—continued.</b>				
12 Dec.	Smith, D.	Striker	7/6 per day	Discharged.
12 "	Dowling, William	Cleaner	6/6 "	"
19 "	Gow, D.	Driver	13/- "	"
27 "	Johnson, Albert	"	11/- "	"
27 "	Thompson, Thomas	Fireman	8/- "	"
31 "	Campbell, William	Fitter	11/- "	"
31 "	Duncan, T.	Stationary engine-driver	9/- "	"
31 "	Collins, W.	"	9/- "	"
<b>CHIEF TRAFFIC MANAGER'S BRANCH.</b>				
1 Oct.	Smith, Thomas	Night Officer	£120 per annum	Discharged.
1 "	Brown, Eliza	Gatekeeper	7/- per week	Resigned.
2 "	Bamback, A.	Guard	9/- per day	To Permanent Way Branch.
2 "	Sheldon, W.	Operator	£110 per annum	Discharged.
6 "	Driscoll, T.	Porter	7/- per day	"
11 "	Healey, J.	"	7/- "	Deceased.
20 "	Morris, Edward	"	7/- "	"
28 "	M'Kenzie, K.	Office-cleaner	4/2 "	"
30 "	Boyton, Charles	Signalman	£22/2/- per week	"
1 Nov.	Devine, Mary	Gatekeeper	7/- per week	Gates closed.
1 "	Mahoney, J. J.	Clerk	£150 per annum	To Secretary's Office.
1 "	Townley, J. W.	"	£165 "	To Locomotive Branch.
4 "	Huggins, George	Guard	10/6 per day	To Permanent Way Branch.
5 "	Jones, Mary	Gatekeeper	7/6 per week	Discharged.
5 "	Gribbon, Thomas	Clerk	£200 per annum	"
5 "	Walsh, Joseph	Station-master	£165 "	"
12 "	Reading, Mary	Gatekeeper	7/- per week	Resigned.
15 "	Corney, H.	Porter	8/4 per day	Discharged.
15 "	Taylor, Victor	Clerk	£230 per annum	"
16 "	Eaginton, Joseph	Porter	7/- per day	"
18 "	Hawthorne, E.	Night officer	£120 per annum	"
19 "	Doherty, James	Guard	9/- per day	To Permanent-way Branch.
20 "	Abbott, R.	Gatekeeper	30/- per week	Discharged.
21 "	Smith, G. D.	Operator	£95 per annum	"
21 "	Holloway, W.	Night officer	£140 "	"
30 "	Holley, Mrs.	Gatekeeper	7/- per week	Resigned.
1 Dec.	Dodds, R.	Signalman	8/6 per day	Discharged.
3 "	Griffiths, A.	Junior Porter	5/- "	"
4 "	Worchurst, C.	Assistant Guard	8/6 "	"
8 "	Heager, L. A.	Gatekeeper	10/- per week	Resigned.
8 "	Nicholson, C.	Shunter	8/- per day	Discharged.
9 "	Gellatly, R.	"	7/6 "	"
10 "	Ryan, G. W.	Station-master	£180 per annum	"
19 "	Burgess, W.	Porter	6/- per day	"
20 "	Flint, James	Guard	11/- "	Deceased.
22 "	M'Gee, E.	Gatekeeper	5/- per week	Resigned.
24 "	Waldron, W.	Shunter	8/- per day	Discharged.
25 "	Myers, J.	Porter	6/- "	"
28 "	Colls, E.	Junior Porter	4/2 "	"
29 "	Saller, M.	Gatekeeper	7/- per week	Resigned.
31 "	Ware, J. J.	Clerk	£275 per annum	Retired.
<b>COMPTROLLER OF STORES BRANCH.</b>				
10 Oct.	Hogg, William	Clerk (Apprentice)	£30 per annum	Resigned.
<b>SIGNAL AND INTERLOCKING BRANCH.</b>				
1 Oct.	Watson, Jas. E.	Sub-Inspector	£200 per annum	Resigned.
3 "	M'Guinness, Thomas	Carpenter	10/- per day	"
9 "	Lane, Herbert	Youth	5/- "	Discharged.
22 "	Wigginton, John	Fitter	10/8 "	"
28 "	M'Carthy, Thomas	Striker	7/6 "	"
28 Nov.	Banchop, George	Blacksmith	10/- "	Resigned.
5 Dec.	Acland, Samuel	Bricklayer	10/- "	Transferred to Permanent Way Branch.
8 "	Jones, William	Labourer	7/6 "	Resigned.
31 "	Pearce, William	Blacksmith	11/8 "	Retrenchment.
<b>PROPERTY AND ESTATE BRANCH.</b>				
Nil.				
<b>TRAMWAYS—LOCOMOTIVE BRANCH.</b>				
13 Sept.	Entwistle, James	Shed Fireman	11/- per day	Discharged.
13 Oct.	Burchmore, George	Machinist	8/8 "	To Locomotive Branch, Railways.
24 "	Gray, Charles	Cleaner	6/6 "	Discharged.
1 Nov.	Mulholland, Phillip	Travelling Inspector	£290 per annum	To Locomotive Branch, Railways.
6 "	Davy, Samuel	Apprentice	2/6 per day	Resigned.
24 "	Fewkes, George	Driver	13/- "	To Locomotive Branch, Railways.
8 Dec.	Pepperill, A.	Fireman	9/- "	Discharged.
9 "	Cutler, Hilton	Shop Boy	2/3 "	"
<b>TRAMWAYS—TRAFFIC BRANCH.</b>				
Nil.				
<b>TRAMWAYS—MAINTENANCE BRANCH.</b>				
13 Nov.	Fitzgerald, Thomas	Labourer	7/6 per day	Discharged.
13 "	M'Namara, John	"	7/6 "	"
14 "	Spalding, Samuel	"	6/6 "	Resigned.



1891.

## NEW SOUTH WALES.

## RAILWAYS AND TRAMWAYS.

(REPORT OF RAILWAY COMMISSIONERS FOR QUARTER ENDING 31 MARCH, 1891.)

Presented to Parliament, pursuant to Act 51 Vic. No. 35, sec. 44.

Offices of the Railway Commissioners of New South Wales,  
Sydney, 28th April, 1891.

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 the 31st of March, 1891, upon the subjects specified, viz. :—

- (I.) "The state of the traffic returns, with the approximate cost and earnings of trains per ton per train mile, in respect of goods and passengers, respectively, carried during the past quarter."
- (II.) "The general condition of the lines, and accommodation for the traffic."
- (III.) "The special rates (if any) which have been made, and the reasons for making such rates."
- (IV.) "The appointments and removals, with the circumstances attending each case."

## I.—STATE OF THE TRAFFIC.

Railways.								Quarter ending 31st March, 1890.	Quarter ending 31st March, 1891.
Miles open	...	...	...	...	...	...	...	*	
				1890.	1891.				
Revenue	{	Passenger	...	£277,149	£322,725			£614,772	£741,134
	{	Merchandise	...	337,623	418,409				
Expenditure	...	...	...	...	...	...	...	£383,338	£431,870
Train miles run	...	...	...	...	...	...	...	1,896,027	2,087,500
Earnings per train mile	...	...	...	...	...	...	...	6/5½	7/1½
Expenditure per train mile	...	...	...	...	...	...	...	4/0½	4/1½
Percentage—Expenditure to earnings	...	...	...	...	...	...	...	62·35	58·27
Number of passengers	...	...	...	...	...	...	...	4,164,998	4,852,759
Tonnage of goods traffic	...	...	...	...	...	...	...	820,586	1,123,134
Tonnage of live stock traffic	...	...	...	...	...	...	...	23,621	27,575

NOTE.—Information as to the cost and earnings of trains per ton per mile cannot be given, as a large proportion of the train mileage is used for carrying both goods and passenger traffic.

\* This column shows the adjusted figures after final settlement of accounts for the quarter.

Tramways.	Quarter ending 31st March, 1890.	Quarter ending 31st March, 1891.
Miles open ... ..	* 39½	42½
Revenue from all sources ... ..	£66,766	£77,307
Expenditure ... ..	£53,432	£58,336
Train miles run ... ..	411,425	434,274
Earnings per train mile ... ..	3/3	3/6½
Expenditure per train mile ... ..	2/7½	2/8½
Percentage—Expenditure to earnings ... ..	80.03	75.46
Number of fares collected ... ..	15,599,802	17,859,754

\* This column shows the adjusted figures after final settlement of accounts for the quarter.

## II.—CONDITION OF THE LINES.

A report on 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 9.

## GENERAL REMARKS.

The revenue for the quarter shows most satisfactory results, the large aggregate increase of £126,362 having been contributed to by all descriptions of traffic. Coaching traffic increased by £45,576, and the Goods Department traffic by £80,786.

In regard to the Passenger traffic it may be mentioned that Easter falling in March this year, instead of April as last year, to some extent helped to swell the traffic for this quarter.

As the accommodation for second-class passengers has been so much improved of late, it may be interesting to state that it has not drawn traffic from the first-class carriages, but has simply led to a development in the business, the first-class traffic showing an increase of £13,473 for the quarter, and the second-class of £29,475.

The cheap excursion trains have also contributed to the general increase in the passenger traffic.

In regard to the goods traffic the principal items of increase are in wool of £26,719, general merchandise £29,075.

The tonnage of coal moved in the Newcastle district shows an increase of 173,000 tons, in consequence of the extra shipments of coal following the termination of the strike.

The increased earnings of 7½d. per mile upon the 2,087,500 miles run during the quarter is also a satisfactory feature in the working.

CONDITION

CONDITION OF THE LINES AND ACCOMMODATION FOR THE TRAFFIC.

Considerable progress has been made in improving the state of the permanent way by reballasting and relaying.

Some of the duplication works have also been brought into use, and it is expected that in a few months the double line will be completed to Picton.

The sections of line from Strathfield to Ryde, and Adamstown to Teralba, will be completed in about a month.

The duplication of the Illawarra line to Waterfall has been completed.

Good progress is being made with the quadruplication of the Suburban line.

TRAMWAYS.

The working of the Tramways shows improved results, there being an increase of £10,541 in the receipts, and the working expenses have been reduced by nearly 5 per cent., although debited for the quarter with the renewal of 3 motors and 10 tram-cars.

Several new waiting-rooms have been opened for the convenience of tramway passengers.

We have the honor to be,

Sir,

Your most obedient Servants,

E. M. G. EDDY,

Chief Commissioner.

W. M. FEHON,

Commissioner.

CHARLES OLIVER,

Commissioner.

## APPENDICES.

## APPENDIX I.

## Minute from The Engineer-in-Chief for Existing Lines to The Secretary to the Railway Commissioners.

New South Wales Government Railways,  
Engineer-in-Chief for Existing Lines Branch, Sydney, 21 April, 1891.

Report on Condition of Lines for quarter ending 31st March, 1891.

Sir,

I have the honor to report, for the information of the Railway Commissioners, on the condition of the Railways for the quarter ending 31st March, 1891, as follows:—

The permanent-way, as also the bridges, station and other buildings have been satisfactorily maintained.

Relaying.—On all the divisions the work of relaying, resleepering, draining and reballasting has made fair progress, the draining and ballasting of the Suburban Line being completed.

Deviations.—The work of improving the curves on the Mountains, in the neighbourhood of Katoomba, has been so far carried out that a considerable length is now ready for the permanent-way to be laid.

A contract has also been let for the deviation of the Western Line at Lapstone Hill to dispense with the Zig Zag.

On the Mudgee Line the deviation rendered necessary on account of land-slips have been completed.

Duplication Works.—The contract for the duplication works from Redfern to Flemington on the Suburban Line have made fair progress, the portion from Redfern to the Illawarra Junction being so far advanced as to permit of its being opened in a few weeks.

The duplication of the Southern Line between Granville and Campbelltown, with the exception of a short section, about 2 miles, was so far completed as to allow of the heavy traffic between Sydney and Campbelltown for the Easter encampment been carried.

The duplication between Oatley's and Waterfall, on the Illawarra Line, has been completed, with the exception of the station arrangements at Waterfall.

The widening of the line between Strathfield and Ryde will be completed in about a month.

The widening from Adamstown to Teralba is expected to be totally completed by the 1st of June; a section between Adamstown and Young, Wallsend Junction, having been opened for traffic on the 20th March.

The duplication between Mittagong and Bowral has also made fair progress.

The raising of the embankment between East and West Maitland has also made fair progress.

The Marshalling sidings at Clyde have been pushed rapidly forward, three-quarters of the earth-work has been completed, and the culverts and underbridges have been finished.

The Homebush curve for connecting the Northern and Suburban Lines has been so far completed as to allow of its being shortly opened for traffic.

Waterways.—The abutments for the Duck River Bridge have been built to level of girder bed, and a dam has been constructed on inlet side of bridge.

The contract for providing more waterways at Bourke is progressing satisfactorily; four deviations have been completed and several bridges are well in hand.

A large number of contracts for buildings of various kinds have been let and are progressing satisfactorily.

I have, &c.,  
J. ANGUS.

## 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 of March, 1891.

Article.	Rate.	Reason for such Rate.
Axle grease.....	"B" rate and conditions.....	To assimilate rates.
Haulage of goods between Wagga Station and Show Ground Siding.	5s. per 4-wheeled truck .....	To provide rate.
Shunting trucks into the Metropolitan Colliery Co.'s Siding, Helensburgh.	7s. 6d. per truck .....	do
Shunting trucks not forwarded by rail in Messrs. D. Cohen & Co.'s Siding, Newcastle.	7s. 6d. per truck .....	do
Neokratine .....	3rd class rate and conditions .....	Adjustment of rate.
Canoes.....	Half boat-rate .....	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 of January to the 31st of March, 1891.

Date.	Name.	Position.	Rate.	Remarks.
SECRETARY'S BRANCH.				
Nil.				
CHIEF ACCOUNTANT'S BRANCH.				
Nil.				
TRAFFIC AUDITOR'S BRANCH.				
Nil.				
1891. ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH.				
12 Jan.	Richards, John	Labourer	7/6 per day	Vice Chas. Trappold.
12 "	Moore, Walter	"	7/6 "	Vice John Allen.
12 "	Horne, Thomas	"	7/6 "	Vice Chas. Page.
12 "	Powell, Thomas	"	7/6 "	Vice Jeremiah Walsh.
12 "	Akers, Henry	"	7/6 "	Vice Thos. Smith.
12 "	M'Coy, Robert	"	7/6 "	Vice John Sulter.
12 "	Shaw, James	"	7/6 "	Vice Thos. M'Kelvey.
16 "	M'Alister, Robert	"	7/6 "	Re-instated.
23 "	Martin, Benjamin	Carpenter	11/- "	From Interlocking Branch.
30 "	Ackland, Samuel	Bricklayer	12/- "	"
1 Feb.	Davidson, W. H.	Draftsman	£350 per annum	From supernumerary staff.
9 "	Winter, Anthony	Labourer	7/6 per day	Vice Thos. Watson.
9 "	Nicholas, C. E.	Divisional engineer	£600 per annum	"
11 "	Kelly, Michael	Guard	10/- "	From Traffic Branch.
12 "	Payne, Joseph	Labourer	7/6 "	From Locomotive Branch.
14 "	Aldridge, William	"	7/6 "	Vice David Peacock.
24 "	Caldwell, Thomas	"	7/6 "	Vice C. Heeger.
1 Mar.	Jackson, H. O.	Draftsman	£260 "	From supernumerary staff.
1 "	Hayes, Stephen	Apprentice Clerk	£30 "	"
1 "	Cook, H. A. G.	"	£30 "	"
11 "	Bell, William	Labourer	7/6 per day	Vice William Fuller.
11 "	Sykes, Robert	"	7/6 "	Vice Thos. Rowe.
11 "	O'Hea, John	"	7/6 "	Vice Henry Martin.
13 "	Creech, James	"	7/6 "	Vice Thos. Davies.
16 "	Reynolds, William	"	7/6 "	Vice Thos. Alchin.
24 "	Kirk, Thomas	"	7/6 "	Vice Jas. Green.
24 "	Murray, Joseph	"	7/6 "	Vice Rd. Lewis.
27 "	Duncan, George	"	7/6 "	Vice Thos. Ryder.
CHIEF MECHANICAL ENGINEER'S BRANCH.				
6 Jan.	Lancaster, Alfred	Fireman	10/- per day	From Locomotive Branch, Tramways.
9 "	Williams, W. C.	Driver	12/- "	"
9 "	Smith, Robert	"	13/- "	"
9 "	Martin, Frank	Junior Clerk	£75 per annum	From Traffic Branch.
27 "	Fisher, George	Fireman	10/- per day	From Locomotive Branch, Tramways.
29 "	Campling, George	Turner	10/- "	Vice Halstead.
2 Feb.	Harlaud, Thomas	Fireman	8/- "	From Locomotive Branch, Tramways.
9 "	Fountain, William	Driver	13/- "	"
9 "	Wanklin, William	"	13/- "	"
12 "	Burness, Henry	Boilermaker's Assistant	7/6 "	Reinstated.
16 "	Tolly, Frederick	Head Cleaner	8/- "	Vice Neale.
9 Mar.	Doyle, James	Car Builder	10/- "	From Locomotive Branch, Tramways.
CHIEF TRAFFIC MANAGER'S BRANCH.				
2 Jan.	Coles, Edward	Junior Porter	4/2 per day	Reinstated.
6 "	Gellatly, Rundolph	Shunter	7/6 "	"
6 "	Craven, Mrs.	Caretaker	20/- per week	"
10 "	Richards, Williams	Porter	6/6 per day	From Supernumerary Staff.
11 "	Touse, John	"	6/6 "	"
15 "	Prior, Mrs.	Gatekeeper	7/- per week	Vice Doolan.
15 "	Williams, Mary	"	7/- "	"
17 "	Krempin, W.	"	12/- "	"
18 "	Menzies, Robert	Guard	9/- per day	From Permanent Way Branch.
19 "	Still, John	Porter	7/- "	Reinstated.
19 "	Waterworth, Mrs.	Caretaker	15/- per week	"
22 "	Davis, Thomas	Porter	7/- per day	From Permanent Way Branch.
26 "	Humphries, Mrs.	Gatekeeper	5/- per week	Vice Kelly.
27 "	Grigg, E.	"	7/6 "	Vice Bowen.
29 "	Wilson, John	Porter	6/- per day	From Supernumerary Staff.
30 "	Miller, Mrs. C.	Gatekeeper	7/- per week	Vice Magill.
31 "	Parry, John	Out-door Superintendent	£600 per annum	Promoted from Interlocking Engineer.
3 Feb.	Woodlands, Mrs.	Caretaker	30/- per week	"
3 "	Sheridan, Mrs.	Towel Washer	12/6 "	" Dalzell.
7 "	Griffiths, Mrs.	Office Cleaner	25/- "	"
10 "	M'Gann, Mrs.	Caretaker	20/- "	"
12 "	Stout, Henry	Gatekeeper	20/- "	" Cook.
16 "	Williams, F.	"	7/- "	"
25 "	Morris, A.	"	2/6 per day	" Picken.
26 "	Gately, Catherine	"	7/- per week	" Rose.

Date.	Name.	Position.	Rate.	Remarks.
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CHIEF TRAFFIC MANAGER'S BRANCH—continued.

1 Mar.	Kneeshaw, John	Clerk	£300 per annum.	From Secretary's Branch.
4 "	Brown, E.	Shunter	7/6 per day	" Supernumerary Staff.
14 "	Whelan, Mrs.	Caretaker	34/- per week	" Locomotive Branch.
16 "	Jack, Mrs.	"	15/- "	"
17 "	Fletcher, Mrs.	Gatekeeper	7/- "	Vice Clifton.
19 "	Guina, Mrs.	"	10/- "	" Norman.
22 "	Pearson, F.	Labourer	7/6 per day	From Permanent-way Branch.
23 "	Grimes, Emily	Gatekeeper	30/- per week	Vice M. Grimes.
23 "	Parker, Mrs.	Caretaker	5/- "	"
26 "	Pavey, A. G.	Shunter	6/6 per day	From Supernumerary Staff.
27 "	Wilson, A.	Caretaker	12/- per week.	"
30 "	Ball, Annie	"	7/6 "	"

COMPTROLLER OF STORES BRANCH.  
Nil.

SIGNAL AND INTERLOCKING BRANCH.

1 Feb.	Wilkin, Chas.	Interlocking Engineer	£500 per annum.	Vice J. Parry.
14 "	Patterson, Walter	Clerk	£150 "	From Permanent-way Branch
17 "	Henson, Eustace H.	Apprentice Clerk	£60 "	From Stores Branch.

PROPERTY AND ESTATE BRANCH.  
Nil.

TRAMWAYS—LOCOMOTIVE BRANCH.

3 Jan.	Alexander, Chas. R.	Cleaner	5/6 per day	Vice Lancaster.
3 "	Webb, Squire	"	5/6 "	" R. Smith.
28 "	Kenyon, John	"	5/6 "	" Kenny.
28 "	Hastings, Hugh	"	5/6 "	" Williams.
30 "	Crowe, Thomas	Laborer	7/- "	" Howe.
30 "	Tubby, William	Cleaner	5/6 "	" Fisher.
30 "	Clisdell, Hugh	"	5/6 "	" Harland.
30 "	Bishop, William	"	5/6 "	" Fountain.
30 "	Reid, Thomas	"	5/6 "	" Wanklin.

TRAMWAYS—TRAFFIC BRANCH.

20 Feb.	Elliott, H. D.	Assist. Conductor	8/- per day	From Supernumerary Staff.
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TRAMWAYS—MAINTENANCE BRANCH.  
Nil.

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 of January to the 31st of March, 1891.

Date.	Name.	Position.	Rate.	Remarks.
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1891.

SECRETARY'S BRANCH.

1 March	Kneeshaw, John	Clerk	£300 per annum.	To Traffic Branch.
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CHIEF ACCOUNTANT'S BRANCH.  
Nil.

TRAFFIC AUDITOR'S BRANCH.  
Nil.

1890.

ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH.

8 Dec.	Selms, James	Labourer	7/6 per day	Resigned.
24 "	Martin, Henry	"	7/6 "	Discharged.
26 "	Morrissey, Michael	"	7/6 "	Left.
27 "	Greig, John	Fettler	7/6 "	Discharged.
29 "	Martin, James	"	7/6 "	Resigned.
31 "	Webber, Robert	Timekeeper	£150 per annum	"

Date.	Name.	Position.	Rate.	Remarks.
ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH—continued.				
1891.				
1 Jan.	Ryder, Thomas	Fettler	7/6 per day	Discharged.
2 "	Oakes, William	Labourer	7/6 "	Resigned.
3 "	Say, Henry	Inspector	12/- "	Discharged.
5 "	Dwyer, Patrick	Labourer	7/6 "	Resigned.
7 "	Alchin, Thomas	"	7/6 "	"
8 "	May, Charles	"	7/6 "	Deceased.
13 "	Mugivan, Michael	"	7/6 "	Discharged.
15 "	Groon, James	Fettler	7/6 "	"
15 "	Duggan, Timothy	Labourer	7/6 "	Resigned.
18 "	Menzies, Robert	Guard	9/- "	To Traffic Branch.
20 "	Grooms, Benjamin	Labourer	7/6 "	Resigned.
22 "	Davis, Thomas	"	7/6 "	To Traffic Branch.
3 Feb.	Lewis, Richard	"	7/6 "	Resigned.
3 "	Cole, Amos	"	7/6 "	"
5 "	Heathcote, Thomas	"	7/6 "	Discharged.
10 "	Oram, George	"	7/6 "	Resigned.
11 "	Thoms, Alfred	"	7/- "	Deceased.
11 "	Bennett, Henry	"	7/6 "	Resigned.
12 "	Buschby, Fred.	"	7/6 "	Discharged.
13 "	Johnston, Robert C.	"	7/6 "	"
14 "	Patterson, Walter	Clerk	£150 per annum	To Interlocking Branch.
14 "	Chivors, Jesse	Labourer	7/6 per day	Resigned.
14 "	M'Incuney, Patrick	"	7/6 "	Deceased.
20 "	Edwards, John	"	7/6 "	Resigned.
26 "	M'Intosh, Arthur	"	7/6 "	Discharged.
26 "	Watters, Henry	"	7/6 "	"
26 "	Harris, Edward	"	7/6 "	"
26 "	Brown, Frank	"	7/6 "	"
26 "	Mechan, Patrick	"	7/6 per day	"
7 Mar.	M'Mahon, George	"	7/6 "	Resigned.
12 "	Murphy, Thomas	"	7/6 "	"
12 "	Mort, William	Ganger	9/- "	"
13 "	Sanders, Luke	Bricklayer	12/- "	"
13 "	Lee, Thomas	"	11/- "	Discharged.
13 "	M'Cormack, Thomas	Fencer	7/6 "	"
13 "	Hunt, George	Painter	8/6 "	"
18 "	Jacob, William	Fettler	7/6 "	Resigned.
19 "	Buckland, John	Labourer	7/6 "	"
21 "	Wilesmith, Robert	Ganger	9/- "	Discharged.
22 "	Pearson, Francis	Labourer	7/6 "	To Traffic Branch.
23 "	Blakeley, Chas.	"	7/6 "	Resigned.
25 "	Hatter John	Ganger	9/- "	"
25 "	M'Kay, Alexander	Labourer	8/- "	"
26 "	White, Arthur	Fettler	7/6 "	"

## CHIEF MECHANICAL ENGINEER'S BRANCH.

1890.				
29 Dec.	Fegan, Cranc	Boilermaker's Assistant	7/- per day	Discharged.
1891.				
3 Jan.	Wright, John	Fireman	10/- "	"
9 "	Pickering, Thomas	"	8/- "	"
9 "	Burnister, Henry	Assistant Examiner	9/- "	"
10 "	Pettit, George	Driver	13/- "	Deceased.
15 "	Scott, William	Patternmaker	9/- "	Resigned.
15 "	Blake, John	Striker	7/6 "	"
16 "	Blincoe, James	Fuelman	7/6 "	Discharged.
23 "	Halstead, James	Turner	10/- "	"
24 "	Fallowfield, Richard	Driver	14/- "	"
24 "	Sullivan, John	Boilermaker	10/2 "	"
31 "	Perry, Chas.	Clerk	£165 per annum.	Resigned.
5 Feb.	Lee, Sydney	Draftsman (Cadet)	£70 "	Deceased.
6 "	Swan, Herbert	Apprentice	5/- per day	Resigned.
7 "	Neal, Henry	Head Cleaner	10/- "	Discharged.
11 "	Bennet, Chas.	Striker	7/- "	Resigned.
12 "	Payne, Joseph	Car-fitter	9/2 "	To Permanent Way Branch.
3 Mar.	Upton, Thomas	Oiler	8/- "	Deceased.
6 "	Bussey, J.	Driver	14/- "	"
7 "	Vaines, Chas.	Striker	7/6 "	Resigned.
7 "	Foster, Robert	Apprentice	5/- "	Discharged.
9 "	M'Gregor, Thomas	Oiler	8/- "	Resigned.
14 "	Whelan, Mrs.	Carstaker	34/- per week	To Traffic Branch.
18 "	Marshall, John	Striker	7/6 per day	Discharged.
18 "	Taylor, William	Labourer	7/- "	"
20 "	Raward, George	Driver	14/- "	"
22 "	Bingham, George	Car-builder	10/6 "	"
22 "	Rulston, John	Driver	14/- "	Deceased.
24 "	Newling, Chas.	Fuelman	7/6 "	"
25 "	Mills, William	Boilermaker's Assistant	7/6 "	Resigned.
25 "	Thompson, Thomas	Labourer	7/6 "	Discharged.
26 "	Salter, Louis	Ganger	9/- "	"
26 "	Gallagher, Patrick	Driver	15/- "	Retired.
31 "	Wallace, John E.	Clerk	£165 per annum.	"
31 "	Lancaster, A.	Fireman	10/- "	Resigned.
31 "	Baker, Frederick	Turner	11/8 "	"
31 "	Fennelly, Edward	Cleaner	6/6 "	"

Date.	Name.	Position.	Rate.	Remarks.
CHIEF TRAFFIC MANAGER'S BRANCH.				
1890.				
9 Dec.	Moody, James	Clerk	£215 per annum	Discharged.
19 "	Grocott, Frank	Officer-in-charge	£150 "	Resigned.
23 "	Sheriff, T. N.	"	£140 "	"
26 "	Magill, Mrs. M.	Gatekeeper	7/- per week	"
1891.				
1 Jan.	Humphries, Patrick	"	7/6 per day	Discharged.
2 "	Rose, James	Operator	£150 per annum.	"
3 "	Stapleton, Thomas	Head porter	10/- per day	"
4 "	Jones, John	Night officer	£185 per annum.	Deceased.
5 "	Evans, James	Station-master	£150 per annum.	Discharged.
5 "	Cameron, H.	Officer-in-charge	£150 "	Resigned.
7 "	Cullen, John	Porter	7/6 per day	Discharged.
8 "	Murray, James	Guard	9/6 "	"
9 "	See, Samuel	Junior porter	4/6 "	"
9 "	Bisson, Thomas	Porter	7/- per day	Deceased.
9 "	Martin, Frank	Junior clerk	£75 per annum.	To Locomotive Branch.
11 "	Austin, David	Junior porter	5/- "	Discharged.
14 "	Doolan, Richard	Gatekeeper	15/- per week	"
14 "	Duley, John	Clerk	£110 "	Deceased.
15 "	Malley, John	Porter	6/- per day	Discharged.
24 "	Bowen, Mary Ann	Gatekeeper	7/6 per week	Resigned.
26 "	Kelly, Margaret	"	5/- "	Discharged.
26 "	Dalzell Charlotte	Towel-washer	12/6 "	"
29 "	Edwards, Mrs.	Gatekeeper	7/6 "	Retrenched.
29 "	Allport, Mrs.	"	7/- "	"
29 "	Jennings, Mrs.	"	7/- "	"
29 "	O'Toole, Mrs. K.	"	7/- "	"
29 "	M'Donald, Mrs.	"	7/- "	"
29 "	Dennison, Eliza	"	7/- "	Resigned.
29 "	Whittaker, Mrs. A.	Office-cleaner	25/- per week	Discharged.
31 "	Mayo, William	Porter	6/- per day	Resigned.
1 Feb.	Hunt, James	Operator	£120 per annum.	"
1 "	M'Guffin, E.	Night officer	£140 "	Discharged.
6 "	Gallagher Mrs.	Gatekeeper	7/- per week	Retrenched.
6 "	Wyatt, Henry	Porter	6/6 per day	Resigned.
6 "	Gallagher, Mrs. M. A.	Gatekeeper	7/- per week	Retrenched.
7 "	Kelly, M.	Head porter	10/- per day	To Permanent Way Branch.
12 "	Miller, William	Porter	7/- "	Resigned.
12 "	Hunt, M. A.	Gatekeeper	7/- per week	Discharged.
13 "	Barnett, Mary	"	10/- "	Resigned.
13 "	Bennett, Mary	"	10/- "	"
19 "	Bannister, W.	Porter	8/- per day	"
22 "	Richard, J.	Clerk	£120 per annum.	"
22 "	Lenahan, W.	Station-master	£240 per annum	Discharged.
26 "	Rose, Mrs. R.	Gatekeeper	7/- per week	Resigned.
26 "	Herks, A.	Porter	7/- per day	Discharged.
28 "	Thurlow, J.	Gatekeeper	7/- "	Retired.
28 "	Harper, D.	Junior Porter	2/6 "	Discharged.
23 "	Markwell, S.	Station-master	£180 per annum	Deceased.
1 Mar.	Pidding, Chas.	Operator	£136 "	Resigned.
6 "	Day, Eliza	Gatekeeper	7/6 per week	"
12 "	Knight, Fred.	Stunter	7/6 per day	"
13 "	Campbell, C.	Signalman	10/6 "	"
16 "	Clifton, P.	Gatekeeper	7/- per week	"
18 "	Norman, Mrs.	"	15/- per week	"
19 "	Sands, Thomas	Porter	7/6 per day	"
20 "	Orchard, J.	Stunter	7/- "	Discharged.
20 "	Newell, John	Porter	6/6 "	"
21 "	Stephens, Joseph	"	7/6 "	Deceased.
23 "	Harris, Mary	Caretaker	20/- per week	Resigned.
24 "	Grimes, Mary	Gatekeeper	80/- "	Deceased.
25 "	Russell, B.	Probationer	10/- "	Discharged.
26 "	Williams, H.	Gatekeeper	7/- "	Resigned.
26 "	Morgan, T.	Signalman	8/- per day	"
30 "	Neylon, T.	Porter	7/6 "	"

## CONTROLLER OF STORES BRANCH.

17 Feb. ... Henson, Eustace ... Apprentice Clerk ... £30 per annum ... To Interlocking Branch.

## SIGNAL AND INTERLOCKING BRANCH.

1 Jan. ... Hoyle, Henry C. ... Foreman ... £260 per annum ... Discharged.  
 23 " ... Martin, B. ... Carpenter ... 11/- per day ... To Permanent Way Branch.  
 30 " ... Ackland, Samuel ... Bricklayer ... 12/- " ...  
 31 " ... Farry, John ... Interlocking Engineer ... £6.0 per annum ... To Out-door Superintendent Traffic Branch.  
 26 Mar. ... Chegwidlen, George ... Painter ... 8, 8 per day ... Resigned.

## PROPERTY AND ESTATE BRANCH.

Nil.

Date.	Name.	Position.	Rate.	Remarks.
<b>TRAMWAYS—LOCOMOTIVE BRANCH.</b>				
1890.				
13 Dec.	Kenny, George	Cleaner	7/6 per day	Resigned.
30 "	Eagleton, Edward	Laborer	7/-	Deceased.
1891.				
2 Jan.	Lancaster, A.	Driver	13/-	To Locomotive Branch Railways.
8 "	Williams, W. C.	"	12/-	"
8 "	Smith, Robert	"	13/-	"
15 "	Howe, Robert	Laborer	7/-	Left.
23 "	Fisher, George	Driver	13/-	To Locomotive Branch, Railways.
20 "	Harland, Thomas	Fireman	8/-	"
5 Feb.	Fountain, William	Driver	13/- per day	"
5 "	Wanklin, William	"	13/-	"
18 "	Banes, Ernest	"	12/-	Resigned.
24 "	Duggan, C.	Fuelman	7/-	"
9 Mar.	Doyle, James	Car-builder	11/-	To Locomotive Branch, Railways.
12 "	Hicks, B.	Fireman	8/-	Resigned.
14 "	Farley, Patrick	Fuelman	7/-	"
25 "	Barker, Clarence	Messenger	2/6	"
<b>TRAMWAYS—TRAFFIC BRANCH.</b>				
1 Jan.	Lane, Thomas	Car-cleaner	7/- per day	Discharged.
14 "	Hillard, T.	Flagman	7/-	"
16 "	Davidson, John	Pointsman	8/-	"
22 "	Caites, C.	Conductor	9/-	"
7 Feb.	Grono, W. T.	Assistant Conductor	8/-	"
27 "	Lemon, Joseph	"	8/-	"
13 Mar.	Dunn, M.	Car-cleaner	7/-	Resigned.
13 "	Morgan, G. R.	Conductor	9/-	Discharged.
<b>TRAMWAYS—MAINTENANCE BRANCH.</b>				
2 Jan.	Jones, Joseph	Laborer	7/6 per day	Resigned.
23 "	Young, Phillip	"	7/6	Discharged.
2 Feb.	Godding, William	"	7/6	Resigned.

Sydney: George Stephen Chapman, Acting Government Printer.—1891.

[9d.]



1891.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## RAILWAYS OF NEW SOUTH WALES.

DESCRIPTION OF THE LINES AND WORKS OF CONSTRUCTION, BY HENRY DEANE, ACTING ENGINEER-IN-CHIEF.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

### Description of the Railways of New South Wales, by The Acting Engineer-in-Chief.

THERE are three main trunk lines in this Colony, which are called the GREAT SOUTHERN, the GREAT WESTERN, and the GREAT NORTHERN Railways.

The principal branches in connection with the above are:—

Junce, on the Southern Line, to Hay, called also the South-western Railway, with a branch from Narrandera to Jerilderie, the latter being the terminus.

Goulburn, on the Southern Line, to the terminal station at Cooma.

Werris Creek, on the Great Northern Line, to Narrabri, called also the North-western Railway.

There are besides:—

On the Great Southern Line—The Darling Harbour, Haslem's Creek, the Collingwood, and the Cootamundra to Gundagai.

On the Great Western Line—The Blacktown to Richmond, and Wallerawang to Mudgee.

On the Great Northern Line—The Bullock Island and Morpeth branches.

There are also the following connecting lines:—The Southern and Northern Junction Railway, from Strathfield, on the Southern Line, to Hamilton, on the Great Northern, with a branch from Hornsby to St. Leonards; and the line from Murrumburrah, on the Great Southern Railway, to Blayney, on the Great Western.

Lastly, there is the Illawarra Railway, which leaves the Southern Line at Eveleigh, and runs to Wollongong and Kiama, the present terminus of which will shortly be extended to Nowra.

The gauge throughout is 4 ft. 8½ in., this being the almost universal gauge now of the majority of railways throughout the world. It was adopted at a very early period of railway construction in England, on what was necessarily at that time a very limited experience of what would ultimately be found the best; nevertheless, it has stood its ground, as evidenced by its world-wide imitation. Ireland, India, Spain, and Victoria are the principal exceptions to the rule, in one direction, the general opinion at the time that railway works were begun in those countries tending towards a wider gauge, stimulated, no doubt, by the high authority of Brunel, who had adopted, in opposition to the majority of English engineers, a 7 ft. gauge for the Great Western Line. The general experience since, however, has been in favour of the original English gauge, and many thousands of miles in the United States have been altered at a great expense from smaller and larger gauges to what is now, by universal nomenclature, called the standard gauge. Narrower gauges have been adopted in the other Australasian Colonies, Cape Colony, and in the Indian branch lines.

In addition to the railways enumerated above, there is one owned and worked by a private company. This railway, which is a single line throughout, and laid to a gauge of 5 feet 3 inches, to correspond with that of the Victorian Railways, commences at the Echuca Station by a Junction with the Victorian Railway from Sandhurst to Echuca. After crossing the Murray River and entering New South Wales, the line passes through the town of Moama and terminates at South Deniliquin, being a length of 45 miles.

The works of this private line are of the lightest description; the curves all have a radius of 80 chains, and the line is practically level throughout. The permanent-way consists of flat-bottomed iron rails, 50lb. to the yard, fished at the joints, and spiked to the sleepers.

### GREAT SOUTHERN RAILWAY.

The Great Southern Line forms the greater part of the connection between Sydney and Melbourne. It skirts, and finally crosses the Main Dividing Range near Goulburn, and descends into the valley of the Murray, at which river it meets the Victorian system. The line commences at Sydney, 64 feet above sea-level, and passing near to Parramatta, and through Liverpool and Campbelltown, crosses the Nepean River at Menangle, 259 feet, and Stone-quarry Creek, 549 feet above the sea-level, and intersects the Southern Road a short distance south of Lower Picton; thence through the Redbank Range by a tunnel to the eastward of the Government village of Redbank, it ascends to the table-land between Redbank and Myrtle Creek on the east, and the lagoons and Cedar Creek on the west. The range dividing the Bargo River tributaries from those of the Nattai River and Chain of Lagoons is then followed

followed to a point 16 miles from Picton, at an elevation of 2,027 feet, where the line passes through the range to the westward, and after crossing several tributaries of the Bargo River, and passing near to the "Prince Albert Inn," crosses the Southern Road where it is intersected by the Nattai Creek; thence to the eastward of the Fitzroy Iron-mines, crossing the Mittagong Range at Gibraltar Gap by a tunnel 2,222 feet above sea-level, it is continued through the Wingecarribee Estate, crossing the Wingecarribee River about 2 miles west of Bong Bong.

From this point the line passes to the eastward of Gillinambullam Range, crossing the Old Southern Road where it is intersected by White's Creek; thence to the eastward of Sutton Forest and the western foot of Mount Broughton, it rises gradually to the summit of Paddy's River Range, 2,357 feet above sea-level, near Vine Lodge, the residence of A. Badgery, Esq. The range dividing the tributaries of the Shoalhaven River from the sources of Paddy's River is then followed to the Old Southern Road, about a mile and a half south of Paddy's River; thence passing Bombala Swamp, it follows generally the course of Barber's Creek to near Glen Rock, crossing the Southern Road about 2 miles north of Marulan, and passing Lockyersleigh, crosses Narrambulla Creek and the Wollondilly River; thence skirting the spurs of the Cookbundoon Ranges, it reaches a point about a mile distant from and to the westward of Towrang, where it again crosses the Wollondilly, and follows the valley of that river generally to Goulburn, at an elevation of 2,071 feet above the sea.

From Goulburn the line follows the direction of the Mulwarree Creek, and after crossing and recrossing the Southern Road, and the first, second, and third Breadalbane Plains, it continues to the Cullerin Range, at an elevation of 2,392 feet; thence descending the Cullerin Range on the south side, it crosses Lerida Creek or Fish River, and passing Gunning crosses Jerriwa Creek, 1,806 feet above sea-level, and ascends gradually to the summit-level of the Muntoon Range, 2,229 feet; thence passing Yass, Bowning, Binalong, Murrumburrah, Cootamundra, Berthingra and Junee, the River Murrumbidgee is crossed by a viaduct nearly 2 miles in length, close to the town of Wagga Wagga, the rails at this point being 606 feet above the sea. The line from this point is continued in a southerly direction to Albury, 531 feet above sea-level, on the River Murray, the boundary between New South Wales and Victoria.

The total length of the line from Sydney to Albury is 386 miles.

From Sydney to Granville Junction, a distance of 13 miles, the railway is a double line; but the remaining distance to Albury—373 miles—has been laid down as a single line only. The duplication is now, however, being extended to Picton. From Sydney to Granville Junction is essentially a suburban line, with stations at frequent intervals to accommodate this class of traffic, and operations are now in hand to quadruple most of this length, the double line being insufficient to meet the pressure of the suburban and the combined long-distance traffic of all the systems which has to run upon it.

A connection has further been made between the New South Wales railway system at Albury with the Victorian system at Wodonga—the river Murray being spanned by an iron bridge. The rails have been laid over this connecting link to a mixed gauge, to suit the trains from each Colony.

#### EXCAVATIONS AND EMBANKMENTS.

Upon the double line, Sydney to Parramatta Junction, 13 miles, the formation width is 30 feet, with slopes of 1 to 1. The slopes of the embankments are  $1\frac{1}{2}$  to 1, and the width at the top 30 feet. From the Junction to Liverpool, 9 miles, the earthworks and bridges have been constructed for a double line, but only a single line of rails has been laid down.

From Liverpool to Goulburn, 112 miles, the formation width of cuttings and embankments is 18 feet, with slopes for cuttings varying with the character of the material passed through. In ordinary earthwork they are 1 to 1. In rock the sides are left perpendicular, or with a slope of  $\frac{1}{2}$  or  $\frac{1}{4}$  to 1.

All the the ombankments have slopes of  $1\frac{1}{2}$  to 1 throughout.

From Goulburn to Albury, 386 miles from Sydney, the whole of the cuttings have a formation width of 15 feet only, with slopes similar to those between Liverpool and Goulburn. The embankments have generally a formation width of 18 feet, although the width specified is 15 feet, with slopes in all cases of not less than  $1\frac{1}{2}$  to 1.

Beyond this point the specified width of formation on embankments is 17 feet, but they are generally somewhat wider.

#### WORKS.

The first important work upon this line from Sydney to Goulburn is the bridge over the river Nepean at Menangle, about 40 miles from Sydney, which consists of wrought-iron continuous box girders for a double line, 498 feet in length, extending over three openings of 150 feet clear span each, resting on stone piers, the masonry being set in Portland cement. The height of the bridge, from the level of the water in the river to underside of the girders, is 65 feet. The approach on the Sydney or northern side is 978 feet long, in spans of 26 feet each, of timber, constructed for a single line. The approach on the southern side is of timber, 432 feet in length, in spans of 26 feet.

The viaduct at Picton over the Stonequarry Creek, 53 miles from Sydney, is built in masonry, and consists of five openings of 40 feet each. The arches are semi-circular, and on an incline of 1 in 40. In consequence of its proximity to Picton Station it has been built for a double line of railway. Its entire length is 276 feet, and its extreme height, from foundations to rail level, 78 feet.

The Picton Tunnel through Redbank Range, 54 miles from Sydney, is 198 yards in length, lined with brickwork, set in cement throughout, and constructed for a single line of way. In form it is elliptical, 15 feet wide in its widest part, and 17 feet high from rail level to soffit of arch.

The Gibraltar Tunnel, 79 miles from Sydney, the excavation for which was through hard shale and sandstone, is 572 yards in length. It has been lined throughout with brickwork and masonry in cement, and is of the same form and dimensions as the tunnel through the Redbank Range at Picton.

The viaduct over Barber's Creek, 111 miles from Sydney, is 340 feet in length, and consists of five spans of 60 feet each, having two wrought-iron plate girders 13 feet apart, 4 feet 7 inches deep, resting on stone piers set in Portland cement, the railway being carried on cross girders 13 inches deep and 3 feet apart.

The viaduct over the first crossing of the Wollondilly River, 122 miles from Sydney, is 616 feet long, and consists of one span of 130 feet, having wrought-iron box girders 13 feet 6 inches apart, and 10 feet deep, and cross girders 13 inches deep, and seven spans of 60 feet, of wrought-iron plate girders similar to those over Barber's Creek. The girders rest on brick piers set in Portland cement.

The

The viaduct over the second crossing of the same river at 127 miles from Sydney is 614 feet in length, having one span of 130 feet, and six spans of 60 feet, precisely similar in construction to the first crossing. The height of the rails above ordinary water level is 46 feet.

Boxer's Creek Viaduct, 127 miles 34 chains, from Sydney, is 206 feet in length, and consists of two spans of 60 feet each of wrought-iron plate girders, similar to those at Barber's Creek, resting on brick piers set in Portland cement. The height from rails to water-level is 46 feet.

Mulwarree Creek Viaduct, which is close to the town of Goulburn, and 133 miles from Sydney, is 858 feet in length, and consists of twelve spans of 60 feet each of wrought-iron plate girders, similar in construction to those at Barber's Creek, and resting upon brick piers set in Portland cement.

The steepest gradient on this length is 1 in 30 for an aggregate length of 2 miles 72 chains, and the sharpest curve is of 16 chains radius.

From Goulburn to Albury, a distance of 253 miles 31 chains, the formation widths of both cuttings and embankments was specified to be 15 feet; but the banks were generally made not less than 17 feet. The permanent-way is of a lighter description than that used between Sydney and Goulburn, being as far as Wagga Wagga flat-bottomed iron rails, fish-jointed, and weighing 70 lbs. per lineal yard. From Wagga Wagga to Albury the rails are of steel, weighing 71½ lbs. per lineal yard. The sleepers are reduced to 8 feet in length, 9 in. x 4½ in., and placed closer together.

The highest point reached is at 142 miles 79 chains, and is 2394.50 feet above high-water spring tide at Sydney.

In addition to the ordinary timber bridges, the Murrumbidgee River at Wagga Wagga is crossed by a wrought-iron lattice girder bridge, consisting of four clear spans of 150 feet each. The girders rest upon cast-iron cylinders, 9 feet diameter, bedded upon coarse gravel, at an average depth of 61 feet from surface of ground. The clear height above summer level of river is 33 feet 6 inches, and is 12 feet above the highest known flood level.

In connection with this bridge, timber approaches across the country liable to floods have been made. The Northern approach consists of 261 spans of 29 feet 6 inches each, and the Southern of 61 spans of 29 feet 6 inches each, making a total length of 9,499 feet.

The steepest gradient is 1 in 40 for an aggregate length of 4 miles 40 chains, and the smallest radius of a curve is 19 chains.

The total amount of excavation (not including foundations) between Goulburn and Albury is 2,624,79½ cubic yards.

There are seventy-nine stations on the main line, excluding the sixteen suburban stations, being an average of 4.88 miles apart.

#### ALBURY TO THE MURRAY RIVER.

(Length 1 mile 31 chains.)

On this length, which terminates on the Southern or Victorian side of the river, and connects the New South Wales and Victorian Railways, the width of formation is increased to 28 feet to accommodate a double line,—one constructed on the New South Wales gauge of 4 feet 8½ inches, and one on the Victorian gauge of 5 feet 3 inches.

The rails, which are steel, single headed, and fish-jointed, weigh 71½ lbs. per lineal yard. The sleepers are of approved colonial hardwood, being 9 feet long, 9 inches by 4½ inches, for the New South Wales gauge, and 10 feet long, 9 inches by 4½ inches for the Victorian gauge.

The ballast is 6 inches deep under the sleepers, and boxed up for a depth of 8 inches from the under side of the sleepers between the rails, and for a depth of 9 inches on the outside of the rail, the width at the top being 20 feet 2 inches, and the bottom width 23 feet 4 inches.

The Murray River is crossed by a wrought-iron lattice girder bridge, constructed for double line, and consisting of two clear spans of 150 feet each; the girders rest upon cast-iron cylinders, 9 feet diameter, and are filled with concrete, upon which the bed-stones rest. The clear height above summer level of river is 20 feet 6 inches, and is 3 feet 3 inches above the highest known flood level.

In connection with this bridge, timber approaches have been built on the New South Wales side, consisting of forty-five 26 feet spans.

The cost for construction of iron bridge was borne equally by this Colony and Victoria.

The total amount of excavation in this length is 127,334 cubic yards.

Pending the completion of the permanent iron bridge, a temporary line was constructed by the New South Wales Government to the north bank of the river, to join a temporary bridge across the river erected by the Victorian Government, and on this line the through traffic between Sydney and Melbourne commenced on the 14th June, 1883.

#### BRANCH LINES.

##### GOULBURN TO COOMA.

This branch leaves the Great Southern Railway at 137 miles 47 chains 26 links from Sydney passing through Bungendore, Queanbeyan, and Michelago, and terminates at Cooma, 263 miles 50 chains 24 links from Sydney, being a length of 126 miles 2 chains 98 links of single line.

The highest point reached is at 263 miles 30 chains, and is 2,729 feet above high-water spring tides at Sydney.

The steepest gradient is 1 in 40 for an aggregate length of 20 miles 22 chains, and the sharpest curve is of 12 chains radius.

In addition to the ordinary timber bridges and waterways, the Molonglo and Queanbeyan Rivers are crossed by timber laminated arch bridges resting on brick piers and abutments, having four 80-foot and five 80-foot spans respectively. Ingolara Creek and the Bredbo River are crossed by under-truss timber bridges, the former having five spans of 42 feet each and two of 20 feet each, built on piles with brick foundations in the channel of creek, and the latter ten spans of 42 feet each, built on piles with brick abutments. Umaralla River is crossed by an over-truss timber bridge of five 42-foot, forty 26-foot and two 15-foot 6-inch spans built on piles.

There are four (4) tunnels constructed for single line, of an aggregate length of 939 yards, lined throughout with brickwork set in cement.

The total amount of excavation (not including foundations) is 3,599,301 cubic yards. There are fifteen stations on this branch.

COOTAMUNDRA.

## COOTAMUNDRA TO GUNDAGAI.

This branch leaves the Great Southern Railway at 253 miles 45 chains 19 links (near Cootamundra), and terminates at Gundagai, on the north bank of the Murrumbidgee River, 286 miles 58 chains from Sydney, being a length of 33 miles 14 chains 81 links of single line.

The highest point reached is at 255 miles 27 chains, and is 1,086.35 feet above high-water spring tides at Sydney.

The sharpest gradient is 1 in 50 for an aggregate length of 2 miles 5 chains, and the sharpest curve is of 12 chains radius.

The total amount of excavation on main line, exclusive of foundations, is 518,386 cubic yards, and from the Gundagai Station-yard 100,276 cubic yards, of which 90,276 cubic yards are rock. This line has four stations.

## JUNEE TO HAY.

This branch, which is called the South-western Railway, leaves the Great Southern Railway at 286 miles 24 chains from Sydney, and passing on the outskirts of Narrandera follows the northern bank of the Murrumbidgee River to Hay, 454 miles from Sydney, being a length of 167 miles 56 chains of single line.

The highest point reached is at 297 miles 19 chains, and is 1,143.40 feet above high-water spring tides at Sydney.

The steepest gradient is 1 in 40 for an aggregate length of 40 chains, and the sharpest curve is of 20 chains radius.

The total amount of excavation (not including foundations) is 1,660,893 cubic yards.

There are no works of any special importance on this extension.

## NARRANDERA TO JERILDERIE.

This line leaves the extension from Junee to Hay at Narrandera, 347 miles 13 chains from Sydney, and terminates at Jerilderie, 412 miles 3 chains from Sydney, being a length of 64 miles 70 chains of single line.

The highest point on this section is at 355 miles 15 chains, and is 572.81 feet above high-water spring tides at Sydney.

The steepest gradient is 1 in 50 for a total length of 44 chains, and the sharpest curve is of 20 chains radius.

In addition to the ordinary timber bridges and waterways, the Murrumbidgee River at Narrandera is crossed by a wrought-iron lattice girder bridge, constructed for a single line, and consisting of two clear spans of 150 feet each. The superstructure rests upon cast-iron cylinders, 9 feet diameter, filled with concrete, upon which the bed stones rest. The clear height above summer level of river is 22 feet 6 inches and is 6 feet above the highest known flood level.

In connection with this bridge, timber approaches have been built across the river flats which are liable to flood. The northern approach consists of eighty 26-foot spans, and the southern of 101 26-foot spans.

During the construction of the works, it was deemed necessary by the contractors to make a temporary line to and across the river. This was purchased by the Government, in order to open the traffic between Narrandera and Jerilderie, pending the completion of the permanent bridge.

The total amount of excavation (not including foundations) is 185,886 cubic yards.

The Darling Harbour Branch, 1 mile in length, has been constructed for a double line, and connects the main line at Redfern with the waters of Port Jackson.

The Rookwood Cemetery Branch (single line), one quarter of a mile in length, leaves the main line at Haslem's Creek, 10 miles from Sydney, and runs to the Necropolis.

Collingwood Branch (single line), half a mile in length, connects the Liverpool station, 22 miles from Sydney, with a large wool-washing establishment and the Liverpool paper-mills.

## PERMANENT-WAY, RAILS, &amp;c.

The rails on the length from Sydney to Goulburn, 134 miles, are of wrought-iron, double-headed and fish-jointed throughout, and weigh 75 lbs. per yard. The chairs are 25 lbs. each, and are secured to the sleepers with wrought-iron spikes.

From Goulburn to Wagga Wagga, a distance of 170 miles, the permanent-way is of a lighter description. The rails, which are single-headed and fish-jointed, in lengths of 18 and 21 feet, weigh 70 lbs. per yard, and are secured to the sleepers by spikes and screws alternately.

From Wagga Wagga to the River Murray the rails are of steel and weigh 71½ lbs. per lineal yard.

The permanent way on the branch lines is the same as on the main line from Wagga Wagga to Albury.

## SLEEPERS.

From Sydney to Goulburn the sleepers are of ironbark, pure box, blue-gum, and red-gum timbers, rectangular in shape, 9 feet long, 10 x 5, and are placed 3 feet apart from centre to centre throughout.

From Goulburn to Albury, and on the branch lines, the sleepers are of ironbark, grey-gum, blackbutt, and other colonial hardwood, 8 feet long, 9 inches by 4½ inches, and rectangular in form. They are placed 2 feet 8½ inches apart from centre to centre for 21-foot rails, and 2 feet 3 inches at the joints. For the 18-foot rails the sleepers are 2 feet 7½ inches apart from centre to centre, and 2 feet 3 inches at the joints. The bed for the rails is planed by machinery at an angle of 1 in 20, inclining towards the centre of the roadway. To keep the road in gauge, the rails are notched into the sleepers to the full thickness of the bottom flange on the outside of the rail. (See drawing.)

## BALLAST.

## BALLAST.

From Sydney to Picton, 53 miles, the ballast consists of broken sandstone, 12 inches in depth from the under side of the sleepers, and of a gauge of 3 inches, boxed up with a similar kind of stone 8 inches in depth, broken to a gauge of 2 inches.

From Picton to Goulburn the ballast is also of sandstone, broken to a cube of 3 inches, for a depth of 6 inches under the sleepers in the centre of the roadway, and 8 inches in depth at the back of the border stones, and of a width of 11 feet. Border stones (*see drawing*), 8 inches in thickness and 12 inches wide, are laid on each side of the ballasting, their extreme edges being 6 feet 6 inches from the centre of the roadway, and laid parallel with the centre line throughout. The rails and sleepers are laid upon the bottom ballast, and boxed up with broken stone of a gauge of 2 inches for a depth of 8 inches from the under side of the sleepers between the rails, and for a depth of 9 inches on the outside of the rails, the width at the top being 9 feet 8 inches, and the bottom width 11 feet 7 inches.

The ballast on that portion of the line between Goulburn and Albury, and on the branch lines, is of stone broken to a gauge of 3 inches, and 6 inches in depth under the sleepers, 11 feet 9 inches in width at the bottom of the slope, boxed up with similar stone to within  $1\frac{1}{2}$  inch of the level of the rails on the outside, and 3 inches below the rails in the centre of the roadway.

The rails, sleepers, and ballast on the Darling Harbour, Rookwood, and Collingwood branches are the same as on the main line to Goulburn.

## ILLAWARRA RAILWAY.

## EXTENSION, SYDNEY TO WOLLONGONG AND KIAMA.

This extension, which is also called the Illawarra and South Coast Line, leaves the Great Southern Railway near Macdonaldtown, 1 mile 5 chains from Redfern Station, and passing through Marrickville, Tempe, Kogarah, and a portion of the National Park, follows the course of the Port Hacking River for about a mile, then passes through Clifton, Bulli, Wollongong, Dapto, and, after skirting the western shore of Lake Illawarra for a short distance, terminates at Kiama, 69 miles 79 chains from Sydney. As far as Hurstville, 9 miles from Sydney, this line is a suburban one, on which there are nine stations—beyond this there are twenty-eight stations.

There are nine tunnels on this extension, of an aggregate length of 4,634 $\frac{1}{2}$  yards, constructed for single line. Tunnel No. 9 is lined throughout with cement concrete; the others are lined with brickwork set in cement.

The highest point reached is at 23 miles 1 chain, and is 767.97 feet above high-water spring tides at Sydney.

The steepest gradient is 1 in 40 for an aggregate length of 2 miles 27 $\frac{1}{2}$  chains, and the sharpest curve is of 10 chains radius.

In addition to the ordinary bridges and waterways, Cook's River, at 4 miles 18 chains, is crossed by a wrought-iron web-plate girder bridge, constructed for double line, and consisting of three spans of 66 feet each from centre to centre of piers, and two 22 feet 6 inches and two 8 feet 6 inches timber openings. The superstructure rests upon cast-iron cylinders, 5 feet diameter, which are bedded on rock, and are filled with cement concrete.

The clear height of the bridge above high-water level is 7 feet 3 inches.

George's River, at 12 miles 20 chains is crossed by a wrought-iron lattice girder bridge of six spans of 159 feet each from centre to centre of pier, continuous over three spans, and constructed for single line. The girders rest upon cast-iron cylinders, 11 feet in diameter, up to low-water mark, tapering to 9 feet diameter up to high-water level, and from thence the cylinders are of a uniform diameter to the top. These cylinders are filled with cement concrete, and on this are set the bed-stones and roller-plates upon which the superstructure rests.

The northern end girders rest upon a stone abutment, but at the south end the embankment is carried out to the last pair of cylinders.

The clear height of the bridge above high-water level is 35 feet.

Port Hacking River is crossed at 28 miles 31 chains by an over-truss timber bridge, constructed for single line, having seven 42-foot spans from centre to centre of piers, and one ordinary 20-foot span at each end. The end piers consist of piles on a concrete foundation, and the remaining piers, which are liable to flood, are constructed of piles, resting on dwarf piers built of brickwork set in cement.

The permanent-way is laid for a double line from the junction with the Great Southern Railway to 9 miles 48 $\frac{1}{2}$  chains, and from thence to Kiama for a single line. The rails, which are of steel, single-headed and fish-jointed, weigh 71 $\frac{1}{2}$  lb. per lineal yard; the sleepers are of approved colonial hardwood, 8 feet long, 9 inches by 4 $\frac{1}{2}$  inches, and the ballasting is similar to that between Goulburn and Albury and on the branch lines.

The total amount of excavation, not including foundations, is 3,191,066 cubic yards.

## BRANCH LINE TO NATIONAL PARK.

This branch, which is 1 mile 15 chains in length, leaves the Illawarra Line at 16 miles 30 chains from Sydney, and terminates in the National Park. The earthworks, waterways, &c., are of an extremely light description, and do not call for special mention. The permanent-way is similar to that on the main line, excepting that the depth of ballast under the sleepers is only 4 inches instead of 6 inches, and the road is not "boxed up."

## GREAT WESTERN RAILWAY.

The high main dividing range of the Colony, or watershed between eastern and western rivers, runs nearly parallel to the coast, at about 100 miles therefrom, and the problem of connecting Sydney by rail with the town of Bathurst and the western districts of the Colony beyond necessitated the consideration of the best way of surmounting this elevation, having the question of economy, which, at the time of the construction of the western line, was paramount, prominently in view. Several spurs, with valleys between, spring out from the range towards the coast, and in order to get to the top, the main spur nearest the general line of the Sydney and Bathurst connection was chosen for the route. This spur originates

originates on the main range north of Wallerawang, running eastwardly, and after maintaining its level generally as high as the main range itself for about 40 miles, drops then at a severe grade down to Emu Plains, 35 miles from Sydney, when it dies out. Its sides are exceedingly precipitous, forming the beautiful ravines and waterfalls which contribute to the fine scenery for which the district is noted, but the top, though in many places narrow and tortuous, contains the only, comparatively speaking, easy ground for railway construction between Sydney and the main range. The western line follows the top of the spur closely for over 50 miles, and only leaves it to reach Lithgow Valley, near Wallerawang, where the line falls to the Cox River, and again rises to the main range, crossing its summit at Rydal, at a lower level than it had reached on the spur.

The extremity of the spur at Emu Plains being very steep, is climbed at Lapstone Hill by a zig-zag, a device in railway construction which had been successfully carried out and worked on both of the railway ascents up the western ghauts near Bombay, leading from that town to the Madras and Bengal presidencies. It is also in extensive use on the Lima and Oroya Railway in Peru. This arrangement, on a larger scale than at Lapstone Hill, is also put into requisition on the descent to the Lithgow Valley, by what is called the Great Zig-zag.

The railway commences near to Granville by a junction, called the Granville Junction, with the Southern Railway, and passing through Parramatta, St. Mary's, South Creek, and Penrith, crosses the Nepean River, 94 feet above sea-level, to the township of Emu; thence ascending, the line intersects the Western Road 155 feet above the level of Emu Plains, and crosses Knapsack Gully at a further elevation of 245 feet above them, reaching the lower points of the first or Lapstone Zig-zag at an elevation of 414 feet above sea-level. From this point the trains are pushed up the Zig-zag for a length of 30 chains until an elevation of 470 feet is attained. The line is then continued to the summit of Lapstone Hill, near the old "Pilgrim Inn," on the Western Road. It then follows the main spur above mentioned, passing Springwood, Blue Mountain, Weatherboard, Pulpit Hill, Blackheath, 3,494 feet in height, to near Shepherd's Toll-bar and Mount Victoria, 3,422 feet above the sea. Still following the spur which here divides the waters of the river Lett from the sources of the Grose River, to Mount Wilson, where another spur is thrown off to the north, the rails at the entrance of which are 3,658 feet above sea-level. The line reaches its summit level at Mount Clarence tunnel, 88 miles from Sydney, and 52 miles from the commencement of the ascent of the Blue Mountain Ranges at Emu Plains. The line then descends on a gradient of 1 in 42 towards Lithgow Valley, reaching the upper points of the Great Zig-zag, 91 miles from Sydney, at an elevation of 3,362 feet.

To reach Lithgow Valley, the line descends from the upper points of the Great Zig-zag on an incline of 1 in 42, and runs nearly parallel with the main line, but in an opposite direction, for a distance of 67 chains. After passing over two viaducts and through a short tunnel it reaches the lower points of the Great Zig-zag at an elevation of 3,261 feet.

The line then continues down Lithgow Valley to a point on the Mudgee Road, near Coerwill, where it crosses Brown's River; thence passing the range between Brown's River and the Middle River, it proceeds through the Middle River Range, which is pierced with a tunnel; thence skirting Wallerawang or Piper's Flat, to the north, it crosses Cox's River, and follows the Horse Gully to the lowest point in the Main Dividing Range, between the eastern and western waters, a short distance north of the township of Rydal. From this point the line crosses the Western Road, and follows generally the course of Solitary Creek to within half-a-mile of its confluence with the Fish River; thence running round the foot of Tarana Mountain, and crossing an undulating country it reaches Dirty Swamp, Tindall's Hollow, and Bathurst Plains. After passing Raglan and Kelso, it crosses the river Macquarie and enters the town of Bathurst, 145 miles from Sydney, or 132 from Parramatta Junction, at an elevation of 2,153 feet. From Bathurst the line proceeds along the Vale Creek Road, George's Plains, Blayney, and Spring Hill, to Orange, 192 miles from Sydney, at an elevation of 2,843 feet. The highest point on this portion of the line is 3,138 feet at Spring Grove, 179 miles from Sydney. From Orange the line runs through some difficult country by way of Ironbarks, Apsley, Wellington and Ponto to Dubbo. The highest elevation attained on this section is 2,972 feet at 204 miles from Sydney. From Dubbo the line gradually descends into the great western plains through easy and level country, passing Narramine, Nevertire, Nyngan, Girilambone, Wilga, and Byrock, to Bourke, the terminal station, on the Darling River, 503 miles from Sydney, at an elevation of 347 feet.

#### EXCAVATIONS AND EMBANKMENTS.

The formation width of both cuttings and embankments between the Parramatta Junction and Bathurst is 18 feet, the slopes being the same as those described for the Southern Line.

After commencing the ascent of Lapstone Hill at about 37 miles from Sydney, until the line reaches Rydal, 111 miles from Sydney, the cuttings are principally through hard shale or compact sandstone rock, and the sides of the excavations are, therefore, left almost perpendicular.

From Rydal to near Bathurst the excavations are to a considerable extent through granite, and the sides are treated the same as those through sandstone.

The total quantity of excavation, principally in rock, on the line between Penrith and Bathurst, a distance of 111 miles, is five and a half millions of cubic yards.

#### WORKS.

The Bridge over the River Nepean, at Penrith, 35 miles from Sydney, is constructed for a double line, and carries the Main Western Road and a single line of railway. It consists of three openings of 186 feet clear span each, and one span of 127 feet. The larger openings have two main girders of the box form, each 594 feet in length, of an extreme depth of 13 feet, and placed 25 feet 6 inches apart in the clear. The roadway is carried on wrought-iron cross girders 18 inches deep, and placed 3 feet apart centre and centre, and covered with 3-inch planking throughout. The span of 127 feet has also wrought-iron girders of the box form, 135 feet in length and 10 feet in depth. The rails are 49 feet above the ordinary level of the river.

There are also three spans of 26 feet, of timber framing, on the eastern side of the bridge, and three similar spans on the western side, and a timber viaduct between the Penrith Station and the River Nepean, consisting of 64 spans of 26 feet each.

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The Knapsack Gully Viaduct, 38 miles from Sydney, consists of five spans of 50 feet each and two spans of 20 feet each. It is built for a single line of railway, in masonry set in Portland cement, and on an incline of 1 in 30. The length is 388 feet, and the greatest height from the foundations to the level of rails is 126 feet.

Mount Clarence Tunnel, which pierces through Mount Clarence, 88½ miles from Sydney, is 539 yards in length, and lined throughout with masonry set in cement.

Between this point and Wallerawang Station, 105 miles from Sydney, there are seven viaducts, all built in masonry set in Portland cement, of an aggregate length of 2,225 feet, varying in height from 10 to 70 feet, and consisting of the following spans:—

Four openings, each 10 feet span.	Two openings, each 27 feet span.
Two openings, each 15 feet span.	Thirty-seven openings, each 30 feet span.
Three openings, each 20 feet span.	One opening, 54 feet span.
Fourteen openings, each 25 feet span.	

There are also three tunnels—one on the Lithgow Valley Zig-zag, 77 yards in length; one at Morangaroo, 267 yards in length; and one under the Mudgee Road, 47 yards in length.

Beyond Wallerawang the line passes through Rydal and down the valley of Solitary Creek, over which stream the following bridges have been erected in a distance of 9 miles:—

No. 1.	One 30 feet span, built in brickwork.
„ 2.	One 30 „ „
„ 3.	One 30 „ „
„ 4.	Two 30 „ „
„ 5.	Two 30 „ „
„ 6.	Four 30 „ „
„ 7.	One 60 „ (skew) iron plate girder, with brick abutments.
„ 8.	One 60 „ „ „
„ 9.	One 50 „ built in brickwork.
„ 10.	One 60 „ (skew) iron girder, with brick abutments.
„ 11.	One 50 „ built in brickwork.
„ 12.	One 50 „ „
„ 13.	One 60 „ (skew) iron girder, with brick abutments.
„ 14.	Two 50 „ built in brickwork.
„ 15.	One 66 „ (skew) iron plate girders, with brick abutments.
„ 16.	One 50 „ built in brickwork.
„ 17.	Two 60 „ (skew) iron plate girders, with brick piers and abutments.

The bridge over the River Macquarie at Bathurst, 144 miles from Sydney, is constructed for a single line with two continuous wrought-iron lattice girders of 480 feet each in total length, 12 feet 6 inches in depth, and placed 14 feet apart. It is divided into three spans of 150 feet each, each span being supported on two cast-iron cylinders 9 feet in diameter, sunk to a solid foundation of an average depth of 14 feet below the ordinary level of the water in the river. These cylinders are filled with concrete composed of gravel and cement, in the proportion of six of gravel to one cement. The height of the rails on this bridge above sea-level is 2,152 feet.

#### PERMANENT-WAY.—RAILS, &C.

From Granville Junction to Bathurst, a distance of 132 miles, the rails are of wrought-iron, double-headed and fish-jointed throughout, and weigh 75 lbs. per yard.

The chairs, of cast-iron, 25 lb. each, are secured to the sleepers with wrought-iron spikes.

#### SLEEPERS.

The sleepers between Parramatta Junction and Bathurst are principally of ironbark timber, 9 feet long, 10 inches x 5 inches and rectangular in shape. They are placed 3 feet apart from centre to centre on straight portions of the road, and on curves of a larger radius than 30 chains, but on all curves from 15 chains to 30 chains radius inclusive the distance apart is 2 feet 9 inches from centre to centre, and upon all curves under 15 chains radius they are laid 2 feet 3 inches apart from centre to centre.

#### BALLAST.

From Parramatta Junction to Penrith, a distance of 21 miles, the ballast consists of broken stone 12 inches in depth from the under side of the sleepers, and of a gauge of 3 inches, and boxed up with broken stone of a gauge of 2 inches for a depth of 8 inches.

From Penrith to Bathurst, a distance of 111 miles, the ballast is of stone broken to a cube of 3 inches, but 6 inches only in depth under the sleepers in the centre of the roadway, and 8 inches in depth and of a width of 11 feet at the back of the border stones (*see drawing*), which are 8 inches in thickness and 12 inches wide, and are laid on each side of the ballasting, their extreme edges being 6 feet 6 inches from the centre of the roadway and laid parallel with the centre line throughout.

The rails and sleepers are laid upon the bottom ballast and boxed up with broken stone of a gauge of 2 inches for a depth of 10 inches from the under side of the sleepers between the rails, and for a depth 10½ inches on the outside of the rails, the width at the top being 9 feet 8 inches, and the bottom width 11 feet 7 inches.

#### CURVES.

The sharpest curve on the portion of the line from Granville Junction to Penrith (21 miles) is of 30 chains radius. Between Penrith and Bathurst, a distance of 111 miles, the sharpest curve is 8 chains radius, the total length of such curves being 5 miles, including those upon the two Zig-zags. There are also on this length 20 miles of curves, ranging from 8 chains to 12 chains radius.

#### GRADIENTS.

## GRADIENTS.

From Granville Junction to Penrith the steepest gradient is 1 in 66 for a length of 74 chains  
From Penrith to Bathurst the total lengths of the steepest inclines are as under:—

1	in	30	for	1	mile	and	63	chains
1	"	33	"	16	miles	and	53	chains
1	"	40	"	6	"		20	"
1	"	42	"	4	"		2	"
1	"	46	"				31	"
1	"	47.89	for				70	"
1	"	48	for				48	"
1	"	50	"	4	miles	and	77	"

making  $35\frac{1}{2}$  miles of inclines, ranging from 1 in 30 to 1 in 50. The longest continuous incline of 1 in 33 is 1 mile 66 chains.

From Bathurst to Bourke, a distance of 353 miles  $71\frac{1}{2}$  chains, the formation of cuttings is 15 feet, and embankments not less than 17 feet.

The highest point reached is at Springsure, about 7 miles from Blayney, and  $3\frac{1}{4}$  miles from Bathurst, and is 3,238 feet above high-water springtides at Sydney.

In addition to the ordinary timber bridge and waterways, there are two wrought-iron lattice girder bridges, each consisting of three clear spans of 150 feet—one crossing the Macquarie River at Wellington, and one crossing the same river at Dubbo.

The girders rest upon cast-iron cylinders, 11 feet diameter at the bottom, tapering to 9 feet diameter at the top. These cylinders are filled with cement concrete, mixed in the proportion of six parts of gravel to one part of cement.

The clear height above summer level of river is 49 feet and 48 feet respectively, and both bridges are 6 feet above the highest known flood-level.

The Bogan River, at Nyngan, is crossed by a timber bridge, consisting of six over-truss spans, 39 feet from centre to centre of piers, with seventeen ordinary 26-foot openings at each end—making the total length of bridge 1,118 feet.

The clear height above highest known flood-level is 4 feet.

The steepest gradient is 1 in 40, for an aggregate length of 12 miles 13 chains; and the sharpest curve is of 12 chains radius.

The total amount of excavation (not including foundations) is 4,789,450 cubic yards.

## PERMANENT-WAY, RAILS, &amp;C.

From Bathurst to Bourke the permanent-way is of a lighter description than that between Granville Junction and Bathurst, the rails being of iron, single-headed, and fish-jointed throughout as far as Dubbo, and weigh 70 lb. per lineal yard. From Dubbo to Bourke the rails are of steel, also single-headed and fish-jointed throughout, and weigh  $71\frac{1}{2}$  lb. per lineal yard. They are in lengths of 24, 21, and 18 feet, and are secured to the sleepers by spikes and screws alternately.

## SLEEPERS.

The sleepers are of ironbark, stringybark, gray and blue gum, and other approved colonial hardwoods, 8 feet long, 9 inches  $\times$   $4\frac{1}{2}$  inches, and rectangular in form. For 24 feet rails, there are nine; 21 feet, eight, and 18 feet, seven sleepers.

The beds for the rails are planed by machinery, inclined from the inside at an angle of 1 in 20. To keep the road in gauge, the rails are notched into the sleepers to the full thickness of the bottom flange on the outside of the rail.

## BALLAST.

From Bathurst, for a distance of 27 miles, the ballast is clean gravel from the River Macquarie; from thence to Wellington, stone broken to a  $2\frac{1}{2}$  inch gauge; between Wellington and Dubbo, a mixture of broken stone and gravel, the latter from the bed of the Macquarie River; from Dubbo to Girilambone, wholly of gravel from the Macquarie River; and from Girilambone to Bourke, the ballast is screened quartz gravel obtained in the vicinity of Wilga, 413 miles from Sydney.

The ballast throughout is 6 inches in thickness under the sleepers, and to within  $1\frac{1}{2}$  inch of the level of the rails on the outside, and 3 inches below the rails in the centre of the roadway.

The width of ballast at the foot of slope is 11 feet 9 inches, and at the top 8 feet 7 inches.

There are eighty-six stations on the Great Western main line, at an average distance apart of 5.70 miles.

## BRANCH LINES.

## WALLERAWANG TO MUDGEER.

This branch leaves the Great Western Railway at Wallerawang, 104 miles 39 chains from Sydney, and after passing through Piper's Flat, Capertee, and Rylstone, terminates in the town of Mudgee, 189 miles 13 chains 15 links from Sydney, being a length of 84 miles 54 chains 15 links.

The highest point reached is at 109 miles 47 chains, and is 3,093.58 feet above high-water spring tides at Sydney.

The steepest gradient is 1 in 40 for an aggregate length of 4 miles 53 chains, and the sharpest curve is of 12 chains radius.

There are two tunnels, constructed for a single line, of an aggregate length of 605 yards, lined throughout with brickwork set in cement.

In addition to the ordinary timber bridges and waterways, the Cudgegong River is crossed at 157 miles 57 chains by an over-truss timber bridge, consisting of five spans of 39 feet each, from centre to centre of piers, with an ordinary timber span of 18 feet at each end. The superstructure is built on piles, and is 9 feet clear above the highest known flood level. The same river is again crossed at 186 miles 53 chains by a bridge of similar construction, having three 39, and two 18 feet spans. This is also built on piles, and is 6 feet clear above the highest known flood level.

The permanent-way is laid for a single line throughout, with flat-bottomed, single-headed steel rails, weighing  $71\frac{1}{2}$  lb. per lineal yard, and is similar in every other respect to that on the main line between Orange and Bourke.

The total amount of excavation, not including foundations, is 3,426,238 cubic yards.

#### RICHMOND BRANCH.

This branch, which is 16 miles in length, is a single line, and joins the main line at Blacktown, 22 miles from Sydney, and was originally constructed for a horse tramway; but before the rails (40 lb. per yard) were laid down, it was decided, on Mr. Whitton's recommendation, to work it with locomotive engines, and rails 55 lb. to the yard were adopted.

This works are of a light description throughout.

#### EXTENSION, MURRUMBURRAH TO BLAYNEY.

This extension is 109 miles 52 chains 10 links in length, and commences by a junction at Demon-drille, on the Great Southern Railway, 231 miles 19 chains 30 links from Sydney, and after passing through Young, Cowra, and Carcoar, joins the Great Western Railway near Blayney, 172 miles 45 chains 57 links from Sydney, thus connecting the Southern and Western main trunk lines.

There is one tunnel on this length, 308 yards long, constructed for a single line, and is lined throughout with cement concrete, mixed in the proportion of one part of cement to six parts of sand and broken stone.

The highest elevation reached on this extension is at 1 mile 73 chains south of junction with Great Western Railway, and is 3,160.26 feet above high-water spring tides at Sydney.

In addition to the ordinary timber bridges and waterways, the Lachlan River, at Cowra, is crossed by a wrought-iron lattice girder bridge of three continuous spans of 159 feet each from centre to centre of piers, having also four end spans of wrought-iron web-plate girders, viz., two of 60 feet, and two of 61 feet in the clear. The superstructure rests upon cast-iron cylinders, which are bottomed on granite, and are filled with cement concrete, mixed in the proportion of one part of cement to six parts of broken stone and sand. These cylinders are 11 feet diameter at the bottom, tapering to 9 feet diameter at the top for the lattice girders, and 7 feet diameter at the bottom and 5 feet diameter at the top for the web-plate girders.

In connection with this bridge, timber approaches have been built at each end across the river flats which are liable to floods. The northern approach consists of one 12-foot and eight 26-foot spans, and the southern of one 12-foot and six 26-foot spans.

The clear height above the highest known flood level is 9 feet.

The steepest gradient is 1 in 40 for an aggregate length of 13 miles 20 chains, and the sharpest curve is of 12 chains radius.

The permanent-way is laid for a single line throughout, with flat-bottomed single-headed steel rails, weighing  $71\frac{1}{2}$  lb. per lineal yard, and the main trunk line from junction with the Great Western Railway to Blayney station, a distance of 1 mile 65 chains 86 links, has been duplicated.

The remainder of the permanent-way is similar in every respect to that between Goulburn and Albury, and Orange and Bourke.

The formation widths of cuttings is 15 feet, and of embankments, not less than 17 feet.

The total amount of excavations, not including foundations, is 2,622,104 cubic yards.

#### ORANGE TO MOLONG.

This line, which forms a portion of the proposed extension to Parkes and Forbes, is 22 miles 57 chains 39 links in length, and commences by a junction with the Great Western Railway at 191 miles 17 chains 61 links from Sydney, and terminates in the town of Molong.

The highest point is reached at 192 miles 60 chains, and is 2,979.09 feet above high-water spring tides at Sydney.

The steepest gradient is 1 in 40 for an aggregate length of 5 miles 57 chains, and the sharpest curve on the main line is of 24 chains radius; but the western fork, at the junction with the Great Western Railway is 15 chains radius, and the eastern fork is 20 chains radius. There is also one short curve of 16 chains radius at the entrance to the Molong station-yard.

The permanent-way is laid for a single line throughout, with flat-bottomed single-headed steel rails, weighing  $71\frac{1}{2}$  lb. per lineal yard. The sleepers are the same in description and arrangement as those on the Bathurst to Bourke section.

The ballast throughout is stone, broken to a  $2\frac{1}{2}$  inch gauge, and is 6 inches in thickness under the sleepers, and to within  $1\frac{1}{2}$  inch of the level of the rails on the outside, and 3 inches below the rails in the centre of the roadway.

The width of ballast at the foot of slope is 11 feet 9 inches, and at the top 8 feet 7 inches.

The total amount of excavation (not including foundation) is 737,034 cubic yards.

There are no works of any special importance in this extension.

## GREAT NORTHERN RAILWAY.

This system connects Newcastle with the table-land of New England and with Queensland. It gradually ascends and crosses the main divide about 225 miles beyond Newcastle, keeping then on its western slope, but at a high elevation throughout, to its junction with the Queensland system. The line commences at the Port of Newcastle, on the River Hunter, about 70 miles from Sydney, 2 feet above sea-level at high-water, and following the valley of that river passes Honeysuckle Point, Waratah, Hexham, East Maitland, and West Maitland—20 miles from Newcastle. At this point the line leaves the Valley of the Hunter, and taking a north-westerly course passes Wollombi, Lochinvar, Branxton, and intersecting the Old Northern Road near to New Frough, again reaches the Valley of the Hunter at Singleton, 49 miles from Newcastle; thence crossing the River Hunter, at an elevation of 150 feet above sea-level, the line ascends a range on the north side of the river to a height of 451 feet, and descends rapidly to Glennie's Creek, 231 feet above the sea; thence passing Camberwell and Liddell, it intersects the Northern Road at 69½ miles from Newcastle; then ascending the Grass-tree Hill, at 73½ miles from Newcastle, and at an elevation of 688 feet above the sea, it gradually descends to Musclebrook; here the Northern Road is again crossed, and on reaching Aberdeen the River Hunter is a second time crossed, at 88 miles from Newcastle, and 560 feet above the sea; thence passing Scone and Wingen the line ascends to Warland Range, 1,400 feet above sea-level, and passing Murulla and Haydonton it reaches Murrurundi, 120 miles from Newcastle, at an elevation of 1,546 feet.

From Murrurundi the line proceeds northward, crossing the Liverpool range in tunnel 528 yards in length, at an elevation of 2,112 feet, passing the towns of Quirindi, Tamworth, Uralla, Armidale, Glen Innes, and Tenterfield to Wallangarra, on the Queensland Border, where a joint terminal station has been established, the New South Wales and Queensland lines overlapping each other on opposite sides of a large and long platform, specially built for interchanging purposes. An elevation of 4,512 feet is reached on this line at Ben Lomond, 400 miles from Sydney, that being the highest point reached by any railway in Australasia.

## EXCAVATIONS AND EMBANKMENTS.

From Newcastle to near East Maitland, 17 miles, the formation widths of both cuttings and embankments are for a double line of way, and 30 feet wide at formation level, with slopes in cuttings of 1 to 1 in ordinary earthwork, but through rock the sides are left perpendicular or with a very slight batter of from  $\frac{1}{2}$  to  $\frac{1}{4}$  to 1. The slopes to embankments are throughout  $1\frac{1}{2}$  to 1.

From near East Maitland to Murrurundi, 103 miles of single line, the formation width of both cuttings and embankments is 18 feet, the slopes being the same as those above described.

## WORKS.

The Bridge over the River Hunter at Singleton, 49½ miles from Newcastle, has five timber openings of 80 feet span each, and two arches of 15 feet each in masonry. The piers and abutments are built in ashlar masonry set in Portland cement. It is designed to carry the Main Northern Road in addition to a single line of railway.

Each span consists of four laminated timber arches under the roadway, having a rise of 12 feet 3 inches. They are each formed of planks 3 inches in thickness, and bent by steaming, and fastened together with wrought-iron bolts. These main ribs are 3 feet deep at the springing, diminishing to 2 feet at the crown of the arch, and are 15 inches in thickness. Resting on the top of each arch is a longitudinal beam of ironbark timber, 12 inches by 12 inches extending the full length of the bridge, supported over the spandrels by open timber bracing. Joists 10 inches by 7 inches, and 30 feet long, are then laid across the roadway 3 feet apart from centre to centre, and covered with 3-inch planking throughout the full length of the bridge. The width between the parapets is 27 feet 6 inches.

The bridge over the River Hunter at Aberdeen, 88 miles from Newcastle, is of the same construction as the lattice girder bridge over the River Macquarie at Bathurst, on the Western Railway, with the exception of the depth of the cylinders, which for this bridge are sunk an average depth of 20 feet below the ordinary level of the water in the river.

## PERMANENT-WAY.—RAILS, &amp;c.

From Newcastle to West Maitland, a distance of 20 miles, the railway is a double line. From that point to Murrurundi it is a single line. The rails are of wrought-iron, double-headed, and fish-jointed throughout, and weigh 75 lb. per yard. The chairs are of cast-iron, 25 lb. each, and are secured to the sleepers with wrought-iron spikes.

## SLEEPERS.

From Newcastle to Murrurundi the sleepers are principally of ironbark timber, 9 feet long, 10 inches x 5 inches, and rectangular in shape. They are placed 3 feet apart from centre to centre.

## BALLAST.

From Newcastle to Singleton, a distance of 49 miles, the ballast consists either of broken stone or gravel from the River Hunter, 12 inches in thickness to the under side of the sleepers for a width of 13 feet, and boxed up for an average width of 10 feet 7 inches, and an average depth of 8 inches.

From Singleton to Murrurundi the ballast consists of clean gravel, 6 inches in thickness in the centre of the roadway, and 7 inches in thickness under the ends of the sleepers, and of a width of 15 feet at the bottom of the slope, and 10 feet 6 inches at the top, boxed up to within 2 inches of the level of the rails in the centre of the roadway, and  $1\frac{1}{2}$  inch on the outside.

## CURVES.

On the line from Newcastle to Murrurundi, with the exception of one curve of 20 chains radius through the town of Musclebrook, there is no curve of a smaller radius than 30 chains.

## GRADIENTS.

## GRADIENTS.

Between Newcastle and West Maitland, 20 miles, the steepest gradient for a very short distance is 1 in 63, and from West Maitland to Singleton 1 in 80.

From Singleton to Musclebrook there are four short inclines of 1 in 33, and from Musclebrook to Murrurundi the steepest gradient is 1 in 50.

From Murrurundi to the Queensland Border, a distance of 277 miles 78 chains, the line is constructed for a single road, and the formation width of excavation is 15 feet. The formation width of embankments is also 15 feet as far as Tamworth, but from Tamworth to the Queensland Border the width of banks is not less than 17 feet.

There are two tunnels in this extension, constructed for a single line, of an aggregate length of 693 yards, and are lined throughout with brickwork, set in Portland cement.

In addition to the ordinary timber bridges and waterways, the following bridges require special notice, viz.:—

## Bridge over the Peel River, at Tamworth.

”	Peel-street	”
”	Macdonald River.	”
”	Beardy River.	”
”	Severn River	”
”	Bluff River	”
”	Tenterfield Creek.	”

## BRIDGE OVER THE PEEL RIVER.

This is a wrought-iron lattice girder bridge, constructed for a single line, and consisting of one clear span of 150 feet. The superstructure rests upon cast-iron cylinders, 9 feet in diameter, which are filled with cement concrete, mixed in the proportion of six parts of stone and sand to one part of cement.

The south approach to this bridge is constructed of timber, and consists of sixty-nine 26 feet and one 32 feet spans.

## BRIDGE OVER PEEL-STREET, TAMWORTH.

This street is crossed by a web plate wrought-iron girder, constructed for a single line, and consists of one clear span of 61 feet. The superstructure rests upon piers built of brickwork, set in Portland cement.

The Peel River and Peel-street bridges are connected by a timber viaduct, consisting of one span of 31 feet 9½ inches, and six spans of 29 feet 9¼ inches.

The north approach to Peel-street Bridge is constructed of timber, and consists of nineteen 29 feet 6 inches spans.

## BRIDGE OVER THE M'DONALD RIVER.

This is a wrought-iron lattice girder bridge, constructed for a single line, and having one clear span of 150 feet. The girders rest upon piers built of brickwork, set in cement.

## BRIDGE OVER THE BEARDY RIVER.

This river is crossed at 331 miles 63 chains from Newcastle by a timber under-truss girder bridge of nine spans of 42 feet each, and the ordinary abutment spans of 16 feet each, resting upon piles.

## BRIDGE OVER THE SEVERN RIVER.

The Severn River, at 336 miles 42 chains from Newcastle, is crossed by a similar bridge of thirteen spans of 42 feet each, and two ordinary girder spans of 16 feet each, resting on piles.

## BRIDGE OVER THE BLUFF RIVER.

This bridge, which crosses the Bluff River at 369 miles 62 chains from Newcastle, is similar in construction to those crossing the Beardy and Severn Rivers, and consists of ten spans of 42 feet each, with two ordinary girder spans of 16 feet each.

## BRIDGE OVER TENTERFIELD CREEK.

This creek is crossed, at 387 miles 50 chains from Newcastle, by an under-truss timber girder bridge consisting of four spans of 42 feet each, and two spans of 40 feet each resting on brick piers.

The total amount of excavation, not including foundation, between Murrurundi and the Queensland Border is 7,998,469 cubic yards.

## PERMANENT-WAY—RAILS, &amp;c.

From Murrurundi to Tamworth the rails are of iron, single headed and fish-jointed throughout, and weigh 70 lb. per lineal yard. They are in lengths of 21 feet and 18 feet, and are secured to the sleepers by spikes and screws alternately.

From Tamworth to the Queensland Border, the rails are of steel, single headed and fish-jointed throughout, and weigh 71½ lb per lineal yard. They are in lengths of 24 feet, 21 feet, and 18 feet, and are secured to the sleepers in a similar manner.

## SLEEPERS.

From Murrurundi to Tamworth the sleepers are of ironbark, stringybark, tallow-wood and other colonial hardwoods, 8 feet long 9 inches x 4½ inches, and rectangular in form. For 21 feet rails they are placed 3 feet 1 inch apart from centre to centre, 2 feet 6 inches at the joints; and for 18 feet rails, 3 feet 1 inch, and 2 feet 7 inches at the joints.

From Tamworth to Tenterfield the sleepers are of the same description, and for 24 feet rails are placed 2 feet 8½ inches apart from centre to centre, and 2 feet 3 inches at the joints; for 21 feet rails, 2 feet 8½ inches, and 2 feet 3 inches at the joints; and for 18 feet rails, 2 feet 7½ inches, and 2 feet 3 inches at the joints.

From

From Tenterfield to the Queensland Border the sleepers are also of the same description, and for 24 feet rails are placed 2 feet 9½ inches apart from centre to centre, and 1 foot 9 inches at the joints; and for 21 feet rails, 2 feet 9 inches, and 1 foot 9 inches at the joints.

To keep the road in gauge the rails are notched into the sleepers to the full thickness of the bottom flange on the outside of the rails. (*See drawing*)

The bed for the rails is planed by machinery, and inclined from the inside at an angle of 1 in 20.

#### BALLAST.

From Murrurundi to the Queensland Border the ballast is of clean gravel or broken stone, 6 inches in thickness in the centre of the roadway, and 7 inches under the ends of the sleepers, of a width of 11 feet 9 inches at the bottom of the slopes and 8 feet 7 inches at top, and boxed up to within 3 inches of the level of the rails in the centre of the roadway, and 1½ inches at the sides.

#### CURVES.

The sharpest curve is of 10 chains radius.

#### GRADIENTS.

The steepest gradient is 1 in 40 for an aggregate length of 21 miles 4 chains.

#### BRANCHES.

The Bullock Island Branch is a double line, 1½ mile in length, exclusive of sidings, and joins the main line 2 miles from Newcastle. It is a mineral line exclusively, and connects the main line with the extensive wharfs erected by the Department of Harbours and Rivers.

The rails are of steel throughout, and of the same weight and section as the main line. The smallest radius of a curve is 12 chains, and the steepest gradient 1 in 200.

The Morpeth Branch, which is a single line, is nearly 4 miles in length, and leaves the main line at the East Maitland Junction, 18 miles from Newcastle, terminating at the town of Morpeth, the head of the navigable waters of the Hunter River.

The works and permanent-way are similar to those for the main line.

The smallest radius of a curve is 20 chains, and the steepest gradient is 1 in 100.

### NORTH-WESTERN RAILWAY.

#### WERRIS CREEK TO NARRABRI.

This extension is 96 miles 65 chains in length, and commences by a junction at Werris Creek, on the Great Northern Railway, 155 miles 10 chains from Newcastle, and after passing through Breeza, Gunnedah, and Boggabri terminates at Narrabri, 251 miles 75 chains from Newcastle.

The highest point on the line is near its junction with the Great Northern Railway, and is 1,241·30 feet above high-water spring tides at Newcastle.

The steepest gradient is 1 in 50 for an aggregate length of 75 chains, and the sharpest curve is of 20 chains radius.

The permanent-way is laid for a single line throughout, with flat-bottomed single-headed iron rails weighing 70 lbs. per lineal yard, and is similar in every other respect to that on the main line between Murrurundi and Tenterfield.

The other works on this extension are of the ordinary class, and do not call for special mention.

The total amount of excavation, not including foundations, is 1,068,766 cubic yards.

### SOUTHERN AND NORTHERN JUNCTION RAILWAY.

#### HOME BUSH TO WARATAH.

This extension is 92 miles 54 chains 44 links in length, and commences by a junction with the Great Southern Railway at Strathfield, 7 miles 24 chains 11 links from Sydney, and after passing through Ryde crosses the Hawkesbury River at Long Island, about 10 miles from the point where the river enters the sea at Broken Bay; thence runs along the western shore of Mullet Creek, an arm of the Hawkesbury, for about 4½ miles, and, passing through Gosford, joins the Great Northern Railway at Hamilton, 2 miles north of Newcastle, thus connecting the Southern and Northern main trunk lines.

The total amount of excavation, not including foundations, is 4,370,927 cubic yards.

There are eight tunnels, of an aggregate length of 3,760½ yards, all constructed for double line, and lined throughout with brickwork set in cement. The longest tunnel, which is also the longest in the Colonies, is 1,958 lineal yards, and the shortest is 80½.

In addition to the ordinary waterways and timber bridges, the following have been erected, all constructed for double line, viz. :—

Parramatta River	6	spans of	150	feet,	wrought-iron lattice girders.
Hawkesbury River	7	"	410	"	steel Whipple truss.
Woy Woy River	3	"	61	"	wrought-iron web-plate girders.
Broadwater River	3	"	61	"	" "
Ourimbah Creek	3	"	61	"	" "
Wyong Creek	3	"	61	"	" "
Wallarrah Creek	3	"	61	"	" "
Dora Creek	7	"	61	"	" "
Cockle Creek	4	"	61	"	" "

PARRAMATTA

## PARRAMATTA RIVER BRIDGE.

This is a wrought-iron lattice girder bridge, constructed for a double line, and consists of six spans of 159 feet each from centre to centre of piers; the girders are continuous over three spans. The superstructure rests upon cast-iron cylinders which are bottomed on rock; these cylinders are 11 feet diameter from the foundation to high-water level, and from thence taper to a diameter of 9 feet at the underside of the girders. They are filled with concrete, mixed in the proportion of one part of Portland cement to six parts of broken stone and sand.

## BRIDGE OVER THE HAWKESBURY RIVER.

This bridge is the largest of its kind in the Southern Hemisphere, and, as regards its foundations, one of the most remarkable in the world, that of one of the piers being 161 feet below water-level, this being the deepest bridge-foundation yet constructed. There are seven spans of 416 feet from centre to centre of the piers, which are built upon foundation caissons of novel description, the caisson for each pair being rectangular in form, with rounded ends 48 feet by 20 feet splaying out 2 feet wider all round the bottom. Inside the caissons there are three wrought iron dredging tubes arranged on the longitudinal centre line of each caisson. These tubes, as well as the spaces between them and the inside of the caissons, were filled with cement concrete, forming a solid mass entirely below the water, on which the masonry piers were erected. There are only two other instances of bridge-foundations on this system, the sinking of which was, to some extent, simultaneous with these, namely, the Jubilee Bridge over the Hooghly, in India, and the Poughkeepsit Bridge, over the Hudson River, in America. The masonry in the piers is sandstone, set in cement, excepting the plinth, which is hard trachyte from Bowral. The abutments are entirely local sandstone, set in cement. The superstructure is built up with steel riveted plates, on the Whipple truss principle, and the members are connected by steel pins. One end of each span is fixed to a pedestal, bolted down to the pier or abutment on which it rests, the other end resting on expansion rollers, to allow for movement under varying temperatures. The main girders are 410 feet in length, from centre to centre of bearings, the height of the main girder being 58 feet, the clear width apart of the main girders being 25 feet 5½ inches, to allow for a double line of railway. A double line of rails has been laid down throughout, guard-rails being fixed parallel to them.

The total length of the bridge between abutments is 2,900 feet 3 inches, and the clear height above high-water is 40 feet.

## WOY WOY BRIDGE.

Woy Woy Creek, an arm of the Broadwater at Gosford, is crossed by a wrought-iron web-plate girder bridge, constructed for a double line, and consists of three spans of 66 feet from centre to centre of piers. The girders are continuous, and rest upon cast-iron cylinders, 5 feet in diameter, bedded upon rock. These cylinders are filled with cement concrete, mixed in the proportion of one part of cement to six parts of broken stone and sand.

## IRON BRIDGES OVER THE BROADWATER, OURIMBAH, WYONG, AND WALLARAH CREEKS.

These bridges are similar in every respect to that over Woy Woy Creek, excepting that the cylinders in Ourimbah Creek are bedded on hard red clay.

## DORA CREEK BRIDGE.

This bridge consists of seven spans of 66 feet each from centre to centre of piers, and the girders are continuous over four and three spans respectively, and is in every other respect similar to the bridge over Woy Woy Creek.

## COCKLE CREEK BRIDGE.

This bridge consists of four continuous spans of 66 feet each from centre to centre of piers, and is also similar in every other respect to the bridge over the Woy Woy Creek.

## EXCAVATIONS AND EMBANKMENTS.

The formation width of cuttings is 15 feet for single line and 26 feet for double line, with slopes varying with the character of the material passed through. In ordinary earthwork they are 1 to 1. In rock the sides are left perpendicular, or at such a slope that the material will safely stand it.

All the embankment have slopes of 1½ to 1 throughout, and the formation width is not less than 17 feet for single line and 28 feet for double line.

## PERMANENT-WAY,—RAILS, &amp;c.

The permanent-way is laid for a single line from Strathfield Junction to Brooklyn; from Brooklyn to the north side of the Hawkesbury River, the line is double; from the north side of the Hawkesbury to 99 miles 54 chains it is again laid for a single line; and from thence to junction with the Great Northern Railway for a double line. The rails are of steel, single-headed, and fish-jointed throughout, and weigh 71½ lb. per lineal yard. They are in lengths of 24 feet and 21 feet, and are secured to the sleepers by spikes and screws alternately.

## SLEEPERS.

The sleepers are of ironbark, stringybark, red mahogany, and other Colonial hardwood, 8 feet long, 9 inches x 4½ inches, and rectangular in form. For 24 feet rails they are placed 2 feet 9¾ inches apart from centre to centre, and 1 foot 9 inches at the joints; and for 21 feet rails 2 feet 9 inches, and 1 foot 9 inches at the joints. The bed for the rails is planed by machinery at an angle of 1 in 20, inclining towards the centre of the roadway. To keep the road in gauge the rails are notched into the sleepers to the full thickness of the bottom flange on the outside of the rail. (See drawing).

## BALLAST.

From Strathfield to Gosford the ballast is of broken sandstone, and from Gosford to Hamilton of gravel, excavated from a hill near Teralba, and is 6 inches in thickness under the sleepers in the centre of the roadway, and 7 inches at the ends, 11 feet 9 inches wide at the bottom of the slopes, and 8 feet 7 inches at the top, and boxed up to within 3 inches of the level of the rails in the centre of the roadway, and  $1\frac{1}{2}$  inch at the sides.

## CURVES.

The sharpest curve is of 11 chains radius.

## GRADIENTS.

The steepest gradient is 1 in 40 for an aggregate length of 9 miles 9 chains.

## NORTH SHORE RAILWAY.

## HORNSBY TO ST. LEONARDS.

This line leaves the Southern and Northern Junction Railway at Hornsby, 20 miles 68 chains from Sydney, and is completed for a distance of 10 miles 41 chains to St. Leonards; but it is proposed ultimately to extend it to the deep waters of the harbour at Milson's Point, a further distance of about 2 miles 66 chains.

The works and permanent-way are similar to those for the main line. The steepest grade is 1 in 50, and the sharpest curve is of 15 chains radius.

It will be seen that, excluding the ascent to the Blue Mountains and short lengths on the Great Southern and Great Northern Railways, the prevalent "ruling grade" on all the lines is 1 in 40—that is to say, this is the steepest incline on the different lengths ruling the maximum load to be carried. In such rough country as this Colony generally is, this grade, or near approximations to it, is, by general agreement among engineers, the ruling one most commonly fixed upon. In the Cape Colony, where the mileage approaches that of New South Wales, there is no less than 30 per cent. of the whole length on this grade; while in India, which is generally a flatter country, 1 in 50 has been adopted. This also is the Queensland limit. In Ceylon it is 1 in 44; and on the Canadian Pacific, Southern Pacific, and Central Pacific, lines of unusually great length, it is about 1 in 46. In America generally between 1 in 40 and 1 in 50 has been very generally fixed upon. In exceptional cases throughout the world the 1 in 40 grade has been frequently exceeded.

## SUMMARY OF THE TOTAL LENGTH OF LINES OPENED AND IN PROGRESS.

	Open for traffic.		Under construction.	
	miles.	chains.	miles.	chains.
Great Southern Railway ... ..	387	51		
Darling Harbour Branch ... ..	1	0		
Branch to Cemetery, Rookwood ... ..	0	40		
Collingwood Branch ... ..	0	40		
Goulburn to Cooma Branch ... ..	126	3		
Cootamundra to Gundagai Branch ... ..	33	15		
South-western Railway—Junee to Hay ... ..	167	5		
Narrandera to Jerilderie Branch ... ..	64	70		
South Coast Railway—Illawarra to Kiama ... ..	68	74		
National Park Branch ... ..	1	15		
Richmond Branch ... ..	16	0		
Great Western Railway ... ..	490	75		
Orange to Molong Branch ... ..	22	57		
Wallerawang to Mudgee Branch ... ..	84	54		
Murrumburrah to Blayney Railway ... ..	109	52		
Great Northern Railway ... ..	392	42		
North-western Railway—Werris Creek to Narrabri ... ..	96	65		
Bullock Island Branch ... ..	1	40		
Morpeth Branch ... ..	4	0		
Southern and Northern Junction Railway ... ..	92	54		
North Shore Railway—Hornsby to St. Leonards ... ..	10	27		
Culcairn to Corowa ... ..			47	39
Kiama to Nowra ... ..			22	33
Nyngan to Cobar ... ..			81	25
Total ... ..	2,173	30	151	17

[3 diagrams.]

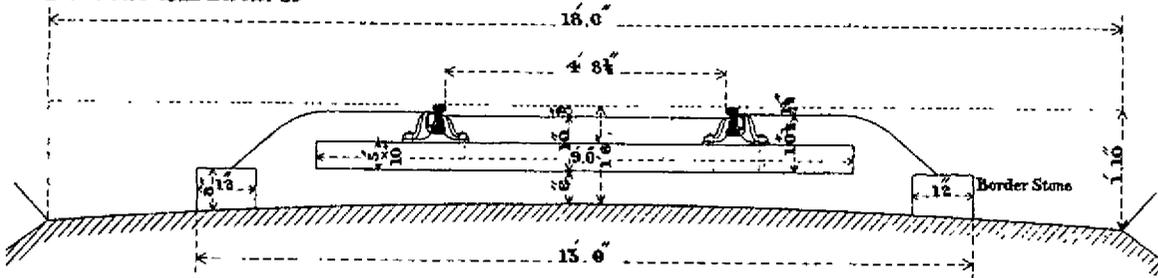
# NEW SOUTH WALES RAILWAYS

## SECTIONS OF PERMANENT WAY

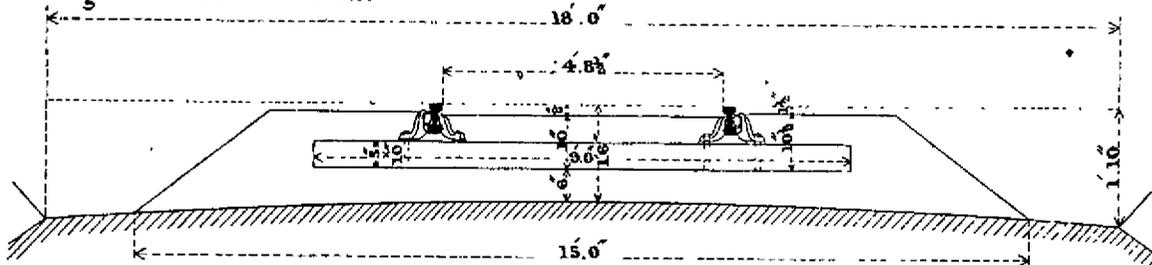
PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,  
SYDNEY, NEW SOUTH WALES.

*James H. Thompson*  
 Engineer-in-Chief  
 March 1876.

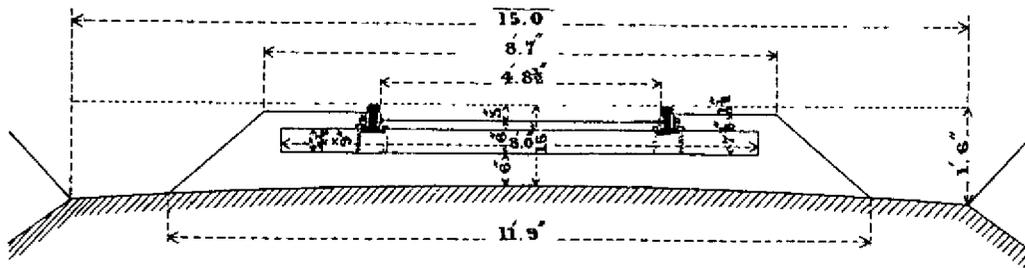
*Picton to Goulburn  
 Penrith to Bathurst*



*Singleton to Murrurundi*



*Goulburn to Albury  
 Bathurst to Bourke  
 Murrurundi to Queensland Border*



(162-)

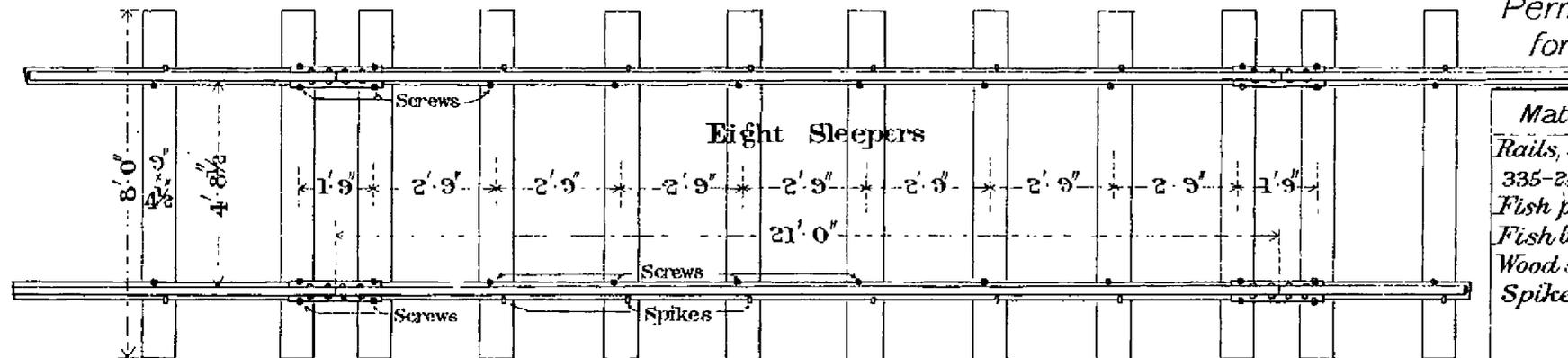
PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,  
SYDNEY, NEW SOUTH WALES.

# PLANS

21 Feet Rails

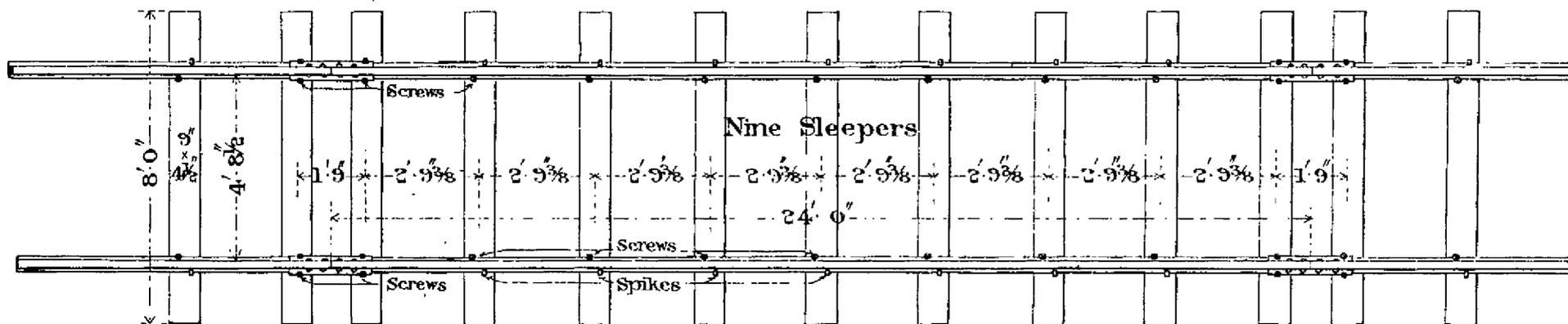
Goulburn to Albury  
Bathurst to Bourke  
Murrumbidgee to Queensland Border

Permanent Way Material  
for One Mile of Road:



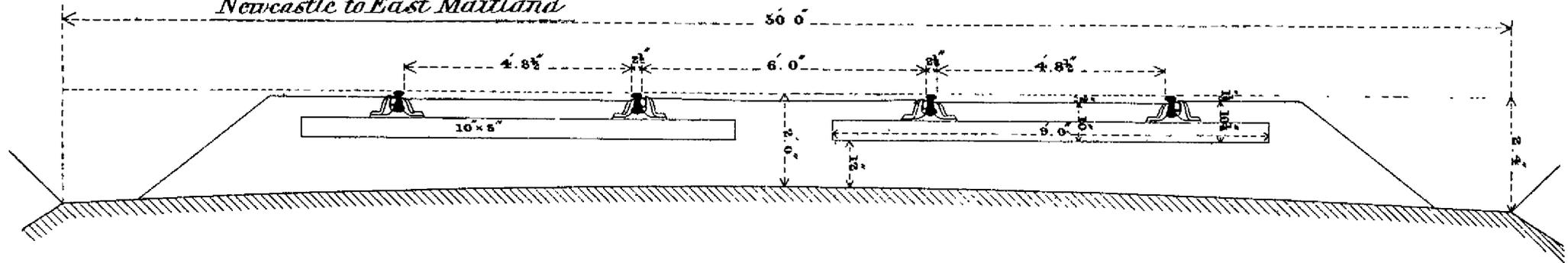
Material	Quantity	Weight	
		Tons	Cwt. lbs.
Rails, steel T 335-244, 120-21R	3520 yds	112	7-16
Fish plates (ordin <sup>y</sup> )	910	4	8-2-7
Fish bolts and nuts	1820	1	3-22
Wood screws	4885	2	7-3-25
Spikes	3065	1	4-2-14
<b>Total</b>	<b>1988</b>	<b>121</b>	<b>11-2-</b>

24 Feet Rails

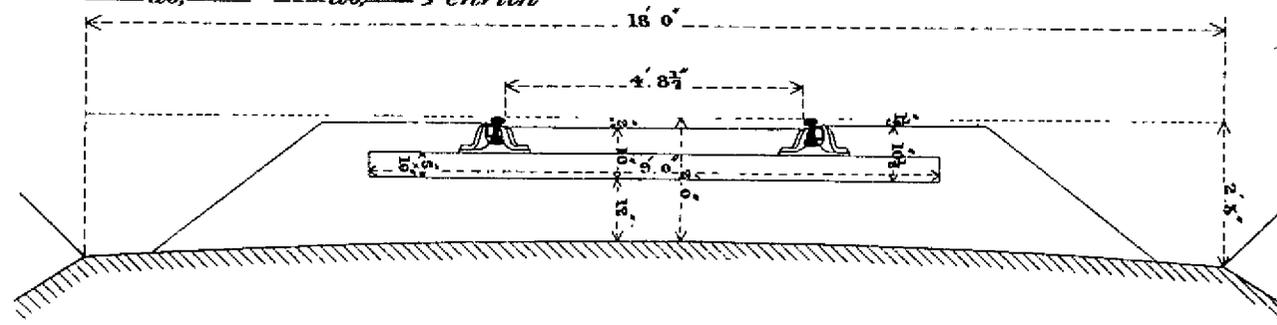


(152-)

*Sydney to Parramatta Junction  
Newcastle to East Maitland*



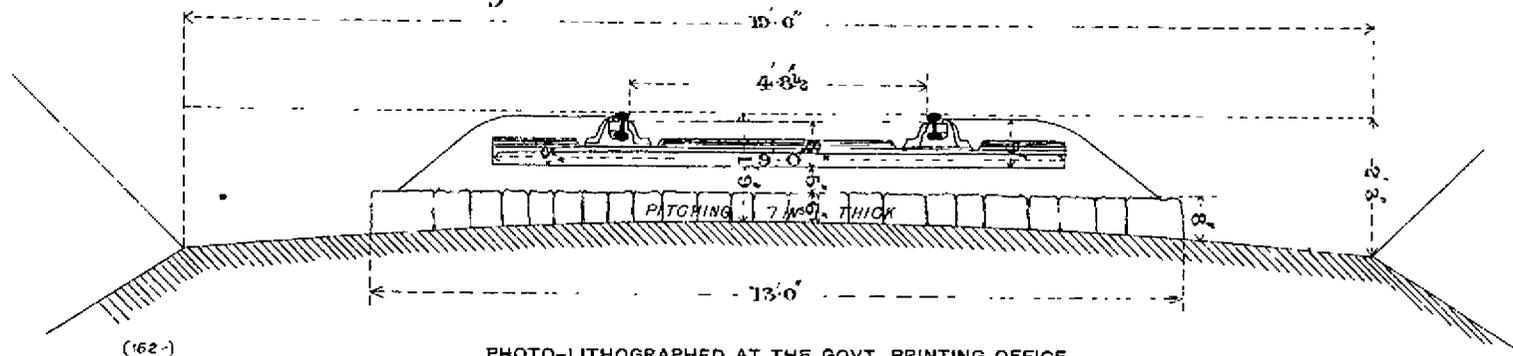
*Parramatta Junction to Picton  
do. do. Penrith*



*Permanent Way Material*

- Rails* . . . . . 75 lbs. per Yard
- Fish Plates* . . . . . 112 " each
- " Bolts & Nuts* 1/4 " "
- Spikes* . . . . . 1 " "
- Keys* . . . . . 6' 2 1/2 x 2'
- Chairs* . . . . . 25 lbs. each

*West Maitland to Singleton*



1891.

NEW SOUTH WALES.

PARLIAMENTARY STANDING COMMITTEE ON  
PUBLIC WORKS.

REPORT

TOGETHER WITH

MINUTES OF EVIDENCE, APPENDICES, AND PLANS,

RELATING TO THE

PROPOSED EXTENSION

OF

KIAMA TO NOWRA RAILWAY INTO THE TOWN  
OF NOWRA.

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Presented to Parliament in accordance with the provisions of the Public Works Act,  
51 Vic. No. 37, section 8.

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SYDNEY : GEORGE STEPHEN CHAPMAN, ACTING GOVERNMENT PRINTER.

1891.



## MEMBERS OF THE COMMITTEE.

## LEGISLATIVE COUNCIL.

The Honorable JOHN LACKEY, Chairman.  
 The Honorable ANDREW GARRAN.  
 The Honorable FREDERICK THOMAS HUMPHERY.  
 The Honorable WILLIAM JOSEPH TRICKETT.  
 The Honorable GEORGE HENRY COX.

## LEGISLATIVE ASSEMBLY.

JACOB GARRARD, Esquire, Vice-Chairman.  
 HENRY COPELAND, Esquire.  
 JAMES EBENEZER TONKIN, Esquire.  
 WILLIAM SPRINGTHORPE DOWEL, Esquire.  
 EDWARD WILLIAM O'SULLIVAN, Esquire.  
 CHARLES ALFRED LEE, Esquire.  
 WILLIAM MCCOURT, Esquire.  
 JAMES PATRICK GARVAN, Esquire.

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 Minutes of Evidence.  
 Appendix to Evidence.  
 Plans.

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

EXTENSION OF KIAMA TO NOWRA RAILWAY INTO THE TOWN OF NOWRA.

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, and the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, to whom was referred the duty of considering and reporting upon "the expediency of extending the Kiama to Nowra railway from the present proposed terminus, across the Shoalhaven River, into the town of Nowra," have, after due inquiry, resolved that it is expedient the railway should be extended as proposed; 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:—

1. The proposed railway extension consists of one and a-half mile of line to continue the Kiama to Nowra railway from its present proposed terminus on the north bank of the Shoalhaven River, across the river, into the town of Nowra. In the proposal to extend the railway from Kiama to Nowra, upon which the Committee reported on 22 April, 1890, the terminus was to be for the present on the north bank of the river at Bomaderry, and a temporary branch line, three-quarters of a mile in length, was to be constructed from Bomaderry to Broughton Creek Road, close to the road bridge which spans the river, and forms the road communication with Nowra. This terminus had been decided upon by the Department of Public Works in order to save the expense of a railway bridge across the river, until it should be determined to extend the railway to Jervis Bay; and though it was admitted it would be more convenient to the residents of Nowra to have the railway bridge constructed, and the line carried into the town, yet it was thought the proposed temporary branch line from the point on the north bank of the river where the railway bridge would eventually have to be placed, to the neighbourhood of the road bridge, would to a large extent meet requirements, and for the present be sufficient. The Committee thought otherwise, their opinion being based upon the results of an inquiry made by a Sectional Committee who visited Nowra for the purposes of inspection and the taking of evidence. The Sectional Committee considered that the line should be taken to the town of Nowra, in order to secure the maximum amount of traffic, and that it was not advisable to have any deviation from Bomaderry to Broughton Creek Road, in view of the great necessity to construct the railway bridge across the river at as early a date as possible. This expression of opinion, which was set forth in the Report of the Committee, led, with other circumstances, to the proposal, now under consideration, that the railway bridge should be constructed, and the railway taken into Nowra. The official description of the proposed extension represents it as commencing at the terminus of the the Kiama to Nowra Railway at 92 miles 32 chains from Sydney, whence it proceeds across the Shoalhaven River by a bridge just above the entrance of the Bomaderry Creek and the old ferry, and thence curving to the right approaches the town of Nowra, terminating at Worrigee-street, 93 miles 70½ chains from Sydney, the extension itself being a length of 1 mile 38½ chains.

Description of  
the proposed  
extension.

Estimated cost.

2. The estimated cost of the proposed extension, including the cost of the bridge, is £75,000. The estimated cost of the bridge is £60,000. The Acting Engineer-in-Chief for Railways expresses himself as confident that the work can be carried out for the amount stated.

Railway Commissioners' Report.

3. The Railway Commissioners, in accordance with one of the provisions of clause 13 of the Public Works Act, have reported upon the proposal. They point out that the estimate of £75,000 is equal to the cost of  $4\frac{1}{2}$  miles of the line terminating on the Sydney side of the Shoalhaven River, and for "the small traffic to be carried" this expenditure is not, in their opinion, justified. "If," they say, "it is deemed advisable to make the extension, thus increasing the burden in connection with interest and working expenses by £2,925 per annum, we would suggest the introduction of a clause in the bill, authorising the Railway Commissioners to charge for all traffic passing over this one mile as for  $4\frac{1}{2}$  miles."

The evidence in the inquiry.

4. Though the Committee in their Report upon the extension of the railway from Kiama to Nowra recommended the taking of the line to the town of Nowra, it was necessary in the present inquiry to obtain information on some points which were not previously apparent. Those were: the nature of the river bed at the site proposed for the railway bridge, and the question whether a suitable foundation had been found for the structure; the style of bridge proposed; the suggestion of the Railway Commissioners that the traffic over the  $1\frac{1}{2}$  mile of railway extension should be charged as for  $4\frac{1}{2}$  miles; the advantage or otherwise of carrying the railway on to Jervis Bay; and, generally, the results that might be looked for from extending the railway into Nowra.

The site of the railway bridge.

5. The site of the bridge to carry the railway has been chosen at the point of the river indicated for two reasons: to serve Nowra as much as possible, and to avoid crossing the river at a navigable part where, unless the bridge were fitted with a swing, the navigation of vessels trading on the river would be greatly interfered with. A straighter line to Jervis Bay could be obtained by crossing the river nearer its mouth, but if that route were adopted the bridge would have to be a swing-bridge. The site has also been chosen for the reason that a reef of rocks runs from the northern bank of the river so far across the stream that the greater part of the bridge can be built on narrow foundations, and where the deep water exists it will not be necessary to go more than 83 feet below high water for the deepest pier. At this depth also rock will be reached. The foundation of the bridge will therefore be satisfactory. The adoption of this site for the bridge will prevent ocean steamers from going quite as far up the river as hitherto they have been able to do, but it is not anticipated that this will cause any serious inconvenience.

Style of the bridge.

6. The bridge is to be constructed of steel girders upon cast-iron cylinders filled with concrete, the whole structure being in outline similar to the railway bridge across the Hawkesbury. It will carry a single line of railway. In the opinion of the Department of Public Works there will not for a very long time to come be any possibility of a traffic from the district to the railway that will justify the construction of a double line. The reef of rocks at the site chosen for the bridge is, however, sufficiently wide to enable the bridge to be doubled at any time this should be considered necessary.

The extra carriage rate suggested by the Railway Commissioners.

7. In the consideration given by the Committee to the suggestion of the Railway Commissioners respecting the extra carriage rate that should be charged on the proposed extension, it was thought advisable to ascertain from some accredited representative of the town of Nowra whether the residents are prepared to pay such a rate, and Mr. Robert Patterson, Mayor of Nowra, was examined on this point. He states that the residents are quite prepared to pay the extra charge. A majority of the business people, asked by him personally, are unanimous in saying they are agreeable to it. Passengers, also, he said, would far rather travel in the train from and to Nowra than enter or leave the train on the other side of the river. These statements were corroborated by another representative of Nowra, Mr. John Maclean, who also gave evidence on the subject. The proposal of the Railway Commissioners

Commissioners to charge an extra rate on a certain length of railway is new to this colony, but the practice is common in England, and has been followed in New Zealand.

8. The extension of the railway beyond Nowra, though not at the present time actually under consideration, is, nevertheless, a matter of some importance in connection with the proposed extension of the line into the town of Nowra. The extension into Nowra has been laid out primarily in view of the railway going on to Jervis Bay, and, in fact, is part of a general railway scheme having its terminus further south. The evidence taken by the Committee indicates the probability of the railway being so extended, and this is used by those who support the proposed extension into Nowra as an additional reason why that proposal should be carried out.

Extension of  
the railway  
beyond  
Nowra.

9. Generally, the results that may be looked for from the extension of the railway into Nowra are favourable. Nowra is described as being in a flourishing condition, and as steadily progressing. The Chief Traffic Manager of the Railway Department thinks that for a time the extension will be worked at a loss, but he has no doubt that in the course of two, three, or four years it will pay the interest on the cost of the bridge very well. This conclusion he arrives at, he states, "from the immense increase we have had from other stations similarly situated"; and his evidence on this point is supported strongly by a return supplied by the Secretary to the Railway Commissioners, and published with this Report as an Appendix, which shows a very large increase in the traffic to and from Kiama station, the present terminal point of the Illawarra Railway. The Chief Traffic Manager says, moreover, that the bridge is necessary to enable the railway to secure all the traffic that should come to it, for without the bridge much of the produce now going into the town of Nowra will continue to be carried by steamer to Sydney. Another important consideration is that by carrying the railway into Nowra, the temporary line which it was intended to construct from Bomaderry, on the north side of the river, to Broughton Creek Road, will not be required; and instead of a large terminal station being wanted at Bomaderry, a small local station, to meet the convenience of people living on the north side of the river, will be all that is necessary.

General  
results  
expected from  
the proposed  
extension.

10. The Committee are of opinion that the proposed extension should be carried out, and they have arrived at that decision on the grounds set forth in the foregoing portions of this Report, which may be recapitulated briefly as follows:—

Decision  
of the  
Committee.

- (1) In their Report upon the extension of the railway from Kiama to Nowra the Committee recommended the present proposal.
- (2) The people of Nowra are prepared to pay the extra carriage rate proposed by the Railway Commissioners.
- (3) The extension into the town of Nowra is a part of the general scheme for extending the Illawarra Railway from Kiama further south, and the Committee are of opinion that it cannot be very long before the railway is carried to Jervis Bay.
- (4) The prospect of the extension into Nowra proving payable at the extra rate suggested is encouraging.
- (5) By taking the railway into Nowra the expense of constructing a temporary branch railway and large terminal station on the north side of the river will be avoided.

The whole of the evidence in the inquiry was considered by the Committee on Tuesday, 17 March, 1891, and the following extract from the Minutes of Proceedings will show the resolution that was passed:—

Mr. Humphery moved—

"That, in the opinion of the Committee, it is expedient the proposed Extension of the Kiama to Nowra Railway, from the present proposed terminus, across the Shoalhaven River, into the town of Nowra, as referred to the Committee by the Legislative Assembly, be carried out."

Dr. Garran seconded the motion.

Mr. Garvan moved as an amendment on the motion :—

“That all the words after the word ‘Committee,’ in the first line, be omitted, with a view to insert the following: ‘It is inexpedient to approve of the construction of a bridge over the Shoalhaven River until it is proposed to extend the railway into the country south of that river.’”

Mr. Cox seconded the amendment.

The amendment was negatived on the following division :—

<p>Ayes, 2. Mr. Cox. Mr. Garvan.</p>	<p>Noes, 9. Mr. Lackey. Dr. Garran. Mr. Humphery. Mr. Trickett. Mr. Garrard. Mr. Copeland. Mr. Tonkin. Mr. O’Sullivan. Mr. McCourt.</p>
--	---

The motion was passed on the following division :—

<p>Ayes, 9. Mr. Lackey. Dr. Garran. Mr. Humphery. Mr. Trickett. Mr. Garrard. Mr. Copeland. Mr. Tonkin. Mr. O’Sullivan. Mr. McCourt.</p>	<p>Noes, 2. Mr. Cox. Mr. Garvan.</p>
---	--

JOHN LACKEY,  
Chairman.

Office of the Parliamentary Standing Committee on Public Works,  
Sydney, 21 April, 1891.

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# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## MINUTES OF EVIDENCE.

### EXTENSION OF KIAMA TO NOWRA RAILWAY INTO THE TOWN OF NOWRA.

THURSDAY, 19 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.	HENRY COPELAND, Esq.
The Hon. FREDERICK THOMAS HUMPHERY.	JAMES EBENEZER TONKIN, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	EDWARD WILLIAM O'SULLIVAN, Esq.
The Hon. GEORGE HENRY COX.	CHARLES ALFRED LEE, Esq.
JACOB GARRARD, Esq.	WILLIAM MCCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee proceeded to consider the proposed Extension of the Kiama to Nowra Railway into the Town of Nowra.

Joseph Barling, Esq., Under Secretary for Public Works, sworn, and examined:—

1. *Chairman.*] Perhaps the shortest way will be for you to make a statement of the circumstances under which this work has been initiated? I have only a very few remarks to make with regard to this matter, as I think it has been thoroughly considered by the Committee on a previous occasion, and have, therefore, only to introduce the subject, and hand in the official documents. In introducing this proposed Extension to Parliament, Mr. Secretary Bruce Smith said:—

"This is simply a reference to the Public Works Committee of the advisableness of extending the railway from Kiama to Nowra across the river into the town of Nowra by means of a bridge over the Shoalhaven River. The Public Works Committee recommended the proposal, and it is now submitted to the House."

With regard to the question itself, I may, perhaps, be allowed to quote a paragraph or two from the Report of your Committee.

"The route of the proposed railway appears from the evidence and from the personal examination made by the Sectional Committee to be the best that could be chosen, except that the Sectional Committee are of opinion that the line should be taken into the town of Nowra. \* \* \* \* \* The explanation of the railway construction officers regarding the intention to terminate the line for the present on the north bank of the Shoalhaven River, and about a mile from Nowra, is that the contemplated terminus of the railway is Jervis Bay, and that it is not necessary in order to get to Jervis Bay for the line to go into Nowra. The Sectional Committee, who visited the district, consider the line should be taken to the town, in order to secure the maximum amount of traffic, and that it is inadvisable to have any deviation from Bomaderry to Broughton Creek-road."

With regard to the statement that it is not necessary in order to get to Jervis Bay for the line to go into Nowra, I may refer to the evidence given by Mr. Deane upon that point. He was asked the following questions:—

"If you had to cross the river lower down, would you have to have a swing-bridge? Yes; because steamers go right up to Nowra.

"Of course, if Huskisson or Jervis Bay is the point you are looking at, a straighter line would be to cross the river nearer Numba—nearer the mouth of the river? There is a great bend in the line to get right to Nowra.

"Was the object of that to avoid crossing the river at a navigable point? Partly on that account, and partly to serve Nowra."

I refer to this to show that the location of the bridge has been determined not merely to serve Nowra, but to attain the equally important object of avoiding crossing the river at a navigable point, as would be the case were a crossing at Numba selected, although that would be in the more direct route to Jervis Bay. With regard to the extension of the railway to Jervis Bay, I am to say that the Minister for Works has no present intention of recommending the continuation of the line to that place. I will now hand in the Report of the Railway Commissioners on the subject, the Official Description of the Line which

J. Barling, Esq.  
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was laid upon the table of the House, and a *précis* showing the state of the case from the point when the last inquiry took place. The following are the Official Description and the Railway Commissioners' Report:—

## OFFICIAL DESCRIPTION OF THE PROPOSED EXTENSION.

Extension of Kiama to Nowra Railway, across the Shoalhaven River into the Town of Nowra.

THIS line commences at the terminus of the authorised Kiama to Nowra Railway at 92 miles 32 chains from Sydney, crosses the Shoalhaven River by a bridge just above the entrance of the Bomaderry Creek and the old ferry, then, curving to the right, approaches the Town of Nowra and terminates at Worrigeer-street at 93 miles 70½ chains, being a total length of 1 mile 38½ chains.

Estimated cost, £75,000.

December 19th, 1890.

H.D.

## RAILWAY COMMISSIONERS' REPORT.

Office of the Railway Commissioners of New South Wales, Sydney, 4 July, 1890.

## Kiama to Nowra Extension.

THE cost of the line terminating on the Sydney side of the river is estimated at £381,300. Distance, 22½ miles—equal to £17,000 per mile.

The revised estimate for the bridge and extension into the town, a distance of 1 mile, is £75,000, being equal to the cost of 4½ miles of ordinary railway. For the small traffic to be carried this large expenditure is not, in our opinion, justified. If, however, it is deemed advisable to make the extension, thus increasing the burden in connection with interest and working expenses by £2,925 per annum, we would suggest the introduction of a clause in the Bill, authorising the Railway Commissioners to charge for all traffic passing over this 1 mile as for 4½ miles.

E. M. G. EDDY,  
Chief Commissioner.  
W. M. FEHON,  
CHAS. OLIVER,  
Commissioners.

To the Secretary for Public Works, Sydney.

With regard to that portion of the Commissioners' Report in which they advise that a Bill should be passed to enable them to charge over four times the ordinary rate for this 1 mile of railway, the Minister authorises me to say:—"Regarding the Commissioners' suggestion for a differential rate, the Government have come to no determination upon the matter."

2 *Dr. Garran.*] Have the Ministry come to any determination in regard to the extension to Jervis Bay? They have no present intention—that is, the Minister has no present intention of recommending it to the Cabinet.

3. Then the line does not come before us as the Jervis Bay extension? Certainly not.

4. It is purely a Nowra line? At present it is a Nowra line, although I may point out that if there should be an extension to Jervis Bay the section now proposed would necessarily form part of it.

5. I want to have it clear that we are not asked to do this as part of a projected scheme? No; it is simply put before the Committee at present as an Extension into Nowra.

Henry Deane, Esq., Acting Engineer-in-Chief for Railways, sworn, and examined:—

H. Deane,  
Esq.  
19 Feb., 1891.

6. *Mr. Humphery.*] Have you let a contract for the construction of a railway from Kiama to Bomaderry? Yes.

7. Where is the terminus to be? A short distance from the northern bank of the river.

8. Is it marked on the plan by a mile peg? Ninety-two miles and 32 chains from Sydney.

9. Is it proposed that the approach to the bridge shall start from that point? No; the opening of the bridge will start at the river bank, as shown on the sketch plan.

10. You have to cross the Bomaderry Creek? No; the present contract crosses the Bomaderry Creek.

11. Then the present contract takes the line across the Bomaderry Creek to 92 miles and 32 chains;—what distance will that be from the bank of the river? Thirteen chains.

12. How far is that from the existing bridge? Close on half a mile.

13. Can you say what is the estimated cost for constructing the line from Kiama to the point you have indicated on the bank of the river, having in view the fact that you have let the contract for the permanent way? No revision has been made of the estimated cost. The estimated cost is that mentioned previously. The contract has been let for a lower sum than the Government estimate. It was let for about £30,000 less.

14. In designing the bridge now under the consideration of the Committee, did you make an estimate of the cost? Yes.

15. What is the estimated cost? £60,000.

16. Do you think it can be built for that money? Yes.

17. Will that include the approaches on both sides? It will include the abutments on each side.

18. Will it include the whole of the work between the present point and the bridge on the northern side? There are a few chains—13 chains—of earthwork which it would not include, but that is a mere trifle.

19. That is ordinary railway line? Yes. It very likely would include that as well. I expect to be able to build the bridge, if it is authorised, for a trifle under the £60,000.

20. What will be the additional cost of taking the line to the intended terminus near Nowra? That has been estimated at £15,000—the additional cost beyond the bridge of carrying the line into the town.

21. So that the total cost will be £75,000? Yes; it may be a few pounds less than the £75,000. I intend, if possible, to limit the cost of the work by the £75,000. There will not be more than a few pounds difference.

22. That would be covered by the 10 per cent.? Yes.

23. Since you were last examined, have you visited the district and gone over the route of the proposed line? I have been to Nowra since.

24. Can you say anything as to the nature of the foundations of the bridge? Yes. The borings were taken before the other portion of the line was authorised, because the direction that the present authorised line had to take depended upon the borings of the river. The original position for crossing the river was shown to be impracticable, and it had to be shifted. The line that is now being carried out has been carried out in such a direction that the most favourable crossing might be obtained.

25. Will you state what the result of the borings has been? The result has been to show that there is a reef of rocks running across from the northern bank of the river, which enables the greater part of the bridge to be built with shallow foundations. H. Deane,  
Esq.
26. Does that ridge extend right across the river to the southern side? Not right across—it is pretty deep on the southern side. Still, we shall not be under the necessity of going more than 83 feet below high water for the deepest pier. 19 Feb., 1891.
27. Will that pier, which you think will necessitate a depth of 83 feet, rest upon rock? Yes.
28. You have ascertained that beyond doubt? Yes.
29. Of course you are aware that the piers of the existing bridge have not reached rock? No; they only went into mud, or something that was looked upon as a little better than mud.
30. *Mr. Tonkin.*] Does your estimate include all buildings, such as the station-house at Nowra and goods shed? Yes; I consider the £75,000 sufficient to cover that.
31. What will be the grade for this  $1\frac{1}{2}$  mile of line? The grades are practically level.
32. Have you any idea of the nature of the country between Nowra and Jervis Bay? I have not been between Nowra and Jervis Bay, but a line has been staked out.
33. Could you give the Committee any idea of the grades upon that line? No. That line is capable of very considerable improvement, and before a line was submitted I should have it re-surveyed. I do not suppose there is any reason why easy grades should not be obtainable there. I think the ruling grade at present is 1 in 50.
34. Is the country between Nowra and Jervis Bay mountainous or level? The section shows undulating country.
35. Would a line from Nowra to Jervis Bay be an expensive one to construct? The original estimate was about £11,000 per mile, but I believe it could be constructed for about £9,000; but that would include some works at the Jervis Bay end.
36. Would it include the resumptions of land? No.
37. Not including the resumptions of land;—is not that a very high price for an ordinary line? It is quite possible that the cost might be reduced below that amount; but I have nothing reliable to go upon.
38. How many miles is it from Nowra to Jervis Bay? About 15.
39. Is the country between Nowra and Jervis Bay similar to that between Goulburn and Crookwell? No; I think it is of a different character.
40. Which would be the most difficult country upon which to construct a railway? Well, you see, I have not been over it. We know pretty well what the Goulburn to Crookwell line has been estimated to cost. It may be that this line could be so improved as to cost no more than what has been estimated for the Goulburn to Crookwell line.
41. That would be not much more than one-half of what has been estimated for this line? Yes; but I could not say. In this rainy district waterways and culverts will have to be considered, and they would be of a more expensive character than they would be further inland, because you would have to provide for a heavier rainfall. Again, the earthworks would be through harder material.
42. Of course, this portion of the line is to be constructed in a more substantial style;—I presume 72-lb. rails will be used? 71½-lb.—the same as the main trunk lines of the colony.
43. *Mr. O'Sullivan*] If this bridge is constructed, and the line is taken into Nowra, it will save the construction of a portion of a temporary line from Bomaderry? That temporary line, of course, would not be necessary.
44. What was the estimated cost of that temporary line? £3,500. I said in evidence given on a previous occasion:—"The cost of making the branch line I have estimated at £3,500, and the materials that could be utilised would be worth £1,500, so that the cost of the line itself, after making all deductions, would be £2,000."
45. *Mr. Garrard*] What is the headway of your bridge to high-water mark? 21 feet.
46. That virtually stops all navigation above that height? Yes. It is the same headway as that which has been given for the road bridge.
47. But do not ocean steamers at present go up above the site of your proposed bridge? They do; but there is no reason why they should not stop below it afterwards.
48. They will stop out in the Pacific Ocean if you put a few more bridges across? But you do not want to put any more across.
49. As a matter of fact ocean going boats do come above the present site of your bridge? Yes.
50. Has there been any representation on the part of the steam navigation companies or others in reference to the stoppage of this navigable water? I think the steamers which chiefly run there were owned by the late Mr. Berry, and are now in the hands of Mr. John Hay. He has not objected in the slightest to the alteration.
51. At all events you do not propose to put any swing in the bridge? No.
52. I suppose the bridge is to be constructed for a single line of railway? Yes.
53. Is there any possibility of the trade warranting a double line in the future? Not for a long time to come.
54. So it was thought of the George's River bridge? Yes; but that is comparatively close to Sydney.
55. It is only a matter of years, you know? It is only a matter of years certainly, but all the tunnels on the line from Waterfall downwards are single tunnels. They would have to be duplicated as well as the bridge.
56. They are being duplicated on both sides of that particular bridge, are they not? The tunnels are not being duplicated. The Commissioners have duplicated the line up to Waterfall, and I believe they are taking steps to duplicate in patches beyond.
57. What would be the additional cost of making that bridge to carry a double line of rails;—would it be 75 per cent.? I do not think it would cost anything like that; it would be about 40 per cent.
58. And if in the future the traffic demands a double line across there it means the erection of a new bridge at a cost of £60,000? Yes.
59. I see that the proposed bridge does not run quite parallel with the road bridge;—is that for the purpose of enabling you to get better foundations? The object of that is to follow the rock as much as possible.
60. It looks as if you had gone away to the eastward for the purpose of getting more of a curve? Yes, it does; but if the line had been carried straight across we should have got into greater depths on the southern side of the river.

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61. It was done for the purpose of utilising a better bottom for the bridge? Yes.
62. What sort of a bridge do you want for the Bomaderry Creek, which intervenes? That is on the present contract.
63. I thought you said you only came to 92 miles? 92 miles 32 chains.
64. Does that carry you over the creek? Yes.
65. At all events, the bridge over the Bomaderry Creek has been included in the line now under consideration, and you have only to face this bridge? Yes.
66. What is it built of? Timber.
67. What is the proposed bridge across the river to be built of—iron or steel? I have got out the estimate for steel.
68. Wooden piles in the shallow portion, or iron? Iron.
69. Cast iron, wrought iron, or steel? Cast iron cylinders filled with concrete.
70. What size? Five feet.
71. What is the size of the main cylinders in the river? Eleven feet below, and 8 feet at the top.
72. It is a similar plan of bridge to that over the Hawkesbury? Yes; it is similar in outline, but the Hawkesbury is a pin-bridge.
73. Is there much valuable property to resume in order to get so close into the centre of Nowra as you propose to go? I think not. Where we approach Nowra, after making the bond, there is a little bit of rising in the ground on the left at 93 miles 30 chains, but beyond there, stretching away to the left, there is a big swamp, so that there is really no choice in the direction of the line. You could not go straight, because you would go through a swamp.
74. Are the crossings over the Terrara-road level crossings? Yes.
75. Do you propose to deviate the road where the line goes upon it for several chains? Yes; that would have to be deviated.
76. Is there any way of overcoming these level crossings except at very increased expense? I do not think so. The present Terrara-road level is about 8 feet below the formation level. It would have to be lowered 10 feet to have a proper crossing.
77. There would not be room to get a load of hay under that? No. Besides, you have to allow for the thickness of the bridge. I do not think it would be desirable to attempt to abolish the level crossing there. Of course, there are cases where level crossings must be adopted.
78. Are you of opinion that level crossings are undesirable where you can get rid of them at any slight expense? I do not like level crossings at all.
79. What is the originally estimated cost of the bridge to cross the river? £97,000.
80. That was upon the old site, higher up? Yes.
81. There you would have to have gone considerably deeper for your foundations? Yes.
82. And getting the better crossing has diminished the cost? Yes.
83. Does crossing the river lower down where you now propose to cross increase the length of the line at all? Not appreciably.
84. What you have lost on one side you have gained on the other, I suppose? Yes.
85. Have you come to any conclusion as to what will be the probable life of this bridge? It will, I think, last long enough for all purposes.
86. Was the actual price for which you have let the Kiama to Nowra line higher or lower than your estimate? It was about £30,000 lower.
87. You have based your present estimate, I suppose, on information gained in connection with the tenders for that line? No; those tenders would not be any guide at all.
88. They are principally earthworks on that line? Yes.
89. And the great expense in this instance is the bridge? Yes.
90. And in connection with that bridge you have bridges of a similar character to work upon? Yes.
91. Are the longitudinal girders steel or iron? They are steel. I propose to have them all of steel.
92. I thought you said you were going to have wood? Yes, over the Bomaderry Creek, but not in connection with this bridge.
93. *Mr. Garvan.*] Will any additional traffic, either goods or passenger, be developed by the construction of this railway to Nowra? I have not considered the traffic question.
94. Does not that question affect the question of advising the construction of the line? It does; but as under the Public Works Act the Railway Commissioners are expected to report upon these matters, I have been given to understand that it is undesirable that I should express any opinion upon them.
95. You have been given to understand that, I presume, from the Ministerial head? Yes; and therefore I have not considered the matter from that point of view.
96. But still this Committee is a superior authority to the Minister in asking for information. If you have any information to guide us it is our duty to obtain it from you? I regret to say I have not.
97. From your knowledge of railways generally, and the locality through which this railway passes, do you know of any special trade which is likely to be developed by the carrying out of the work? I can say this—that if the line is carried into Nowra, business people there are much more likely to use it than they would be if it is left on the northern side of the river, because there will be less inducement for them to go to the steamers.
98. You think that by taking the line to Nowra they would be more likely to send their goods to Sydney than they would be if it were left as it is? Yes.
99. Do you think that that would make any appreciable difference? I really have not considered the amount.
100. Do you know the nature of the trade between that district and Sydney? Agricultural produce and dairy produce.
101. I understand you to say that you have not travelled over the country between Jervis Bay? No.
102. But you understand generally what the character of the country generally is. Have you any report from any official as to the character of the country? Yes, there are reports.
103. Is it a level country? It is undulating, with low spurs. The section does not show the country to be level.
104. What are the relative levels of Nowra and Huskisson? They will be about the same.
105. So that any deviation from a perfect level would be by an intervening rising and falling of the ground? Yes.

106. I understood you to say that if the railway were to be constructed there it could be constructed for about £9,000 a mile? £11,000.
107. I understood you to say afterwards that it might be constructed for half that amount? I said I believed it could be reduced by about £2,000.
108. Would it be possible to construct a railway from Nowra to Jervis Bay for the same amount as it will cost to construct this bridge and approaches across the river? You mean for £75,000?
109. Yes? Without further survey I am not in a position to say.
110. You could not say definitely that it would be impossible to do it? I do not think it is likely, because even at £6,000 per mile it would amount to £90,000, and that would not allow for any works at the termination.
111. If it would only cost about the same to construct a railway from Nowra to Jervis Bay, which would you recommend for any purpose for which a railway should be constructed—to make the 15 miles of line from Nowra to Jervis Bay, or to make this bridge across the river? If you made the line from Nowra to Jervis Bay without the bridge you would have an isolated length of line, so that if I had the choice I should prefer the bridge.
112. The line from Nowra to Jervis Bay would serve the needs of a number of people who would want to send their produce to a deep-sea fishing port, would it not? I do not say that the advantages to be gained would be so great.
113. *Dr. Garran.*] Who was the officer who made the borings? Mr. Hutchison.
114. He is quite a trustworthy officer? Yes.
115. You have no doubt or anxiety on that score? Not at all. Mr. Wright was also in the neighbourhood at the time.
116. You had Mr. Wright's testimony to support the testimony of Mr. Hutchison? Yes.
117. And from their reports you are quite satisfied? Yes.
118. Looking at the plan, the cap of the reef has been washed away at the point where you will have to go deeper? Yes.
119. But it is equally sound as rock? Yes.
120. Is the breadth of the reef enough to enable you to double the bridge hereafter? Yes.
121. Have you a good foundation for a double bridge? Yes.
122. You would simply have to duplicate your work? Yes.
123. Who surveyed the extension to Jervis Bay?\* Mr. Wright.
124. How long ago was it done? In 1888.
125. It has never been examined since? It has been examined. I have been down there.
126. You have not examined it with a view of improvement? I went down and looked over the ground with Mr. Wright, and decided what course the line was to take.
127. I am speaking of the extension to Jervis Bay—who examined that? Mr. Wright has been down part of the way.
128. But who originally laid out the route? I do not remember; I think it was Mr. Hardy.
129. Is he still in the Department? Yes.
130. How long ago was that done? A good many years ago.
131. It is quite possible, looking at the improvements which have been made in many lines, that improvements might be made in this? Yes, I am sure they could be made.
132. With that knowledge any estimate at present is really worthless? Yes.
133. You might improve the grade? Yes.
134. You might diminish the earthworks? Yes.
135. So that it is all in the air at present as to what that line would cost? Yes; nothing really reliable has been obtained.
136. And the estimate you have given us may be looked upon as a large maximum? Yes.
137. It could not exceed that? Certainly not.
138. And you have not been instructed to make any more careful surveys? The fact is, that there has not been time. It would have been done if there had not been so much pressing work in addition.
139. We may say, practically, that we know very little about the possibility of that extension? As to cost?
140. Yes? You know that the price is limited by the amount given, and that it might be considerably reduced.
141. All you can say is that it is a comparatively easy country, and that the line would not exceed in cost the amount you name? Yes.

John Wright Esq., District Engineer, Department of the Engineer-in-Chief for Railways, sworn, and examined:—

142. *Chairman.*] You are the surveyor who has been engaged in the survey of this line? In correcting the survey, or making alterations of the line from Kiama to Nowra, and a portion of the distance to Jervis Bay, but I have not been able to complete it yet.
143. You have, at all events, made a complete survey of the line as far as Nowra? Yes.
144. And you are acquainted with the route from the terminus on the north side of the river to the town of Nowra? Yes.
145. How long have you resided in the district? Two and a half years.
146. Are you aware of the character of the trade which is carried on? Yes.
147. Is it a very fertile district? Yes, it is very prolific.
148. And a large grain producing district? Yes.
149. Large quantities of maize are produced? Yes.
150. And lucerne? Yes, and hay and dairy produce.
151. What is the value of land in the neighbourhood of which it is proposed to build the bridge? Quite recently 40 acres not quite a mile from the line were sold for £100 an acre.
152. And you think that most similar land about there would realise a price equal to that? Yes.
153. The grain traffic from there now is, I assume, taken by the steamers? Yes. 154.

\* NOTE (on revision) :—I replied to this and the following questions thinking that Dr. Garran said "Nowra," not "Jervis Bay."—H.D.

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154. They come right to Sydney? Yes.
155. And they go right up to the town of Nowra? The Illawarra Steamship Company send a drogher up the river of light draught of water. They cannot send their steamers up. They have a steamer of light draught which comes up the river as far as the present bridge. Mr. Berry has small steamers of 40 or 50 tons which come right up from Sydney. The Illawarra Steamship Company's steamers remain at Crookwell Point—10 miles from Nowra.
156. Then there are two lines of communication? Yes.
157. Do you suppose, from your knowledge of the district, that if the railway were constructed to Nowra the sea trade would be diverted to the railway? I could hardly speak definitely in regard to that. I can only speak from my former experience that up to 100 miles in other parts of the world, and between that and 150 miles, railway carriage must, in consequence of its almost certainty of despatch and arrival, beat a sea traffic.
158. Have you travelled much between Nowra and Jervis Bay? Not quite to Jervis Bay. As far as the Currumbene was as far as I could get to.
159. How far is that? 11 miles from Nowra.
160. What is the distance from Nowra to the Bay? 15 or 16 miles.
161. Are there any very formidable difficulties in the way of railway construction in the shape of estuaries, creeks, or rivers? There is only the Currumbene Creek. That will be rather a difficult crossing.
162. Is it tolerably good agricultural country down there? It is not good agricultural country. You could judge of it best by saying that it is something like the country between Parramatta and Penrith. If it were cleared it would be very much the same country.
163. There is no agricultural soil as in the neighbourhood of the Shoalhaven River? No, excepting some good flats along the valley of the Currumbene.
164. *Mr. Copeland.*] Do you anticipate any coal being discovered in that neighbourhood? We are trying to discover coal. Perhaps I am interested in the matter and had better not give evidence on the point. I am one of a syndicate boring for coal down there.
165. In what direction? Some considerable distance to the west of Jervis Bay.
166. Have you not ceased boring there? No, not yet.
167. You might, if you do not object, give the Committee any information which you have as to the probabilities of obtaining coal where you are boring? I should not like to do that.
168. Can you say how deep you have gone? We are only down about 180 feet at present.
169. Do you know of any outcrops of coal in that neighbourhood? I do not—I have not seen any.
170. Are there any deposits of limestone or anything at all likely to give traffic to a railway from Nowra to Jervis Bay? I should think that the gold discoveries about the Yalwal would give a deal of traffic to a line between Nowra and Jervis Bay. The Homeward Bound and other mines are turning out very well.
171. Can you say whether there are any iron deposits at Jervis Bay? I could not say anything about its mineral resources at all.
172. Do you anticipate that the people from Nowra and that district would travel by rail to Sydney, or would they travel from Nowra to Jervis Bay and come up by steamer? Although they have the steamer to their doors, the evidence given to the Committee some twelve months ago showed that the coach traffic between Nowra and Kiama was something like 400 per week. The steamers hardly carry a passenger at present. The people would never go to Jervis Bay for the purpose of travelling by steamer.
173. I do not mean the passenger traffic, but the goods traffic;—do you know what the freight is from Nowra to Sydney by steamer? I have no idea.
174. You are aware that large steamers would be able to go into Jervis Bay? Yes.
175. And that they would take freight at much less rates than small steamers? Yes; but I do not think that the people would send it, as it would incur two handlings when there need be only one. Probably if the goods were going to Melbourne or any of the southern or western colonies, produce would be shipped at Jervis Bay, but anything coming this way would, I think, come by rail.
176. You think they would rather pay the heavy railway rates than the slight railway rate to Jervis Bay, and ship their produce there? Yes. You overlook the two handlings. There is the handling of the goods upon the train and upon the steamer. You have a good example of railway and steamer competition at Kiama at present. The passenger and goods traffic of the steamers there has fallen off very much. It is decreasing daily, whereas the railway traffic is increasing daily.
177. The passengers come by train to Sydney? Yes, and the carriage of perishable goods on the railway is daily increasing. They are not sent so much by steamer as they were, so the agents tell me.
178. I suppose you do not know whether any coal has been discovered about Nowra itself, or whether there are any indications of coal? No. The geological stratification is against its discovery.
179. *Mr. O'Sullivan.*] You were present in the Court-house at Nowra when the Sectional Committee sat there? Yes.
180. Did you not hear some valuable evidence given with regard to the traffic from Nowra to Sydney by sea as well as by land? Yes.
181. Did you not hear storekeepers say they would prefer to use steamers unless the railway were brought into the town of Nowra? Yes.
182. Did they not give evidence to show it would be cheaper for them to use the steamers? Yes.
183. Owing to the cost of transit from Nowra to the present station across the bridge? The mile and a half was the bone of contention.
184. Was there not a general consensus of opinion that it would be far more profitable to use the railway if it were constructed? Yes.
185. *Mr. Lee.*] Do you notice the position of the line from Bomaderry Creek to the town of Nowra. Is there any possibility of avoiding that immense curve which has to be taken and to have the line straightened? At 10 chains below the present road bridge the foundations were found to be 160 feet in depth, and they got narrower and narrower as we went down the river. We were bound to go in the direction indicated on the plan in order to get the shallowest foundations.
186. In the event of the foundation difficulty having been overcome, could the line have run in a straight direction? Yes.
187. Would the saving in that respect have been greater than the extra cost of the foundations? No.

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We could construct five 60-foot spans for one-half the money that we could construct one 300-foot span for. We could not possibly get a more direct route into Nowra. We were bound on the one hand by an immense swamp, and the great depth of the foundations on the southern side of the river precluded any possibility of our going any higher up.

188. You thoroughly explored that portion of the country and the bearings for the site of a bridge, and in your opinion that is the most suitable and only site available? Yes.

189. You are very clear on that point? I am.

190. You have been Resident Engineer in charge of the line for some time? I have.

191. You were always in charge of the line from Kiama to Nowra? Yes.

192. Have you given much attention to the district beyond Nowra, towards Jervis Bay? No; I have only been over the line for the purpose of seeing whether we could improve it.

193. Are there any obstacles which would present themselves if it were determined to take the line to Jervis Bay? No.

194. Are there any water-courses? Yes, a great number.

195. Would it be an expensive line? No.

196. The work could be carried out at an average cost? Yes.

197. Is the country between Nowra and the Currumbene Creek as good as it is between Nowra and Kiama? No.

198. The nearer you approach the coast the worse it is? No, not in that case.

199. As you have been compelled to reside in the district for some time, you have, I suppose, noticed the development of trade? Yes.

200. Is it not a fact that there is one trade which formerly never came to Sydney by boat—that is, the milk trade? Yes; they could not carry it with sufficient despatch.

201. It is now growing into a large trade? Yes.

202. Is it feasible to suppose that that class of trade would come from Nowra? I do not think it would come from Nowra itself; but the butter and what-not would come from there.

203. The cost of taking this line from the present terminus to Nowra—1½ miles—would be £75,000? Yes.

204. Can you offer any suggestion by which that amount might be reduced? No.

205. A cheaper description of bridge for instance? No.

206. Do you think that is the minimum of cost? That is a question which I never interfere with.

207. I ask you as an engineer whether you can offer any suggestion by which it can be constructed for a less amount? No; the matter has been discussed by Mr. Deane and myself, and the 60-foot spans are the most economical where the foundations are very shallow.

208. Do you know of any cheaper system? No, I do not.

209. From an engineering point of view you are prepared to adopt that bridge? I am.

210. *Mr. O'Sullivan.*] How would you describe the bridge;—of what character is it? It is an ordinary plate girder bridge upon cylinders, and a Webb girder, I suppose, for the balance; but that is a question with which I have nothing to do; it comes within the province of the Chief. My work is mostly outside, and I have very little to do with estimating, excepting when I am in the office.

211. Supposing you were asked as an engineer to produce a bridge, would you have chosen that bridge? Undoubtedly.

212. In your opinion, it is the best kind of bridge for a river like the Shoalhaven? Undoubtedly. It is a question in which you are governed by the foundations, and the foundations only. Had they been 100-foot foundations we should have had to adopt larger spans, 300-foot spans.

213. *Dr. Garran.*] You said that the Yalwal traffic would feed the extension from Nowra to Jervis Bay? Yes.

214. Does it now go to Nowra straight? Yes.

215. Would it hit some station beyond Nowra itself? Yes; I think so.

216. How far out? Some few miles out.

217. Yalwal is to the west of Nowra? West and south.

218. If the line were continued to Jervis Bay, which has a magnificent harbour, is it not possible that the Melbourne steamers might call there on their way from Sydney to Melbourne? No doubt.

219. And in that case would not a great deal of passenger and goods traffic trend down to Jervis Bay to take the steamer there? No doubt.

220. People from Shoalhaven would not take the steamer in Sydney when they could get in at Jervis Bay? No.

221. Do you think the coal near Kiama would find its way more cheaply to Jervis Bay than to Sydney? Yes; it would be very much cheaper to send the coal almost from Wollongong.

222. You have not been on foot the whole of the way to Jervis Bay? No.

223. How far have you been? About two-thirds of the distance—11 or 12 miles.

224. From what you saw, do you think the line as laid out could be improved? It might be; but I do not think there would be very much improvement. The ruling grade now is 1 in 44, and we might probably reduce it to 1 in 50. We might probably run out some of the curves and reduce the earth-works.

225. But, as it is undulating country, you must have a certain quantity of cuttings and embankments? Yes, and the waterways will be somewhat expensive, as there are so many water-courses.

226. *Mr. Tonkin.*] Have you lived long at Nowra? Not long in the district. I go to Nowra regularly. I lived there five or six months, whilst the borings were being proceeded with.

227. Have you noticed whether the place is prospering? It appears to be.

228. Do you think there are sufficient indications of prosperity to warrant the additional expenditure of £75,000 in the erection of this bridge? I do.

229. You know that a larger sum has already been voted by Parliament to construct the railway to the river;—do you think the prosperity of the place warrants the expenditure of an additional £75,000? Yes.

230. Do you know that the interest upon that amount would be nearly £3,000 a year? Yes.

231. Do you think that that would be likely to be returned from the district in addition to what would be returned from the construction of the railway to the river? I hardly think that, but still it is part of the scheme, and it is a very important township. It is one of the most important townships of the south, and it is the centre of a very fertile area.

- J. Wright,  
Esq.  
19 Feb., 1891.
232. Could you give the Committee any idea as to whether the inhabitants of Nowra would be satisfied to pay a little extra freight for this concession—this bridge—that is to say that they would be satisfied to pay upon one mile of railway what would ordinarily be charged upon  $4\frac{1}{2}$  miles of railway? That is a matter upon which I could not express an opinion, but I think they would.
233. Do you think, if the question were left to the inhabitants of Nowra, they would agree to the bridge being constructed on the condition that they paid freight upon  $4\frac{1}{2}$  miles of railway instead of upon a mile of railway? I think they would.
234. Then you think it is not an unfair thing for the Commissioners to be allowed to charge a little extra on account of the extra expenditure? I cannot say anything about that; I decline to express an opinion on the policy of the Commissioners. They know their business and I know mine.
235. I am not asking your opinion upon the policy of the Commissioners—I am asking you whether you think the people would be satisfied to pay the extra money? But you asked me if I thought that that clause which the Commissioners wish to insert in the Act was unfair or not.
236. You believe that the people themselves, rather than be without the bridge, would be satisfied to pay this extra freight? I think so.
237. Do you think it would be a fair thing to the country at large to tax the other portion of the country for the special benefit of the people of Nowra to the extent of £3,000 a year? You are now touching a question of policy, and if you will excuse me I will prefer not to answer.
238. Can you give us an idea of the proportion of engineering difficulties between Kiama and Nowra, as compared with those between Nowra and Jervis Bay? I think it would be about half as light—that is to say, it would cost about half the money per mile.
239. If one cost £17,000 per mile the other would cost about £8,500? Yes.
240. You know the country between Nowra and Kiama? Yes.
241. And you have been over it sufficiently to enable you to form that estimate? Yes.
242. *Mr. Humphery.*] In the event of this bridge not being constructed at present, do you think it would be long before it would be absolutely necessary to have it constructed, in order to secure the maximum amount of the traffic of the district? I do not think it would be long before the bridge would have to be constructed.
243. Have you taken into consideration what the cost of the temporary station buildings on the northern side of the river will be? There was an estimate made.
244. Do you think if the line were to terminate for any period on the northern side of the river it would have the effect of creating a new township there in rivalry to the existing Government township of Nowra? No doubt it would. Wherever you make a railway terminus whatever township there may be there will increase. At Kiama there is no township—there is a graveyard on one side and the sea on the other.
245. The land on the northern side of the river is not Government land? No; it is private land.
246. Under the circumstances, do you think it would be desirable that the railway should stop on the northern side of the river at the present time, or that it should be carried across at once as part of the present scheme of extension from Kiama to Nowra? Yes; I think it ought to be carried on.
247. You think it would be better? I think it would be better for everybody. It must be borne in mind that it is part of the scheme to extend the line to Jervis Bay, which will have to be undertaken at some time or other.
248. Can you say whether the traffic on the Illawarra line during the past year has increased? It has increased wonderfully.
249. Appreciably? Wonderfully, and it is still increasing.
250. It is just a year since the Report on the proposed line from Kiama to Nowra was presented—do you think the traffic since that Report was presented has been very much greater than the traffic of the previous year? Yes; I can give you one instance. Mr. McLean, the stationmaster at Kiama, told me he took £200 on Christmas Eve for passenger fares from Kiama alone.
251. Can you say whether the traffic between Kiama and Nowra has increased? Yes; it is increasing daily.
252. Has it increased, do you think, in proportion to the traffic between Kiama and Sydney? Yes.
253. *Mr. Cox.*] In the event of differential rates being imposed by the Commissioners between the present proposed terminus and the one on the south side of the river, would not the objects sought to be attained, be defeated by people sending their goods to the present proposed terminus, rather than the one on the south side of the river, in order to obviate the payment of the extra charge it is proposed to make? You mean that if there is a station on the north side of the river, the people will send the whole of their produce there rather than load it at Nowra?
254. And pay the extra charge which the Commissioners propose to impose? That is a question which I could only answer in this way. Say that the charge is 1d. per ton per mile, it will cost them  $4\frac{1}{2}$ d. They could not take it over and bring it back from one side to the other for that amount, so I suppose it would not make much difference.
255. That only means for heavy goods—for coal and so on; but for light traffic it would be perhaps 2s. 3d., 2s. 6d., or 2s. 8d. per ton per mile? I do not know that it would make much difference.

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Hugh McLachlan, Esq., Secretary to the Railway Commissioners, sworn, and examined:—

- H.  
McLachlan,  
Esq.  
19 Feb., 1891.
256. *Mr. Humphery.*] Are you in a position to say whether the traffic between Kiama and Sydney has increased during the last year over the year 1889? I think there has been an increase; but, of course, the results have not been worked out. We do not keep separate sections.
257. Are you not in a position to say whether the returns from Kiama to Sydney have been greater this last than they were in the previous year? Not from memory.
258. Do you include the whole of the suburban traffic in the accounts you keep? We do not work out a section; but I could look the matter up, and see if the passenger and goods traffic from Kiama to Wollongong has increased. That would be a factor to the whole question.
259. In your accounts, do you not divide the traffic (say) from beyond Waterfall and that which occurs between Waterfall and Sydney? We do not keep sectional returns at all now.

260. Would the local stations be able to supply the local traffic? Yes; the actual amount of business done at each station.

261. Are you able to say, without referring to the stationmasters, whether there has been an increase? I could not say from memory, but I could soon ascertain and let you know.

262. Have the Railway Commissioners given any consideration to the proposal to Extend the Railway into the Township of Nowra by the erection of a bridge? Yes, they have.

263. It is proposed to charge for  $4\frac{1}{2}$  miles instead of for  $1\frac{1}{2}$  miles, the actual length of the line? Yes.

264. Has it been customary to make a similar increased charge where the construction of a portion of the line, for the purpose of bringing it into a township, has been more expensive than the cost of the whole of the line? No; it has not been customary in this colony.

265. Has a similar course been pursued in connection with any line now being operated by the Commissioners? Not in this colony.

266. Then this is a new departure? It is. I may say that we have one somewhat similar instance in connection with the tramway to Camden. Mr. Lackey was Minister at the time that line was laid down as a feeding-line. The people expressed themselves as being prepared, if they could only get the line, to pay an increase on the ordinary charge. Practically, they pay about double rates.

267. Do they still pay double rates? They still pay higher than the ordinary rates.

268. What would be the ordinary rate for  $1\frac{1}{2}$  miles between the present terminal point and Nowra? The charge is as 5 is to 2. Of course, the charge varies according to the class of merchandise carried. There are different rates for different descriptions of traffic.

269. How do you regulate;—by a mileage rate? Yes.

270. For passenger and goods? Yes. If you take the goods classification you will see that the mileage varies according to each mile.

271. What is the third-class mileage rate between Kiama and Sydney? It will come to about 7d. a mile for general goods.

272. Then you propose to charge about three times that? We charge for 5 miles as against 2.

273. You charge 1s. 9d. as against 7d. the ordinary rate? It would be about 1s. 9d. additional for general goods.

274. You ask for permission to charge all traffic passing over  $1\frac{1}{2}$  miles from the present terminal point into Nowra as passing over  $4\frac{1}{2}$  miles? I may put it in this way. The half-mile we charge as a full mile. We want to charge 2s. 11d. for the full distance.

275. That is three times the ordinary charge? Nearly.

276. Is it intended to have a railway station on the northern side of the Shoalhaven River? The proposal is to bring it into the town.

277. At the present time? At present the proposal is to have it on the Sydney side of the river.

278. Do you propose to build a railway station? Yes.

279. In the event of the line being extended to Nowra, will it be necessary to build a station there? You will want to have a small local station there.

280. One and a half miles from Nowra? There would be a number of people come in on that side of the river.

281. Do you think that by making the extra charge you will get from the increased traffic a fair return on the cost of the bridge? I do not know if we should get increased traffic, but the existing, at that rate, would help us to get a fair return on the cost of the bridge. Of course, by charging the ordinary mileage rates it would not.

282. Unless the railway were taken to Nowra would you not lose a large amount of traffic, which would go by steamer? I am not sure of that—I do not think so.

283. You think it would make little or no difference to the residents of Nowra if the railway were  $1\frac{1}{2}$  miles from the township? I think we should get the same passenger traffic. For instance, at Kiama, where they have an awkward distance to go, I think we get all the passenger traffic.

284. Is it not extremely inconvenient at Kiama at the present time? That is admitted.

285. Do you think that it is a mistake to terminate the line at the present station? No doubt it would be a greater convenience to have it in the township.

286. Would it not have been better to have taken the railway to Kiama instead of stopping at the present terminal point? It would be a great convenience, but of course that is a matter which is regulated by the Government of the day.

287. Would it not be more convenient for working the railway? It would have been a great convenience in every way, both for the people and for us. It would have paid us better.

288. *Mr. Tonkin.*] Do the Commissioners intend carrying the railway from Nowra to Jervis Bay? They have never reported upon that proposal; it has never been submitted to them.

289. Do you think it would be advisable to construct the line to Nowra as a terminus, at a cost of £75,000, if there was no provision to allow the Commissioners to charge extra for freight carried? The Commissioners think it would not pay without making the extra charge.

290. Then that would be a tax upon some other portion of the country? It would in that sense.

291. Does not all the revenue from the railway go into one sack, so to speak? Yes.

292. And those parts of railways which do not pay have to be paid for by those parts which do pay? Of course, it is borne by the colony as a whole.

293. Knowing that, do you think it would be justifiable for us to recommend the expenditure of £75,000 at a loss to the country of £3,000 a year? I think the Commissioners have said that they would not be prepared to recommend it unless they could get, on account of the increased expenditure, a charge upon 5 miles, so as to help to pay the interest on the cost of the bridge. It has not been usual in this colony to make such a charge, but it is usual at home. We have several instances. For instance, there is a bridge on the North Eastern line, near Newcastle, about half a mile in length, and the Railway Company gets paid six times the amount of the ordinary haulage on account of the increased cost of that bridge. Then there is the Runcorn Bridge, near Liverpool. Traffic across this bridge pays for 7 miles instead of for one. I believe over the Tay Bridge the traffic pays for 10 miles instead of for one.

294. With regard to the construction of a station on the Sydney side of the river, whether the railway went into Nowra or not that station would have to be constructed? I am inclined to think the people would ask for it.

H.  
McLachlan,  
Esq.  
19 Feb., 1891.

- H. McLachlan, Esq.  
19 Feb., 1891.
295. How would you get the river traffic from the droghers, or small boats coming down the river, into your trains if you had not a station on the bank of the river? Unfortunately, I am not well acquainted with the locality, but it seems to me that we should require a small station on the banks of the river.
296. Under any circumstances? It almost seems so.
297. That is whether the line is carried to Nowra, or whether it stops where it was originally intended to stop? Yes.
298. So that that expenditure cannot be taken into consideration as a reduction on the £75,000? Not materially. Of course a smaller station would do, and there would be less working expenditure.
299. Do you think it is likely that any produce coming down the river, if you had not a station on the banks of the river, would be carried  $1\frac{1}{2}$  miles to Nowra, instead of being shipped on the river and sent round by water? I think a station would be demanded on the side of the river, and no doubt it would help us to get the river traffic which we might otherwise lose.
300. Is not there a certain amount of traffic on the northern bank of the river, which could not very well be got across the river to Nowra for shipment? I think it would be much more convenient on the northern side of the river. For instance, it would accommodate the Cambewarra district.
301. If the terminus were to be at Jervis Bay, I take it that it would be hardly fair to ask the people of Nowra to pay this extra charge for carriage? Perhaps that would have a bearing on the matter, but that extension has never been considered.
- 301 $\frac{1}{2}$ . And this Extension is wholly and solely for the benefit of the people of Nowra? Yes.
302. *Dr. Garran.*] How long will it be before the present contract for Nowra is completed? I have not the facts before me—it is carried out under a different Department.
303. You do not know whether the bridge can be opened at the same time as the line? I should hardly think it can. The iron work would have to be imported.
304. And you think that for some time the traffic will have to stop on the north side? Yes.
305. Supposing you carry out the plan for an extra charge, would not there be some risk of an omnibus taking people from Nowra to the Bomaderry side for 3d. or 4d., and so “jockeying” you? Some people might do it, but I think you would find that most people would go from the terminus and pay the extra charge.
306. You do not think you will be cut out by that traffic? Not to any extent. A through carriage would regulate the whole thing.
307. *Mr. O'Sullivan.*] This extra charge will be put on, I suppose, because the people of Nowra are to obtain a special benefit by the crection of this bridge? They are to get this benefit—that the railway will be brought into their town instead of remaining  $1\frac{1}{2}$  miles outside.
308. You are building a tramway from Yass Station to Yass—are you going to impose a special charge upon that? I do not think that point has actually been decided. No doubt we will charge a local rate, which will be higher than the through rate from Yass to Sydney.
309. Is it not a fact that, proportionately speaking, some districts of this country have always been paying for the benefit of other districts? By paying for railways which do not pay their way?
310. Yes? I daresay it could be looked upon in that light.
311. The colony as a whole gets the benefit of railway construction? Yes.
312. Therefore it is no real loss to any particular district? No, the country gets the benefit as a whole.
313. With regard to the suspicion that you may be “jockeyed” out of your freight by unloading taking place at Bomaderry—what will be the freight from Bomaderry into Nowra at the fourfold rate? It will depend upon the class of traffic. Upon maize it would only amount to 3d. or 4d. a ton.
314. Do you know that they would have to pay 2s. 6d. a ton for produce from Nowra to Bomaderry Station by the old bridge? No doubt it would come to 2s.
315. If those are the rates sworn to in this Report, there is not much likelihood of the Department being cheated out of freight by unloading at Bomaderry? I do not think there would be any.

THURSDAY, 5 MARCH, 1891.

Present:—

THE HONORABLE JOHN LACKY (CHAIRMAN).

THE HON. ANDREW GARRAN.

THE HON. FREDERICK THOMAS HUMPHERY.

THE HON. WILLIAM JOSEPH TRICKETT.

THE HON. GEORGE HENRY COX.

JACOB GARRARD, Esq.

HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.

WILLIAM SPRINGTHORPE DOWEL, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

JAMES PATRICK GABVAN, Esq.

The Committee further considered the proposed Extension of the Kiama to Nowra Railway into the Town of Nowra.

David Kirkealdie, Esq., Chief Traffic Manager, Railway Department, sworn, and examined:—

- D. Kirkealdie, Esq.  
5 Mar., 1891.
316. *Mr. Tonkin.*] What position do you hold? I am Chief Traffic Manager.
317. How long have you held that position? About two years.
318. You know the portion of the line which we are investigating? I have never been on the ground, but I know it from statistics and hearsay very well.
319. Can you place any statistics before the Committee as to the probable returns from the proposed Extension? I went into the question about eighteen months ago, and the approximate amount arrived at then was £6,157.
320. You are referring to the annual return? Yes.

321.

321. Do you know the cost of the proposed extension from Kiama to Nowra? I find from the printed papers that the estimate of the Engineer-in-Chief is £538,633. D. Kirkcaldie,  
Esq.  
5 Mar., 1891.
322. I am alluding to the particular portion between the present terminal point and the township of Nowra? I think it was put down roughly at £75,000, including bridges and approaches.
323. Have you seen the estimate of coaching traffic which has been placed before the Committee by the Secretary for Railways? I have not.
324. Have you any idea of the passenger traffic? Not the slightest.
325. Does this sum of £6,157 include the goods as well as the passenger traffic? Yes; it is made up in this way: About £2,891 is put down for coaching traffic, passenger traffic, parcels traffic, and mails, and the balance of £3,266 is put down for goods and live stock traffic.
326. When was that estimate made? About eighteen months ago, I think.
327. Is the traffic increasing or decreasing? It is increasing.
328. Is there any perceptible increase; is there anything to warrant an alteration in these figures? Yes; there is a very large increase which I shall be able to show presently, when I get the statistics which I have sent for.
329. Looking at these returns which have been placed before the Committee, you will see that the Extension is expected to yield three times your estimate;—can you say if it will come to anything like that amount? No; it will not amount to anything like that.
330. Your estimate refers to that part of the line between Kiama and Nowra? To the north side of the Shoalhaven River.
331. In framing that estimate did you allow for the increased traffic likely to accrue from the construction of the railway beyond Nowra to Jervis Bay? We allowed a little, but not much.
332. Do you not anticipate a very large increase of traffic from such extension? There will naturally be a large increase. The total earnings at Kiama and Mount Kembla Stations for 1889 were £4,688 19s., while for 1890 they amounted to £7,283 2s. 2d.
333. Is not that a marvellous increase in twelve months? Yes. Pretty well all the stations down there, I may mention, are showing a very large increase.
334. In your estimate of £6,157 have you allowed for any increase of that sort? Not for any prospective increase. We simply took the traffic which we might reasonably expect to get at the time of the opening of the railway. I may mention also that at Wollongong, where we are also in competition with sea carriage, the revenue was £6,330 17s. 1d. in 1889, and £7,797 15s. 4d. in 1890.
335. If the railway is taken across the Shoalhaven River into the township of Nowra, is it your intention to carry at the same rates right throughout? There has been a proposition to charge an increased rate over the bridge.
336. Is it the intention of the Department to make that charge? It has been talked of, but I do not know if it will be carried out.
337. What is it likely to be? Well, a charge, probably, of twice or thrice the ordinary mileage rate might be made.
338. Do you know whether the inhabitants of Nowra have agreed to that proposition, or whether they know anything about it? I do not think the matter has ever been mentioned outside the Department.
339. Where did it emanate from? From the practice adopted elsewhere.
340. Why is it suggested in the case of this line? To cover the increased cost of the bridge—£75,000 for a half-mile bridge. It may not be done, it has simply been mentioned. On the high-level bridge at Newcastle-on-Tyne the circumstances are somewhat the same as they are at Shoalhaven; the bridge there is half-a-mile in length, and they charge for 3 miles. Again, in New Zealand, on the line from Wellington to Masterton, a charge of about 3 miles is made for every mile over those very steep gradients.
341. Was it not principally on account of that suggestion that this proposition was put before Parliament? I think it is very probable.
342. Have you any idea of the class of country beyond Nowra? No; except from hearsay.
343. Have you heard that it is likely to carry a large population? I am told that it is magnificent country.
344. You know from experience, I suppose, that wherever a line has been constructed into good country the traffic has increased wonderfully? Always.
345. The mere construction of the line would increase the traffic? Yes.
346. And also the population? In a good agricultural country it always follows that, with the construction of a railway, the traffic develops largely.
347. Have you any doubt in your own mind about this Extension paying if it is carried out? It may not pay for a year or two, but I have no doubt that it will pay eventually; in a couple of years it will pay very well.
348. Do you know what the principal traffic will consist of? Farming and dairy produce, stock, and general goods.
349. Is any mining carried on there—is there any likelihood of getting an increased traffic from mining? I am not aware of anything of that kind.
350. Do you know if this Extension has been carried out with a view to making a further extension to Huskisson, as is suggested on that map? I have no knowledge, but I believe it has been mentioned.
351. You cannot say that it is absolutely the intention of the Commissioners to charge this extra rate over the river? I cannot.
352. It will probably be governed by the returns of the Extension? Very likely.
353. *Mr. O'Sullivan.*] If this bridge is not constructed the line will remain on the north side of the Shoalhaven River? Yes.
354. The town of Nowra—the centre of trade in the district—is situated on the south bank of that river? Yes.
355. Is it not probable, unless this bridge be constructed, that the large amount of trade which ought to go by railway will go by steamer from Nowra? I think it is probable. The wharf, as I understand, is on the south side of the river; if the railway is not carried across the river the station will be on the north side, and everything will have to cross the river; and, to that extent, we shall be handicapped.
356. Is it not a fact that at the present time the rates charged by steamer are lower than the rates that will be charged by railway? Yes.

- D. Kirkcaldie, Esq.  
5 Mar., 1891.
357. Therefore it is extremely probable that unless you construct a bridge across the river much of the trade now going to the town of Nowra will still go by steamer? Yes.
358. Therefore, the bridge is absolutely necessary to make the Kiama to Nowra line profitable? I cannot say that, but it will be an increased facility to the Nowra people.
359. *Mr. Garvan.*] If the bridge is not constructed do you think you will lose any passenger traffic that otherwise would come to the line? I do not think so.
360. Consequently, the construction of the bridge will not bring any additional passenger traffic? No.
361. Will it bring additional goods traffic? I think so; it must to some extent.
362. To the extent of paying interest on the cost of the construction of the bridge? I do not say it will for a time. It is just a matter of time when the bridge must be constructed, whether it is now or some years hence.
363. In expressing the opinion that in time the bridge must be constructed, have you in view only the local requirements of the place, or the extension of the railway beyond that place? The extension of the railway beyond.
364. Will it not then be time enough to deal with the bridge when it is proposed to extend the railway beyond? Yes; but for the sake of the interest on £75,000 I think it is always best to give the greatest amount of facilities we possibly can.
365. If all the steam passenger traffic will come by the railway with the terminus where it is now that will come if you construct the bridge, does it not seem a waste of expenditure to build a bridge at a cost of £75,000? I would not say that entirely. I think you will get a certain amount of traffic from away up north.
366. But a mile will not make any difference as far as the passenger traffic is concerned? No.
367. Does not the passenger traffic constitute much the larger source of revenue? No; it is rather less than the goods and live stock traffic.
368. A return placed before the Committee by the Secretary for Railways, shows that the outward coach and goods traffic at Kiama for the twelve months ending December, 1889, amounted to £847 5s., but that the passenger traffic yielded a revenue of £2,631? Yes, but since then I should think that things have been pretty well reversed, as we have given them facilities which did not exist before for the conveyance of goods traffic.
369. For 1890—I am speaking now of inward traffic—the revenue from goods amounts to £2,177, and the revenue from coaching traffic amounts to £6,915. If the coaching traffic constitutes so large a proportion of your revenue, and you will not increase the coaching traffic at all by the construction of this bridge, do you think still that it will be desirable to go to the expense of constructing the bridge? Yes, I think it will. It is the goods traffic that we must take there. It is not the passenger traffic that we shall get.
370. Can you form any estimate of how much more goods traffic you are likely to get by the railway if you construct this bridge? I could not; I do not for a moment say that the bridge is indispensable. What I say is, that for the sake of the interest on the £75,000, particularly as it is only a question of time when the bridge must be built, and additional facilities given to the inhabitants of Nowra, the expense might almost as well be incurred now as in two or three years time, when, in my opinion, the bridge will have to be constructed as the railway is carried further on.
371. But your supposition is that the bridge must be constructed in view of the extension of the railway beyond? Quite so.
372. But there is no proposal at the present time to extend it? No.
373. Would it not be fitting to wait until it is proposed to extend the railway beyond? Perhaps it might.
374. As far as I can form an opinion from inquiries, there will be no increase in the passenger traffic, and very little increase, if any, in the goods traffic from the construction of the bridge? Not very much.
375. From a business point of view, what argument weighed with you in advising the construction of the bridge? Simply the facilities that will be given. It is not a question of money with me. I should simply say, in view of the facilities that will be afforded to the people of Nowra, that it would be better perhaps to construct the bridge now than in two or three years' time.
376. But supposing it were decided not to extend the railway beyond Nowra, would you advise the construction of the bridge? Yes; it is a good public work. I think it is a pity to stop a railway about 1½ miles from the town.
377. How do you estimate the goodness of a public work—is it not by the facilities which it will give to trade? Yes.
378. But from your evidence I gather that it will give no additional facilities to bring passenger traffic, and very little for goods traffic? Not to the Railway Department; it will give great facilities to the people of Nowra.
379. But not in proportion to the expenditure? The expenditure will only be the interest on £75,000—that is, £3,000 a year.
380. Would it be a fair question to ask you whether you think the railway will be extended beyond Nowra in any short space of time? That question I could not answer; but I should think it will.
381. I would not suggest the question only that the nature of the answers have been to justify the construction of the bridge in view of the possible extension of the railway beyond Nowra? I should think it will be extended. As far as my information goes, the country is of such a character that it will well warrant the extension of the railway beyond Nowra.
382. Beyond Nowra, in what direction—do you mean on to Jervis Bay? On to Jervis Bay.
383. Have you ever been over the country between Nowra and Jervis Bay? No.
384. Are you under the impression that it is very rich land? I do not know anything about the country immediately around Jervis Bay, but I believe there is very good country between the two points.
385. If you were to learn that the country between Jervis Bay and Nowra is only very moderate land—rather indifferent land—would it in any way influence you with reference to the construction of a bridge? I do not think so.
386. If the character of the land was so poor that you would not think it would pay to extend the railway on to Jervis Bay, would that alter your opinion as to the advisability of constructing this bridge? I do not think so. I am not saying that the bridge should be constructed in view of the extension of the railway to Jervis Bay alone. I think the facilities which it will give will be very large by-and-bye.

387. It will be giving facilities to do a business which, I understand, will not come to the railway? Not to the Railway Department. It will simply give facilities to the people of Nowra, and, of course, as regards the country around, there will be a mile and a half less distance for the people to go. D. Kirkcaldie,  
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388. *Mr. Humphery.*] Has not the extension of the railway to Kiama had the effect of creating traffic? Yes, largely.
389. When was that line opened? On the 9th November, 1887.
390. It has, therefore, been open the whole of 1888, 1889, and 1890? Yes.
391. Will you say what the traffic was during 1887? That information I have not with me at present.
392. It was considerably less than it was in 1888? Very much less.
393. In your opinion, has the opening of the railway to Kiama had the effect of increasing traffic—that is to say, in the year 1890 over the year 1889? Yes, undoubtedly.
394. Has that increase of traffic been in consequence of the opening of the railway and the facilities afforded for transit? Well, a good deal of the traffic has been taken from the steamers by the more speedy transit afforded by the line.
395. Was not that transit given during 1889? Yes.
396. Yet there is an increase of nearly 70 per cent.? From £4,689 to £7,283.
397. How do you explain that increase? Simply by reason of the greater facilities and the greater production down there.
398. The growth of the traffic was through the facilities afforded by the railway? Yes.
399. Is it likely that you will secure the maximum traffic in the Shoalhaven district unless the bridge is constructed over the river? Well, I think we would, to a large extent. I would not like to go so far as to say that we will not get traffic if the bridge is not built, but I think we shall certainly get more if it is.
400. Do you think the Extension of the line to Nowra will cause an increase of traffic proportionate to the increase of traffic which has taken place at Kiama during 1889 and 1890? I would not like to say as much as that, but there is no doubt that it will lead to the development of the district, and probably increase the traffic a little.
401. Therefore, although it may not return the interest on the cost of construction immediately, you think it will in the course of a few years? I do.
402. In order to cover the interest on the cost of construction, there is a proposal to charge a mile and a half from the present terminal point to the town of Nowra as  $4\frac{1}{2}$  miles? Yes.
403. That would be inappreciable on the total distance of 95 miles? Yes.
404. Therefore, the inhabitants of Nowra could well afford to pay that increased haulage charge? Very well.
405. And have no reason to feel dissatisfied at being placed on a slightly different footing through other people using lines which have been less costly? Oh, no. I am quite sure that they would rather pay the increased rate, and have their goods taken into the town of Nowra, than have them left on the northern side of the river.
406. Of course, they would have to pay cartage if the line were not taken across the river? Yes; they would have to pay for cartage.
407. Would you recommend the construction of the bridge? I would.
408. Will it be better for the Department, in working the railway, to have the terminus in the town of Nowra instead of on the northern bank of the river, one mile and a half from the township? It does not matter to the Department as far as expenditure is concerned. It will cost a little more for expenditure.
409. Will it cost more to work the line at Nowra than on the northern side of the river? Yes; because I think we shall have to keep a staff on the northern side of the river, too, in order to catch a certain amount of traffic.
410. Must you not have a station there to catch the Cambewarra traffic? Yes.
411. That would be necessary in any case? Yes.
412. In answer to Mr. Tonkin you gave some figures for the years 1889 and 1890, as showing the traffic at Kiama during those years;—will you look at the return furnished by the Secretary for Railways, and also his letter, and tell me if you have not made a mistake in these figures? I gave you the earnings at Kiama for the year ending June, 1890. I gave you the figures for the railway year.
413. Taking the year 1889, what was the inward coaching traffic? That I cannot tell you from this return. The number of tickets issued at Kiama was 10,820, and the revenue derived at Kiama from the coaching traffic was £3,929 5s. 2d.
414. The Secretary's return shows the coaching traffic for 1889 to be £5,500 inwards and £4,346 outwards, so that, according to that return, the coaching traffic for the year was nearly £10,000? Yes; I was giving you the figures for the outward traffic alone—for the coaching traffic.
415. Do you think Mr. McLachlan's return, showing the coaching traffic to be nearly £10,000 for 1889 and £11,740 for 1890, while the goods traffic was £4,070 for 1889 and £6,895 for 1890, correct? Yes, certainly.
416. You observe there is a very appreciable difference between these figures and the figures which you gave? Yes; I was giving you the figures from the Commissioners' Report.
417. *Dr. Garran.*] Supposing it were absolutely certain that the line was not to be extended beyond Nowra for ten years to come, would you still recommend the construction of a bridge on its own merits? No, I would not.
418. Not even if you could get the extra charge for coaching? Yes; then I would say that the bridge ought to be constructed, because the loss would be very small.
419. Do you think that if the bridge were made, and that charge were levied, the people could not "jockey" you by taking the omnibus from the town to the north side of the river, and get in there? But experience tells us they would not do it.
420. Do not people expect to be carried by railway a great deal more cheaply than by coach? Yes.
421. The Sectional Committee brought up evidence to the effect that people are travelling now very largely from Shoalhaven to Kiama at a coaching charge of 6d. a mile;—what were you charging by railway? About 2d. a mile.
422. They will go three times as cheap? Yes.
423. If you tried to charge them 4d., would they pay it willingly? Yes; they would have increased facilities.

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424. They would pay it rather than not have the railway? Rather than travel by coach.
425. You think you could levy, if the line were not paying, a coach levy of 4d., and get paid? I think so.
426. You think that people will not go out of their way to pay for a short distance like that? I do not think so.
427. Looking at that district as a traffic manager, does it strike you that an extension of the line to Jervis Bay, looking at the harbour there, is likely to be a profitable one? I have never been in the district, but I understand that the country round about Jervis Bay itself is not good.
428. Looking at the possibility of Jervis Bay being a shipping port, with coal and other products going down to Melbourne, do you think there is likely to be a coal traffic on that line? I do not think so. I do not think there will ever be very much coal shipped there for Melbourne.
429. Would any of the coal mines be nearer to Jervis Bay than to Sydney? No.
430. Would it pay them better to come to Sydney? Yes.
431. Would not all the produce from that district going to Melbourne or Adelaide prefer to go from Jervis Bay rather than from Sydney? Unfortunately there is none going—it all comes to Sydney.
432. Sydney is the best market? It is the only market.
433. Suppose the people oversupplied the market and had to ship, would Jervis Bay be the nearer port for them? I do not think so. I think Wollongong would, if they make the improvements there which are contemplated.
434. At present larger vessels can get into Jervis Bay than can get into Wollongong in all weathers? Yes.
435. The large coasting steamers running down to Melbourne would not call at present at Wollongong? Not at the present time. They will by-and-bye.
436. If there were any export from that district would Jervis Bay make a port of shipment for the district? That depends entirely on the sort of accommodation which is provided at Wollongong.
437. Supposing Wollongong remains as it is? Then I should say Jervis Bay is the proper place, or perhaps Lake Illawarra.
438. Supposing that the district between Nowra and Jervis Bay is only second class country, and is therefore not very productive, is there likely to be any considerable shipment at Jervis Bay if that extension is made? I do not think so.
439. You are not prepared to say that it is likely to be a very profitable line? No.
440. The extension would have to depend on other circumstances—either naval reasons or the expediency of getting to Jervis Bay? Quite so.
441. The making of the bridge depends very largely on the probability of the extension to Jervis Bay? I would not say that. I should say that if the Railway Commissioners can get 4½ miles' freight for 1½ miles' journey, by all means make the bridge.
442. You say erect the bridge on its own merits, irrespective of any possible extension? Irrespective of any possible extension in that case.
443. *Mr. Cox.*] You are aware that there was a very large traffic from Kiama before the railway was extended to that place? Yes.
444. How was that conveyed? By sea principally.
445. Is there a considerable amount of traffic conveyed now by steamer? I believe there is a fairly considerable amount, but nothing like what there used to be.
446. With regard to the questions put to you by Mr. Humphery, the large increase in the traffic from Kiama to Sydney is due in fact to the steamers being shunted? Not shunted altogether. There is a good deal of traffic there now. It is partly due to the development of the district, and partly to the removal of traffic from the steamers to the railway.
447. The railway gets the traffic which the steamers previously had? A pretty large portion of it. Still, we carry a great deal more milk from the district than was ever carried before.
448. But in quoting these figures, it is unfair to say that all this traffic has been developed by the railway? It has not been developed by the railway altogether.
449. It has been partly taken by the railway to the detriment of the steamships, I suppose? It is partly due to the development of the district, and partly to the removal of traffic from steamers to the railway.
450. *Mr. O'Sullivan.*] Dr. Garran asked you a question just now as to the likelihood of this railway developing passenger traffic beyond Nowra, is it not a fact that many passengers in going to Great Britain land from the steamers at Plymouth, and take the railway to London in order to avoid a trip through the Channel? Yes.
451. Is it not likely that if a little town is established at Jervis Bay, passengers by steamers will land there, and take the railway to Sydney? I do not think so.
452. If they do it at home why should they not do it here? They do it at Melbourne.
453. We are talking about the future;—we know that Jervis Bay is not Plymouth just now; but there may be a thriving little city there yet, and, if that should be the case, is it not likely that passengers will land there in a good harbour, and possibly the mails will be landed there too, and brought up to Sydney by the railway? I do not think so. I think passengers who want to avoid the sea will land at either Adelaide or Melbourne.
454. Do you not think they would save a day's trip by water if they could? They can save more by landing at Melbourne; I do not think they will land at Jervis Bay.
455. *Mr. Garvan.*] What will be the increased revenue from the extra charge over the bridge, supposing it is levied at the rate of 4½ miles for 1? I have not made that calculation at all.
456. Could you not give me a rough estimate of what it is likely to be? I should say it would be from £1,500 to £2,000 a year.
457. From all sources—goods and passengers? Yes.
458. That would be the total income? The total increase.
459. In order to get that total increase, what would it cost for wages and wear and tear? Nothing like that.
460. More than a third, I suppose? Not more than a third at the outside.
461. That would give you, roughly speaking, £1,000 a year net? Yes.
462. That £1,000 would not nearly pay the interest of the cost of construction, would it? No. I am taking that increase on whatever we would get from going into Kiama. I should put down the interest at £3,000 a year.
- 463.

463. The not increase on the revenue you would get would be the difference between £1,500 or £2,000, and the cost of getting that revenue? Yes. I should estimate the total amount derived from the north side to the south side, supposing  $4\frac{1}{2}$  miles are charged, at about £2,000.
464. That is the increase on your revenue? Yes.
465. What do you put down as the total goods and passenger traffic for the whole of the line from Kiama to Nowra? £6,157; that is nearly all the Nowra traffic.
466. How many miles of line is that? 22 miles, I think.
467. The total estimated revenue is about £6,000 for 22 miles of railway, and you think you would get £2,000 extra by extending the line over the river? Perhaps £2,000 is rather a high estimate in that case; but in the course of a very short time we should get it.
468. You look at £2,000, then, as a good maximum amount to obtain in two or three years? Yes.
469. And a third of that sum would go for expenses, leaving you about £1,300 to pay the interest on the cost of construction? Yes.
470. Then it would be a largely losing investment, would it not? For a time it would. I have no doubt that in the course of two, three, or four years it would pay the interest on the cost of the bridge very well, if the district is what I have heard it is.
471. You have not shown us any figures or estimates that would justify that conclusion? I can only suggest the conclusion from the immense increase we have had from other stations similarly situated. It is impossible to give any figures which would justify an assertion of that kind except by drawing a comparison with other stations.
472. If it is decided to construct this bridge, do you think it will make a further extension of the railway more likely than if we decline to take that course? I think it is highly probable.
473. It would be more likely to secure the additional extension? Oh yes; it will be a large expenditure.
474. *Mr. Trickett.*] You propose to impose differential rates at the end of the line? Yes. It has been mentioned.
475. Is there any place in the colony where that policy is adopted? Not in Australia, but there is in New Zealand.
476. Is it a similar case in New Zealand? In New Zealand the charge is three times the actual distance, over the steepest part of what is known as the Rimutaka Range, from Wellington to Masterton.
477. How long is the line over the ranges? About 5 miles of 1 in 17.
478. Is that found to answer the public convenience? Oh, yes.
479. For that 5 miles they charge 15 for all passengers and goods? Yes.
480. From your experience in New South Wales, do you not think an agitation would be started immediately to get these differential rates altered? I have no doubt whatever that it would. I daresay that in time there would be no hesitation in withdrawing the differential rates; but for a time, in order to give better facilities, I think the Commissioners will be perfectly justified in calling upon the people to pay the additional rate if the bridge is constructed.
481. If the railway goes across the river it will not go right into the town—it cannot go into the centre of the town? No, not into the centre.
482. The terminus would be about a quarter of a mile from the centre? Yes.
483. How far is the present terminus from the centre of the town? About a mile and a half.
484. So that the people will gain a mile and a quarter by the proposed Extension? Yes.
485. Do they not take all their produce now to the steamers? Yes.
486. How far is the wharf from the centre of the town? About a mile.
487. Does not a great deal of this produce come from a very long distance round Nowra? Yes.
488. Of what area of country can Nowra be said to be the centre? I could not say.
489. Twenty miles, do you think? I should think about 20 miles.
490. Does it make much difference to the traders, when they have travelled 20 miles, whether they take their produce a mile further? No; I do not say it does; but there is a certain class of produce which will never come by steamer—for instance, the milk traffic. In fact, the whole dairy produce traffic has grown enormously since the railway was constructed to Nowra.
491. They now have to take their produce to the steamer; does it matter much to them whether they take it a mile further to the railway? Not for the present description of traffic.
492. Then this proposed expensive bridge and railway are to meet future requirements? To a large extent, for the future.
493. *Mr. Tonkin.*] I think you misunderstood me a little in regard to the figures; the figures, as furnished by the Secretary for Railways, state that in 1889 the coaching traffic at Kiama amounted in round numbers to £13,850, and the goods traffic for the same period amounted to about £4,000? Yes, those are the earnings of all traffic booked to and from Kiama.
494. And in the following year, 1890, according to these figures, the coaching traffic amounted to £11,700, and the goods traffic to £8,000, showing an increase in one year of about £7,000? Yes.
495. These figures, you say, are correct? Yes.
496. That increase could not be caused by the extra traffic which you took from the steamers? Not all; there is the development to be counted.
497. Nearly the whole of the increase must be due to development? A great deal of it is. Of course, the traffic has been pretty largely increased by the opening of the Bombo quarries. There is a large body of men working there.
498. That is no new development, because it was carried by the water before? It was, to a small extent.
499. Do you think much of this increase is due to taking traffic away from the steamers? There is a certain amount.
500. And the steamers are still losing ground? I think so.
501. Nevertheless, there must have been a large percentage of the increase due to development? Yes.

William Lovegrove, Esq., Agent and Financier, sworn, and examined:—

502. *Chairman.*] Are you a resident of Sydney or Nowra? I am a resident of Sydney at present, but I have property in Shoalhaven.
503. Are you engaged in business in Sydney? I am an agent and a financier.
504. *Dr. Garran.*] Do you know the nature of the proposition before this Committee? Very well.

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505. You know the locality very well? Every inch of it.

506. Do you think, in the interests of the district, it will be better to stop on the north side of the river than cross to the south? If you stop on the north side you will interfere considerably with vested interests on the south side of the river, and besides that you will lose a great deal of traffic.

507. How? On the south side of the river there are three municipalities, each containing a large population. If there is a station on the south side they will come up, as they have been accustomed to come, to Nowra, where every facility in the way of shops and that sort of thing has been provided for their benefit, and in addition to that they will have the railway; but, on the other hand, if they have to go over to Bomaderry, they will go over to a place which is still bush, and they will feel that the vested interests which may arise will be liable to be rudely shaken when the railway is carried on further, in the same way as North Kiama at the present moment does not attract any population, because it has been felt all along that the railway would have to be taken to Kiama itself.

508. Still, the station at North Kiama accommodates the traffic of Kiama? Not very well.

509. We are told that very few passengers now take the steamer from Kiama to Sydney? Yes.

510. I suppose everyone who takes the railway would be going northward? Yes.

511. He would not refuse to take the railway because he had to go a mile and a half in an omnibus? I have been used to seeing traffic on the railways at home as well as out here, and I know that the traffic very largely increases from the presence of the railway, that if a railway is not there a traffic never begins to be made, and the traffic alters in its quality and quantity because of the facilities given.

512. Is not the facility which the railway gives, even if the station is on the north side of the river, so great as to cut out all competition? No, I think not; nor is it so great as to encourage travelling from certain parts of the district.

513. Do you think that if the railway stops on the north side of the river the people will send their produce by steamer to Sydney? I do not think of Sydney only in the matter. There will be a great suburban traffic, as it were, from one end of the district to the other.

514. The suburban traffic could only be from the town of Nowra to the north side of the river? There is the town of Nowra, the village of Terrara, Numba, and Greenwell Point.

515. The railway does not go through them all? No, it will serve them all.

516. There will not be any suburban traffic between these points on the railway? I think so. At the present time a great many persons living on the south side ride 15 or 20 miles to Broughton Creek—that is to Berry—to attend cattle sales and things of that sort. Well, these people will go by rail if the line is extended. And people from Berry, wanting maize, will very likely go to the south of the district if they think they can get it a few pence cheaper, and the traffic in the district will be larger.

517. You are of opinion that the passenger traffic will considerably increase if the bridge is made? I have no doubt of it.

518. And, looking at the extra cost of  $1\frac{1}{2}$  miles, do you think the people will be willing to pay the extra fare? I have no doubt about it.

519. Or would they take an omnibus across the river? No, they would not think of it.

520. They would rather pay three times the ordinary rate for that mile than avoid the extra charge? They would not have an extra charge, because the omnibus would charge them that at least.

521. How much would the omnibus charge? I suppose an omnibus would not take a man from Nowra to the proposed terminus on the north side under 6d.

522. You think the people will prefer to be carried in the railway itself for the last mile and a half, and put down in the township? Just so.

523. You think that the Department is pretty sure to get the extra fare? I have no doubt of it.

524. And that the people will be willing to pay it? Yes.

525. Do you know anything of the country between Nowra and Jervis Bay? Yes.

526. Is it first, second, or third class country? I should say it is second class country.

527. If the railway ran through that country would it be capable of carrying a population? I have no doubt that if the railway ran to Jervis Bay, the whole of the Government reserves there would be taken up. If the Government chose to sell the reserves at free selection prices, of course they could be content with £1 an acre, but if they chose to keep it until they could sell it by auction to the highest bidder, it would fetch £10 per acre on an average.

528. Do you think the reserves are large enough, if sold by auction at their railway value, to pay half the cost of continuing the line? I should say they would pay the whole of the cost easily.

529. The Government have reserved land there which, if alienated at its improved value, would really pay for the construction of that line? Just so. I have no doubt that the Government would be fully recouped the cost of the line.

530. How much a mile do you estimate the line will cost? From Nowra to Jervis Bay it ought to be constructed for £5,000 a mile.

531. That is a very much lower estimate than the estimate put before the Committee? Well, the line could be made almost absolutely flat if you chose.

532. We are told that the country is rather undulating, and that there must be a good many small cuttings made? I may mention that when the surveyor came down to the district to make the trial survey, he came to me and I drove him over the first 5 miles of that line, and showed him four tidal points. The place was an absolute flat, and we did not rise or fall 10 feet anywhere.

533. Do you know the route in which the railway has been made out? Yes.

534. Do you think it could be improved? Well, it may be that the cutting which they make in one place is necessary in order to fill up hollows. But there should be no cuttings there except for the purpose of filling up hollows somewhere else.

535. Do you think that if the railway were extended, there should be any considerable shipping business done at Jervis Bay? I have no doubt about it.

536. What sort would it be? I think that all the coal from Kiama south will go to Jervis Bay.

537. Is the Kiama coal mining district nearer to Jervis Bay than to Sydney? A great deal.

538. How much? It is as twenty miles is to 70 miles.

539. Where would be the midway point between the two places? As nearly as possible it is Wollongong.

540. Wollongong coal would go equally to one port or the other? They mostly have their own ports. The construction of the railway was delayed so long that they made their own jetties.

541. But, in the case of new mines which have no jetties, it would be as easy for them to send their coal

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coal to one port as the other? Just so; but the mines which are about to be opened south of Wollongong are endeavouring to convert the Illawarra Lake into a port of shipment.

542. But, supposing that neither Wollongong nor Lake Illawarra is made a good harbour, anything south of Wollongong would be nearer to Jervis Bay than to Sydney? Just so.

543. And if shipping facilities are given at Jervis Bay, you can put coal on board there more cheaply than at Sydney? From Kiama.

544. How many miles is it from Nowra to Jervis Bay? Ten miles as the crow flies. I think it is nearly 12 miles by the line.

545. You see by the map that the line is carried beyond the township of Huskisson. Is the point to which it is carried a good shipping place? About that matter the late Mr. Sutherland made the remark, "After all those old fellows knew as much about it as anybody, Mr. Thompson chose the best place."

546. It is a good place for shipping? Oh yes.

547. What sort of produce would be grown between Nowra and Jervis Bay? Well, at 5 miles from Nowra you would still be close to the maize growing part of the Shoalhaven district. The maize ground also grows potatoes. Wheat growing was given up there because of the rust. But I have no doubt that a great portion of that land when it once had a market would be turned into market gardens.

548. For the supply of the metropolis? Being the richest land in the colony, first of all to supply the metropolis, afterwards to supply Jervis Bay, and also local wants.

549. Do you think it will pay to send garden produce to Sydney? The middleman gets a great deal out of the produce, but I think he would leave a little.

550. You think it would pay? Yes. I have sent up cabbages from there to Sydney, and they gave me 3s. a dozen for them, and it paid me.

551. Do you think the local produce would be a fair remunerative business for the line? It would increase immensely.

552. Would that extension draw traffic from the back country at all? Yes.

553. Is there any land occupied to the west of it from which it would draw traffic? Yes. One coal seam has been found, which, with coal and shale, is 32 feet from top to bottom.

554. Is it marketable coal? There is 8 feet of marketable coal, and 3 feet of bituminous shale.

555. How far is it from the proposed Extension? About 16 miles from Jervis Bay as the crow flies.

556. Not on the railway? No, to the west.

557. Would it come into that railway by a branch line? I think it would go to the port.

558. The railway would not get any of that traffic? No. It runs at the foot of the mountains containing the coal.

559. Does it skirt the foot of all the ranges? Yes.

560. Would it be possible to go beyond Jervis Bay further south? Yes. The line would be almost an absolute flat. It would go west for the first 6 miles to the head of George's Basin; it would then reach Ulladulla-road, and pick up the Ulladulla traffic.

561. Could you get to Ulladulla with an easy line? I would rather let an engineer answer the question, but I think so. I do not think there would be a tunnel on the whole line.

562. Your opinion is that that extension would pay if the reserved land were put to the capital account of the line? I have no doubt of it.

563. Would it pay in the absence of that? I think so.

564. Looking at that, you think the bridge ought to be made at once to prepare for that extension? I think so. I was always of opinion that the other bridge was to carry the railway; but I believe Mr. Whitton condemned it.

565. *Mr. Copeland.*] You stated just now that some of the richest land in the country lies between Nowra and Jervis Bay—where is it situated? The line, as laid down, goes within a couple of miles of Mr. Berry's dairy, of Jindiandie.

566. But, getting away from the Shoalhaven district, on the line between Nowra and Jervis Bay, where is it? That is 5 miles from Nowra, nearly half way to Jervis Bay.

567. How far away from the line is this land situated? About 2 miles.

568. Going south from that point, do you know of any good land? Not for corn. There is very good land for fruit, and also good land for wheat.

569. Is there any wheat grown there? There is no wheat grown now.

570. How long has that land been in its present condition? It is very nearly all in bush, except the old grant of Comberton Grange, and is reserved land.

571. Is there any traffic from Jervis Bay at all? It is more in the nature of a picnic traffic—you go down picnicing to Jervis Bay.

572. I suppose there is not a very large fleet of vessels sailing from the Bay? No; but at the Bay they build vessels.

573. Is there a ketch doing the traffic between Jervis Bay and some of the coast towns? At times there has been a steamer, and at times there have been two or three ketches running there.

574. Is there any vessel running regularly to Jervis Bay? I cannot tell you that; but I fancy two vessels are running up regularly with timber—Mr. George Dent and Mr. John Parnell both ship logs there. I think one party consigns to Mr. George Hill, of Sydney.

575. As a matter of fact, is not all of the land around Jervis Bay of the poorest description; is it not all sand-hills and carboniferous sandstone country? Yes.

576. Is there any land within 5, 6, or 7 miles of Jervis Bay that is fit to plough? Yes.

577. Where is it? On the north side of Currambene Creek, and from there up to Gerald's Yard.

578. You mean in the flat? I mean in the reserve, No. 33.

579. There is no wheat grown there at present? No.

580. Is any other farm produce grown there within 5 or 6 miles? It is nearly all reserve there, with the exception of the two or three estates I mentioned.

581. I suppose you do not know the area of these reserves? No; there must be something like 400 square miles at the back of Jervis Bay which has not been alienated yet, and which consists of sandstone ridges, breaking down into steep and precipitous creeks. These creeks are all gold-bearing.

582. You stated a little while ago that a coal seam some 16 feet thick had been discovered at Jervis Bay? Yes, close to the head waters of the Clyde.

583. Are you not aware that the coal-seam has been abandoned; that just recently they put a bore down

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to something like a depth of 1,100 feet? No; that is not the place at all—no bore was necessary, as the seam was exposed on the side of the rock.

584. There is coal cropping out on the surface at the head of the Clyde;—are you not aware that a syndicate of Nowra men have put down a bore there to a depth of 1,100 feet? That is likely.

585. And that they have abandoned it? That is also likely.

586. Through not having discovered payable coal? Because they are below the coal to begin with. It is above them, in the mountains.

587. Have you any practical knowledge of the coal deposits? Yes.

588. You have seen them yourself? Yes.

589. Can you say which way the coal seams are dipping? Well, the coal seam runs from Wollongong along the foot of the cliffs, right down to Broughton Creek: at that point it turns off inland, and then it is covered. It comes out again on the face of the cliff at the head waters of the Clyde. I have heard of it from two places in the Budawang Ranges south of that, and it has been found at the back of Ulladulla, but always in the high lands.

590. Do you mean to imply that coal does not extend from there towards Jervis Bay? No. The moment you get to the face of the cliffs there appears to have been a depression of a couple of thousand feet. The late Rev. W. B. Clark said that no coal would be found in that country. I look upon all these bores as being put down in defiance of his instructions.

591. I suppose you are not aware that the present Government Geologist asserts that coal is dipping north-east, and that coal will be discovered at a depth of 2,300 feet at Jervis Bay? If that is the case they have only to go 500 feet more, as they have put a bore down to a depth of 1,800 feet.

592. And did not discover anything? Not so far as I know.

593. Your impression is that there is no coal at Jervis Bay? I think not at Jervis Bay.

594. And that it is not likely to develop any traffic? I think that these coal seams from Kiama south would go to Jervis Bay. I do not see where else they could go.

595. When you say you think the coal seams would go to Jervis Bay; do you mean to say that the coal seams will continue to Jervis Bay? No; the coal seams run inland from the proposed line. At Broughton Creek they are within 4 miles of the line.

596. You do not think there will be any coal traffic from Jervis Bay? I think I have said to the contrary.

597. Do you expect any coal traffic at Jervis Bay? Yes.

598. Where is the coal to be obtained? In the mountains from Kiama to Bomaderry.

599. Do you expect any coal to be found within 5, 6 or 7 miles of Jervis Bay? No.

600. Where do you expect the coal to be brought from to Jervis Bay? From the mountains south of Kiama.

601. From Jamberoo? Yes the Jamberoo seam would go there.

602. You think they will bring the coal to Jervis Bay in preference to sending it north? I think so.

603. Do you think the traffic will gravitate from Nowra to Jervis Bay, instead of going from Nowra to Sydney? Well I do not think that altogether, but I think that by degrees the traffic will establish itself at Jervis Bay, and it may prove of a very strong character. But I do not say that it will interfere with our considering Sydney as our head city.

604. Supposing that coal is found there and it has to go to Melbourne, you think it would be much preferable, I suppose, to bring it to Jervis Bay for shipment? Possibly, but there are other things which govern that traffic.

605. What other things? If a vessel has to come to Sydney and unload her cargo there, she will take in her coal there, she will not go down to Jervis Bay to get her coal.

606. Can you see any other traffic which may be developed at Jervis Bay? The principal part of the Wandandian and the Conjola is a farming district; then there is a road westward to Braidwood; here are also minerals.

607. What kind of minerals? There is an outcrop of copper 30 miles in length.

608. What distance is it from Jervis Bay? About 30 miles.

609. Do you think the trade from that copper bearing country would gravitate to Jervis Bay? I think there would be a better search for minerals—better working for minerals once railway facilities were provided.

610. At the present time there is very little traffic at all at Jervis Bay? Very little.

611. *Mr. Dowd.*] Have you seen any of the coal and shale which you say extends near to Jervis Bay? I saw specimens only in the hands of Mr. Seaver, M.P.

612. Would this be a rough section of the coal and shale you refer to (*showing section to witness*)? Yes; I daresay I have in my office a more detailed section than this; but that is the way in which it appears, with small bands of sandstone every now and then.

613. Below the lower seam, and on the flat country, bores, I understand, had been put down with no results? With no returns, as far as I know.

614. Do you anticipate that this coal and shale is of good marketable quality, and will go to Jervis Bay for shipment? The first report on it was made by Mr. Norman, the Victorian Geologist; the second report was made by Mr. Seaver, M.P.; and I think Mr. Wilkinson, the New South Wales Government Geologist, has also made a report.

615. Do you anticipate that it will be a source of revenue to the railway? If it creates a population it will create traffic to the railway.

616. Do you think it is in sufficiently close proximity to the proposed line to create a revenue? Yes; if it is worked it must create a revenue.

617. Would the land to which you refer, between Jervis Bay and Nowra, be suitable for dairying or pastoral purposes? Well, some people would use it for dairying, but it would not be put to its best use. It is wheat growing land, and most of it is good fruit land.

618. You think it will be generally used for that purpose? Yes.

619. Is any wheat grown on that part of the land at the present time? Yes. By the way, that question reminds me that there are wheat growers within two miles of Jervis Bay.

620. What is the nature of their crops;—is it good? I think they have been satisfied with their crops, because they have continued to grow wheat.

621. Have they had much rust? The owner of one of these farms told me that his wheat is proof against rust.

622. Have you any personal knowledge of that part of the district as regards wheat growing? Yes, I have seen crops of wheat there.
623. Were they good crops? They were fair crops—I should not call them best crops. We have had 50 bushels to the acre at Terrara, but these were not over 20 bushels to the acre.
624. *Mr. Humphery.*] What settlement is there beyond Jervis Bay, within (say) 25 miles? There is the most splendid settlement to be found in the country at Milton and Conjola. It might be carried very much further up the bed of the Conjola if there was a railway.
625. What is the distance from Conjola to Jervis Bay? From 15 to 20 miles.
626. And from Milton? About 20 miles.
627. How far is it from Milton to the steamers' wharf at Boat Harbour? From 4 to 12 miles—that is a settler nearest to Conjola will have 12 miles to go to get to the Harbour.
628. What distance would the settlers round Milton have to go to reach the steamer? From 4 to 12 miles.
629. If there were a railway to Jervis Bay, do you think that nearly the whole of the passenger traffic from Milton to Jervis Bay would go to the Bay? It would be very strongly drawn that way.
630. A considerable portion of it? Yes.
631. What is the population of Conjola? I suppose it is not much less than 1,000, while in that district there must be 5,000 persons.
632. At present, I suppose, the only mode of conveyance between Milton and Sydney would be either by steamer or by coach to Kiama? Yes. Some have driven up in their buggies; but not many.
633. Do many people travel by coach between Milton and Kiama since the opening of the railway? I am not well able to say. I see many who come up in their own buggies.
634. *Mr. O'Sullivan.*] Does not Nowra stand at the junction of five or six roads? Yes; it stands at the junction of the Yalwal-road, the Ulladulla-road, the Greenwell Point-road, the Terrara-road, the Cambewarra-road, and the Braidwood-road.
635. It is, therefore, an important centre of trade for the districts which those roads serve? There is no doubt of it.
636. If a railway were run to Jervis Bay, do you not think it would lead to a large passenger traffic for persons going further south down to Pambula, Eden, and Bega, and other towns on the coast? Yes.
637. Instead of starting from Sydney, they would go by train to Jervis Bay and start from that point? I have no doubt that traffic would be sure to grow up.
638. There would also probably be traffic from the steamers coming from Tasmania and New Zealand? These companies are so strong that they might refuse to call at Jervis Bay if they thought it would injure them in their passage; otherwise, I think passengers would like to land there very much.
639. It is quite possible that the practice of landing passengers there would grow up? Yes; if they could.
640. You think that the construction of a line to Jervis Bay might create a traffic of this nature? Yes; and I have not the slightest doubt that in heavy weather a great many of these steamers, even if they were not bound to call at Jervis Bay, would be only too glad to put in there and land their passengers.

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WEDNESDAY, 11 MARCH, 1891.

Present:—

JACOB GARRARD, Esq. (VICE-CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHERY.

The Hon. WILLIAM JOSEPH TRICKETT.

The Hon. GEORGE HENRY COX.

HENRY CORRLAND, Esq.

JAMES EBENEZER TONKIN, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM McCOURT, Esq.

The Committee further considered the proposed Extension of the Kiama to Nowra Railway into the Town of Nowra.

Robert Patterson, Esq., Mayor of Nowra, sworn, and examined:—

641. *Vice-Chairman.*] You are Mayor of Nowra? Yes.
642. How long have you held that position? About nine months.
643. How long have you been an alderman? Six years.
644. Have you been a resident of Nowra for some time? I am a native, and I am entirely acquainted with the whole district.
645. *Mr. Humphery.*] Do you know that the present railway extension will terminate on the northern side of the Shoalhaven River? Yes.
646. It is proposed to construct a bridge over the river, so that the railway may be taken into the township of Nowra, at an estimated cost of £75,000; can you furnish any information to justify the construction of the proposed bridge? The only message that I had from your Committee was with reference to whether the Nowra people would pay the 4½-mile traffic rate for the extension of a mile and a half into the town.
647. Then you are not prepared to give information as to the traffic that may be expected in the event of the railway going into the township? No.
648. Would the people of Nowra be prepared to pay the rate for 4½ miles, instead of for only a mile and a half, in the event of the railway being constructed into the town? Yes.
649. How have you ascertained that? I went round personally and asked the majority of the business people in Nowra, stating the objections the Commissioners had raised, and they were all unanimous in saying that they were agreeable. Some said that even if they had to pay ten times that amount for the carriage of their goods they would prefer that to having to drag their goods from the other side of the river.
650. What would be the disadvantage of allowing the terminus to remain, as at present, on the northern side? The carters would be a very great disadvantage.

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651. Would there be less traffic for the railway? I think so, because the people round about Nowra, who ship at Greenwell Point, would prefer to send their goods by the railway if it came into the town, but I do not think they would go over the bridge to the present terminus.
652. Do they move their produce by carts or by boats? By carts to the boats.
653. So that, instead of taking the produce by carts to the boats, they would take it direct to the railway station if it was in Nowra? Yes.
654. The distance of the present terminal point from Nowra is a mile and a half;—do you think that that would prevent them from carrying their produce over the existing bridge? I do.
655. Would it not be very much easier, when the produce is on the carts, to carry it to the northern side than to ship it? The  $1\frac{1}{2}$  miles over the river and the  $1\frac{1}{2}$  miles back make 3 miles, and people coming a distance would prefer to save that 3 miles, as it would enable them to get their day's work over during the daylight.
656. You think it would lead to considerable increase of the goods traffic to the railway if the line were extended to the township? I am sure of it.
657. Do you think it would cause any increase in the passenger traffic? I could not say that it would make any great difference in the passenger traffic.
658. That is, over the whole distance to Sydney; but would there be any difference as between Berry and Nowra;—what is the distance between those two places? Ten miles.
659. Would people use the railway instead of driving from Nowra to Berry? The majority now travel from Nowra to Kiama for the railway.
660. You think that the passenger traffic would remain much the same, whether the railway crossed the river or remained where it is? Yes.
661. *Dr. Garran.*] You have said that the storekeepers would rather pay an extra charge for goods if the line went into the town;—do you think that the passengers would? Yes.
662. Supposing an enterprising man ran an omnibus to the Bomaderry Station, do you think he would carry the people? I do not.
663. What would he have to charge to make it pay? About 1s.
664. Could he not do it for about 6d.? An enterprising man who had the whole traffic perhaps might, but I think that about 1s. would be fair.
665. You do not think the passengers would care to travel the extra distance in an omnibus, but that they would rather get into the train at Nowra? They would rather get in at Nowra, and pay extra.
666. Do you think that if the railway is brought across the river it will be desirable to extend it to Jervis Bay? I could not say. I do not see that there is anything particular at present to induce the Government to take the line to Jervis Bay.
667. It would not injure Nowra, would it? Not to a great extent, because Nowra depends very little upon Jervis Bay. I think it would rather help Nowra.
668. I suppose there is no local hostility in Nowra to the extension? Not any.
669. Nor any great local desire? No.
670. *Mr. Copeland.*] Suppose the railway extended to Jervis Bay, which way would the traffic go? From Jervis Bay to Nowra, I think.
671. If the railway were taken to Jervis Bay, would there not be lines of steamers calling in at Jervis Bay? There is nothing for them to call for at present.
672. Do you think it would not be cheaper to send the traffic from Nowra to Jervis Bay, and from there to Sydney by steamer? Yes.
673. So that if the line were extended to Jervis Bay the traffic would then go from Nowra to Jervis Bay by train, then from Jervis Bay to Sydney by steamer? Very probably.
674. Do you know anything at all about the country between Nowra and Jervis Bay? I know pretty well all of it.
675. What is the nature of that country? It is not good agricultural land. Most of what has been taken up was very inferior at the time when it was taken up, but since it has been cleared it has turned into very fair grazing ground. It is a place that is very well watered and good for fruit growing. Some splendid fruit grown there was exhibited at the last Nowra Show. It was grown on land between Nowra and Jervis Bay that has been only opened up a few years.
676. Is there any good timber there? Yes; it is splendidly timbered.
677. What kind of timber is it? Spotted gum, ironbark, blackbutt, and different kinds of gum.
678. Is the ironbark suitable for sleepers or girders? Yes; it is a good class of timber.
679. Would there be sufficient ironbark to create a traffic in it? There are different ranges between Jervis Bay and Nowra, all containing ironbark and spotted gum.
680. Good-sized trees? Yes.
681. And there would be a timber traffic if the railway were constructed? Yes; there are three saw-mills there now.
682. Where are those? One of them is shut up, but there are two in operation—one at Nowra, and one at the Falls, between Jervis Bay and Nowra.
683. I suppose there is very little produce of any kind grown between Nowra and Jervis Bay? Very little. There is no cultivation going on, but dairying is carried on. There are two butter factories now between Nowra and Jervis Bay.
684. Is there any indication of coal down there? I could not say. They have been prospecting, but I have not heard the result.
685. Is there any kerosene shale? No.
686. Any iron ore? I know nothing about the mineral resources of the district at all.
687. *Vice-Chairman.*] Do you know anything about the reserves down there. Are there any large Government reserves? There is one reserve that I know of—I could not say what size it is.
688. How far from Nowra? About 6 miles.
689. Would that be on the line from Nowra to Jervis Bay? It would be close to the line.
690. *Mr. Copeland.*] The line is surveyed through it, is it not? Yes.
691. *Vice-Chairman.*] You say that the business people of Nowra would be willing to pay this extra carriage rate? Yes.
692. I suppose they would not be likely to back out of that arrangement when the railway is made? No; all the gentlemen I have spoken to are business men who can be relied upon.

693. You are aware that in some parts of the colony people are apt to promise things, and when they get what they want ask for something different? Yes.
694. You think that the Nowra people are above that? Oh, yes.
695. *Mr. Tonkin.*] Do you know what the extra charge would be per ton? By what I have ascertained, it would be 2d. a mile.
696. Do you mean on the whole journey? I do not know the carriage.
697. Do you know that it makes only 4½d. difference on the whole line to Sydney? I understand that it is 6d.
698. Do you think the people of Nowra would object to that? No; it costs them 2s. 6d. a ton to have the goods carted from the wharf.
699. Then it is 2s. 6d. against 4½d.? Yes.
700. Suppose an omnibus carries passengers for 6d. to and from Bomaderry, and there is the railway running, is it not an ordinary thing for people going from country districts to Sydney to take a lot of baggage with them, and would it not be very awkward for them to be travelling in an omnibus? It would be rather awkward.
701. Then, would the people not rather pay the same price and go by train? Yes.
702. Then you think there is no doubt that the people will be satisfied to pay 4½d. extra for goods, and a little extra for fares, if the line goes into the town? I am quite positive of it.
703. You have come here authorized by the principal residents of Nowra to make that statement to the Committee? Yes.
704. Do you know the site of the proposed bridge? Yes.
705. It is just below the navigation point now? Yes; about a half-a-mile below the present bridge.
706. Is there any objection to the cutting off of your navigable water;—do not ocean steamers come above the proposed bridge? Yes, nearly up to the present bridge.
707. In future they will have to stop below the railway bridge? Yes.
708. Do you think that any injustice would be done to people interested in getting goods by steamers? If people felt inclined to have goods brought by water they would not have much further to go in consequence of the bridge.
709. You have heard of no objection to the available navigable water being diminished by the erection of the proposed bridge? Not a word.
710. *Mr. Humphery.*] The Illawarra Company's boats do not go up to Bomaderry? No. Mr. Hay has one boat running which comes up to the wharf at the bridge.

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John Maclean, Esq., Journalist, Nowra, sworn, and examined:—

711. *Vice-Chairman.*] You are an alderman of Nowra? I am a journalist, and was recently elected an alderman.
712. You are proprietor of the local paper? Yes.
713. *Mr. McCourt.*] You have resided a long while there? I have been thirteen years there.
714. Do you know where the proposed bridge is to be erected? Yes.
715. Will it be a great convenience to the people of Nowra? Yes. You cannot see the present terminus with a telescope from Nowra.
716. With regard to the extra charge, do you think the people of Nowra will be satisfied with that? I think that if it were four times the amount proposed they would still be satisfied.
717. What is the amount? I should take it to be about 2d. a mile on four miles. It would be, say, 8d. or 10d. on the journey from Sydney on goods or a first-class ticket, and the difference would be three miles of haulage occupying probably 1½ hours. That is, waiting at the goods shed, loading and unloading, it would occupy 1½ hours, which at 1s. an hour for the man's wages, and another shilling for the horse and cart, would make it 2s. or 2s. 6d. for the haulage by horse-power as against 8d. or 10d. for the haulage by locomotive.
718. Would it be 8d. or 10d. for a passenger? 2d. per mile for 4½ miles would be about 9d.
719. Could not any enterprising coach proprietor compete with the railway? I do not think so—for much shorter distances they charge 1s. They charge 1s. from the hotel in the town to the show-ground, half a mile away.
720. Even if omnibuses could compete would people break their journey, or would they not prefer to go right on to Nowra? They would prefer to go on to Nowra.
721. It has been said that if a line were constructed to Jervis Bay, that traffic would go to Jervis Bay, and from there to Sydney by steamer? That question is solved already by the fact that steamers now leave Nowra; yet 75 per cent. of the traffic goes by road to Kiama in preference to taking the steamer from Nowra.
722. So the traffic would not go to Jervis Bay? Ocean steamers now come to the bridge, yet 75 per cent. of the traffic goes to Kiama by coach. If people now travel by coach 30 miles to the railway, they would surely take the train from Nowra if they could.
723. Have you any idea how long it will take to construct this bridge? The present bridge over the same river was commenced late in 1879, and was opened on the 1st August, 1881. That would be a little over eighteen months. About twenty months, I think, was occupied, including the making of the approaches.
724. Have you any idea when the railway will be completed from Kiama to Bomaderry? I think within contract time.
725. What is that? That would be two years from last January.
726. *Dr. Garran.*] With regard to the last question, there is abundance of time to get the bridge up by the time the railway is completed? Yes.
727. Do you see any necessity for a temporary station on the north side of the river? There would be no necessity for that at all.
728. The line may be opened right through to Nowra? It must, with ordinary expedition, be constructed to Nowra within contract time. It is a surface line from the time it enters the Berry estate until it reaches Bomaderry.
729. The line gets through its difficulties when it gets to Gerringong? Yes; the estimate is about £7,000 a mile, exclusive of the bridge at Berry, to cost £21,000.

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730. Have you ever traversed the country between Nowra and Jervis Bay? Yes.
731. Do you think it would be well to extend the line to Jervis Bay? I think it would, in view of the rule that traffic is increased by the certainty of the means of communication. We are at the mercy of a bar-bound river, and it is very difficult to get machinery into the district. We are returning at present a Government diamond-drill, and we are not certain whether to send it to Kiama to the train, or to send it by the ocean steamer.
732. That trouble will be over when you get the railway? Yes.
733. Will the district have any advantage from the extension of that line to Jervis Bay? I think it would, because the whole of the land, or almost the whole of the unreserved land, not dairy farmers' land, which must be first-rate land, would be taken up by the fruit growing class, who have had experience on the Parramatta River and elsewhere. All the unreserved land has been taken up between Nowra and Jervis Bay, chiefly by gardeners and others; but if the reserves were opened these, too, would be taken up.
734. And is the reserved land as good for fruit as the unreserved land? It is of the same kind as that which has been taken up.
735. What is the value of the timber land per acre? They allow £1 a thousand cubic feet at the mills. At that rate it will be worth about £10 an acre.
736. Do you think the land at present worth £10 an acre? Yes. They would get at least ten logs of timber per acre, which, without the cost of carriage, would come to £6 an acre.
737. They have the labour and carriage to take out of that? Yes.
738. Would it be worth while to have the land for the use of the timber only? I think if it was made into a railway timber reserve, and if cut up in small areas of 40 acres each after the railway was made, it would bring £6 an acre.
739. We are told that there are 55,000 acres between Nowra and Jervis Bay. That would pay for the construction of a railway twice over, would it not? Yes. I am speaking of facts. I could mention land as high as £10 an acre in value.
740. I do not want to bring exceptionally valuable land into account. Take the whole reserve. Suppose it were given to the Railway Commissioners for railway capital, and the line made there, and the land sold at its value, do you think that the national estate would pay the cost of the line? I think it would pay it twice over, even allowing for patches of inferior land.
741. You have no doubt about the accuracy of that answer? I have no doubt, from the land sales that occurred in the district.
742. *M<sup>r</sup>. Copeland.*] Do you think that anything like the whole of that 55,000 acres would average ten logs to the acre? Yes. I think probably two-thirds of it would. Some of it has gone as high as twenty logs to the acre.
743. That is in the country between Nowra and Jervis Bay? Yes; Reserve 33 it is called.
744. Is that the land which is held for coal? Yes, a good deal, I think, has been applied for under leases.
745. You have, as a proprietor of a paper, a good deal of information about the district generally. Can you say anything about the increase of the population at Nowra during recent years? It has increased about five-fold since I have been there.
746. How long have you been there? About twelve years.
747. And the population in twelve years has increased five-fold? Yes.
748. How do you arrive at that conclusion. Is it from the number of electors on the roll? From the valuation of ratable property within the borough at different times.
749. But would the value of the property give the population? It would give the number of householders. We had to increase the number of members of the local Municipal Council, and it was necessary to take a census in order to ascertain whether we were entitled to nine or six aldermen. That was taken about five years ago, when the population of the town was found to be considerably over 1,000, and it is estimated to have nearly doubled itself since.
750. And you expect the population to continue increasing, especially if you get the railway there? Building is going on vigorously at the present time.
751. You said, in answer to a question, that you did not think that if the railway was taken to Jervis Bay that there would be any ocean traffic, because there is very little now? Yes.
752. Did you consider, in making that statement, that if the railway should be taken to Jervis Bay a very much larger and safer class of steamers would go to Jervis Bay than those that go to Bomaderry? Yes, with regard to mineral traffic, which would be sure to be developed.
753. Jervis Bay is a fine harbour—there is plenty of water there, good shelter, and a great deal of room for ships? Yes.
754. Therefore, if the railway were constructed to Jervis Bay, would you anticipate Melbourne and Tasmanian steamers coaling there? I think they would coal there, instead of at any of the open roadsteads, such as Wollongong and Port Kembla, if coal is found at Jervis Bay. In that case probably considerable traffic will develop between Jervis Bay, Victoria, and South Australia.
755. Has any good coal been found there? I know that flying surveys have been made to Jervis Bay by Melbourne capitalists, and I have had correspondence from capitalists desiring to be informed if there was anything in the shape of coal being developed at Jervis Bay, as if there was they desired to invest.
756. Do you know the country beyond Jervis Bay—between there and Twofold Bay? Yes.
757. Do you think that there is a possibility of the line being carried to Bega? I think if the railway could be constructed at a cheaper rate per mile than the present line, it would pay to make it the whole way, as the land is of the usual average quality, and there is ample rainfall.
758. Have you a personal knowledge of the country? Yes; I have travelled over it.
759. What is the nature of the land? The geological formation about Jervis Bay is chiefly carboniferous.
760. That is, as poor as it can be? It is rather poor for agriculture, but not for orchards.
761. Is the land about Ulladulla rich? It is alternately volcanic and carboniferous till you get to Moruya, then the land is good—it is second rate agricultural land.
762. I suppose there are patches of good land? Yes, patches of good land along the rivers.
763. And about the mountains? Yes, most of it is taken up, but it is not cultivated—it is under grass. People cannot get any produce to market from behind the coastal ranges which will not walk to market.
764. Supposing there was a railway from Jervis Bay to Twofold Bay, do you think that much land would be brought under cultivation? I think that a great deal of land now used for pastoral purposes would be used for other purposes—for agriculture, for vineyards, and the like. 765.

765. Can you say whether a line has been surveyed—has there been any flying survey made? Not by the route you have mentioned. There has been round from Cooma, towards Twofold Bay, and Eden to Bega.

J. Maclean,  
Esq.  
11 Mar., 1891.

766. Do you think that they will have to go very far inland to be able to get a line? There would be much less engineering difficulties in the way than there have been between Sydney and Kiama; but after leaving Ulladulla, the country would not be so populous. But, with certain means of communication, the land and the good rainfall taken together would draw population.

767. Is there any communication between the two bays? There is mail communication.

768. In some places it is so rough that the coach cannot travel, is it not? Several of the rivers are not bridged, and it is necessary to go round by the head of the river, which is generally in precipitous country.

769. You know that there is some idea of taking a railway along the coast so as to join it with the Victorian railway from Bairnsdale, to make a second overland railway between Sydney and Melbourne? Yes.

770. Do you know the distance between Jarvis Bay and Twofold Bay? I could not say exactly.

771. What is the distance, approximately, by road from Jarvis Bay to Bega? The distance from Jarvis Bay to Bega is about 100 miles.

772. Do you think there is enough good land to ever warrant a line being constructed between the two places? I think so. The progress of population in those places, and the growth of the towns, already show far more development than we see upon some of the railway lines going westward.

773. I suppose the climate is everything that could be desired for settlement? Yes. In Russell's "Climate and Geography of New South Wales," it is put on a parallel with Naples.

774. I suppose it is never very hot and never very cold? It is temperate and humid.

775. *Mr. Tonkin.* Suppose this project to be carried out and it is determined to erect the bridge, do you think it will be necessary to erect a large station at Bomaderry? I do not.

776. I suppose there would have to be a station at Bomaderry under any circumstances? I think not, unless there is to be a station at every mile and a half. A goods platform would meet requirements.

777. Then there is no township there? There never has been. The only store that has ever existed there has been closed. There was a post-office there and it has been closed, too.

778. Then the expense of erecting a large station there could be avoided altogether if the bridge were finished at the same time that the railway was finished? Yes.

779. That should be taken into consideration? I think it should be a very strong item. We are on a parallel with Kiama. In that case the terminus was on the other side of a steep hill and the Commissioners were going to erect a substantial building, but it was pointed out by the Members of Parliament that it would be unwise to erect anything but a temporary building as the line would have to go further on. The temporary station at Kiama was built at an expense of £200 and the materials can be taken up and sold.

## APPENDIX.

### A.

#### PRECIS OF PROCEEDINGS RELATING TO THE EXTENSION OF THE RAILWAY ACROSS THE SHOALHAVEN RIVER TO NOWRA.

THE question of constructing the line from Kiama to Nowra was referred to the Railway Commissioners, and they in their Report, while approving of the line, recommended that it should for the present stop short on the north side of the river. They considered that the erection of the bridge over the Shoalhaven River (estimated to cost £100,000) should be postponed until the line was carried further south. They pointed out that if this arrangement were adopted a temporary station on the north bank, with approaches, might be provided for £3,000, while a saving in interest on cost and in working expenses of £3,745 would be effected.

In this shape the project was submitted for the consideration of the Public Works Committee, but they did not adopt the views of the Railway Commissioners. The Committee in their Report wrote:—"The stoppage of the proposed railway outside Nowra is a circumstance not regarded with favour by the people of Nowra. The explanation of the railway construction officers regarding the intention to terminate the line for the present on the north bank of the Shoalhaven River, and about a mile from Nowra, is that the contemplated terminus of the railway is Jarvis Bay, and that it is not necessary in order to get to Jarvis Bay for the line to go into Nowra. The Sectional Committee who visited the district consider the line should be taken to the town in order to secure the maximum amount of traffic, and that it is unadvisable to have any deviation from Bomaderry to Broughton Creek-road in view of the great necessity to construct the bridge at as early a date as possible."

The Construction Department subsequently reduced the estimate for the bridge to £75,000.

In June last a deputation waited upon the Minister to urge the extension of the line up to Nowra, and the Minister promised to ask the Railway Commissioners if the reduction in the estimate for the bridge would justify them in modifying their Report as to the expediency of extending the line at once into Nowra.

The matter was accordingly again referred to the Commissioners, and they reported that the estimate for the whole line (Kiama to Nowra) was equal to £17,000 a mile, and that the revised estimate for taking the line across the river to Nowra, a distance of a mile, was therefore equal to the cost of 4½ miles of ordinary line. For the small amount of traffic to be carried they did not consider this expenditure, which would increase the annual burden by £2,325, advisable, but if the measure were determined upon they would suggest the insertion in the Bill of a clause empowering the Commissioners to charge for all traffic passing over this 1 mile as for 4½ miles.

Hereon Mr. Barling wrote that the Minister had promised to recommend the extension into Nowra to the Cabinet with a view to its being referred to the Works Committee. 23/11/90.

The Minister intimated that the matter must await the settlement of the railway policy of the Government, and that he would recommend the Cabinet to allow him to submit it to the Public Works Committee.

Recently, also, in the House, in reply to Mr. Morton, the Minister stated that he hoped to have the papers ready to enable him to submit the matter to the House.

C.A.B., 15/12/90.

B.

B.

[To Evidence of H. McLachlan, Esq.]

TRAFFIC AT KIAMA RAILWAY STATION.

Government Railways of New South Wales, Secretary's Office,  
Sydney, 28th February, 1891.

Sir,  
In compliance with the request of your Committee, I have pleasure in forwarding Return showing the traffic to and from  
Kiama Station for the years 1889 and 1890.

I have, &c.,

H. McLACHLAN,  
Secretary.

The Secretary, Public Works Committee.

RETURN showing the Inwards and Outwards Coaching and Goods Traffic at Kiama during twelve months ending December, 1889.

1889.	Inwards.						Outwards.											
	Coaching Traffic.		Goods.	Live Stock.					Coaching Traffic.		Goods.	Live Stock.						
	Number of Passengers.	Coaching Amount.		Horses.	Cattle.	Calves.	Sheep.	Pigs.	Amount.	Number of Passengers.		Coaching Amount.	Horses.	Cattle.	Calves.	Sheep.	Pigs.	Amount.
January	1,636	£ 450 s. d. 0 10	Tons c. qr. 33 8 3	£ 33 s. d. 8 8	42	226	16	15	10	1,202	£ 352 s. d. 4 9	Tons c. qr. 185 6 2	£ 150 s. d. 0 1	31	102	6	4	4
February	1,684	491 8 4	47 17 0	48 18 7	33	45	14	12	6	1,109	290 8 0	207 19 2	218 10 1	...	...	...	...	...
March	1,240	388 14 2	57 4 0	30 5 3	1	150	4	17	4	1,350	394 8 9	504 16 2	349 18 8	...	...	...	...	...
April	2,407	699 16 10	127 6 3	66 3 3	23	314	16	0	1	1,984	615 18 6	41 10 3	243 8 7	...	...	...	...	...
May	1,549	407 11 10	219 6 0	91 3 8	1	285	10	17	5	1,230	395 11 0	71 7 0	108 0 10	...	...	...	...	...
June	1,362	367 3 0	370 10 3	100 0 7	32	282	26	11	8	1,245	343 4 0	135 3 3	155 15 7	27	...	...	...	...
July	1,069	316 3 10	333 0 0	83 13 9	10	373	14	2	4	1,045	307 5 9	73 3 1	148 6 9	443	...	...	...	...
August	1,132	335 8 5	200 12 1	71 8 0	25	236	41	18	2	1,013	324 6 3	1,139 16 3	428 11 10	14	...	...	...	...
September	1,250	300 13 8	226 6 2	61 7 7	82	373	44	8	7	1,090	312 6 10	1,209 8 1	427 3 9	2	...	...	...	...
October	1,741	516 17 5	446 6 0	124 19 4	160	502	59	8	0	1,303	376 13 9	305 5 0	207 18 5	...	...	...	...	...
November	1,754	478 14 3	261 0 2	63 16 11	110	551	60	40	3	1,213	340 11 7	112 13 1	255 13 8	115	...	...	...	...
December	2,712	636 15 5	207 14 0	71 19 5	18	101	240	36	5	2,630	453 6 8	639 19 1	383 5 2	48	1	...	...	...
Total	19,651	5,509 8 0	2,631 12 2	847 5 0	20	610	2,877	590	307 15 11	15,513	4,316 5 10	4,826 9 8	3,226 17 0	48	189	2,646	...	...

RETURN showing the Inwards and Outwards Coaching and Goods Traffic at Kiama during twelve months ending December, 1890.

1890.	Inwards.						Outwards.															
	Coaching Traffic.		Goods.	Live Stock.					Coaching Traffic.		Goods.	Live Stock.										
	Number of Passengers.	Coaching Amount.		Horses.	Cattle.	Calves.	Sheep.	Pigs.	Amount.	Number of Passengers.		Coaching Amount.	Horses.	Cattle.	Calves.	Sheep.	Pigs.	Amount.				
January	3,307	£ 827 s. d. 6 11	Tons c. qr. 212 6 2	£ 63 s. d. 13 9	2	48	521	50	11	0	1,831	£ 433 s. d. 17 6	Tons c. qr. 819 16 2	£ 443 s. d. 3 9	26	20	1	1	7	4	0	
February	1,526	456 13 1	180 10 0	50 0 8	3	21	249	19	12	13	1,236	317 2 6	740 1 3	461 6 1	46	3	3	30	19	11	8	
March	1,298	355 5 0	380 1 2	103 13 11	17	15	206	100	17	0	1,032	310 3 5	1,061 3 3	621 6 8	26	3	4	24	4	4	0	
April	2,395	628 16 1	404 7 1	132 16 10	3	20	213	142	15	8	1,750	495 12 6	1,138 12 1	586 1 1	33	7	8	10	13	4	0	
May	1,740	437 10 7	337 18 3	90 9 10	13	...	541	...	20	6	1,294	368 8 3	1,376 0 0	552 19 10	...	1	10	...	2	0	6	
June	1,248	343 17 3	253 6 3	64 18 3	...	11	241	...	10	18	1,124	323 2 9	1,710 16 1	431 12 11	...	13	11	...	4	3	1	
July	1,426	370 5 6	196 17 3	81 1 1	...	22	244	...	11	2	1,036	307 12 0	693 10 3	353 8 9	11	...	16	...	8	14	0	
August	1,633	445 1 10	951 8 0	378 19 3	18	63	487	...	46	10	1,216	332 3 8	2,026 13 1	689 9 1	76	135	36	3	20	40	12	
September	2,280	669 10 0	636 18 1	456 13 4	34	77	694	112	59	3	1,348	389 6 9	2,087 14 2	762 16 8	...	1	02	...	0	10	13	
October	2,422	716 15 7	465 5 3	237 9 3	11	26	670	258	41	10	1,539	439 10 8	1,567 2 3	673 18 6	...	1	05	...	0	6	10	
November	2,685	710 4 7	469 9 3	205 4 6	10	230	2	2	8	12	1,596	433 16 11	803 13 2	470 11 1	14	45	3	863	103	44	18	10
December	3,692	953 12 6	663 8 1	255 4 7	...	82	934	43	52	11	2,680	639 8 11	1,414 15 3	666 11 1	27	...	19	...	...	10	5	4
Total	35,677	6,915 7 11	4,861 18 2	2,177 5 3	100	403	5,042	676	332	8 11	17,730	4,332 1 7	15,509 11 0	6,718 5 6	258	233	258	557	221	170	16	5

C.

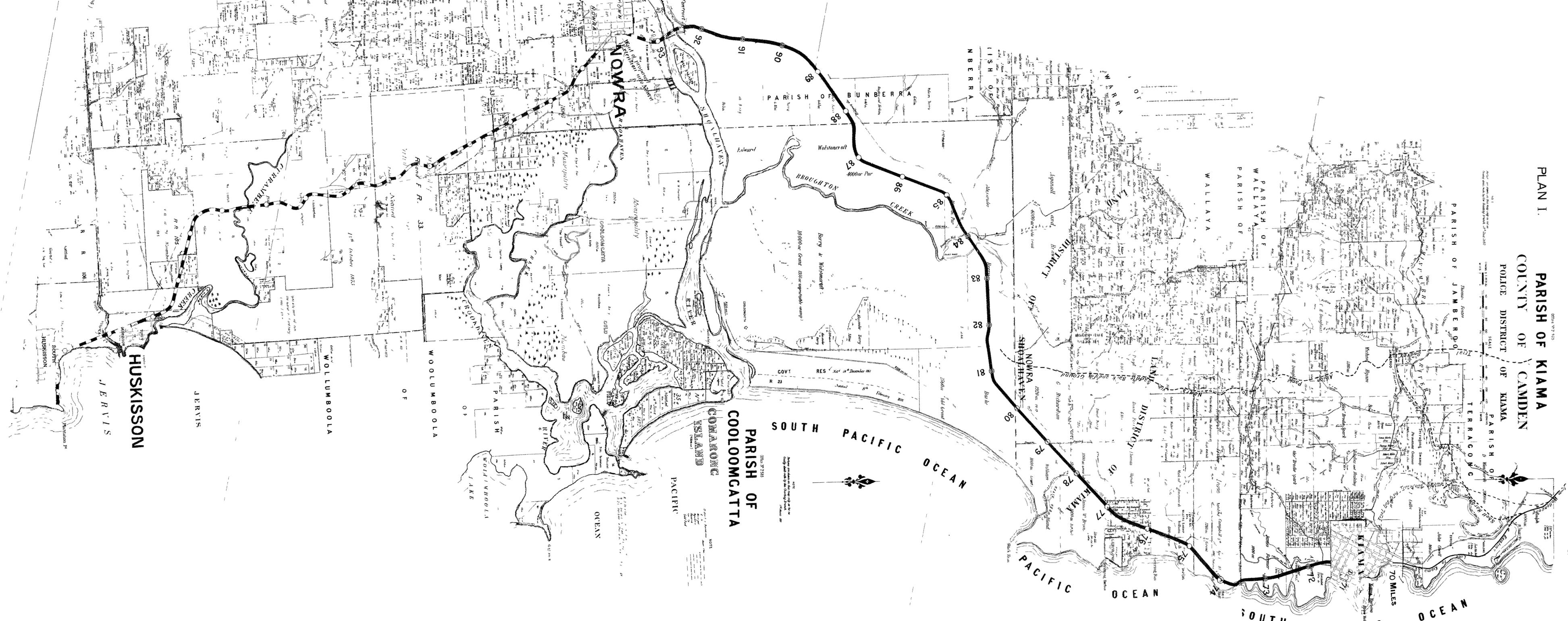
[KIAMA TO NOWRA RAILWAY EXTENSION ACROSS SHOALHAVEN RIVER INTO THE TOWN OF NOWRA.

Book of Reference to Parliamentary Plan.

Name of parish.	No. on Plan.	Description of Property.	Names of	
			Owners.	Occupiers.
Bunderra	1a	Shoalhaven River	Executors of the late David Berry	...
"	1b	Shoalhaven River	Crown	...
Nowra	1	Allotment, with small shed and outhouses	Robert Armstrong	John Lane, junr.
"	1c	Road	Crown	...
"	2	Grazing paddock	James Monaghan	James Monaghan.
"	3	Terrara Road	Crown	...
"	4	Grazing paddock	James Monaghan	James Monaghan.
"	5	Garden, two houses, and outhouses	"	Jas. Monaghan's employes
"	6	Terrara Road	Crown	...
"	7	Grazing paddock	James Monaghan	James Monaghan.
"	8	Grazing paddock	"	...
"	9	Paddock	— Coulson	R. T. Thornburn.
"	10	Paddock	Mrs. Smith	Mrs. Smith.
"	10a	Junction-street	Crown	...
"	11	Paddock	Mrs. Smith	Mrs. Smith.
"	12	Paddock	Laughlin M'Pherson	L. M'Pherson.

[Four plans.]

H. DEANE.



# KIAMA TO NOWRA RAILWAY EXTENSION ACROSS SHOALHAVEN RIVER INTO THE TOWN OF NOWRA

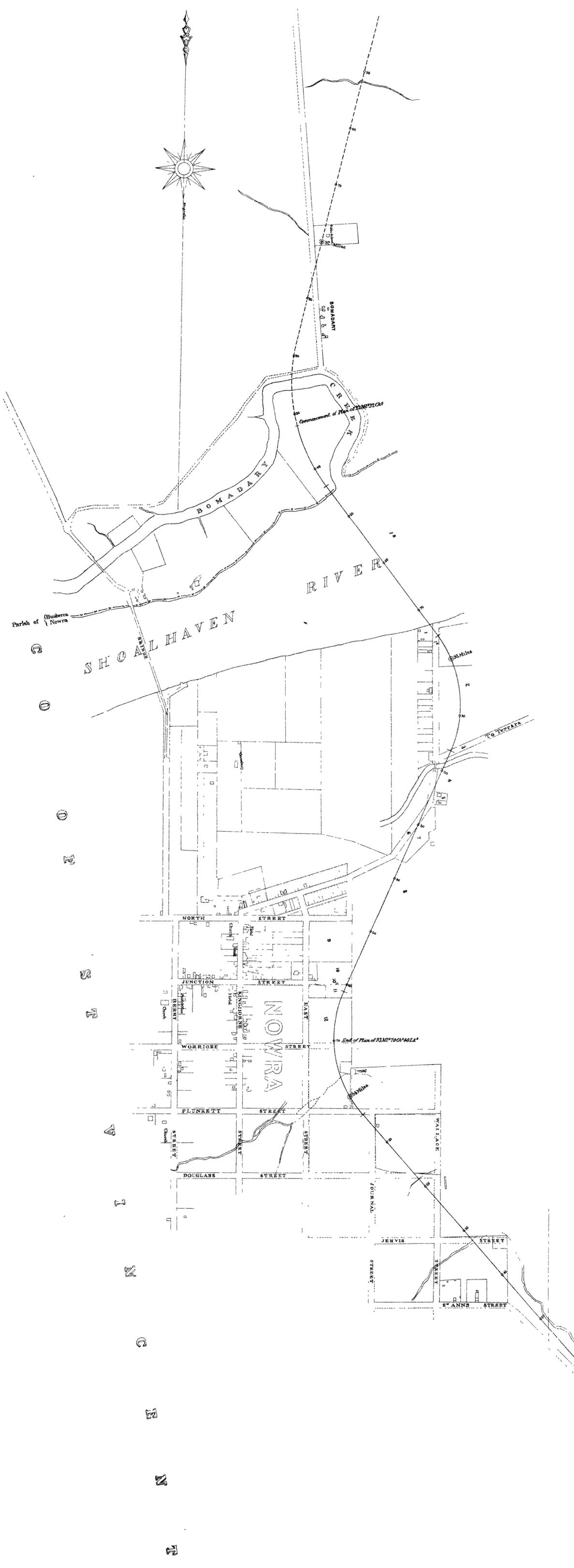
PLAN II.

PLAN  
SCALE



NOTES

(Signed)  
Commenced at 5.15 Miles from Shoalhaven  
Being a distance of 1 Mile 330 ft 40/100



PLAN III.

# KIAMA TO NOWRA RAILWAY

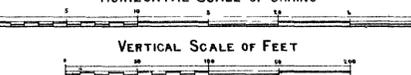
*Extension across Shoalhaven River into the town of Nowra*

# SHOALHAVEN RIVER

## SECTION

HORIZONTAL SCALE OF CHAINS

VERTICAL SCALE OF FEET

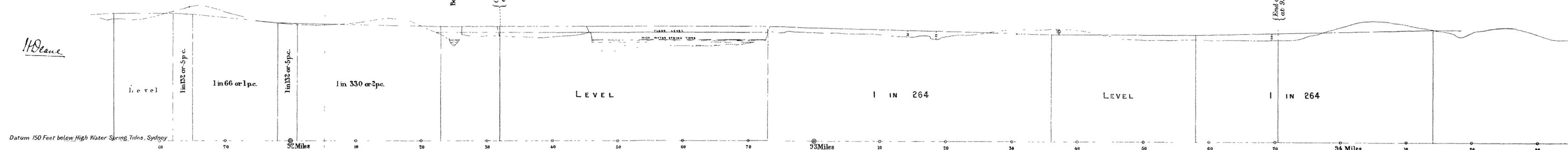


Commencing at 92 M 32 Ch. and ending at 93 M 70.40 Ch  
Being a distance of 1 Mile 38.40 Ch.

Datum 150 Feet below High Water Spring Tides, Sydney

PHOTOLITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES

(Sig 24)



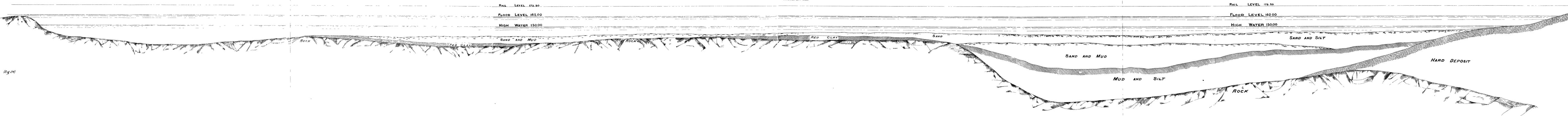
PLAN IV.

SECTION OF THE SHOALHAVEN RIVER  
AT  
NOWRA

AT SITE OF PROPOSED BRIDGE

SCALE 16 FEET TO 1 INCH

110



(Sig 24)

1891.

NEW SOUTH WALES.

---

PARLIAMENTARY STANDING COMMITTEE ON  
PUBLIC WORKS.

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REPORT

TOGETHER WITH

MINUTES OF EVIDENCE, APPENDICES, AND PLANS,

RELATING TO THE

PROPOSED RAILWAY

FROM

COBAR TO COCKBURN.

---

Presented to Parliament in accordance with the provisions of the Public Works Act,  
51 Vic. No. 37, section 8.

---

SYDNEY: GEORGE STEPHEN CHAPMAN, ACTING GOVERNMENT PRINTER.

1891.

40-a

[6s.]



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 The Honorable ANDREW GARRAN.  
 The Honorable FREDERICK THOMAS HUMPHERY.  
 The Honorable WILLIAM JOSEPH TRICKETT.  
 The Honorable GEORGE HENRY COX.

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 JAMES PATRICK GARVAN, Esquire.

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

RAILWAY FROM COBAR TO COCKBURN.

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, and the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, to whom was referred the duty of considering and reporting upon "the expediency of constructing a line of railway from Cobar to Cockburn," have, after due inquiry, resolved that it is expedient the railway should be constructed as far as Broken Hill; 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:—

1. The proposed line of railway, according to the official description, would leave the end of the line from Nyngan to Cobar at 459 miles 36 chains 59·8 links from Sydney, and proceed in a westerly direction through the counties of Robinson, Borroondara, Rankin, and Werunda, to Lake Poopelloe, and thence through the remaining portion of the county of Werunda in a south-westerly and north-westerly direction to Wilcannia, following the direction of the main road the whole of the way. The Darling River would be crossed at a point 615 miles 50 chains from Sydney, and the Railway would then pass through the town of Wilcannia, running between and parallel to Murray and Brougham Streets. Leaving Wilcannia at Desailly-street, it would proceed through the counties of Young, Tandora, and Yancowinna, going from Desailly-street in a westerly direction to the north of Lake Woychugga, and following the general direction of the main road from Wilcannia to Broken Hill. Between the distance of 655 miles and 720 miles from Sydney the main road would be crossed four times, and 10 miles further the township of Taltingan (Round Hill) would be passed through. Thence the line would proceed to Broken Hill, which would be reached at a distance of 735 miles, and further on the Pinnacles would be reached at 745 miles, Thackaringa at 756 miles, and Cockburn, the terminal point, at 765 miles 29 chains 58·8 links—the length of the line from Cobar to Cockburn being 306 miles. The steepest grade on the line, it was at first thought, would be 1 in 75, but this can be improved so that the ruling grade shall be 1 in 100, and the sharpest curve is 16 radius.

2. The Acting Engineer-in-Chief for Railways estimates the cost of the proposed railway at £1,168,000. An estimate made from rough data in July, 1889, represented the cost at £1,037,000, which was made up of £440,000, for the line from Cobar to Wilcannia; £57,000 for a bridge over the Darling River, and for viaducts; £390,000 for the line from Wilcannia to Broken Hill; and £150,000 for the portion of line from Broken Hill to Cockburn. Since the date of that estimate more complete surveys than previously carried out have been made, and this has led to an alteration in the estimate of cost. The cost of the bridge over the Darling and of the viaducts was in the first estimate considerably under-estimated. "Not only," the Acting Engineer-in-Chief says in a report to the Under Secretary for Public Works, "are the floods more serious than before reported, but the result of some of the borings of the river-bed indicates the necessity of deeper foundations," and he is of opinion, therefore,

Description of  
the Railway.

Estimated  
cost.

therefore, after careful consideration, that it will be necessary to increase the estimate for the bridge by £35,000. In the first estimate, also, the expense of fencing the railway was omitted, and the cost of fencing is in the amended estimate set down at £36,000. The original estimate has also been increased by an estimate of £60,000, which is considered to be the cost of making the ruling grade of the railway 1 in 100 instead of 1 in 75. These several increases make the estimated total cost £1,168,000. If, however, the line should be constructed only as far as Broken Hill the cost, as estimated, would be £1,018,000.

Railway Com-  
missioners'  
Report.

3. The Railway Commissioners in their Report quote the rough estimate of the total cost of the line from Cobar to Cockburn, £1,037,000, and calculated upon this estimate they state the interest, at  $3\frac{1}{2}$  per cent., as £36,295, a rough estimate of the cost of working at £51,000, and interest on rolling stock at £3,339, or a total cost per annum of £90,634. They say in their Report: "It is impossible to offer a pronounced opinion upon the probable financial success of such a large undertaking from the outset, but there is no doubt ultimately it will be successful, and as it is most desirable to open up communications with remote portions of the colony of New South Wales, which are at present nearly, if not wholly, commercially connected with our sister colonies, we strongly advise the Government to adopt the scheme, and to commence it in about four sections, so as to get it open throughout as quickly as possible." They point out that lines of this character can only be dealt with upon national principles, but they have also, they say, a commercial aspect, and the probabilities of a satisfactory traffic on the railway are good. They consider it is fair to assume that at least a portion of the traffic now going from and to Wilcannia and the surrounding district by water would go by rail, if such a means of transit were available; that the railway would have a material effect on the prospects of pastoralists by affording them a ready means of selling part of their stock in times of drought, or of removing them to parts of the colony where pasturage may be available; that the rates paid for the conveyance of the stores now used on stations being, by the present means of transit, excessive, it is very probable these stores would be obtained by means of the proposed railway; and that the mining industry at Broken Hill would be very likely to produce a traffic on the railway which, among other things, would open up a market for coal and coke from our western coal-fields. The construction of the line would also ensure a railway route as short from Sydney to Adelaide,—and shorter to places north of Adelaide,—as that now existing *via* Melbourne, the New South Wales Railways receiving by the new route a 771 miles' proportion, instead of 387 miles, as at present, to Albury; and, with regard to the New South Wales northern system of railways and Queensland, if a line should be constructed from Werris Creek to the Western Railway, a shortening of distance between Queensland and South Australia of about 400 miles would be effected. On the question of the increased cost of construction based upon the additional cost of a bridge over the Darling River, and of flood-openings, and also of fencing and the improvement of grades, the Commissioners say that the additional expense for improving the grades and for fencing should, in their opinion, be undertaken. They strongly recommend the "adoption of the easiest possible grade which can be obtained at a reasonable cost on all lines, but with regard to the line to Broken Hill the question of grade is of exceptional importance, as unless low rates can be fixed—and this question depends upon the grades—there will be no hope of competing with South Australia for the Barrier trade." In explanation of this they state that the difference between the hauling power of an engine of the class that would be placed upon this railway on a grade of 1 in 100 and 1 in 75 is about 100 tons per train.

Method of  
Inquiry.

4. In this inquiry it has not been found necessary to appoint a Sectional Committee to visit the districts through which the railway would go, a Sectional Committee having passed through them as recently as October, 1889, when inquiring respecting the then proposed railway from Nyngan to Cobar. It has been sufficient to examine witnesses in Sydney, and these have included not only the professional officers of the Public Works and Railway Departments, and other witnesses whom it was thought necessary to call, or who desired to give evidence, but also the Members of Parliament representing the districts concerned in the present proposal, and gentlemen specially appointed to come before the Committee from Broken Hill, as representatives of that town and district. Much of the evidence taken by  
the

the Sectional Committee on the Nyngan to Cobar Railway had reference to the extension of the line to Wilcannia and Broken Hill, and their report and the evidence upon which their report was based, together with the report of the Committee on that railway, should be read in conjunction with the Report and evidence in the present inquiry.

5. A favourable opinion of the proposed railway was expressed by the Committee in their Report on the railway from Nyngan to Cobar. That line was referred to them "in view of the probable extension of the Railway from Cobar to Wilcannia and Silverton, and so on to the South Australian border," and in the inquiry which the Committee made they did not confine themselves to the question of the expediency or otherwise of constructing a railway as far as Cobar, but directed their attention also to the larger question of opening up communication by railway with the extreme north-western portion of the colony, and they recommended the construction of the railway to Cobar, "as part of a line eventually to extend to Wilcannia and Broken Hill, and to connect with the South Australian railway system." This recommendation was based upon the evidence taken and upon a personal acquaintance with the districts made by the Sectional Committee, who travelled, examining witnesses *en route*, from Nyngan to Cockburn and Adelaide.

Opinion of the Committee with regard to this line in their Report on the railway from Nyngan to Cobar.

6. The towns and districts that would be served by the proposed railway are some of the most important in New South Wales, and they are so situated that without railway communication with Sydney they are compelled to trade almost exclusively with Adelaide and Melbourne. Evidences were apparent to the Sectional Committee that garden produce and wheat could be successfully cultivated with irrigation or a sufficient rainfall. Irrigation, the Sectional Committee believed, could be carried out to some extent from the Darling River, as by the locking of the river the water could be thrown back into creeks and ana-branches to distances of from 20 to 50 miles. At one place—Fulham Station—there was seen a fine crop of wheat growing on land which the proprietor stated had simply been harrowed. Wool also was found to be produced on the different stations in large quantities. Wilcannia, the centre of a very large district, was ascertained to be doing a large amount of trade, principally by means of shipping on the Darling River, evidence having been given to the Sectional Committee that the annual freight earned inwards and outwards at that town was at least £80,000. This town is also the centre of the trade for the Paroo, Mount Browne, and the south-west portion of Queensland. Between Wilcannia and Broken Hill the route of the railway passes through country occupied by pastoralists whose stations are extensive, and the quantities of wool produced on which, in favourable seasons, are large. The Sectional Committee, in their Report, stated that they had been very much impressed by the rich character of the soil over the greater portion of the route which they traversed, a very noticeable feature about it being that wherever agriculture had been undertaken that year, which was doubtless a very exceptionally favourable one, it had been a success, the crops, fruits, and vegetables having been of a most luxuriant character. The country along a portion of the route appeared to them to be well suited for small holdings; and from a mining point of view a line of railway to Broken Hill would traverse some very promising fields. The railway to Wilcannia, in their opinion, would serve the Mount Browne district, which is considered to be rich in mineral wealth; and with respect to Broken Hill, from the evidence obtained and the personal inspection made by the Sectional Committee, that mining centre appeared to be marvellously rich, not only in silver but in other minerals. At the time the Sectional Committee visited Broken Hill its population numbered 16,000. It is now, according to the evidence given by the Mayor of Broken Hill, 24,000. The evidence of the various witnesses examined by the Sectional Committee as to the actual trade done in imports and exports was considered by them to be "truly astonishing," an important feature in connection therewith being the circumstance that nearly one-seventh of the entire railway revenue of South Australia for the period 1887-8 was derived from Broken Hill.

Towns and districts to be served by the railway.

7. The principal reason in favour of the construction of the proposed railway, at least as far as Broken Hill, is that the line will be a national one affording railway facilities to parts of the colony where importance justifies the expenditure in providing such facilities. That there will be from the first, or for some time afterwards,

Prospects of traffic on the railway.

afterwards, a paying traffic on the line is not expected, but that the traffic will grow and ultimately become profitable is, as will be seen from most of the evidence, extremely probable. The Railway Commissioners view the railway as a "national undertaking." They have not estimated the actual results to be obtained from the construction of the line, but they point out that the population between Cobar and Wilcannia have now no practical means of getting to market, except one route, which in certain seasons may for some considerable time be impassable; that, in a time of drought, large numbers of stock are sacrificed because there are no means of removing them to parts of the colony where pasturage could be obtained; that Wilcannia is entirely dependent on water carriage, which is very uncertain; and that, as to Broken Hill, it is at present so completely cut off from communication with Sydney that its population are compelled to conduct all their business with Adelaide or Port Pirie. The Commissioners believe that the people of Wilcannia and the district surrounding that town will use the railway in preference to the river which now provides their water carriage, as it will afford them quick and certain transit for their produce and merchandise; and they are of opinion that there will be a considerable traffic between Sydney and Broken Hill. "At present," the Secretary to the Railway Commissioners, in his evidence, states, "a great deal goes by sea from Sydney to Port Pirie, and is sent on to Broken Hill by railway, and we have steamers arriving frequently from Port Pirie and Adelaide with cargoes of ore and bullion from Broken Hill. We think that the construction of this railway would lead to the establishment of factories and smelting works in the western district, and thus create a traffic. We also believe it would bring large quantities of low-grade ores to be treated at the coal-mines." The railway, it is believed, could fairly and successfully compete for the traffic. The Commissioners are obtaining some locomotives much more powerful than those at present in use, and they are having built a great number of trucks of large carrying capacity, by which means they expect to be able to convey greater loads than now with less dead weight, and at cheap rates. Supplies, they think, will also be taken by the railway to Broken Hill from Sydney, instead of being sent *via* Adelaide. Apart from business advantages which it is believed the use of the railway will afford, it is thought that the sympathy of the people will be with it, so as to make it as far as possible profitable. That has been the experience of the Railway Department in regard to the railways in the districts of Riverina; and with respect to the railway to Bourke, the Committee are informed that the River Darling, instead of taking traffic from the railway, has brought it to the line. The Commissioners do not consider it wise to say at present what will be the actual charge for the conveyance of wool from Wilcannia to Sydney, but they believe they can fix a rate which will largely command the traffic; and with regard to Broken Hill, the evidence of the witnesses who came specially from that town to appear before the Committee strongly supports the belief that there will be a large traffic between Broken Hill and Sydney, both in goods and passengers. The Sectional Committee, who in the latter part of 1889 visited Wilcannia, expressed the opinion that from that centre a very large trade might be relied upon, and respecting a trade from Broken Hill they said in their report: "The amount of traffic likely to be derived from Broken Hill is difficult to calculate, but it will be chiefly derivable from the carriage of coke, coal, timber, lime and ironstone fluxes, ores, bullion, wool, fodder, building material, and general merchandise." This traffic, they considered, would develop with the increase of population, and it appeared to them probable that the railway would also be used for removing starving stock in seasons of drought, and for the conveyance of fodder to stations, as well as by the travelling public as "the shortest and most direct route to the Barrier Ranges from Sydney and the important intervening centres."

Evidence in  
opposition to  
the railway.

8. Among the witnesses examined by the Committee, there are four whose evidence is not favourable to the construction of the railway. One of these is Mr. Alexander Brown, M.P. for Newcastle, and he objects to the railway being carried out because it is opposed to the "spirit of general co-operation on the part of the whole of the colonies," which will be one of the results of Federation, if it should be brought about; because traffic on the line can only be obtained on a basis of differential rates; because the line passes through a part of New South Wales where there is little or no population, and probably will not be

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for years to come a population which would warrant the expenditure of such a large sum of money ; and because the Broken Hill trade is not likely to come to Sydney, except at exceptionally low rates of freight under a severe competition with South Australia. The cost of transit by land, as compared with the cost of sea traffic, will not, he says, warrant the conclusion that coal will be taken by the railway from Lithgow to Broken Hill, or ores brought from Broken Hill to Lithgow for smelting purposes; and, with regard to coke, his evidence is to the effect that the Broken Hill mines will continue to be supplied with the English article. He opposes the railway on some other grounds also, but generally, in his opinion, the line will be a feeder to the South Australian railways and the South Australian seaboard, and a heavy drag upon the railway revenue of New South Wales. Another opposing witness is the Hon. J. P. Abbott, Speaker of the Legislative Assembly, and Member for Wentworth. In his opinion, "the extension of the line of railway to Broken Hill, with a view of developing the trade or getting it from that part of the colony to Sydney, is an absurdity." He considers that the extent of haulage would be too great as compared with that to the nearest seaport in South Australia; that traffic could only be diverted from Broken Hill to Sydney by a system of differential rates, which would fall chiefly upon the people of the colony generally; and that it will be many years before a population will be settled in the districts through which the line will pass who will become customers of the railway. He does not see any chance of a line extended into these districts doing what the railways extended into other pastoral districts in the colony have not done; and he thinks that the route proposed for the railway is not the best,—that if it should be determined to make a railway to Broken Hill, it would be better to extend it from Forbes towards Menindie. Inasmuch, however, as the railway has been extended from Nyngan to Cobar, he is of opinion that it should now go on to Wilcannia; but in that event the river Darling should be locked, and dues equivalent to the railway charges imposed, which proceeding would probably force the traffic, that would otherwise go by the river, on to the railway. In the present condition of the river, if the railway were carried beyond Wilcannia to Broken Hill, the probable effect would be to send produce towards Adelaide instead of bringing it to Wilcannia for transit to Sydney. Another witness who is not favourable to the proposed line is Mr. D. Kirkcaldie, Chief Traffic Manager of the Railway Department. He appears to be very doubtful, not only that the railway will be profitable, but also that it will attract any appreciable proportion of the traffic of the border districts to Sydney; but he recognises its importance as a national line, which will open up the country. The fourth witness whose evidence is against the railway is Mr. Edward Heaton, of Wright, Heaton, & Co.

9. While a few of the witnesses examined by the Committee disapprove of the proposed railway, by far the larger part of the evidence given in the present inquiry, as well as that in the inquiry respecting the railway from Nyngan to Cobar, is in favour of the construction of the railway as far as Broken Hill. Mr. Deane, the Acting Engineer-in-Chief for Railways, states that the calculations upon the result of which he bases his estimate of cost have been made as carefully as possible, and that the estimate represents the lowest cost consistent with stability to meet the demand for light railways. This statement, and the circumstance that the ruling grade in the line will be 1 in 100, make the railway desirable from an engineering point of view. Some of the country over which the line must be taken is in wet weather very soft and spongy, but it is believed by the engineers that it can be drained by a drain on each side of the railway sufficiently to prevent any injury to the permanent way. As for the prospects of the line proving profitable opinions are expressed by some witnesses that a paying traffic will be obtained almost from the first, but the bulk of the testimony on that point is that it will be a matter of gradual development, and ultimately certain. There is no chance of the failure of the line in the way the line to Hay has been a failure, for the circumstances are different, and though the Chief Railway Traffic Manager is not very favourably disposed towards the railway it will be found that his objections to it are based more on assumption than upon reliable data. The people of Wilcannia and those of Broken Hill appear to be very desirous of being connected by railway with Sydney, and to trade with Sydney, and there is no evidence to show that the progress of those places in population, and the means for affording a large traffic to the railway, will not be continuous. Some of the trade

of the districts which now goes to South Australia or Victoria will doubtless continue to go to those colonies, but there is every probability, from the disposition of the people to deal with New South Wales, and the ability of the Railway Commissioners to charge railway rates sufficiently low to attract the trade to the line, that a satisfactory traffic will be secured. There is also to be considered the important circumstance that the cost of a road between Cobar and Broken Hill would be at least half as much as the cost of a railway, irrespective of the cost of maintenance.

Reasons why  
the railway  
should not go  
beyond  
Broken Hill.

10. The Committee are of opinion that the railway should be constructed as far as Broken Hill, and for the present stop there, and they form this opinion upon important evidence given before them. In the inquiry concerning the railway from Nyngan to Cobar they arrived at the conclusion, already mentioned in this Report, that the line between those places should form part of a railway, "eventually to extend to Wilcannia and Broken Hill, and to connect with the South Australian Railway system." In the present inquiry evidence has been given which has led them to modify that recommendation. One of the witnesses examined was the Secretary of the Silverton Tramway Company, who have a tramway line in operation between Broken Hill and Cockburn. This witness stated that in July last contracts were entered into between the Company and four of the largest mining Companies of Broken Hill, for a period of eight years, for the conveyance, between Broken Hill and Cockburn, of all the produce of the mines and all articles or goods necessary as requirements for the mines, and that contracts were at a later date entered into in the same way with four other mining companies for a period of two and a half years. The contracts with the first-mentioned four Companies have seven and a half years to run, and those with the four other Companies two and a half years. The Committee endeavoured to obtain from the Tramway Company copies of these contracts, but were unsuccessful, the Tramway Company declining to give them; and the only information as to the details of the contracts available was obtained from the Secretary at the time he was under examination. According to his statements these contracts are so worded that they virtually give the Tramway Company a monopoly for the periods mentioned, in the carriage of everything required by these mining Companies, and, as a consequence, would exclude the use by these Companies of coal or coke that might be obtained by means of the New South Wales railway, supposing it were constructed to Broken Hill. The whole of the tonnage of coal and coke, he says, must, according to these contracts, go over the Silverton Tramway, and, in the same way, the contracts would prevent the Companies from sending any ores by the New South Wales line. Questioned as to whether there was any provision which would permit the Companies to annul the contracts, he gave the Committee to understand that there was not, but the witnesses who attended before the Committee from Broken Hill expressed the opinion, from information they had received, that there was such a power in the hands of the Companies. In the absence, however, of direct information on the point, the weight of evidence is in favour of the idea that the Companies are bound to give all their traffic for the periods mentioned to the Tramway Company, and this is supported by the fact that many of the directors of the Companies are shareholders in the Tramway Company. These contracts during their continuance would be certain to have a material effect upon the traffic of a railway constructed by this colony between Broken Hill and Cockburn. Another reason against the construction of this portion of the proposed railway is the want of uniformity of gauge that would exist between Cockburn, Terowie, and Adelaide. The gauge of the New South Wales line would be 4 feet 8½ inches; that of the South Australian railway from Cockburn to Terowie is 3 feet 6 inches; and that from Terowie to Adelaide 5 feet 3 inches. This difference of gauge would probably interfere greatly with both passenger and goods traffic, the frequent change being irksome to passengers and detrimental to goods. The Silverton Tramway, having a gauge of 3 feet 6 inches, has the advantage of being able to convey goods without transshipment between Broken Hill and Port Pirie; the gauge on the South Australian line between Port Pirie and the Border being the same as that of the tramway, and this circumstance is of importance in the consideration of any proposal to construct a railway between Broken Hill and Cockburn, inasmuch as a portion of the traffic in connection with Broken Hill is carried on with Port Pirie. The charges on the tramway at present appear to be high, but the Secretary informed the Committee that the  
Company

Company could reduce their rates very much below what are now charged, and still work the tramway at a profit. At present the Company is paying a dividend of 50 per cent. per annum on the paid-up capital, which is £1 per share. The Government of New South Wales have power, under the Silverton Tramway Company's Act, to resume the tramway, but only after a period of twenty-one years from the time of the passing of the Act, and sixteen years of that time have yet to run.

11. On Thursday, 30 April, 1891,—

Mr. Trickett moved,—

“That, in the opinion of this Committee, it is expedient that the proposed Railway from Cobar to Cockburn, as referred to the Committee by the Legislative Assembly, be carried out.”

Mr. Dowel seconded the motion.

Mr O'Sullivan moved, as an amendment,—

“That, after the words ‘carried out,’ the following words be added, ‘as far as Broken Hill.’”

Mr. Copeland seconded the amendment.

The Committee divided on the Question—“That the words proposed to be added be so added,”—with the following result:—

Ayes, 9.	Noes, 3.
Mr. Lackey,	Mr. Dowel,
Dr. Garran,	Mr. McCourt,
Mr. Humphery,	Mr. Garvan.
Mr. Trickett,	
Mr. Cox,	
Mr. Garrard,	
Mr. Copeland,	
Mr. O'Sullivan,	
Mr. Lee.	

The amendment was therefore passed, and the motion as amended was adopted on the following division:—

Ayes, 8.	Noes, 4.
Mr. Lackey,	Dr. Garran,
Mr. Humphery,	Mr. Dowel,
Mr. Trickett,	Mr. McCourt,
Mr. Cox,	Mr. Garvan.
Mr. Garrard,	
Mr. Copeland,	
Mr. O'Sullivan,	
Mr. Lee.	

JOHN LACKEY,  
Chairman.

Office of the Parliamentary Standing Committee on Public Works,  
Sydney, 14 May, 1891.



# PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

## MINUTES OF EVIDENCE.

### RAILWAY FROM COBAR TO COCKBURN.

TUESDAY, 24 FEBRUARY, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHERY.

The Hon. WILLIAM JOSEPH TRICKETT.

The Hon. GEORGE HENRY COX.

JACOB GARRARD, Esq.

HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM MCCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee proceeded to consider the proposed Railway from Cobar to Cockburn.

Joseph Barling, Esq., Under Secretary for Public Works, sworn, and examined:—

1. *Chairman.*] What evidence can you give in reference to this proposed work? The Minister, in introducing this proposal to Parliament in December last, made, *inter alia*, the following remarks:—

"I wish now to refer to the remarks of the Public Works Committee as to the necessity of this line, and I shall only quote from a few paragraphs of their Report. I should like to say in the first place—and I use the words of the Report—that 'the line from Nyngan to Cobar was referred to them in view of the probable extension of the railway from Cobar to Wilcannia and Silverton, and so on to the South Australian Border.' I read that to show that the Public Works Committee in approving of the line from Nyngan to Cobar, did not do so on the mere merits of the line *per se*, but on the merits of the line as part of an intercolonial line to South Australia. They say:

"The Committee, therefore, in making their investigations, have not confined themselves merely to the expediency of constructing a railway as far as Cobar, but have directed their attention also to the larger question of opening up communication by railway with the extreme north-western portion of the colony."

"Then we have in the Report the most favourable statement as to the prospect of this line, and if honorable members are curious about it and will either take that Report or the Sectional Committee's Report upon which it was founded, they will find almost unlimited evidence in favour of the construction of this line. I should just like to quote from Mr. Whitton's opinion on this matter. He wrote an opinion on the subject in 1889, very shortly before he left the colony. He said:

"In reply to the Minister's Minute of this date I have no hesitation in stating that if it be considered desirable to construct a railway to connect Wilcannia with the railway system of the colony, and which might eventually be extended to Silverton, the best route to adopt would be from Nyngan to Cobar, thence to Wilcannia and Silverton.

"This route would form almost a direct line from Nyngan to Silverton where connection could be made with the South Australian railways, thus providing a through route to Adelaide.

"In my opinion this would form a very important line and would directly connect Adelaide with Sydney, and the distance would be nearly the same as the line now passing through Victoria.

"The country from Nyngan to Wilcannia is remarkably easy for railway construction, no important bridges or heavy cuttings will be required in the whole distance."

"I think I have now quoted sufficient to justify me in asking the House to pass the resolution that the proposal shall go to the Public Works Committee for investigation."

I may, perhaps, also be permitted to quote a few extracts from the Report of the Committee itself:—

"While considering the question of establishing railway communication between Sydney and Broken Hill and Silverton, the Committee have not ignored the fact that other routes have been suggested by which to reach those localities without adopting the line from Nyngan to Cobar at all. The railway already extends to Hay, a distance of 454 miles, and thence to Broken Hill would be 274 miles, as against 355 from Nyngan to Broken Hill, or a saving of 81 miles of new line to construct. The total length of line from Sydney to Broken Hill, *via* Nyngan and Cobar, would be 732 miles, while by way of Hay it would be 728, involving a saving of only 4 miles in the total length. There is yet another route which has been suggested, and that is to go along the valley of the Lachlan River, by way of Forbes and Condobolin, striking the Darling at Menindie, and thence proceeding on to Silverton. This line, it appears, has not yet been surveyed; but, according to a return furnished by Mr. Deane, this route would be the shortest by about 64 miles. The railway in this direction is as yet only constructed as far as Molong, 216 miles; so that, in order to reach Broken Hill, about 450 miles of new line would have to be constructed, as against 355 miles by the Nyngan-Cobar route. But it must be borne in mind that the last-named route will embrace the thriving township of Wilcannia and district, which would not be served by any other proposed route.

"Under these circumstances, and especially considering the necessity for establishing railway communication with the great mining centres of the north-western portion of the colony as soon as possible, the Committee, after due consideration, have come to the conclusion that it would be better to recommend the adoption of the line from Nyngan to Cobar, as part of a line eventually to extend to Wilcannia and Broken Hill, and to connect with the South Australian railway system."

J. Barling,  
Esq.  
24 Feb., 1891.

Perhaps the Report of the Commissioners may be taken as read. I would, however, especially draw attention to that part of the Commissioners' Report, in which they make the following remarks as bearing upon this question:—

"Of course it is impossible to offer a pronounced opinion upon the probable financial success of such a large undertaking from the outset, but there is no doubt ultimately it will be successful, and as it is most desirable to open up communication with remote portions of the colony of New South Wales, which are at present nearly, if not wholly, commercially connected with our sister colonies, we strongly advise the Government to adopt the scheme, and to commence it in about four sections, so as to get it opened throughout as quickly as possible.

"We suggest the route for the line from Broken Hill to the South Australian Border at Cockburn, *via* the Pinnacles and Thackaringa, as the mining industry at the Pinnacles requires the aid of a railway to develop it, and a private company is also being projected to afford this facility; and we would advise the Government not to grant powers to another private company in the district."

Mr. Deane, Acting Engineer-in-Chief for Railways, reports as follows:—

*Subject:—Cobar to Cockburn Railway.*

I HAVE the honor to submit the following:—

The estimate for this line furnished from very rough data in July, 1889, is as follows:—

Cobar to Wilcannia .....	£440,000
Bridge over Darling and viaducts .....	57,000
Wilcannia to Broken Hill .....	390,000
Broken Hill to Cockburn.....	150,000
	<hr/>
	£1,037,000

The result of the surveys has been to show that, with the exception of the bridge over the Darling, and viaducts, the total estimate will remain the same, although the amounts would be somewhat differently disposed in the items.

The ruling gradient is 1 in 75. There are some places between Cobar and Wilcannia, and Broken Hill and Cockburn, where economical considerations necessitate this grade. If, however, a ruling grade of 1 in 100, as recommended by the Railway Commissioners for the Nyngan to Cobar line, were adopted, an additional sum of £60,000 would be required for this improvement.

With regard to the bridge over the Darling, and viaducts, the information just obtained shows that the cost is considerably under estimated. Not only are the floods more serious than before reported, but the result of some of the borings of the river bed indicates the necessity of deeper foundations. I am of opinion, therefore, after careful consideration, that it will be necessary to increase the estimate for the bridge by £35,000.

I would also call attention to the fact that, as in the Nyngan to Cobar line, the fencing has been, for the most part, left out.

As these lines will have to be run over at night, I think it most undesirable to leave them unfenced, and I would recommend that the cost of fencing, viz., £36,000, should also be added.

The following would be the revised estimate:—

Original estimate.....	£1,037,000
Add for additional cost of Darling Bridge and flood openings .....	35,000
Fencing.....	36,000
	<hr/>
	£1,108,000
Add improvement of grades from 1 in 75 to 1 in 100 .....	60,000
	<hr/>
	£1,168,000

The Under Secretary for Public Works.

H. DEANE.

This Report, by the direction of the Minister, was sent to the Railway Commissioners, with the following memorandum:—

"The Commissioners will see from this Report of Mr. Deane, that the estimate has been revised, chiefly due to the easing of the grades recommended by them and approved by the Minister, and the enlargement of the waterways. Perhaps, therefore, they would like to revise their Report in view of this."

Mr. Eddy and Mr. Oliver add the following memorandum:—

"The additional expense for improving the grades and for fencing should, in our opinion, be undertaken. The question of the viaduct and bridge in connection with the river Darling is one affecting the Works Department."

I now hand in a description of the line, which I would ask should be taken as part of my evidence:—

Cobar to Cockburn Railway, *via* Wilcannia and Broken Hill.

Length—305 miles 73 chains.

THIS proposed line would leave the end of the authorised line—Nyngan to Cobar Railway—at 459 miles 36 chains 59·8 links, and proceed in a westerly direction through counties of Robinson, Booroondara, Rankin, and Werunda to Lake Poopelloe; thence through remainder of Werunda to Wilcannia in a south-westerly and north-westerly direction. From its commencement at Cobar it follows the direction of the main road to Wilcannia, which it leaves at 511 miles 70 chains, intersecting it again at 560 miles 70 chains and 563 miles 70 chains, respectively; it crosses the Darling River at 615 miles 50 chains; thence through the town of Wilcannia, running between and parallel to Murray and Brougham streets. Between Wilcannia and Cockburn it passes through the counties of Young, Tandora, and Yancowinna. After leaving Wilcannia at Desailly-street, it proceeds in a westerly direction to the north of Lake Woychugga at 622 miles, and distant therefrom 20 chains. Intersecting the main road, Wilcannia to Broken Hill, at 655 miles, the general direction of which it follows, and crosses four times between 655 miles and 720 miles. Passing through the township of Taltangan (Round Hill) at 730 miles, it proceeds to Broken Hill, which is reached at 735 miles; the Pinnacles are reached at 745 miles, Thackaringa, 756 miles; and Cockburn, where it terminates, at 765 miles 29 chains 59·8 links. The steepest grade is 1 in 75; the sharpest curve is 16 radius.

Original estimate .....	£1,037,000
Add for additional cost of bridge and flood openings .....	35,000
Fencing .....	36,000
	<hr/>
	£1,108,000
Add for improvement of grades—1 in 75 to 1 in 100 .....	60,000
	<hr/>
	£1,168,000
	<hr/>
Cobar to Wilcannia—158 miles, at £3,050 .....	£501,900
Darling bridge and viaduct—(£57,000 and £35,000).....	92,000
Wilcannia to Broken Hill—119 miles, at £2,870 .....	359,530
Broken Hill to Cockburn—30 miles, £3,952 .....	118,570
	<hr/>
	£1,072,000
Fencing .....	36,000
	<hr/>
	£1,108,000
Improvement of grades .....	60,000
	<hr/>
	£1,168,000

With

With regard to the reduction of the grade 1 in 75 to 1 in 100, a similar alteration has been made in the Nyngan to Cobar line. Correspondence leading up to that decision may, perhaps, be of use to the Committee. It is as follows:—

J. Barling,  
Esq.

24 Feb., 1891.

Sir, Government Railways of New South Wales, Secretary's Office, Sydney, 9 December, 1890.  
I have the honor, by direction of the Railway Commissioners, to forward herewith the enclosed statement in reference to the grades on the Nyngan to Cobar line for the information of the Honorable the Minister for Works.

I have, &c.,

H. McLACHLAN,

Secretary.

The Under Secretary, Public Works Department, Sydney.

Office of the Railway Commissioners, Sydney, 8 December, 1890.  
Nyngan to Cobar Line.

With reference to the question of improving the grades on the Nyngan to Cobar line, since we called attention to the matter considerable improvement has been made, but still a grade of 1 in 70 is the ruling one. Mr. Deane estimates that it would cost about £20,000 to still further improve this, so that 1 in 100 will be the heaviest grade; and, as the whole of the traffic of the proposed intercolonial line must pass over this first section of 81 miles, we strongly recommend the expenditure of the additional £20,000.

This improvement will also have an important bearing on the further extension to connect with the South Australian railways, as the only way in which the line to Broken Hill can be made to pay for some years to come will be by economising working expenses, and the weight of paying load that can be taken by goods trains will be a very important element in the matter.

This question of grades is of even greater importance upon this line than upon the main lines, as it has been decided to have a light class of permanent way which will of necessity compel us to work this line with a lighter class of locomotive than would otherwise be the case.

E. M. G. EDDY,  
Chief Commissioner.  
W. M. FEHON,  
Commissioner.  
CHARLES OLIVER,  
Commissioner.

Mr. Deane was then asked to report on this matter, and on 15th December, 1890, he did so as follows:—

"The original grades on this line were 1 in 50. After consultation with the Commissioners I arranged to have the survey altered so as to get a ruling grade of 1 in 75."

2. *Mr. Copeland.*] Was not the original grade 1 in 40? It was originally.

3. *Mr. Garrard.*] Mr. Deane, when giving evidence on the proposed railway from Nyngan to Cobar, was asked the following question:—"At all events you say you think the steepest grade was 1 in 40? The steepest grade when the plans were first completed was 1 in 40. Afterwards it was improved, on the section only, to 1 in 50—there was no re-staking?" That is the explanation. Mr. Deane's Report continues:—

"The line, as authorised, has this grade. Parliament fixed the limit of cost at £2,560 per mile. If a ruling grade of 1 in 100 is now substituted the total expenditure will be increased by £20,000. This money would no doubt be well expended, but it should be pointed out that, to make the alteration of real use the grades on the proposed line between Cobar and Cockburn should also be improved in like manner. To carry out this latter improvement an extra expenditure of about £60,000 would be involved. I have reported on this matter separately."

This was sent to the Railway Commissioners for any further remarks they might wish to make on the matter, and it brought this minute dated 16th December, 1890:—

Government Railways of New South Wales, Secretary's Office, Sydney, 16 December, 1890.

With reference to the matter of the improvement of grades on the Nyngan to Cobar line, I am directed to say that the Commissioners have only dealt with the line authorised by Parliament, as the question of the grades on the further extension will come before them later on. They would, however, strongly recommend the adoption of the easiest possible grade which can be obtained at a reasonable cost on all lines; but in regard to the line to Broken Hill the question of grade is of exceptional importance, as, unless low rates can be fixed—and this question depends upon the grades—there will be no hope of competing with South Australia for the Barrier trade.

It may be added that the difference between the hauling power of an engine of the class that will be placed upon this line on a grade of 1 in 100 and 1 in 70, is about 100 tons greater per train; it will therefore be seen how important it is to have as easy a grade as possible.

H. McLACHLAN,

Secretary.

The Under Secretary, Public Works Department, Sydney.

I may mention that Mr. Eddy also made personal representations on the subject, urging most strongly that this alteration in the grade should be made. The matter was then brought by the Minister, Mr. Bruce Smith, before the Cabinet, and, after consideration by the Cabinet, this was the decision:—

"Cabinet authorises the expenditure of £20,000 in the improvement of the grade on the line already authorised by Parliament between Nyngan and Cobar."

The Minister also added the following memorandum:—

"Let Mr. Deane make provision for the reduced grades in the extension of the line from Cobar to Cockburn—"

which, as you will see by the papers I have handed in, has been done.

4. *Mr. Copeland.*] Does that extend the line to any material distance? I have not gone into that question. You will be able to examine Mr. Deane on that point.

5. *Mr. Garrard.*] Then I understand the Ministry have authorised an expenditure of £20,000 beyond what was voted by Parliament? Quite so. If it is not done now the opportunity is gone. With regard to fencing, which will be dealt with by Mr. Deane, and which has also been provided for, it will be interesting to the Committee to have placed before them some further evidence. It had come to the knowledge of the Minister, from various sources, that the plan adopted of not fencing the lines in South Australia had not been very successful, and he thereupon directed me to write to the Chief Commissioner of Railways and ask him if he would be so good as to communicate with the Railway Commissioners of South Australia with the view of their forwarding some information on the point. As a result the following letter was written to Mr. Eddy by the Chairman of the Railway Commissioners of South Australia:—

My dear Sir,

Adelaide, 23 October, 1890.

I herewith return Mr. Barling's letter, and for your information have to state that our intercolonial line, between Murray Bridge and Bordertown, has remained unfenced since its opening. We felt, however, that with trains travelling at a high rate of speed the risk was too great, and having had several narrow escapes from accidents, besides killing from time to time large numbers of sheep, we recommended the Government to fence the line, and Parliament has approved of the expenditure.

Between

J. Barling,  
Esq.  
24 Feb., 1891.

Between Petersburg and Cockburn, a distance of 144½ miles, the line has remained unfenced since its opening. In this case we have had several escapes, and trains have been thrown off the metals through coming in contact with animals which have sought the ballast, as they invariably will, to lie down. In this case also we advised that the line should be fenced, and the expenditure having been approved by Parliament, we have called for tenders for the supply of the necessary materials, and the work will be commenced as early as possible.

On the transcontinental line, from Moralena Creek to Cobnadatta, a distance of 396 miles, the line runs through unfenced country, which, however, is not very heavily stocked.

If there is any further information you would like, and will let me know, it shall be forwarded to you.

I am, &c.,  
J. H. SMITH,  
Chairman.

E. M. G. Eddy, Esq., Chief Commissioner of Railways, Sydney, N.S.W.

Mr. Bruce Smith, of course, considered this, and as a result the cost of fencing has been added to the original estimate. Upon this matter Mr. Deane says:—

“My opinion always has been, and I have expressed it before the Public Works Committee, that unfenced lines of railway can only be safely worked in daylight.”

It may be interesting to the Committee to know the attitude which the Minister has taken in the matter of the construction of a private tram line. On the 8th July, 1890, Mr. J. P. Abbott, the present Speaker, asked the following question:—

“I desire to ask the Secretary for Public Works to state what the Government intend to do in regard to the Broken Hill-Pinnacles Tramway Bill? I understood from the Government the other night that they were going to push on the extension of the railway system to Broken Hill, and would not allow any private interests to spring up in the meantime.

“Mr. BRUCE SMITH: The question as to how this contemplated private tramway will affect the public interest has not been discussed particularly by the Cabinet; but I can say that the Government are fully determined to carry a railway from Cobar to Cockburn, and inasmuch as the railway will pass from Broken Hill to Cockburn, almost over the direct route which it is intended to take for the proposed tramway, I cannot offer any encouragement whatever to gentlemen promoting that measure. Honorable members are aware that the present Silverton tramway has been a source of loud complaint by the people in the district, owing to the very heavy charges imposed. I understand that, contemplating that the Government are going into that part of the colony with a railway of their own, the company has taken steps to secure contracts for a number of years with most of the Broken Hill silver mines. I can only say that it is fully determined to construct a railway there, notwithstanding all private interests, and I think it will be found highly undesirable for any private interests to compete with the Government railways.”

In conclusion, I would refer to a statement made by myself to this Committee in September last, in which I made the following remarks:—

“The Minister for Works regards this extension chiefly in connection with the proposition to carry the line further on to Broken Hill and the South Australian Border, and the report of the Committee will determine him as to his recommendations to the Cabinet with regard to the further extension alluded to.”

I am authorised by Mr. Bruce Smith to emphasise this statement, and to add that he considers the main justification in having proposed the Nyngan to Cobar line, and now advocating the further extension to the South Australian Border, is the intercolonial aspect of the whole proposal, doubly important now in view of the great increase in the importance of the Barrier district.

6. *Chairman.*] Are there any Ministerial records in the office of any project to lock the Darling in this neighbourhood? There are. I have a number of papers on the subject, and a very important report on the subject by Mr. Darley, but that report has not yet been considered by the Cabinet. The Minister regards it as a separate and distinct work, and not having any bearing on the railway, excepting so far as it is likely to increase the prospects of the railway, which, however, he regards as possessing sufficient merits of itself. The Minister desires me to say that he has the greatest pleasure in putting all the papers at the disposal of the Committee. I have only just received Mr. Darley's report and other papers on the subject, and I have not had an opportunity of carefully looking over them since they have been printed.

Henry Deane, Esq., Acting Engineer-in-Chief for Railways, sworn, and examined:—

H. Deane,  
Esq.  
24 Feb., 1891.

7. *Mr. Copeland.*] Have you been over the proposed line? No.

8. The reports which you have received are, I suppose, from the most capable officers? Yes; we have had very good officers employed upon that line.

9. Are you individually of opinion that this is the most proper route for the line to take—from Cobar to Wilcannia? Yes; I am, certainly.

10. Have you given consideration to the other routes—taking the line from Forbes to Condobolin, and so on through Wilcannia? Yes.

11. Can you give the Committee the difference in the lengths of the lines marked on the map? They have all been supplied before, in connection with the inquiry on the line from Nyngan to Cobar, pages 7 and 8 of the Appendices to the Report on the Nyngan to Cobar line contain the various distances.

12. What are the ruling grades between Nyngan and the Blue Mountains—the big Zig Zag? There is one grade of 1 in 33.

13. Where? At Locksley.

14. The object of my present questions is to ascertain whether there is any possibility of reducing the grades between the level country and the steeper country, so as to make it worth while going to the expense of reducing the grade on this proposed western line. Do you think there would be any chance of cutting out any of those steep grades, or how far do you think the level of the lines can be extended coming towards Sydney. You have a grade, for instance, from Nyngan to Cobar, of 1 in 100. How far will a level grade extend from Nyngan towards Sydney? Between Dubbo and Nyngan there are grades much steeper than that.

14½. I notice on the map between Cobar and Wilcannia, and as you approach Wilcannia, a sharp curve in the line—what is the cause of that? That is to avoid some of the flooded country, and the lagoons. It is the best and most favourable route. The curve is with the object of avoiding, in the first place, some high ground, and, further on, the lake and flooded country.

15. How much does the detour increase the length of the line? It makes it 8 miles longer.

16. Would it not have been possible to have gone to the north of this range, or to have cut through a gap so as to make a direct line to Wilcannia? I think not. Every possible means were taken to select the best route.

17. Have you had a survey of the country north of this range? No; there has been no actual survey, but an examination has been made.

18. Before this inquiry is closed will you endeavour to elicit the information as to the possibilities of taking

taking the route in a more direct line so as to avoid this 8 miles curve? Yes; I will obtain more information, but I may state that one of the surveyors for the Department, Mr. Marshall, is now engaged in revising the line, and he is making, in places, some considerable deviations. Mr. Firth, who has just returned from the district, informs me that he has deviated in one place to the extent of 8 miles away from the old line—that is at the Bulla ranges, about 50 miles from Cobar.

H. Deane,  
Esq.  
24 Feb., 1891.

19. So that the line laid down on the map is not to be considered by the Committee as a hard and fast line? No.
20. It merely indicates the general direction? Yes, the general direction and principle.
21. Is the deviation which you have referred to north or south of the line submitted? I am not yet in a position to say. I have only just had the report from Mr. Firth.
22. Have you obtained good foundations for the bridge at Wilcannia? Yes.
23. Is the surveyor who made the survey across the Darling—Mr. Marshall—in Sydney, or is he located on the ground? He is in the district now. The original survey was, I think, made by Mr. Marshall and Mr. Wickham.
24. You are satisfied that a good foundation has been obtained for the bridge? Yes, I have had borings taken there, and they are in progress now, and so far as they have gone there is a very good foundation.
25. Before the inquiry is closed, will you take the trouble to look through the reports as to why this line is taken as marked on the plan, instead of being taken nearer the ferry? I am quite sure that it is the best section.
26. When the Committee were travelling over the country on the other side of the Darling, they found that miles of it were so soft that it could not bear them walking over it. We very often sank to the knees so soon as the surface was broken. Do you think the country will bear a railway unless there is some sort of foundation obtained for it? It only requires to be well drained by ditches on each side of the line.
27. Would you be able to drain the country when it is such a dead level for miles? It would have a fall one way or another. I am of opinion that over a country which is so level, and where the water after heavy rain would remain for some time, it is a mistake to make a surface line. You would get a far more durable line if it were raised some height from the surface.
28. What plan do you propose to adopt in building this line? The plan which has been proposed is simply to make it very much of a surface line—to raise it a few inches above the surface, but not make any heavy embankments.
29. And you propose to lay cross sleepers in the ordinary way? Yes.
30. On ballast? Yes.
31. Have you considered whether it would be desirable to have longitudinal sleepers in that country? I am sure the cross sleepers are the best.
32. I notice that the estimate is £2,800 odd per mile for that part of the line—Wilcannia to Broken Hill? I made a report to the Minister for Public Works, in which I stated that the result of the surveys has been to show that, with the exception of the bridge over the Darling, and viaducts, the total estimate will remain the same, although the amounts would be somewhat differently disposed in the items. So that the portion from Cockburn to Wilcannia would be more expensive than what was put down at first, but the other portions—Wilcannia to Broken Hill, and Broken Hill to Cockburn—would be less; but, in re-submitting the estimate, I would confirm the general total, subject to the additions which have been pointed out to the House, but I would not adhere to the cost of the different portions.
33. With regard to this written estimate which has been given out to us this afternoon, is not that your final recommendation or estimate? Yes. Cobar to Wilcannia, 158 miles, £3,050.
34. Wilcannia to Broken Hill? £2,870.
35. I should like to know whether those figures are based on careful calculations, or whether they are put down with the idea of being subject to considerable variations? No; they have been gone into as carefully as possible. I might refer especially to the Wilcanna to Broken Hill portion. The way in which I have made up the £2,870 is as follows:—Earthworks, £300 per mile; culverts, £150; permanent way and ballast, £2,300.
36. *Mr. Garvan.*] Does that include the rails? Yes. Fencing part, distributed over line, £20; and other work, £100. That makes £2,870.
37. *Mr. Lee.*] Is that the cost per mile? Yes.
38. That is exclusive of the bridge across the river? Yes; that is a different item.
39. *Mr. Copeland.*] What depth of ballast do you calculate upon? Six inches under the sleepers.
40. Will that 6 inches of ballast be laid on the grass? No, on the bank—on the formation.
41. You would throw up the formation first? Yes.
42. At what height? It is reckoned that in the greater part of the length it would be from 8 inches to 1 foot in height.
43. And how many inches of ballast? Six.
44. That will make it 14 or 15 inches high above the level of the surrounding country? To the bottom of the sleepers, yes.
45. And you lay the sleepers on the top of this ballast? Yes.
46. Do you think, knowing the extraordinary rotten nature of the country, so rotten that if a coach goes off the beaten track it will go down, and a horse in some instances will go almost out of sight;—do you think that that will be a sufficient foundation over which to run a heavy locomotive and heavy ballast train? No, I do not, throughout; but the rotten foundation does not occur all the way.
47. Have you had the country examined;—have you had pot-holes, for instance, sunk in the ground in the wet season, so as to ascertain the nature of the soil? No.
48. I may tell you that there does not appear to be any bottom to it;—when once the grass is broken it is like walking in a mortar pit? There are some stretches of similar country between Nyngan and Cobar.
49. Have you tested the country in any way between Nyngan and Cobar;—have you ascertained whether the ground is likely to be able to bear locomotives? The country will bear them if the embankment is raised, and I propose to raise it about 18 inches or 2 feet above the surface, and then it will be drained with side ditches.
50. But, assuming the country is a dead level—as it is, for many miles, as level as a table—how will you get over the difficulty of drainage? The question is whether there is any country anywhere which is an absolutely dead level.

H. Deane,  
Esq.  
24 Feb., 1891.

51. What I want to know is whether you are not under-estimating very considerably the expenses of constructing the line—whether, instead of 6 inches of ballast, you will not have to put down much more, and whether you will not find that the line cannot be constructed for £2,870 per mile. Where do you propose to get the ballast from? We shall have to get it from where we can;—run it from one end of the line, or get it from wherever there are hills in the country.
52. At how much per mile have you estimated the fencing? The additional amount which has been put down for fencing is £36,000 for the whole length, and that would be about £120 per mile for the two fences. Assuming that an amount of fencing equal to about £40 per mile was distributed over the line before, that would make about £160 per mile, or £80 per mile for each side.
53. What sort of fence do you propose to put up? A wire fence.
54. At a cost of £80 per mile? That is to cover all expenses,—all returns and everything.
55. You are speaking of £80 per mile for a single fence? Yes.
56. *Mr. Humphery.*] But your estimate only provides for about £50? You mean in the £36,000.
57. Yes? I may mention that before this £36,000 was added, I had included an amount for part of the fencing of the line near settlements, which would have to be done in any case, and this £36,000 is for the fencing in the open part of the country alone. It would come to somewhat less than £80 a mile. The amount I have put down frequently for fencing has been £156, and I find that it is not at all out of the way. It is not merely a lot of plain fencing which you have to do, but you have to turn it into crossings and heavy waterways. There are a lot of angles in it which a squatter has not to provide for. You have to put down a stronger fence than a squatter would put down, because in a railway you have to deal with the safety of human life, and not with the safety of stock.
58. *Mr. Copeland.*] But I suppose human life will be safe enough, so long as the cattle are kept off the line? Yes; but if stock get over a squatter's fence there is no human life lost. It may be a little disagreeable, but no serious damage is done. But if cattle went upon the line they may wreck a train.
59. How many wires have you proposed? Seven.
60. Of what gauge? No. 6, I think. In the specification for fencing the Nyngan to Cobar line the contractor has priced it at 3s. 6d. per rod.
61. How much is that per mile? £56.
62. *Mr. Tonkin.*] Does he find all the material? Yes.
63. *Mr. Copeland.*] Were tenders called for that as a separate work? No, it is part of the contract. He is to be responsible for the fencing. It is most desirable that the general contractor should have the contract for the fencing as well.
64. Have you any engineer superintending the erection of all these works while they are being constructed? Yes.
65. Would it not be as competent for him to superintend the erection of a fence as it would be for a squatter to see that his fence is properly put up? It is not a question of seeing that the fence is properly put up, but a question of having the line fenced in properly, and not having to pay extra for heavy damages. When a contractor puts up a fence he is responsible for it until the whole line is completed. He very often damages it, or has to break through it in order to make tracks; or some portions of it cannot be completed until the end of the work; and if you let it to another man you would, perhaps, after taking the line over and paying for it, have to do no end of repairs which had occurred from one reason or another; or you would have to complete pieces which had not been finished up, and for these short pieces alone you would have to pay a much higher price than you would pay for the general contract.
66. Is it not a fact that the squatters in the immediate vicinity of this proposed railway do not pay more than £40 a mile for a similar fence? I have never seen any fence in any district, and I have not seen any fence in any district which I should consider satisfactory, which would cost less than about 3s. 6d. a rod. You must remember what I have said about the contractor maintaining his work. He is not fully paid for his work until the end of the job. He has to make good any damage done, and he has to keep ways open for his teams to go along the line. There are a great many things to be considered,—it is not a mere making of the fence.
67. Would you not be paying a good deal more for a fence if you let it in a separate contract, and gave the men who put it up the full benefit of the price, instead of giving the benefit of the price to the contractor, who sub-lets it to somebody else who does the work for about half the money. The contractor in this case, if your estimate of £80 is correct, will sub-let the work for not more than £50 a mile? Supposing he does sub-let it for that amount, he still has the maintenance and the repairs I have already mentioned, and the short bits of fencing which he has to carry out himself out of the balance.
68. Would it not be possible for the Government themselves, having local engineers superintending the work, to have tenders accepted for doing this work direct, and for it to be done as required? I do not think so. I know that where contractors have sub-let their work they have very great difficulty in getting men to do it, unless they can do it straightforward. They will not do it in little bits.
69. Do not railway contractors, as a matter of fact, always sub-let their work to other contractors? They nearly always do for long straight bits of fencing. Sometimes they provide the timber, and sometimes they only pay for the erection, but as a rule they do not sub-let the whole of the fencing. They nearly always provide the wire themselves, and then they get somebody else to provide the posts, and somebody else to erect; or, perhaps, they let the posts or rails, as the case may be, and they erect them in one sub-contract.
70. Where do you propose to have stations? That is a matter which has yet to be settled by the Railway Commissioners.
71. Then you have not estimated the cost of station buildings? No; excepting approximately.
72. You have included in the estimates something for station buildings? Yes, small amounts, because it was always understood in making this line that everything should be done in as sparing a manner as possible.
73. I suppose the buildings will be of wood. Do you propose to have any platforms? The Railway Commissioners were willing to do without platforms altogether at one time; but I think that the amount which has been inserted in the estimate provides sufficient accommodation for a time. I am sure it would not satisfy the people if there were any increase of traffic in five or ten years, but as the Commissioners think profits may come from the line after a time, it will be possible then to add to the accommodation for passengers.

74. Have you given any consideration to the question of the cost of the stations at Wilcannia or Broken Hill? No more than that I have put down certain amounts for station buildings. Over the whole of the line between Cobar and Broken Hill I have put down the amount at £26,000.

75. Can you say how much of that you have allotted to Broken Hill and Wilcannia? I have put down £10,000 for each of the two sections—Cobar to Wilcannia and Wilcannia to Broken Hill—and £6,000 for the other section—Broken Hill to Cockburn.

76. I suppose you have not sufficiently advanced your estimates to be able to say what you intend doing at any of those places? I have merely put down a lump sum. It is impossible to consider in detail matters of this kind until the line is authorised. The practise is to put down a lump sum, which is likely to cover all contingencies.

77. I suppose the Committee can look upon the whole of these estimates as having been very roughly estimated? I would not say that. They have been cut down very low to suit the desire for light lines. I do not think, if the line is made, as intended, there should be much difficulty in carrying it out at this cost, always remembering that one might have to call upon the 10 per cent. which is allowed in connection with the estimates.

78. You think you will not be likely to call upon more than 10 per cent. additional? I cannot say. I should be very sorry to guarantee, because if tenders are being called for one line after another prices are sure to go up. It is very difficult to estimate the cost of the work in a country like that. Contractors may take very different views of things from what one takes in the office, and there are no works of a similar description which serve as a guide at all.

79. The Government have not hitherto constructed any similar class of railways? No. The Nyngan to Cobar line is to some extent a guide.

80. *Mr. Garrard.*] Is not the Nyngan to Bourke a similar line? That is a line which, where it goes over the flats, is chiefly made on embankments. It is a different class of line from so-called light lines.

81. *Mr. Copeland.*] The intention of the Commissioners, of course, is to run trains right through without stopping at night-time? Night and day.

82. Where do you anticipate getting your sleepers from? We may get some red gum from the Darling; it is also possible that some may have to be brought from the Dubbo district.

83. Where do you anticipate getting the sleepers from for the Nyngan to Cobar line? They are chiefly being obtained from the Dubbo district.

84. Are they red gum or ironbark? Mostly ironbark. The contractors have delivered a few red gum sleepers, but they do not appear to be very satisfactory.

85. When do you anticipate having the line to Cobar completed, so as to be open for traffic? The contract terminates in April of next year, but the contractors have got well ahead with the earthworks. If they have no difficulty about getting sleepers they ought to be completed, I think, long before the contract time.

86. Would not you be able to get the line constructed at a considerably cheaper rate between Cobar and Cockburn, if the line was open to Cobar before any contracts were let, so that the contractors would be able to get the use of that railway? Not cheaper than what I have put it down at, because I have gone upon the assumption that the line will be opened before the contracts for the extension are let. I have also gone upon the assumption that the work will be started from the Darling as well; but I am speaking just now with reference to the Cobar end of that particular section.

87. Do you know whether it is the intention of the Department to call for tenders for three or four sections? I should recommend that it should be divided into a number of contracts. There would be a contract for the bridge, for instance.

88. There would be a contract, I suppose, from Wilcannia towards Cobar—about half way; another from Cobar, about half way towards Wilcannia? Yes.

89. Then another one from Wilcannia, some distance towards Cockburn? Yes; the work could be divided into six contracts.

90. Would you recommend commencing a contract at Cockburn, and extending it towards Broken Hill? Yes.

91. And having to take all the sleepers and other material on the South Australian line? Yes; I think some arrangement might be made to bring materials through. It all depends on what arrangements can be made.

92. Would not that make it very expensive? Not much more than it would be to start from Wilcannia, because you would have to get your materials first at Wilcannia, and then you would have to take them over 100 miles of line before you got them to Broken Hill.

93. The report says that there are no steeper grades than 1 in 100 from Wilcannia to Cockburn? No; it is proposed to make them 1 in 100.

94. The estimate, I suppose, is for a single line? Yes; for a single line the whole of the way from Cobar.

95. I suppose there will be no tunnels and no expensive bridges, except the one at Wilcannia? No.

96. Will the bridge at Wilcannia be constructed for a single line? Yes; the estimate of cost does not provide for a double line.

97. I suppose the bridge will be built in such a way that if a double line should be found necessary you would be able to extend the bridge so as to carry it? No. It is proposed to build it complete in itself, so that it would have to be doubled in case a double line were required.

98. What would be the difference between building a bridge so as to carry a double line, and building one so as to carry only a single line? It would make between 50 and 60 per cent. more. £92,000 is down for the bridge and viaduct, and to that we should have to add about £46,000.

99. You have £57,000 down for the bridge alone? The first estimate for the bridge and viaduct was £57,000. Afterwards I added to the amount, because I had further information about the borings and the extent of the floods.

100. But the approaches to the viaduct could be increased so as to carry another set of rails at any time without any additional cost? Yes, they could.

101. That is to say, they could be done as well at any future time as now? Pretty nearly. There will be a little extra, but not very much.

102. Is it to be an iron bridge or a wooden one? I propose an iron bridge over the main channel, upon wooden piles.

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103. Would it not be worth while to construct a bridge so as to be able to carry a double line if necessary;—I want to know how much additional cost that would incur? For the bridge itself it would be, I daresay, about £10,000 additional for the main spans.
104. If that were not done now, and it had to be done in the future as a separate job, of course it would cost just as much for a second bridge as it will for the first? Yes, it would.
105. Would it not be worth while to consider whether it would not be desirable to build a bridge so as to enable it to carry a double line if necessary? I do not think so. I think it is doubtful whether the traffic would ever be so very great as to render it inconvenient. Supposing you had this line doubled throughout, with the exception of the bridge, and you had to work the bridge as a single line it would not be a serious inconvenience.
106. *Mr. O'Sullivan.*] The gauge of the line from Petersburg to Cockburn is the same as ours, is it not? No; 3 feet 6 inches.
107. Then there would have to be a change of carriages at Cockburn? Yes.
108. Why has the Department chosen to go from Broken Hill to Cockburn, *via* the Pinnacles, when they could have taken the whole of the line *via* Silverton? There is a tramway *via* Silverton.
109. Was it not understood that it would be resumed by the Government, and the track used for the railways? Yes; I believe the Bill allows for resumption.
- 109½. So that, even now you may possibly change the route from Broken Hill to Cockburn, and go by way of Silverton to the Pinnacles? It is most direct to go by the Pinnacles. As this line will serve the purpose of a through intercolonial line it is desirable that no detour should be made.
110. Then they do not anticipate much trouble from the competition of the tramway line from Cockburn to Broken Hill? I can scarcely venture to give an opinion upon that point; but I suppose that each line would bear its own traffic.

WEDNESDAY, 25 FEBRUARY, 1891.

Present:—

JACOB GARRARD, Esq. (VICE-CHAIRMAN).

The Hon. ANDREW GARRAN.	JAMES EBENEZER TONKIN, Esq.
The Hon. FREDERICK THOMAS HUMPHERY.	EDWARD WILLIAM O'SULLIVAN, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	CHARLES ALFRED LEE, Esq.
The Hon. GEORGE HENRY COX.	WILLIAM McCOURT, Esq.
HENRY COPELAND, Esq.	JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

Henry Deane, Esq., Acting Engineer-in-Chief for Railways, sworn, and further examined:—

- H. Deane, Esq.  
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111. *Mr. Tonkin.*] Are the tenders which have been accepted for the construction of the line from Nyngan to Cobar much above or below the estimated cost of construction? The contract which has been let for that line is above the estimated cost.
112. Much above it? The estimate for the portion of the work which was let by contract is £128,904. Smith and Finlayson's contract price, reckoned at schedule rates, amounts to £133,311 7s. 6d.—that is, between £4,000 and £5,000 above the estimate.
113. Was that the lowest tender? Yes.
114. Do you think that the contract is likely to be carried out? Yes; but on some of the items the tenderers will lose.
115. Is there much difference between that and the next tender? I have not the list with me.
116. How much is that tender per mile? About £1,640.
117. What is the difference between £1,640 and our price caused by. Is it caused by any deviation or alteration in the grades? No alteration in the grades is included. The quantities and prices are those which were included in the original estimate.
118. I want to know whether there is any reason why the contractor's tender is above your estimate; was there any alteration in the plan after your estimate was made;—for instance, is the line for a grade of 1 in 75 or 1 in 100? 1 in 75.
119. Then there has to be added to that a sum of £20,000 on account of the grade being reduced to 1 in 100? Yes.
120. And that will make it about £25,000 more than your originally estimated cost? Yes.
121. Where is the contractors' schedule price larger than your schedule price? There are a great many items.
122. I should like to know those which make the most material difference? Some are above and some are below. The earthworks are £3,000 below the estimate.
123. And I should take it that the ballasting is above your estimate? Yes, about £13,000 above. Against that there is the laying of the permanent way, which is £7,000 below, so that altogether there will be about £5,000 difference in the laying and ballasting of the permanent way, more than the Government estimate. That would account for the whole difference.
124. What I want the Committee to understand is that there is a possibility of greater difficulty in obtaining ballast beyond Cobar, than there is between Nyngan and Cobar, and the consequence is that your estimate beyond Cobar may be further from the actual cost than what it would be to Cobar? The price put down for ballast for the Nyngan to Cobar line was 4s. 3d. The price calculated beyond was 6s.
125. Then you have allowed for greater difficulty in obtaining stone beyond Cobar? Yes.
126. What was the contractor's price per yard between Nyngan and Cobar? 6s.
127. He has jumped from 4s. 3d. to 6s.? Yes, but he has the laying of the permanent way, which is only 1s. 1d.
128. But that would not affect the obtaining of ballast beyond? No.
129. Supposing his price—6s. per yard for ballast—be a fair one between Nyngan and Cobar, you have not in your estimate allowed any more beyond? No. I have taken 6s. throughout as a fair average.

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130. Have you had a report from any of your officers as to the probability of obtaining ballast between Cobar and Wilcannia? Yes; they have reported that ballast can be obtained from all the hills.
131. Of course, you know there are very few hills; between Wilcannia and Silverton, no doubt, the ballast will be easy enough to obtain, but I fancy there will be great difficulty in obtaining ballast between Cobar and Wilcannia. Consequently, my line of examination is to obtain from you whether you have taken that into consideration in your estimate? I have taken it for granted that all the hills and ranges which we cross, or come in contact with, or approach, will produce ballast. I think there will be no difficulty on that account.
132. But if there should be an equal increase upon your estimate for the ballasting beyond Cobar, comparing it with the line from Nyngan to Cobar, you will be a long way short of your estimate of the cost—in that particular portion of the work, I mean? That is to say, that supposing the tenders show a larger price for ballast, it would make a great deal of difference and materially affect the contract; but I do not anticipate that there would be a great deal of difference.
133. But there is a difference of 4s. 6d. and 6s.? Yes; but it is a very high price—they have a very high price for ballast.
134. Were any of the schedule prices for ballast from any other of the tenders less than the one accepted? I have not the information with me, but I can soon obtain it.
135. In the meantime, have you any idea of the grades of the line from Adelaide to Broken Hill? No.
136. Was there much difference between your estimated price of the sleepers and the contractor's price? 3d.
137. That is not a material difference? No.
138. Is the ballast the main alteration which creates this difference? Yes; it may be attributed to the ballast entirely. Other items balance one another.
139. What is the weight of the rails to be laid on the line? 60-lb.—the same as on the Nyngan to Cobar line.
140. And the number of sleepers to the mile? About 2,000.
141. Is that about the same number as on the trunk lines? Yes.
142. Only that our trunk lines have 72-lb. rails? Yes. I find that the second tenderer put down 4s. 6d. for ballasting.
143. Then he must have been very much higher in some other portions of the tender? Yes.
144. What does the ballast consist of? It will be gravel for a good part of it; some of it will be broken metal.
145. Where can it be got? At present they are getting gravel.
146. Is the preference left to the contractor as to whether he puts down gravel or broken metal? Entirely; so long as it passes inspection and is good serviceable ballast.
147. Was the 4s. 6d. of the next tenderer the lowest scheduled price for ballast of any of the tenderers? Yes; and 10s. was the highest.
148. Is there to be a large amount of embankment, or will a lot of the sleepers be laid on the surface of the ground from Cobar to Wilcannia? In no place will they be laid on the surface of the ground. There will always be a slight embankment, excepting where you are in cutting.
149. Can you give us an idea of the average height of the embankment? Where the line is constructed as forming, it will vary from 8 inches to 1 foot in depth, unless there are special circumstances, such as were mentioned yesterday, which will necessitate the embankment being higher, for instance, where the ground is too wet and boggy.
150. Do you think the height you have fixed for your embankments—say, 1 foot—is sufficient to cope with the heavy floods we have in the back country? It is very difficult to say, but I believe so; but one might be deceived, and it is possible that in places they may have to be raised when we come to actual work. The reason I think so is that on the Nyngan to Cobar line it has been found necessary to raise portions of the work, because the water has been more troublesome, owing to the late heavy rains, than was anticipated.
151. Is that alteration included in the extra £25,000 beyond the estimate? It would be included in the £25,000.
152. I understand that the actual cost of the Nyngan to Cobar line will be about £25,000 over the estimated cost? Yes.
153. That is £5,000 for the tender and £20,000 in the alteration of the grades? Yes.
154. Will that include this extra embankment? It will, partly. I think these extra embankments will cost about £5,000 altogether. Perhaps half of that will be covered by the alteration of the grades.
155. In the event of your having to raise the embankment on the line under investigation, would that make a material difference in the cost of construction, supposing it had to be made a foot higher than you have estimated? If it had to be made a foot higher all through, I should be of opinion that the estimate was too low; but I think the £60,000 which has been put down for the alteration of gradients may be expected to cover that, especially if, as I mentioned yesterday, there is an understanding that we may be allowed to call upon the 10 per cent.
156. You know that there will be many miles of this embankment in one continuous level, because it is almost a level country? Yes.
157. Have you made provision in that portion for waterways under the rails? Yes; I have put an amount down for waterways.
158. You know that any overflow of the river will probably be on one side of the line? Yes. It will be necessary to provide for drainage in any case.
159. You have done that? Yes; I have provided an amount which comes to about £200 per mile throughout, on the average, for culverts.
160. Have you taken into consideration the peculiarly friable nature of the soil which will form these embankments when water comes into contact with it? You mean that it is peculiarly liable to wash away? I imagine, when it is raised over the surface of the ground and upon an embankment, that will cease to operate.
161. And the ballast being mixed with it to a certain extent? Yes. Of course, it is understood that in connection with these estimates everything has been done in the most saving manner, and when the traffic increases the line will have to be very much improved. More ballast will have to be put on when the trains

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trains are running, and in the course of ten years, if there is a good traffic on the line, it ought to be in a different condition from what it will be on the first day it is opened.

162. In making this estimate, you have reduced the cost to the lowest possible amount? The lowest cost, consistent with stability, to meet the demand for light railways.

163. You know that this is more or less an experimental line? Yes.

164. And you have no precedent to go upon in any similar line in the colony? No.

165. Under those circumstances, have you been a little more careful in estimating the probabilities of what I was just asking you;—that is, as to the soil washing away from the embankment? Yes; I think sufficient care has been bestowed.

166. Have you been in that part of the country? No.

167. I think Mr. Copeland explained it to you exactly? I perfectly understood it, because I have seen the same thing in other parts of the colony. No doubt it has developed to a larger extent there than elsewhere.

168. Having had experience of these tenders of the line from Nyngan to Cobar, is it your opinion that the estimate you have made in the cost of the line from Cobar to Broken Hill will be carried out; do you think the price is not too low? No; I think it is as fair an estimate as one could possibly make.

169. You do not consider that the ballast is likely to be 25 per cent. more than you have estimated? No, I think 6s. ought to be about right.

170. Do you know how many stations it is intended to put between Cobar and Wilcannia? No; the Commissioners will have to decide that.

171. *Mr. Trickett.*] Whilst on the question of gravel supply, will you look at questions 1768 and 1770 in the evidence taken on the Nyngan to Cobar railway? Yes.

172. That is the evidence of Mr. Bode, one of your surveyors? Yes.

173. Does he not state that the ground is of a gravelly nature, and also that there is plenty of ballast obtainable in the ranges, consisting of good hardstone? Yes.

174. Have you any reason to doubt that statement? No.

175. Is he a reliable officer? I believe him to be a thoroughly reliable officer. I have a very good opinion of him.

176. Does he not also state that he is making a survey from Wilcannia outwards? Yes.

177. And that he has gone a considerable distance? Yes.

178. Would you also turn to questions 2274, 2285, and 2286. Those questions embrace the evidence of Mr. Wickham, one of your surveyors? Yes.

179. And was he not working at the other end, from Broken Hill towards Wilcannia? Yes.

180. Does not his evidence confirm that of the other surveyor;—does he not, in fact, say that the country is stony in parts—that it is full of stones and ridgy, and is he not further asked if he did not come across suitable material for ballast, and he said, "Yes, there is a very large amount"? Yes.

181. He was asked the following question:—"Was it sandstone?" He replied:—"No, it is the usual rock which occurs in this country. I could not give you the name of it, but it would make a very suitable ballast."

182. He gives that evidence? Yes.

183. Have you any reason to doubt his evidence in that respect? No.

184. That evidence, I suppose, has guided you in coming to the belief that there is plenty of ballast? Yes.

185. I suppose you could not point out on the feature map the ridges referred to, not having been in the locality? I think they are mentioned in the evidence. Mr. Bode says that there is a ridge about 4 miles from Wilcannia, and that he skirted some hills about 65 miles from Wilcannia. 65 miles would not be such a long stretch. If, starting from Wilcannia, you have a ridge 4 miles out, it would be very easy to get ballast from there and do one half the line, and at the other end there will be no difficulty about ballast.

186. As far as we can judge from the surveyors who made the actual survey, there is plenty of ballast procurable along the whole of the line of railway from Cobar to Broken Hill? I do not think there will be any difficulty at all.

187. Seeing that the line is proposed to be fenced in, are you providing for the use of cattle stops instead of gates? Yes.

188. Experience in South Australia has shown them to be fairly suitable? Yes.

189. And they are to be adopted here instead of gates, and the necessary expense of gate-keeping? Yes; we have not any of them yet; but they will be adopted on the Culcairn to Corowa, and some of the other lines.

190. And they will be adopted on this line? Yes.

191. Will you look at the Appendices on pages 7 and 8 of the main Report, "Distances." I want you to tell us, so that it may be concisely put in this part of the evidence, what is the distance from Cobar to Cockburn by this proposed route. I make it 311 miles? Yes; but that is by Silverton. It is a shorter distance by Broken Hill and through Thackaringa.

192. By Silverton, it is 311 miles? Yes.

193. What is it direct to Broken Hill and Cockburn? About 306 miles. With the improvement of the grades it may be necessary to increase the line. That is, as the line has been actually surveyed it is 306 miles; but there will be a few miles addition through the improvement of the grades.

194. Will you tell us, from the next page, what is the distance from Forbes to Cockburn by way of Menindie and Silverton? I make it 440 miles.

195. So that, taking the route from Cobar to Cockburn by way of Broken Hill, as against the line from Forbes to Cockburn, the Cobar to Cockburn line is 120 miles shorter? Yes; less to construct.

196. Would not that be a great consideration in connection with the construction of a railway, if two rival routes came into consideration? Decidedly.

197. *Dr. Garran.*] Is this new line before the Committee as strong and stable a line as that between Nyngan and Cobar? Yes.

198. You have not made any further reductions in estimates? No.

199. Then whenever we see a fair length of the line from Nyngan to Cobar made, we shall have a fair sample of what the whole route is to be? Yes.

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200. In making the line from Nyngan to Bourke, you made a strong trunk line? Yes; the banks, I think, we raised 2 or 3 feet above the level of the plains.
201. Have you ever had the water over it excepting at the Bourke end? No; the waterways have been increased in places.
202. Have you ever found it dangerous to bank up the water? No; I have not heard of it being so, further than that an increase of waterways has been necessitated in certain places.
203. Have you ever found that line sink at all in the wet weather through the softness of the ground underneath it? I could not say whether that has occurred. Of course, I have not the maintenance to look after.
204. Have you had any reason to think you have gone needlessly to expense in raising that bank, and that you might have made it nearer the surface? It might have been carried out in the same way as this line.
205. This is not quite so solid a line as the other;—with all your experience of the permanent way of that line, so far as the raising of the bank is concerned, do you now think you could have economised? You mean supposing we had to make that line short of money?
206. No;—supposing you had to make it over again, would you economise on that part? If it was with the object of making a good stable line, I would make it stronger than what is proposed. That is to say, I would go in more heavily for earthworks, and make stronger banks than on the Nyngan to Cobar line.
207. Then, as an engineer, you would rather spend a little more than a little less? Yes; I would sooner spend more money on this line.
208. But still they are making a new experiment? Yes.
209. And we shall not know the result of it until we get the first heavy rain after traffic has commenced? Perhaps so, but we have already had some experience of the line during course of construction.
210. What kind of experience? Well, when the water has stood on the ground, in some cases as much as 18 inches.
211. On either side of the line? Yes.
212. And does that soften the bed underneath the line? Yes; the ground is boggy.
213. But you are not running any heavy traffic over it present? No.
214. Does the line give under that traffic? Well, if you were to attempt to drive a team over the line with heavily laden drays you would probably sink in axle deep.
215. But I am not talking of traffic across the line, but contractors' waggons going along the line? They have not any waggons along the line, because the only waggons they will use will be the ballast waggons.
216. They are making the bank out of side ditches? Yes.
217. So that they have had no test as to whether the line is elastic or not? No, no test at present; but there is no doubt that the weight of the heaviest locomotive is so well distributed by the rails, sleepers, and ballast, that the effect of it would be infinitesimal as compared with a heavily laden dray.
218. It would be more like a roller going over it than a cart-wheel? Yes; because it is distributed over the area of the sleepers and ballast.
219. Still, it is all made earth thrown up on the bank? Yes.
220. And is it not sometimes the case that when a surface is made you sink in more than you would if you do not cut the surface? If the surface of the ground were hard or tenacious it would be so. I think, as a rule, it is better to throw up the surface of the ground, because you get the drainage, and if the contractor, as is usually done in works of this kind, rolls the surface with a proper roller, you get a crust on the top of the bank which resists moisture.
221. Then you do not really disturb the surface where the bank is going to be made. You throw the earth on the top? Yes.
222. So that you get any benefit there may be from the original hardness? Yes.
223. And you think that that might be further hardened by being rolled first? I mean the bank itself. That is the practice before the ballast goes on.
224. And that makes it nearly as hard as the original surface? It hardens it considerably.
225. Still, it remains a fact that we shall have to wait for the first heavy rains after the line is completed before we know the result of this experiment? No, I do not think any special results may be anticipated so long as we take care to give sufficient waterway, and keep the surface of the bank above the standing water. It may be expected to stand pretty fairly. It will probably subside slightly. All new banks are liable to do this for a considerable time after their formation.
226. The mere pressure of a load on the rails would tend a little to press the earth down into the ditches, would it not? Yes, especially when wet it would compress.
227. And you have no fear of the result of the experiment? No; on banks which are much higher than this settlements take place.
228. What depth and breadth are your ditches? Just whatever is necessary to make up the embankment.
229. In some places they are deeper than in others? Yes, 18 inches is about the usual depth of a side cutting.
230. I suppose the survey which has been made shows you that there is very seldom a real flat patch of land over which to make a line? Yes.
231. There is always some fall one way or another? Yes. On the Nyngan to Bourke line I notice the gradients run almost from mile to mile, and there is no more than a couple of feet difference when you get to the other end of the mile.
232. When you have made your ditches will the water run off down them or soak? In most cases it will eventually run away.
233. But it may be standing for some time in the ditches? In some cases.
234. That will have a tendency to soften the earth all round for some distance? It does. Of course, the earth becomes waterlogged and water cannot go away.
235. If there is water in each of these ditches on the side of the bank will there be a tendency to soften the ground under your bank? No more than there would be otherwise.
236. You do not think there is any risk if the ditches are full of their undermining? Not on that account. Of course, I would rather see them empty.
237. You are going to spend some money in the further reduction of the grade;—is that expenditure to be by lengthening the line or going into cuttings? Going into cuttings.

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238. Then you will have some dirt out of these cuttings which will be available for banks? Yes. I have not decided whether it is desirable to go deeper into cuttings, or whether we should put it all into banks. But still the expenditure is calculated, and part of the expenditure will cover the raising of the banks.
239. I want to know whether you are going to spend the money in detours or cuttings? Not in detours. The course of the line will remain exactly the same as it is now.
240. So far as the present contract has gone, has any change been made in the gradients? Yes; the contractors have instructions to make them 1 in 100. Unfortunately, before the Commissioners had asked for the alterations, a considerable portion of this end of the line had been constructed.
241. That will not be an extra charge upon the contract; it will be according to the scheduled price? Yes; I believe so.
242. So that the price for all this work is fixed? Yes; I may say that the contractors have stated their objection to its being considered in that way.
243. Is there likely to be any quarrel with the contractor about it? I do not think so.
244. You told Mr. Copeland yesterday, that an officer now on the line will see if you can avoid this detour of 8 miles in getting in to Wilcannia; supposing he should go more north to avoid that, it might be desirable to cross the river above Wilcannia? I think I said yesterday, that I was convinced that the line proposed was the best, as it gave the best level. I think that I implied that it went south partly to avoid higher ground and partly to avoid a lake or a number of lagoons. I believe, if you go on the other side and try to straighten up the line, you would come into difficulties with swamps and low-lying ground.
245. Do you know whether the river has been examined a few miles above or below the site of the bridge, to see if there are any reefs across? I do not think it has been examined very far above, because it was made an important object to get into Wilcannia; but I do not believe there is any real difference, or any real advantage to be gained by going much above or below.
246. This route entering into Wilcannia was, I suppose, part of the original line from Condobolin to Wilcannia, marked green on the plan? Yes.
247. And the surveyor from Cobar struck that line? Yes, he struck it there. It is the only approach to Wilcannia.
248. Do you know how many years ago it is since the Cobar to Wilcannia route was surveyed? Two or three years ago.
249. Who surveyed it? I cannot tell from memory.
250. Is it a gentleman still in the Department? I believe so.
251. Have any surveys been made at Menindie for a bridge? Not by the Railway Department.
252. That has never been explored at all? No.
253. Has the line from Broken Hill to Cockburn, through Thackaringa and the Pinnacles, been as carefully surveyed as the rest? Yes.
254. Do you keep the gradient down to 1 in 100? We can, but it will be very difficult.
255. It is not quite such a level country? No; it is rougher.
256. You still think without extra expense you can keep that gradient? I think we can. It is just possible that there may be one steeper grade, for which it will be necessary to get extra engine-power; but that would not be a serious matter.
257. What weight of engine are you going to run on this line? I suppose not more than 40 or 45 tons.
258. It is built for that? Yes; that is what I should take to be a proper engine, without the tender.
259. Then it is not intended to carry a heavier locomotive than that? No. It would be undesirable to use the heaviest locomotives over a line of that character.
260. It is part of the principle of this cheap line that it is to have a light locomotive? Not exactly a light locomotive, but to avoid using the very heaviest ones.
261. Of medium quality, too? Yes; one which a few years ago might have been considered a very heavy one. If we come to have a heavy traffic we shall have to multiply the trains with these light locomotives, or strengthen the lines to carry a heavier one.
262. And in so strengthening it will you have to strengthen both the rails and the ballast? Not necessarily; but if the line has to carry a very large amount of traffic, of course it ought to be very much improved in the way of putting down extra ballast.
263. You know they had to strengthen the Petersburg to Cockburn line very considerably the moment their traffic had developed? Yes.
264. It was built as a light line at first, not expecting so heavy a traffic, and the Commissioners found it necessary to go to considerable expense? Yes.
265. Whilst it is an experiment, do you think it is wise to adhere to the grade and strength you have fixed? Yes.
266. You think that in all things it is well proportioned? Yes.
267. You have seen no reason since you have planned it to alter the general strength of the different parts? No; I think the minimum strength has been adopted.
268. You have almost had to strain your feelings as an engineer to come so low? I would very much prefer making a more substantial line, but still, I think it will answer the purpose, and that is all.
269. *Mr. O'Sullivan.* Now that you have decided to fence this line, has the Department any idea of making it a rabbit-proof fence? No; we have not gone into that.
270. You said, in reply to a question by Mr. Trickett, that the matter of fixing the stations would be left to the Commissioners? Yes.
271. Will the building of these stations be a new contract? They will be a separate contract.
272. Therefore their cost will have to be added to the cost of the first contract? Do you refer to the Nyngan to Cobar line?
273. The line right through? In the line right through the estimate includes station buildings and other works.
274. Is it not usual in the first contract to prepare the sites for the stations? So far as they can be arranged beforehand. The earthworks are nearly always part of the original contract, because before the main contractor has finished it is known what is to be done with the station sites; but he never has the buildings to undertake. That is always a separate contract.
275. In the first section from Nyngan to Cobar, then, you have fixed the sites of the stations? No; not yet.
276. Then all the preparation of the sites for these stations will be subsequent contracts? Yes.
277. And this, of course, in the end, must be added on to the cost of the line? Yes. 278.

278. *Mr. Lee.*] Will you explain the average levels of the sectional plan in the neighbourhood of the Darling at Wilcannia; do the blue lines show the height of the highest known flood above the surveyed line? The red line shows the proposed formation level, and the blue line the flood level.

H. Deane,  
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279. And in every instance has the line been kept above the known flood level? Yes.

280. Even at a distance of 3 or 4 miles back from the Darling? Yes; and flood openings have been provided.

281. Upon what portions of the line have you provided for piles and viaducts? In all places where the deepest depressions occur, or where it is most noticeable that the water flows across the line. I have allowed in the estimates for nearly 17,000 lineal feet of flood openings in the neighbourhood of Wilcannia.

282. Is that the locality where they will be most required? Yes; Wilcannia, and a few miles back.

283. Then you have observed, in the location of this line, that in every instance it shall be above the highest known flood level of the water? Yes.

284. How do the flood openings and waterways stand in comparison with the waterways on the western line to Bourke? I do not see how to make a comparison.

285. You have found it necessary to enlarge the waterways in the neighbourhood of Bourke owing to recent floods? Yes.

286. Have you made a provision in this plan to the extent equal to your alterations in the Bourke district? The cases are so entirely different. At Bourke we do not cross the Darling, although we cross a considerable area of flooded country.

287. I am speaking more in regard to the back-water—the overflow from the river in time of flood—where there is an immense area of country covered, and the current is very slow. What provision have you made to enable that large body of water to discharge itself and keep your line free? I have allowed for three miles of waterways.

288. Having had recent experience of the ordinary waterways in flat country at times when it has proved quite insufficient, have you, in view of that experience, increased the size of your openings on this line? Yes. I gave careful attention to the matter after the flood. Mr. Marshall, the surveyor, was sent to Wilcannia to observe the effect of the flood, and the result has been that my estimate for the Wilcannia bridge has been increased to £92,000. That is in a great measure owing to the increased waterways which I considered necessary.

289. And you have increased your waterways in proportion? Yes. In all these depressions at Wilcannia, on this side of the river, extensive flood openings have been left.

Thomas Rhodes Firth, Esq., Acting Inspecting Engineer, Department of the Engineer-in-Chief for Railways, sworn, and examined:—

290. *Mr. Copeland.*] You know the country between Cobar and Cockburn? Yes; I have been over it.

T. R. Firth,  
Esq.

291. Have you only been over it once? Only once.

292. You have not been over it again since you were with the Sectional Committee? No.

293. Your only experience of the line, then, was what you gathered while with the Sectional Committee? Yes, so far as the country is concerned.

25 Feb., 1891.

294. You are aware that the grade has been extended from 1 in 75 to 1 in 100? Yes.

295. Have you any official information as to where the grades have been flattened out? Wherever there was a steep grade of 1 in 50 it has been worked out to 1 in 75, with the possibility of getting it to 1 in 100.

296. You cannot tell what length of grades have been reduced to 1 in 100? No.

297. Can you say what the probable additional expense will be? I could not say exactly, but it will be very trifling, because several deviations have been made where these grades of 1 in 40 and 1 in 50 were by curving round the ridges.

298. Can you say how much longer the line has been lengthened so as to avoid these pinches? It will not exceed 2 miles altogether.

299. I suppose you are of opinion that the getting of this additional grade of 1 in 100 has not been a very expensive matter? It has not.

300. It will be of very great advantage to the Department in being able to carry so much greater loads? Decidedly.

301. What was the reason of making the deviation just before you get to Wilcannia? It was to avoid a large lake.

302. Can you say positively whether surveys have been made with the view of straightening the line? No surveys have been made, but the country was examined north of that lake during the surveys, and they had sufficient reason to keep on the south side.

303. Have surveys been made to ascertain whether you could get the road through any gaps in the range? I do not know of any. I believe the country was examined.

304. Do you know how much longer that deviation has made the line to Wilcannia? I could not say.

305. As an engineer, do you not think it would be worth while to have this country examined to ascertain whether that deviation could not be obviated so as to save 10 miles of construction, and 10 miles of constant running;—the Engineer-in-Chief has estimated it at 10 miles? It is worth examining if 10 miles can be saved.

306. Do you know exactly where the surveyor is in that district? He is at the Bulla Ranges now, 55 miles from Cobar.

307. There will be no difficulty in getting him to make a thorough examination of that country? No. He will be finished where he is now about the end of May. He could then go for it.

308. You remember the country west of Wilcannia being exceedingly rotten—so rotten that members of the Committee frequently sank pretty well up to their knees when they left the coach? Yes.

309. I do not know whether you had any personal experience of that or not? Not much of it, but I can thoroughly believe it.

310. Do you think 12 inches of road formation, and 6 inches of metalling will be sufficient support to carry a locomotive and heavy train over that very rotten ground, remembering the fact of the country being a dead level, and almost impossible of drainage? I think from 12 to 18 inches would be sufficient, because the drains which would have to make this formation would naturally consolidate the ground. It would become encrusted, and the water would not penetrate so much after these drains have been made, as it does at present when there are no drains.

- T. R. Firth, Esq.  
25 Feb., 1891.
311. But if the ground is a dead level the cutting of a drain would merely be the means of making a channel filled with water? Yes; but we have not found any country yet which is dead level—it all has a slight fall. You cannot tell by the eye in which direction the fall is.
312. Would not the fact of the ground being so rotten and full of water, that it was more like mortar, go to show that there was no drainage;—of course, I am only speaking of some places? I think by cutting the drain which must necessarily be made in forming the embankment 18 inches high, you would help to consolidate the ground. We should have to make drains on each side of the railway to form the railway, and I think that would help to give a permanent drainage to the ground.
313. Do you know of any ground where railways have been constructed over a similar place? Yes, I saw some the other day between Nyngan and Cobar.
314. I do not remember any ground of such a dead level as the plains to which I am referring? The Hermitage Plains are very similar and are quite as bad.
315. But you have not had experience of running over Hermitage Plains? Not with an engine.
316. Is there any similar rotten ground between Dubbo and Bourke? I do not know that country excepting by travelling by train.
317. Supposing this ground should prove by boring, or sinking a shaft, to have no sub-soil—in fact to have no bottom to it,—and that for feet and feet down it is all similar to mixed mortar in the wet weather, do you think that merely putting 12 inches of soil—12 inches of the same kind of sandy rotten soil, and 6 inches of metal would form an embankment sufficiently strong to carry an engine and a goods train? I think 18 inches would.
318. What would be the difference in cost per mile between forming a road of 12 inches, and forming one of 18 inches? About £400, it might be a little more, because all the waterways would have to be a little longer. But as I suppose this would only occur in some places, £300 per mile of railway might do it.
319. I suppose if the railway were built in the manner proposed by the engineer, it would always be an easy matter if it were found that the line were sinking to raise the roadway, seeing that there is so much level to work upon? It would be easy to do it, but in the meantime the trains might be stopped.
320. I suppose it would be possible for you to lose the run of a locomotive as well if once it got down through the surface? I think the rails and the sleepers would hang somewhere.
321. With reference to the Cobar line which is now being built on a grade of 1 in 100, we have been informed by Mr. Deane that the total contract price is £133,311. I notice that tenders were formally called for when the Cobar line was passed by Parliament, before which it was on the old survey of a grade of 1 in 40, and the lowest tender then was £121,799, so that this contract is now let for less than £12,000 more than the lowest tenderer then, although in this case we are getting a grade of 1 in 100, whilst formerly the grade was 1 in 40? I believe the tender was for grades of 1 in 75. There is £20,000 extra to alter the grades to 1 in 100.
322. As an engineer, do you think that it is worth while the country paying this additional amount to get a better grade? I think so, and more especially as in this case it allows us to make better embankments.
323. Can you say what sort of a bridge you propose building across Stephen's Creek? I could not say—no details have been got out. Probably it will have concrete pillar-piers or cylinders. It depends entirely on the depths of the borings for fountains.
324. Then you cannot at present form an estimate as to the cost of that bridge? No.
325. Is the Department in possession of sufficient information to enable it to form anything like a reliable estimate of the cost of the bridge at Wilcannia, across the Darling? We are in possession of sufficient information to form an approximate estimate, but not an accurate one. Borings have been taken there, but I have not seen them. They have not been worked up at all. If I remember rightly the road bridge borings were 18 feet below the bed of the river.
326. And no borings have been taken at Stephen's Creek? No.
327. Do you know whether this estimate has been formed on the calculation of having a line without platforms, or are the platforms to be built in the usual manner at the different stations? A certain amount is put down for stations, but very few will be required on that length. Comparatively speaking, the stations will be a very small item.
328. Do you know where it is proposed to get ballast for the line between Cobar and Wilcannia? I think all the ridges we come to give good ballast, a kind of gravel, a mixed kind of schist. So far as I can judge, it will be similar country to the line between Nyngan and Cobar. At every 10 or 12 miles they can get ballast.
329. What about ballast on the other side of the line, between Wilcannia and Broken Hill? I cannot speak so well about that, but I do not think there will be any difficulty. The surveyors' reports state that ballast can be got at different places.
330. Is it the intention, or would you advise that such should be done, to commence building one section of the line from Cockburn to Broken Hill;—have any figures been gone into at all? I am not aware that they have. It would simply amount to a question of the cost of the transport of material.
331. You have made no recommendations, I suppose? No.
332. Mr. Tonkin.] If you were going to recommend the Government to construct this line, would you recommend them to commence at Cockburn, taking into consideration the carriage of the material? Of course, if the line were not sufficiently surveyed for us to commence at once I should recommend that it should be commenced at Wilcannia and Cobar.
333. Do you not think it would be better to run the supplies over our own railways, and give them the advantage of carriage, instead of sending them *via* Adelaide? Yes; unless there was a very great difference in the cost.
334. You do not think there would be any difficulty about the floods in that country? I think we shall make sufficient provision for them. Directly the last flood took place at Bourke I sent a surveyor to Wilcannia with special instructions to mark the height of the flood. We have that information now.
335. Mr. Copeland.] All the way over the proposed line? Yes.
336. Mr. Tonkin.] Do you think that the soil to which Mr. Copeland has been referring will not dissolve and melt away when the water mixes with it, supposing it is pitched up on the embankment? No. The only danger is of the soft soil underneath allowing the wet to sink through it.
337. You do not think it will actually dissolve and run away? No; I think the embankment itself will get stronger.

338. *Mr. O'Sullivan.*] Carry your mind along the track to Barneto, where I suppose the surveyor is now, there is a peculiar turn in the line there—a little semi-circle—what is that caused by? I suppose that was to get over the Bulla Ranges.

339. There is a range of hills somewhere out there? Yes.

340. And instead of going through it you prefer to go round it? We have gone round it, about 8 miles nearly. We can get 1 in 100 by going there, whereas it was 1 in 40 before.

T. R. Firth,  
Esq.  
25 Feb., 1891.

WEDNESDAY, 11 MARCH, 1891.

Present:—

JACOB GARRARD, Esq. (VICE-CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHERY.

The Hon. WILLIAM JOSEPH TRICKETT.

The Hon. GEORGE HENRY COX.

HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM McCOURT, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

Hugh McLachlan, Esq., Secretary to the Railway Commissioners, sworn, and examined:—

341. *Vice-Chairman.*] You occupy the position of Secretary to the Railway Commissioners? Yes.

342. *Mr. Trickett.*] You were not examined at the inquiry in reference to the line from Nyngan to Cobar, were you? No.

343. You remember that at that inquiry the Commissioners put in a memorandum dated the 15th July, 1889? Yes.

344. And in that memorandum they stated that they considered the Nyngan and Cobar line in connection with its ultimate extension to Wilcannia and Cockburn? Yes.

345. They then took a favourable view of it? Yes.

346. Do you know what the Commissioners' views are at present on the subject? They are the same now as they were then.

347. Have you gone into the question with a view of showing what traffic would be carried between Cobar and Wilcannia? As the Commissioners pointed out in their Report, the traffic is very difficult to arrive at. They could not form any definite estimate as to what it will be. I think the Commissioners pointed out in their Report that this line would be a national undertaking. The people between Wilcannia, and Cobar, and Nyngan have no practical means of getting to market, except one route, which in certain seasons may be impassable for some considerable time, without a railway. In time of drought the people in that district are in want of means of transit for their stock, which, in the absence of the railway, have to be sacrificed. If they had a railway they could move their stock to some other part of the colony where there may be land available for pasturage. Experience has shown that when a drought is prevalent in one part of the country there is sufficient feed for cattle in other parts. The Commissioners have not gone into the question as to the extent of the results to be obtained from the construction of the line, but they view it more as a national undertaking.

348. Wilcannia is dependent very much on water carriage? At present it is.

349. And that is a very uncertain means of transit? Wilcannia is better off than places further north; but its means of transit are uncertain.

350. Do you think that if the railway were established that by reason of the people there belonging to New South Wales they would use the railway in preference to water carriage? They would. It would be to their advantage to do so. I do not know that there would be any favouritism about it. It would be to their advantage, because they would get quick and certain transit.

351. And if they had certain transit, would it not save them the necessity of getting up large stocks at one time? Yes; if they could order goods at any time there would be no necessity to get large stocks in.

352. There is no means of getting the wool away when the river is unnavigable? No. A gentleman told me only to-day, at Darling Harbour, that the stationmaster had pointed out some wool from the back blocks which had been two years reaching Sydney.

353. Where was it from? It was western wool from the back blocks beyond Nyngan. Some wool has been delayed by road from six to eighteen months.

354. If they had railway accommodation, would it not be a great advantage to get that wool direct to Sydney? It would be a great saving to the people, who would get quick returns, instead of waiting.

355. As to the town of Broken Hill—have you considered the railway from a commercial point of view at all;—of what benefit would it be to the colony? We should get a good deal of the traffic from Broken Hill. At present a great deal goes by sea from Sydney to Port Pirie, and is sent on to Broken Hill by railway, and we have steamers arriving frequently from Port Pirie and Adelaide with cargoes of ore and bullion from Broken Hill. We think that the construction of this railway would lead to the establishment of factories and smelting works in the Western district, and thus create a traffic. We also believe that it would bring large quantities of low grade ores to be treated at the coal mines.

356. Would it be as cheap as bringing it round by Adelaide? I believe that we could fairly compete for the traffic.

357. That the railway would bring the bullion to Sydney? Yes; and bring the low grade ores to Lithgow. The Commissioners have considered the question of heavier loads, and they are getting out much more powerful locomotives than we at present use, and they are having built a large number of trucks of large carrying capacity, so that we can carry bigger loads with less deadweight. That would help us to convey heavy loads at cheap rates.

358. Would supplies be taken from Sydney to Broken Hill, instead of going *via* Adelaide, if this line were constructed? Yes, to some extent; we should have a quicker means of transit, and a through traffic to Broken Hill.

359. If means of communication were established by railway, and freights were nearly equal, do you not think that the sympathy of the people might lead them to use the railway belonging to their own colony? I think that has been the experience in Riverina.

H.  
McLachlan,  
Esq.  
11 Mar., 1891.

- H.  
McLachlan,  
Esq.  
11 Mar., 1891.
360. That has been the experience? Yes. Of course, as regards the other colonies, there is one difficulty in the way in the shape of Border dues, and the trouble of getting across.
361. You know the route which has been suggested. Have you any fresh route to suggest, or any deviation? No. Of course, the Commissioners simply look at the line referred to them, and, in accordance with the usual practice, they went over this line from Cobar to Wilcannia and Broken Hill.
362. You are not aware of whether they have gone into the question of a railway by way of the Lachlan Valley 2nd Menindie? No.
363. If a railway is to be constructed to Cockburn, the route to Broken Hill would be the shortest? Yes.
364. Although it will not be the shortest direct route? No; it will be the shortest length of the line to be constructed.
365. Do you know whether any suggestions have been made by any private company to construct a railway? There has been one—the proposed line from Menindie to Broken Hill.
366. But not a suggestion in regard to this proposed route? Not so far as I know.
367. Have you been over the proposed line? No.
368. Are you aware of any engineering or other difficulties that have been suggested to the Commissioners, and of which the Committee should have cognisance? No. The engineering difficulties seem to be principally crossing the Darling at Wilcannia.
369. Is that a difficulty? It is a mere matter of expense.
370. Do you think they have considered the practicability of constructing a reasonably light line of railway over that soft surface of country? They were assured by the engineers that a line could be constructed at a cost of £1,037,000.
371. Have you got similar country already traversed by a railway? The Bourke, the Hay, and the Narrabri country is all similar.
372. What was the cost per mile of this railway? I think about £5,000, but I have not the figures.
373. They do not anticipate any difficulty in that direction? No. We had the engineer's estimate, and I think he has been examined by the Committee. The Commissioners do not question it.
374. With regard to fencing on this line, have the Commissioners varied their opinion with regard to that since they dealt with the proposed line from Nyngan to Cobar? No. I do not know that they have looked into that again.
375. Do they desire to have this line fenced? I think they mentioned in the Report that it might be left without fencing.
376. Did the Commissioners alter their opinion with reference to this particular line? Only as far as gradients were concerned. They recommended an extra expenditure to get a better grade.
377. Does the present estimate of cost include fencing? I think not.
378. You have probably seen the movement in South Australia in regard to the matter, and the correspondence recommending that fencing should be carried out on these country lines? Yes.
379. Do the Commissioners approve of that? They have not expressed a decided opinion, as far as I am aware. Of course, the South Australian evidence affects the question rather largely.
380. The tendency of that evidence is that it is desirable to have fencing? Yes. Of course, if you were running fast trains in the night-time it would affect the question.
381. You have not given us any evidence as to the probable traffic to Wilcannia other than has been given by Mr. Kirkcaldie? No; we have no direct evidence. I do not think it has been ascertained.
382. The Sectional Committee that inquired into the proposed line from Nyngan to Cobar have gone fully into it? Yes. The Commissioners have no further information than that.
383. That evidence was taken over twelve months ago? Yes.
384. As far as your knowledge goes the traffic is not likely to have decreased? It would be substantially the same. They have had good seasons, and if anything, circumstances are more favourable.
385. *Mr. Tomkin.*] Could you tell the Committee what the freight would be for wool from Wilcannia? Say about 2d. per mile. The Commissioners thought it would be rather unwise to go into that question, and make it public at present. They think they could make a rate that would largely command the traffic.
386. Do you know what the ordinary freight is from Wilcannia to Port Pirie or to Adelaide? No. The traffic goes down the river, and the charges vary.
387. You have been carefully through that? Yes.
388. And after doing so you think you will be able to compete with the average prices paid? Yes. Of course, they are very conflicting. When the river is high the charge is lower than when it is not. We have had to make arrangements to meet the same river competition from Bourke and Hay.
389. There would hardly be as much competition at Bourke as there would be at Wilcannia—the river at Wilcannia is better than it is at Bourke? That would affect it in a certain degree. We might have to cut the prices a little.
390. Have you found often at Bourke, for instance, the river a great competitor in regard to traffic? No; it has been rather an assistance—it has been bringing wool to us.
391. It has not affected the return to the railway? Not to a great extent at Bourke.
392. And you anticipate something similar at Wilcannia? Yes.
393. What is the lowest charge now for a long distance per mile per ton? I could not say from memory—a little over 2d., I think.
394. That would be a little above the ordinary freight by river to Port Pirie and Adelaide? Yes.
395. Do you think it is possible, if this line were constructed, for the Commissioners to be able to reduce the freight so as to bring the produce this way instead of its going to Adelaide? Yes. We think we should get a large amount of it.
396. You know the distance from Silverton to Adelaide, and from Silverton to Sydney? It is more than double to Sydney.
397. Under the circumstances, do you think it probable that you will bring some of that trade here? We do. At present a great deal of goods go from Sydney to Broken Hill. We see the ore and the bullion coming into Sydney at the present time.
398. You would bring it by rail instead of its taking the circuitous route that it does now? We should get some of the trade.
399. From Wilcannia you would be in a better position to compete? Much better.

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400. Do you know whether it has been considered that there is a possibility of a line from Wilcannia to Silverton being a detriment to the traffic;—I mean that it will take the traffic from Wilcannia towards Adelaide instead of bringing it this way? No; we do not think that that will happen. Of course, a little may go from the vicinity of the Adelaide Border.

401. Do you know that a great deal of the traffic has been taken by teams from Wilcannia to Silverton when the river was not navigable? They had no option but to send it by teams.

402. I suppose the Commissioners have looked over the evidence which has been taken by the Sectional Committee? Yes; the Commissioners had an opportunity of going through it.

403. There is an immense traffic at Wilcannia? Yes; it is shown to be of rather large value. The tonnage, I think, is not mentioned. That would be a good guide to us.

404. I suppose that, from the evidence taken, the Commissioners have no doubt that the line would be a paying one at some future time? They do not expect that it will be an immediate commercial success.

405. Have they compared it with the Hay line? No.

406. Do you think it will be such a success as the Hay line? We think it will be a better line.

407. You know that we are losing money on the Hay line? Yes.

408. You do not anticipate such a heavy loss, if there is any, as we have on the Hay line? No; we anticipate that it will be a much better line than the Hay line.

409. Do you know what the Hay line cost? A little over £1,000,000.

410. I mean per mile? I think if worked out, with the rolling stock and everything else, it comes out to about £8,000 per mile.

411. That would be a great deal more than this line is expected to cost? Yes.

412. Were there any more engineering difficulties on the Hay line than there would be on this? No; they were something similar.

413. How do you account for the smaller cost of construction? Materials are very much cheaper now.

414. Is there more competition among contractors;—is work done cheaper? The work may be done a little cheaper. The engineers have given us that estimate. They think that the work can be done for that.

415. Have the Commissioners expressed any opinion with regard to the fencing;—do they think that the line ought to be fenced? Their original opinion was that it should be unfenced.

416. Have they altered that opinion? Not as far as I am aware. That has not been gone over again.

417. You think it would not be necessary? As Mr. Trickett has pointed out, the evidence from South Australia may lead the Commissioners to alter their opinion.

418. *Mr. Copeland.*] You have regulations here, issued by the Commissioners, under which you are prepared to carry mineral ores—the charge being a shade under a halfpenny per ton per mile;—have the Commissioners considered the probability of mineral ores being sent from Broken Hill to Lithgow, and the rolling stock returning with coal or coke for Broken Hill? Yes; they have considered that, and they think it will form an important element in the traffic.

419. Suppose such a traffic were to grow up, would it be possible to carry minerals at a lower rate than  $\frac{1}{2}$ d. per ton per mile in purely mineral trains, considering the great length of the route, and that there would be only one loading and unloading over the whole of that distance? It is a very low rate now, and I daresay that we may be able to command the trade at that rate. If we could not command the trade the Commissioners would consider whether they could reduce the charge.

420. I suppose you know that on some railways in America they carry minerals at much less than a  $\frac{1}{2}$ d. per ton? I do not think they carry them at much less than a  $\frac{1}{2}$ d.

421. The distance from Sydney to Broken Hill by this route would be 732 miles? That would be about the distance.

422. 732 miles, at a  $\frac{1}{2}$ d. per ton per mile, would be £1 10s. 6d. per ton? You must take off 4s. 2d. for the distance from Sydney to Lithgow.

423. That would be £1 6s. 4d. per ton? Yes.

424. Do the Commissioners think that there would be a chance of developing an interchange of trade between Lithgow and Broken Hill;—do you think it would pay them to charge one-third of a penny per ton for 6-ton trucks, mineral ores being carried from Broken Hill to Lithgow, and coal from Lithgow to Broken Hill? It would largely depend upon what the traffic would be. If we found that it would not bear a  $\frac{1}{2}$ d. per ton the rate might perhaps be reduced; but it is already a very low rate.

425. I think there are some tolerably steep gradients on the line? Between Lithgow and Nyngan there are, but from Nyngan down we could take very big loads.

426. I suppose it would be quite possible for them to bring from Broken Hill to Nyngan or Dubbo full train loads? Yes; a very full train load.

427. Then they could divide the train, and leave some of the waggons to be picked up afterwards? We are getting very large trucks built, to hold about 30 tons each, and we are getting very powerful engines out, so that we should be able to run very big train loads.

428. I find that between Dubbo and Nyngan there is a gradient of 1 in 50? Yes; only between those places.

429. The highest gradient between Nyngan and Broken Hill is 1 in 100? Yes.

430. Do you think it would be possible to reduce the freight even lower than a  $\frac{1}{2}$ d. per ton per mile? We might make a small reduction, but the charge is a very low one at present. If we take 300 tons by train, that only means 12s. 6d. per train mile. Take off one-third it would bring it down to 8s. That might possibly pay with frequent train loads.

431. You have a regulation even now under which you can charge something less than  $\frac{1}{2}$ d. per ton? Yes— $2\frac{1}{2}$ d. for 6 tons. That is the cheapest that we propose, and it is only for big lots—nothing less than 30 trucks a week.

432. A minimum of  $\frac{1}{2}$ d. would be £7 or nearly? About £8 per truck.

433. Then I suppose one inducement for the Committee to recommend the construction of this line is that you would be able to develop a mineral trade between the silver and the coal districts? That is an important element.

434. Have you any knowledge of the country north-west of Mount Browne? No.

435. Have you given any consideration as to whether there would be any traffic from Wilcannia up to the Paroo country and out to Mount Browne, where alluvial mining is being carried on? Of course, we think that we could make a trade from Sydney to Wilcannia in sending their supplies.

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436. You think it would divert some of the trade from those parts? Yes.
437. Suppose the bottom was to fall out of Broken Hill, what is your opinion with reference to the traffic that could be done between Wilcannia and Sydney? There would be a good traffic done. It is a very big district. Wilcannia is the centre of a vast area of country, the importance of which is shown by the statistics of the trade.
438. Suppose the trade from the west of Wilcannia was to be taken to Adelaide, and the rest was to come eastward to Sydney, do you think the line would be likely to pay? We do not look forward to its being an immediately payable line. The Commissioners regard it as a national undertaking. They have one object in view, and that is to bring Wilcannia closer to Sydney.
439. I suppose, as far as the Railway Department is concerned, it would make very little difference whether you carried the traffic from Wilcannia to Cockburn, or from Cockburn to Wilcannia? Not a great deal of difference, as long as we got paid for it.
440. If you found the traffic going that way, you would take care to charge rates that would pay a fair interest on the cost of construction? Yes; we do that between Albury and Wagga Wagga.
441. You would not extend your sympathy to the trade to the same extent as you would if you found it coming to our own metropolis? We should charge the lowest rates, proportionately, for a long distance.
442. You would try to make the line pay expenses? Yes.
443. Especially if you found the trade going to the other colony? Yes.
444. *Mfr. Cox.*] Do you not think that £36,000 is a very large item for fencing? It is a very long line. That is the engineers' estimate, based on their past experience.
445. Are you aware that in Queensland no fences are put up except wire and posts? We are using wire fences, too.
446. *Dr. Garran.*] If this line is made to Broken Hill, which will be the best seaport to Wilcannia? Port Pirie?
447. And the next best? Well, Port Pirie and Adelaide.
448. And there would be one break of gauge? Yes.
449. How many miles would that break of gauge be equal to—I mean the transshipment? That has not been worked out, but the handling of the traffic would be worth (say) 1s. a ton. I should say that it would be equal to 50 miles' cheap carriage.
450. Of course, other things being equal, the tendency would be to make Port Pirie or Adelaide the seaport of Wilcannia? Yes; that being the shorter distance.
451. And what about Bourke? It would not affect Bourke; I do not see how it could.
452. Would there be no tendency of cargo to come down the river in steamers? I think not.
453. You said that the river had not affected the railway at Bourke materially? Not materially.
454. Did you not two years ago very materially reduce your rates to compete with the river steamers? I think we have put them up since that time.
455. But you did reduce them? We had them lower, proportionately, at Bourke than in other parts where there was no competition.
456. You have found the steamer competition considerable? We got most of the wool at the rates we quoted.
457. We had evidence from Mr. Kirkcaldie that the wool from above Bourke had passed the railway terminus and gone down the river? There is a great deal coming from above Bourke down to Bourke.
458. More recent experience shows that you are now competing successfully? Yes; this has been by far the greatest wool season that we have ever had. We have carried more wool than ever before.
459. Has much of the wool gone down the river past Bourke this season? Not a great deal. The wool has been brought to us.
460. You are not losing much now? Not a great deal—the season is over.
461. Then Bourke is sweeping the circle round it? Yes; we are getting a bigger trade than ever from there.
462. Are the rates lower now than they were when the railway was opened? No; we have been able to raise them.
463. You are feeling your position by degrees? Yes.
464. And you are getting the full rates now? Yes; we are getting a price that pays us. Some little time ago the rates in the Riverina district were affected by the railway rates of other colonies, and we entered into a compact with the others to put up the rate £1 per ton. It has been the railway rates that affected the carriage.
465. There was no competing railway to Bourke? The traffic has been carried from Echuca and other places up the river where there are railways.
466. Then you have settled down to a state of things in which you can command the Bourke traffic at a paying rate? Yes.
467. Does the wool pay as well as hay? The Western line was a fairly profitable line when we got the last returns.
468. Does it pay as well as hay on the other lines? The rates are higher.
469. Does it give as good a profit as carrying wheat? We get double the rates for wool; it is a much better paying traffic.
470. In view of your experience of Bourke over two or three seasons, do you think you will be able to compete for the Wilcannia traffic, as against the tendency to send it down to Port Pirie and Adelaide? Yes; we think we shall get a large portion of that trade by this railway.
471. Not all of it? No doubt some will go by water.
472. You would still have the river to compete with? Yes.
473. You do not think we shall be creating a fresh railway rivalry by making this line? No.
474. You have seen the evidence obtained by the Sectional Committee as to the commerce of Wilcannia? Yes.
475. Have you checked it? No; we took it as being fairly accurate.
476. Have the Commissioners had any calculations made to see whether, if the trade kept up, it would pay to make the line to Wilcannia for the sake of that trade? No; they have not gone closely into estimating the traffic. They look upon the line more in the light of one opening-up communication with Adelaide, and with a part of the country which is at present without any proper means of transit.
477. Suppose the trade to be as stated, if you got the whole of that trade at your charges, would that pay the interest on the cost of the line? I think Mr. Kirkcaldie will give you some information on that point, as he has been looking into it.

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478. We have actual figures as to what the present trade is; we should like to know if it will pay to make a line such as is now proposed? I have not gone into that.
479. You have spoken about the mineral traffic between Broken Hill and the Western mines, do you know that it has been brought out in evidence that a line through the Lachlan Valley would be 62 miles shorter? Yes.
480. Would not that make a considerable difference in the cost of transit? Yes; it would affect the mineral traffic by 2s. 6d. per ton.
481. Would not that almost turn the trade? It would affect the low grade ores.
482. And there is an immense mass of those ores in that district? Yes.
483. If you had a through line, would not the tendency be to send the low grade ores to the collieries and to have coal carried to the mines for treating the high grade ores? That is what we expect to get a traffic from.
484. If you make this line through to Broken Hill, I suppose there would be no chance of making the other for a great many years to come? No; it would not pay to have two lines.
485. If this is adopted it is good-bye to the other? Practically so.
486. Would it not kill the prospect of the Wentworth to Hay line? Not altogether. With regard to this line also, we should consider one from the Western district connecting from the Northern line. If Queensland people going to Adelaide go from Werris Creek to Dubbo, that would save 400 miles. That is a line that will, no doubt, some day be made.
487. The Commissioners spoke in favour of a line from Cowra, on account of its giving convenience to Melbourne as well as Sydney traffic;—have they lost sight of that? I do not know that they have looked at it in connection with this line.
488. The line having been settled as far as Cobar, you think that that settles the question of a line by the Lachlan Valley? It does to a large extent. There is such a long stretch of country over which a new line would have to be made.
489. Still, it is 62 miles further from Sydney to Broken Hill than it would be the other way? Yes; still, the making of the line to Cobar has affected the question.
490. You think it has settled the question? To a large extent. The other question has not been looked at by the Commissioners. They only considered the route submitted.
491. *Mr. O'Sullivan.*] The Commissioners drew up an estimate of the traffic of this line? You will find from their Report that they abstained from giving an estimate of the traffic.
492. Since they expressed an opinion upon the line has it been determined to reduce the grade? Yes, from 1 in 70 to 1 in 100.
493. Will not that help to reduce the expense of working it? It will allow us to carry bigger loads.
494. It will reduce the expense? We expect a bigger traffic, but I do not know that the Commissioners would ask that the estimate of working expenses should be reduced materially in any way.
495. The reduction of the grade to 1 in 100 is an argument that has arisen in favour of this line since our last inquiry? Yes.
496. Has the attention of the Commissioners been directed to the evidence of the Collector of Customs of Wilcannia, and of Mr. George Doake, a merchant of Wilcannia? I think that they saw that evidence. The same information was brought under their notice in a general way.
497. I notice that Mr. Doake says that the outward and inward traffic of Wilcannia for three years amounted, in round numbers, to 209,000 tons, and that the value of that tonnage was £3,306,000; that should be a very large trade. Wilcannia is the centre of the trade of the Mount Browne district and other large districts? It is a very large district.
498. And a railway to Wilcannia must tap the trade of all that district? Yes.
499. Is it not probable that if a line were taken up the Lachlan Valley to Menindie a large section of that trade would be lost? It might shift the trade from Wilcannia to Menindie, but the alternative line was not submitted to the Commissioners.
500. Would it not shift the trade of Wilcannia to Broken Hill? It might have that effect, Menindie being so much closer.
501. Are you aware that at present teams and camels are going to the Queensland Border from Broken Hill? No; I think most of the Queensland trade is done from Bourke.
502. This line to Broken Hill would serve as a valuable stock line? Yes; and it will be an important stock-saving line in the case of drought.
503. It would be a valuable line for giving a short cut from Adelaide to Brisbane if the line from Werris Creek to Dubbo is carried out? Yes; it would save 400 miles.
504. It will be a valuable line for bringing passengers from Port Augusta to Port Darwin? Yes.
505. It will be a valuable line for passengers coming out from Great Britain, India, and other places? No doubt it would save them a big distance, but the project is rather remote at present.
506. Is this line not one-third of the way across the continent? It will be some time before you get steamers to run that way.
507. It will be some time before we get this line? If it is decided to construct this line the Commissioners would like to make a start from four points at once, and in this way they thought that it might be made in eighteen months.
508. Admitting all that, there is no doubt that this line across the continent will be completed at no distant date? I could not say that.
509. Has not the line been constructed to a distance of 700 miles? I think not.
510. A section already runs from Port Darwin, does it not? Yes, for 70 miles.
511. It shows, then, that the South Australian people are in earnest? They have a tremendous stretch of the line yet to make.
512. That is only a matter of time? Yes, I daresay.
513. Then this line will be available for bringing passengers overland through Central Australia? It would save a big distance, but we may ultimately have a line from Bourke to tap that line.
514. From whatever point of view it is looked at, it seems a desirable line to construct? It is, from a national point of view.
515. You have no doubt that the trade of Broken Hill will be gained? Yes; as I have pointed out, a portion of it will still go to Adelaide.
516. *Mr. Lee.*] What has been the effect of our low rates upon the grain and mineral traffic so far—has it increased the traffic? Last year happened to be, unfortunately, a more favourable grain season than this has been.

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517. Last year was the first year you brought into operation your low rates for grain? Yes; in August.
518. Did those low rates induce people at long distances to use the railways for the carriage of their grain? We have not yet got any clear statistical results.
519. Did you get more last year than the previous years? I have not the figures.
520. Can you tell me anything about the carriage of the low grade ores in consequence of your reduced rates? We are commencing to find that a good quantity of low grade ores are coming down.
521. Have you not found that there was a very large increase in consignments of ores since you reduced the rate? Yes.
522. People are getting to understand the advantage of reduced rates? I do not think the people know it generally enough yet.
523. Are there not large works in the metropolitan district—the Clyde works? Yes.
524. Is it not a fact that large quantities of ores have been sent down to Sydney? Yes; they are getting large quantities.
525. Is it not a fact that those works were in existence before you reduced your rate? Yes.
526. Have you reason to suppose that the quantity has increased since you decreased the rates? We feel sure that it has, and that as people get to know more about it, they will send down more of their low grade ores.
527. Is the Department sufficiently well satisfied to continue the reduced rates? Yes.
528. Has the traffic come up to their expectations? I think so. I think the Commissioners are fairly satisfied.
529. Have they any reason to increase the rates because they have not been availed of as largely as was expected? No; they have not had any thought of increasing the rates.
530. One  $\frac{1}{2}$ d. per ton per mile is £1 6s. 6d. from Broken Hill to Lithgow? Yes.
531. Do you not look forward to a return freight as well? Yes; we think there will be coke and coal going back.
532. What is the present rate per ton per mile of coal? The general thing for a long distance is about  $\frac{1}{2}$ d. We should probably make it about the same both ways.
533. Therefore, at the present rate for long distances, coal could be carried to Broken Hill at £1 19s. 9d. per ton? Yes; the Commissioners do not wish to go into it at present.
534. Are you keeping well in view the proposal to reduce the grades to 1 in 100, so as to admit of the largest possible load being carried? Yes; the Commissioners have recommended that.
535. Is that an important factor in the future prospects of the line? Very important.
536. If you can carry at a low rate, the more the line is likely to be used? Yes; and a better position we shall be in to compete for the trade.
537. Have the Commissioners given any consideration to the question of a uniform gauge? Yes; the Chief Commissioner in particular has given much consideration to the question.
538. Have they applied it to this line as to getting a uniform gauge with Queensland? Not particularly; but they look upon it as most desirable.
539. Have they any special evidence on behalf of this line as tending towards it? Of course, it might lead the South Australian people to see the awkwardness of having a break of gauge on the Border. There seems to be a feeling in that colony in favour of the gauge that we have here, and also in favour of a uniform gauge.
540. Since the Great Northern line has been constructed to Tenterfield, you have had to compete with the coastal trade on the eastern side for 120 miles, and on the northern 220 miles, and do you find still that a fair proportion of the goods traffic is going to Tenterfield? Yes; we have a very good traffic to Glen Innes and Tenterfield.
541. You get a fair share? A very fair share.
542. The same argument will apply to this line to Broken Hill, which has Adelaide at one end and the Darling River at the other? We think we shall get a fair proportion of the trade. It is a difficult thing to estimate what actual traffic we should get.
543. I want you to compare the value of the Hay traffic and the contemplated traffic from Broken Hill; are we likely to fall into the same error as we did in making that line to Hay? Well, we have a big market at each end of this line.
544. Was there, or was there not, at Hay anything approaching the population that there is now at Broken Hill? Nothing like it.
545. Was there ever the trade at Hay that there was done at Broken Hill? Nothing like it.
546. Is it fair to assume that in starting this line to the large population in the extreme west, we are bound to get a proportion of the trade of that district? We think we shall get it, and the traffic will be kept within the colony, both passenger and goods.
547. Are you not depending entirely for a return trade from Hay upon wool and stock? Yes.
548. But it is not so with regard to Broken Hill? No; on the Broken Hill line there would be a mineral trade as well as a pastoral trade.
549. Do you expect any increase in the pastoral trade? Yes; the country will be taken up under home-stead leases between Cobar and Wilcanhia.
550. But is there not at present a much larger prospect of traffic to and from Broken Hill than there ever was at Hay? Yes.
551. Do you think there is any analogy between the two lines? There is, and yet there is not. They both pass through pastoral country, but in this case we have a bigger centre with a large mineral trade.
552. The Hay line passes only through pastoral country, but this line will have at its terminus a great mining and commercial centre? Yes; and it will be a connecting link between two great commercial capitals—Adelaide and Sydney.
553. What I want to know is whether we are pursuing the same course as we did in regard to the Hay line, or are the conditions different? They are different.
554. Are the prospects of this line better? They are better, and you have a bigger object in view at the other end.
555. *Mr. Humphrey.* The distance between Broken Hill and Adelaide is about 300 miles? A little better, I think, than that.
556. And between Bowenfels and Broken Hill about 670 miles? About 640 miles.

557. At the present time, are not considerable quantities of ore being sent from Broken Hill to Port Pirie and Adelaide for smelting? We know that large quantities of ore are sent, and I think that there are smelting works in Adelaide.

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558. What reason have you to think that any large quantity of ore will be sent 640 miles to Bowenfels, instead of 330 miles to Port Pirie and Adelaide? At present there is no material for smelting at Port Pirie. They have to bring it there.

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559. What would be the cost of taking the coke and coal by water from Newcastle to Port Pirie? That varies, perhaps, every month. It is a matter that you cannot fairly get at.

560. Do you think that water carriage would be less than the railway carriage? Taking everything into consideration—the question of two or three handlings, and the sending of the ore from Broken Hill to Port Pirie, the carriage of the coal from Newcastle, and other difficulties, we think that a large quantity of ore will come to Lithgow.

561. You have considered that? Yes; it has been fully considered.

562. Wilcannia is about 450 miles from Adelaide, is it not, as against 600 miles from Sydney? There is about 150 miles difference between the two.

563. What reason have you to think that the produce in the vicinity of Wilcannia would be sent to Sydney for shipment in preference to Adelaide? The certainty of quick transit would pretty well equalise the difference in their haulage.

564. Would there not be equally rapid transit from Wilcannia to Adelaide? There is a break in the gauge, and the Commissioners do not like to go into the question of rates. There would be competitive rates.

565. You have taken that into consideration? Yes.

566. And recommend the line? The Commissioners would like it to be understood that they recommend it largely as a national line.

567. Leaving the nationality of the line out, is there a prospect of its paying interest on the cost of construction within a few years? They think that in time the traffic will grow so as to make it a commercial success, but they do not anticipate that that would be for some years to come.

568. Can you give any time? They would not like to do that. The line would give national advantages to the colony. That is the way in which they look at it.

569. *Mr. Copeland.*] Are you aware that at the present time there is a considerable amount of ore sent from Broken Hill to Adelaide, from Adelaide to Sydney, and from Sydney to the Clyde works? I did not know that there were great quantities, but I knew the ore was being sent. We understood that mostly it was being treated at Port Pirie or Broken Hill.

570. Only the other night I travelled to Melbourne with one of the directors of the Clyde Company, who told me that they were erecting additional furnaces to enable them to treat Broken Hill ores at the Clyde works. Have you any information in the Department to show what quantity of ore has been taken from Redfern to the Clyde? We could easily get it.

571. Could you ask Mr. Kirkcaldie to be prepared with that information when he is examined? Yes.

572. I suppose you would be under the impression that if they now send the ore from Broken Hill to Adelaide, and from Adelaide to Sydney by sea, then from Sydney to the Clyde works, having all these changes, that they would be very likely to send the ore in much larger quantities if they could send it right through direct? That would be strongly in favour of our contention that it would be sent to Lithgow.

TUESDAY, 17 MARCH, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

THE HON. ANDREW GARRAN.

THE HON. FREDERICK THOMAS HUMPHERY.

THE HON. WILLIAM JOSEPH TRICKETT.

THE HON. GEORGE HENRY COX.

JACOB GARRARD, Esq.

HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

WILLIAM McCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

Harrie Wood, Esq., Under Secretary for Mines, sworn, and examined:—

573. *Mr. Copeland.*] I believe you are Under Secretary for Mines? Yes.

574. How long have you occupied that position? Since 1874.

575. Do you know the country to the west of Cobar, and between Cobar and Wilcannia? No.

576. Do you know the country north-west of Wilcannia—Mount Browne way? Yes.

577. Have you personally inspected it? I have travelled through it twice.

578. Can you tell the Committee whether there are any mining fields in that direction? Yes; I know the fields at Milparinka, Mount Browne, and Tibooburra; but discoveries have been made since I was there in other parts, and I know from the official records that a number of leases have been applied for and taken up in those places.

579. What is the nature of the mining? Alluvial gold-mining and quartz-mining in the Milparinka district.

580. Milparinka is between Wilcannia and Mount Browne? Yes; Mount Browne is no great distance from Milparinka. Tibooburra is further towards the Queensland Border.

581. Then there is gold-mining, and there is quartz as well as alluvial? I cannot say that there is actually any quartz-mining at the present time, but there has been. When I was at Warratta Creek they had a crushing plant, but it was standing idle.

582. Then the other class of mining is deep alluvial—is it? It is not very deep; but the probability is that they will get deeper still. They have got down, I think, somewhere about 120 or 130 feet.\*

583. Can you say any and what mines are payable? Some of the mines at Mount Browne have been paying very well.

584.

H. Wood,  
Esq.

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\* NOTE (on revision):—This should have been 220 or 230. I now find that the shaft was bottomed 247 feet, but was supposed to be not in the deepest ground; therefore the shaft was sunk 30 feet into the bed-rock, making a total depth of 277 feet.

- H. Wood, Esq.  
7 Mar., 1891.
584. Were those the shallower mines? They were somewhat shallower than those I have mentioned, I think. But the difficulty in some of these places is the scarcity of water.
585. Is there not a considerable quantity of water on the ground in some of them? Yes, in the deeper mines.
586. Have any of the deeper mines been proved to contain payable gold? Yes; that one known as the Prospecting Claim at Mount Browne has proved payable gold in deep ground. They have a great quantity of water there to contend with.
587. Have they proved the width of the lead? Not that I am aware of.
588. Have they proved that it is a gutter or lead? I cannot say that they have proved the sides of the lead. As far as I know, their works have not extended to that length yet.
589. Do you know how far they have driven out the wash? No; they were unable to get into deep ground for a long time—I do not know whether they are actually in the deepest ground yet. They had to work in the shallower part on account of the water.
590. You have had mining experience at Ballarat, have you not? Yes.
591. From your Ballarat experience, do you think that Mount Browne is likely to be a permanent gold-field? The characteristics of the country are so different from anything they have at Ballarat that it would be difficult to form an opinion from the amount of work that was done when I was there.
592. Have they not got trap rock in the formation? I am not aware that they have. They may have. The shaft that they had been working was pretty nearly full of water when I was there. There was no chance of seeing the formation.
593. Can you tell the Committee how many leases have been taken up for gold-mining purposes in that district, and the area of them? Yes. At Milparinka there are twenty-nine gold leases, comprising an area of 466 acres 1 rood 24 perches; and there are two mineral leases, containing 28 acres\*, at Milparinka.
594. Are all these leases now in force? Yes. Then there are four applications for gold leases not yet dealt with, containing 71 acres 1 rood 16 perches, at Milparinka.
595. And what number at Mount Browne? Milparinka is where the office is situated. Mount Browne is only about 16 or 18 miles from Milparinka.
596. Is that the only gold-field in that district? No; there are gullies, and so forth, stretching right away from Milparinka towards Tibooburra.
597. What number of leases have been taken up at Tibooburra? None. The areas are only held in claims by small miners who use puddling machines.
598. I suppose good payable gold has been obtained at Tibooburra? Yes. The difficulty there is the scarcity of water. They cannot work for a considerable time on account of having no water in the dams.
599. Can you say how many miners' rights were issued in the whole of the district last year? I can get that information.
600. Can you give the Committee any idea how many people are located on these gold-fields? I can give that information later on, but I have not got it with me.
601. You do not know the amount of revenue the Government has received by mineral licenses and leases? We can easily get at the revenue from leases, because mineral leases represent 5s. an acre per annum, and gold leases £1 an acre per annum.
602. I should like to know if those leases were actually in force last year? Yes, those were actually in force.
603. Have there not been some opal mines discovered in that neighbourhood? Yes.
604. Where are they situated? The place is known as the parish of Kirk.
605. How far is the position from Wilcannia? I think about 90 miles.
606. In which direction? On the road towards Milparinka. It is very nearly north—a little west of north.
607. Still, it is within the territory of New South Wales? Yes; it is not so far from Wilcannia as Milparinka.
608. Then is it your opinion that there is likely to be mining enterprise carried on in that district for the future? I should think it is highly probable. There are two or three other places in the district where leases have been taken up for silver, copper, and gold, besides Milparinka and Tibooburra.
609. Have you any information as to the machinery that has gone up into that neighbourhood? I am not aware that any machinery has gone to any of those places, except that there was some sent to Poolamacca.
610. Has there been a winding-engine or a pump-engine sent up? Yes, to Mount Browne. But with the exception of Mount Browne, I do not know of any place besides Poolamacca to which machinery has been sent.
611. I understood you to say that they had proved payable dirt in the deep ground that has been troubled with water? Yes. Above the water level it was payable. That was because the expense of working was so much less.
612. Are we to understand that since they have got to the water the ground is not payable? No. As far as I know, it is. But their work has been delayed by having to get machinery to contend with the water.
613. Assuming that the ground is payable, is there any large area of deep ground likely to be opened up? I think that would be a question that Mr. Wilkinson would be able to answer better than I should.
614. Is there any other place open for mining that you know of between Wilcannia and Broken Hill? I cannot exactly say that there would be between Wilcannia and Broken Hill, because if you take a line from Wilcannia to Broken Hill those places would all be to the north of that line.
615. But in places so situated that a railway from Wilcannia to Broken Hill would be of service in developing such mines? It is very possible that the railway would be of service to them, although the railway would probably not go very near to them.
616. What places are you alluding to now? To Milparinka, Wonnaminna, Nuntherungie, and the opal mines in the parish of Kirk.
617. Can you tell the Committee anything in reference to the opal mines—whether they have been reported on favourably? We have seen some very good samples of opals from there.
618. Have any of your officers inspected the mines? No—none of the geological officers. I can give you the area of land held under mineral leases at those various places. At Poolamacca there are thirty-seven mineral

\* NOTE (on revision):—See written statement handed in.

mineral leases, comprising 1,459 acres 23 perches; at Corona there are thirty-five leases, comprising 1,364 acres 3 roods 8 perches; at Nuntherungie there are four leases, comprising 160 acres; in the parish of Kirk there are eleven leases, comprising 460 acres. Then there are applications pending as follows:— Poolamacca, forty-six, comprising 1,820 acres; Corona, two, comprising 80 acres; at Nuntherungie, eighty-eight applications, comprising 3,460 acres; in the parish of Kirk five applications, comprising 184 acres 2 roods 28½ perches.

H. Wood,  
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619. Do you think that the whole of those places would be benefited by the construction of the proposed railway? I do not think there can be any doubt about that.

620. Have you any information as to the number of leases in the vicinity of Broken Hill? No. I did not know that I should be required to give that information, but I can get it.

621. Will you prepare a return of the number of the leases and the area of them, in the whole of the Broken Hill district, from Broken Hill to Cockburn? Yes.

622. And will you supplement that return with the number of miner's rights and mineral licenses, and the total revenue derived from them; also the revenue derived from the leases? Yes.

623. *Dr. Garran.*] From the map, I see that the mineral district lies rather to the north-west of Wilcannia? Yes.

624. It does not lie directly on the line between Wilcannia and Broken Hill? No.

625. So that if we are going to get the benefit of a railway we should rather go north-west than south-west? It would suit the miners better, no doubt.

626. Do you know of any limestone there? Yes; there is limestone at a place called Terrawingie.

627. That would not be on the line of road? I do not know whether it would be.

628. Do you think any material for flux would be found on the line between Wilcannia and Broken Hill? I do not know.

629. You know of no outcrop of ironstone? No.

630. Nor of limestone? No; but Mr. Wilkinson would be able to tell you better.

631. *Mr. Tonkin.*] Can you tell the Committee whether there has been an increase or decrease in the population in the country north-west of Wilcannia within the last twelve months;—do your returns show that the country is as good as previously, or better, or worse? I should think better.

632. You think there is a solid increase? Yes; but further back still, in point of time, there were a greater number of people at Poolamacca and Corona than there are now in all probability. Those mines were mostly abandoned, but a good many of them are being taken up again.

633. Are those gold mines? No; at Poolamacca tin, and at Corona silver.

634. Is the population of Milparinka increasing or decreasing? I think it is pretty much the same. As far as I recollect there has been no very great variation.

635. Do you think that in the event of the railway being constructed it would assist in increasing the population there? Only in a very limited degree, I should think, because the railway will be such a considerable distance from them.

636. Do you think that the mineral fields are fully populated, as regards their bearing capacity? I do not. I think they are fully populated, as far as the facilities for working, on account of the water, are concerned. In the Tibooburra district now they are nearly all puddling. The rainfall there is comparatively small, and the only way of conserving the water is by means of little dams, the contents of which cannot last long.

637. Do you know whether any minerals have been carted away from there to be sent to Adelaide for treatment? Not from Mount Browne or Tibooburra, but ores might have been taken from other mines.

638. That would come to Wilcannia? I do not know. Possibly some would, but any from Corona and Poolamacca would go through Silverton.

639. You have not heard that there has been a large quantity of minerals sent down by boat from Wilcannia? No. It is possible that some may have been sent down for test, but not in large quantities.

640. You say you do not know the country between Cobar and Wilcannia? I do not.

641. Have there been any minerals discovered there of any kind at all? Not that I am aware of. I have heard that there is mineral country there.

642. There is nothing doing there through the Department? No.

643. Do you know the Cobar copper mines? Only by repute. They have been standing for some time, but it is reported that they will start again if the railway is made.

644. Do you know any other copper mines working in that locality? There are some gold mines.

645. Any other copper mines? Not any working at present. The Nymagee mine is within the Cobar district.

646. You could not say, of your own knowledge, whether the Cobar mine is likely to start again? I only know from wardens' reports that it will.

647. Then we have every reason to believe that it would? Oh, yes, as soon as the railway is there. One of the difficulties which they have had to contend with was want of fuel.

648. *Mr. Garvan.*] With reference to the proposed railway, do you think there is any gold mining industry anywhere in that country to form an argument in favour of the construction of the line? No; except that the gold miners might provide passenger traffic on the railway.

649. Is gold mining of that character that the State would be warranted in constructing a railway merely for the gold mining industry? No.

650. Gold mining is not of that certain and continuous character that would warrant the construction of the railway? I do not think so. The only advantage I see from it would be that it would enable them to get their machinery more easily to the mines.

651. The production of the gold mining industry would afford very little freight? Very little, I should say.

652. Almost nothing? Almost nothing.

653. What length of time, on the average, have any of the good gold mines lasted anywhere in the colonies? I know some that have been in work since 1856 continuously.

654. But are there not a much greater number that do not continue that length of time? No doubt.

655. If the country were suitable for agriculture, would it not then warrant the construction of a railway if gold were discovered, in the expectation that when the gold mining was done people would resort to agriculture? Yes.

- H. Wood, Esq.  
17 Mar., 1891.
656. Do these conditions exist at any of the mines bearing upon this railway? No; I cannot say that they do, owing to the sparse rainfall. I think it very likely that the soil would be good enough in some places for agricultural purposes, but want of water is the difficulty.
657. But if gold mining ceased in those places there would be nothing to sustain the population at all? No; I should not think so, except just a pastoral population.
658. Is there any coal mining in the district, or any probability of it? I have never heard that there was any coal there at all.

[Charles Smith Wilkinson, Esq., Geological Surveyor (in charge), Department of Mines, sworn, and examined:—

- C. S. Wilkinson, Esq.  
17 Mar., 1891.
659. *Mr. Copeland.*] What position do you occupy? Geological Surveyor (in charge).
660. How long have you held that position? Since 1874.
661. Prior to that time did you have any experience of a similar occupation? I had over nine years' experience on the Victorian Geological Survey.
662. You have travelled over the country which the proposed railway will traverse, I believe, between Cobar and Wilcannia, and between Wilcannia and Broken Hill? Yes.
663. You have seen the whole of that country, then? I have travelled from Wilcannia to Broken Hill, and inspected a great deal of country on either side, and from there to Mount Browne.
664. Have you travelled between Cobar and Wilcannia? I have not.
665. From the official records in the Department, do you know of any mineral country between Cobar and Wilcannia that would warrant the extension of the railway beyond Cobar? From specimens which I have received from various correspondents, I conclude that nearly the whole of the country between Cobar and Wilcannia, is of metalliferous formation, with patches of sandy areas between, which, no doubt, cover up metalliferous ground.
666. Then you would anticipate that copper and silver would be discovered on the road between Cobar and Wilcannia? Yes.
667. Do you know of any iron deposits suitable for fluxing purposes, which would create a traffic for the railway between there and Broken Hill? I have heard of the occurrence of iron ore between Cobar and Wilcannia, but have not seen it.
668. But, as far as the section of the country between Cobar and Wilcannia is concerned, you have seen specimens which indicated that there would be mineral fields opened up eventually, in the shape of silver and copper mines? Yes, I believe the formation of the country is favourable to the occurrence of metalliferous lodes, such as gold, copper, silver, and iron.
669. I suppose there are no indications of coal in that country? No.
670. Crossing the Darling, and confining your attention to the west of the Darling, what is your impression about the alluvial fields at Mount Browne, Milparinka, and round there;—do you think they are likely to be of a permanent character? The deep sinking is likely to be permanent, but the shallow deposits only afford employment during very wet weather. They are practically worked out.
671. Do you think all the shallow deposits are worked out, and that all have been discovered that are likely to exist? I think they have all been discovered; but there are extensive patches which would pay if water could be brought on to them. In wet seasons the miners work on them, making £3 or £4 per week per man.
672. Has the country been prospected? For shallow alluvial it has.
673. With reference to the deep country, has it been sufficiently prospected to warrant you in saying it is likely to be payable if it gets watered? I inspected the deepest claim there, where payable gold has been traced down to the water. I have reason to believe that there are many extensive deposits of the same nature all around the Mount Browne Range. I think they will find permanent payable deposits of gold.
674. Is it likely to take the form of leads? No; leads are deposits formed by river flows. Mount Browne has been a cretaceous island in the ocean, and there payable gold will be found in patches, not in leads.
675. Do you think the deposit is likely to be extensive and to give employment for a long time to come? I think it will last for many years.
676. Is there any chance of any other deep deposits being discovered besides that one? I may be permitted to point out that from Cobar there is a belt of mineral formation stretching across the country to Broken Hill and Silverton, the margin of which is more or less covered with shallow deposits. There was a spur to the north, but the low ground became covered with a marine formation, leaving the higher points of the land, Mount Browne and Tiboooburra, surrounded by a cretaceous formation, and in the patches you get the alluvial deposits; there are found in many places on these patches quartz reefs. The scarcity of water and the cost of provisions prevents them being worked at the present day, but, no doubt, rich gold-bearing reefs will be worked there in the future, when greater facilities for mining are obtained. We have a large patch starting a few miles west of Wilcannia, going in a north-westerly direction, including the Cooningberry Range, then south-westerly to Cockburn, and then back to near Wilcannia. It embraces metalliferous formations.
677. Do you expect that there are many lodes up to the present undiscovered, which will yet be found of a payable character? Yes.
678. Taking the whole of the Broken Hill district and the Mount Browne district, you think that part of the country is not likely to give out for many years to come? No, it will rather increase in mining importance.
679. There is not likely to be any coal there? No; the nearest carboniferous formation is in the Dubbo district.
680. Do you know anything likely to create a traffic between Wilcannia and Broken Hill in the shape of limestone or iron ore for fluxing purposes? Not unless they find iron ore between Cobar and Wilcannia, but I have seen no evidence of it between Wilcannia and Broken Hill, except in very small lodes which would not be payable to work.
681. Do you think, from what you have seen in other parts of this colony and in the other colonies, that the construction of this railway, *via* Cobar to Broken Hill, would tend to develop those mineral fields? It depends entirely upon the cost of transit upon the railway line. It is 300 miles from Adelaide to Broken Hill, as against 600 miles from Broken Hill to Sydney.

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682. Do you not think there would probably be a traffic between the intermediate places;—do you not think the people from Wilcannia might run up to Broken Hill and to places between those places, and would not that have a tendency to induce speculation and encourage prospecting? Not to any very great extent, because the population in that part of the country is so small. The speculators come from the cities, but I think the cost of production on the whole would be lessened by utilising the coal found in the Dubbo district.

683. Do you know, what is an undoubted fact, that some of the mines of Cobar are carried on almost entirely on capital owned by Wilcannia people? I was not aware of that.

684. A large proportion of the shares in the Occidental mine at Cobar are held by Wilcannia people; would not the same thing take place if a railway were made from Cobar to Broken Hill; would it not be likely to develop new mining industries? It would awaken more interest, I daresay.

685. Would it not enable the people to get about the country better? Certainly.

686. I suppose that during a period of drought it is practically impossible to get about the country prospecting? Quite so.

687. If a railway were constructed, water tanks were made, and water conserved, would it not enable people to get about the country better? It would enable them to get from one place to another more readily than they can do on horseback.

688. Do you think there would be any possibility of a trade of this character springing up; do you think that the Broken Hill mine owners and the owners, of any intermediate mines that may be discovered, will send ore to be melted to furnaces to be erected at (say) Lithgow, if the Railway Commissioners afforded cheap carriage to encourage them. Trains bringing ore to Lithgow and taking back coal to Broken Hill, do you think there is any probability of a traffic like that being developed? I think so, if the rates of transit were less than those to Adelaide or to Port Pirie. There are many things to be considered. At present the coke manufactured in this country is not equal to that imported from home for smelting purposes, and which they use at Port Pirie. I am of opinion that if attention is given to the manufacture of coke, coke quite equal to that imported can be made here.

689. Have we no good coke at Newcastle, Wallsend, or any of those places? None equal to the English coke for large furnaces. For that reason they get over 25,000 tons of this coke every year from England.

690. Suppose some amount of attention were given to the manufacture of coke here, do you think we could produce coke as good as that which is imported? I think we could.

691. In making it at home, is not the coal crushed and washed? In some instances, but not in all.

692. You think they could make superior coke by paying greater attention to the manufacture of it? I think so.

693. Do you know anything of the coal supposed to be found at Dubbo? Yes; I have seen the seam near Dubbo.

694. What is the nature of the seam? It contains too many bands to be profitably worked in the ordinary way; but if coal-washing machinery were introduced I believe it would be very valuable, and could be worked for the manufacture of coke.

695. How thick is the seam? I think about 10 feet, including the bands.

696. Do you remember the thickness of the bands? The greatest thickness of coal between the bands was from 6 to 9 inches.

697. Do you think it would ever pay to work a seam so full of bands as that? With washing machinery it might. In Scotland I saw a seam containing, including the bands, about 20 per cent. of ash. This was washed down to about 6 per cent. of ash at a cost of 1½d. per ton. I think that the Dubbo coal might be treated in a similar way.

698. Are there any iron clay bands intermixed? There are clay bands, but not iron.

699. Is there any iron about Dubbo—anything that would facilitate smelting at Dubbo? I have seen one large lode a few miles to the west of Dubbo; it has not been opened at all.

700. Is there any limestone? Yes, between Wellington and Dubbo there is an immense quantity.

701. Did you test the quality of the coal at Dubbo? Yes, it was equal to the Newcastle coal as regards quality.

702. To the best Newcastle coal? Yes.

703. Then it would undoubtedly make coke if proper attention were paid to its manufacture? I could not say whether it would make coke. The seam was not opened, and I could not judge of its qualities for coke making unless I got a sample after it had been opened up. It has been opened since, but I have not seen a sample. It may not be suitable for coke when it has been exposed for some time. That which I tested, though it gave gas properties equal to those of the Newcastle coal, could not be tested for coke.

704. If it gave good gas, was not that a favourable indication? Yes. That is my reason for saying that it would probably make good coke.

705. Would you think it possible to develop a traffic between Broken Hill and Dubbo if they were to commence to make coke at Dubbo? I believe so.

706. Take the coke one way, and bring ore from Broken Hill to Dubbo? It could be supplied cheaper from Dubbo, if the carriage was ½d. a ton per mile, than it could be imported from England.

707. I suppose you know that the Commissioners are only charging ¼d. per ton per mile for minerals, under certain conditions; 2½d. per mile for a truck containing 6 tons for every train of over 30 trucks—the minimum rate being 15s. per truck. That is less than ¼d. per ton per mile? Yes.

708. You think that if the Commissioners were only to charge at that rate it would be cheaper for the Broken Hill people to get their coke from Dubbo than from England? Yes.

709. Have you inspected the mines of Broken Hill lately? Not since 1887.

710. You cannot tell the Committee anything with reference to the payable character, or otherwise, of the ores at the deepest levels of Broken Hill? Not from inspection. But my belief is that they will be equally profitably worked, but will require different machinery for treating the sulphides instead of gossan ore.

711. Have you sufficient information to warrant you in expressing any opinion as to the sulphide ores continuing payable down to any great depth? Only that the lode bears evidence of being a very permanent one, and continues to a considerable depth, and as the upper portion of the lode is merely the oxidised portion of the original lode, there is no reason to suppose that the lode will decrease in richness in going deeper.

- C. S. Wilkinson, Esq.  
17 Mar., 1891.
712. It will only change the constituent parts? Yes, and require different treatment.
713. *Mr. Tonkin.*] Would not a ton of sulphide ore contain less silver from the same lode than a ton of gossan ore? Yes, because the gossan ore is lighter.
714. Then, though at the bottom it may not be quite so rich per ton, still it is a payable ore? Yes.
715. Have you not had experience of that at Sunny Corner? Yes.
716. Do you believe that there are any other lodes on the other side of Broken Hill that will develop the same class of lodes? I have seen small ones only 2 or 3 ft. in thickness. I inspected over a hundred, but it would not pay to erect works upon such lodes. No doubt many will be found which will contribute large supplies of ores to central smelting works.
717. Those would all be developed if the railway were constructed? I think so.
718. I suppose you know that what you have mentioned does take place around Silverton? Yes.
719. And there is a possibility of it nearer Wilcannia? Yes.
720. Then, if that were the case, the railway would find a traffic at once? Yes.
721. More especially if we could erect smelting works at Dubbo, or where the coal is found? Yes, or perhaps at Wilcannia.
722. Wilcannia would be well situated for smelting works, would it not, on account of the river being alongside of it? Yes. It is better to carry coke to the smelters than to carry the ore.
723. As a matter of fact, however, they do carry a lot of ore now to Adelaide and Port Pirie? Yes.
724. I mean from mines that actually have smelting appliances? Yes.
725. Have you any reason to believe that the country between Wilcannia and Broken Hill is likely to maintain a large mining population? It will maintain a very scattered population, because the lodes appear to occur in belts with barren areas between. I think the population will, in the future, be large as the reefs are opened; but there will be no large centres like Broken Hill.
726. Do you know anything of the lode discovered near Calker's Well? No lodes were opened up at the time when I visited the place, but I indicated it on my map as a favourable place for prospectors to go to look for gold—not for silver—and in the last two years they have discovered gold about 38 miles west of Wilcannia.
727. Do you anticipate any development in tin mines in that district? Yes; north of Broken Hill I believe large quantities of tin will be raised.
728. Is that so situated that it can be worked with water? Water could be conserved. The features of the country are such that good reservoirs could be made, and the rainfall is sufficient if the reservoirs are made large enough.
729. Is it alluvial tin or lode tin? Lode tin.
730. Then they would not require so much water as they would in dealing with alluvial tin? About the same.
731. I think you say you have not been along the line of country between Cobar and Wilcannia? No.
732. But still you believe that country to contain minerals? I know it to be of metalliferous formation, where we should expect to find payable lodes.
733. I think you told Mr. Copeland that the construction of the railway would result in the development of the minerals in the district? It would offer many facilities indirectly to the miners, and I think directly, if they succeed in getting good coke at Dubbo. I think there will be a large supply of coke required in the Broken Hill and Wilcannia districts. The whole country north and south of the narrow belt which I have described is pastoral and not mineral bearing. Any mineral that may be valuable in that country is gypsum. 70 miles from Wilcannia there are very large beds of gypsum, which may come in for use for agricultural purposes. That is south south-east of Wilcannia.
734. *Dr. Garran.*] Is that on the road between Condobolin and Menindie? No; to the north of that.
735. Not much? Not very much.
736. *Mr. Tonkin.*] Do you know much about Cobar? No; I have not been to Cobar.
737. *Dr. Garran.*] On a direct line between Wilcannia and Broken Hill, do you know of any mineral outcrops at present? Near Calker's Wells there is a gold-bearing reef. They find payable reefs near Broken Hill, in the Mount Gipps country—small payable silver lodes.
738. But on the direct line itself, is there much that would give a traffic to the railway? Not that I know of; but I expect the formation is similar.
739. You think that minerals may be discovered? Yes.
740. Is the district between Wilcannia and Milparinka more of a mineral district? No; it is precisely of the same formation for about 130 miles north of Broken Hill, on the road to Milparinka, as the Broken Hill country.
741. As some of the mineral country has been overlaid with alluvial deposits, you cannot tell what there is underneath? No.
742. You may be surprised by a discovery at any time? I do not think any discovery would be made there.
743. In that district you are not likely to find minerals at a payable depth? Only round the margin of the older formation.
744. Near Mount Browne is the margin of the mineral country? Yes.
745. But between that and the Darling it is uncertain? The formation continues from Silverton almost to Wilcannia, almost without a break, but there is a very wide break between Wilcannia and Mount Browne.
746. Then you think a line from Wilcannia to Broken Hill would run over a possible mineral country all the way? Nearly all the way.
747. And between Menindie and Broken Hill, would that be mineral country? About one half of the country between Menindie and Cockburn would be mineral country.
748. The first part, between Menindie and Broken Hill, would not be mineral, but the second would be? The first half is all pastoral. I may also point out, as it may have a direct bearing on the future of the district, the occurrence of artesian waters throughout all this district north of the mineral-bearing country. The last artesian well which has been referred to in the press is to the south-east of Milparinka.
749. About how many miles? I could not say from memory. No doubt the opening of artesian wells will increase the value of that country 100-fold, and lead to good settlement.
750. What do you consider the area of this mineral belt in our colony west of the Darling? 6,600 square miles.

751. And what is about the area of the cretaceous formation north of the Darling? About 40,000 square miles.
752. Right away up to the Paroo? Yes.
753. Wilcannia itself is on a cretaceous formation? No; it is on a Devonian formation. North of Wilcannia there has been a discovery of opal rocks which may become of some importance.
754. Do you look upon that Devonian formation as favourable to mineral deposits? Not in that locality.
755. But that is the old rock? Yes, it is.
756. And some of that flat country is filled up with the washings from that rock? Yes. That district, when it has plenty of water applied to the soil, is very fertile. When I was at Mount Browne I visited a Chinaman's garden, where I saw vegetables equal in size and quality to any that I have seen in Sydney. I saw white turnips 5 inches in diameter, and carrots 3 inches in diameter. They were grown by irrigation.
757. *Mr. Cox.*] Where was the water taken from? From a well.
758. It was not artesian water? No; it was soakage water.
759. *Dr. Garran.*] If we draw a line through the meridian of Wilcannia to the northern boundary of the colony, the country between that and our external boundary is, in the main, mineral country? About half of it. The north-western and south-western portion would be mineral.
760. *Mr. Copeland.*] Have you seen the opal discovery? I have not seen the discovery, but I have seen the formation in which it occurs, and I think there will be extensive deposits of it. I have seen some of the opals from it, and they were the finest specimens I have seen in Australia.
761. And likely to have a good commercial value? Yes.
762. From the nature of the opal formation is there any likelihood of other deposits being discovered, or is that likely to have occurred alone? It occurs alone in the cretaceous formation. There are no other minerals, except gypsum, with it.
763. As there is a large area of cretaceous formation, is there not likely to be other finds of opal besides that already made? I think there will be in different parts of the district, but not by sinking.
764. What I meant was this—that as these opals have been found there is a probability, I suppose, of others being found? Yes. The same formation extends north to Cooper's Creek, where they first found opals, and there is no reason why they should not be found in any part of the country between.
765. How far south do these cretaceous beds extend? To within about 70 miles north of Wilcannia. The boundary has not been accurately defined yet, but that is approximately the position.
766. Is there a very large deposit of gypsum? Yes; very extensive.
767. Would not that be very valuable for different purposes? It would.
768. Would it be useful to take that to Broken Hill for fluxing purposes? No, not for smelting.

## WEDNESDAY, 18 MARCH, 1891.

## Present:—

## THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.	JAMES EBENEZER TONKIN, Esq.
The Hon. FREDERICK THOMAS HUMPHERY.	WILLIAM SPRINGTHORPE DOWEL, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	EDWARD WILLIAM O'SULLIVAN, Esq.
The Hon. GEORGE HENRY COX.	WILLIAM McCOURT, Esq.
HENRY COPELAND, Esq.	JAMES PATRICK GARYAN, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

## Alexander Brown, Esq., M.P., sworn, and examined:—

769. *Dr. Garran.*] Are you one of the members for Newcastle? I am.
770. You are aware that it is proposed to construct a line from Cobar to Wilcannia and Broken Hill? Yes.
771. Have you, as member for Newcastle, any objections to offer to that line? I have.
772. Will you state them? I have no objections to offer as member for Newcastle, but I do object as a member of Parliament. To simplify the proceedings, I have briefly jotted down my objections, and I will go through them, and then members of the Committee can ask me any questions afterwards.
773. That will be part of your sworn evidence? Yes; my first objection is that with the probable federation of the colonies, the proposed railway ought not to be constructed; that it is in opposition to the spirit of general co-operation on the part of the whole of the colonies, where trade, according to our present Premier, will find its way to its natural channels, and not be carried on in artificial channels as hitherto. Another objection is that any trade that this line will secure can only be obtained on the basis of differential rates. That is owing to its great length. The line passes through a bad part of New South Wales as far as population is concerned. There is little or no population on the route, and there is not likely to be any population on it for years to come, which would warrant the expenditure of such a large sum of money. The construction of the line can only be supported on the supposition that the Broken Hill trade will find its way to Sydney, and that we should be able to supply the Broken Hill territory with produce from Sydney. I take it that that is one of the principal allegations in favour of its construction. This is impossible, as, had it not been for the Broken Hill trade, South Australia would almost have been compelled to annex itself to Victoria. I am not romancing. The Broken Hill trade is of such importance to South Australia, that before the Broken Hill mines came into existence, some of the prominent men in South Australia—I do not say in their political life—but some of the prominent business men had talked over the question as to the advisability of South Australia being annexed to Victoria, and I attach great importance to that fact. The Broken Hill trade represents to South Australia almost one-half of the total imports of the colony. This trade is not to be obtained by Sydney, except under very severe competition. The railway rates now for carriage are not payable rates, and what would it be if they came into conflict with South Australia. The South Australian Government will compete for this trade as I know, no matter what you do. The trade to them is of such importance that when you come into competition with them

A. Brown,  
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they will lower their present rates in order to keep it. An important reason alleged in favour of the construction of this railway is that it will be possible to take coal from Lithgow to Broken Hill, and to bring ores from Broken Hill to Lithgow, for smelting purposes. But the cost of transit by land, as compared with the cost of sea traffic, will not warrant that conclusion. The distance by land from Broken Hill to Lithgow, *via* Wilcannia, and Cobar, is 639 miles, whilst the distance from Broken Hill to Port Pirie is only 254 miles, and from Broken Hill to Port Adelaide 334 miles. Another reason given for the construction of the line is that ores are likely to be conveyed from Broken Hill to Lithgow for smelting purposes, but that is disposed of by the fact that the principal mines have already got their smelters erected, either at the mine or on the South Australian sea-board. I cannot be particularly accurate with regard to the figures which I am about to quote, because it is difficult to get definite information from the Government. I will give some statistics as to the actual rates at which ores and produce are likely to be carried between those places. The Government have not furnished me with an estimate, and I have been obliged to take my information from the goods book to the best of my ability. To carry ore at the New South Wales rate from Broken Hill to Lithgow, say 639 miles, would cost 25s. a ton. The charge for coal and coke from Lithgow to Broken Hill would be about 35s. These are arbitrary figures, but I believe they are considerably lower than they ought to be put. Upon bullion from Broken Hill to Sydney, the rate would be 84s. 10d.; on mine timber from Sydney to Broken Hill, 65s. 7d. per ton; on mine timber from Dubbo to Broken Hill, 40s. 9d. a ton; on first-class goods from Sydney to Broken Hill, £8 9s. 10d. a ton; on second-class goods from Sydney to Broken Hill, £10 11s. 9d. a ton; on third-class goods, £14 15s. 5d. a ton. These are the various New South Wales rates between those various points as far as I am able to ascertain them, and I believe that they are correct. Some changes may have been made in them, but I do not believe that they have been diminished. The rates from Broken Hill to Port Pirie, 254 miles, and Adelaide, 324 miles, have been furnished to me by the Adelaide people, and they are as follows:—To Port Pirie, ore, per ton, 16s. 6d., to Adelaide, 20s.; coal to Port Pirie, 23s., to Adelaide, 28s. 6d.; bullion to Port Pirie, 33s. 6d., to Adelaide, 42s.; coke to Port Pirie, 29s. 6d., to Adelaide, 37s.; mine timber to Port Pirie, 32s. 6d., to Adelaide, 41s.; first-class goods to Port Pirie, £3 1s., to Adelaide, £3 16s. 1d.; second-class goods to Port Pirie £4 10s. 5d., to Adelaide, £5 13s. 2d.; third-class goods to Port Pirie, £5 19s. 10d., to Adelaide, £7 10s. 2d. Another feature, as I pointed out to the Committee, must be considered, and that is that these rates, in case New South Wales enters into competition with South Australia for the Broken Hill trade, will be reduced by at least 25 per cent. on the South Australian railways. The Government of South Australia, through their Commissioners, had made a compact with the Silverton Tramway Company, which was entered into in 1888 for the haulage of all goods and passengers over the Silverton tramway for a period of five years, and on the 1st July, 1890, a new agreement was signed for a term of ten years, more favourable to the Silverton Tramway Company than that entered into in 1888. It is true that so far the South Australian Parliament, as a Parliament, have repudiated that contract, but the Silverton Tramway Company are perfectly satisfied with it, and the Commissioners are working under that contract, which really prevents any possibility of any railway we may make competing for the ores and produce of Broken Hill.

774. Do the rates which you have quoted include the Silverton Tramway rates? They do.

775. Under the old contribution or the new one? I could not tell. I was told that those were the rates.

776. Those are the rates that they are working under now? That is what I am told. Another objection to the proposed railway is that in order to get the trade of Wilcannia in that neighbourhood, we shall have to adopt a principle similar to those in existence, as regards Bourke and Albury, as Wilcannia is only distant from Port Pirie 374 miles; whilst from Sydney it is 615 miles distant—and the New South Wales Government will be practically making a railway to expedite the shipment of produce from South Australian ports. I have a letter from a prominent man in South Australia whose name I cannot give, but whose remarks on this subject I intend to read. They point conclusively to the fact, that if this railway is constructed it will really be a feeder for the South Australian railways, and the South Australian sea-board. Another objection to the line, is that all the principal mining companies have agreements for eight years from July, 1890, with the Tramway Company for the carriage of their products, and until the expiry of those agreements, I should say that three-quarters of the trade will find its way over the tramway to South Australia. The line, if constructed, will, in my opinion, be a heavy drag upon the railway revenue.

777. What did you say was the distance from Wilcannia to Port Pirie? 374 miles.

778. How do you make it out? Those are the figures which have been furnished to me officially. I believe it is impossible that the proposed line can pay working expenses unless the largest concessions are made, and a similar policy is pursued to that which we have adopted in regard to the existing Border lines. We shall not get any trade over the line unless that is done. The bridging of the Darling is, I think, likely to be much more costly than it is supposed to be, and with the heavy floods that occur in the river a very substantial structure must be erected. Another objection which I have to the line is that the question of a universal gauge is unsettled, and until it is settled the line should not be made, particularly as there is no immediate hurry for its construction. I have always had a strong objection to a national line, as this will be called, that being a synonymous term for a Sydney line. When we make our dictionary the two words "national" and "Sydney" will be synonymous. There is an important item to which I would call special attention, and that is the quality of the coke used at Broken Hill for mining purposes. The matter is one of which I have had considerable experience. I have already supplied the companies myself, but I am not supplying them now, because I am not able to supply coke of the quality that they want, and unfortunately the Newcastle people are largely out of the trade. One reason alleged in favour of the line is that the coke from Lithgow would be likely to go to Broken Hill, but I will show that the quality of the coke required by the companies is of such a superior character that up to the present time we have not been able to obtain it, so as to compete with the English article. I have obtained from the metallurgist in connection with a Broken Hill mine a statement as to what he considers to be the quality of the coke necessary for smelting purposes. The English coke is worth £1 a ton more than coke made in the colonies for smelting purposes. I had a contract myself for the supply to a Broken Hill company of coke from Newcastle, a kind that is known as "purified coke." Dr. Carran knows that the Purified Coke Company produces a very excellent quality of coke.

779. The recent report is that Rix Creek coke is the best? We supplied Rix Creek coke to a Broken Hill company, but they did not like it, and the only coke which they would take was that of the Purified Coke Company, attached to the Wallsend mine. Our contract with them was to supply coke at 52s., and that was plus 29s. 6d. for freight and other charges, leaving the price of the coke on its arrival

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at Broken Hill at 81s. 6d. per ton. Now they are supplied with coke from England, the Brancepeth coke, which is the best delivered in Port Pirie, at 54s., and the freight up from Port Pirie is 29s. 6d., which makes the total cost 83s. 6d. for the English as against 81s. 6d. for the colonial coke; and the English, according to the report of this metallurgist, is 20s. a ton superior to the colonial coke. At any rate, as far as I am concerned, my contract ceased for the reason that I could not compete with the English coke, it was of such superior quality to our coke. They are now burning the bulk of their stuff with English coke. English coke can be delivered at Port Pirie by contract for 54s., German coke for 52s. 6d., New Zealand coke 52s. 6d., Australian coke from 48s. to 55s. I estimate the freight on coke from Lithgow to Broken Hill at 35s. The figure has been fixed arbitrarily. The present rate from Newcastle to Orange, which I have paid, does not pay the cost of traction, which, the distance being 280 miles, is £1 7s. On the same ratio it would cost from Newcastle to Broken Hill £4, while they can deliver Brancepeth coke at current rates at Broken Hill, cost and freight, for 83s. 6d., which is 20s. a ton better than Australian coke for smelting purposes, as compared with Newcastle coke delivered by rail at £4, the cost being £1 10s., making it £5 10s. a ton.

780. You are speaking of Australian, as if the Newcastle and the Lithgow coke were of the same character? No. The Lithgow coke is so inferior for smelting purposes that it is useless to take it into consideration in connection with the proposed railway. So much is that so, that in a test made by metallurgists at Broken Hill it does not appear to have been tried. Even the mines in the vicinity of Lithgow do not use it. For £4 3s. 6d. a ton they can get a coke at Broken Hill 20s. a ton better than the best that can be got in the colonies, which will cost by rail £5 10s. a ton, so that really to compete with the English coke the colonial article would require to be landed at Broken Hill at £3 1s. 6d. instead of at £5 10s.

781. *Mr. Cox.*] What is the rate at which coke could be carried from Lithgow to Broken Hill? I have not been able to obtain an estimate.

782. We are told that it can be carried for less than  $\frac{1}{2}$ d. per ton per mile? The Railway Department may make some extraordinary concessions. My estimate is based on what I have paid recently from Newcastle to Orange, and I say that it would be necessary to deliver the coke at Broken Hill at a cost of £3 1s. 6d. instead of at £5 10s. Port Pirie is the natural outlet for the Broken Hill territory, and this is manifest from the fact that the tonnage at Port Pirie, which was considered the out-port, is, in consequence of the development of Broken Hill, larger than that of Port Adelaide. I say that Lithgow coke is unfit for smelting purposes, and with the excellent quality required for silver-smelting it would be useless. The mines in the immediate vicinity of Lithgow, such as the Tom Lewis Ponds, get all their supplies of coke from Newcastle, although Lithgow coke is available for them almost at their doors. Their getting their supplies of coke from Newcastle demonstrates that it would be useless to expect a trade at Broken Hill for Lithgow coke. They buy it at Newcastle, pay a considerably advanced price for it, pay railage for 294 miles, rather than take the Lithgow coke, distant by rail only 96 miles. General merchandise imported from the United Kingdom can be delivered on the sea-board at Port Pirie quite as cheaply as it can be delivered at Sydney, and the difference in freight from Port Pirie to Broken Hill, or Adelaide to Broken Hill, would be so immeasurably superior to what it would be from Sydney that, unless the railway people would carry the stuff almost for nothing, the Sydney merchants could not possibly compete for the business. Through passengers from Queensland or Sydney would never be likely to go to Adelaide by this route, as it would prevent their going through Melbourne. Ninety per cent. of the passengers would rather go through Melbourne and Adelaide, where most of them would have business, than through the desolate country which they would have to pass through to reach Broken Hill, *via* Cobar and Wilcannia. Another objection to the proposed line is that when the river is navigable the trade will go to South Australia, no matter what rates we charge. Competition by railway with water carriage is manifestly impossible. I will read Mr. Schlapp's report on the quality of various kinds of coke. It is as follows:—

15 January, 1890.

THE results obtained from different brands of coke are as follows:—A. As we have used more Brancepeth than any other brand we will take this coke as a basis of comparison:—

*Hood's coke.*—This coke contains about 1 per cent. more ash than A; the coke, however, is firmer and makes less waste in transit, so that the final results are fully equal to A.

*Shamrock coke.*—Ash contents about 1 per cent. higher than A. This coke is very firm without being too heavy, it makes the least waste (fine coke broken in transit) of any coke we have had, and is fully equal to A.

*Purified coke, Newcastle.*—Contents of ash, very variable, 8 to 15 per cent.; besides making a large amount of waste in transit, this coke is not hard enough to bear burden in the furnaces. I do not consider this coke profitable unless the price were at least 20s. less than A.

*Co-operative coke.*—Very inferior; is not worth the freight to the Barrier.

*Kennedy Bros., Grey Valley.*—Contents of ash, 9 to 10 per cent.; coke is very small and friable; it is not strong enough to bear the burden in the furnace. Price would be about same as purified coke.

*Marley Hill.*—This is the poorest English coke we have ever had; besides containing 9 to 10 per cent. of ash, it is very friable; the waste in screenings is very heavy, and the coke is not strong enough to bear the burden of the charge in the furnace.

*Australian Coke-making Co.'s, Sydney.*—Contents of ash, 13 per cent.; the coke is very firm, and makes very little waste in transit; it is a first-class coke, barring the ash; its value to us would be 18s. to 20s. less than A.

*Bull's Coke Co., Sydney.*—Contents of ash, 14 to 15 per cent.; coke is firm and large, making little waste in screenings; is a first-class coke, barring the ash; value about the same as Australian Coke-making Co.'s.

*Kellet & Co., Brisbane.*—Sample of only 5 tons—coke contained 8 per cent. ash; it is a first-class hard coke, and is worth 12s. to 14s. less than A. (A later sample contained 14 per cent. ash.)

*British and Westport coke.*—Contents of ash, 5 per cent.; other qualities of coke very good; if this company can guarantee to keep the quality of their coke up to sample and burn the coke a little harder it will be equal to A. I think the English coal used in the manufacture of this coke is brought out as ballast in coke ships, and would therefore be from different pits; this might make the products from their ovens variable.

*Brydon, Jones, & Co.*—Coke ex "Annie Brown" contained 16 per cent. ash; it is a very large, firm coke, free from dust, and if the ash could be reduced by washing would be very fair coke for our purpose.

*Waterstorm coke.*—No sample received.

*Brunner Coal Co.*—No sample received.

H. H. SCHLAPP.

783. *Mr. Trickett.*] There is nothing in Mr. Schlapp's report about Lithgow? They will not use it. They say, "It does not suit us. We can get English coke 20s. a ton less than you can supply it for." There

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is one other thing to which I would call attention. I said just now that from a prominent man in South Australia I had received a communication in reference to this railway, and, as I stated, I am not at liberty to disclose the writer's name, but I will read the letter to the Committee, who I know are only anxious to arrive at a correct conclusion. He says:

"I have no apprehension whatever about the Colar-Cockburn line. I see now that the estimated cost of construction has gone up to £5,000 per mile. If they bring the line simply to Broken Hill, it will, as I have always maintained, be a collecting ground for at least 100 miles of New South Wales country for the Broken Hill district and South Australia. If they bring the line to Cockburn it can only be for that express purpose, and I think there will be a very considerable amount of opposition in New South Wales before any scheme is carried out which would have the effect of still more diverting the trade from Sydney and the New South Wales railways."

That is the opinion of a gentleman connected with South Australia, and one very competent to offer an opinion.

784. *Mr. O'Sullivan.*] I should like to direct your attention to the evidence of Mr. Lane, late Mayor of Broken Hill. He says: "If we could get coal at about 30s. or 35s. per ton we would use it exclusively in preference to wood." Do you think you could get coal to Broken Hill at a cost of 35s. per ton? No.

785. You say that is not possible? It is not.

786. With reference to coke, Mr. Lane was asked, "What does your coke cost you?" and his answer is, "About £5 5s. per ton; the railway freights are about £1 18s. 9d. per ton?" I have given the price at 83s. 6d. per ton.

787. There is a great difference between Mr. Lane's estimate and Mr. Schlapp's? That is not Mr. Schlapp's. It is taken from the records of a Broken Hill Company. Mr. Schlapp has only given a scientific opinion in reference to the coke.

788. Mr. Lane says the cost is £5 5s. a ton;—how are we to get over that discrepancy? I cannot tell you. I was contracting for the supply of coke at the prices which I have stated.

789. Mr. Lane was asked, "Where does the coke come from?" and he said, "It is nearly all English. We have tried some of the Newcastle coke, and it did not give satisfactory results. In fact we could not use it, it was so high in the percentage of ash";—do you not think that the reason for buying English coke is that it is superior, and not cheaper, than the colonial? It is cheaper to them to buy, and superior because they get better results from it.

790. Mr. Lane was asked his opinion about Newcastle coke, and he condemns it, saying that it is not properly strained and manufactured;—do you not think that one reason why they do not buy the colonial coke is that you have not perfected your system of manufacture? We have it as perfect as we can have it with the quality of coal that we have got.

791. Are we to understand that the Newcastle coal is not as good as the English coal? I do not think it is. I think the Newcastle coal is, all round, superior to any coal in the world, but the English coal possesses specific qualities for cooking, for steam, and for gas purposes.

792. Is the same mode of treatment adhered to in making coke from all classes of coal? No.

793. Mr. Lane was asked this question, "It would be used exclusively if you could get it?" and his answer was, "Yes, if we get it for 30s. or 35s. per ton. I would use 100 tons per week myself. Then the other companies would use in proportion.";—I presume your answer is that you cannot supply it at that rate? We could not. The price from Port Pirie to Broken Hill is 29s. 6d.

794. *Mr. Garvan.*] Mr. Lane says that the freight is 33s. 9d.? That is delivered at Broken Hill, not Port Pirie.

795. Then that must be exclusive of the railway freight? The railway freight is 29s. 6d.

796. *Mr. O'Sullivan.*] What would be the ordinary price of coal delivered at Port Pirie? About 20s. a ton.

797. And do you think it impossible for a railway to Broken Hill to deliver coal there at less than 35s. a ton? I do.

798. Even if special concessions were allowed in order to develop the industries of the country? Certainly.

799. You are aware that there are very large shipments of bullion from Broken Hill, *via* Port Pirie, to Sydney? Yes; it suits the particular steamers that are engaged in that part of the business to have to come round that way.

800. *Dr. Garran.*] You say that in view of the federal arrangement that may be forthcoming, it is not desirable to make a railway to our frontier which would be longer than a railway already existing in South Australia? I do.

801. But is it not a fact that the southern, western, and northern boundaries of New South Wales are all further from Sydney than from the rival capitals; is not Albury nearer to Melbourne than Sydney;—is not Wentworth nearer to Adelaide than Sydney, and Tenterfield nearer to Brisbane than Sydney? Yes.

802. You would not object to our making lines right through? No; but I hope the time will come when the trade will be allowed to find its natural channel.

803. You do not object to these lines to the frontier simply because the frontier is further from Sydney than from the other capitals? No.

804. Then why should you object to this through route as being anti-federal? Because I think it is a thing that ought to be settled by the Federal Parliament. If we ever get a Federal Parliament this railway may never be built.

805. Do you object to making a line from Hay to Wentworth? The objection to that line is that it would draw trade away from New South Wales.

806. I say do you object to it on federal grounds? I am not in a position to speak upon that subject.

807. This colony, so long as it has its own self-government, must make its own railways to the frontier? I think if we had a Federal Parliament many of the railways that we are now proposing would not be constructed.

808. Suppose the power to make the railways still remained with the provincial government? Then we shall never have federation.

809. Are you aware that Broken Hill is now, in population, the second city in New South Wales? I am not—I should doubt it.

810. Has any other city in the colony more than 12,000 people? Newcastle must have 25,000, and, including the coal mining townships, 70,000 people.

811. Supposing Broken Hill to be third city in the colony, would it have a claim to be connected with the metropolis? I do not think it would, because this would not be the metropolis for that place. I say that place would take its ratio from wherever the capital would be. It would be connected with that some day, and its trade would go to South Australia, where it ought to go.

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812. But that part of the country is under the Government of New South Wales? It is; but it is more South Australian in spirit than anything else.

813. We have the responsibility of governing it? Yes.

814. Do you not think a city of that size has a fair claim to be connected with the metropolis that governs it? No. I think we can spend our money in a much better way.

815. On the ground that the trade goes to Port Pirie, you would not allow Broken Hill to be connected with Sydney at all? I would let the trade go into its natural channels.

816. Would that prevent it? Yes. The Government would establish differential rates, and impose all kinds of restrictions to draw the trade to Sydney.

817. You say that in spite of all this the trade would go? I believe that a great proportion of it would. We should collect a quantity of stuff for the South Australian railways. No doubt some portion of the trade would come to Sydney.

818. Would not that be an enormous advantage to the people of Broken Hill to have cheaper transit than they have now? Yes; but you are going to give it to them at the cost of the general community, and I object to that.

819. Suppose the Railway Commissioners are of opinion, having carefully studied the matter, that they could carry to Broken Hill at a rate that would be remunerative, should we be making any sacrifice then? I am not going to attach more than ordinary importance to the opinion of the Railway Commissioners. I am not satisfied with the Railway Commissioners' estimate with regard to the coal traffic, as it has come under my notice. The Commissioners have promised to supply me with information showing that our traffic from Newcastle was a losing game, but they have not supplied it yet.

820. From the mines? I am speaking of the mines at Newcastle.

821. Do you mean that the Commissioners said that the trade from the mines to the port of Newcastle was not a paying trade? They did say so, and I asked the Chief Commissioner on what ground they made the statement, and he promised to furnish me with the information. He qualified his statement by saying that some of his subordinates had given a wrong basis. His predecessor in office had told me previously that the minimum rate gave something like 6d. per ton. I think we are only in our infancy with regard to the coal traffic.

822. Do you mean to say that it has been officially stated to you that the coal traffic on the Western line pays better than the traffic on the Northern? No; I believe that every ton of coal that they carry on the Western line is carried at a loss, and that they have a differential basis for Newcastle and the north, as compared with the other lines.

823. We are speaking of the statement of the Commissioners on the matter. Have they made a statement in regard to the profit on the Southern and Northern lines, which you dispute? Yes, with regard to the Northern line.

824. And with regard to the Western and Southern? No; I have had no communication with them with regard to that. I know what the regulations are in connection with the Northern line, and what obtains on the Southern and Western lines. I have to find 300 tons before they will move an engine. The traction is 2 miles, and the minimum charge is 10d. a ton. But I have seen them coming up the Illawarra line bursting themselves with a load of 80 tons.

825. What do they charge per ton per mile? One penny, and they find trucks.

826. On the Southern line? They charge 1d. a mile, but they charge me a minimum of 10d.—to me about 2d. a mile.

827. By your evidence you want to cast some doubt upon the accuracy of the calculations in regard to the traffic on the proposed line? Yes, as regards the coal traffic.

828. You think that the Commissioners have been misled? I do. The coal traffic on the Southern and Western lines does not pay.

829. The tendency of your evidence is to warn the Committee against trusting those calculations? I do warn them.

830. And if we are told that coal can be carried at  $\frac{1}{3}$ d. a ton per mile, you doubt it? I doubt it.

831. You are aware that this Committee has greatly exerted itself to reduce the gradients on the railways? Yes.

832. And we are promised that the line from Nyngan to Broken Hill shall not have a grade exceeding 1 in 100 all through? Yes.

833. And that when that grade is obtained they can carry at a minimum freight. Therefore you can hardly state the cost of freight? No, you cannot give a fair estimate.

834. We cannot from present experience? No, you could not. I made an inquiry of the Department as to an estimate to carry coal and coke on this particular railway, and they sent me in a memorandum, and asked if it was to develop a new trade, because they would make a difference.

835. Have you any information to give us to disprove that, with a gradient of not more than 1 in 100, we could carry coal at a profit with a charge of only  $\frac{1}{3}$ d. a ton? I have no information on that score. If they can do that from Nyngan to Broken Hill then they can do it with us at Newcastle, because the gradients there are 1 in 100, or, at any rate, easy gradients.

836. All the way to your mine? Yes. The new line from Sydney to Newcastle is not so. I think that the load to Wallsend is eighteen to twenty trucks—to our mine it is thirty trucks. A load on the mountains is eight or nine trucks.

837. You cannot disprove that they can carry at  $\frac{1}{3}$ d. per ton per mile? I cannot. It may be so but I doubt it.

838. You doubt it because you have had reason to doubt the accuracy of certain calculations from the same quarter? Yes.

839. You cannot point out any evidence to convince the Committee that it is a wrong estimate? No. The Commissioners are the persons authorised to give you the information.

840. We have had evidence before us that the trade of Wilcannia alone is very considerable. Have you any reason to doubt that? No, except from information from former residents of Wilcannia.

841. Did you consider the evidence that was brought before the Sectional Committee on the line? I read it in the press at the time.

842. You had no reason for checking it? No.

843.

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843. You say that the river must always be a successful competitor when the water is up? Yes.
844. We have it in evidence that there is very little competition with the railway at Bourke from the river, and the river is in a good state this season? There must be some exceptional reason for it—perhaps the rates are very low.
845. We are told that the rates are higher than they were, yet the railway gets nearly the whole of the wool in competition with the river. Can you disprove that? I do not believe that they get all the wool.
846. Not all, but the greater portion of it. They get an increasing portion? Yes, that is true. There is an increase throughout the country and they are entitled to some of it.
847. It is in excess this season—do you doubt that? I do. I doubt their being able to compete with the river traffic at any time; I do not think that any railway can compete with water carriage.
848. We have the assurance of the Secretary for Railways that that is the case this season? I should like something more than his mere statement. The trade must have increased in consequence of other things, apart from the question of competition.
849. We are told that the railways are getting an increased proportion of the trade at rates higher than those which were in force some time ago; do you doubt that? I do.
850. You think that if we went to Wilcannia, lower down the stream, we should have no chance against the competition of the boats? Not when the river was up.
851. The storekeepers at Wilcannia say that they would prefer to trade with Sydney? Oh, yes.
852. You think their evidence is to be taken with qualifications? Yes.
853. And you think the saving of time would be nothing, as people could get their supplies down the river? Yes.
854. You think that there would be no great settled population on the line? I do.
855. Suppose we could construct a line that would settle population, would you object to that? I do not think so. I do not think there is any necessity for this railway at present. There is a disposition now to ask for a railway *via* Forbes, and that way.
856. You would not patronise that any more than any other? No.
857. Not even if it could be shown that we could settle a line of farmers along the route? No.
858. You have an invincible repugnance to the proposed line? I think there is no necessity for it.
859. Your opinion is that as soon as federation is accomplished, differential rates will disappear? Most assuredly.
860. And that free trade in freights will prevail over the whole continent? Yes.
861. And every producer everywhere will fetch and carry from the most convenient port? Yes; and that no one port will have preference over another.
862. Your opinion is that the Federal Government will exercise its authority over that matter? Yes.
863. And prevent differential rates from being imposed, even if they do not own the railways? Yes, but I do not know how they can do it without owning the railways. In America they had to employ inter-State Commissioners to settle the question.
864. You have gone largely into the question as to the use of coke. Is smelting done with coal? No, never; not silver smelting.
865. Are you sure as to the correctness of your statement that the quality of the coke depends upon the quality of the coal? Yes, I think so; and I have had something to do with it. A certain quality of coal produces better coke than other kinds of coal.
866. The best of all modes of manufacture cannot get good coke out of inferior coal? No; I cannot produce coke from my coal as good as the Wallsend Company can produce from theirs.
867. As far as the ash is concerned, does not that depend upon defective washing in the first instance? I do not know. The particular company to which I refer wash their coal.
868. Do they crush it fine enough, and wash it thoroughly? They have done everything they could to sustain the trade by endeavouring to produce an article which would correspond with the requirements of the Broken Hill smelters.
869. Have they not received reports from London drawing attention to the washing process? I do not know.
870. You would not say that they are doing the very best with their material at present? Not absolutely; but I know that the Purified Coke Company wash their coal, and that they have sent out experts to ascertain what they could do to improve their present plant.
871. Do you think the coke companies have given the matter that thorough attention which they would do if the trade were larger? I think it has been watched as much as it is likely to be.
872. You know the coke manufactories of Newcastle? I do.
873. Do you think they are really doing the best that can be done with the material? They might make some slight improvements, but the result of a visit of one of the men in charge to some of the places in England was to lead them to the conclusion that they could do very little towards improving their present means of production.
874. He had been to England to see what improvements he could introduce? Yes; and he found that one or two improvements might be made. But we have not been able to get into the trade again, nor shall we whilst the English coke is available at the present price.
875. We must either bring the quality of our coke up to that, or send it in at a cheaper rate? Yes.
876. You do not see how we can do that? I do not.
877. As far as the coke trade is concerned, you see no hope? I see none.
878. If we were to bring the inferior ores to our coal mines, where we could make moderately good coke, would that pay if there were freights both ways? I should not think so.
879. Are you familiar with the smelting of copper ore at Waratah? Yes.
880. Did it pay to send inferior ore to Waratah and to send coal back? At a nominal freight. That is what it was.
881. Is not  $\frac{1}{2}$ d. a ton a nominal charge? It comes to a good sum in 600 miles.
882. Do you not think there is the same chance of making the traffic pay by railway as there is by sea? I do not. In the case alluded to it is a failure. One of the companies is pretty well insolvent. They have smelted very little for years.
883. You do not mean to say it would pay better to send poor ores to Port Pirie and round to Newcastle? I could not say that.
884. That would be a heavy charge? It would.

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885. You are aware that there is a large quantity of the poor ores? Yes; at every mining place.
886. Then dealing with them is an economical problem? Yes.
887. At present the tendency is to smelt at Broken Hill instead of at Port Pirie? Yes.
888. According to the evidence taken at Broken Hill by the Sectional Committee, they prefer to have all the arrangements with regard to the ores under one inspection, so the tendency at present is to concentrate all the processes at Broken Hill? Yes.
889. The cheapness of fuel, then, is a matter of supreme importance? Yes.
890. And if we could manage to put our coke down there at 1s. or 6d. below the English price, we should get that trade? No; you will find all they have to do is to import further supplies of coke.
891. They would not, unless they could get it cheaper than we could supply it? Yes; but you cannot get the coke to compete.
892. Suppose we could? Well, then it would be a matter for the company.
893. You are speaking only of coal at present? Under our conditions we cannot supply coke to Broken Hill.
894. Do you think there would be any passenger traffic across there? I do not think so. I think that if I were a passenger I should go through Melbourne and Adelaide.
895. Do you think that passengers would not prefer to go straight to their destination? In nine cases out of ten the passengers would have business in one or other of those cities on the route. I know that I should go *via* Melbourne and Adelaide.
896. It would take you longer? It would take me longer, no doubt. The journey between Sydney and Broken Hill by this route would be more expeditious.
897. It will be a shorter line between Sydney and Adelaide when this line is completed, so that it will be a better mail route? It will be a quicker one.
898. It will be a better route for passengers arriving by the mail steamers at Port Adelaide? I do not think so. When they got to Adelaide they would go to Melbourne. They would prefer the wide gauge route.
899. By this route they could do the journey with less discomfort? I do not know a better route than the present one from Adelaide.
900. Do you know a better one from Melbourne than the Albury route? The passengers would be heartily glad to get into the broad gauge trains at Albury.
901. You think, then, that there will be no passenger traffic on the proposed line? Not much. Of course, these are only my opinions with regard to it.
902. You have mentioned the bridge as being a very great difficulty;—are you aware that our engineers have looked into that question? No.
903. They tell us that there is a good foundation for a bridge there;—do you doubt that? I have not much faith in our colonial engineers.
904. With regard to what bridge have you been disappointed? We were told by our engineers that the bridge over the Hawkesbury was to cost £750,000, yet it was actually built for £400,000.
905. Could we not call in the aid of Americans? Yes. But as you put it to me the question was raised as to my opinion of the gentlemen in charge of the Public Works Department. The country is strewn all over with monuments of their indifference, incapacity, and inability.
906. Yes, but they know what has been done. We have one example at Shoalhaven and another at the Hawkesbury? Yes; it may be possible to get something of the same kind in this instance. I do not want to reflect upon our engineers, but we ought to get an estimate from outside sources.
907. If they tell us that they can do the work at from £60,000 to £75,000, we need not suppose that it will cost much more? It would be well to ascertain whether it would or not.
908. You are of opinion, I gather, that what are called national reasons, are practically no reasons at all? I have begun to look upon the term "national" as synonymous with "Sydney."
909. Is Newcastle as near to the port of Broken Hill by land as Sydney is? No.
910. Suppose a line were made through Cassilis and on to Dubbo, would that bring Newcastle nearer? It would not be so near.
911. Newcastle is out of it altogether? Yes. I am not here as the member for Newcastle.
912. You have no feeling in the matter? I am not concerned about Newcastle. I am only giving my evidence conscientiously in opposition to the project which I shall oppose in Parliament if the Committee pass it.
913. You do not think that Newcastle is to be in any way injured? No.
914. *Mr. Copeland.*] What is the price of Newcastle coal in Sydney at the present time? It varies. The coal from some collieries is 14s. 6d. a ton; but that from some of the inferior small mines is about 12s. 6d. a ton.
915. Would that be taking delivery at the railway? Yes; that would be taking delivery from aboard ship. The coal comes round in steam colliers.
916. What would it cost to get the coal from the colliery to the railway supposing we wanted Newcastle coal? You would have to put it in the railway trucks at Darling Harbour. That would cost another 1s. a ton. Some collieries like Wallsend, will not sell for less than 15s.
917. Suppose a trade should spring up between the Newcastle collieries and Broken Hill, the coal being sent by rail, what would it cost to get the coal delivered as far as Sydney by water, and put into railway trucks? It would cost 15s. a ton.
918. We have here the evidence of Mr. Bristowe, the accountant to the Broken Hill Proprietary Company, that Newcastle coal delivered at the Broken Hill mine costs £2 7s. 1d. a ton;—he says, "We buy it at Port Pirie at 21s. 5d. per ton, and the difference between 21s. 5d. and £2 7s. 1d. is the amount of the carriage from Port Pirie to the mine"—you gave some figures as to the railway rates from Lithgow to Broken Hill? Yes.
919. I have here a statement which was published on the 1st. August, 1890, by the Railway Commissioners, which shows that one of their rates for ores is 2s. 3d. per truck per mile for every truck over thirty per week, the minimum per truck being 15s. There would be no necessity for a minimum in this case, as you will perceive that that would be 11 farthings per mile upon 6 tons, which would be something less than  $\frac{1}{4}$ d. per ton per mile;—what do you pay per ton per mile from your mine to the shipping at Newcastle? We used to pay a minimum charge of 10d. Some of us do it now.
920. Is that in the owners' or in the Commissioners' trucks? In the owners' trucks. We have to find our own waggons. There are some collieries within a few yards of the shoots, and the minimum charge for them is 6d.
921. That is in the owners' trucks? Yes.

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922. What is the price charged in Commissioners' trucks? We never use Commissioners' trucks, but some use those D trucks.

923. As a matter of fact there is a specific charge made, I suppose, as a minimum rate, but the same rate is not extended when the journey is a lengthy one;—I suppose they charge at a much less rate for 50 miles than they do for 1 mile? I am not an authority upon that point.

924. The distance from Lithgow to Broken Hill is 639 miles, and the rate at present is, for 6-ton trucks, 11 farthings—that is less than  $\frac{1}{4}$ d. per ton per mile. That is irrespective of distance. Would it not be a fair presumption that if they charged that and can make it pay, that when they have only one loading and one unloading for 630 miles they would be able to do it for one-third of a penny per mile? The presumption is in that direction, no doubt.

925. Do you know anything of the railway rates in America for minerals? No.

926. You are not aware that they are carrying minerals at even less than one-third of a penny per mile? I have heard that.

927. If the Broken Hill Company at present is paying £2 7s. 1d. for Newcastle coal, going round by way of Port Pirie and then by rail, would they not be able to supply coal from Lithgow to Broken Hill, even at the rate of  $\frac{1}{4}$ d. per ton per mile, which would be 25s. per ton for the route;—would they not be able to compete with Newcastle coal taken round by Port Pirie? It is not the Newcastle coal alone, there is the river, the South Australian railways and the Silverton tramway.

928. But we have it in evidence that all the coal they are using is Newcastle coal, for which they pay £2 7s. 1d. a ton delivered at the mine? That is about the highest rate you could estimate it at.

929. If you deduct 25s. for the railway rate from £2 7s. 1d., that would leave £1 2s. 1d. per ton as the value of the coal at Lithgow. Can you say whether the coal at Lithgow would be as good for steam purposes;—would it be as good or nearly as good? It would be nearly as good for all practical purposes.

930. Then do you think that if there was a margin of £1 2s. 1d. per ton between the railway rates and the value of the coal obtained at Lithgow, that would enable the Lithgow people to deliver their coal at Broken Hill? Yes, if there was that margin, and on your figures I admit that there is a margin.

931. Do you know what is the selling price of coal at the mines at Lithgow? Three shillings or 4s. a ton, I believe.

932. I think they are supplying the Government at about 4s. a ton? Yes.

933. You perceive that the best coal at Lithgow at 4s. a ton would pay the Government 25s. a ton for haulage, and the Lithgow coal could be delivered at Broken Hill for 25s., as against £2 7s. 1d., which they are paying for coal from Newcastle, going round by Port Pirie, and by the railway and tramway? I admit all these figures. But in supporting the proposed railway you have not to speculate on possibilities, but to find out what will be a certainty. You have given us the highest price of coal. At present Newcastle coal is 11s. a ton, but how long it will remain at that is a matter of speculation. I should not be surprised to hear during the next few weeks that it had gone down to 7s. a ton. The competition on the coast by steam tonnage is considerable, so you must look at the possibility of freights between Newcastle and Port Pirie being considerably reduced. You might find that the South Australian people themselves will fight for this trade, because they will have the trade if they have to reduce their rates. The Silverton tramway will follow in the same course. These are matters which you have to consider.

934. Of course, you admit that Broken Hill will follow the usual principle, and will go to the cheapest source of supply? No doubt about that.

935. At the present rates for coal? At any rates; but it is not fair to take the present rates, because, whilst you are taking one side of the question, it might be shown that coal would rise in price. There might be a strike.

936. You perceive that there is a margin at present on their estimate? Yes.

937. A margin to the extent of supplying coal at 29s. per ton by railway, as against Newcastle coal at £2 7s. 1d. a ton? Yes.

938. Would that not leave a margin for the Newcastle people to supply similar coal to what has been used at present? Not at all.

939. Not if the coal were sent by steamer to Sydney? No; it could not be done. The moment you commence to handle coal in the way you are speaking of you destroy its value.

940. You said that it could be put into the Commissioners' trucks at Darling Harbour at 15s. per ton? Yes.

941. If the railway were open to Broken Hill, and you could deliver coal at Darling Harbour into the Commissioners' trucks at 15s. a ton, you still consider that the coal from Sydney, allowing a higher rate, because you will have a margin of 2s. 1d. as between Sydney and Newcastle on account of the higher grade;—do you think you would be able to supply it, sending it all the way from Sydney to Broken Hill by railway, at the same rate that you are now paying for coal going round by Port Pirie? You mean, of course, with reference to the price of coal. I suppose you are taking the Commissioners' estimate.

942. I am taking the advertised rates, making no allowance for reduced rates which they are of necessity bound to make when they undertake these long journeys. In all probability they will charge a lower rate for a long journey than for a short one; I am not taking that into consideration yet; you will see that they will be able to send coal even from Newcastle, if it is delivered by ship at Darling Harbour? Well, I have no faith in it at all. The figures, as you put them, are incontestable on that basis.

943. I suppose you know that they are timbering their mines with Oregon pine? Yes.

944. We have it in evidence that that timber will not last many years, and that if hardwood timber could be supplied from New South Wales they would be very glad to use it; do you think it likely that a trade in mining timber would spring up? If they carry timber at the same rate as the coal, I do not doubt it.

945. Do you know of any practical reason why they should not carry timber for mining at the same rate as they would carry coal? I do not. I have never been able to ascertain the basis on which the railway people work their business.

946. At any rate, if the line were constructed, I suppose the best principle would be to get as much traffic as they possibly could? Certainly, provided that it paid.

947. We have it in the evidence of Mr. Bristowe that the English coke costs at the mine £5 5s. a ton. That was stated on the 28th October, 1889. We have here the official report of the Broken Hill Company up to the 12th December, 1890, which shows that at the present moment they are still continuing to pay £5 5s. a ton for English coke delivered at the mine. But you stated in your evidence that English coke cost 83s. 6d. per ton? My information came from the company themselves.

948. There is the report of the company and the evidence of the accountant? I do not doubt that I could furnish you with tenders from a firm I am connected with offering to supply English coke at the price which I have mentioned.

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949. Then here is the evidence of Mr. Lane, who was Mayor of Broken Hill. He was asked this question: "Supposing a railway were made by way of Wilcannia or Menindie, and you could get New South Wales coal from Bulli, Wollongong, or Lithgow here, would it be practicable to send trains of coal from the coal mines there to Broken Hill and give a return cargo of ore and have smelters at each end and to do that profitably?" His reply was, "The question of smelting, of course, would be to have a place where flux is handy and fuel and water. If there were smelters at the other end we could always return cargoes, and on the other hand if the carriage on bullion was less or the same as is now being sent *via* Port Pirie to Sydney, we could send all the trucks back loaded with bullion." Then the next question is "But you would not have the same bulk of bullion to send back as you would have of coal coming here?" and his reply is, "Yes; we would have more tonnage of bullion than we would of coal coming in." Then another question was as follows: "Then you could send a full load of bullion back in return for a full load of coal?" and his answer to that was "Yes."—So you see the mining managers themselves have entertained the idea, of course, on the supposition that if they keep the trains loaded both ways they will get the railway carriage at reduced rates? Yes; I should not doubt that. Their business is to maintain competition. If they can get the New South Wales Government to make a railway, they will have the South Australian people in their own hands.

950. Speaking on what you term national grounds, do you think it a desirable thing for this colony to have to pay the expense of governing Broken Hill, and yet for us to make no attempt to reclaim the trade that should properly belong to this colony? It all depends upon the cost.

951. Suppose we could do it without cost? If you could do it without cost, it would be right to make an effort to do it.

952. Is it not a fact that in America they have been in the habit of building railways right out into the country, where there are no large towns, on the supposition that trade would follow the trains? Yes.

953. On that ground do you not think that we are justified in making a railway to develop those mines? I do not think so with the limited population we have to day.

954. But is not the building of railways the way to increase the population? Yes; but the comparison with America is not a fair one. You must consider the hundreds of thousands of people who arrive in America every year.

955. Have not the Americans made railways where there was no population? Yes; and they have made towns.

956. Would you then, from your point of view, advocate the building of a railway, or defer the matter for all time? I would not defer it for all time; but merely for the present.

957. Until other interests arose, and we might have to pay more for the resumption of the land? I think that when you make a railway, you ought to be in a position to resume the land for nothing. I should vote for an Act of Parliament giving that power.

958. Do you know whether the railway from Newcastle to Sydney is paying? I doubt it.

959. Were you one of those who advocated the building of it? I was not; I opposed it; and also the Illawarra line. I think they are both twenty-five years ahead of their time. The Newcastle line is made along a coast route, where the land is of no value.

960. You think we are not justified in making a railway into the interior to connect Adelaide and Sydney by the shortest route? I do not think you are.

961. Notwithstanding that we should tap several large mining centres, including Cobar, Wilcannia, and Broken Hill? I do not look upon that line to Cobar favourably—I opposed it.

962. Notwithstanding that the taking of the line there may have the effect of re-opening the Cobar and other copper mines? If a small copper mine of that kind requires expenditure, the country ought not to spend the money.

963. Do you think the Cobar Copper Company is a small company? It is small compared with the large companies of America and England.

964. Are we to understand that in your opinion, railways should only be made where population is already established? They should be made where there is a prospect of their paying. We are deep enough in debt already, and should not undertake this line. We could spend the money more profitably on irrigation.

965. What did you say was the population of Newcastle? Between 60,000 and 70,000.

966. What is the population of Newcastle itself? About 20,000.

967. I have just obtained information from the Government Statistician that the population of Newcastle is 15,000, and the total population of the whole district 52,892? I am only telling you as far as I can see myself. I think there are 7,000 or 8,000 electors on the roll for the city.

968. *Mr. O'Sullivan.*] Starting from Newcastle at present, and going to Broken Hill, *via* Nyngan, would be very much longer than going *via* Werris Creek? Yes.

969. If a line is made to Werris Creek, that would materially shorten the distance between Newcastle and Broken Hill? Yes.

970. And improve your chance of competing in the coke and coal trade? I do not believe it. The gradients over the Liverpool Range must be excessive.

971. The charge would be less? Then I should hope we should have the same rates extended to us at Newcastle as they would have on the south and the west; but I doubt it.

972. Do you think it possible, by a special rate, to develop the resources of the country so that you could land coal and coke and bring back bullion? I do not think it is possible from my experience. I know what the wear and tear of rolling stock is.

973. You know that the Government are working a species of protection by carrying wool and other produce at such rates as will keep the trade in the country? Yes.

974. It is possible that in the future they might make a special rate? I presume they would have to make a special rate to attract trade.

975. You do not think there would be much passenger traffic between Sydney and Broken Hill if the line is made? No.

976. The distance from Sydney to Adelaide by railway is 1,085½ miles; from Adelaide to Broken Hill, 345 miles; from Sydney to Broken Hill, *via* Nyngan, is 733 miles. Therefore it is nearly one-half the distance shorter. In the one case it is 1,430 miles, and in the other it is 733. Taking 30 miles per hour as the speed, going *via* Adelaide would take forty-eight hours; but going *via* Nyngan would only occupy twenty-eight

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- twenty-eight hours. Does it not stand to reason that business men would prefer a trip occupying twenty-eight hours, to one occupying forty-eight hours? The shorter route would be an economy of time, and it would be of some importance to the traffic, but I think that most business men going to Broken Hill would prefer to go *via* Melbourne and Adelaide.
977. But if you had to go to Broken Hill, would you not prefer to go one way and return the other, making the round journey? It might possibly work in that way.
978. Therefore there is a probability, even allowing for the mercantile passengers, that its being the shorter route would tell in favour of the Nyngan line? Yes.

THURSDAY, 19 MARCH, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The HON. ANDREW GARRAN.	• HENRY COPELAND, Esq.
The HON. FREDERICK THOMAS HUMPHERY.	JAMES EBENEZER TONKIN, Esq.
The HON. WILLIAM JOSEPH TRICKETT.	WILLIAM SPRINGTHORPE DOWEL, Esq.
The HON. GEORGE HENRY COX.	EDWARD WILLIAM O'SULLIVAN, Esq.
JACOB GARRARD, Esq.	WILLIAM McCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

David Kirkcaldie, Esq., Chief Traffic Manager, Railway Department, sworn, and examined:—

- D. Kirkcaldie, Esq.  
19 Mar., 1891.
979. *Mr. Tonkin.*] What are you? Chief Traffic Manager of the Railways.
980. You have held that position for some time? Yes.
981. You know this proposed Extension now under consideration? Yes.
982. Have you any particular statistics or figures that you wish to put before the Committee in favour of the construction of this line? None whatever.
983. Have you any idea of the traffic that is likely to accrue from the construction of the line? No, there are no statistics prepared.
984. Do you know that certain evidence was taken by the Sectional Committee that traversed that part of the country with reference to the probable traffic? Yes.
985. Have you looked through that evidence? I have.
986. As a whole do you agree with it? Yes, as a whole, but not entirely. Still, it is not very far out, I think.
987. Do you think from that evidence that this line when constructed will pay interest on the capital invested and the working expenses? I should not like to say that.
988. Do you think there will be a very great deficit? It will depend entirely on whether there is going to be a large development of the mining industry in the country through which the line will go.
989. Could you tell the Committee what the charge for wool would be from Wilcannia to Sydney? I could not. It will depend entirely upon circumstances.
990. Could you give the approximate cost? The rates from Bourke at the present time are £5 0s. 3d. for scoured wool, and £4 0s. 3d. for greasy wool per ton—the distance being 50½ miles. I may mention that these are arbitrary rates fixed to compete with river carriage. It will be 61½ miles from Wilcannia, and, on the same basis, the rates from there would be, approximately, £6 and £5 per ton.
991. Is that in the same ratio as the Bourke rate? Yes. But I am not going to say that we could get those rates.
992. Were not the rates lower formerly than they are now, or is that the usual rate? The Bourke rates were lower at one time by about £1 a ton than they are now.
993. Why were they raised? Through an agreement made between the Railway Commissioners of New South Wales, Victoria, and South Australia.
994. When the rates were £1 a ton less, did the traffic pay working expenses? Yes, it paid working expenses, but the anomaly was accentuated of charging lower rates from Bourke than from stations nearer Sydney.
995. If you were competing for the river traffic at Wilcannia is it likely that you would reduce the rates to Wilcannia? It would depend entirely upon the state of the river. If it is navigable we shall have to do that or lose the traffic, in my opinion.
996. Do you know that the evidence taken at Wilcannia from two or three reliable men there gives returns of over £90,000 a year, which was reported to be the amount of the working expenses and the interest on the invested capital? Yes, I know that.
997. Did you read that portion of the evidence? Yes.
998. Do you agree with it? No; I think it is over-estimated.
999. Do you think that this is the fact, that in 1889, 27,000 bales of wool left Wilcannia? Yes, I can quite understand that.
1000. On the basis of that amount of wool leaving the place, do you think £90,000 a year an over-estimate of the traffic inward and outward? I do.
1001. You think it is very largely over-estimated? I should not say very largely; but in my opinion it is over-estimated.
1002. Is the over-estimate material as to whether the railway will pay? I think it is.
1003. Mr. Doake, in giving evidence on the proposed line from Nyngan to Cobar, was asked this question: "If we take the amount of goods which go up and down the river, and charge £4 per ton as railway carriage, would not that make up almost sufficient to pay the required amount of £90,000 for interest and working expenses of the proposed railway?" His answer to that was: "The amount of wool held over last year in this district was estimated at 27,000 bales, representing a value of £330,000, lying in sheds and other places round about there. There were 8,000 bales stored in Wilcannia alone?" That was because of the unnavigable state of the river, I presume.
1004. Then the next question is: "Has not this year been an exceptional year with regard to the quantity of wool going down the river?" The answer was: "A large amount of wool went down to Broken Hill last year";—would £4 a ton be an average freight on inwards and outwards goods between Wilcannia and Sydney? I do not think so.
- 1005.

1005. You think it would be more? That would depend entirely upon circumstances. I mean to say that the rates to Bourke are more, and the distance to Wilcannia is considerably greater than the distance to Bourke. D. Kirkcaldie,  
Esq.
1006. Do you know what freight would be charged per truck from Wilcannia to Sydney? It depends upon the class of traffic—crude ores from Broken Hill to Lithgow would be about £7 5s. 6d. per truck load of 6 tons. 19 Mar., 1891.
1007. That would be about 25s. a ton? Yes.
1008. Is there such a wonderful difference between the charges for any other merchandise and minerals as the difference between 25s. and £5? The rate I gave you was for crude ores; the rate for coal would be somewhat more, and general goods very considerably more.
1009. Then Mr. McLachlan's statement is a mistake;—the rate which he gives is £1 2s. 2d. per ton from Lithgow to Broken Hill? The rate from Eskbank to Broken Hill for coal would be £8 2s. 5d. per 6-ton truck.
1010. Are you sure you have not made a mistake as to the amount? Yes; I am speaking of the charge for coal; crude ores carried in large quantities on the up journey are charged a little less.
1011. Is not the charge a little under ½d. a ton per mile? Yes.
1012. The distance from Wilcannia to Sydney being 615 miles, how much does that come to? I have been speaking of the rates from Lithgow to Broken Hill, and Broken Hill to Lithgow.
1013. Is there any difference between the charge for minerals and the charge for coal? There is a difference in the freight between coal and crude ores; but I may say that the coal rates apply either to the up or the down journey, while the rate for crude ores applies to the up journey only. That is the reason why the crude ore rates are lower.
1014. Is there much difference between them? From Eskbank to Broken Hill the rate for coal is £8 2s. 5d. per truck load, not exceeding 6 tons.
1015. That is ½d. per ton on coal and a little less for minerals coming towards Sydney? The rate for a 6-ton truck of coal from Eskbank to Broken Hill is £8 2s. 5d. The rate for crude ore from Broken Hill to Eskbank would be £7 5s. 6d. per truck of 6 tons.
1016. Have you any idea what amount of coal would be likely to be consumed at Broken Hill and Wilcannia? No.
1017. You did not take that into consideration in estimating the freight? No.
1018. If there was a very large traffic in coal or other merchandise, would that have a tendency to reduce the freight? No; we could not well carry it for less than we are doing now.
1019. Does it make no difference to you whether you have a long or a short journey? Yes; the longer the journey the less per ton per mile is charged—the rates are based on a graduated scale.
1020. You have no idea of the quantity of coal that is likely to be consumed weekly? Not the slightest. It was stated that if the Cobar mine opened again the consumption there would be 30,000 tons a year. The manager of that mine told me some years ago that they consumed about 75,000 tons of wood, and it is calculated that about 2½ tons of wood are equal to 1 ton of coal.
1021. Are these payable freights,—will they meet the working expenses, or are they differential rates, causing a loss to the railway? I do not think they cause a loss; but unless we are going to get general goods to carry in addition to minerals, we shall not have a profitable traffic.
1022. Is it not probable that you will have a return traffic of other merchandise—for instance, you might have to carry wool back? That will depend a good deal upon the rate that will be charged, and the navigableness of the river, I think.
1023. But you anticipate some other traffic besides minerals? Yes; we should naturally get some.
1024. Have you taken into consideration the position which the railway would be placed in if the colonies are federated? No.
1025. Suppose that ½d. per ton were charged on the Adelaide line, is it likely that you would take the traffic to Broken Hill? I do not think so, if the rates per ton per mile are to be the same on all railways.
1026. To bring that traffic into Sydney, you would have to have a differential rate to compete with the Adelaide railway? Yes; we should have to compete with the South Australian railways, and the Darling River.
1027. And you are prepared to do that? We shall have to do it, if the line is constructed.
1028. If you did not intend to enter into competition with Victorian and South Australian railways, the Commissioners would not advise the construction of this line at all, would they? As a means of yielding a net revenue, I am not prepared to say that they would.
1029. Looking at it from a national point of view? From that point of view, it is a different thing altogether. The line will undoubtedly open up new country, and may result in a development of the mining industry.
1030. Putting the national view of it on one side, do you believe that this line, after being constructed, will return a sufficient revenue to pay the working expenses? I do not think so.
1031. Do you know anything of the country between Cobar and Wilcannia? I have been at Wilcannia.
1032. Do you know anything of the country between Wilcannia and Cobar? No.
1033. Have you any idea of the amount of traffic in the shape of wool and merchandise carried to that portion of the country? Not exactly.
1034. I am speaking now of 300 miles south of the river, between Bourke and Wilcannia; that country would be tapped by the railway;—do you think that would conduce towards supporting the railway? Yes; we should get a portion of that traffic.
1035. Do you think that the traffic which goes to Hay and then to Melbourne would find an outlet by this railway? Not so far north as that, I think.
1036. Do you think that if a railway were constructed from Forbes to Parkes, and along the valley of the Lachlan, that that would obviate the loss attached to produce going through Hay to Melbourne? Yes, I think so; but if you did that, my opinion is that you should not tap Wilcannia at all; but some point further down. Then you would cut into country the produce of which goes to Victoria at present. Nearly all the produce from the country around Hillston and Mossgiel goes to Victoria.
1037. You think this railway will not obviate that? I think not.
1038. You think that the traffic will still go southwards? Yes; all wool which now goes to Hay from these districts will, I think, still go there.
1039. Do you think that this railway will in any way assist to bring the traffic which now proceeds to Hay?

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- I should not like to say that there would not be any; but I do not think that we should get very much of it.
1040. Then this railway, you take it, will merely obtain a traffic from Wilcannia and Broken Hill, from which any large returns can be derived? Principally.
1041. You do not expect much from the intermediate country? Not a great deal, except, of course, wool and such like traffic.
1042. Do you think that the railway from Nyngan to Cobar is going to pay? I do not think so.
1043. Am I to understand from you that the whole of this line is going to be a loss to the country? I am afraid so; there will not be much net revenue for a considerable time, in my opinion.
1044. Do you think it will be a serious loss to the country? I think that for some years it must result in a considerable loss to the railways; to the country generally it would in many respects be a great benefit.
1045. What reason have you to think that in a few years that part of the country will improve in population and increase the traffic on the railway? It depends entirely upon whether there are any large developments in the district, or whether in time it may not be possible to irrigate large portions of the country.
1046. You do not expect more returns from wool? I do not think so, to any large extent.
1047. Then there is not likely to be a large increase of population from the mineral discovery? Yes, there might be from mineral discoveries.
1048. Then for twenty or thirty years the line might be a dead loss to the country? It might be.
1049. Do you think that by the construction of this line we shall bring much traffic from Broken Hill towards Sydney which would otherwise go to Adelaide or Port Pirie? I scarcely think so.
1050. You think that that will still gravitate to Adelaide? Yes; the only inducement, I think, would be to send crude ores to the mines, and I am afraid that they are too far away to make that profitable.
1051. To Lithgow? Yes, but I think it is too far away.
1052. Do you know what it costs per ton to send coal from Newcastle to Adelaide or Port Pirie? I think something like £1, but I am not sure.
1053. Do you know whether the gradients on the line from Adelaide to Broken Hill are anything like as level as the gradients from Cobar to Broken Hill? I know that the line from Cobar to Broken Hill would be a splendid road all the way. From Port Pirie it is a very flat country, too.
1054. Then there would be no material difference in the gradients? No; they can take very good loads on the South Australian line.
1055. Is it a narrow gauge there? Yes, from Port Pirie.
1056. In the event of this line being constructed, do you propose to have some intermediate stations where you will increase the trains after you get over the heavy haulage country—some places where the same engine will be able to take a train twice the size? Yes; we have that now for the western country about 8 miles west of Dubbo.
1057. If coal were discovered at Dubbo, do you think that that would make a material difference? Yes.
1058. You would be able then to compete with the water carriage? Yes; because we could take maximum loads from Dubbo.
1059. Instead of having to go over the heavy gradients at Bathurst and Orange, if you did get coal at Dubbo, that would make a material difference? Yes.
1060. Would you think that the line would then become a payable line? Yes, probably, if there were large mines at Dubbo.
1061. Do you know whether this line would tap any heavy timber country which would create a traffic? I am not aware.
1062. Is there much timber about Dubbo that would create a traffic? Yes; I believe there is some very good timber in the district.
1063. Do you know that it is a very large item of commerce at Broken Hill? Yes.
1064. Would that materially affect the paying capabilities of the line? It would, to some extent.
1065. Then you have no hesitation in saying that, in your opinion, this line is not going to pay if constructed? It will, in my opinion, be a line which for a number of years will not yield a net revenue. If it is to be constructed, it must rather be regarded as a national line—a line to open up the country.
1066. Do the Commissioners advocate the construction of railway lines on a national basis or upon a purely commercial basis? It depends entirely on circumstances. A line like this is different from anything else that we have come in contact with. The main trunk lines were made years before the Commissioners took office; this is more like a main trunk line than anything else.
1067. Have you any knowledge of the country north of Wilcannia? I have travelled between Wilcannia and Bourke.
1068. That would be north-east; I mean north or west of north, including Mount Browne and Milparinka? No, I do not know anything about that.
1069. You cannot say whether the line will get extra traffic from that part? No.
1070. *Mr. Copeland.*] What was the return of the railway at Bourke last year? The revenue earned at Bourke for passenger traffic, £10,962 7s. 8d., for the year ended 30th June, 1890, and the return for the goods traffic for the same period was £56,343 15s. 3d.
1071. What was the traffic the first year after the line was opened? I have not got that here.
1072. Has the traffic increased to any appreciable extent since the line to Bourke was opened? Yes; there is a great deal more traffic now than there used to be.
1073. And it has shown a tendency to increase? Yes.
1074. I should like to know what was your impression about that railway before it was made;—did you think that it would pay? Yes, because there is an immense country around Bourke which is served by the railway.
1075. Would there not be an equally large area of country north-west of Wilcannia which would be served by the proposed railway? The worst part of the river is passed when you get to Wilcannia. The most difficult part of the Darling is between Wilcannia and Bourke.
1076. Would you not intercept a considerable amount of Queensland traffic? It is a question—if the traffic got as far down as Wilcannia, and the river were navigable, it would probably be sent on by river.
1077. I am speaking of overland traffic which comes down to Wilcannia? Yes; if the river was not open we should get a portion of that. A good deal of it goes across to Broken Hill from a considerable distance west of the Paroo.
1078. If the river is open shall we get any of the traffic on the railway? That, again, would depend entirely upon the rates. The rates by the river are very low, goods being carried from Adelaide to Bourke at about £3 a ton.
- 1079.

1079. Is it not a fact that, although the river has been for some time open, this year a very largely increased quantity of wool has been carried by the railway from Bourke? Yes.
1080. Would that not warrant you in anticipating that if a railway is made to Wilcannia the people, for similar reasons, will send their wool by train from Wilcannia? They might do so; but, on the other hand, the distance from Wilcannia to Sydney is 111 miles further by rail, while it is much nearer to Adelaide.
1081. Do you think that the rates are so heavy that that would be sufficient to deter the traffic from going an extra 111 miles, when it has to travel such a great distance in any case? Not altogether; but when you get to Wilcannia you are a long way down the river towards Adelaide.
1082. Many people send their wool to where their business connections are, and if they happen to have business connections in Sydney, they must of necessity send their wool to Sydney if possible? I think so; but a great many stations in that district are owned by Victorian and South Australian people.
1083. Is there any difference in that respect between the country round Wilcannia and the country round Bourke? Yes; the stations in the Bourke district are held more largely by New South Wales people.
1084. I suppose you have no knowledge whatever about the stock carrying capabilities of the country, except that the stock is likely to increase? It will increase in the good seasons and decrease in times of drought.
1085. Has it increased round Bourke during the last few years? Yes; during the last four or five years.
1086. Do you think the squatters with long leases will considerably increase the carrying capacity of their runs by making improvements so as to increase the produce of wool? Yes; if they secure plenty of water.
1087. You know that they are securing water as fast as they can in all that country, and apparently there is a very large area that contains water underground? Yes.
1088. As they are tapping these supplies the country will become more capable of carrying stock? Yes.
1089. We have evidence here which was taken by a Sectional Committee, and Mr. Kelly, Inspector of Stock, was asked—"Would the extent of country carrying stock be influenced by the proposed railway?" And his answer was—"There are about 30,000,000 acres of pastoral country which would be influenced by the railway." Do you think that if any country contains 30,000,000 acres of pastoral land, they would not attempt to develop it by making a railway through it? No doubt they would.
1090. He says that that extends about 200 miles north of the railway, about ninety miles south, and about sixty miles to the south-west—that is, taking in the country from the Queensland Border on the north-west, and going direct to Broken Hill and Silverton? No doubt if there had been a railway there five or six years ago, a large number of the sheep that died would have been saved.
1091. Do you not think there is a reasonable chance, if the railway rates are moderate, of getting a very large proportion of the wool brought to Sydney? The imposition of river dues would secure it.
1092. Do you know what length of time an ordinary river passage takes? I think it is six or seven weeks from Goolwa to Bourke.
1093. Do you think, considering the high value of a cargo of wool, that people would not make sure, from a business point of view, of the quick delivery of their wool even if they had to pay a higher rate, instead of having to run the risk of the wool being delayed on the river for a year or two, which has sometimes happened? Many of them do that now. But they can always tell how long a river like the Darling is going to be navigable, and make their arrangements accordingly.
1094. Is it not a common thing for them to get their wool stuck on the river? It used to be, and will be again, I have no doubt; but for the last year or two it has not happened that I am aware of.
1095. Have you taken into consideration the difference in the rate of insurance. Of course, when they send wool down the river they have to pay insurance rates, but if they send it by rail they will have little or nothing to pay for insurance? Yes, I have taken that into consideration.
1096. In taking the goods by the river there is not only six or seven weeks' interest on the value of the cargo to be considered, but the possibility of a year or two's interest in case the cargo gets stuck. Would not that influence the traffic? Yes, to some extent.
1097. Do you not think it is the desire of any business man as soon as his wool is in bales to get it into the market as quickly as possible? Yes.
1098. Would not that have a tendency to make them use the railway? It would, to a certain extent. But a quantity of goods arrived at Bourke by steamer last week, so that the advantage of railway communication does not deter the people there from getting goods by the river.
1099. You would not anticipate getting the whole of the trade, but you are aware, I suppose, that business people—storekeepers particularly—when they know that the way will always be open to them, so that they can get their supplies just when they want them, instead of having to send an order a month before hand, get in a large stock by the river and thus suffer a loss, are they not likely to say, "We will pay a higher rate and get the goods by train as we want them"? It does influence them to a certain extent, but not altogether, because the difference between the river freight and the railway rates is so great that they not infrequently say, "Well, we can afford to get 300 tons of stuff at once and we can store it."
1100. What is the charge for a bale of wool from Newcastle to Sydney? The charge is about 17s. 6d. a ton.
1101. What is the freight by steamer? I believe it is about 12s. 6d. a ton.
1102. At any rate it is cheaper to send the wool by steamer than to send it by rail? Yes.
1103. But as a matter of fact, does not the bulk of it come by rail? Yes; but not from Newcastle. It comes past Newcastle from the northern district.
1104. Could they not save 1s. or 2s. if they consigned the wool to Newcastle and then sent it from Newcastle to Sydney by rail? Yes; but the squatters do not like their wool to be too often handled.
1105. Would not that apply to the steamers? I do not think so in this case.
1106. Wool does not deteriorate by handling? No; but the bales get marked, and do not improve in appearance by being handled too often.
1107. Would it not have a better appearance if it came down from Wilcannia by train instead of being knocked about on the trip, running the risk of being destroyed by fire, &c.? No doubt. I base my opinion upon our experience at Hay. Although we have had a railway there for about ten years, very much more wool goes down the river than comes to Sydney.
1108. Would it not be likely to bring a large traffic in case of droughts? Yes; and I look upon that as one of the great advantages of such a railway as this. In time of drought it would enable us to save the stock in the dry country.
1109. That would not only benefit the country but benefit the railway? Yes; but it would be a greater benefit to the country than to the railway.

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1110. Have you ever used the railway for trucking purposes in time of drought? Yes.
1111. To any great extent? Yes; very largely.
1112. And the country to the west of Wilcannia is more liable to drought than it is near Bourke? Undoubtedly.
1113. What rates do you charge for starving stock—have you a special rate? There is not one now. There was a special rate when the drought existed. At one time we charged half-rates, then later on we charged three-quarters of the ordinary rate.
1114. Did it pay? No; it was not a paying rate.
1115. I suppose it gave you traffic when you would otherwise have been without it? Yes.
1116. I suppose even half-rates pay better than keeping the trucks idle? I am afraid not—our ordinary stock rates are very low.
1117. Still you keep the railway employed instead of having to pay wages and the interest on the railway stock? Yes; but the great advantage is the saving of live stock.
1118. You consider that that is a great feature, as the railways are owned by the State? Quite so.
1119. Of course, you anticipate that by preserving the stock you are increasing the quantity of wool in the future? Yes.
1120. Do you think that in a case like this, where the gradients are so very easy, and you can take such enormous loads over a great part of the country, say between Eskbank and Broken Hill, it would be possible for you, if it brought a very largely increased traffic, to charge even a less rate than  $\frac{1}{2}$ d. per ton per mile? It would not pay unless the traffic were exceedingly large.
1121. Can you say how it is that they charge a much less rate in America for minerals? Yes; they get a large general goods traffic as well. If we got a large general goods traffic we could afford to carry minerals at a very low rate.
1122. Do you not carry minerals in mineral trains only? Not necessarily. It is from general goods traffic that we principally derive our net revenue. The coal and ores do not yield much profit as a rule.
1123. Would they not leave a profit suppose you took them from Nyngan to Broken Hill, over a grade of 1 in 100—would it not pay you to run trains and charge  $\frac{1}{2}$ d. per ton per mile for minerals? I do not think it would.
1124. Do you know that it pays private companies to do this in America? Yes; where there is a large general goods traffic as well; then railways can afford to carry minerals cheaply.
1125. Do you carry general goods in mineral trains? When necessary we do.
1126. The effect of a mineral traffic would be to give you an ordinary goods traffic would it not? That does not follow.
1127. When people are sending minerals backwards and forwards, does not that necessarily open up the passenger and goods traffic? Not necessarily to any great extent.
1128. Do not people have to travel backwards and forwards? Not to any large extent. If the supplies for storekeepers and others were to go from Sydney by railway that would be a very different thing.
1129. Can you explain what connection there is between the rates of separate goods trains, and the rates of separate mineral trains? There is none.
1130. Then if you carry the minerals in separate trains, how can you say that it would not pay you to carry ores at low rates unless you get a large quantity of goods as well? I do not think that we should get the general goods at all.\*
1131. Suppose that you did not get any general goods at all, or any passengers, would it not be possible to charge one-third of a penny per ton per mile over a country with a grade of 1 in 75 or 1 in 100? Perhaps it would if we got full train loads in both directions, and plenty of them.
1132. Well, if you carry coal to Broken Hill and bring ores back, will not that be likely to give you full train loads? Yes. But would coal go to Broken Hill, and would ores come from there at the same time?
1133. Suppose that coal and timber only were to go to Broken Hill? Then if the trucks were to come back empty it would not pay.
1134. But do you not make considerable deductions for cargo going long journeys? We do. The rate at the present time for 200 miles is £3 18s. 8d. per truck—about 13s. a ton.
1135. What rate is that per ton per mile? That is about three farthings per ton per mile.
1136. Do you charge lower rates now than you did a few years ago? No. I think these rates have been in existence for about ten years.
1137. There is not a tendency then to work the railways at a cheaper rate? We look upon the mineral rates as very low already. Where we give special concessions is generally on the up journey, so that we can get back loading for trucks that would otherwise frequently run empty.
1138. Were the rates not fixed ten years ago at a paying figure? Yes.
1139. Has not the cost of working the railways been reduced during the last ten years? Yes, but at that time our railways did not extend so far into the interior as they do now; therefore the reduction was more apparent than real.
1140. If it paid you ten years ago, at the rate you fixed for short journeys, would it not pay you all the better at the same rates for long journeys? Not necessarily. At that time we had not the traffic to carry for long distances.
1141. But ten years ago you had no long distances, compared with the distance to Wilcannia and Broken Hill? No.
1142. Then if you fixed a rate ten years ago for short distances and it is paying, you ought to make a reduction now? Yes: so we do. The charge for 200 miles is about three farthings per ton per mile? For 500 miles it is a good deal less.
1143. Is it not a fact you are working the railways now considerably cheaper than you were ten years ago? Yes.
1144. Would not that be an additional reason for still further reducing the rates? No; because, as I have already said, although the present rates were fixed about ten years ago, they existed in name only as far as long distances were concerned, because we had no long distance traffic to carry, such as we have now.
1145. Can you explain how it is that in America they can afford to carry minerals at a third of a penny per

\* NOTE (on revision) :—What I wish to convey is that mineral traffic taken by itself does not yield much net revenue; but it leads to the conveyance of other traffic which does.

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- per mile, if you cannot do it here, seeing that those are commercial companies that must have their dividend? They have a very much larger population and derive their principal profit from other traffic.
1146. It does not matter about population with mineral trains. If you were to take a train load of coal or ore into the Sahara desert, where there was not a soul, or to Tibbooburra, or any other part of New South Wales—if you were paid for taking a train load, and you got a full load, what has population to do with it? Everything, in this way. A railway company may say, "We will carry the coal without any net revenue. We will even sacrifice revenue upon it as long as we can get a large number of people settled on the line of railway, and the supplies they consume will give all the revenue that we want." No railway company looks for much net revenue from mineral traffic.
1147. Still, you do not mean to say you are working the mineral traffic on a principle of philanthropy;—do you? It is throwing a sprat to catch a mackerel.
1148. Your mineral rates are paying rates, are they not? Yes, they cover expenditure.
1149. If they gave a paying return 10 years ago for short distances, and now you have an opportunity of doubling or trebling these journeys with only one loading and unloading, ought you not to be able to reduce the rates per ton per mile? That is done.
1150. When was it done? It has always been done.
1151. The rates you are charging now were fixed 10 years ago? Yes.
1152. When the journeys were comparatively short? Yes.
1153. But you had not such long journeys years ago—such as the journey from Lithgow to Broken Hill? No; and although the low rates appeared in the rate book they were not operative.
1154. They were fixed 10 years ago on the working expenses of ten years ago, which were higher than they are now? Yes.
1155. I still have not solved the problem as to what population has to do with mineral traffic. Suppose you are kept continually carrying coal to Broken Hill, and bringing back minerals, how would population affect that? The opening up of mines would lead to settlement, and settlement creates payable traffic.
1156. Is there not a probability of mines being opened up if this railway is taken through the country? If that follows there would be settlement, and we should expect to derive our net revenue from the commodities which the people would consume.
1157. Is it not worth considering, from a railway point of view, whether you could not carry minerals between Broken Hill and Sydney, or Eskbank, or Lithgow, at even a less rate, with the prospect of opening up new mining fields? Yes, if one could be sure that the new fields are there.
1158. I suppose you know that the Cobar Copper Company have had to cease work for some years on account of their not having a railway;—suppose that when they get the railway they resume work, would not that have a tendency to cause people to prospect for other mines? It may. I rather think it was due to the low price of copper than the want of cheap transit that caused the Cobar Copper Mining Company to shut down.
1159. *Mr. O'Sullivan.*] I understood you to say that there had been no report made on the probable traffic on this line by the Department? None that I am aware of.
1160. Did not Mr. Harper some time ago go out and make a report? That was on the Nyngan to Cobar line.
1161. Did he not go to Wilcannia? No.
1162. Did the Commissioners go over the route? The Commissioners went over the route, and any opinion expressed by them must necessarily, therefore, be much more valuable than mine, but I am not aware that they made any estimate of the traffic.
1163. Then all the evidence that you have given is only based upon assumption? That is all.
1164. You have no data to go upon? None whatever.
1165. In looking over the evidence, you will find that Mr. Cameron, manager of the Marfield Station; Mr. McPherson, manager of the Paddington Station; and Mr. Moule, proprietor of the Fulham Station, say that they have been in the habit of sending their wool to Melbourne by way of Hay? I do not think that the wool from Paddington Station has always gone there.
1166. They all state that if a railway ran out into that district they would utilise it? I have said that we should no doubt get some of the wool that now goes to Hay.
1167. Do you take those three stations as indicative of many others out there? To some extent.
1168. In addition to serving as a valuable starving stock route in time of drought the railway would have a large fodder trade, would it not? Yes.
1169. Large quantities would be sent out to stock that could not be removed? Yes; but there is very little money in that. Our rates for fodder are exceedingly low.
1170. Are you aware of the statement made by the manager of the Cobar mine that they will re-open if sufficient inducement is offered by the Railway Commissioners? No.
1171. Has not Mr. Russell Barton made such an offer? I have not heard of it.
1172. Wilcannia is on a travelling stock route from Queensland is it not? Yes.
1173. Is it not likely that we can get a considerable stock trade by the railway going out there? I think we get that at Bourke.
1174. You think that a line to Wilcannia would pay but the remainder would be a loss? No; I did not say that.
1175. You are against the line? No, I am not against the line; it will open up the country; but as a net revenue paying line I am not very hopeful of it.
1176. But you think as a revenue line it will be a failure? I do not think there is much net revenue in it.
1177. Of course, you know there is a considerable trade at Wilcannia and the districts at the back? Yes.
1178. We should tap that trade which goes to South Australia or Melbourne? Yes.
1179. As a matter of fact there is a road straight from Wilcannia to Mount Browne? Yes.
1180. Therefore there is a possibility that we might tap the trade of the whole of that region? Yes, except for the river.
1181. Do not the storekeepers of Wilcannia, and other towns out there, have to lay in very large stores for fear the river should go down? Yes.
1182. And lose money by deterioration of their goods and having to pay interest on the money invested? Yes.
1183. If they had a certain and speedy means of transit to Sydney, is it not likely that the storekeepers would send to Sydney for their goods as they want them? They would at times, but not altogether.
1184. Do you not think it would be more to their commercial interest than to have a lot of goods wasted and having to pay insurance for river carriage? It is not always found so from experience.
1185. *Mr. Trickett.*] You investigated the line from Nyngan to Cobar? I did.

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1186. Judging by your minutes, you had reason to increase your estimate of the probable traffic from time to time. On the 4th March, 1887, you put down the probable traffic at £6,908? About £7,000 a year.
1187. And afterwards you found that that was too little and you increased the estimate by £1,000? Yes, for the conveyance of mails.
1188. After that Mr. Harper was sent up? Yes, but I went up again myself before Mr. Harper.
1189. What was the result of your inquiry? The summary of what has been done says:—The Traffic Manager reported that since his previous reports had been sent in, he had ascertained that some traffic had gone by way of Girilambone, Byrock, and Coolabar, and that his estimate might be increased to £8,412. Of course, previously I had simply taken the traffic which had gone to Nyngan—not the traffic to and from other stations.
1190. Therefore you increased your estimate? Yes; by about £800.
1191. Then on the 1st May, 1887, Mr. Harper was sent by the Department, was he not? Yes; but I think I made a report on that again on the 28th April, 1887, after I had met a deputation of Cobar people. I put the traffic at £14,683.
1192. Then, again, in May Mr. Harper went up and made it £11,990, so that in a short time, when you came to inquire into it, you found that your estimate was considerably below the mark? My report requires to be read in connection with that. If my report in full were read, you would find the reason which induced me to alter my estimate; besides, I think Mr. Harper did not visit the district for the purpose of compiling any statistics until the end of 1887, or the beginning of 1888, and his report included a traffic which I had purposely excluded.
1193. Will you tell the reason? Yes; in my last estimate, that of £14,683, there was an amount of £7,054, for the conveyance of firewood. I got the tonnage from the Great Cobar Copper Company.
1194. You think that that is a doubtful item? I think it is a very doubtful item.
1195. You think that more reliance is to be placed on your estimate of about £9,000? Yes.
1196. In your report of the 4th March, 1889, you say that there is not a single acre of cultivated land along the whole route from Nyngan to Cobar. I would like to ask you if you stopped at a place kept by a Mr. Hall? I did not visit Cobar. I was guided by the reports put before me.
1197. Are you aware that he has a selection of 40 acres which is cultivated? I am not aware.
1198. This is a question which he was asked—"How much cultivated land have you?" And he replied, "30 acres under wheat and a little oats and barley. Those crops are very successful. It is about eight years since I put in the first crop, and I was more or less successful every year until last winter, which was exceptional, owing to the want of rain. Oats, as a rule, are not so successful as wheat. I have had wheat 4 feet 6 inches and 5 feet high, when the oats were not 18 inches high. I have had good crops here when the crops at Dubbo and Wellington have been a failure?" Mr. Hall has been increasing his cultivation for some years, but at that particular time my report was substantially correct, I think.
1199. Did you know that good crops could be produced? Yes; I think I mentioned in my report, first of all, that if there was a development of the mining industry, and next, irrigation, it would be an immense benefit to the district, and would very likely increase the value of the Crown lands there.
1200. Then the paragraph in your report would hardly be correct, that you did not see a single acre of cultivated land along the route, when this place of Hall's had been in existence so long? There was very little at the time to the best of my knowledge.\*
1201. The Sectional Committee called at "Budd's Hotel," and the owner said, confirming what the Committee saw:—"I have a selection that I am converting into a freehold. I have 40 acres, most of it under cultivation." And the Committee saw fruit trees growing in a very satisfactory manner;—did you not see that? No.
1202. But "Budd's Hotel" was at the place where a station was supposed to be, about 14 miles this side of Cobar? I do not know anything of it.
1203. Then you are not aware that it does exist, that the place has been cultivated, and kept in an improving condition by the storage of water? No.
1204. You are not in a position to say, with regard to the extension of the line from Cobar to Wilcannia and Broken Hill, that much such cultivation exists along the route? No; there is some nice cultivation at Wilcannia.
1205. From inquiries that you made, were you not informed that want of water was the only deterrent to cultivation? Yes.
1206. And that with a proper rainfall, and, in the absence of that, good conservation of water, they could cultivate almost anything? Yes; I should say that anything could grow if there were reasonable rainfalls.
1207. Did you make any inquiry as to whether people who took up homestead leases could make a good living in that part of the country? I scarcely think they could make money at that alone.
1208. Could they make sufficient to live upon? I could not tell. When I went down there five years ago, the manager of a station told me that he would not take a 10,000-acre block for nothing if he had to live on it.
1209. Was he manager of a large station? He was.
1210. You did not ask any small settler? No.
1211. Of course, you are aware of the cost of constructing ordinary roads in such country? Yes.
1212. Mr. Cummings, Government Road Superintendent, has stated that it would cost £200,000, independent of maintenance, to construct a road to Broken Hill, and that the cost of maintenance would be £2,000 a year;—do you think that these figures are correct? I could not say.
1213. If they are, they would be a considerable set off against the cost of the railway? Yes.
1214. With regard to the river traffic, are you aware that the Government have from time to time spent very large sums of money in snagging the river? Yes.
1215. Could you tell the amount? I made inquiries some three or four years ago, and was informed that they had been spending money at the rate of about £10,000 a year for about nineteen years, the amount being something like £190,000 to £200,000. I am referring to the Darling, the Murray, and the Murrumbidgee Rivers.
1216. If the river is to be kept navigable I suppose the Government would have to keep it clear? They will have to keep it clear in any case, I presume.
- 1217.

\*NOTE (on revision):—I only wrote from reports. My minute said:—"Both Mr. Harper, the Goods Superintendent, and Mr. Hornidge, the District Inspector, have been making very careful inquiries into this matter, and from them I gather that there is not an acre of country under cultivation along the whole route of the proposed line, &c."

1217. Even if the railway is constructed? Yes; in order to serve places which cannot be served by a railway. D. Kirkcaldie,  
Esq.
1218. So that there would be no saving in respect to that? No; the river would still have to be snagged.
1219. Have you considered the question of a railway in connection with the locking of the Darling? I have not come to a definite opinion about it. 10 Mar., 1891.
1220. You have not come to the conclusion that the two things would work hand in hand? I think they might be made to work hand in hand very well.
1221. Would it not be desirable to lock the Darling if we make the railway? Yes.
1222. You said, in answer to a question, that the railway would afford them the means of getting a lot of stock away in bad seasons;—are you aware that in 1888–9 800,000 head of sheep died of starvation in the Wilcannia district? I know that the number was very large.
1223. Could not a large number of these have been removed with proper means of communication? Yes.
1224. You stated that the position with regard to Wilcannia and Sydney, and Bourke and Wilcannia was different, on account of the difficulty of the navigation of the Darling above Wilcannia;—is that so very great that it would make a material difference in the traffic? Yes; boats can get to Wilcannia when they cannot go any further north.
1225. Is it a very long distance from Wilcannia to Bourke? About 500 or 600 miles by river.
1226. Do you not think that the people in every case would use the railway in preference to the river? I do not think so. They would use it at times as it suited them.
1227. Do you not think they would get into such a way of trading with Sydney merchants that they would give the river the go-by? That has not been our experience.
1228. Do you know what the rate of insurance is for sending by the river? I do not know what it is. Some years ago it was about 45s. per cent.
1229. When the Sectional Committee were in Wilcannia, great stress was laid by the storekeepers there on the fact that if they had regular means of communication they need not get nearly such large stocks? Yes.
1230. And that they could get their goods more frequently if a railway were made;—would not that tend to keep up the traffic? It would. But the storekeepers of Bourke have told me over and over again the same thing, and yet they sometimes get large quantities of goods by the river.
1231. When the river has been dry they have often had to get goods from Adelaide, *via* Broken Hill? Yes; and also by way of Bourke.
1232. Have not the rates of carriage for those goods been almost ruinous? They have been very high.
1233. Coming to as much as £21? I would not say that. Five or six years ago they were paying £10 a ton for the carriage of goods from Bourke to Wilcannia.
1234. The following evidence was given in October, 1889, by Mr. Thomas Byrne, of Wilcannia:—"Do you produce a bill of lading for certain goods from Adelaide to Broken Hill? Yes; the charge is £9 per ton."—"Do you also produce the way-bill for the same lot of goods from Broken Hill to Wilcannia? Yes; the freight for that distance is £15 per ton. Therefore the freight for the whole distance came to about £24?" I should say that the £15 rate was very exceptional, the distance being only 115 miles.
1235. The same gentleman produced a number of way-bills, showing that the average charge from Adelaide by the river came from £5 to £5 10s. a ton. What do you say would be the lowest charge which you could make from Wilcannia to Sydney? I could not say. We could not possibly fix any rates now, as they would depend upon the state of the river.
1236. You have various charges under various circumstances, the charge for minerals being about the lowest? Yes.
1237. As low as  $\frac{1}{2}$ d. a mile? About that.
1238. What is the lowest charge for long distances for wool and store goods? The charge for wool from Bourke to Sydney, scoured, is about 2·38d. per ton, and greasy wool 1·9d. per ton per mile.
1239. Have you looked at this subject from the point of view of increased population in the district of the line? I have not.
1240. Not having travelled through the country, you have not inquired fully into that? No.
1241. *Dr. Garran.*] You say that the present traffic at Wilcannia will not pay interest on a railway from Cobar? Not if we have to compete with a free and navigable river.
1242. How much increase would make it pay—would 50 per cent. more make it pay? No increase at all will make it pay, if we have to compete with the river rates.
1243. Then you say that whatever the trade of Wilcannia may be, no railway to it can pay if it has to compete with the river? I think not, while the river is navigable.
1244. Then on its merits, commercially, such a railway is condemned? Yes; I do not think it is a railway that you are going to look to for much net revenue for years to come.
1245. Not even if the traffic doubles? No.
1246. Not even if it quadruples? No. But if the river were not navigable it would be a very different question.
1247. The river is not navigable one year in three? About one in three.
1248. Then we should get the traffic two years out of the three? Yes.
1249. Would it pay then? No.
1250. Then you do not think it would pay even in the absence of river competition? Yes; I think it would if there were no competition.
1251. Two years out of the three it would pay? No; I do not think it would.
1252. If you could double the present trade would it pay? Yes.
1253. Then two years out of three the railway would pay if the traffic were doubled? Yes.
1254. If the gold-fields to the north-west were developed, the traffic would double, would it not? I do not know that it would double—it would increase.
1255. Do you think the addition from Wilcannia to Silverton would make the difference between a paying and a non-paying line? I do not think so.
1256. If you had a line made from Wilcannia, and it was not paying, you do not think that continuing to Broken Hill to Cockburn would make it pay? I do not think so.
1257. You have told us that the proposed line will not give us much more pastoral business than you have now? It will, to some extent.
1258. Not very much? I do not think so.

- D. Kirkcaldie, Esq.  
19 Mar., 1891.
1259. Suppose a line is made from Forbes to Menindie, would that catch the traffic which you now lose? Yes, if it went between Mosgiel and Hillston. From that district we lose a large quantity of wool, which goes to Melbourne by way of Hay.
1260. If such a line as that were made would any traffic to the northward cross it to go to Melbourne? I do not think so.
1261. The traffic south of it might? Yes, some considerable distance south.
1262. Would you catch the traffic for 20 miles to the southward? I think we should.
1263. Would the traffic that you would get be a considerable item in the revenue of such a line? It would.
1264. Do you think that such a line would pay on its own account? I think it would in a comparatively short time. It is, I believe, all very nice country down the valley of the Lachlan.
1265. Suppose the construction of such a line as that were carried out near the river, and it would settle a large agricultural population? Then that would pay.
1266. You think it would? Undoubtedly.
1267. Have you been over it? No, but I am told that it is very good agricultural country.
1268. Is the country good along the Willandra Billabong? I do not know.
1269. If there is any prospect of irrigating and settling the country, a railway made there would pay? Yes. If there is irrigation and large settlement on the proposed line it would pay.
1270. Is there any chance of irrigation? I am afraid not, for the present.
1271. Is there any chance of irrigation on the Forbes route? Not from the river to any great extent.
1272. We are told that that line would be 62 miles shorter to Broken Hill than the one round by Cobar,— would that make a difference to the coal traffic? It would, but not to a very great extent.
1273. Suppose you got coal from Lithgow or Wallerawang, would that make the difference between a paying and a non-paying line? No.
1274. It would still have too heavy a handicap? Yes.
1275. You do not think either line would be justifiable, commercially speaking? I do not think so.
1276. But of the two the more southerly would have the best prospect? I think so.
1277. And it would make the best trunk line across the country? Yes, I think it would more rapidly become the best paying line.

TUESDAY, 24 MARCH, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.	}	WILLIAM SPRINGTHORPE DOWEL, Esq.
The Hon. FREDERICK THOMAS HUMPHERY.		EDWARD WILLIAM O'SULLIVAN, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.		CHARLES ALFRED LEE, Esq.
HENRY COPELAND, Esq.		WILLIAM MCCOURT, Esq.
JAMES EBENEZER TONKIN, Esq.		JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

David Kirkcaldie, Esq., Chief Traffic Manager, Railway Department, sworn, and further examined:—

- D. Kirkcaldie, Esq.  
21 Mar., 1891.
1278. *Mr. Dowel.* Have you visited Broken Hill? No.
1279. Do you know what is the population of that town? I think about 16,000.
1280. Would you be surprised to learn that the population of Broken Hill is estimated to be 25,000 or 26,000? That is larger than I thought.
1281. You stated in reply to a question that you considered population necessary to make a railway pay? Yes.
1282. Do you know of any town through which any railway in New South Wales passes that has anything at all like a population of 26,000? Not except Newcastle.
1283. What is the population of Newcastle? I think it is about the same; taking the suburbs it would be 60,000 or 70,000.
1284. You estimate the population of Newcastle at about 26,000? Yes; somewhere about that.
1285. Having such a large population at Broken Hill, do you not think it absolutely necessary that the people residing there should be placed in communication with the metropolis of New South Wales? Yes; but that was not exactly what I gave evidence on. I was speaking of the paying capabilities of the line. So far as it is a national undertaking what you say is right.
1286. Would not the consumption by the population of Broken Hill cause a large traffic on the railway? No doubt it would.
1287. Would they not be consumers to a large extent of coal, coke, timber, galvanized iron, and general merchandise? Yes.
1288. Would that not be the means of giving a large amount of revenue? It entirely depends upon whether that traffic would go from New South Wales, or whether it would not go from South Australia, as being the shorter distance.
1289. Do you know any country there through which the proposed line will pass? No. I have been only to Wilcannia.
1290. You stated in your evidence that the country was not suitable for irrigation? No, I did not say that; I think it is admirably suited for irrigation.
1291. Did you say that the Lachlan country was not fit for irrigation? I said it could not be irrigated from the river to any great extent.
1292. Would you be surprised to learn that there are works of an extensive character in existence, carried on by private enterprise, on the Lachlan? Yes, I should be surprised to hear that works of an extensive character were carried on there.
1293. And you would be surprised to learn that some of the land there is carrying as many as ten sheep to an acre in consequence of irrigation? I should not be at all surprised to hear that it is so in parts where irrigation is carried on.
1294. Are not the capabilities of the country on the proposed line as good as they would be on the Lachlan? Yes; but you must have a most extensive system of irrigation to irrigate to some purpose. Having such a system, I think the country is capable of carrying anything.
- 1295.

1295. Knowing what you do of the country, would you recommend that this line should be constructed? D. Kirkcaldie, Esq. Well, as a net revenue paying line, as I said before, I do not think there would be much taken out of it for years to come. But if it is to be regarded as a national line, to open up the country and connect Broken Hill with the metropolis, that is an entirely different question. 24 Mar., 1891.
1296. I suppose you are aware that the Broken Hill people are desirous of having the railway constructed? I should think they would be.
1297. What would you suppose would be the principal reasons they would give for having the railway constructed—would they not want to use it? They might use it as a lever to force down the rates on the South Australian railways.
1298. For that particular purpose only? They might do that—I do not say that they would; it has been done in other places.
1299. *Mr. Lee.*] You are thoroughly acquainted with the outgoings and incomings of the line from Junee to Hay? Yes, but I have not the statistics before me now.
1300. You are aware that it is not a paying line? Yes.
1301. What traffic do you depend upon from Hay? The principal traffic from Hay is live stock.
1302. Do you get any wool? Some, but not much.
1303. Any agricultural produce, or minerals? No.
1304. Being so thoroughly acquainted with the traffic from that part of the country, do you think we have a right to expect a larger traffic from Broken Hill and the intermediate country on that line? No; the country is of the same character. I have been told that the Broken Hill country is capable of large development as regards the mining industry.
1305. You are keeping in view the large population of Broken Hill? Yes.
1306. Do you anticipate that you could get a proportion of that-trade? I scarcely think we could get a large proportion of it.
1307. Do you think we should get any at all? Not very much of the general goods traffic, I am afraid.
1308. Do you think the conditions regulating the traffic on the Hay line are different from those in the case of the Broken Hill line? I do not think they are appreciably different.
1309. Is there at Hay the population that there is at Broken Hill? No.
1310. Would it not be reasonable to infer that with a population of that magnitude a fair proportion of the traffic would come to the metropolis? We might get a proportion, but we should not get very much. I am speaking principally of the wool and general goods traffic. The great bulk of the wool from Hay goes to Victoria.
1311. Are the conditions similar as between the Hay line and the proposed Broken Hill line? I think so.
1312. You would not make an exception in favour of the large population at Broken Hill? I do not think so,—it is too near Adelaide and Port Pirie to be of much benefit to us as far as general goods are concerned.
1313. Leaving that traffic as problematical, you would not like to give a definite opinion as to which way the traffic would go? I could not give a definite opinion on that.
1314. Your opinion is that the traffic would continue to go to South Australia? I think it will.
1315. Do you think that if the line were constructed it would be the means of drawing traffic from Broken Hill to the river on one side, and towards Cobar to the river on the other, to be transported by steamer? It would probably do that.
1316. That would be more likely to occur when the river is navigable? Yes.
1317. Could they then carry it by water at a lower rate than you could carry it by rail? Yes.
1318. Including transshipment charges? Yes. I am talking now of Wilcannia.
1319. But would a short distance traffic of that kind pay,—from Broken Hill to Wilcannia, and from Cobar to Wilcannia? Yes; we would fix our rates so as to make it pay.
1320. Then it would make very little difference whether you carried to the intermediate stations or right through? Yes, it would make a big difference.
1321. Which would pay the Department best? We always prefer to get hold of long distance traffic.
1322. Then if a trade sprang up on the river of the character that I have indicated, it would materially interfere with the calculations of the Department? Yes.
1323. And in that case you would fall back on the system of river dues? We have no power to levy river dues.
1324. That would be your recommendation? Yes.
1325. *Mr. Garvan.*] Do you think that if the railway were constructed we should get a live stock or wool traffic to Sydney? Yes; it would attract a certain amount of wool traffic.
1326. It would first have to come to Wilcannia? Yes.
1327. A distance of about 130 miles? You would not draw any wool traffic from Broken Hill.
1328. At Wilcannia the river, I understand, is navigable nearly the whole year round? It is more often navigable there than it is further north.
1329. During what portion of the year is the river navigable at Wilcannia? I could not say.
1330. Have you ever known the river at Wilcannia to be unnavigable for more than a year? I have not.
1331. With the freights that are ruling on the river, could you, with wool delivered at Wilcannia, compete and make a profit in the carriage of wool and live stock to Sydney? No. At the same time, squatters frequently would pay more in order to get their wool to its destination quickly. It does not follow that we could not get a higher rate for the carriage of wool by railway than is paid to send it by river to South Australia and Victoria. But the very low rate of river carriage militates against it.
1332. It is found at present that from Bourke, where the river is not nearly so navigable as at Wilcannia, it is difficult to maintain the traffic on the railway? The wool traffic from Bourke has gone on increasing year by year, but there has been a quantity of general goods taken up the river to Bourke during the last fortnight.
1333. Is the whole of the wool that comes to Bourke carried by railway? Not all, but the great bulk of it is.
1334. And are the rates of charge from Bourke of a paying character? Yes.
1335. As good as the rates from Dubbo to Sydney? No. The Bourke rates are £5 0s. 3d. per ton for scoured wool, and £4 0s. 3d. for greasy wool. From Dubbo the rates are £4 10s. 7d. for scoured wool, and £3 9s. for greasy wool.
1336. How many miles is it to Dubbo? The distance from Bourke is 225 miles greater.
1337. Is the rate for wool from Dubbo a very paying rate? Yes. 1338.

- D. Kirkcaldie, Esq.  
24 Mar., 1891.
1338. It would want to be a good paying rate to enable you to carry from Bourke without a loss? Yes, but still we only charge at the same rate from Dubbo that we do from any similar distance in a non-competitive district.
1339. Have you made any actual calculations as to whether the rates from Dubbo to Bourke are paying rates or not? No.
1340. Has it been made by the Department? No.
1341. Could you tell me by what process you arrived at the conclusion that the charges from Bourke, as compared with the charges from Dubbo, are paying rates? To begin with, we have a very small staff to maintain beyond Dubbo; the country is level, we do not require so many stations, we can take double the sized train loads beyond Dubbo that we can take on this side. In every possible way we can minimise the working expenses on a level railway as compared with a railway having heavy gradients.
1342. As far as the wool trade is concerned from Broken Hill, you do not anticipate that you can bring any of the trade to Sydney? I do not think so.
1343. What will pay if we construct the line? It seems to be a very important question whether we shall get an immense quantity of coal to carry from the Lithgow mines to Broken Hill, and crude ores from Broken Hill to Lithgow. If we get that, probably it will result in the development of traffic in another direction; but that, of course, is speculative.
1344. You say if you could accomplish this, but do you see anything, from your knowledge of that traffic, to lead you to the conclusion that we should get it? I could not say that. Some people seem to think that we should. Some mining authorities say so. I should not like to express an opinion about it.
1345. We have had evidence that the coal at Lithgow is not pre-eminently fitted for smelting purposes? I could not express an opinion on that.
1346. To the extent that that coal is inferior coal, it would militate against the possibility of a trade? No doubt.
1347. Do you think it would not be more desirable to construct a railway to the nearest port on a more navigable part of the Darling River than Wilcannia; for instance, there is a point near Menindie, about 80 miles from Broken Hill, as against Wilcannia 120 miles; for certain purposes of trade would it not be better to connect with the navigable part of the river only 80 miles distant? Yes, I think so.
1348. Would the line from Broken Hill to Menindie be likely to get more trade than a line from Broken Hill to Wilcannia? I do not think so.
1349. In other words you hardly think there would be any trade at all coming from Broken Hill towards the river? I do not think so.
1350. Do you see any probability if the railway is made of any population being settled for agricultural or other purposes? Not unless they get an extensive system of irrigation. There may be a development of mining which I am not qualified to speak upon. I have been told that there are mines in the Cobar district which may be opened up if the railway is made.
1351. What kind of mines? I have heard that there is silver, copper and gold.
1352. But as a matter of cost of bringing the produce of any mine, except a coal mine, the freight is not so important an object as making it a paying or non-paying line? Not of itself; but if you open up a large mineral field a settlement of 10,000 or 15,000 people would develop a traffic of its own.
1353. You have been asked whether Broken Hill, by reason of its population, has not some strong claim to connect with the metropolis, but is it not a fact that it is already connected with the metropolis of South Australia, and connected through that place with the metropolis of Victoria and that of New South Wales. Does not that meet the demands of the population? No doubt it does.
1354. Is not the metropolis of South Australia more naturally the commercial centre of Broken Hill than the metropolis of New South Wales? I think so.
1355. If you had the management of the railways of South Australia, do you think that anyone managing the New South Wales railways could take the traffic from you? I do not think so.
1356. It is quite possible that there may be some capable man with views similar to your own, managing the South Australian railways? Yes.
1357. In South Australia they could make it impossible for New South Wales to get the trade? Yes, as far as railway rates are concerned.
1358. *Mr. Humphery.*] I think you said that very little wool comes by rail from Hay? Yes; the traffic from there is principally live stock.
1359. That comes in time of drought? No, they have always a good river in the Murrumbidgee, especially in the wool season.
1360. Is the river always navigable? Yes, almost always at that season.
1361. Into what part of South Australia is the wool taken from Hay? It goes principally to Victoria, down the river to Echuca, and from there to Melbourne by rail.
1362. Very little goes to South Australia? Comparatively little—a great deal of Darling wool goes to South Australia. Very little of the Murrumbidgee wool.
1363. What is the distance by water from Hay to Echuca? I think about 500 miles, speaking from recollection.
1364. Do you know how long it occupies in transit by water? About a week, sometimes longer.
1365. What is the distance from Sydney to Hay? 454 miles.
1366. What is the railway rate for wool from Hay to Sydney? £4 3s. 9d. per ton for scoured wool, and £3 4s. 9d. for greasy wool.
1367. Do you know what the freight by water is from Hay to Echuca? I think they are taking it as low as £2 5s. and £2 15s. per ton.
1368. And from Echuca to Melbourne? I am giving the rate right through.
1369. Then the freight, including water carriage, from Hay to Melbourne is about £2? It ranges from £2 5s. to £2 15s. per ton.
1370. Does the rate that you charge leave a margin of profit? Yes.
1371. Can you afford to carry wool at a lower rate than you have mentioned? Yes; rather than lose it altogether, but we should create an anomaly, which is already great enough, in charging lower rates for longer distances.
1372. Could you carry at a lower rate, and still leave a profit? We could.
1373. Can you say why the Commissioners have not carried at a lower rate to compete for the traffic? Because

Because they do not care to create further anomalies. They would rather carry a smaller quantity at the higher rate than a larger quantity at a lower rate. It is questionable whether we should get any more revenue from the larger quantity.

D. Kirkcaldie,  
Esq.  
24 Mar., 1891.

1374. Would similar conditions exist if the railway were extended to Wilcannia? Yes.
1375. Could you afford to carry wool from Wilcannia to Sydney, 615 miles, at a less rate than is charged by water? No, we could not do that.
1376. What is the lowest rate at which you could carry traffic from Wilcannia to Sydney? That would be a matter of expediency.
1377. Could you calculate it? No.
1378. Do you know what the freight is from Wilcannia to Goolwa? I think altogether it is about £3 a ton right through to Adelaide.
1379. If our freights from Hay to Sydney, 454 miles, are £4 3s. 9d. and £3 4s. 9d., do you think it possible to carry goods from Wilcannia to Sydney, 615 miles, at a less rate than from Hay to Sydney? If we have the railway we shall try and get the traffic, whatever rates we have to quote for it.
1380. But you have a railway to Hay;—why do you not try and get the traffic there? Because we find it better to keep the traffic we have and get the rates we are receiving for it.
1381. But you get very little wool? We get a fair quantity of general goods. Not unfrequently supplies for Hay come from Melbourne by sea and go by the railway from Sydney.
1382. You have almost abandoned the wool traffic? We have not done very much in that direction.
1383. At Wilcannia would you do the same? To a very large extent the stations there are held by Victorian and South Australian owners.
1384. When the line is extended you hope for very little wool traffic? I do not think there will be much.
1385. You depend principally on goods traffic? I mean wool adjacent to the river.
1386. What is the distance from Wilcannia to Goolwa? I could not tell—I should say about 1,000 miles.
1387. Do you know what time is occupied in transit between Wilcannia and Goolwa? I think from three weeks to a month.
1388. Would that give you an advantage? It does give us an advantage to some extent.
1389. Would it not save interest to the producer if he used the railway? Yes.
1390. It would enable the producer to get a more speedy advance upon his wool? Yes.
1391. Mr. Garvan asked whether Adelaide was not the natural capital for Broken Hill, owing to the existing means of communication with Adelaide and Port Pirie. Do you think it at all probable that we should be able to successfully compete against South Australia? As far as the railway rates are concerned, I should say that we can hardly hope to do so.
1392. Unless we regard it as a national line, the line ought not to be constructed? I think it must be regarded as a national line. It will open up a great deal of country which will be of great benefit in times of drought, but, taken all round, as a net revenue paying line I do not think there is very much in it.
1393. You do not think it would be profitable? Not from a railway point of view, I think.
1394. *Mr. Trickett.*] You were asked some questions about a railway line from Forbes to Menindie? Yes.
1395. On that route do you know of any centre where the annual outward tonnage is about 8,000 tons of wool, and where the annual inward tonnage is between 7,000 and 8,000 tons of goods? No, not on that route.
1396. It has been sworn by several witnesses at Wilcannia that that is the annual traffic of that town. If that is true, and a line of railway went from Forbes to Menindie, instead of from Cobar to Cockburn, would not that traffic be lost to the line? Not necessarily. I think it might come down to Menindie, and we might catch it there.
1397. But the river is not always navigable? It is generally for a portion of the year, between Wilcannia and Menindie.
1398. How do you account for the evidence that wool has been kept there sometimes eighteen months at a stretch? I daresay that may have arisen. I myself saw a boat five years ago at Wilcannia which had been there eighteen months, and then they had to take out the goods and cart them to Bourke.
1399. With regard to the traffic from Hay, you say that the river there is always navigable? In the wool season.
1400. That is not always the case at Wilcannia? Not always, but it is to an extent.
1401. I should like you to explain how, if a railway were constructed from Forbes to Menindie, the very large goods traffic that I have mentioned would be secured? I do not say that it would be secured; I would not say that.
1402. I asked if it would not be lost, and you said you thought that the railway would get the benefit of it? To a certain extent I think it would.
1403. How would it come? By steamer to Menindie. We get a good deal of traffic now from the boats at Bourke.
1404. It might be taken that way if the river were navigable? Yes.
1405. You stated that the country is of a good character, though I do not think you have been there? I understand that it is.
1406. If it has been sworn by a gentleman who examined the route that a great deal of it is of a swampy character, you could not contradict it? I could not.
1407. *Mr. Copeland.*] You stated, in reply to Mr. Trickett, that if the railway were taken *via* Forbes to Menindie, you think there would be a traffic to that railway? Yes.
1408. That you would have a traffic from the railway up to Wilcannia by the river, and from Wilcannia down, by the river, to the railway at Menindie? Yes.
1409. That would necessitate an additional loading and unloading, would it not? Yes.
1410. They would have to cart their goods to the river, place them in the steamers, then unload the steamers into the trains. If you are likely to get any traffic to the railways under those circumstances, are you not much more likely to get the Wilcannia traffic when the railway goes to Wilcannia direct? I think there is more chance of getting it if the railway goes to Wilcannia.
1411. You are more likely to get it than you would be if it went to Menindie, and had to make use of the river in addition to the railway? Yes.

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1412. You would not consider it a favourable circumstance if the traffic on the railway had to depend upon the river being navigable between Wilcannia and Menindie? No; and I may say, that at Hay we lose a very large quantity of wool. No wool comes by the river to the railway at Hay. At Bourke a good deal of wool comes to the railway by river.
1413. But you would not like to have the railway traffic dependent upon whether the river was navigable or not? No.
1414. If the river was not navigable, the railway would have to stop working if it went to Menindie? Yes.
1415. So you would prefer to see the railway taken direct to Wilcannia? Yes. My only object in keeping south is to catch the traffic at Hillston, Mossgiel, Ivanhoe, and all that district to the north of Hay, which traffic goes to Hay, and by river to Melbourne.
1416. If a railway was constructed from Hay to Wentworth, would you expect to intercept any traffic? I do not think so. We should be altogether too far down the river then.
1417. The traffic would be too far on its journey? Yes.
1418. Would not the same argument apply as between Wilcannia and Menindie? I scarcely think so. Besides, as I say, we want to get the traffic from Hillston and Mossgiel. An enormous quantity of wool goes from there every year.
1419. Do not you think that within 100 miles south of Wilcannia they would make use of the railway, carting their goods from 50 to 100 miles north, to get railway communication? It is very doubtful.
1420. Would it make much difference when once the wool is on the bullock dray, whether they carried it 5 miles or 50 miles? The charge is so much per ton per mile.
1421. That is coming through the agents. But if this railway went through Wilcannia many people would consign their own wool, would they not? A great many would.
1422. And drive out with their own teams? Yes.
1423. In that case when once the wool was on the dray, would it make any material difference to the owner whether his bullock teams were travelling two days or three days? Distance is a great consideration.
1424. Do you think that the fact of having to take wool 50 miles to get to a railway would prevent him from using the line? It would if they had any other easy means of conveyance. A squatter would not drive 50 miles if he could catch a steamer within 5 miles.
1425. All the wool is not produced on the bank of the river—in every case they have to drive some distance to get to the river. Assuming that from the advantages it would afford they would be inclined to patronise the railway as against the river, then I ask would they not be likely to drive a distance of from 50 to 100 miles south of the railway, in order to use the line? I think they will make use of the railway rather than the river, if the difference in the rate is not too great.
1426. So you will expect to get the traffic from the country 50 to 100 miles south of the railway? Yes, if they are not too near the river.
1427. And anywhere from 200 miles north of the railway? Yes.
1428. Between Wilcannia and Broken Hill? Yes.
1429. Would you not anticipate the building of a railway in addition to this railway to Wilcannia—a railway from Hay to Wentworth? I do not think so, as long as we have to compete with the river.
1430. Supposing the river was locked, and you had river dues? Well then I should have no hesitation in pushing on the railway.
1431. I suppose you would not have much objection to having river dues without the river being locked? I should not. We are now charging less by railway than they paid by river some years ago.
1432. Looking at that western country, what area would you set down as a fair distance that should intervene between two parallel railways? That would be very difficult to say.
1433. In that western country what area should there be between the Wilcannia line and the Bourke line—especially as they extend out west? I should say as nearly as possible they should equi-distant.
1434. What distance ought there to be between the two? I could not say. We can command the northern traffic to a large extent. As we are situated now, we do not command a great portion of the country between Condobolin and the Darling—Hillston, Ivanhoe, Mossgiel, and that way.
1435. But supposing you had 100 miles north of the railway and 100 miles south of it, that would be a width of 200 miles of country with a railway in the centre. Would not that 200 miles extending out westward be sufficient country to warrant you in building a railway in the middle of it? Under the circumstances, I may say no. I would rather keep more to the south for the reasons I have stated.
1436. You would, perhaps, prefer 50 miles to the south of the railway to 150 miles to the north of it? Yes; something like that.
1437. Would you consider that area of country, 200 miles in width, sufficient to feed the railway? Two hundred miles of country like that may be too little—say 250 to 300.
1438. Then if you had 250 miles to the north the width would have to be 600 miles? I did not understand your question. Perhaps 200 miles would be a fair thing.
1439. So that you would have 100 miles for each line? Yes.
1440. That being the case, do you think there would not be sufficient country between these two lines to Hay and Wentworth, and the Cobar to Wilcannia line, to feed both those railways? I do not see anything in the Hay to Wentworth line, because you are practically tapping the Murray. Any traffic which gets to Wentworth will not stop there to go by railway.
1441. I mean as far as Hay is concerned. Taking the line from Junee to Hay, is there not country enough to warrant you in building another line from Forbes to Condobolin, and on to Menindie, anticipating that there will be a traffic, perhaps, not in the first few years, but in a short time? Yes.
1442. I suppose there are only about 100 miles between those two lines? About that.
1443. Then you would anticipate that all the traffic (say) from 50 to 60 miles south of the Bourke line would gravitate towards the Wilcannia line? Not 50 or 60 miles. There is a distance of over 200 miles from Bourke to Wilcannia.
1444. That would be going by the river? No by the road.
1445. *Mr Dowel.*] What is the estimated distance by railway from Sydney to Broken Hill, via Melbourne and Adelaide? *Via Melbourne and Adelaide* 1393½ miles.
1446. What are the present passenger rates for that distance? I have not got them here.

1447. You could not say? Not without the books.
1448. You can supply that information to the Committee? Yes.\*
1449. What is the estimated distance from Sydney to Broken Hill, *via* Nyngan, Cobar, and Wilcannia? 732 miles.
1450. What rate would you propose to charge first and second class passengers for that distance? The ordinary mileage rate would be £5 6s. 3d. first class, and £3 9s. 3d. second class. First class return £7 19s. 6d., second class return £5 4s.
1451. Do you not think that a very large proportion of the passenger traffic from Broken Hill would prefer to go the shorter distance—732 miles—instead of by the longer route—1393½ miles? Yes.
1452. Would it not be a considerable saving as regards time and cost? Yes, but I do not know whether there is very much of a passenger traffic between Broken Hill and Sydney.
1453. Out of that population of 26,000 at Broken Hill, do you not think the passenger traffic will be something considerable? There would be a passenger traffic. I do not know that it would be very large, Broken Hill being so near to Adelaide.
1454. You are aware that a very large number of people from New South Wales are continually going backwards and forwards between Sydney and Broken Hill? I do not know that any very large number do so.
1455. Under any circumstances you think that this railway would take some passengers, as it would be the shorter route? Yes.
1456. *Mr. McCourt.*] When other railway proposals were submitted to the Committee did the Commissioners supply any estimate of the probable expenses? I think they did.
1457. Has that been done in this case? Not that I am aware of.
1458. Could it not be done? I do not think so.
1459. Could you not do it? Not with anything like accuracy.
1460. Do you think it would be any guide? I do not think it has been done in regard to any main trunk lines. It has not been done since the Commissioners took office, except with regard to branch lines. This is not a branch line but a main trunk line, the construction of which is a matter of policy.
1461. If a careful estimate were made by an expert, would it be any guide to the Committee? I am afraid it would be only very approximate, and not much of a guide.
1462. There was an estimate of the line from Nyngan to Cobar? Yes; there was no difficulty about that.
1463. What is the estimated loss per annum of that line? I think it was estimated at something like £10,000 or £11,000 a year.
1464. That is a portion of this line, is it not? Yes.
1465. And would there be a proportionate loss on the line to Broken Hill? It is impossible to say.
1466. If an expert went over the country, could he not form a fair estimate of the probable income of the line? I do not think he could. If there were no other route by which the traffic could go, he could form an estimate. There was no difficulty in forming an estimate with regard to the line from Nyngan to Cobar, because the traffic cannot be taken any other way than by the railway to Sydney.
1467. You just now said that the Railway Commissioners could so arrange that it would be possible for New South Wales to get the traffic? Yes, if they have very low rates.
1468. In making an estimate, would they consider that? Yes, and for that reason we could not prepare any estimate that would be at all reliable.
1469. Are you aware that the principal portion of the country through which the line would go is practically locked up for twenty-eight years under the Land Act? I am not aware of that.
1470. If the line were constructed, as well as competing for the Broken Hill trade, would you not compete for the Wilcannia trade? Yes.
1471. That is considerably nearer Adelaide and Port Pirie, is it not? It is not nearer, but they have the river conveyance.
1472. It is nearer, is it not? It must be a long distance from Wilcannia to Wentworth, and from there to Port Pirie.
1473. It would be about 400 miles from Wilcannia to Adelaide? About 452 miles by rail.
1474. So you would have to compete for the Wilcannia trade? Yes. I do not think the Wilcannia trade would go to Adelaide by rail, because they would have one gauge to Broken Hill, another to Terowie, and a third from Terowie to Adelaide.
1475. *Mr. Copeland.*] *Mr. Dowel* asked a question with reference to the amount of the different fares, but did not take into consideration the time that would be occupied in the journey. What would be a fair estimate of the time that it would take to do this journey at 20 miles an hour? We should do more than that.
1476. Including stoppages? Yes; it would be a level country and we could travel pretty fast. I should say that the through rate would be about 24 or 25 miles an hour.
1477. Say 20 miles an hour, including stoppages? That would be a moderate estimate.
1478. The distance from Sydney is 732 miles? Yes.
1479. Therefore the journey would occupy 36½ hours, but on the other route from Sydney to Melbourne, Melbourne to Adelaide, and Adelaide to Broken Hill, the journey would occupy 69 hours 40 minutes, so that there would be an actual saving in time of 33 hours? Yes, of course. They travel much faster from here to Melbourne, and Melbourne to Adelaide.
1480. Yes, but a great deal of time would be lost in going round by Melbourne and Adelaide? I should say that the journey from Broken Hill to Sydney direct would be one half of what it is *via* Adelaide.
1481. In round numbers it would save a day and a half? Yes.
1482. Would not that be a very great consideration for most people? Yes, to those who travel.
1483. So that would have a tendency to give you a direct traffic? Yes.
1484. *Mr. O'Sullivan.*] I should like your opinion as to the probability of a passenger traffic between South Australia and Queensland if a line *via* Werris Creek were carried out. The distance from Brisbane to Adelaide is 1,807 miles, against 1,414 miles, the distance *via* Nyngan, Werris Creek, and Wilcannia. That would make it 393 miles shorter. Is it not possible that a large passenger traffic will arise between Queensland and South Australia by the shorter route? I do not think so. 1485.

\* NOTE (on revision):—It is as follows:—£8 16s. 6d. first class, £5 16s. 11d. second class; first class return £13 5s. 3d., second class return £8 16s. 7d.

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1485. Is there not already a fair passenger traffic between those places? I do not think so.  
1486. There is considerable traffic by sea, is there not? Yes, but the traffic between Queensland and New South Wales is much greater than the traffic between Queensland and Victoria, and the traffic between Queensland and Victoria is greater than the traffic between Queensland and South Australia.  
1487. You do not think that shortening the route by 393 miles would make any difference? Not as far as through passenger traffic is concerned.

Richard Nicholas Williams, Esq., late Manager, Great Cobar Copper Mine, sworn, and examined:—

- R. N. Williams, Esq.  
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1488. *Mr. Copeland.*] You were for many years manager of the Cobar mine, were you not? Yes; I was manager of the Great Cobar Copper Mine.  
1489. And since operations were stopped in that mine you have managed one or more companies at Broken Hill? Yes.  
1490. So that you have had experience at both Broken Hill and Cobar? Yes.  
1491. You are aware that this is an inquiry respecting a proposed line from Cobar to Cockburn? Yes.  
1492. So that the question of traffic between Sydney and Cobar is not directly of so much importance as the possibility of a traffic beyond Cobar. Do you know anything of the country between Cobar and Wilcannia? I have not been so far as Wilcannia, but I know a great deal of the country about Cobar.  
1493. Do you know anything of the country west of Cobar? Yes; I have been out west a good distance.  
1494. Have you any information that would lead you to the conclusion that there is mineral country west of Cobar? As far as I know, to the west of Cobar there are indications of silver, indications of copper, and indications of gold. I have travelled that route through to Mount Hope, and back as far as Melrose.  
1495. Yes, that is to the south. The information that we want is with regard to the country in the direction of Wilcannia. Do you know the country between Broken Hill and Wilcannia? I have been out a few miles from Broken Hill, and I have seen several copper and tin lodes.  
1496. There are no companies at work between Cobar and Wilcannia? No.  
1497. And no mining being carried on of any kind? No; there has been considerable prospecting between Cobar and Wilcannia, but that has been confined to copper and lead. I have seen several samples, but the country has not been opened up.  
1498. So that the mineral richness of the country, as far as you are aware, is quite problematical? Yes.  
1499. It may be very rich and give employment to large numbers of people, or it may be very poor? It may be.  
1500. And you have no personal knowledge as to the geological features of the country between the two places? No.  
1501. Nor between Wilcannia and Broken Hill? No.  
1502. I suppose you came prepared to give the Committee a good deal of information, as I know you can do, with reference to Cobar itself? Yes; I can give information in reference to Cobar, and supply you with substantial data as to the coal, coke, and firewood consumed at Broken Hill.  
1503. We will give our attention to the Broken Hill mines. What company did you manage? The Broken Hill South.  
1504. You have had experience in mining, both copper and silver. I believe? Yes.  
1505. Your mining experience extends over how many years? Over thirty years.  
1506. You were connected with mining in England, were you not? Yes.  
1507. Have you had experience in any other country besides England? I was five or six years in the United States. I was nearly five years in the Lake Superior copper mines. About 1864 I was in Pennsylvania and Maryland, connected with silver mines there. I was connected with the opening of the Great Calumet Hecla mines.  
1508. You have had considerable scientific experience in connection with minerals? Yes; I have had a great deal of practical experience.  
1509. You have a good practical geological knowledge? Yes.  
1510. What opinion have you formed as to the stability of the silver mines at Broken Hill? I think that there cannot be any doubt as to their stability. I think that there are supplies of ore connected with the Broken Hill mines all round, and a few miles north and south, and outside the district. From my knowledge of the Broken Hill district, there is almost an everlasting supply of ore. But it must be remembered that that supply must consist in the future principally of sulphide ores.  
1511. Is there any warrant for believing that these sulphides, as greater depth is obtained, will continue to be of a payable character? The general impression as regards these sulphide ores is that they will become richer.  
1512. In other parts of the world have not silver mines invariably worked out when a great depth was reached? Yes, when they have been confined to veins, not free leads and fissures, they have contracted and disappeared; but a true fissure will not disappear unless you get to a very great depth.  
1513. If you come to a change of rock will not that be likely to change the mineral constituents of the lode? It is possible; it depends upon the kind of country you start in. If you get into a slate or an aqueous formation and get into the real primary rock, you may find it alter the circumstances of the case. But we have very seldom met with those rocks where we have had to start with real fissure lodes.  
1514. Is there any granite at Broken Hill? I have not seen granite in the Broken Hill district.  
1515. Is there no likelihood of granite coming in and putting out the silver? I think not.  
1516. Have you seen similar rock formation carrying good silver ore in other parts of the world? There are similar rocks in other parts of the world—I believe some in Nevada, in the United States. There are some in some parts of the Cobar district. There are similar rocks in the Billigo district, but at the same time they are not the same kind of rocks.  
1517. The Billigo mine proved a failure? So far it has been a failure. The operations have been confined to a few acres. They have not been extended any distance to prove anything. They sank one shaft, and that is all that has been done.  
1518. Do these sulphides come in at the water level? As a rule they do; but I think that the water level depends more on the surrounding country. If you have a mountainous country at the back your water level in the mine is generally much shallower than it would have been had there been level country at the back.

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1519. Do you think there is any probability of these sulphides changing into iron sulphides when you get to a greater depth? I should not think so. Some think they will enter into carbonates, but I cannot see where it is possible that they can ever come into carbonates again, except they may meet what is termed a "pipe."
1520. Is there much iron pyrites? Yes, a great deal of iron pyrites. But where there is a little copper pyrites you find iron associated with that, and zinc blend.
1521. And galena? You find galena associated with the whole of it.
1522. Then you believe there is every warrant to expect Broken Hill to be a permanent mining field? Yes, I am quite certain of it.
1523. That being the case, you would anticipate a considerable amount of traffic in fluxes, timber, copper, coal, and all that sort of thing? Yes. Although I feel confident there is a great permanency for the mines of Broken Hill, I anticipate also that in a few years they must have some means of providing the mines with cheaper fuel than they obtain at present, otherwise they will not be able to treat sulphide ores at a profit.
1524. How do you anticipate their being able to obtain cheaper fuel? I cannot see any way, unless you can do it by extending this railway from Cobar to Cockburn, then opening up the Lithgow and, probably, the Dubbo fields.
1525. Do you know the Dubbo coal deposit? I have been over the ground once only.
1526. I believe that the Cobar Company had some Dubbo coal? Yes; 15 tons were sent up which had been got out by some private person at Dubbo. It was sent to Nyngan, and the Great Cobar Company paid the carriage up to Cobar for me to make experiments with it. I used that 15 tons.
1527. What for? For smelting purposes.
1528. You did not make coke of it, but used it direct? Used it direct. It was only taken, I think, about 14 feet from the surface. It was a hard dry coal, and it was very deficient in carbon.
1529. Was it a splint or bituminous coal? Splint.
1530. And very deficient in carbon? Very deficient. I used it in conjunction with wood, mixing both together for the furnaces.
1531. You did not use it for steam purposes? No.
1532. What was the result of your experiment? It was not altogether favourable. We considered that that kind of coal, unless our furnaces were altered, would be useless. We did not change the grates; we had to use a grate about 5 feet long to take the lengths of wood. When coal is used, the grates are only about 2 feet. Our reverberatory furnaces were out of proportion; but only having 15 tons of this fuel, we did not think it desirable to change the furnaces.
1533. Do you think that that coal could be converted into coke? I do not think that the coal, of which we had 15 tons, would make coke, or be fit for steaming purposes.
1534. Then it is virtually of no account? Yes; but there are deeper seams, and from the little that has been done on the Dubbo field you cannot say that anything has been proved. Two or three holes have been made, but what has been done amounts to nothing.
1535. What has been done has proved the coal to be practically worthless? Yes, as far as I am aware of.
1536. The practice, I think, is not to use natural coal for smelting silver? That all depends on circumstances. You do not use coal in connection with the water-jackets.
1537. Do they use coke in calcining furnaces? No, coal or wood; it is better than coke.
1538. Do you think, then, if the railway were carried through to Broken Hill there would be a prospect of developing the coal trade? I think so.
1539. In western coal? In Lithgow coal.
1540. Have you had any experience of it? I have seen it used at Cow Flat years ago. The Lithgow coal is very useful and good coal for any smelting purposes in connection with the reverberatory furnaces.
1541. Do you know Mr. Lewis Lloyd's furnace? Yes.
1542. He uses small coal? Yes, very fine.
1543. For which he pays about 2s. 6d. a ton? Yes.
1544. He does his smelting in a satisfactory manner, does he not, with small coal? Yes.
1545. You are of opinion that a trade in coal would spring up if the railway was opened? Yes.
1546. And that the coal in the western district could be used for smelting operations as well as for steam purposes? Yes, especially if they treated the sulphide ores on the ground. Lithgow coal would then come into great use.
1547. At about what level are the sulphides found in Broken Hill? They vary. At the South the sulphides are 200 feet below the surface. Further south, 100 feet; still further south they crop out almost at the surface. As you go north they become deeper, and further north they rise again and appear on the surface. You can see that the cluster of mines around the Proprietary mine are simply in a basin.
1548. Do you know anything of the country around Broken Hill? Yes.
1549. Do you think they have permanent lodes? I do not think that any of them have been opened so far as to enable us to say whether they are permanent or not. I should say that the Pinnacles was a permanent lode.
1550. And the Round Hill? I never saw that.
1551. And these lodes being sulphides from the surface they are not likely to change their minerals? Not unless some phenomenon is met with in sinking.
1552. You have no doubt about the permanency of the field? I have no doubt about it at all. The whole question will resolve itself into a question of the price of coal and labour by-and-by.
1553. You have had experience of timber in mines. Do you think there is a likelihood of our developing a timber traffic between Broken Hill and Dubbo in connection with the mines? I think so. In the Proprietary mine they are using 200,000 cubic feet of timber per week.
1554. That is softwood? Yes, and hardwood, mixed.
1555. Brought from where? A great deal of it is Oregon timber, and some blue gum, brought from South Australia. It cost about 22s. 6d. per 100 feet.
1556. Speaking as a mining man, do you think it would be economical to continue the use of pine wood for underground timbering? I am very doubtful about it. One advantage about pine is that it is light for men to handle. The question is whether Oregon timber will stand without taking the dry rot. In some mines, where there is a strong iron solution, that wood becomes hard, and is not liable to dry rot; but in other mines, which are very dry, it is subject to dry rot.

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1557. You think there would be a trade in hardwood timber for the mines? I think so. All the shafts that have been sunk in Broken Hill are timbered with hardwood. The slabbing is done with hardwood sawn timber.

1558. I suppose they are not likely to have to come eastward of Wilcannia for limestone, iron, or fluxing? It is questionable whether they will have to come that far for limestone. The consumption of coke in Broken Hill to-day is something like 7,000 tons a month.

1559. Do you know where they got it from? A large portion of it comes from England, and some is colonial made. The cost is from £5 to £5 5s. a ton, and it is as high as £5 8s. a ton delivered at Broken Hill.

1560. You are quite sure as to that price; it was stated in evidence the other day that the coke cost them only £4 3s. a ton? They have had coke delivered within the last six months at prices as high as £5 8s.—the average price being about £5 5s. per ton.

1561. That is English coke? Yes.

1562. Do you know the price of the colonial coke? Yes; Australian coke costs about £4 5s. 9d., or £4 6s. per ton.

1563. Do you know where it is made? I think some comes from Bulli, and some from Newcastle; but I am not clear as to where they got it.

1564. I suppose that the Australian coke all goes round by sea to Adelaide? Yes, it cannot go any other way at present.

1565. Do you know anything as to the comparative qualities of the two kinds of coke—colonial and English? I have never made any analysis of it, but I understand that the heating qualities of the two are about the same. The colonial coke, as a rule, contains rather more ash than the English coke. I think the colonial coke contains from 10 up to as high as 15 per cent. of ash, whilst the English contains 4 or 5 up to 7 or 8. So that in getting 100 tons in they pay for 8 tons of colonial made over and above the English, as that is simply ash.

1566. Is the ash that remains very deleterious in connection with the smelting? I do not think so. I do not think it injures the smelting in the slightest degree.

1567. Has it not to be fluxed and to be formed into slag? It may require a little more fluxing sometimes, but there is an advantage in that. It is found of some assistance in some mines to sift all the ash that comes out of the coals and mix it with the charge. I do not think anybody could decide the question, except a metallurgist, in a particular mine.

1568. Would you advocate the continuance of the practice of obtaining supplies of coke from England? I cannot see that it is necessary at all. I visited Sunny Corner the other day and found that they were using colonial coke and doing very good work with it, and I heard no complaint whatever against it. It is not quite so strong all round as English coke. As far as I can ascertain from the workings at Sunny Corner, I imagine that the colonial coke is quite good enough for smelting any ore at Broken Hill. There is a little prejudice against colonial coke there.

1569. The ore at Broken Hill is sulphide ore, is it not? At the deeper levels. The ores now being treated are carbonates.

1570. The ores which have been smelted with colonial coke are sulphide ores? Yes, and very refractory ores, containing a large amount of zinc and silica.

1571. Therefore the Sunny Corner ores, which are now being smelted with colonial coke, are quite as difficult to smelt as any ores likely to be found at Broken Hill? Yes.

1572. We may reasonably assume that if they can carry on smelting with colonial coke at present at Sunny Corner there is nothing to prevent them doing it at Broken Hill? I cannot see anything to prevent them. It is a matter of a few shillings. If 100 tons of English coke cost £500 you would have in that 5 per cent. of ash. You would have to obtain 107 or 108 tons of colonial coke at the same price to be equal to that 100 tons of English coke.

1573. Then you think that there would be no difficulty in getting a considerable portion of the coke trade? I do. I may inform you that at present it is estimated that they are consuming about 2,500 tons of coal per month for steaming purposes in connection with the mines at Broken Hill. But there are several mines there that do not use coal at all—they use wood for steaming purposes.

1574. Do you know what coal they are using? Principally Newcastle coal; that coal is costing now, delivered at the mines, £2 11s. 7d. per ton.

1575. Some of the others are using wood, are they not? Yes, several.

1576. Will their supplies not rapidly disappear? You have to go back 12 or 14 miles now to find timber; it is only small scrub.

1577. So they will have more and more to depend on coal? Yes; the consumption of coal and mining timber is increasing every week.

1578. And I suppose, looking at the field as a whole, the place has scarcely been touched yet, except the mines on the Hill itself? Yes.

1579. But there are many places likely to be developed into payable mines? There are many outside places. I cannot see anything to prevent them; they have not been opened yet.

1580. *Mr. Tonkin.*] In the event of their deciding to treat sulphide ores at Broken Hill, would it not be advisable to use reverberatory furnaces instead of water-jackets? That is a question which is being considered now throughout the colony and in the United States. It is a question of cost against cost. Whenever I have gone into any calculations comparing the two costs, I have found that there has been very little difference between them. Sometimes, according to local circumstances, it has been in favour of the reverberatory furnace; but in places like Broken Hill, where there is no wood and coal, you would be almost compelled to use coke. The great advantage, and the only advantage claimed in America in using the water-jacket furnace, is that it does not require so much skilled labour as is required in connection with the reverberatory furnace. Every man using a reverberatory furnace must be a trained man, but if you have one good man in a shift using the water-jacket he can work it.

1581. Could you give the Committee any idea of the proportion of coke used in smelting a ton of sulphide ore with the water-jacket furnace, and the coal required to smelt the same class of ore in a reverberatory furnace? For every 6 tons of ore the water-jacket furnace takes 1 ton of coke—say 1 against 6. In smelting with the reverberatory furnaces it is generally asserted that it takes ton for ton of coal, but according to my experience it does not take quite that.

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1582. Then you would want about five times as much coal as you would coke? Yes.
1583. Are the expenses, beyond the fuel itself, much more in connection with the water-jacket furnaces? The labour is about the same, and the expense of working the machinery and keeping it in order; but the water-jacket furnace is apt to burst. If the reverberatory furnace goes wrong, it is only a matter of shifting a brick and putting in a little clay. If the water-jacket furnace bursts, you have to throw it away and use another one, which is expensive. You can calculate, in dealing with a good free smelting ore, that 15 cwt. of coal will smelt a ton.
1584. Did you hear the Traffic Manager state the price to be charged per ton for carrying coal to Broken Hill? No.
1585. Suppose that coal could be delivered from Lithgow at the Broken Hill mines for £1 6s. 6d. per ton, would not that materially reduce the present price of coal there? If you can deliver the coal for £1 6s. 6d. a ton, that will leave a margin of £1 a ton.
1586. Supposing that statement to be correct, have you any doubt about our commanding the coal traffic? I have no doubt that if you go to Broken Hill and say that you can supply them with coal at a certain price, they would give a contract for thousands of tons. There is no doubt that you will have a difficulty to contend with, as the South Australian people will lower their rate to compete with you.
1587. Suppose the coal is delivered at Port Pirie at £1 5s., do you think it is possible for them to compete with us? They cannot. There is one thing against them which will be a difficulty all through; they have not got the same gauge on their line.
1588. In the event of coal being delivered at a reduction of 10s. or 12s. per ton as compared with the present prices, do you think it would materially increase the consumption? Yes. If you could lower the price in connection with the mines at Broken Hill 20 per cent., no more wood would be got in for steaming purposes.
1589. Do you think that there would be any of this low grade ore sent by return trucks to Lithgow if it could be delivered at  $\frac{1}{2}$ d. a ton or less? I should say there is every probability that the future will bring forward something of that description. The time would come when coal would be taken from Bowenfels to Broken Hill, and they would find it to their advantage to send back low grade ores to be treated at Lithgow with cheap coal.
1590. Are you aware that they are carting it from Sunny Corner? Yes.
1591. And you know also that at Broken Hill there is a very large amount of ore sent down to be treated at Adelaide and Port Pirie? Yes.
1592. Is it not a moot question whether they should treat it at Port Pirie and Adelaide, or at Broken Hill? It is.
1593. It is doubtful which pays best? Yes; but in treating ores at the mine you have certain advantages. You have low grade, medium grade, and rich grade ores. It would not pay you to treat the medium and rich grade ores and throw away the low grade, but it would pay you to mix the three together. It would not pay to leave the low grade ore in the mine, nor would it pay to send the low grade ore any great distance. To send it to Dry Creek, or to Port Pirie, you would have the carriage to pay, and there would not be sufficient value in the ore to cover the cost, whereas to utilise it it would come in as a flux.
1594. Do not the carbonate ores to a certain extent act as flux for sulphide ores? Yes.
1595. Do they treat both ores in the same furnaces? I think from what I know of Broken Hill that there they are using a much larger proportion of carbonates than of sulphides.
1596. Is it not usual in all cases to pick the eyes out of the mine first? In too many instances.
1597. The easily treated carbonate ores are seized upon and treated first? Yes; I have seen that done, but I have seen exceptions. Where I have seen exceptions it has been generally brought about by good straight argument from the mine management against it.
1598. But as a rule managers wish to make big returns at a small outlay? As a rule the mining manager feels himself insecure in his position and he says, "It is my business to make the best returns possible whilst I am here." There are men who adopt that course and make hay whilst the sun shines. A manager with no connection with the mine, no shares, and who is as honest and fearless as if the property were his own, works the mine better and gets no thanks for it.
1599. Do you know anything of the country between the Broken Hill Proprietary Mines and Wilcannia? I do not know anything about that country.
1600. You could not say whether there is likely to be any mining development there? I have seen, on several occasions, very good ore brought to Cobar from that district, and I have assayed a great number of samples, and I have been inclined to think for many years that there must be a mineral district about Wilcannia somewhere.
1601. Would it pay at the present price to work copper at such a long distance away? It all depends on the size of the lode and the smelting facilities.
1602. Do you know anything of the tin deposit? I have seen tin at Broken Hill, but never went to see the tin mines. The general impression is that there are payable mines of tin about Broken Hill. That is an impression which I have obtained from other people—I do not know anything about it myself.
1603. If the Lithgow coal can be delivered at about 12s. a ton less than Newcastle coal, do you think they will take Lithgow coal in preference to Newcastle coal? I am quite certain that they would.
1604. Is it equal for steaming and smelting? I have not heard it objected to for smelting and steaming purposes.
1605. Have you any knowledge of the manner in which coke has been made in this country? Only what I have heard from others. My impression is that they do not clean their coal well.
1606. Do you think the coal is not good enough if properly crushed and washed;—could they not manufacture coke here with a less percentage of ash? I think they could improve very greatly on it.
1607. Have you taken particular notice of the Bulli coke? No, not of any except what I have seen used at Sunny Corner.
1608. Have you ever heard of the coke being too strong for smelting purposes? No; but I have heard of a coke being too friable.
1609. Too strong in the furnace? That is a very peculiar coke. There is some produced so hard that it is not fit for smelting even in water-jacket furnaces.
1610. You would not call it too strong a coke? No, too hard. I should say that the heat was too intense.
1611. What I mean is that it carries the mineral on the top of it and does not give way in time to keep the furnace going? I do not think there is any coke here of that description.

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1612. Do you know Mr. Richards? Not personally, but by repute.  
 1613. Do you know him to be an able man? Yes.  
 1614. Would you be surprised to hear that he stated that the Bulli coke was too strong, and that he had to use common gas coke? I am surprised at that. A great deal depends on whether you use full charges or medium charges. The sulphide ores at Sunny Corner contain a great deal of zinc, and if it is highly charged in the depth between the fluid and the ore in a state of calcination a ring of zinc is formed, and the top ore has to press through that ring of zinc. It is then a question whether the coke is too strong or whether they are charging too heavily. No man can decide that except he is at the mine.  
 1615. You believe that the colonial coke can be made of better quality than it has been? Of course I do. It is my impression that if the Bowenfels people sink deeper they will be able to get a better class of coal and be able to make a better class of coke.  
 1616. Do you think it is possible that at Dubbo they may get better coal if they go deeper? I think so. I have had conversation with the Rev. Father Curran, who resides in that district, and he is of opinion that there are better seams there at deeper levels.  
 1617. Would you advise this Committee, from your own knowledge, to recommend the construction of this line with the view of getting a coal and mineral traffic between Broken Hill and Bowenfels? My feeling runs in connection with the interests of mining generally, and with the view of opening up the western district, the development of the mines at Lithgow, and the probability of opening up mines at Dubbo, I should say that you are justified in extending the railway from Cobar to Broken Hill. If Dubbo can be made to produce an average quality of coal it must command the whole western trade. As far as the question of the new railway paying is concerned I can say nothing.  
 1618. What you say is independent of any other developments that may crop up hereafter? Yes.  
 1619. You think we should be justified in recommending the line if only to connect the Broken Hill mines? I should say that you are justified for the sake of Broken Hill alone, but if I thought for a moment that there was not going to be anything discovered between Broken Hill and Wilcannia, and Cobar and the western districts, I would say that you should not construct the line to Broken Hill. But the time will come when at Broken Hill, Wilcannia, and other places there will be a chain of mines connected with Lithgow.  
 1620. I suppose you know the district between Broken Hill and Wilcannia, to the north, to be rich country? I know the district.  
 1621. Would not that be likely to carry a large population if there was a railway even to Wilcannia and Broken Hill? No doubt that would assist very much.  
 1622. Do you think that if the coal at Dubbo were anything like as good as the Lithgow coal it would take command of the western district? I think so.  
 1623. Why? Because Dubbo is so much nearer, and after you pass Dubbo it is all level country.  
 1624. And consequently you can carry at a minimum rate? Yes.  
 1625. Then would you recommend that the railway should be constructed in the interests of the country? I think so.  
 1626. And if it can be shown that Wilcannia will return a very large percentage of the cost and working expenses, you would advocate it from a paying point of view? I should think so.  
 1627. You have no doubt that the line will command a great amount of coal traffic to Broken Hill? Yes; I have no doubt that if you can carry coal to Broken Hill at £1 6s. 6d. per ton you must monopolise the trade. I do not see how it is possible to take Newcastle coal round to Broken Hill at that price.  
 1628. And that trade will be at least from 2,000 to 3,000 tons a month? Yes, it is that, and increasing.  
 1629. And actually would increase if the price were reduced? Yes.

WEDNESDAY, 25 MARCH, 1891.

Present:—

THE HONORABLE JOHN LACKBY (CHAIRMAN).

The Hon. ANDREW GARRAN.	WILLIAM SPRINGTHORPE DOWEL, Esq.
The Hon. FREDERICK THOMAS HUMPHERY.	EDWARD WILLIAM O'SULLIVAN, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	CHARLES ALFRED LEE, Esq.
HENRY COPELAND, Esq.	WILLIAM MCCOURT, Esq.
JAMES EBENEZER TONKIN, Esq.	JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

Richard Nicholas Williams, Esq., late Manager, Great Cobar Copper Co., sworn, and further examined:—

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1630. *Mr. Tonkin.*] You say that the consumption of coke is at present 7,000 tons a month? Yes.  
 1631. And the consumption of coal about 2,500 tons? Yes.  
 1632. If there was a great reduction, something like 20 per cent. in the cost of the coal, could you give an estimate of what the increase would be in the consumption? I should think, allowing for the increase of machinery, and dispensing with the present consumption of wood, the quantity might be doubled. It would be nearly 5,000 tons a month.  
 1633. Is there any probability of an increase in the consumption of coke? There is a certainty, especially as they are building new smelting works. If they commence smelting the consumption of coke will increase.  
 1634. You think we should not be over estimating it if we estimated the consumption of the two articles at 12,000 tons a month? No, the estimate would be rather under than over the mark.  
 1635. *Mr. O'Sullivan.*] I should like to have your opinion with regard to a comparison between Broken Hill and Nevada or Virginia City? I have never been to Virginia City.  
 1636. You have had considerable American experience? Yes, I spent a good deal of time at Michigan, Lake Superior.  
 1637. You have gathered a great deal of knowledge about the Comstock and other mines? The knowledge I have gained of the Comstock mines has been what I have read and from men I have met. I have no personal knowledge of that district.

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1638. As a matter of fact, that lode is almost worked out now? No, I think it is still continuing downwards.
1639. But all the rich ores are worked out? The richer portion has been taken out, but the return from the deeper part of the mine continues to pay a dividend.
1640. How long have those mines been worked? I think over twenty years.
1641. From knowledge you have acquired, do you think the mine at Broken Hill will last even longer than those? I think so. There is one point in connection with the Broken Hill mines which I should like to make clear. The question was asked whether the richer ores are worked out first, leaving the baser ores to be treated afterwards. Of course, in treating baser ores the expenses are increased, and in an inland district like Broken Hill there is a difficulty which must in the future be overcome by means of cheaper fuel than they are using now.
1642. You hold the opinion that two things are requisite for the long continuance of the Broken Hill mines, and those two things are cheaper fuel and cheaper labour? Yes, those are requisite things.
1643. Have you given much attention to the country round Silverton? I have passed through there, but only by train. I have never inspected the mines.
1644. Have you formed an opinion upon that portion of the country? No, I have no knowledge of their mines.
1645. *Mr. Lee.*] Have you given any attention as to how the existing population of Broken Hill obtain their subsistence at the present time? I have paid a little attention to that. Coming in connection with business people I observed where they were getting their supplies from. The population of Broken Hill is about 26,000, and I calculate that the consumption in connection with the mines alone, including coke, coal, firewood, iron, powder, and fuses must at present amount to about 15,000 tons a month.
1646. Does not that population exist directly and indirectly through the mining industry? Directly, because there is nothing there to support a population except the mines.
1647. No other industry of any kind? None, except the pastoral industry.
1648. Suppose those mines were to collapse altogether, what would be the position of Broken Hill then? If the mines were to collapse I should think that that district would drift into a state of stagnation.
1649. Do you think that the population would leave the district? A large majority of them would be sure to do so.
1650. Do you think the mining sufficiently remunerative to sustain the present population? I think so.
1651. Have you given any attention to the quality of the mines outside the Proprietary mine? Yes.
1652. Are you of opinion that there are mines yet in an undeveloped state likely to require a large amount of labour? Yes, in the course of time. If they sink to a greater depth there is a greater possibility of their finding payable lodes, although at the present I do not think that it pays to mine outside the Broken Hill Proprietary, the Central, the South, the Junction, the British, Block 14, Block 11, and also the Consols. Then there is the Pinnacles, 13 or 14 miles south; I think that is paying.
1653. What effect would three years of severe drought have upon the place? It could not affect the mining interests, except that it might injure the water supply for the population.
1654. Would that cause the mining operations to be suspended? No, because the drought would not affect the water obtained from the mines. It would affect the supply of drinking water.
1655. How long did you reside there? About four months.
1656. Could you tell the Committee what is the feeling among the people there as regards the metropolis of this colony—is there any indication on the part of the people of a desire to trade with this colony, or do they simply wish to trade with the nearest capital? Among the business people in the town there is a decided feeling in favour of Sydney; but there is a portion of the population in Broken Hill who have no sympathy with Sydney—they sympathise more with Melbourne and Adelaide. There is another line of thought which arises amongst them: their railways are in private hands, and a great many, some residing in the district, and others in Melbourne and Adelaide, have an interest in them.
1657. Therefore they would not like to see a main trunk line made from Sydney? Of course not.
1658. They are somewhat opposed to it? Yes.
1659. I presume that there are certain business relations existing between the Broken Hill people and the business houses of Sydney? Yes.
1660. Do you think that that interest would be increased with better means of communication? I think so.
1661. If there is a railway direct from Sydney to Broken Hill it would be increased? No doubt a main trunk line from Sydney would give considerable advantages for transit. Merchandise from Sydney would be delivered in a few days, whereas on the other line, owing to the necessity for transshipment at Terowie, merchandise often gets delayed, and does not arrive at Broken Hill for three or four weeks.
1662. In consequence of the change of gauge? Yes; articles are rolled on one side at the place of transshipment and forgotten, then people have to wire to get them up.
1663. Does not that cause great loss? Yes, because the merchandise is lying there and the owners cannot put it on the market, and the interest on the money is going on. If the goods could be delivered more quickly interest would be saved, and a great number of people in running their businesses would keep smaller stocks than they have to do at present.
1664. Do you think that if direct communication were afforded by means of the proposed line the business people would be likely to use it, even at a higher rate of carriage? That I could hardly say. I should imagine that the people would not be inclined to pay much higher rates. They would wish to go to the cheapest market.
1665. Would not the improved means of communication have something to do with it? Yes.
1666. There are certain classes of goods, particularly with people running small stocks, which it is desirable to get frequently and quickly, and in that case would they not pay a higher rate? Yes; for small articles. There are many things sold at Broken Hill much dearer than they are sold in Sydney. Although the district is in New South Wales, their prices are regulated by Adelaide prices. Whilst I was there, wanting several small articles, we called at different shops, and the prices were astonishing to us, the consequence being that we got the articles from Sydney much cheaper by post.
1667. Do you think there is any feeling against Sydney which would induce the people not to use the line—has there not been for some time a feeling that they have been left out in the cold? Some people make use of that feeling, but I think that among the better disposed people that is not considered to be the case. They know that in a new place they cannot have everything they require immediately, and I think that sensible people look at it in that light.

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1668. Do you think that if they are brought into direct contact with the metropolis it will overcome that feeling? Yes.
1669. I take it that the main stay for Broken Hill must be the treatment of large quantities of low grade ores? Yes.
1670. The question also is how cheaply those ores can be treated? Yes.
1671. Fuel would be a most important factor? Yes.
1672. Do you think there is any probability of large quantities of low grade ores being brought to the nearest coal mines at 26s. 6d. per ton? I should think there would be.
1673. You bear in mind that in taking out the fuel at 26s. 6d. a ton there would be a return freight in the shape of bullion? Yes.
1674. The question is whether it would not be more profitable to bring the ore to the coal mines? Yes, that is the question. But another question will crop up, and that will be whether it will be more beneficial for the mining people to get coal to supply a certain amount of output on the ground, and return back loading to some mine where they can get good cheap coal.
1675. You are clearly of opinion that the mines under ordinary circumstances should give a large output for the next ten years? Yes.
1676. Do you think there is any doubt about it? I do not think there is any doubt. But during the next ten years they will have to pay more attention than they have done to the smelting of sulphide ores.
1677. It is a fact that in most mines the best ore is the first to be made use of? That is the case in all mines.
1678. Outside that there is a large quantity of lower grade ores? A very large quantity—in fact, I believe there are millions of tons.
1679. If, therefore, the exportation of these takes place in large quantities it means that there must be a very large importation of mining machinery? I think so.
1680. Which will bring freight to the railway? Yes.
1681. You have already said that you know very little about the mining between there and Wilcannia? I know very little about that.
1682. You have had experience in other mines in the colonies? Yes. I have been in the colonies over twenty years, and I have been conducting mines in South Australia.
1683. You know that the treatment of low grade ores so far has been almost a failure? Yes.
1684. Is there any known process by which these ores are likely to be turned to account? There is no known process for treating very low grade ores except by cheap fuel. Fuel is the important thing.
1685. Next comes saving machinery? Yes. I could enumerate two or three instances where we have had the advantage of cheap fuel and have done fairly well, where, under the same conditions of ore and the price of fuel, at Broken Hill we could not do anything. At the Currawang copper mines, the Phoenix, we had the advantage of an abundant supply of wood which we got at 3s. 6d. and 4s. 6d. a ton. The average percentage of that mine for years did not amount to 5 per cent. It was worked at an average of 4½ per cent., and we made a profit out of 4½ per cent. ore through having cheap fire bricks and cheap fuel. If we had had to treat that ore at Broken Hill we should not have looked at it. There are other mines in the colony which I could name, existing under similar circumstances, where we have done very well, but had we been at the disadvantage of having to pay high rates for fuel we could not have done anything.
1686. *Mr. Copeland.*] Will you state what it costs to reduce ore at Sunny Corner? As far as I know the cost of smelting is 24s. or 25s. a ton.
1687. What is it at Broken Hill? Mining and smelting at Sunny Corner cost 34s. a ton. At Broken Hill it has been over £5, and it is now between £4 and £5. At Sunny Corner they have the advantage of cheaper fuel.
1688. Are not Sunny Corner ores more difficult to smelt than Broken Hill ores? Yes, and they are of a lower grade.
1689. *Mr. Lee.*] I suppose it is reasonable to assume that payable ores would be found at still greater depths than they are found at now? Yes, rich ores are still going down below the 400 ft. level.
1690. The lower they go the greater the permanency of the mining field? No doubt.
1691. Can you have any doubt whatever of the sustaining of the population at Broken Hill? Do you know of any cause for it to dwindle away? I know of none, except this—there are 26,000 people there now, and in the mines they are treating a large per cent. of the higher class ores, and the future of that field—it may not be for a year or two—must depend upon the products obtained from the sulphide ores. Then the question arises whether they can treat the sulphide ores under the present conditions of high priced fuel. I am afraid they cannot.
1692. Even under those conditions, do you think there is any possibility of that population falling away during the next ten years? I should not think so.
1693. As a mining expert, you have to consider these matters from every point of view, I presume? Yes; it is eighteen months since I left there, and to be positive on that point I should require information from almost every mine, and we should have an opportunity of going to the mines and forming an estimate of what is in sight. That is beyond my reach.
1694. Do you think the bullion could be carried from Broken Hill to Sydney for shipment? I think so.
1695. What is about the weekly or monthly output of bullion? I have not any idea; I think it is something considerable, amounting to some thousands of tons. I think it is something over 1,500 tons a week. It has been increased since the Central has been worked. The Central is turning out 80 or 90 tons a week.
1696. That bullion at the present time, I understand, is sent by ship from Port Pirie to Sydney for transshipment to England? A great deal of it is, not all; some of it finds its way into Port Adelaide and is shipped there.
1697. Do you know of any reason why it should not come by rail? I can assign no reason. I think it must naturally come here.
1698. Do you happen to know what the freight is from Broken Hill to Sydney? I do not know what it is, but I know they have to ship it under a considerable disadvantage, and it takes three weeks to deliver it in Sydney; whereas, if there was a railway from Sydney to Broken Hill, it could be delivered here in forty-eight hours.
1699. Which, I presume, would be a great consideration in the transshipment of valuable metals? There would be a fortnight's interest on the money, and that would be something considerable on so many thousand pounds; and there is the insurance. 1700.

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1700. Having direct communication would have considerable influence with the consignees of that bullion? No doubt.
1701. Have you any interest in any mine or land on the proposed line? I have not a share in any railway or land in Broken Hill, or in any Broken Hill mine.
1702. Your attendance here is purely voluntary? Yes. I have eighty shares in one coal mine at Cobar, but I do not know whether it is at work.
1703. *Dr. Garran.*] You say that the future of Broken Hill will depend very largely on the treatment of sulphides? Yes.
1704. Do you know in any part of the world where there are sulphides of similar quality to those sulphides being successfully treated? They are treating sulphides at Sunny Corner and Lithgow successfully at the present time. At Peelwood many years ago, where we had reverberatory furnaces, we treated them successfully. In some parts of North America they are shipping ores to the works, and they are treating them there successfully, but I do not know of any scientific process that has been made a thorough success.
1705. Then the problem that has to be solved at Broken Hill is in partial solution elsewhere? Yes.
1706. But the results have not been very satisfactory? No.
1707. Are the conditions more or less favourable at Broken Hill than at the places you have mentioned? I think about equal.
1708. Taking the dearthness of fuel and flux at Broken Hill, the difficulties are not greater than in other places? I consider that they are about equal, I mean that the ores are about equal to the ores operated upon in other parts. At Broken Hill, of course, they have a considerable disadvantage in having to pay so much for fuel.
1709. Is the quality of the ore similar? Yes.
1710. And other conditions are not so favourable? No.
1711. Then to a certain extent we have to treat the ores by the same process, no better having been invented than any that now exists? Yes.
1712. If a better process should be invented there is a great future for Broken Hill? Yes; and should any process not be invented, I believe that the difficulty will be solved by the use of cheap fuel.
1713. But how are we to send cheap fuel to an inland place hundreds of miles away? That is the question.
1714. There are no coal mines in the immediate neighbourhood of Broken Hill? No.
1715. The coal must be imported from Port Pirie, or it must be brought from the western coal fields of New South Wales? Yes. I think that if the Dubbo coal fields turn out coal of a good quality the difficulty will be solved then.
1716. Do you know enough of the Dubbo district to say that that is a practicable coal field? I think there is every probability that if deeper seams were opened up suitable coal would be obtained from that district.
1717. That is a point that has to be developed? Yes.
1718. You cannot give evidence on that yet? We cannot base any calculations on anything that has been done in the Dubbo district yet.
1719. We must take Lithgow as the point of departure at present? Yes.
1720. We have coal there that will do for smelting purposes? Yes.
1721. And out of which we can make a certain quality of coke? Yes.
1722. If the line is to pay it will depend largely upon the traffic from a mineral district? Yes.
1723. Do you know of any other mineral district on the route likely to throw a paying traffic on the line? Personally I do not know of any district likely to yield large returns in the future, but I think there is every probability of minerals being found of a payable quality and quantity in the districts leading from Cobar to Wilcannia, and from Wilcannia to Broken Hill.
1724. You think that district may benefit the line? I think it is a mineral district.
1725. That is a speculation? Yes.
1726. All you can say is that the line follows a route which has mineral possibilities? Yes.
1727. We cannot say more than that at present? No.
1728. On the line between Broken Hill and Wilcannia do you know of any fluxes or limestone? No doubt there are some about 20 miles from Cobar; and there is limestone, but I do not know of what quality.
1729. Would they be on the line of railway? Near the line.
1730. Sufficiently near to throw a traffic on to it? I think they would be 20 miles from the line, but the best limestone we are getting is in the neighbourhood of Lithgow and Sunny Corner.
1731. When you were at Broken Hill were you aware that much of the vegetables and fruit were brought from Burra Burra? Yes.
1732. Do you think that if we carried the line to the nearest point of the Darling we could supply Broken Hill more cheaply than at present? I am doubtful whether you could supply it cheaper. Round the district of Burra Burra there is a great deal of settlement, and a great deal of work has been done. It is easy to lay out a new scheme for producing agricultural products, but it would take a long time to enable you to compete with the people now settled in that locality.
1733. Is it a dry district? It is fairly dry, but not so dry as Broken Hill.
1734. But would it not be easy to raise vegetables as cheaply there? Yes; I think with irrigation you could raise the vegetables you require in the immediate district of Broken Hill.
1735. Without going further? Yes.
1736. If we dammed the streams and collected the water we could irrigate? Yes.
1737. Do you think that will be done? I think it will be.
1738. And it is not necessary to go so far afield as the Darling? No.
1739. How far is Burra Burra from Broken Hill? About 200 miles.
1740. The Darling is only 65 miles; if we could grow vegetables as cheap there should we not have the supply of Broken Hill? Yes.
1741. At any rate that is the nearest point at which a large water supply can be obtained, as far as is known at present? Yes.
1742. You have the whole length of the Darling—a large mass of water. Is there a place nearer to Broken Hill from which you could supply this produce? No, that would command a great deal of attention and supply a great want.

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1743. The line to the Darling would be a great advantage to Broken Hill? It would for supplying the people with vegetables and fodder.
1744. Would that kind of produce give a paying traffic? That I could not say.
1745. The supply of milk would be conveyed by that line? Yes, the principal supply of milk for Broken Hill comes by the Adelaide line.
1746. How far? From Burra Burra, and even beyond.
1747. That is 200 miles? Yes.
1748. Could we not supply them from the Darling cheaper? If you could produce the stuff there I daresay you could.
1749. Could we not dam the Darling water back for miles? No doubt all that western country is very favourable for irrigation.
1750. They want a market? Yes, and water.
1751. You have water in the Darling, and a market at Broken Hill? Yes.
1752. If you put the two together would you not get a traffic? No doubt, as there is a great market at Broken Hill.
1753. *Mr. Tonkin.*] Will you tell us the cost of limestone delivered at the mines of Broken Hill? I am not exactly aware of the cost at present, it varies so much. I believe that a great deal of it would cost from £1 up to 30s. or £2 a ton. Some has been delivered for 17s. 6d.
1754. Do you know what the contract price is now? I do not.
1755. It is too low at any rate to think of carting it from Lithgow? I do not think you could cart limestone.
1756. You do not think any traffic can be got from that? No.
1757. Even if it were delivered for 33s. a ton? I do not think so.
1758. *Mr. McCourt.*] You spoke of cheap fuel. What would be the lowest price at which it could be used for low grade ores? I do not know the lowest price. In the first instance, I should have to be thoroughly acquainted with the value of the ores, the number of ounces of silver they contained, and the percentage of lead. That I have no means of getting at.
1759. If the ores are of very low grade would the coal have to be very cheap? Yes.
1760. The coal supplied now costs £2 7s. 8d. a ton? Yes.
1761. What do you think would be the lowest price coal could be delivered at from Lithgow? I have no idea.
1762. £1 6s. 6d. would be the freight? Well, it could be delivered there for 30s.
1763. Could low grade ore be worked with coal at 30s. a ton? Very low grade ore could not. If you could get sulphides containing 10 or 15 oz. of silver, and 10 per cent. of lead, you could treat that with coal at 30s. a ton.
1764. Is there much of that class of ore at Broken Hill? Yes, a great quantity.
1765. That would yield that much? Yes; there is a great quantity there that will go 12 oz. or 15 oz. and give 50 or 60 per cent. of lead.
1766. It would pay to work that using coal at 30s. a ton? Yes.
1767. Would not that ore go to Port Pirie for smelting purposes? I do not think they can deliver coal at Port Pirie any cheaper than that; and if they should start smelting works for reducing low grade ores at Port Pirie, and the coal cost per ton, delivered at Port Pirie, an amount equal to what it would cost delivered at Broken Hill, they would be at a disadvantage in sending their ores from the mine to Port Pirie.
1768. You spoke about sending low grade ore to Lithgow? There may be a possibility of doing that.
1769. Only a possibility? Only a possibility—I cannot say that they would do so.
1770. Do you know the price of coal delivered at Port Pirie now? I do not.
1771. *Mr. Humphery.*] What quantity of coal would you require to smelt 1 ton of low grade ore? About 15 cwt.
1772. What would be the value of 10 oz. of silver? About £2.
1773. And of lead? Two shillings a unit.
1774. And you get £3 of silver and lead as against what cost? The cost of 15 cwt. of coal. It could be done with a little less than 15 cwt., I think.
1775. *Mr. Dowd.*] You expressed a favourable opinion with regard to the permanency of the lodes at Broken Hill? Yes.
1776. Can you inform the Committee what is the depth of some of the principal silver mines outside the colony with which you are acquainted? Some in America are 2,000 feet deep.
1777. Is not the Comstock deeper? It is nearly 3,000 feet deep.
1778. You inspected the principal mines at Broken Hill? Yes; I went through the principal mines.
1779. What was the depth of some of those mines? The Central at the present time is 400 feet deep, the South is about 500 feet, and the main shaft is not connected with the lode. The Proprietary is between 300 and 400 feet deep. The British is not quite so deep. The Junction is 400 or 500 feet deep.
1780. Is there every appearance of their going further down? Yes.
1781. As regards the depth you have given us these particular items;—what about the width? I cannot say what is the width of the Comstock lode—but at Broken Hill the width varies from 10 or 15 feet up to many hundred feet. In the Central the sulphide lode is over 200 feet wide from the 400 feet level.
1782. You are not aware that the Comstock lode is 357 feet wide? I know it is a great width.
1783. Having made a personal inspection of these several mines, it is your opinion that there is no reason why the mines at Broken Hill should not go down to as great a depth as the Comstock mines? I know of no reason why they should not. The circumstances at Broken Hill are as favourable as those of the Comstock mines.
1784. In reference to low grade ores, are you not aware that as a matter of fact all low grade ores at the present time are mixed and worked up? I am not aware of that.
1785. What do you suppose becomes of the low grade ores? As far as I know they remain there intact. At the Pinnacles they are concentrating theirs on the ground, and sending them on to Dry Creek or Port Pirie. At the Proprietary mine they are concentrating them, and also at the British, and at Block 14. The proportion that is being used in smelting I do not think bears any comparison to that of the high grade ores.
1786. Then you would be surprised to learn that the manager of this particular mine has stated that the whole of the low grade ores are mixed with the richer ores? Yes, all low grade ores would be mixed.

But

But there is a difference between low grade, high grade, and sulphide ores. It is sulphides that I am speaking about. It is a different ore from a low grade carbonate. They are using all the low grade carbonate ores that they possibly can get and passing them through their concentrators.

1787. Is there a Leaching process? Yes.

1788. Can you say how that affects the quality of the low grade ores, whether it does not produce a much larger yield? The Leaching process extracts a certain percentage of silver that you cannot take out by concentration, because you have it ground very fine to disintegrate the finer ore. The tailings that come away contain a little of the native silver and chlorides, and these pass out into the Leaching works, and they get a larger percentage out of the tailings than they could get by concentration alone. Had it not been for the Leaching process that portion would have had to remain.

1789. Although costly the process is remunerative? It is not costly, it is a cheap process. But it is only adapted for certain classes of ore. You could not treat sulphide ores by the Leaching process.

1790. Are they not treating sulphide ores in that way? Not by the Leaching process—that is for the native silver and chlorides. For sulphides it is utterly useless.

1791. Do you see any reason why hardwood timber should not be substituted for the Oregon timber which is now used in the mines? I do not see why hardwood should not be used instead of the softer wood. All the shafts are timbered with hardwood, but the method they have of working the back stopes would place them at a disadvantage in using hardwood where they have to lift it with ropes from 40 feet to 100 feet.

1792. You are aware that the hardwood timber would be more durable and likely to resist a greater pressure? Yes.

1793. Could scantlings be made of the same description of wood? Yes.

1794. Have you any knowledge of the large ironbark forests at Dubbo? I have not, but I have a knowledge of the timber, having used it. Blue gum and red gum are equally useful.

1795. The hardwood would not be so liable to take fire would it? No.

1796. Would not that be an important consideration? Yes.

1797. Is any provision made in mines for extinguishing fire? None that I am aware of.

1798. Suppose any of those large mines which are so heavily timbered were to take fire, would it not be the destruction of them? Yes, unless they could get into the mine and block certain portions to cut off the draught.

1799. You are not able to furnish the Committee with an estimate as regards the bullion? No.

1800. Nor the quantity of ores taken from Broken Hill? No.

1801. Do you know anything of Terowie? I have passed through it.

1802. Do you know that in consequence of the break of gauge a number of agents are employed there? Yes.

1803. Would not that be in favour of the proposed line? Yes; considerably in its favour.

1804. That entails both cost and loss of time? Yes, and loss in the weight of ore. I used to send it down that way from the South, and the expense was very heavy, and the waste of ore considerable.

1805. I gather from what you say that you are of opinion that if the line is constructed a large proportion of the merchandise and goods traffic of all descriptions from the Broken Hill district will come to New South Wales? I think so.

1806. And you see no reason, although the Adelaide line may be shorter, why the traffic should not come here? No.

1807. More especially the passenger traffic? Yes.

1808. The shorter the distance to be travelled the less the cost and the greater the saving of time? Yes.

1809. That you think will cause the line to be freely used? I think so.

1810. Do you think there is any force in the statement made by a witness that in nine cases out of ten a person desiring to go to Broken Hill would proceed *via* Melbourne, Adelaide, and Terowie, as a matter of choice? I should think the choice would be a very bad one. I think nine-tenths of the people would go from here to Broken Hill instead of going round *via* Adelaide.

1811. A journey involving two distinct breaks? Yes. You could go from Sydney to Broken Hill, make an inspection of one or two mines, and be back in five or six days. But if you went round *via* Melbourne and Adelaide you would have to waste no time to be back in twelve days.

1812. You think the railway would be largely used by passengers? I think so.

1813. *Mr. Copeland.*] I think you have a personal knowledge of the Nevada mine at Sunny Corner? Yes.

1814. Do you know what that ore yields per ton? I think it varies considerably; but I think it contains something like 10 or 15 per cent. of lead, some being lower, some higher; and 10, 12, or 75 oz. of silver, with a small percentage of copper.

1815. What would your estimate be of the general run of the sulphide ores found at the greatest depth at Broken Hill? The general average hitherto of sulphide ores would be about 10 to 15 oz. There are instances where they have gone up to 30 and 40 oz., but those were merely pockets. It may reach as high as 20 oz., and from 10 to 50 per cent. of lead.

1816. Is there no copper? There are traces of copper.

1817. Do you know what Mr. Lewis Lloyd is paying for the cartage of sulphide ores from the Nevada mine to Rydal? I think something like 15s. a ton.

1818. He is paying 16s. or 18s. a ton? I am inclined to think he told me it was 16s. 6d.

1819. After paying 16s. 6d. for the carriage of those ores from the mine to Rydal, he then has to pay railway freight from Rydal to Lithgow, has he not? Yes.

1820. You know as a fact that although Mr. Lloyd has water-jacket furnaces erected on the mine, he is carting about 400 tons of ore per month from the mine by teams to Rydal, then sending it by railway to Lithgow and smelting the ore there? Yes.

1821. Do you know why he is doing that;—is it not because he can get cheap coal at Lithgow? That is one of the reasons. His smelting cost at Lithgow, as far as I ascertained from him, is about fifty per cent. under that at Sunny Corner, but he has the expense of the carriage from the mine to Lithgow against that.

1822. I think he uses small coal? Yes.

1823. For which he pays 2s. 6d. a ton? Yes.

1824. Would it not be possible for the Broken Hill people to send similar ore from Broken Hill to Lithgow, and would they not be able to smelt at a very cheap rate with coal at 2s. 6d. or 3s. a ton? I think so.

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1825. It has been stated here that the railway carriage from Broken Hill to Lithgow for ores would be about 25s. a ton, or a trifle under 24s. 9d. If you add on the carriage by horse teams from the Nevada mine to Rydal, then the railway freight from Rydal to Lithgow, I suppose that would amount within a few shillings to what the Broken Hill people would have to pay for sending ores direct from Broken Hill to Lithgow? To within 5s. or 6s.

1826. Do you think that that 5s. or 6s. would be likely to prevent them from sending their ores, seeing that at Lithgow they can get coal at 2s. 6d. or 3s. a ton? I do not think so.

1827. Instead of £2 per ton for coal delivered at Broken Hill? I should think they would send their ore where they could get the cheapest coal.

1828. Under the circumstances it would be very much cheaper, and actually save several shillings per ton, to send their ore to Lithgow instead of having the coal taken to Broken Hill? I think so.

1829. You stated just now that it only required about 15 cwt. of coal to smelt a ton of ore, and that being the case would it not be cheaper to get this 15 cwt. of coal from Port Pirie, instead of sending 20 cwt. of ore from Broken Hill to Lithgow? I do not think it would be cheaper. As regards the smelting of low grade ores in an inland district, I am more favourable towards establishing works at the coal fields, and letting the train get the carriage as cheap as possible, and having train loads both ways.

1830. Do you know whether there is any limestone in the vicinity of Lithgow? Yes.

1831. But they do not use it? Not in the reverberatory furnaces. It is not necessary to use it so much in those furnaces as in the water-jacket furnaces.

1832. Therefore, by that process by which they treat the sulphide ores at Lithgow, they save the cost of limestone? Yes; and the cost of ironstone.

1833. And get their coal at 2s. 6d. a ton, instead of at £2 8s. delivered at Broken Hill? Yes.

1834. Do you know what the average yield of the Sunny Corner mine was for the last half-year? I do not, though I have seen their balance sheet.

1835. Was it not something like 12 oz. of silver per ton? Yes, something like that.

1836. Do you know what amount of profit was made by the company for the half-year? No.

1837. I suppose you would not be surprised to hear that it was between £15,000 and £16,000? I am not surprised to hear that.

1838. Notwithstanding that the yield was only about 12 oz. of silver, with some lead? Yes; and they had a little gold.

1839. Dr. Garraan asked about the process of treating sulphide ores, and I understood you to imply that some process has been found of satisfactorily treating sulphide ores? That some process has yet to be discovered for treating low grade ores. The only known successful method has been the reverberatory smelting, and also amalgamation.

1840. Have you any idea what percentage of silver is left in the ore, either at the Nevada mine or at Sunny Corner? I think Sunny Corner runs from 1½ oz. to 2 oz. left in the slag.

1841. You do not anticipate discovering any new process likely to be much superior to that, do you? No.

1842. Do you know of any closer treatment than that in any part of the world? There is no closer process that I am aware of in dealing with low grade ores than smelting.

1843. Do they get all the silver out according to assay at Broken Hill, less the 2 oz.? I think they run pretty close to that—sometimes it is under it.

1844. Do you know anything at all about the Mount Browne country? I have not been in that part of the country, but I know that it is a mining district.

1845. *Mr. Tonkin.*] If it has been stated here that the principal mines of Broken Hill have established smelters in Adelaide, is that true? I am not aware of that.

1846. Do you know of any mine at Broken Hill which has established a smelter on its own account at Adelaide? I think the Junction did.

1847. Are they working it? I do not think they are.

1848. How many smelting works are there at Adelaide? The Dry Creek, the Australian Copper Co., and the Junction. Those are all.

1849. If a gentleman said that the principal mines at Broken Hill had established smelters in Adelaide, that is not true? It is not true.

1850. At Port Pirie the Australian Copper Co. are dealing very largely in smelting ore for the mines at Broken Hill? Yes, outside the Proprietary Company.\*

1851. *Mr. Copeland.*] Do you know anything about the Broken Hill mines sending ore to the Clyde works in Sydney? Yes, there have been parcels sent round here from Broken Hill. I think from both the South and the Central, and some other mines.

1852. Are they sending it in large parcels now? I think the largest that came here came from Tasmania. The Central people sent 300 or 400 tons. Of course, buyers of ores do not please all the people that they have to do business with any more than persons engaged in any other business. They sent round parcels of ore as a test to see which was the cheapest market. I think the parcels sent here have been test samples.

1853. You think they are not likely to send them in large quantities? No.

1854. *Mr. Garraan.*] Do you know the Broken Hill district well? Pretty well.

1855. Is it in any way retarded in its development by the want of railway communication? Hitherto I should not think it has been. It has been carried on regardless of railway communication, or of anything, or of anybody.

1856. At the present time has it got good railway communication? It has not good railway communication. The tramway there answers all the purposes of a railway, but it is not a good railway. I imagine that it could not be worked as cheaply as a broad gauge line from this colony.

1857. What is the defect in the railway communication? The narrow gauge and having to tranship the merchandise at Terowie.

1858. Is the defect owing only to the gauge? No.

1859. That does not operate in coming direct to Port Pirie, does it? No, the narrow gauge goes direct from the mines to Port Pirie.

1860. Is Port Pirie used as a shipping port for much of the produce going to and from Broken Hill? Yes, because the Proprietary, and the British Refining Works, being connected with Port Pirie, send their stuff there.

1861.

\* NOTE (on revision).— There is no Australian Copper Company at Port Pirie. The question evidently refers to the Smelting Company at Dry Creek.

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1861. So that the break of gauge does not affect a very large portion of the traffic? Not to Port Pirie, but the greatest quantity goes to Adelaide.
1862. If the railway were widened from Terowie to Broken Hill it would make a more satisfactory railway communication? Yes; then they could reduce their charges.
1863. If the Government of New South Wales decide to construct a railway to Broken Hill in order to obtain some of the trade there, is it not more than likely that the South Australian authorities will widen their gauge to Cockburn? I should think they would. They must be sufficiently posted up in their own business to see that that would be an absolute necessity.
1864. Then if South Australia did that, which is more than probable, would it be possible for the New South Wales railway to take the trade from Broken Hill? If I understand the matter aright the South Australian Government could not widen that gauge, because the railway is in the hands of a private company.
1865. Not from Terowie to Cockburn? From Terowie to Cockburn, and from Cockburn to Broken Hill. If they did not widen it in one part it would be useless to do it in the other. They must have permission from this Government to widen the line from Cockburn to Broken Hill.
1866. Do you know whether the Act permits the construction of the line with a wide gauge;—are the company restricted, or have they the power to make a line of any gauge they like? I understand that they could not go beyond the present gauge. It was to be a tramway not a railway, and one stipulation is, that they must use a certain gauge bringing it under the classification of a tramway. Had it not been for that, they would have made it of the same gauge as the Adelaide line.
1867. You do not think there will be any further development of the mining industry, even by the construction of a railway from Sydney? I do not think that a railway from Sydney to Broken Hill would stimulate mining—that is open up fresh fields, unless it brought passengers, speculators, from Sydney, into direct contact with the field. There are hundreds interested in the field who have never seen Broken Hill, and who would not go round by Melbourne and Adelaide; but if this railway were constructed no doubt a great number of Sydney people would visit Broken Hill, and that might lead to speculation. The development of a mining field depends upon what is known as “booming.”
1868. As you have an unbroken gauge from Broken Hill to Port Pirie, why is it that the whole trade does not go on that line instead of the greater portion going to Adelaide? I think one reason is that they have not the capacity for treating all ores sent away from the district, and the next is that having ores treated down there involves extra expense in bringing the bullion round to Sydney. At Adelaide they have a greater capacity for dealing with the ores, and the bullion is as easily shipped from Adelaide as from Port Pirie.
1869. Seeing that that district is connected directly with Port Pirie and with Adelaide, do you think there is any great necessity or great advantage to the district in proposing the construction of another railway line? That is, if I understand you rightly;—do I think there is any great advantage for connecting Broken Hill with Sydney?
1870. Yes; knowing that Broken Hill is already connected with Adelaide? I should think there would be considerable advantage to our own colony. I think the trade and commerce would be stimulated by having a connection from here to Broken Hill, whereas that trade goes in the opposite direction now.
1871. But can you get the trade of Broken Hill over our great length of railway at a paying price to this colony? I think you will get a large portion of it, but I am not sufficiently posted up in railway charges to say whether you would get it at a paying rate. If you could command a certain portion of that trade the people would not give you the trade unless it was of some advantage to their various firms.
1872. As a matter of fact, if the western boundary of New South Wales were half a degree further eastward, putting Broken Hill within the boundary of South Australia, would there be any justification for making this railway? If Broken Hill were within the boundary of South Australia, I think it would be an utter impossibility to get a railway in, because the tariff would interfere with the railway. If you went on the principle of two private companies competing with each other from each side, then the trade to Sydney would be worked to some advantage; but under existing circumstances—South Australia being a protectionist country—you could not get in.
1873. The fact of this country being freetrade will not enable us, with a line 730 miles in length, to compete with a line 230 miles in length? No; but if Broken Hill were in South Australia, and you carried goods at £1 a ton, and the charge on the South Australian railway was also £1, when you reached the Border you might have to pay 5s. duty. The cost of goods from Sydney would then be 25s., as against £1 from Adelaide. You could not compete.
1874. Regardless altogether of boundary charges, which are likely to be done away with very shortly, would not the fact of Broken Hill being so much nearer to Adelaide and Port Pirie give such advantages to the South Australian railways that the traffic must find its way to those ports? They would have an advantage as regards distance. At the same time I think that a railway from Sydney to Broken Hill will command a great deal of respect, and a great deal of the trade.
1875. Would it command half the trade? I should think it would.
1876. If you were managing a private company owning a railway on the Adelaide side, do you think that a person of similar ability, managing a railway on this side, could take the traffic from you? If two private companies were competing, and were running to make profits instead of at ruinous rates, the railway on the New South Wales side might not have the best of the profits, but I think they would get a fair share, because there would be a longer distance to run, and you can run long distances at lower rates than you can run short distances. The long distance would be against New South Wales, but you would have the advantage of bringing the bullion to be shipped directly from here.
1877. Could you bring the bullion to Sydney from Broken Hill as cheaply as you could take it from Broken Hill to Adelaide? It may not be possible to bring it so cheaply, but there would be a gain in the saving of time.
1878. How? It could be delivered here in forty-eight hours, whereas to go to Port Pirie it sometimes takes a fortnight.
1879. But is it necessary to ship the bullion to Sydney? I think it is done principally on account of Sydney being the terminus for the large ocean steamers, and they want bullion principally for ballast. It has to be put in the bottom of the ship. If the bullion was allowed to wait until the ship had taken in her dead weight the cargo could not be shifted to put it in. It is therefore an advantage to bring the bullion to Sydney.

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1880. Are there no vessels trading direct between Adelaide and Europe? There are some, but not so many as there are from this port.
1881. Would not vessels trading direct take bullion from there as cheap as the others would take it from Sydney? I should think so.
1882. Then to the extent of the carrying capacity of the ships trading direct to Adelaide, there is no necessity to send bullion to Sydney? I should think not, unless there is some advantage in having business done through connections in Sydney.
1883. The Traffic Manager of the railways told us very definitely that wool which is produced in that neighbourhood could not possibly be brought from Broken Hill to Sydney in competition with the South Australian railways. Would not the same thing operate as regards the ore? That argument would not apply. Wool is a lighter material, though bulky. Bullion is a more dense form of weight and it is required for the loading of the ship. Wool is not required for the same purpose. It must be the top loading, and top loading could go to Port Pirie or Adelaide. But it is absolutely necessary to send the bullion here.
1884. Then if the preponderance of wool goes, will not the preponderance of bullion? No. Because of the great number of ocean ships starting from here. They call at Melbourne and Adelaide, and they can take their lighter cargo at any port.
1885. But what about vessels going direct from South Australia? They could load both bullion and wool.
1886. And to that extent there would be no necessity to send bullion to Sydney? I should think not.
1887. And it could be sent at a cheaper rate to South Australia? I should think it ought to be.
1888. And you have all these facilities for sending it there now? Yes.
1889. Then why should we go to the large expense of constructing hundreds of miles of railway for bringing the goods to Sydney when we cannot successfully compete with the existing railways? That is a question beyond my reach. It is a question for the Government to settle. Seeing that there is such a large population near the boundary of your own colony, that we have in the western district coal fields, and that the line would pass through an agricultural, pastoral, and mineral area that may be developed in the future, I think it would fairly warrant the construction of a railway to connect the large settled population with that district. On national grounds I should say that it ought to be carried out. I cannot say whether it would be a paying line.
1890. I understand you are of opinion that it is not a necessary work for the development of any industry at Broken Hill? I should say not an absolute necessity.
1891. Does the proposal to construct the railway, commend itself to your mind on national grounds? Yes, that is what I would recommend it for.
1892. Should I be justified in putting on the term "national" the construction that what is intended is a railway that is not necessary for the development of the district and which will not pay? It may not pay as far as I know; but I should think that in the course of time it will pay.
1893. You think it must eventually pay? I should say so.
1894. No matter what development takes place, would not there be the same competition, with the advantage on the side of the South Australian railways? Yes; because they are established.
1895. Then whatever quantity of trade you have to do the advantage will be on the side of the South Australian railways, and those advantages will not become less if the trade increases tenfold? I should think not.
1896. Then no matter how the trade develops, it will not give us any advantage in competing with South Australia? Not on the South Australian side. As far as within 50 or 100 miles of the Broken Hill district the country is settled in South Australia, whereas at Cockburn, Wilcannia, and Broken Hill there is scarcely any settled population. By extending the railway to there, passing near Cockburn, and through the Wilcannia district there may be a chance that the population will increase, and that would give a decided advantage to New South Wales. But the South Australian people cannot expect any great advantages beyond what they have at present. We have a comparatively new country to open up, and the advantages to accrue from opening it up must be secured by New South Wales.

TUESDAY, 14 APRIL, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.	JAMES EBENEZER TONKIN, Esq.
The Hon. FREDERICK THOMAS HUMPHERY.	WILLIAM SPRINGTHORPE DOWEL, Esq.
The Hon. GEORGE HENRY COX.	EDWARD WILLIAM O'SULLIVAN, Esq.
JACOB GARRARD, Esq.	CHARLES ALFRED LEE, Esq.
HENRY COPELAND, Esq.	WILLIAM McCOURT, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

The Hon. Joseph Palmer Abbott, Esq., M.P., Speaker of the Legislative Assembly, sworn, and examined:—

- Hon. J. P. Abbott Esq., M.P.,  
14 April, 1891.
1897. *Mr. Copeland.*] You are a member of Parliament? Yes; I am member for Wentworth. The Wentworth electorate formerly included what is now Sturt, and what is now Wilcannia. That was when I represented it at first. Sturt embraces Broken Hill and the most western part of the old electorate of Wentworth.
1898. Broken Hill is not in your electorate? No; it adjoins it.
1899. Will this proposed railway pass through any part of your electorate? No; it will not go near it.
1900. Have you visited Broken Hill? Yes. I went down the Murray as far as Wentworth, then up the Darling to Menindie, across from there to Broken Hill, and then from Broken Hill to Wilcannia, and from Wilcannia up to Bourke.
1901. How long ago? Five years ago. 1902.

NOTE (on revision):—At an early date the Great Cobar Copper Mining Company, Limited, will be glad to arrive at an understanding, for the carrying, by rail, at a minimum rate, from Lithgow to Cobar, about 30,000 tons of coal, also return loading to Lithgow in copper, regulus, and ores, equal to this amount of coal.—R. N. WILLIAMS.

1902. I suppose Broken Hill was not developed then? There was not a house where Broken Hill now is when I was there. They had just begun to speak about the Proprietary mine.

1903. Silverton was then in existence and was the chief place? Yes.

1904. Did you visit any of the mines? Yes; the Proprietary mine was the only one which had been opened when I was there on the Broken Hill line of ore. The other mines were nearer to Silverton.

1905. I suppose you are not prepared to give evidence as to your personal opinion with reference to the permanency of the mines or anything connected with them? No; my opinion upon that subject would be of no value.

1906. Have you prepared any statement? No. I did intend to do so, but, through being deprived of the use of my hand by an accident, I have not been able to do it. I desired to come before the Committee for the purpose of stating my opinions. I have been in the western district two or three times, and, in my opinion, the extension of the line of railway to Broken Hill with a view of developing the trade, or getting it from that part of the colony to Sydney, is an absurdity. You would have a line of haulage from Sydney of over 700 miles, as against 300 odd miles from Broken Hill to the nearest seaport in South Australia, and if the traffic is to be diverted from Broken Hill to New South Wales it can only be done by a system of differential duties, the cost of which must fall upon the people of the colony who are not interested particularly in the development of that trade. That is, if the people of Broken Hill cannot afford to pay the ordinary charges for the carriage of goods, someone else in the country will have to pay them. I think it will be many years before a population will be located in that western country who will become customers of the railway. It is generally supposed that if a railway is to be constructed at a very early date, or in the near future, it will become a paying concern—that it will pay the working expenses and the interest on the outlay; but I do not see what possible chance there is of any railway extended into that western district doing what the railways extended into other pastoral districts in the colony have not done. I know a great deal of the northern country and the line of railway from Werris Creek to Narrabri, but I say, as compared with the western country, the route from Nyngan to Cobar and Broken Hill, that the Narrabri country is densely populated, yet it is said that the line to Narrabri has not paid working expenses and the interest on the outlay. The line to Narrabri goes through some of the most magnificent country in Australia—grazing country—where the seasons are not so uncertain as they are in the west. Of course, many of the runs in the west are capable of yielding enormously in good seasons; but good seasons are exceptional there, and I do not see how small landholders can go into that country and develop it profitably to themselves, and unless that class go there cannot be customers for a line of railway. This railway must depend upon the traffic at their command if it is to be made remunerative. I do not think that the proposed route is the best way to take the line. If it is determined to make a railway to Broken Hill, I have always thought that the line had better go from Forbes towards Menindie, which is a straighter run through the country. A railway from Forbes to Menindie would fairly divide that dry country. You would have a railway to Bourke on the north, and a railway to Hay and the Murray River on the south. There is a large mineral country, as most members of the Committee know, about Mount Hope, gold and copper having been found there; but, of course, I do not suppose that there has been any development of it that would justify the construction of a railway. I think that unless you have some guarantee that in the near future you will find customers for the railway, it ought not to be built. Thinking the matter over, I have asked myself whether this western country is likely to be occupied by homestead lessees. Up to the present moment most of the homestead lessees have taken up their land either on frontages to the Darling, on the ana branches, or near the frontages to the Lachlan. They have never gone back from the water, and it is not likely that they will—because of the small carrying capacity of the land, and the cost of improvements, the area would not be sufficient to enable a man to make much money out of it. There is no doubt that the homestead lessees as a body will carry more stock per acre on their land than the squatters do, but they will take the best parts of the resumed areas, and when their selections are made the squatter will have less of the balance of the resumed area than he had before; so that what is gained in one respect is lost in another. To sum up shortly, I think that if you make a railway to that part of the country you would have to look principally to the produce of the district for traffic, and the produce is wool alone. I do not see what else there is to be produced in that country. If the construction of the proposed railway is determined upon—and as the railway has been carried so far as Cobar, in my opinion, it would be impolitic to stop at Cobar—the line ought to go on to the Darling, but not to the Darling unless the river is locked. The people out there cry out for a railway, and when they get it they will use it if it suits them. If the river is available they will not use the railway, and in good seasons, if the Darling is not locked, the river will be used as against the railway. If the river were locked, and dues were imposed equivalent to the railway charges, probably you would force the traffic on to the railway, but at present if the railway is carried beyond Wilcannia to Broken Hill, I have always thought it would take a great deal of produce which might come to Wilcannia to be sent by railway down to Adelaide instead of to Sydney—assuming that the produce comes here at all. But this railway would give the people west of the Darling great facilities to get to the nearer market in South Australia. I remember that when I was a member of this Committee, it was pointed out—I think by the Traffic Manager—in connection with a proposal to construct a railway for the carriage of coal, that it would be impossible to carry coal at a profit on the railway for less than 1d. per ton per mile. If that is so, the Committee can see at once that the cost of carrying coal to Broken Hill would be so heavy, as against water carriage, that the railway would never get the traffic.

1907. *Mr. Tonkin.*] The charge will be less than that? I suppose it will depend upon the gradients on the railway. *Mr. R. N. Williams* recently gave evidence before the Committee, and I saw from the *Daily Telegraph* that he said that the average monthly consumption of coal at Broken Hill for the last fifteen months was 70,000 tons, and of coke and coal 15,000 tons. A gentleman largely connected with the mines has written to inform me that the average monthly consumption of coke at Broken Hill for the last fifteen months has been 3,600 tons.

1908. It was a mistake; *Mr. Williams* said that the consumption was 7,000 tons? My authority, a gentleman largely connected with the Proprietary mine, says that the consumption of coke was 3,600 tons, and the consumption of coal 1,600 tons. I am only referring to what I saw in the press.

1909. *Mr. Copleland.*] You are of opinion, I suppose, that the railway should go from Cobar to Wilcannia? Yes. I think, having gone to Cobar, it would be a mistake to allow the railway to stop there, but it would be a pity to take the railway to Wilcannia without regulating the river traffic in some way. We have spent enormous sums in making the river a highway for the use of the people of the other colonies.

1910.

Hon.  
J. P. Abbott,  
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14 April, 1891.

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1910. Did you notice a telegram from Broken Hill in the newspapers, to the effect that the ex-Mayor of Broken Hill, Mr. Lane, the manager of Block 14, states that there are 3,000 tons of coal per month, 2,150 tons of timber, and 6,300 tons of coke used, and that the amount of bullion carried away is 5,000 tons a month? Yes; I saw that. That is not far out of what my correspondent states. He says that the average consumption of coke at Broken Hill for the last fifteen months was 3,600 tons a month, and of coal 1,600 tons a month. That makes 5,200 tons.

1911. Mr. Lane says 6,000 tons of coke? My evidence, of course, is second-hand, and so is Mr. Lane's. I cannot say anything about it myself. I have lived in country districts, and I know what they do. If they want a railway they consider their own district—not the colony at large.

1912. At any rate, you would be favourable to the construction of the railway to Wilcannia? If the Darling is locked and dues are charged.

1913. As the railway is going to Cobar, would you stop short at Cobar? I do not think it would be wise to do that.

1914. From what you know from a personal visit to Wilcannia, do you not think that Wilcannia and the country round about for some hundreds of miles is deserving of a railway? Yes; there is a large mineral field away to the north-west of Wilcannia, which only wants capital and water to develop it. At Mount Browne, Milparinka, and Tibooburra, and quite close to Nuntherungie, within, I think, 70 or 80 miles of Wilcannia, there is a great prospect of the development of a very large silver field, according to what I have been told by people out there.

1915. In addition to that you are aware that there were some considerable gold mines developed—alluvial flats? Yes; I believe that the fields to the north-west are very rich, and only want water and money.

1916. I suppose you have also heard of very rich opal discoveries? Yes; between Wilcannia and Milparinka. I think that as the railway is going to Cobar it should undoubtedly go to Wilcannia.

1917. And I suppose it would benefit the squatters in the Paroo district as well? Yes, and the homestead lessees. I look upon the homestead lessees as a new class, who will make the very best use of the land which they take up—that is, if the land is legitimately taken up. They will have to work the land to the best advantage, or they cannot make anything out of it.

1918. I suppose you are aware that the land is gradually improving in its stock-bearing capabilities the longer it is stocked? I do not know that. They say that it is not. They say that the country is being destroyed by rabbits at the present time. The great fodder plants out there are salt bush and cotton bush, and on some of the runs these are being eaten out by being continually used. I do not think that the grass lasts out there through the summer. I have seen the district about Bourke in the beginning of summer, and again in the middle of summer, when the grass was gone, and they had to depend upon those plants.

1919. If I remember rightly, the evidence from the squatters was to the effect that the country was bearing more stock, becoming capable of bearing more from year to year? Exactly so. The country is being improved, small paddocks are being formed, and more water is being obtained. The more water you get the more stock the land will carry.

1920. Irrespective of that, the land is becoming capable of carrying more stock through being constantly fed upon? I very much doubt it, because in that western country they have to depend for fodder upon the plants that I have referred to in summer time, not upon grass. If those plants are continually eaten down, experience shows that they are destroyed. I know places on the Liverpool Plains where salt bush used to grow, but where you will not see a branch of it now.

1921. What has taken its place? Grass there, probably.

1922. Does not the country carry more stock now? Yes; because a better class of improvements has been put on it.

1923. Leaving the improvements out of the question, does not the herbage, or grass, bear more stock now than when the country was first settled? I do not think you can put it that way. When I first knew that country a paddock was an exceptional thing on the Liverpool Plains, but now the country is divided into paddocks. I am inclined to think that it is better improvements and the increase of the water supply that improves the country. I do not think that sheep improve it.

1924. Do you not think that the quality of the grass and the stock-bearing capacity of the land are improved by stock being fed upon it and manuring it? There is no doubt of that, if the land is not too heavy to stock. If the country is divided into paddocks, and the stock are shifted from one paddock to another, so that the grass is not continually eaten down, the grazing will improve. You have to consider the character of the country. On the Liverpool Plains they have a fair average rainfall—in the west they have not.

1925. When we have taken the railway to Wilcannia, do you think it desirable to stop short of Broken Hill, and leave a blank between Broken Hill and Wilcannia? Not if you want to assist the settlers there to get to their nearest market; but if you construct that railway, believing that you will get the produce of that country to Sydney, I think you will be much disappointed.

1926. Would it not be the duty of the country to give facilities to squatters and others working on the Darling to even get their produce to the Darling, supposing they did not use the railway at all to bring it to Sydney, would they, as fellow colonists, be entitled to that amount of consideration that would enable them to bring their traffic to their easiest get-away? Undoubtedly. I think it is the duty of the Government to promote the interests of all the settlers whom they govern. But the question arises, can we afford to do what is not absolutely necessary.

1927. Do you think it desirable to isolate a section of the community, and cut them off from communication with the metropolis? They are not cut off. We have a railway to Bourke now, and I am assured that that railway could do all that is required between Bourke and Sydney by two trips a week.

1928. I suppose you are aware that the railway is improving in its paying qualities? It is hard to say what portions do pay, because of the method of keeping the accounts. Accounts are not kept showing the returns of particular sections.

1929. But we have the evidence of the Traffic Manager and of the Commissioners? They ought to know.

1930. Their evidence is to the effect that the railway does pay, and that the traffic is increasing considerably? Your Wilcannia line will go comparatively close to the Bourke line. If you want to go to Cockburn, the line from Forbes is the most direct, then you go through the valley of the Lachlan, where you can put people to earn a living.

1931.

1931. Would it not be possible to make that line also from Forbes to Menindie? It would depend upon the London money lenders very largely.

1932. Would you be in favour of a policy of isolating Broken Hill, and leaving it virtually in the hands of another colony, or of risking something, and sacrificing something, with the view of re-connecting that portion of New South Wales? I would not. I think it is unjust that the bulk of the people of this colony should be taxed for a railway which under no circumstances, in my opinion, can become remunerative.

1933. You spoke with reference to the difference in distance for sending goods to Broken Hill, *via* Adelaide, and overland from Sydney? Yes.

1934. Have you taken into consideration the freights that have to be paid to get coal, for instance, to Broken Hill, *via* Adelaide or Port Pirie? I have not.

1935. Have you gone into figures to see whether it would be possible to take coal cheaper by rail from Lithgow to Broken Hill, *via* Cobar, than to send it from Newcastle by the sea board, *via* Port Pirie? When I was on the Committee I heard one of the responsible officers of the Railway Department say that the Department could not possibly carry coal at a profit for less than 1d. per ton per mile.

1936. Which railway was that officer referring to? To the railways generally.

1937. It depends upon the grade what load they could carry? Whatever the ruling grade would be between Lithgow and Wilcannia, that would influence the whole traffic. There is a grade between Dubbo and Nyngan of 1 in 40, and that would be the ruling grade for the whole line.

1938. Would it not be possible to either cut out that grade or break the train? If you break the train, that would be an additional expense. You can only carry a certain load.

1939. Are you aware that they carry thousands and millions of tons in the United States for a third of a penny per ton per mile? I am.

1940. Can you give the Committee the reasons why we should not be able to carry coal at a similar rate, or at the most at  $\frac{1}{2}$ d. per ton, over that dead level of country? I think the manner of constructing our railways must influence the cost of carriage throughout, on account of the light loads which they would have to carry.

1941. The ruling grade between Nyngan and Cobar will be 1 in 100? It is not 1 in 100, but 1 in 70.

1942. It is 1 in 100? Then it has been altered. It was 1 in 70 when I was on the Committee.

1943. Taking the fact into consideration that from Nyngan to Cobar the gradient is 1 in 100, and that from Cobar to Wilcannia there are many miles of a dead level, so that much larger loads could be taken, do you not think that we should be able to carry coal at  $\frac{1}{2}$ d. per ton per mile? Yes; but there is no coal at Nyngan.

1944. The coal would be taken from Lithgow? Then you would have to get the coal to Nyngan over a ruling gradient of 1 in 40.

1945. To meet difficulties of that kind, they could break the train? That adds to the expense. I should like to see railways in every part of the colony if we could afford to make them.

1946. At the most, we could carry it at 1d. a mile from Lithgow to Dubbo, and beyond that from Narromine to Broken Hill it is level country? Yes, and a very cheap line. You were asking why the Americans can afford to carry at a so much lower rate than we can. One great reason is that the Americans have built railways of a temporary character and have improved them out of earnings very largely. Here we make our railways permanent, and the charge for interest begins from the date of construction, long before the railways begin to earn anything at all.

1947. At any rate, it has been proved by evidence that the railways can successfully compete with ocean carriage; that is to say, that we can supply Broken Hill with Lithgow coal, as against Newcastle coal carried round by sea, without differential rates at all, allowing a margin of several shillings per ton in favour of the railway. If that evidence has been given to the Committee, and assuming it to be correct, do you not think there is a possibility of the railway paying? No, I do not. If you were to take every ton of coal that is consumed at Broken Hill by railway, I do not see how it would pay. What other produce have you to and fro?

1948. That is the evidence of Mr. Lane? Mr. Lane is an interested man. I have no interest in the matter.

1949. His figures only coincide with the evidence taken by the Sectional Committee, with this exception: that the trade has developed since the Sectional Committee was in the district, and I think it only fair to presume that the figures are approximately correct—that is, that they are consuming 3,000 tons of coal per month, 2,150 tons of timber, and 6,300 tons of coke? It would be easy to get the returns from the custom-house there, and the Committee would have the most reliable information that could be got.

1950. We have had evidence from the companies themselves in support of the figures. We could not get evidence from our custom-house, as I do not think that these things are entered. But, assuming that these figures are correct, and that we could be in a position to supply a large quantity of coke, coal, and timber to Broken Hill, do you not think we should be justified in making the railway? Yes; if you have a few mines like Broken Hill on the route, but up to the present there are no other mines that have developed any large returns. There are no other mines paying the dividends of the Broken Hill mines, nor turning out so much.

1951. They are not open to the same extent, but I believe that they are richer? Blocks 10 and 14 are part of the Broken Hill mines. I spoke of what was originally the Broken Hill mine when I was there.

1952. Do you know anything of the Dubbo district, with regard to timber? No; I know more of the country towards Coonabarabran.

1953. I suppose you are aware that they are timbering the Broken Hill mines with Oregon pine? Yes.

1954. Would it not be a good thing if we could supply them with hardwood? Most certainly.

1955. Do you not think that the squatters, as well as the miners, would be greatly benefited by having this railway there to enable them to get their wire for fencing, to send their wool to market, and to get their supplies? I have not the slightest doubt that a railway of this kind would benefit every man who is a proprietor in that country, but it would not benefit the country at large. I should be glad to see two or three railways out west—one by Wentworth, the shortest cut to Adelaide; but as I am Member for the district I have never advocated it. I have seen the surveys for a railway going on along the Lachlan to Wentworth, but why I do not know.

1956. Are you of opinion that a railway should not be constructed in a new country till you can make sure of it paying from the commencement? No, I am not. I am of opinion that railways ought to be

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constructed wherever you have a reasonable certainty of finding customers, or putting customers on the land; because every person who goes on the land must be a customer to the railway. You will have a stretch of country from Nyngan to Broken Hill which, when the railway is made, you will not put 1,000 people on. I have heard that wheat is grown out there, in fact I have seen it, and I have seen it in many parts of the north, but it is an exceptional thing.

1957. Do you think that the construction of a railway to Wilcannia would have a tendency to bring the wool to Sydney? I very much doubt it. You must consider where those men in that district do their financial business. From Wentworth to Wilcannia I do not think there is a station held by a New South Wales man. The capital employed there comes from either South Australia or Victoria, and the produce goes to the market of those capitalists who lend the money to improve that country.

1958. Do you think they would be likely to make use of the railways to get their wool more speedily to market? They will do whatever will pay the best.

1959. Do you know what it costs for insurance to send wool down the river? I have heard, but I forget.

1960. Is it not something like 4s. or 5s. a ton? I could not tell you. Of course, the great drawback to the squatters out there is the uncertainty of the river. I saw some timber lying in a boat intended to build a public-house at Bourke, and the boat had then been stuck on the river for fourteen months. A conditional license had been granted for the erection of the public-house, and the material was in the steamer. It is nothing uncommon for wool to lie on the bank of the river from one season to another.

1961. Do you not think that if the railway were made the squatters would be likely to make sure work of it, and send their wool by rail, even at a little extra cost, for the sake of getting it quicker to market, and saving the insurance rates as well? I do not think you have ever been a squatter. When a squatter takes a station he gets into the hands of a financial institution who direct the whole of his movements. He is not a free agent. He has to send his wool where he is told to send it.

1962. Do you think that the construction of a railway like this would have a tendency to open up new mineral country? I have no doubt whatever that it would largely help to do that, but water would do more in that country. Mount Hope and all those gold mines to the north-west have lacked development hitherto for the want of water. I know the mines about Tibooburra and Milparinka have often had to stop for want of water. The diggers have had to resort to what they call the dry-earth process; taking up the earth and blowing it away to get the gold.

1963. I suppose you remember that before the railway was built to Newcastle the general opinion was that nothing would ever be sent by rail, because it would be cheaper to send goods by steamer? Yes; but see what has been done at Newcastle. You can send some of the produce as cheap to Sydney as you can to Newcastle from the north.

1964. But, as a matter of fact, the passenger traffic has been very much diverted by the railway? No doubt; and I think that the improved facilities given have increased the traffic enormously on the Northern line. The railway has developed a traffic that all the steamers running between Sydney and Newcastle could not have developed.

1965. I suppose you remember that before the railway was made to Bourke the prediction was that we could never develop a trade from the Darling; that the squatters would still use the river to send their wool to Adelaide and Victoria;—I suppose you are aware also that the wool traffic has increased to something like double during recent years? Yes; but bear in mind that the produce has increased doubly. Country has been taken up under the Act of 1884 that was never touched before.

1966. Will not the produce increase between Cobar and Cockburn? I doubt it. There is not a stream between Wilcannia and Cockburn except Stephen's Creek, which is generally dry.

1967. Are not the squatters making their own water improvements? Yes, they are. I saw seven wells constructed on one station, and there was not a drop of water in any of them. That was the Pan Van block, to the east of Menindie, in the mallee country.

1968. Are they not getting a great deal of water by boring? No; we have never got any artesian water by boring to the east of the Darling. We have got some to the north-east.

1969. Have they not got it to the west? Yes; to the north-west. They never succeeded to the south of Wilcannia.

1970. Would not the wool from the north-western country come to Wilcannia? Yes; it does now—it must.

1971. If the railway were taken to Wilcannia, should we not receive that wool by train? I think we should if the railway was not continued to South Australia. We should receive a lot of it.

1972. But supposing it were continued to South Australia? Then the produce would probably go into that colony. I do not know the distance exactly.

1973. Supposing that the whole of the traffic was diverted from Wilcannia to Cockburn, would it not pay the Government just as well to take the traffic that way as to bring it the other way? Well, then, where are the earnings for the railway.

1974. From Wilcannia and Cockburn? You would only have the produce of the squatters and graziers; there is no other produce in that country.

1975. Suppose you took the traffic from Broken Hill, and that traffic went to Cockburn? The distance is over 30 miles. Yes; if the Government got that traffic by the railway from Broken Hill to Cockburn, I dare say it would pay them on the length of the line.

1976. I mean that the Government ought not to be restricted from building a railway, simply because they cannot bring the traffic in one particular direction, if they can give the people every facility for working their mines and squattages, notwithstanding that the traffic goes up towards Cockburn? I do not care where the traffic goes if we give facilities to develop the country without imposing a heavy burden on the rest of the community.

1977. I suppose you would not mind a little burden; you would not expect the line to pay from the commencement? No. We have a line from Werris Creek to Narrabri which has been constructed ten years. I do not think that that line is paying the working expenses, with the interest on the outlay, and that is a densely populated part compared with the western district.

1978. You would not tear up that railway? No; but I think it is a lesson when you propose to make another similar one.

1979. Suppose the question were submitted to yourself, would you refrain from making the railway because it would not pay working expenses from the commencement; and speaking of a railway, supposed to last for

for over ten years, may be looked upon as the commencement of the railway? I am one of those who believe that that line does pay if we had a proper estimate, but the book-keeping of the Department says that it does not. It is incredible to me. If that line does not pay, I do not know any line that will in a pastoral district.

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1980. Coming back to the coal, coke, and timber traffic, if it can be shown by evidence that the railway can compete with sea-borne coal, would that alter your opinion as to the desirability of constructing the railway in view of this fact, that if we took coal to Broken Hill we should have 5,000 or 6,000 tons of bullion per month to bring back to Sydney? Yes; if you could assure me of all that, it would alter my opinion, but it is a matter of opinion, and I am just as capable of forming an opinion as the man who gave that evidence.

1981. But you have not been there since Broken Hill came into existence? No.

1982. *Mr. Tonkin.*] If the Railway Commissioners, through their Secretary and the Traffic Manager, state that they will carry coal, and that it will pay to carry coal from Lithgow to Broken Hill at £1 6s. 6d. a ton, would you believe that? Of course I would believe it. I should think the Railway Department, if they make statements of that kind, have some grounds for them. I think the Traffic Manager knows what he is talking about; but as far as I am aware the Traffic Manager denounced this railway as one that would not pay working expenses and interest on the outlay.

1983. Have you any idea of the price of the coal delivered at Broken Hill from Newcastle, *via* Port Pirie? I have seen statements about it, but I have never gone into it myself.

1984. If from the evidence you believe that coal could be delivered at from 12s. to 15s. less by the overland route, that is from Lithgow, if this railway is constructed, do you think that would not be a sufficient reason for making the line? Certainly not. If you were to get the whole of the coal traffic for the district, in my opinion it would not be a sufficient reason for making the railway.

1985. Do you believe that there is a traffic of over 15,000 tons a month in coal, coke, and timber? I cannot form any opinion upon that.

1986. But if that statement has been made, would you believe it? I cannot form any opinion upon it. I only came here to point out the character of the country between Wilcannia and Broken Hill, and the improbability of settling a population on that country. I do not believe in making a railway in a country where you cannot settle population, who would become customers.

1987. You are in favour of sending the railway as far as Wilcannia? Only because it has gone to Cobar.

1988. You have read the evidence taken by the Sectional Committee at Wilcannia? I was on the Committee, and I have read some of the evidence.

1989. You know it was stated at Wilcannia that there was sufficient traffic to pay the working expenses of the whole line? I have lived in country districts, and so have you, and if you propose to build anything you like in a country town, you will find people prepared to swear that it will pay. I would never go to those places for evidence.

1990. All those witnesses probably are interested—but there were some who were not? I did not say that they wilfully stated what was not true, but they become so prejudiced about their district that they believe what they state is true.

1991. If there was a traffic of 15,000 tons in fuel alone? Well, what are the earnings of that?

1992. That would amount to £238,500 a year, at £1 6s. 6d. a ton, as stated by the Commissioners. That is for the supply of Broken Hill, without the intermediate stations, such as Wilcannia. Under these circumstances, would you advocate the construction of the line? I would, first of all, figure out the working expenses and the amount of the interest on the loans.

1993. The working expenses and the interest on the capital amount to £90,634 a year, right out to Cockburn? They say it would yield £238,000 a year, but that part of the line would not yield it. What would be its earnings?

1994. Suppose we reduce it to one-half, and that would be a long way under the estimate of the return—suppose we fix it at £120,000 a year? If you can show that you can make £100,000 a year by spending £90,000 a year, no one will say that it would be unwise to make the railway. You say that the railway will earn £238,000 a year by the carriage of fuel alone, and that the working expenses would be £90,000 a year. If you can show that, anyone will say, "Build the railway."

1995. Suppose that this came out in evidence, would that be likely to alter your opinion? Certainly. If you can show me that you can make £100,000 a year by spending £90,000, I say, "Build the railway."

1996. Take one-fourth, say £50,000, for that one item, without return loadings, though it is supposed that there would be 5,000 tons a month, and that is without Wilcannia traffic, under the circumstances do you think you would alter your opinion? I will say that if you could show that you will get a fraction above working expenses and interest, build this railway, or any other railway in the country, or if you can show that it will pay the interest immediately, build it. But, according to your figures, you will have a handsome profit. Then, of course, build the railway.

1997. The figures include the whole of the supposed consumption, which we probably could not get, but at any rate when we say that amount we might reasonably expect, according to the evidence, that we should have a large proportion of the traffic. Is that not so? I am not qualified to go into a question of the details of the traffic. I would say, as a citizen and a public man of some years' standing, that if you can show such returns as you indicate, you will be justified in building the railway. I do not believe you can show them.

1998. Have you any idea of what the returns will be from Wilcannia? I know that the Customs duties at Wilcannia are very heavy. There must be a very large traffic to Wilcannia, and if you can get that, there will be ample justification for building a railway to Wilcannia; but I do not see how you can get the traffic, considering the vested interests on the river, and the large number of steamboats that are running there. They will do what they can to get the traffic.

1999. Do you think that if we constructed a railway to Wilcannia, without continuing it to Broken Hill, it would result in great loss to the colony? I am not sure about that. I think that having gone to Cobar, you have no right to stop there.

2000. You would face the loss? I do not think you would make a proportionately greater loss than you are doing now. You would get some of the traffic at Wilcannia. But if you go beyond Wilcannia, you will take the whole of the western produce south to Adelaide, and you will not put customers on the land.

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land. That is my great objection to a railway being made into that country at present. There are scores of places where, by making a railway, you can put people on the land; but you will not put people on the land there. 10,000 acres are not enough for a homestead lessee. The homestead lessees have had remarkably good seasons, but the time will come when I fear they will collapse.

2001. *Dr. Garran.*] I understood you to say that the railway having been taken to Cobar, you think we had better continue it to the Darling? I think so.

2002. Is Wilcannia so important that it is necessarily the terminus—it is not the nearest point on the Darling? I do not think it is so important, but I would go to the Darling, with the view of the extension of the railway, if you look further on. But I think the most central place to go to would be Menindie. I forget the distance between Menindie and Wilcannia.

2003. You talk about the north-western portion of the colony—we could hit the Darling at a nearer point than Wilcannia, and by going in a more direct line. Do you think it important to make Wilcannia the terminus? The town is there, and it is a town of considerable importance. That is the reason for going there. I do not think you should lightly sacrifice vested and established interests.

2004. Is it so important that we should make it the terminus? Yes.

2005. You think that, practically, in any extension of the railway we are shut up to Wilcannia? I think so, having regard to the importance of Wilcannia. Most of those towns were built up through the improvement of the western runs. When those improvements ceased, those towns began to decay, and they are not of the same importance as they were many years ago. I noticed that particularly at Wentworth.

2006. Is it equally true of Wilcannia? They complained of it when I was there five years ago, but at that time the runholders had ceased to improve to any extent on account of the uncertainty about the rents. The financial institutions would not assist them when they did not know what rents they would have to pay. That threw out of employment some thousands of people who were customers to the town.

2007. Would the extension to Wilcannia lead to the improvement of the runs? I do not think so.

2008. Not even by homestead settlers? No; I think that the cost of improving that country and obtaining permanent water is too great for small men with the results which they can get from 10,000 acres.

2009. The railway would, then, probably for years, go through large sheep runs? Yes.

2010. And the traffic would consist of wool once a year, and the stores on the return trip? Yes; I think it is estimated that a man with good management ought to make £200 a year out of 1,000 sheep. I think that that country on the average will carry one sheep to 6 acres. By figuring that into 10,000 acres, the returns will be found to be small, and the homestead lessee will have to fence, make his fences rabbit-proof, and provide water. I have seen tanks constructed for two or three years without ever having any water in them.

2011. If the railway were made, it would not settle a large population between Cobar and Wilcannia? I do not think so.

2012. If the railway goes to Wilcannia you think there is a fair chance of getting a good deal of trade? You will get it from Wilcannia. I feel strongly about the Darling. The Government having spent large sums in making that river navigable have a right to be recouped. Our people do not make any use whatever of the Darling, but the Darling is used by the South Australians and Victorians for their steamers, and every one of these steamers is a floating store going up and down the river. They have hawkers' licenses. They ought to pay dues for the use of the river if we are to keep it navigable.

2013. That is a question independent of the making of the railway? No; I think that the two are interlocked. If you make a railway, and at the same time open another highway, and say to the people, "You can use the railway, or take this other route, for which we will charge nothing," they will use the other route instead of using the railway to get to market.

2014. You have spoken of the Lachlan River route;—do you think that along that line the railway would settle population? On patches in the Lachlan district I think it would. About a place called Oxley, on the Lachlan, there has been an enormous settlement of homestead lessees, and they are doing fairly well, but they have had good seasons since they started. There has been a very large increase of population there. All those people, of course, would be customers to the railway with goods and produce—not that I suppose their produce would be much more than that of the squatters whom they dispossessed, because, though they carry more stock, the squatter will carry less, owing to the loss of part of his land; but there will be more consumption by human beings settling there than there was before.

2015. Do you think that there would be such settlement along that line as would give a paying traffic to the railway, irrespective of the terminus at Broken Hill? Of a good deal of the Lachlan country I should say "Yes." From Forbes out to about Mount Hope it is the driest part of Australia.

2016. Do you know anything about the Willandra Billabong? I do not; but I imagine that it must be very good land there, because as much as ever could be got has been bought up.

2017. The squatters have already secured it? Yes.

2018. And a railway would practically run through private land, as the railway to Hay does? I imagine so, except when you get out west into the dry country, when you get into the mallee country east of the Darling.

2019. Do you think, as between Forbes and Menindie, and Menindie and Broken Hill, that the Government, by cutting up a certain portion of land on either side of the line of railway, so as to reduce the cost, could make the line pay? I very much doubt it. I do not see what people will give for land out there, and have to face the droughts.

2020. You do not think that people would buy it? I do not think people would go there.

2021. You know the district of Menindie? Yes.

2022. We have it in evidence that the milk, hay, and horse feed for Broken Hill come a distance of 200 miles? Yes; I am aware of that.

2023. We have it also that Menindie is only 65 miles from Broken Hill, and you have water there in the river as well as in the lake? Yes. I believe there is a great future for Menindie, by reason of its supply of water, which can be stored for a long time. I have been trying to get from the Lands Department a survey of small allotments about Menindie for people to settle on, and grow fruit to supply the Broken Hill market. I think it is nearly two years since I tried to get the survey, but up to the present time I have not succeeded. It appears that most of the land that was open to settlement has been taken up by homestead lessees—the rest being held under pastoral leases.

2024.

2024. There are large lakes there? Yes; and in dry seasons the lakes are the stand-by of the squatters on whose runs they are.
2025. Would it not be much easier to supply Broken Hill from that district than from Burra Burra? Yes; if you give people facilities for taking up the land and cultivating it they will soon do so. Then you can soon see what justification there will be for a railway.
2026. You say that so far as the railway would follow the Lachlan it would settle a population? I think so.
2027. And you think Broken Hill could be supplied from the lakes? Yes.
2028. And there is a gap of doubtful country? I am speaking of nothing but official knowledge of that country. When I was Minister for Mines I got information about the stations which were then under my charge.
2029. Supposing a line to Condobolin would promise to be a paying line, and a line from Broken Hill to Menindie also, would it be worth while then to compete with the line right through, even supposing the midway section from Condobolin was a loss? I am inclined to think it would, if you could settle people on the land, and I believe you could settle a large number about Menindie if the land was available.
2030. You think that if a line is made to Broken Hill at all it should go through Menindie? I do. I used to think otherwise until I saw Menindie.
2031. We are told that that is the shorter route by 62 miles? I think that the country between Broken Hill and Menindie, although it is very dry, is some of the richest country that I ever saw in the western district. I drove over the whole of it.
2032. Did you follow up the valley of Stephen's Creek? Two or three times we crossed Stephen's Creek, but we saw no water in it. The soil there is rich.
2033. Do you know what has been the effect of sinking wells on that route? I saw some fresh water from a well which they used for stock, but I should not like to drink that water. The soil about there is very like the Mildura soil—it is rich red soil, and apparently there is any depth of it; but it is very light—it is not sandy, but it is a kind of dirt that melts away in water. It is so light that it is not an uncommon thing to have to clear the troughs out with a spade. I saw one of the troughs having to be cleaned out with a spade after a dust storm.
2034. If water could be conveyed to the farmers on that land, could they produce large crops? I think they could.
2035. Is it possible to get water for irrigation by well-sinking there? I do not think so. I think the water they get is so mineralised that it is not fit for irrigation.
2036. They would have to get the water from the Darling? Yes.
2037. That would be very expensive? I do not know. A company have some water rights there, but I do not know what they are doing.
2038. If we made a line through Menindie to Broken Hill, do you think that the Menindie traffic would go by way of Broken Hill to Port Pirie? I do not think it would. I think it would drift up and down the river.
2039. It would not come to Sydney? I very much doubt it. The produce of those districts will follow the capital invested.
2040. But a railway might make a great change in the ownership of land there? Yes; there is very little land alienated there, and that will be a great advantage in the future.
2041. The land is only let to squatters? Very little of the land is alienated—both sides of the river are reserved.
2042. *Mr. Dowel.*] Would not the proposed route pass chiefly through Crown lands? Yes; it is all Crown lands except just in the towns.
2043. And would not the construction of the railway give an increased value to the Crown lands? It must to some extent.
2044. That would be in favour of the construction of the line? I do not think the Government could sell the land out there. The land could have been sold at one time; in the old days it was open for selection, but except along the Darling, or near water holes, no selection took place.
2045. Is it not a fact that the construction of railways and roads causes settlement? Yes, if you can get rain.
2046. You are aware that in the United States a large number of railways are constructed where they have no population? Yes.
2047. Why should not the same principle apply to this country? You lose sight of the fact that those American railways are built in districts which are essentially suitable for agricultural settlement. I say that our western country is not suitable for agricultural settlement in its present state. If you can get water into that country for irrigation, then I say that there is no richer part of the colony than it.
2048. Have you had any experience in pastoral pursuits? I have been living in country districts a long time.
2049. Do you know that cattle and sheep materially improve the carrying capacity of the land? No, I have heard some of our best men say that they do not.
2050. Would you be surprised to hear that in the Riverina district where the country formerly carried one sheep to 6 acres, it now carries four? No; I deny the inference. I say it is the increased improvement—the water and paddocks, which improve the carrying capacity of the country.
2051. Is it not a fact that when the land was first settled upon the soil was so loose that the rain would percolate through it and go right away at once, whereas now it lies on the surface? I could not tell you. I know that a great deal of country is largely improved by sheep. The Hunter district has been wonderfully improved by sheep; but I have heard some of our best men deny that sheep farming improves the country over the ranges.
2052. Suppose this railway is constructed along the proposed route, will it destroy the prospect of constructing a railway from Wentworth to Hay? No, certainly not. But I do not believe in a railway from Wentworth to Hay, and I have told the people so, and they have never asked me to say a word in favour of it. Yet I saw the surveyors on the Lachlan carrying out surveys for a railway which I am quite certain will never be proposed. The people would be delighted to have it, but the people of Wentworth are too sensible to agitate for what they know would injure the rest of the country.
2053. *Mr. O'Sullivan.*] You appear to think it might be safe to take the line to Wilcannia, but that it would

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- would be unprofitable to take it to Broken Hill? I do not say it will be profitable to take the line to Wilcannia, but having gone to Cobar you cannot afford to let the railway stop where it is.
2054. You do not approve of taking it to Broken Hill? No, I do not think there is any necessity for it.
2055. You appear to have come to that conclusion, because you think there will not be a sufficient amount of traffic? Yes, that is so.
2056. You say also that five years ago you were at Broken Hill, and that your opinion is of no value on that point? No. I say that my opinion is of no value as to the details of the traffic. I say that the railways have no value where you cannot put people on the land to be customers of the railway. My evidence is utterly worthless as to the probability of a traffic between Sydney and Broken Hill. I can form no opinion upon it.
2057. But supposing we had evidence to show that we are likely to command a very large trade, will not that justify the carrying out of the railway? I say that in my opinion it is not justifiable. It will be a wool railway, and you will have no other produce.
2058. But if the major portion of the evidence shows that there is other traffic—a large traffic in bullion, timber, and coal, should not the line be constructed? How can people who give evidence say that you will have this traffic? It is a matter of speculation.
2059. Is there not a probability that this railway will have several special lines of traffic that do not exist at present. It may create a passenger traffic from Queensland, *via* Werris Creek and Nyngan? I think it is a wild speculation to expect a railway like that to carry passengers across the country from Queensland.
2060. Is it not a fact that this railway will shorten the distance for passengers between Broken Hill and Sydney? Yes.
2061. Is there not likely to be a considerable passenger traffic from Broken Hill to Sydney? Are not the companies at present shifting the management of every mine of importance from Sydney to Melbourne, or Adelaide?
2062. Might not that arise from the length of transit? No; the bulk of the shareholders are in those places. I will mention, as an illustration, a company formed in Sydney—the Hydraulic Company of Sydney—a New South Wales institution, and one which you might regard as a most profitable investment, yet I suppose that nearly seven-tenths of the capital of that company came from Victoria and South Australia. What are they doing?—trying to shift the management of the company from Sydney to Victoria. The produce will drift to where the capital comes from.
2063. But will it go there simply because the capital comes from there, or because at present it is the cheapest transit? I suppose they will send the produce wherever it will pay the best. Many people think that in Melbourne they have a better market and get better prices for their wool.
2064. If they can make more profit by sending their wool to Sydney and getting their stores from here they will do so? Yes, no doubt.
2065. You think that the Darling trade will not be reached, but are you aware that there is evidence that in many years the Darling is unnavigable? Yes.
2066. Then the railway must command the whole of the trade? Yes; but you will often find that when the Darling is not navigable the roads are not passable.
2067. Yes, but the railway is? But how are you to get the produce to the railway—the stations do not adjoin the railway; some are 100 miles back. I have in mind a station, consisting of 1,250,000 acres of land, and I have known the proprietors of that station to have to send out supplies to the back blocks and shear there, because they could not bring their sheep in, and they had to leave the wool there until there was a change of season.
2068. Do you mean to say that the roads would not be passable because they would be so dry? They will not be passable owing to the want of water and grass.
2069. *Mr. Garrard.*] I think you expressed the opinion that river dues should be charged on the river as a matter of principle? I think so.
2070. If those dues were charged, do you think there would be a reasonable prospect of the railway paying? I am inclined to think that there would. I think it would divert the traffic to the railway. The producer is always anxious to get his money, and he will send his produce where he can get the quickest return.
2071. You think it would be justifiable to impose river dues for the purpose of getting the traffic at Wilcannia? Yes.
2072. If the railway is constructed further on—from Wilcannia to Broken Hill—the probabilities are that the river traffic might be arrested by the river dues at Wilcannia and sent on by railway to Port Pirie? I have always been of opinion that facilities should be given to our own people to get to the nearest market.

WEDNESDAY, 15 APRIL, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

THE HON. ANDREW GARRAN.

THE HON. FREDERICK THOMAS HUMPHERY.

THE HON. GEORGE HENRY COX.

JACOB GARRARD, Esq.

HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.

WILLIAM SPRINGTHORPE DOWEL, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM McCOURT, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

William Alison, Esq., M.P., sworn, and examined:—

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2073. *Chairman.*] Where do you reside? At Canonbar.

2074. You are interested in large station property in the western district, above Canonbar? Yes.

2075. Do you know the country between Cobar and Wilcannia? I know the country from 30 or 40 miles to the west of Cobar.

2076. You are aware that it is proposed to construct a line of railway from Cobar to Cockburn, by way of Wilcannia? Yes; but I am not able to give any information in regard to the country or the railway. I have come here to give evidence simply in reference to the fencing of the line. I would advise that the Committee recommend that the line be fenced in with wire netting.
2077. Do you know the character of the country well? Yes; it is chocolate soil.
2078. You know that a railway has been constructed to Cobar? Yes.
2079. It is proposed to construct it at a low cost? Yes.
2080. Does your knowledge of the country between Cobar and Wilcannia enable you to form an opinion as to whether a line of that sort should be extended? I think so. Most certainly, as far as I know the country, I think it most advisable to construct a cheap line, because there will be very little traffic, except wool, between Cobar and the Darling. In the present condition of the country, and until the rabbits are got down, there will be no settlement whatever.
2081. Suppose the rabbits were got under, do you think it is a country that would carry a thick population? No.
2082. But with its present population you think it is desirable to provide an economical means of communication in the shape of a railway? Yes.
2083. Of course the Government have to make ordinary roads of some sort? Yes.
2084. The present road between Wilcannia and Cobar is very unsatisfactory? Yes.
2085. And you think that an economical railway would be an improvement? Yes; I think it would be more economical than an ordinary road.
2086. Do you think that if the rabbits were got under, the population would increase very much? Not very much. There would be some homestead leases taken up. I know that some homestead leases that were taken up in that country have been thrown up since on account of the rabbits; so I infer that in future the country will be occupied by homestead lessees, more or less, if the rabbits are got rid of.
2087. What is your opinion about the cultivation of that country? Cultivation is possible, but I think the country is too dry—the seasons are too irregular to make it a good country for cultivation.
2088. The land is good enough if they had moisture? Yes.
2089. The rainfall is very small? Yes; I have seen three or four years in succession when we had only 25 inches of rain altogether, and we thought that the grass would never grow again.
2090. You were saying something about fencing. You suggest that the railway line should be fenced? Yes, with wire netting, because the Rabbit Bill forces the lessees to fence. If A desires B to join in fencing, B must join with him. If the railway is not fenced it will be a high road for rabbits to travel on. At present, between Nyngan and Cobar, the lessees of unfenced land have not an opportunity of completing their fences. There is a gap left by the railway line where the contractors' carts pass in and out. I know a station where they pay 30s. a week to a man to guard the gap, to prevent the rabbits from getting through. If the line is left open and unfenced, it will continue to be a high road along which the rabbits will travel. It has been suggested that there shall be what I have seen in New Zealand and Tasmania, cow-catchers, but I doubt whether they would stop the rabbits.
2091. Do you recommend any special system of fencing? I think that the description that is required by the Rabbit Act will be quite sufficient for that country.
2092. *Mr. Cox.*] On one or both sides of the line? On both sides. The rabbits are on both sides, and if the fencing is only on one side the rabbits will get round it, and they would only be stopped on one side.
2093. Still, you could have blocked a certain portion? You could have cow-catchers. I do not know of anything else. If the line is fenced at all, it will be a very small additional expense to put up wire netting. At the present time the railway fences require six wires, but a wire netting fence only requires three wires. I can put up a wire netting fence, of the description required by the Rabbit Act, for from £60 to £65 a mile.
2094. *Chairman.*] Everything new? Yes, everything new.
2095. *Mr. Cox.*] What would a six-wire fence cost? A six-wire fence with No. 10 would cost from £40 to £45 a mile.
2096. *Chairman.*] Is it in contemplation to fence the railway between Nyngan and Cobar? There are no fences except contiguous to centres of population, like Cobar and Nyngan. Another drawback is that sheep in that part of the world eat the soil very much, and I have no doubt that if the line is unfenced they will eat the soil on the railway line, besides which the rabbits will burrow under it and make it unsafe.
2097. Have you ever been along the route of this railway as far as Wilcannia? No.
2098. And you are not in a position to say whether the country in the neighbourhood of Wilcannia would be likely to attract population? Not at all.
2099. But you are impressed with the advisability of constructing the railway? Yes.
2100. And would you recommend the construction of the railway right to Cockburn? I could not have an opinion upon that.
2101. *Mr. Tonkin.*] How far west would you advocate the construction of the railway from Cobar? I think it ought to go to the Darling.
2102. To Wilcannia? Yes; I think it would be a mistake to leave it at Cobar.
2103. And from your knowledge of the country between Cobar and Wilcannia, you believe that the line will pay the interest on the cost of construction? It would if there was a little more settlement in the district; I do not know whether it will under present conditions. When the country has been cleared of rabbits it will change the aspect of things altogether.
2104. Would you recommend the construction of the line if it would not pay the cost of working? It will undoubtedly pay, and there will have to be a road made from Cobar. I think it would be better to make a cheap railway at once. I have always been of opinion that it is better to make cheap railways than ordinary roads.
2105. Particularly in that kind of country? Yes.
2106. But suppose it was decided to construct a railway without any fencing at a low cost, would you still think that the work ought to be carried out? I could not say. I daresay that the cheaper it can be made the better; but it would be a mistake to leave the line unfenced.
2107. You think it would certainly be better to have it fenced with a rabbit-proof fence? I think so. There would be no way to stop the rabbits unless the line is fenced.
- 2108.

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2108. Do you think that the advantage gained by the construction of the rabbit-proof fence would compensate for it? Certainly. If the rabbits are kept down it will encourage settlement which otherwise cannot take place. I know several homestead lessees who have thrown up their holdings, simply because of the rabbits.
2109. You could not say whether the construction of the railway would tend to bring more produce in the shape of wool to Sydney? I certainly think it will.
2110. Do you know anything of the Darling at all? I do not know the Darling very well, except about Bourke and Louth.
2111. From Louth we receive all the wool now? Yes; but below that it goes to Adelaide.
2112. Do you think it would bring the wool to Sydney from below Louth? Yes, in dry seasons.
2113. But not whilst the river was available? No; I should think they would generally prefer the cheap carriage.
2114. I suppose you have not taken into consideration the probable return from the minerals of the country? No.
2115. You look upon it merely from a pastoral point of view? That is all.
2116. Then, of course you know that if it were the only question, we must lose money by the line? I should say so.
2117. That unless the country there becomes more populous the line would not pay, but still you advocate its construction? Yes.
2118. You think it will be beneficial to the country at large? Yes; there would have to be a certain amount of money spent in making an ordinary road; but if the line is made, that will be saved.
2119. Have you any idea of the difference of the cost of a cheap railway and an ordinary road? I have not.
2120. *Mr. O'Sullivan.*] Have these rabbit-proof fences proved successful in stopping the progress of the rabbits? Yes.
2121. Therefore, believing that to be a good remedy for the pest, you recommend the erection of two rabbit-proof fences along the line? I do.
2122. And you think that that would be an admirable barrier to prevent their progress? Yes; and it would encourage settlement.
2123. And you say that the fences may be constructed for about £60 a mile? It cost me from £60 to £70 a mile.
2124. Are you aware that the estimate of the Railway Department for ordinary wire fencing for a railway is £100 a mile? I was not.
2125. Therefore, the rabbit-proof fence could be constructed for £30 a mile less than the Railway Department estimate? I am sure of it—that is, if they put up a rabbit-proof fence equivalent to what is required by the Rabbit Act.
2126. Is it a fact that in dry seasons out there it is impossible to get wool for the railway or the river, owing to the absence of water and grass? Yes; I have known instances of that when the wool has been kept for a long time on the station.
2127. From the evidence that we have, it appears that in dry seasons the line may be useful for taking stores out to Wilcannia, and that it ought to bring back wool and other produce? Undoubtedly.
2128. Will those dry seasons which make the railway a success for carrying outstores deter the wool from being brought to the railway? No; it would reduce the distance so much.
2129. You think that the railway, by reducing the distance, would get over a good deal of the difficulty as to the want of grass and water? Yes, certainly. They could at the same time get feed up, which hitherto they have not been able to do.
2130. They could get fodder up from the eastern districts? Yes.
2131. And by that means they would be enabled to feed their bullocks where now they die for want of grass? Yes.
2132. Therefore, the railway is likely, under the circumstances, to tap a good deal of trade that goes to Adelaide and Melbourne? Yes.
2133. Do you think that the railway, if carried to Wilcannia and Broken Hill, would be found useful for shifting starving stock to cooler districts? Yes; I am sure of that. In the years from 1881 to 1885, the line, if it had existed, would have been largely used and would have saved an immense number of stock.
2134. I suppose if the line were worked at a reasonable rate, so that you could use it for sending stock away, it would save a considerable amount of national wealth? Yes.
2135. And indirectly benefit the whole community. Undoubtedly. It would have saved tens of thousands of sheep if it had been in existence eight or nine years ago.
2136. I suppose that sheep anywhere within 50 or 100 miles of the railway could be driven to the railway in a few days? Yes.
2137. And be taken to cooler districts where there is water and grass? Yes.
2138. Whereas, under other circumstances, they would succumb to the drought? Undoubtedly.
2139. I suppose there must be a road made from Cobar to Wilcannia, and one from Wilcannia to Broken Hill? I should say that there must be.
2140. And the cost that is saved to the country would be considerable? Yes.
2141. Both for construction and maintenance? Yes.
2142. Have you any idea of the cost of making the roads there? No; I could not give an estimate.
2143. Do you think, from the nature of the country, that they could make ordinary roads at a cost of less than £3,000 a mile? I think a road could be made for less than £3,000 a mile, because there is a good deal of country there in which the roads would not require much making. It is hard gravelly hills, which are almost macadamized roads now. I think that £1,500 a mile would be about the cost of making roads.
2144. Is not the soil very soft? Yes, in the gulleys; but on the ridges it is quite hard, and does not give way.
2145. Do you think that it would be a better national investment to make a railway at once? I do, most certainly.
2146. Without any return whatever? If it only paid interest on working expenses.
2147. Do you know where the squatters out there generally send their wool to? When you get 50 or 60 miles west of Cobar they send it to Adelaide.

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2148. I suppose that those on the east side send it to Sydney? Yes.
2149. But at present, most of the graziers 60 or 70 miles from Cobar, and in the district of Wilcannia, send their wool to Adelaide and Melbourne? Yes.
2150. If the railway were made that trade would come to Sydney? Yes, I think so. At any rate only in very good seasons, when the river was dry, would it go to Adelaide.
2151. *Mr. Cox.*] In the Government estimate, £36,000 is put down for fencing in both sides of this railway line, extending from Cobar to Cockburn, a distance of 306 miles? Yes.
2152. You say that it can be done for £35 a mile for wire netting on each side, £150 a mile for a double line? Yes.
2153. Consequently, according to your estimate, it can be done for £40,000, because 306 miles at £65 a mile, would come to £40,000;—with an addition of £4,000, you believe that wire netting can be put up? Certainly, if the calculation is correct.
2154. You stated, from your knowledge of the country, that you believe a road can be made for £1,500 a mile? Yes, as far as I know.
2155. Are you not aware that when you get near the banks of the Darling you get into very rotten soil? Yes.
2156. A good portion of the line will run along the banks of the Darling? Yes. I was only alluding to the country that I actually am acquainted with.
2157. But when it comes to the rotten soil on the Darling, the expense of making the roads will be increased? Yes.
2158. And a railway would be cheaper than an ordinary road? Yes.
2159. From the one you get a certain return, and from the other you get no return? Quite true.
2160. And for the reasons that you have stated, to protect the embankments from the ravages of the rabbits, and for the protection of the people settled on either side of the railway, you think it desirable to use wire netting? Yes, most advisable.
2161. Especially if it only costs the country £4,000 more? I do not see how the rabbits are to be kept down unless wire netting is used. It will come to this, that the lessees will have to fence both sides of the line themselves to suppress the rabbits.
2162. *Mr. Copeland.*] You said you believed that it would be cheaper to build a railway than to make an ordinary road? It would be cheaper indirectly. Cheaper from the various advantages it would afford in comparison with the road.
2163. Of course your evidence is given in reference to the line from Cobar to Cockburn? Yes.
2164. Have you ever made a calculation as to what it would cost to make a road from Cobar to Wilcannia? No.
2165. When you say that the railway would be cheaper than the road, you are not speaking from any calculation? No.
2166. You have never entered into a calculation as to what it would cost to make a road? No, but I have some knowledge of what roads have cost in other places.
2167. Did you ever enter into a calculation as to what it would cost to make a road from Wilcannia to Broken Hill? No; my evidence has reference principally to the country west of Cobar.
2168. Did you ever make a calculation as to what it would cost to make a railway from Cobar to Wilcannia? I have compared it with the cost of the line between Nyngan to Cobar, and it is much the same class of country.
2169. What information can you give with reference to the cost per mile of a road between Nyngan and Cobar? The ordinary road between Nyngan and Cobar has never been properly made.
2170. You know that there has been a section made between Nyngan and Cobar? Yes.
2171. Do you know what it cost to make that section? I do not.
2172. Then when you say that it would be cheaper to make a railway than to make an ordinary road, you are merely speaking poetically? If you like to put it that way. I am only speaking from inference, not from accurate knowledge.
2173. You do not know what it would cost to make a road in any part of the country between Nyngan and Cobar? I know that it would cost over £1,000 a mile to make anything like a decent road—between £1,000 and £1,500 a mile.
2174. Some miles of road have been made and maintained between Nyngan and Cobar, but you do not know what it has cost per mile? No.
2175. Do you know personally any part of the route between Cobar and Wilcannia? Only 50 or 60 miles west of Cobar.
2176. Have you travelled on that country? Yes.
2177. But have you travelled by the railway route or by the road? I simply know the country generally—I have not travelled on the railway route.
2178. You do not know the railway route? No.
2179. You cannot say whether there are any natural difficulties on the railway route? I know there are no particular natural difficulties, so far as I have seen the country.
2180. Generally speaking, the country is level? Yes, undulating.
2181. You cannot say whether the route of the line is level, or whether it traverses any of the little hills? There are very few little hills any distance west of Cobar that could not be avoided quite easily.
2182. You cannot say whether road metal would be obtainable in that district? I think it would be. I have seen many little hills in which stone could be got.
2183. Where are those little hills? West of Cobar.
2184. How far west? 10 or 15 miles.
2185. What sort of stone could be got from them? Not very good stone—it is stone of a slaty nature, I should think.
2186. Have you seen building stone in Cobar that has been obtained from hills a few miles from there? I have.
2187. Is there any stone harder than that obtainable west of Cobar? Not to my knowledge.
2188. How far are you acquainted with the country west of Cobar? Between 50 and 60 miles, and there are small hills quite that distance along the line.
2189. Do you think that metal for the railway would be obtainable for a distance of 60 miles? I could not say whether it is fit for railway purposes. I should think it is.

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2190. Do you know anything of the timber west of Cobar? There is no available timber west of Cobar at all.
2191. No ironbark or red gum—nothing fit for sleepers? No.
2192. Any timber fit for firewood? Yes, any wood would do for that; but there is no timber fit for building purposes.
2193. And none fit for mining? I should say not.
2194. Is there any timber available for cabinet purposes west of Cobar? I should think not.
2195. You know something about the timber generally in the western country? Yes. I do not think there is any timber there that would be of the least value for cabinet purposes.
2196. Then the country between Nyngan and Cobar, and between Cobar and Wilcannia, is virtually of no value as far as the export of timber is concerned? I should say not. I know by repute the country further west than I have been.
2197. You have had a good deal of experience in squatting pursuits? Yes.
2198. How many years experience have you had in connection with squattages? I have been 20 years engaged in the business.
2199. Can you tell the Committee what is your opinion generally of stocking the country;—do you think that it improves the carrying capabilities of the land? It does undoubtedly, especially stocking with sheep. They have improved that western country a great deal.
2200. Given 1,000 acres of ordinary country without any ring-barking, any provision for water, or any fencing, do you think that that 1,000 acres will be improved by simply depasturing stock on it? It does increase the carrying capacity of the land, but not to any very great extent. I should not think it would make any radical change. Where 10 acres carried a sheep, perhaps the land might be sufficiently improved to make 8 or 9 acres sufficient to carry a sheep.
2201. How many years do you reckon it would take to produce that result? I really could not tell you. I think two or three years. The land would improve, and the grass would grow thicker.
2202. Do you think if you took 1,000 acres of ordinary country, of which it took 10 acres to carry a sheep, that, after five years, 8 acres of that land would be sufficient to carry a sheep? I think so. It is a very vague sort of estimate to make. I do not know that I like making it. I am sure that stocking the land improves it, but to give any definite estimate is more than I can do.
2203. I should like you to give the Committee the benefit of your stocking experience? Stocking with sheep improves the country, but to what extent I do not feel competent to say, because the seasons vary so much that it is impossible to make an exact estimate.
2204. You have stated that depastured stock on land does improve its carrying capabilities;—would you say that if 1,000 acres of land had stock depastured on it for ten years, after that time 800 acres of that land would carry as much stock as the 1,000 acres carried originally? Yes; I think that in five years it would.
2205. Do you think that that ratio of improvement would continue? No; there would be a limit. I do not know that it would continue improving, or it would come to a sheep to an acre in twenty years, which I do not think it possible for the land to carry.
2206. Would it be a fair thing to estimate that the carrying capabilities of the land could be increased by 25 per cent. in ten years by stocking? No; I do not think it would. It is a very difficult thing to say. It would not continue improving indefinitely by stocking. Take virgin soil and put sheep on it, and suppose it will carry one sheep to ten acres. The grass will grow thicker, and it will afterwards carry one sheep to eight acres, but it will improve no further.
2207. How many years would it take to bring about that result? Say, roughly, from five to seven years. It really is a most vague thing.
2208. You think that the land having improved so as to require eight acres instead of ten acres to carry a sheep, there would be no further improvement? I do not think there would be, but I could not say positively.
2209. Suppose you were to ringbark the country and clear away the scrub, what would be the effect then? That would very materially increase the carrying capabilities of the land. Ringbarking always increases it very much indeed. If you ringbark a country which carries one sheep to ten acres, it will probably afterwards carry one sheep to five acres. The more thickly timbered the country is the better it is after it is rung.
2210. So that by ringbarking you would increase the carrying capabilities of the country by 50 per cent. Yes; if the country is thickly timbered.
2211. What would be the effect of scrubbing the country? When I speak of ringbarking I include scrubbing. When we ring the trees we usually cut down the scrub at the same time. Ringing and scrubbing in thickly-timbered country will double the carrying capacity of the land, but in thinly-timbered country it will not.
2212. What country are you thinking of at the present time? The country out west—the Cobar country and the country on the Bogan, which I have had particular experience of.
2213. You think that if the Cobar country were ringbarked, and the scrub cleared off, its carrying capabilities would be increased by 50 per cent.? Very nearly, if it is thickly timbered.
2214. How long would it be before that would be realised? About two and a half years after the ringing and scrubbing.
2215. That would be the general effect in the country, as well as on your own station? Yes.
2216. Of course it would be necessary to make provision for water conservation? Yes; you would have to make additional tanks.
2217. Having got the carrying capabilities of the land from a sheep to 10 acres to a sheep to 5 acres, do you think that is the limit of improvement? No; I think that the more water is provided, and the more small paddocks are made, the carrying capacity of the country will go on increasing.
2218. Have you ever tried any kind of foreign grasses? No.
2219. In ringing and clearing the scrub you have simply left the land to develop its own natural grasses? Yes.
2220. And you have never had any experience of the result of sowing prairie grasses? We have put down small fields of wheat and oats, and the results have been very good. We have got very large crops; but the places wherein I carried on this small cultivation were between sloping hills in the gulleys, and the

the rain used to irrigate them. That is all I have ever attempted to do in the way of cultivation. I have never sown grasses of any kind.

2221. Do not you think it would be desirable to try the effect of growing different grasses? Yes, it may be; but unless foreign grasses would grow without cultivation, we could not grow them on a very large scale. We might throw the seed broadcast, but we cannot go in for cultivating with the plough.

2222. Would it not be possible for your boundary riders to carry the grass seed and sow it? I doubt if it would pay. I have never tried it—never even thought of it.

2223. What is the general cost of ringbarking and scrubbing? I have paid, in the Bogan country, up to 1s. 9d. and 2s. an acre. I have paid different prices, varying from 10d. an acre on thinly-timbered country up to 2s. an acre on thickly-timbered country.

2224. Are you speaking of the Bogan district? Yes; the same class of country as the Cobar country.

2225. What is about the general average cost? I think out in the west the average cost is about 2s. an acre. That includes the cutting down of small pine and ringing the big trees. In some places the charge is 2s. 6d. an acre.

2226. What is the immediate effect of that work? The land carries more stock at once. The mere cutting down of the small timber does it.

2227. I suppose in the first year a direct benefit is derived from ringbarking the trees? Some benefit; but the first year's benefit would be from the scrubbage.

2228. I suppose that in the second year you would derive considerable benefit? Yes; but the full benefit would be derived in two and a half years.

2229. Do you burn off the scrub? No; I do not like burning at all. I have had fires on the run, but if pine is growing I prefer to cut it down. I do not like losing the grass.

2230. After the second or third year you derive the full benefit of the ringbarking and scrubbing? Yes; then you have to go to expense again in cutting the young pine down. I have had to cut it down twice—once when ringbarking and once afterwards.

2231. In the first instance, ringbarking and scrubbing costs about 2s. an acre? Yes.

2232. And how much in the second instance? Sixpence and 8d. an acre on the Bogan.

2233. After that is the country free? It is pretty well free; but in a few years' time the young pine may want cutting down again.

2234. Assuming that the squatters are prepared to spend 3s. an acre, I suppose that the carrying capabilities of the Western District might be increased by about 50 per cent.? I should say so, although I have known a good many runs which have gone to all this expense, and which are pretty well ruined by rabbits now. That makes the difficulty of calculating the improvement of the country. On some runs that I am acquainted with the rabbits have totally disarranged all their plans, and country that has been ringbarked and scrubbed is almost valueless.

2235. Leaving the rabbits out of the question, if the squatters generally expended from 1s. to 3s. an acre, they would be able to increase the carrying capacity of their runs by 50 per cent.? I think they would; but I do not know that that would include what they would have to lay out in constructing tanks, but they would get the benefit of that by the increased carrying capacity of the land.

2236. The effect of ringbarking and scrubbing would be to increase the carrying capability of the land by 50 per cent.? I think it would be, in a thickly timbered country.

2237. Supposing that the lessees provided plenty of water on the ground, how much would that increase the carrying capabilities of the runs? When I spoke of ringbarking, I included the water tanks. I did not intend to say that in addition to the ringbarking the tanks would increase it still more.

2238. What you meant to say was, that the ringbarking and scrubbing would give a 50 per cent. increase, but that that 50 per cent. increase would naturally cause a larger demand for water? Yes.

2239. Is that the maximum of what the squatters can do to improve the country? It is difficult to say where the maximum comes in. My experience teaches me that small paddocks and abundance of water will increase the carrying capacity of a run.

2240. I suppose that where many selections have been made the remainder of the run carries more stock than it did before the selections were made? Yes. I am astonished very often at the results obtained by making small paddocks and providing them with plenty of water.

2241. Do you know of any place that would go from 15 per cent. up to 100 per cent.;—do you know of any place now carrying 10,000 sheep which formerly carried 5,000 sheep, although there had been large selections taken out of the run? I cannot, just now, think of any place that would answer the illustration. I have seen selections of 2,500 acres which have been cut up into two or three paddocks, and they have carried nearly a sheep to 1½ acres, but before that we never reckoned on their carrying more than one sheep to 2½ or 3 acres.

2242. But the country out west is not supposed generally to carry a sheep to 3 acres, is it? I am referring to a different class of country altogether—the myall country.

2243. Do you think that the maximum carrying capability in the western country is a sheep to 5 acres? For some years to come I think it will be. Very few runs out west have carried up to that, even in good seasons, and in many seasons they have lost an enormous lot of stock. Some years you only get 8 inches of rain, and if you have two or three years like that all your stock are gone.

2244. But if you have this railway, would it not be of great service to squatters, enabling them to get their starving stock away? Yes.

2245. Would not that reduce the risk? It would, undoubtedly.

2246. I suppose that with a railway through the heart of the western district you would almost be able to make certain, 100 miles north or south of the line, of getting away the stock in the worst droughts? Yes; under that condition, people would send stock away before it became too late.

2247. Would you not be able to have more stock, knowing that you could get your stock away in case of a drought? I should think so.

2248. To what extent do you think you would be able to increase your stock? I do not think I could put it in the form of a percentage.

2249. You would be able to take the full benefit of the grass in a good season? Yes.

2250. You would be able to put the stock on the land when you had a good season, knowing that if a severe drought came on you could move the stock to other parts of the country? Yes; they would be able to carry more stock where, under other conditions, they would have to stock more lightly.

2251. Would it not make pastoral pursuits safer? Yes.

2252.

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2252. You would be able to invest your money in sheep with greater certainty of avoiding loss? Undoubtedly.
2253. That being the case, you would be able to borrow money at a lower rate of interest? That depends upon other things.
2254. If you reduce the risk, would you not be able to borrow money at a lower rate? I do not think it would make much difference.
2255. Would it make any difference in the value of the land if you could put on an extra number of stock in good seasons with the certainty of being able to save them if a drought occurred? It would make it more valuable, but I do not think it would make any difference in the rates to the mortgagor. I do not think that a man who is near a railway line will get any better terms than a man who is further away.
2256. Would you not be likely to get money at a lower rate of interest if it were known that a railway ran within 50 or 100 miles of your station, and that no matter how severe a drought might occur you would be able to save your stock by bringing them into the eastern district? I cannot say what view the managers of financial companies would take of the matter. My experience teaches me to suppose that it would not make the slightest difference.
2257. I suppose that very often you have enormous quantities of grass that would go to waste? Yes.
2258. If you knew that you could get your stock away in time of drought, would you not increase the number of your stock? I do not know that I should. I might run a little more risk, but I could not put it into figures. It would not be a very great deal more, because if it comes to sending stock away it is a sort of thing that makes the remainder of the stock very badly off. I do not think that in stocking a run it would make a difference of more than 5 per cent. at the most.
2259. Can you generally base your calculation on the average carrying capabilities of the land? I do not know that I ever took it into consideration that I should be able to get stock away in a drought. I just endeavour, as far as possible, to stock the land safely, to keep the stock in fair ordinary seasons in good ordinary condition. I do not know that I should stock up the land so heavily as to take my chance of a bad season. I do not know that having a railway alongside the run would make much difference in my stocking.
2260. You think that if a railway were taken into the interior of the country, people would not take advantage of good seasons to put an extra number of sheep on the land? Not for the advantage of sending them away by railway.
2261. Then they would allow the grass to blow away with the wind? Every squatter has to waste a considerable quantity of grass rather than overstock his run. He may be able to send the sheep away in a very bad season, but he may get nothing for them. Everybody else may be as badly off as himself. This is a really good season, but I do not think that any man will stock unduly, because of the danger that he may not be able to sell his sheep if a bad season comes.
2262. Supposing that without selling them he could carry a larger number of sheep and get the wool, would not that be to his interest? Undoubtedly it would; different men look at it in different ways.
2263. Supposing that your run would carry double the number of sheep, and you could get double the quantity of wool, would not that be a benefit, knowing that if a drought came you could get your stock away? It is a great advantage, but most men prefer to keep a fair quantity of stock, instead of acting in that speculative kind of way. If a man doubles or quadruples his stock, as we could do now, he would find himself unable to sell them although he could get them away. On my land I could carry a sheep to the acre, but I would not run that risk.
2264. Which country are you alluding to? To any of the Cobar or Bogan country. The season is something wonderful—I never knew anything like it. The land would carry a sheep to the acre; but I am not going to buy a lot of stock, because I know that I might not be able to sell the stock afterwards, when everybody begins to get pinched as well as myself. There is a very deficient market now for store stock.
2265. Is there any deficient market for wool? No.
2266. And if you could carry stock from one year to another, knowing that if a drought did come the railway was there to carry the stock away, would not that justify you in fully stocking your land? Some men might do it.
2267. Will not every man stock according to the carrying capabilities of his run;—if his land will carry a sheep to 5 acres, it would not be to his interest to have one sheep to 10 acres? You would have to buy those sheep. You would be buying in a good season and perhaps have to sell in a bad season. You might buy them at 10s. a head and have to sell them at 6s. a head.
2268. Does not the same argument apply to the first thousand as well as to the last thousand? No; because there is a difference between stocking fairly and stocking unduly.
2269. Would that difference continue to exist if you had a railway to take the stock away? One would be safer; but the squatter would consider the question of being able to sell his sheep, and whether it would pay to send away the sheep and to hire paddocks. I consider my run fully stocked at the present time, and I have got one sheep to 4 or 5 acres. I consider the run fairly stocked, although it would carry a sheep to an acre, but I am not going to buy those sheep to put on it.
2270. Then it would be of no benefit to the squatting interest to make a railway through the western country? It would be beneficial, but I do not know how to appraise the benefit.
2271. Do you think that it would increase the value of the Crown land? I should think that it would.
2272. Suppose that the leases in the western district were falling in, do you think that the land would bring an increased rent from the fact of the railway having been made? Certainly, they would bring more rent.
2273. How widely would the beneficial influence of the railway extend;—would it extend 100 miles north or south of the railway? I should think so.
2274. You would expect them to feed the railway from a distance of 100 miles on each side of it? Yes.
2275. And you think that if the railway were taken through to Wilcannia, it would benefit the country for a distance of 100 miles to the north and to the south? Yes.
2276. Can you give the Committee any idea as to what it would cost to send a ton of wool 100 miles by your station teams? It has cost me prices varying from £2 10s. to £3 10s. to send wool from 70 to 75 miles.

2277. How much would it cost you to send it 50 miles? It has cost me 22s. 6d. a ton to send 20 miles. I have had to pay as much as 25s.
2278. What would be the cost for 50 miles in an average season? From 30s. to 35s. a ton.
2279. What would it cost for 100 miles? From £3 10s. to £4 10s.
2280. How much for 50 miles? From 30s. to 40s.
2281. Suppose it cost you 40s. a ton to send the wool 50 miles, would it cost you another 20s. to send it another 50 miles when it was loaded up? I suppose about that.
2282. Notwithstanding that it was already loaded, would a simple extension of the journey cost you another 20s. a ton? I can only tell you what I have paid.
2283. I suppose you have a good knowledge as to how the people on the Darling would send their wool, supposing the railway were made. Do you know what the insurance amounts to in sending wool down the Darling? I do not.
2284. You send in your wool from the Bogan to the railway? Yes.
2285. And also from Cobar? Yes.
2286. How much do you pay from Cobar? From £2 10s. to £3 10s. are the varying prices that I have paid.
2287. According to the season? Yes, and according to the state of the market for wagoners.
2288. Suppose the railway were taken from Cobar to Wilcannia, would you be likely to send the wool to the river? Not in the least likely. No one about Cobar would, I think. Of course it would depend upon the calculation as to prices.
2289. In calculating the prices would you not take the insurance into calculation? Yes; we have to take everything into consideration.
2290. Would a man less prosperously situated than yourself be likely to use the railway if he found that it would be a cheaper means of transit, and that he would sooner be able to draw against the wool? Yes. But whoever did that would take into calculation the loss of interest and the gain. Everything would have to be gone into very carefully.
2291. Supposing you could send your wool 2s. or 3s. per ton cheaper if you sent it to Wilcannia by teams, and thence by the river, knowing that it would take a week or a month in transit, would you do that? I would not; no man would.
2292. Every man would be likely to send his wool by the quickest route? Yes; there would have to be something considerable to induce him to send his wool away from the railway line.
2293. You think that if the railway were constructed to Wilcannia, the people would use it? Undoubtedly.
2294. All these things being considered, what do you think would be the effect on the expiration of the present squatters' leases, as you are aware the land will have to be re-appraised. Do you think that, in view of the hundreds and thousands of acres of land that would be benefited by the railway, the Government would be likely to derive an increased rent? Well, it is twenty-one years hence.
2295. Yes, and it will be some years before the railway is open. But do you think that the Government would get a higher rent at the end of the 21 years? The land must necessarily be more valuable if the railway is made than it would be without a railway—that is if the rabbits are got rid of, because the rabbit pest overshadows everything.
2296. Leaving the rabbits out? But you cannot leave them out. Unless they are destroyed the country will be given up altogether, and it will be of no value to the State.
2297. I travelled over your country, and could not find a rabbit even to eat? I could find you rabbits to eat morning, noon, and night, without going 100 yards from the house.
2298. At the termination of the present leases, do you think the Government will get an increased rent on account of the railway? I should say so.
2299. Do you think that if the Government provide facilities for getting the stock carried, for getting the wool away and getting stores, that the land will be worth more per acre than it is now? It ought to be more valuable with a railway than without it, but that is all I can say.
2300. Would it be worth 25 per cent more? It is impossible to say what changes may occur in 21 years.
2301. But allowing for the average seasons, the increase of the grazing capabilities of the land, and the advantages of railway communication, do you think that when the present leases terminate the land will be worth 25 per cent. more than it is now? I should say so—it ought to be.
2302. That increased rental would go to make up the loss that might be sustained by making this railway? We should expect a population would settle, and that the rabbits would be got rid of.
2303. If for the first two or three years the railway were found not to be paying working expenses, I suppose the squatters would not object to a moderate increase of the railway rates to make it a paying concern? I suppose not, but it would be a commercial transaction. If the rates were increased, except to a moderate extent, the wool would be sent away by the river. It would not be a matter of sentiment.
2304. What river could you send it down from the country between Nyngan and Cobar? You could not send it down any river from there, but the people west of Cobar could.
2305. They could avoid the railway and go to the river? Yes.
2306. And the people to the east would have to put up with the railway charges? Yes.
2307. But you would not anticipate being able to send goods at a cheaper rate down the river, taking into consideration the extra insurance rate? I do not know anything about that.
2308. *Mr. Dowell.*] Can you inform the Committee whether many of the runs, through which the proposed railway will pass, are owned by Victorians or South Australians? I do not know.
2309. Suppose that a majority of the stations through which the line would pass were owned by Victorian and South Australian people, do you think they would cease their business relations with Victoria and South Australia if the line were constructed? I do not think that business men are governed by sentiment. They would calculate the cost and act accordingly. If it is much dearer to send to Sydney than to Adelaide, they will not send to Sydney. If it is much dearer to send to Adelaide they will not send to Adelaide. I do not think that because a man is a Victorian he will necessarily have his wool sent to Victoria to be sold.
2310. Suppose that Parliament determines to construct the railway, do you think that river dues should be imposed to keep the traffic in the country? No, I do not think so. I believe in free traffic. I do not believe in that particular form of protection at all. Of course, charges might be made to defray the cost of keeping the river clear, but rather than stop the wool from going in any particular direction, it would be better to simply prohibit the squatters from sending their wool where they liked.

W. Alison,  
Esq., M.P.  
15 April, 1891.

- W. Alison, Esq., M.P.  
15 April, 1891.
2311. *Mr. Lee.*] Are you the lessee of any rabbit infested country? I am.
2312. Have you had it a considerable time? Yes, five or six years.
2313. Have you had any practical experience in dealing with the rabbit pest by means of wire netting? Yes.
2314. Can you give the Committee a definite statement as to the cost per mile for the erection of wire netting? Yes; it has cost me from £60 to £65 a mile.
2315. Would £65 a mile be a fair estimate for erecting it in large quantities? Yes; I feel confident that it can be done for that.
2316. Could it be done for that in that western country, where there is no timber available for posts? That will make a difference, which would add to the expense.
2317. Would it increase the cost? It would, but not very materially, I think.
2318. But where the timber is available the cost would be under the amount you have stated? I put the cost at £75 a mile for the Government. £65 a mile is what it cost me.
2319. According to your calculation, and comparing it with the Government system of fencing, a double line of fencing from Cobar to Cockburn could be erected at an extra cost of £7,600? Mr. Cox said £4,000.
2320. He reckoned it at £65—he misunderstood your figures? Yes.
2321. Have you found that wire netting has been effective in stopping the progress of the rabbits? Yes.
2322. Has it been effective in merely stopping their march through the country, or in enabling the lessees to deal with them? It has stopped the wave of rabbits that was coming along over the country. On the side from which the wave comes the rabbits are very thick, but on the other side there are hardly any.
2323. Is there any other means known to be more effective than wire-netting? None.
2324. Is it the general opinion of pastoralists that the land must be fenced in with wire netting before they can deal with the rabbits? Yes.
2325. You are quite clear on that point? I am. It is my own absolute opinion that without wire netting the thing is hopeless.
2326. Are many squatters in the western district using wire netting? Yes.
2327. And have they tried other means? They have tried every other means. Netting is the ground work for all operations against rabbits.
2328. Although you do not know the route of the line from Cobar to Cockburn personally, I presume that you know the country by repute? Yes.
2329. Is the whole of that country infested with rabbits? It is.
2330. Consequently the railway line will go all through the rabbit country? Undoubtedly.
2331. Do you think that this double barrier of wire netting will completely stop the march of the rabbits? It will, when private people have completed their fences up to it.
2332. I am speaking of the two railway fences? They will make a barrier, but the rabbits are on each side of it, travelling parallel with it.
2333. But I want to know if it will prevent them from going from side to side? It will.
2334. It is the habit of the rabbits to travel in large numbers? There has been a wave travelling north and north-west from the south-east.
2335. Your opinion is that if this double fence of effective netting were erected, it would be the means of saving the pastoral interests of the country, as well as giving the necessary protection to the railway line? Yes, it would serve both purposes.
2336. You hold a very strong opinion upon the question? Yes.
2337. You say it overshadows every other question? Yes, in that part of the world.
2338. Are we to understand that unless something is done to get rid of the rabbits, it will be almost useless to take a railway through that country? If the rabbits are not destroyed there will be comparatively little wool from that part of the country.
2339. If the rabbits are not dealt with, is the quantity of the wool likely to increase? No, it will decrease.
2340. Do you know of any runs that have been abandoned there? Yes, a run was abandoned there the other day, I believe, in consequence of the rabbits, and it was put up for auction, but I do not know whether it was sold. It was a run of 120,000 acres. The rent was ½d. an acre of the leasehold, and 13s. 6d. per section the resumed area, and yet it was abandoned.
2341. Is it a habit of the rabbits to roam at large or burrow? They roam at large—they do not burrow very much.
2342. Do you think that if they had access to the railway embankment they would burrow into it? They would, but not very much.
2343. Would that cause danger? It would unless the gangers looked out to prevent it.
2344. Your chief object in giving evidence is to show the danger to that part of the country unless something is done to get rid of the rabbit pest? Yes.
2345. And no artificial means must be given to facilitate their progress? No, but this unfenced railway line would afford such facilities.
2346. *Dr. Garran.*] Have you on the resumed half of your run any small selectors? Yes, homestead lessees.
2347. And free selectors? Yes, and free selectors in another division.
2348. Have any of them abandoned their holdings? No; I do not think they have.
2349. Do you know whether, between Nyngan and Cobar, the line passes through the resumed half or the reserved half? It passes through both.
2350. Do you think the effect of the railway will be to increase settlement along the route if it is taken to Wilcannia? Not until the rabbits are got rid of.
2351. Suppose the rabbits were got rid of, could the selectors make a living? Yes, they could make a living; but I know several settlers who took up homestead leases and had to abandon them because of the rabbit pest.
2352. If the rabbits are got rid of, will the tendency be to have the whole resumed area taken up by homestead lessees? A great deal depends upon the class of country.
2353. The country between Cobar and Wilcannia? Some of it is unfit to be taken up at all.
2354. Some of it is not fit even for homestead leases? No.
2355. Will there be a settled population on the line of railway? There would be eventually.
2356. It would take some time? Yes.

- 2357. Would they be able to supply a paying traffic to the railway? I could not say whether there would be a sufficient number of them to do that.
- 2358. Parts of the country are encouraging and parts are discouraging? Yes.
- 2359. *Mr. Tonkin.*] Independent of the railway, would the construction of this double line of rabbit-proof fencing from Nyngan to Wilcannia be a great benefit to the country at large? No, not particularly. The runs might be fenced in apart from the railway; but an injury would be done by leaving a gap in the fence. That is what is found on the present Nyngan to Cobar line. On one station they have to keep a man at the gap night and day to prevent rabbits from coming through.
- 2360. Of course you know that if the railway goes to Wilcannia it will come from the river, where the rabbits cannot get across? Yes.
- 2361. That will be almost a direct fence across the country? Yes.
- 2362. Would that not materially prevent the spread of rabbits? Undoubtedly.
- 2363. Even without further fencing? Yes; but it would require further subdivision before it would be of much value.
- 2364-5. Still, it would be of great benefit to the country? Yes; but if there were no railway line the squatters would fence the land in themselves.

W. Alison,  
Esq., M.P.  
15 April, 1891.

THURSDAY, 16 APRIL, 1891.

Present:—

JACOB GARRARD, Esq. (VICE-CHAIRMAN).

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| <p>The Hon. FREDERICK THOMAS HUMPHERY.<br/>The Hon. GEORGE HENRY COX.<br/>HENRY COPELAND, Esq.<br/>JAMES EBENEZER TONKIN, Esq.</p> | } | <p>WILLIAM SPRINGHORPE DOWEL, Esq.<br/>EDWARD WILLIAM O'SULLIVAN, Esq.<br/>CHARLES ALFRED LEE, Esq.<br/>WILLIAM MCCOURT, Esq.</p> |
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The Committee further considered the proposed Railway from Cobar to Cockburn.

Wyman Brown, Esq., M.P., sworn, and examined:—

- 2366. *Vice-Chairman.*] You are the representative in Parliament of the Sturt electorate? Yes.
- 2367. *Mr. Copeland.*] Broken Hill is in your electorate? Yes.
- 2368. Have you prepared any statement, or do you wish to give any evidence, in reference to the proposed line? Having been intimately connected with the district almost from its infancy, I thought I might be able to assist the Committee in arriving at a conclusion as to the advisability of constructing the line. I desire to state that the Broken Hill mineral field is of enormous extent, as far as its resources are concerned, and I have no hesitation in saying that it will be permanent; in fact, I go so far as to say that not a man on this Committee will see it worked out.
- 2369. You were the Warden of the district? I was the Warden there from 1884 till 1890.
- 2370. And being a Gold-field's Warden, I suppose you had an opportunity to form an opinion as to the permanency of the field? I had every opportunity.
- 2371. In addition to that, you are a practical miner, are you not? Yes; I had sixteen years practical mining experience.
- 2372. Before you went there? Yes.
- 2373. And your opinion is that it will be a permanent silver field? I have no hesitation in saying so.
- 2374. Do you think that the Government would be justified in going to this large expenditure to build the proposed railway; is there hope of obtaining payable returns? I may tell you that at one time I was not particularly in favour of this line; but I have been given to understand that the Railway Commissioners, during their visit there, went into the matter thoroughly, and state that they can deliver coal as cheap as the companies are at present getting it. If such is the case, I have no hesitation in saying that the line will pay from the start.
- 2375. If it can be proved that coal and coke can be sent there as cheap as they can be sent by steam at present, you think it is a certainty that the line would be remunerative? I have no hesitation in saying so.
- 2376. Do you think they will be likely to send bullion back by rail? I understand that the Commissioners would run the line on commercial principles, and I imagine that it will pay them better to bring ore back at a low rate than to run empty trucks.
- 2377. How do you think the Silverton Tramway Company will be affected by the construction of this line? I do not think it will be affected very much. Of course, if coal is sent over this line it must reduce their traffic.
- 2378. Do you think there is likely to be any opposition on the part of the Tramway Company? I have not heard of any.
- 2379. Do you think there is any likelihood of their shares being depreciated by the construction of the railway? I should think their shares would necessarily go down in value, the same as in the case of any other company when opposition is started. The Silverton Tramway Company at present have a complete monopoly.
- 2380. And you are of opinion that it would be beneficial to the general interests of the district to have this line made? I have no doubt about it. I may say that there are thousands of acres of land on the banks of the Darling at Wilcannia which could be irrigated, and which would supply the people of Broken Hill with all the produce they require.
- 2381. And in advocating this railway, you believe you are advocating the best interests of the district? Yes; not only the best interests of the district, but also the best interests of the country.
- 2382. Have you any knowledge of the country between Cobar and Wilcannia? I know nothing about that part of the country.
- 2383. Do you know the country between Wilcannia and Broken Hill? Yes.
- 2384. Is there any likelihood of new fields being opened up between Wilcannia and Broken Hill? There is Black Mountain, 80 miles away. It is a mineral country, but up to the present time nothing there has been proved payable.

W. Brown,  
Esq., M.P.  
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- W. Brown, Esq., M.P.  
16 April, 1891.
2385. Is that near Nuntherungie? That is 10 miles from Black Mountain.
2386. How far would Black Mountain be from the railway? I could not say; it is about 60 miles from Broken Hill.
2387. From what you know of the district, do you think it is the proper route to take the line to Wilcannia and from there to Broken Hill? The railway having been made to Cobar, it should continue on the proposed line.
2388. If the line were not constructed to Cobar, would you suggest a different route? I should not like to suggest a route, but I have often thought that if the railway had not been carried to Cobar it should have gone by Oxley and Menindie.
2389. Why do you think it should go that way? I think it is a more direct line.
2390. Do you think that if the railway is constructed they would be likely to erect smelting works on the Darling? I hardly think so. I think if there were facilities for sending fluxes, ironstone, and coke to Broken Hill, they would get better results by smelting on the mine and by sending the ore away. I think that has been proved at Adelaide and Port Pirie.
2391. You do not think that there would be any likelihood of any traffic to Lithgow of smelting ore from the mines? My idea is that they can treat the ores more beneficially at the mines.
2392. Suppose the Railway Commissioners were to make very low rates, so as to have loaded trains both ways, carrying coal, coke, and timber to Broken Hill, and having the trains loaded up again back to Lithgow—do you think then that they would send the ore to the coal? I think there would be plenty of traffic back in the shape of bullion, and not ore. There must be at present 1,500 tons of bullion leaving Broken Hill every week.
2393. I think the evidence is that something like 5,000 tons per month leave Broken Hill? I thought there might be 6,000 tons a month. The Proprietary Company send 800 or 900 tons themselves, Block 14 about 250 tons, there is also a large quantity from the Central smelters, and the British have commenced turning out bullion within the last fortnight. That would increase the quantity considerably. Perhaps, since the estimate of 5,000 tons was given, the quantity may have increased to 6,000 tons per month.
2394. Is there any probability of other companies commencing by-and-bye? I believe the South mine is going to begin. I am not sure that smelters are not now in course of construction.
2395. Is Block 10 going to begin? I have not heard of their taking any steps yet, but I have no doubt that they will start smelting when they can get a supply of water and fluxes.
2396. Do you think that the mines not now producing ore will be likely to succeed in obtaining it? Yes. I think there are plenty of mines there likely to produce payable ore;—not, perhaps, on that particular line, but there is a mineral field extending 80 miles by 30 or 40 miles, and all that I have spoken of do not include 3 miles of country.
2397. You think that the country has not arrived at maturity as regards its development? I think there are plenty of outside mines that will develop into good properties.
2398. You think that in the course of a few years there will be more men employed in obtaining ore than there are now? Decidedly. It would not surprise me to see 15,000 more people there in five years' time than there are now.
2399. Would you expect that by the time the railway was open the traffic would be considerably greater than it is now? I have no doubt about it.
2400. And you think that we should be quite safe in constructing the railway? I do.
2401. *Mr. Tonkin.*] What effect do you think it will have upon the returns of the railway if the coal can be delivered at Broken Hill at 10s. or 12s. a ton less than it costs now? That I cannot say. It is safe to estimate that at present they are using 1,500 tons of coal a week.
2402. Do you think that if they could get the coal at 10s. or 12s. a ton less they would take it at the cheaper rate? I should say that, the quality being equal, anyone buying coal would take the cheapest.
2403. Do you think that the consumption of coal would be increased if it could be got at a lower rate—that they would be able to treat a poorer grade of ores? No doubt; the cheaper the fuel the poorer class of ores will they be able to treat.
2404. Are they not throwing aside large quantities of ore, which it would pay to treat if it could be dealt with at a cheaper rate? No doubt.
2405. And if they could treat the ores cheaper, that would lead to a greater consumption of fuel? No doubt it would. The firewood is also getting scarce, and very soon all the houses will have to use coal. There is no firewood within 10 or 12 miles of Broken Hill.
2406. If the coal could be delivered 10s. a ton cheaper than it is obtained now, would it not be cheaper for household purposes than firewood? Very much cheaper.
2407. There would be a large consumption of coal? Yes. There is a gas company at Broken Hill which must be a large consumer of coal.
2408. How long has the gas company been there? Nearly two years. The hotels were all lit with gas when Sir Henry Parkes was there this time last year.
2409. Do you know anything of the country beyond Wilcannia to the north-west? That is more out Black Mountain way. I do not know anything about it.
2410. Do you know of any developments in mining between Wilcannia and Broken Hill? Not except Black Mountain and Nuntherungie.
2411. Do you know Calker's Wells? I do.
2412. Was there a discovery of gold there some time ago? No.
2413. Is there no work going on there? Not that I am aware of.
2414. Do you know whether there is any attempt at agriculture going on on the banks of the river there since the Broken Hill mines broke out? I cannot say that there is. It is too far away, and there is no means of getting the produce to Broken Hill.
2415. Do you think that if the railway were constructed it would induce people, instead of bringing their produce to the Sydney market, to take it to Adelaide;—do you think it would injure the colony in that respect? I do not.
2416. You think that if the line were constructed the people would not take advantage of it by sending the commerce the opposite way from that which we want it to go? I do not think so; but at Wilcannia they would be much nearer to Adelaide than to Sydney. They would be only 500 miles from Adelaide.
2417. Do you think that the break in the gauge would not have something to do with the cost of transit, that

that it would cost more where they have to unload and reload? There is no doubt that it would. The same thing applies to all produce going from Adelaide; everything has to be transhipped at Terowie.

2418. Do you know whether there is, on the part of the residents of Broken Hill, a sympathetic feeling with Adelaide? I do not know that there is any sympathetic feeling, but three out of every four of the people there are South Australians.

2419. That being so, do you think that if the railway were made they would deal with Adelaide, if possible, in preference to Sydney? I have no doubt that business men would go to the cheapest market, wherever it was. If they could get goods cheaper from Adelaide than from Sydney, no doubt they would go to Adelaide for them.

2420. Supposing that there was very little difference in the cost, do you think their sympathies would not then outweigh the slight difference, and that they would go to Adelaide in spite of the cost being a little more? I should hardly like to say what the sympathies of the people would be; but if they could get goods cheaper from Adelaide they would go to Adelaide.

2421. The whole of the business now goes to Adelaide? Not all; a good deal goes round from here, *via* Adelaide.

2422. Yes; but still it has to go through Adelaide? There is no other means of communication at present. I know one or two large storekeepers who have been round here purchasing from the Sydney merchants.

2423. Do you think we might anticipate a much larger passenger traffic if the railway were constructed? I have no doubt that nearly all the passenger traffic between Broken Hill and Sydney would be carried by the proposed railway.

2424. We are informed that the charge would be something like £5 4s. return, second-class, from Sydney to Broken Hill. I suppose that would have a great effect upon the passenger traffic? No doubt it would, and the time occupied would be very much shorter.

2425. The distance by this line would be 732 miles, whilst the distance by the present route is 1,393½ miles? Yes; it is a long journey.

2426. By the new line it would be nearly half the distance to the Sydney people? Yes.

2427. Do you think that that would have the effect of increasing the passenger traffic? I think it would.

2428. You think it would have a material effect upon the returns from the railway? I have no doubt that it would; but if the line is to pay at all, we must look to the heavy goods traffic. No doubt there will be a large passenger traffic, but a goods traffic is what will make the line pay.

2429. Coal and coke? Coal, coke, and timber. There is any quantity of timber on the Darling which can be taken to Broken Hill, if the line is constructed.

2430. Do you know of any forests there? I know that there is any quantity of timber all along the rivers.

2431. Suitable for mining? Yes; red gum is fit for mining, and there is a tremendous quantity of firewood. Coal is at present very dear.

2432. What is the general class of timber on the river? It is nearly all red gum.

2433. Is not that a very good timber for any purpose? It is; but this is rather crooked and warped.

2434. This Committee has been told by a witness that most of the mines at Broken Hill are erecting smelting works for themselves at Adelaide and Port Pirie;—is that true? I think not. The only smelting works that have been erected off the field are the Junction at Port Adelaide, and the British at Port Pirie. The British Company have found out their mistake, and I believe it is their intention to shift their smelting plant from Port Pirie, because they can treat the ores more beneficially at the mine. At the mines they can blend them better.

2435. Do you know whether they are treating any sulphide ores there at present? I do not. By blending the ores they get the natural fluxes together.

2436. *Mr. O'Sullivan.*] What reasons have you for expressing so much faith in the permanency of the Broken Hill field? Although the Proprietary mine is down 500 feet, they have a lode from 100 to 120 feet wide fully developed for three-quarters of a mile. That is enough to warrant the belief that the field is a permanent one.

2437. Do you think that other mines would be anything like that? Block 14 is quite as well developed, with about a similar result, but the lode will hardly average that width—it is something like 50 feet.

2438. Since the Sectional Committee visited Broken Hill in 1889, have there been indications of greater developments? They are continually sinking.

2439. But in the way of machinery? I am not sure; but I think that the Proprietary Company increased their plant by several smelters. The Central has erected smelters. Block 14 has an additional smelter, and the British started an 80 ton smelter the week before last. All these have been erected since 1889.

2440. How will the Silverton mines stand now? When you say Silverton, the nearest mine to Silverton is Umberumberka. That mine is still turning out good ore, and it employs from eighty to 100 men. It is developed to a greater depth than any mine on the field.

2441. Are there other mines showing indications of activity? I cannot say that there are.

2442. How does the Pinnacles work? It is an excellent property, but it has always been an unfortunate one. The ores have been very refractory, and they have great difficulty in treating them, but there is an enormous quantity of it.

2443. I suppose the whole of the country there may be looked upon as metalliferous? No doubt about it.

2444. You referred to Black Mountain;—in what condition is that place? I cannot say. It has been opened since my time, and I never visited the spot.

2445. At present, many of the mines are sending bullion to Port Pirie and thence to Sydney? Yes.

2446. If the bullion can be brought direct to Sydney there would be a saving in the railway freight to Port Pirie, would there not? I think so. I imagine that the Commissioners would have the bullion carried back at a cheap rate, instead of running the trucks empty from Broken Hill.

2447. Do many people from Sydney visit Broken Hill? Yes; a great many.

2448. If this railway were in existence, with a fair rate for passengers, there would be a very large addition of visitors to Broken Hill? I think there would be. Broken Hill is becoming one of the sights of the colonies. All Englishmen who come out here visit Broken Hill.

2449. What is the general feeling of Broken Hill in reference to the line? I see that the other day they had a large meeting in support of it.

- W. Brown, Esq., M.P., 16 April, 1891.
2450. The people there desire to see it constructed? They do.
- 2450½. What is the reason that we see signs of opposition to the line from certain quarters? I do not care what scheme you bring forward, you will always have opposition from some quarters. It may be difficult to give reasons for some of the opposition.
2451. We may conclude that the vast majority of the people would be glad to have the railway? Nine-tenths of them would.
2452. If there is an increase of 15,000 in the population during the next five years, that will make the population of Broken Hill nearly 40,000? Yes.
2453. Broken Hill will then be almost as large as Ballarat? It would be a very large place.
2454. *Mr. Humphery.*] Have you been over the route of the proposed railway between Broken Hill and Wilcannia? No.
2455. How far from Broken Hill would be the best permanent water between Broken Hill and Wilcannia? I doubt whether they would find any permanent water between Broken Hill and Wilcannia.
2456. The distance of Wilcannia from Broken Hill is 113 miles by the route of the railway? We call it 160 miles by coach.
2457. It is 622 miles from Sydney to Wilcannia, and 735 miles to Broken Hill, and 622 from 735 leaves 113 miles? The Commissioners, no doubt, have a survey on which to base their calculations.
2458. That distance would not be considered very great to send produce to be used at Broken Hill? I should think not.
2459. Where is the produce obtained at the present time? From South Australia.
2460. The whole of it? Yes.
2461. A distance of more than 300 miles? I do not know that; they may get it from settlements along the line.
2462. Is there at present any district from which agricultural produce is received nearer than 113 miles? No; decidedly not.
2463. What is the distance of the nearest agricultural district from Broken Hill? About 170 miles.
2464. Do you think that at Wilcannia they could produce, on the banks of the river, sufficient for the consumption of the Broken Hill population? I am sure they could.
2465. Would that not be a source of revenue to the railway? Yes; I have already said so.
2466. Would it lead to settlement at Wilcannia? It should do. The soil in the district will grow anything if it gets moisture.
2467. With regard to the smelting operations carried on at Broken Hill, would it not be very much better to take coal to Broken Hill than to send the ore to Lithgow or Sydney? That is my contention.
2468. Would the cost of transit be greater to send the ores to Sydney than to convey the coal from Lithgow to Broken Hill? My contention is that it is better to smelt at the mines. There are various classes of ore—some containing iron, some lead, and others a variety of different mixtures. The metallurgist at the mine says, "I want so many tons of such a class, and so many of another class." These are blended together and the ores are extracted. If the ores are sent away they do not get mixed so well. Perhaps one day you get all iron and another day all lead; consequently the results are not so good when the operations are carried on away from the mine.
2469. What is the percentage of silver and metal at the present time in the ore treated? Something like about one-sixth. For instance, the Proprietary smelt between 5,000 and 6,000 tons a week, and their bullion is nearly 1,000 tons a week.
2470. The cost of conveying coal from Broken Hill to Lithgow would be about ½d. a ton per mile, and that is estimated to amount to less than 30s.;—it is in evidence that 15 cwt. would smelt a ton of ore? I could not say. I have never known coal to be used for smelting ore.
2471. Have you gone into the details in connection with smelting? No, I do not understand it; but they are using an enormous quantity of coke.
2472. We have had some evidence about fencing the line; Mr. Alison thinks it necessary to have a rabbit-proof fence on both sides of the railway;—do you think that that would be necessary? It might assist the squatters very much. I read Mr. Alison's evidence this morning. The Silvertown Tramway Company have only a wire fence, and I do not see that their line has been interfered with by the rabbits, though the rabbits there were about as thick as they could be last March, but I saw no destruction.
2473. Not destruction of the fences? No, nor of the earthwork.
2474. Mr. Alison recommends wire fencing to prevent the increase of the rabbits, and to check their movements to some extent? No doubt wire netting does check their movements; but I should think that the cost of wire netting to destroy rabbits should hardly be taken into consideration in connection with the cost of making the railway.
2475. You have not given the matter much consideration? I do not think that the railway should be charged with the cost of putting up wire fencing to exterminate rabbits. The wire netting is not necessary for the railway.
2476. You think the railway would not form a road by which rabbits could pass from one part of the country to another? No.
2477. I think the tendency of Mr. Alison's evidence was, that the railway would facilitate the movements of the rabbits? I do not see why it should. I think the rabbits would be more likely to keep off the railway.
2478. *Mr. Lee.*] Do you know what is the freight on bullion from Port Pirie to Sydney? I believe it is brought round for about 10s. a ton.
2479. What is the cost of the carriage from the mine to Port Pirie? I think about 18s. or £1. a ton.
2480. Do you think it is as low as that? I think so.
2481. According to the evidence given by the mining people before the Sectional Committee, it is much higher than that? I may have confounded the freight on the ore with that of the bullion.
2482. They state that the cost of the carriage of the bullion from the mine to Port Pirie is £1 19s. 3d.? I must have made a mistake.
2483. You think the carriage from Port Pirie to Sydney is about 10s.? Yes. That is a private arrangement between two steam-boat companies. I understand that the P. and O. and Orient Companies have it brought round from Port Pirie to be used for stiffening in their big boats.
2484. But they have to pay? Yes.

2485. You think £2 9s. 3d. a ton for carriage from the mine to Sydney would be overstating the freight? As I have said before, I cannot say what they pay for the carriage of the bullion from Broken Hill to Port Pirie.

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2486. Do you know at what rate coal could be carried from Lithgow to Broken Hill if the line is constructed? I have no idea.

2487. Do you know the price of coal at Lithgow? I do not. I simply take the Railway Commissioners' statement that they can deliver coal at Broken Hill cheaper than it can be got by Port Pirie and Terowie.

2488. If the Broken Hill people can get their coal 15s. a ton cheaper by rail than by water, which route will they use? It seems to me that there can be no doubt about which route they will use—the cheaper one.

2489. Do you think that the reduction in freight would lead to increased consumption of coal? Undoubtedly. I should think it would lead to the whole of the coal going over this railway.

2490. I presume that the transit of bullion from Broken Hill to Sydney is a matter of very great importance to the companies? It is of so much importance that, during the late strike, when they could not ship the bullion, the mines could not work.

2491. Why? Because they can get no advances until the bullion is on board the ship.

2492. The weekly output of bullion represents a very large sum of money? It represents about 180,000 oz. of silver, besides 600 or 700 tons of lead.

2493. What time does it take to send the bullion from the mines to Sydney? If it goes direct, with no delay, about a week. It takes it two or three days to get it to Port Pirie, and I think the cargo boats occupy six days in bringing it to Sydney. I should think altogether the time occupied is about ten days.

2494. Interest on the consignments of bullion is, in a year, a very important item? Yes.

2495. And that item would be taken into consideration when the question of transit by rail came up? No doubt it would if the company were pushed for money, but a company who have plenty of money would not consider it.

2496. You said that the shipment of bullion would be about 6,000 tons a month? Yes; but you have it in evidence that it is 5,000 tons a month; but it will be more than that now, because more smelters have been started.

2497. That would be 60,000 tons a year? Yes.

2498. The freight on that would be a large amount? It would.

2499. If the rate by railway were the same as the rate by steamer, do you think they would be in favour of using the railway, and thus saving interest? Yes.

2500. Would that be sufficient to influence the shipping of goods by rail instead of by water? As far as the water carriage is concerned, that is a question of contract with the P. and O. Company and the Orient Company, who take the bullion to England.

2501. What I wish to ascertain is this: In so large a matter as 60,000 tons of bullion a year, the question of a few shillings a ton would influence the shippers? No doubt it would.

2502. Quick transit of such costly material must mean a saving of interest? No doubt it does.

2503. Sixty thousand tons from one mine would be a large item? It is not from one mine; it comes from all the mines.

2504. If it would pay the Railway Department to take coal at £1 10s. 6d. a ton to Broken Hill, can it be reasonably inferred that a lower rate than the ordinary metal rate could be charged for the return freight of bullion? Yes.

2505. And would such reduced rate influence the Broken Hill people in sending their bullion by rail? It might influence them so far that in any future contract that they made with steam-boat companies to convey the bullion to England, they would arrange to start from Sydney instead of from Port Pirie.

2506. The question is as to the freight by rail. Irrespective of the store goods, you admit that the bullion is a very important item? Yes.

2507. Do you know any companies working between Cobar and Broken Hill? No.

2508. When were you at Broken Hill last? I was there last January.

2509. Having had so much experience of mining matters, can you say whether there is any evidence of decay in the Broken Hill mineral field? There is not the slightest, but every evidence of its advancing.

2510. Do you think it has been in existence sufficiently long to prove its permanence for the next ten years? I am sure of it.

2511. Do you think that the developments up to the present are sufficient to repay the present population for the next ten years? I say that in ten years the population will be much greater than it is now.

2512. Suppose that in the course of a few years the mines were to fail? If such a thing is possible, Broken Hill would lapse into pastoral country again.

2513. Would the whole of the population leave it? Nearly all would. I do not see that there would be anything to support them.

2514. In that case, if the railway were built, it would simply have the pastoral interests to depend upon? Yes; and the intercolonial traffic.

2515. I suppose you have given this question consideration from your point of view? I have. Speaking of the permanency of the field, I may mention that a private company have just constructed a tramway at a cost of £100,000, which showed that they have good faith in the permanency of the field.

2516. Yes; but the best calculations in mining sometimes fail? Yes; but I think the company made their calculations on a pretty sure foundation, having a two and a half years' contract ahead with the Proprietary Company.

2517. Outside of any local considerations, do you know of any reason for thinking that this railway will be detrimental to the interests of the country? No; as I have said, I was not a very strong supporter of this line a few years ago, until I heard and read the evidence which the Commissioners collected when they were in the district. From the evidence which they collected, and the Report which they furnished about supplying coal and coke at a cheaper rate than that at which it is being delivered now, my opinion was very much altered, and I am now a strong advocate of the line.

2518. *Mr. Dowel.*] Can you say how many proved mines there are on the Broken Hill line? Including the South, there are seven, I think.

2519. How many miles has the main lode been proved? About three miles.

2520. *Mr. Copeland.*] From where to where? I should commence at the Junction. Then there are the British, Block 14, the Proprietary Company, Block 10, the Central, and the South.

2521.

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2521. *Mr. Douel.*] You say that there are seven proved payable mines on the line, extending a distance of about 3 miles? Yes.
2522. What mines within a radius of 40 miles are likely to be of a permanent character? That is a question which it is impossible for anyone to answer, considering that the mines I have mentioned are the only ones proved payable.
2523. Is it not a fact that there are a large number of mines in the radius which I have spoken of? There are a large number of mines being prospected.
2524. Has not the main lode been proved in parts 10 miles distant? When I was a Warden, evidence was once given before me that a certain lode was continuous, because there were two parallel lodes; but after prospecting we found that it was not continuous. I could not tell you how far it is continuous. If you ask me how far it is being developed, I will say 24 or 25 miles, from Thackaringa to Broken Hill.
2525. I want to know what mines within 40 miles are likely to be permanent? I think the Thackaringa mines are likely to be permanent, and the Pinnacles are likely to be permanent.
2526. I wish to show that there is a probability of mines being permanent, and not confined to the three mines you spoke of. Is there any good reason for supposing that discoveries will be made of a permanent character? Yes, as far as the Pinnacles and the mines of Thackaringa are concerned.
2527. Does the ore improve at a greater depth? Not in quality, because there they get into the sulphides, and the question now, as to the permanency of the field, depends on the treatment of sulphide ores.
2528. Are you referring to Broken Hill or to the whole district? There are very few of the others that have gone deep enough to reach the sulphide ores.
2529. What kind of ores are they getting? At the Pinnacles they are getting very refractory ores; there is a great deal of sulphide ore there. They also get refractory ores at Thackaringa. The future treatment of these sulphide ores is a very great question. Thousands of pounds are being spent in trying to find out some cheap way of treating them.
2530. Then you are not of opinion that the ores in the Proprietary mine are improving in quality as a greater depth is reached? I do not think that they are. I believe they are more difficult to treat.
2531. Can you say how many smelters are erected at Broken Hill? About sixteen.
2532. What quantity of coke per week does a smelter consume? The Proprietary Company at present use about 1,000 tons a week. They are running ten smelters.
2533. Do you think it likely that the number of these smelters will be doubled or trebled in the next five years? It is quite likely that it will be doubled.
2534. I believe they use English coke? At present the Proprietary Company are using English and German coke.
2535. For what reason? Because of its superiority.
2536. In what way? It does not show so much ash as the colonial coke.
2537. With proper grinding and washing could not all the impurities that produce that ash be removed? It is a matter of time. It seems to me a disgraceful thing that we should have to send to Germany and England for coke when we have so much coal here.
2538. You think that by an improved method of manufacturing coke we ought to be able to supply the demand for coke at Broken Hill? Yes; I have thought so for a long time.
2539. In the district affected by this railway are there any copper or tin mines? There are tin mines 40 miles distant.
2540. Which would be served by this railway? Yes.
2541. Are they likely to be of a permanent character? So far they have not been altogether a success, on account of the various difficulties in regard to the treatment of the ores, but I have no hesitation in saying that there are ores there that would pay for working, and many of them.
2542. You say you think that the success of this particular railway will depend, to a large extent, on goods traffic? Yes.
2543. Would not timber be an important item? Yes.
2544. And produce of all descriptions? Yes; the principal items would be coal and coke.
2545. Would not general merchandise be a large item? A considerable item, no doubt.
2546. So you have, no doubt, taken into consideration the traffic in coke, coal, timber, produce, and merchandise, and you think that a fair revenue would be derived from the railway? Yes; from that traffic and the carriage of bullion to the sea-board.
2547. Are you in a position to say what the population of Broken Hill is at present? No; but I have been told that there are 25,000 people there.
2548. How many miners are there? I do not know. Over 3,000 hands are employed by the Proprietary Company alone.
2549. What was the population when you were Warden there? Not so large as it is now.
2550. What is the population outside Broken Hill? In my time there were a great many at Eurowie.
2551. Can you give the Committee any idea of the number of men who were employed in the district when you were Warden there? It is a very hard matter to get at. I should think that there were fully 1,000 outside the Broken Hill lode. You could travel all over and find tents wherever there was a water-course. It was difficult to get at the population of a district comprising 11,000 square miles.
2552. Do you think that hardwood could be used for timbering the mines? No doubt, for many of the mines.
2553. Would it not be more advantageous and safer in case of fire than Oregon timber? I should say that it is stronger.
2554. Would it be as likely to take fire as Oregon timber? I should think not.
2555. Is there any provision in the mines for extinguishing fires? Not that I am aware of.
2556. *Mr. McCourt.*] If this line were constructed to Broken Hill, do you think that the Adelaide people would compete for the trade? Yes.
2557. If our Railway Commissioners say that they can carry the minerals at  $\frac{1}{2}$ d. a ton, do you think that the South Australian authorities would do the same? I am not sure that their rate is more than  $\frac{1}{2}$ d. a ton now.
2558. Do you not think the Adelaide people would compete at the same rate as our own Commissioners? I do not see why they should not.
2559. How far is Broken Hill from Port Pirie? About 260 miles.
2560. Do you know the cost per ton per mile for coal now? No.

2561. It has been said that it is £1 5s. 8d. a ton? According to the last report of the Proprietary Company they were paying £2 8s. a ton.
2562. It has been stated in evidence that the charge is £1 5s. 8d. a ton. At  $\frac{1}{2}$ d. a ton per mile it would not come to half that, would it? No, it would be about 10s.
2563. If the coal were delivered at Port Pirie at 10s. instead of £1 5s. 8d. a ton, would there be much difference between sending the coal over this railway and sending it round by Port Pirie? If the coal were carried at 15s. a ton cheaper, the charge would be reduced from £2 8s. to £1 13s.
2564. So that if the Adelaide railway authorities carried the coal at  $\frac{1}{2}$ d. a ton, there would be very little difference as regards the carriage of coal between Sydney and Port Pirie? I do not know at what rate the Silverton Tramway Company will carry it. That would have to be taken into consideration. South Australia can only compete as far as Cockburn.
2565. I presume that they would compete rather than lose the trade? I think they would.
2566. *Vice-Chairman.*] Do you know the nature of the country and the grades between Port Pirie and Broken Hill? Some of them are very steep.
2567. And small loads have to be carried, I suppose? The grades are very steep between Petersburg and Broken Hill.
2568. I suppose that the larger and rounder the coal is for smelting purposes the better? Yes, they use the best they can get. They do not use coal for smelting purposes, but for furnaces.
2569. Every handling of coal breaks it up? Yes.
2570. So that transhipping it at Port Pirie would make a difference in the value of the coal? I daresay it would.

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John James Weston, Esq., Manager of the New Mount Hope Copper Mining Company, sworn, and examined:—

2571. *Vice-Chairman.*] Are you Manager of the New Mount Hope Copper Mining Company? Yes.
2572. You desire to give evidence as to what is known as the Lachlan route being superior to the railway route under the consideration of the Committee? I have nothing to add to what I have said in my letter. I know you are discussing the advisability of making a railway from Broken Hill to Sydney. I have been told that the route *via* the Lachlan would be a better one than the one from Cobar. If that is the case, then I want to point out that the railway would get a certain amount of traffic from Mount Hope, and it would improve the mining industry there if carried in that direction.
2573. You have no knowledge of the country to which you refer? No.
2574. Have you ever been along the Lachlan valley? No.
2575. Have you ever been to Mount Hope? No.
2576. Have you been to Cobar? No.
2577. If a line is constructed to Cobar, and that line has been commenced, will it be of any use to your company? No, not to Mount Hope.
2578. How do you carry goods now? We take copper down to the Hay line, and sometimes to Orange, from 130 to 150 miles.
2579. How far are you from Cobar? I do not know—a great distance. I think about 100 miles, but there is no road.
2580. You cannot give any information as to the country or the produce of it, except that if railway facilities are afforded it might lead to the development of mining in and around Mount Hope? I think it would.

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Edward Heaton, Esq. (Wright, Heaton, and Co., Carriers), sworn, and examined:—

2581. *Vice-Chairman.*] You are a member of the firm of Wright, Heaton, and Co., carriers? Yes.
2582. Are you familiar with the whole of the western country which the proposed railway will pass through? I know the country from Bourke to Nyngan, and Cobar, and from there to Hillston, and on each side of the Lachlan all the way to Forbes. I have not been far beyond Cobar to the west or towards Wilcannia.
2583. You are more familiar with the Lachlan valley route than with the route of the proposed line? Between the Lachlan, the Murrumbidgee, and the Castlereagh, I knew every house and squattage, and every person who lived there years ago. I was constantly travelling through that country.
2584. Do you know the country between Wilcannia and Broken Hill? No.
2585. You know very little of the route of the line? Very little.
2586. But you know the country further south? Yes, and eastward.
2587. You have a pretty general knowledge as to the trade which gravitates to Sydney from the western district. Do you think that the proposal to make a line from Cobar to Cockburn would lead to increased trade being brought to Sydney? Only so far as mineral traffic could be secured at Broken Hill. As far as I know from our commercial relations with that country, the traffic tapers off as soon as we come near the Darling. It goes down the Darling when there is anything like a river.
2588. As carriers of wool, you do not anticipate that there would be a large amount of trade done by this railway. I do not; and I do not think that the quantity of wool grown in that district will ever be increased. I think it produces as much as it ever will do as long as the rabbits and pine scrub nuisances exist.
2589. As a matter of fact, the carrying capability of that country has very much increased has it not? No, it has not.
2590. I mean putting on one side the comparatively new pest? The original grasses that were so valuable have been eaten out, and the country is altogether poorer, and with its small rainfall I do not anticipate that it will ever become an agricultural country, except close to the river.
2591. What is your opinion as to the benefit to the soil from the running of sheep on it;—does it increase the carrying capability of the run? If you run too many sheep on the soil you destroy the run almost entirely.
2592. You think there have been too many, and that they have eaten off the grasses? Yes, and the rabbits have come and eaten up the scrub.
2593. How far west of Cobar do you think the wool will come to Cobar, supposing the railway is only constructed to Cobar? In dry seasons it would attract all the wool from close up to the river, but  
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- in wet seasons the wool would go down the river as it does now. A number of the wool sheds are close to the river.
2594. Is it once in five or three years that the river is available? We have had it good now close on three years, but before that we had it closed for two years.
- 2594½. In such times as those the railway would reap the benefit? Yes.
2595. What is your idea as to the righteousness of imposing dues on the river—not to divert freight, but to meet the expense of maintaining the river in a fair navigable condition? I think it has been a great oversight that dues have not been imposed to recoup the expenditure in keeping it open.
2596. If dues were imposed you think they would increase the amount of traffic to the railway? It certainly would in proportion to the amount you would impose. I regard dues upon a waterway just the same as rates on a railway. The traffic is increased and facilitated by the expenditure on the river, and those who use the river should pay something for it.
2597. You have given us an idea as to the distance from Cobar, that traffic would be drawn to Cobar from the west. How far from the south do you think the traffic would be drawn to Cobar? I think the best route would be from Forbes to Parkes, down to Condobolin, Euabalong, and the Willandra Billabong on to Menindie. Ultimately a railway will have to be built through that country, and following that line you follow a waterway.
2598. Where does the wool go to which is produced 100 miles south of Cobar? That brings you into the disputed country between Wilcannia on the west, Hay on the south, Orange on the east, and Nyngan on the north. That traffic would go to Hay, not to Menindie or Wilcannia.
2599. What is the distance between Cobar and Hay? Cobar is 180 miles north of Hay.
2600. Not more? Not more, straight through Hillston.
2601. May we take it that all wool produced over 80 miles south of Cobar would gravitate down to Hay, and not go to Cobar? I would not say that—a great deal depends on where the carriers live who draw the wool. If their homes are around Hay, they will go 20 or 30 miles further in that direction to get to their homes. If their homes are at Forbes or at Orange, they will prefer to go there.
2602. Do you engage these carriers, as a rule? We handle 80,000 bales of wool a year out of that, and the Murrumbidgee district, and the northern country.
2603. You make contracts with these local carriers to carry the wool from certain stations to certain points. If the carrier takes a longer route than is necessary and delays the goods, are you not likely to find fault with him? The delay would not be a very serious one—it would not be more than ten days at the most, and that would be compensated for by having less trainage. It might pay to take the wool to Trangie or Nevertire, instead of to Cobar, from the stations out there.
2604. Supposing you make a contract with a carrier to convey wool, say 50 miles south-west of Cobar to the nearest railway, and he for his own purposes went to Hay, would you not complain about that if it took three days to get to Cobar, and six days to get to Hay? No, when you get among the bullock teams you do not think much about six days or even a fortnight.
- 2604½. If you were anxious to get produce to the market, does not time enter into your calculations? We prefer a man to deliver the wool as quickly as possible, but we would not make any serious objection to any slight delay, because the man would give some good reasons for it. Possibly the man may be a carrier with a first-class team who would go over the ground much more quickly than with another.
2605. You do not think we shall get much increased wool traffic by the construction of this railway to Wilcannia? I do not, indeed. I think it will go by the river, still.
2606. Do you think that we should get much more wool if we went on the Lachlan valley route to Menindie? You will get nearly all there is now.
2607. As a matter of fact, very little wool comes by railway from Hay now? Not much.
2608. Does it not tap the river there, and is it not taken away by the boats? As a matter of fact, some is taken down by train, put on the steamers at Hay, and carried down the river. We carry very little wool from Hay. The wool from there goes down the river, and the wool from the stations south of the Murrumbidgee goes towards Deniliquin.
2609. Then your evidence would lead to the conclusion that a mistake has been made in authorising the making of the line to Cobar? I would not say that—Cobar is a great mineral district, but I do not think that the line should go beyond Cobar.
2610. As far as pastoral products are concerned? I do not think you will do much good by going beyond Cobar. We find that when we come within the range of the river we lose the traffic.
2611. There has been a very large increase in the carriage of wool from Bourke lately, has there not? That comes from up the river.
2612. Has not some of it come from below Bourke? Yes, down as far as Dunlop—40 or 60 miles.
2613. In view of the wool being blocked by the bad state of the river, do you think that the people as far as Wilcannia would send it by train? Yes, and in dry seasons people will send the wool now across the river until the South Australian Government compete with you. The South Australian railways take a good deal of our western wool.
2614. *Mr. Copeland.*] What is about the general value of a ton of wool, according to the market rates? Last year greasy wool was about 10d. a lb. This year it is about 8d.
2615. In what state do they send it from the western stations—do they wash it? A great deal is sent down in grease, but all the inferior wools are usually scoured, because it lessens the weight.
2616. The value of the wool would be about £30 a ton? Yes. It is about 20 per cent. less this year than it was last year.
2617. Can you say what the insurance rates are for sending the wool down the river? They are much the same as sending it *via* Sydney, because they take it at a through rate to London. If you insure wool only down the river the rate is very high—as much as 1 per cent. It costs as much to insure wool from Wilcannia or Bourke down to Sydney, as it does to insure it from Sydney to London. That is one of the drawbacks of sending wool by the river.
2618. Would not that have a tendency to induce them to send the wool by rail? It would.
2619. About how long does it generally take to get wool delivered in Adelaide or Melbourne, sending it down the river? Going down from Wilcannia in a fair flood I should imagine that fourteen days would be ample.
2620. You think fourteen days is about the average? No, that would be with a very good river.

2621. Leaving out special occasions like floods, what would be the average voyage? I have known a clip to be 13 months on the river, but that is an extreme case. F. Heaton,  
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2622. What would be the time under ordinary circumstances? The time occupied in taking wool from Bourke by the river would be about a month. 16 April, 1891.
2623. Would not the interest on the money be a consideration—if you could send the wool direct from Wilcannia to Sydney by train, would not that be very much preferable? Yes. And another very important thing to be borne in mind is that the wool sales in Sydney are becoming more in fashion. They are realising more, proportionately, than the sales in London, so that Sydney is becoming a greater market for wool. That is one of the things that would attract it by train more than anything else.
2624. Are there wool sales in Adelaide? Yes; but they are very limited compared with those at Sydney.
2625. You think Sydney a better market for selling wool than Adelaide? Yes.
2626. Is there any advantage in Melbourne or Sydney? Particular clips of wool sell better in Melbourne than in Sydney. I would not reckon that there is any great difference, but certain clips sell better there.
2627. There would only be two advantages in sending wool by rail instead of by the river—those being that owners would save in insurance rates, and save interest by getting their wool quicker to the market? Yes, and they have the offer of a good market here. As for the freight arrangements to London from Sydney or Melbourne they are about on a par.
2628. Can you say how Sydney compares with Adelaide as to freights to London? I could not say, but they are very nearly the same. I do not think there is 2s. 6d. difference.
2629. *Mr. Dowel.*] Have you any agencies at Broken Hill and Wilcannia? Messrs. M'Culloch and Co., of Melbourne, join with us in transactions there, and in Victoria and South Australia.
2630. Then you really have some interest through Broken Hill and Wilcannia agencies? Yes.
2631. Have you any knowledge of the station holders in that district? I have not.
2632. You could not say whether the stations in that district are owned chiefly by South Australians and Victorians? I do not know any Sydney owners beyond the river there.
2633. Do you know the principal means of communication in that district—is it by bullocks or horses? By bullocks and horses—some few camels are used.
2634. The trade carried on by camels is very small? Yes. I do not think there are more than 200 employed altogether.
2635. And they are employed chiefly between Broken Hill and Mount Browne? Yes, in the dry spaces.
2636. From your knowledge of that particular part of the country, do you think there is a probability of the railway, if constructed, being of a payable character? I do not think it will be payable beyond Cobar, unless you can secure the conveyance of the coke and coal, and I think that that would be secured by charging what they call agricultural rates.
2637. You are aware that there is a large population at Broken Hill? Yes.
2638. Would you anticipate any large amount of goods traffic from a town of 25,000 people? Yes; if they had not some other way to go at a cheaper rate. I think Port Pirie is the natural port for Broken Hill, but I think a railway down the valley of the Lachlan, going by Willandra, would open up a large amount of farming land, vast forests of red gum, and an immense amount of pine country, the produce of which would be useful to Broken Hill. The timber is very light in the Cobar country.
2639. As a matter of fact, you know nothing about the country through which the railway will pass? I have a general knowledge of the country south and east of it, and that would guide me in coming to a conclusion as to the country through which the railway will go.
2640. Knowing the large population of Broken Hill, and the large output from the mines, do you not think it likely that if the railway were made, and freights were low, a large proportion of the traffic would be carried on this particular line, say at  $\frac{1}{2}$ d. a mile, or something less? I think that having a seaport within 250 miles in one direction, and another 750 miles off in another direction, you can never drive the traffic towards Sydney. If I had any responsibilities at Broken Hill I should go to Port Pirie.
2641. But there is a great distance to be traversed between Broken Hill and Cobar? Yes.
2642. Would not the produce, say for instance wool, be likely to be carried by rail? I think we shall have to kill the rabbits before we talk about wool from there. Many of the stations in that district are nearly bare of stock.
2643. You are under the impression that there is very little wool to be obtained from there? Very little.
2644. *Mr. Tonkin.*] Is it your opinion that the railway will not pay if carried beyond Cobar? That is my opinion.
2645. Have you any idea of the number of bales of wool that leave Wilcannia every year by river? I have heard, but I cannot remember it now. I should imagine between 12,000 and 15,000 bales.
2646. Would you be surprised to hear that last year there were left from the previous year 17,000 bales that could not be carried? That must have been left from the previous dry years. It must have been a couple of years' wool.
2647. Would you be surprised to hear that the average number of bales a year that leave there is about 30,000? I should not.
2648. If half that number were carried by the railway would not that go a long way towards paying the working expenses and interest on capital? If you secure 30,000 bales from Wilcannia, you will get considerable additions to the traffic.
2649. Have you any idea as to what freight is paid for wool to Port Pirie or Adelaide? £3 15s., I understand, is about the standard rate.
2650. The average is stated to be £4 a ton? I know that flour has been taken from Adelaide, and delivered at Bourke at 27s. 6d. within the last few months. That put us out of it altogether.
2651. That is not a usual thing, is it? No; it is a phenomenally low price.
2652. It has not been taken up as a commercial speculation? Yes; as a commercial speculation. The flour was bought at Adelaide and shipped to Bourke.
2653. Perhaps it was obliged to be sold when it got there? No; the man was going up for wool who took the flour.
2654. Supposing the railway got £1 a ton from Wilcannia to Sydney, do you think that if the freights by river were £4 a ton, the railway would not command the biggest share of the business? If the river freight is £4 a ton, the railway could charge £5 a ton, because the insurance by the river would be £1 a ton

- E. Heaton, Esq.  
16 April, 1891.
2655. How do you know it would be £1 a ton? Because we have insured so much ourselves when sending it by river from Bourke.
2656. Do you know Mr. Doak, of Wilcannia? No; I never was in Wilcannia.
2657. Did you ever pay more than £1 a ton for insurance? I think we once paid 25s. a ton.
2658. Did you ever pay 50s. a ton? No.
2659. We have evidence that insurance has been paid amounting to 50s. per cent., do you think that would be correct? That must have been years ago. I was speaking of the charge for greasy wool.
2660. If wool has been carried by the river at £4 a ton, including the insurance, and the railway were constructed, and we could carry the wool to Sydney at £4 a ton, do you think the owners of the wool would not use the railway instead of the river? I think they would use the railway. But these 30,000 bales of wool have to be brought to that place by steamer from up and down the river.
2661. It would be just the same thing transferring it to the railway as transshipping it in the river;—if the boat brings the wool from the station it is unloaded into other boats to go to Adelaide, is it not? When it comes by teams it is unloaded into the boats going to Echuca or Adelaide, but if it comes from stations up or down the river, at those stations it is loaded into the same steamers that carry it right through to its destination.
2662. Then that would have a tendency to lessen the quantity that would come by rail? Yes; that would be the greatest factor to be considered.
2663. Suppose there are 30,000 bales at £4 a ton, do you think you would alter your mind as to the construction of the railway if we could get half of that? It is an easy matter to say 14,000 or 15,000 bales.
2664. How many bales are there to the ton? Six of greasy, and 8 or 9 of scoured wool.
2665. That would be £10,000;—do you not think that would be a material assistance in paying the working expenses of the railway? It certainly would.
2666. The estimated cost of working, and the interest on the cost of construction and on the rolling stock is £90,000;—if we got £10,000 from wool alone, would not that induce you to alter your mind in regard to the construction of this line from Cobar to Wilcannia? You count that £10,000 as if you had earned it all the way through, whereas you have to carry it from Cobar to Sydney for that £4 a ton, but you only get that proportion for a short distance.
2667. Do you not think that we should not take a lot of merchandise for the stations if we brought down the wool? Yes, when the river was not running. When the river is running I do not think you will take a truck load a week.
2668. You think that the river under any circumstances would beat the railway? Yes; your great pull will be when the river is down.
2669. When the river could not be used, do you think it would be a just thing for the Government, after having made a railway, to charge an increased price when people wanted to carry their goods by railway though they would use the river whenever they had the chance? I think you would have the same outcry that arose when the A.S.N. Company raised their fares whenever they had run any one else off.
2670. Do you think it would be fair to increase the freight when the people are obliged to bring their produce to the railway? No doubt; but it is a thing which the Government should not do.
2671. They should rather put a toll on the river? Yes.
2672. If there were river dues imposed—I do not mean to say exorbitant dues—then would the railway pay? I do not think you could put any dues on the river that would obstruct the traffic very materially, but you could put dues on that would help to swell the traffic on the railway in a small way, and help to pay the cost of keeping the river clear.
2673. Have you any knowledge of the amount of traffic likely to accrue from the mining interests at Broken Hill? I have not.
2674. You merely deal with the question from a pastoral point of view? Yes. And looking at the great quantity of wheat I have seen grown in the Murrumbidgee district, and in the Lachlan valley district, the country 150 miles down would become a great wheat producing area.
2675. Would that be better than the Darling? You cannot grow wheat on the Darling, the heat is too great.
2676. *Mr. O'Sullivan.*] Does it ever happen in a drought that your teams have to leave off work in consequence of the scarcity of grass and water? No, not if we can get water within 50 miles. We put water in the waggons and carry it.
2677. If the railway were made then, it would be possible to bring wool from the outlying stations, even in the time of drought? Yes.
2678. And the difficulty might be minimised by having fodder brought from the cool districts? Yes; from the high table lands round Orange, Carcoar, and Bathurst.
2679. So the construction of the railway would be a great benefit to the teamsters? Yes, and to the squatters, and persons who wanted flour and other supplies.
2680. Therefore, we need not apprehend that, in a dry season when the river is low, the railway would be useless? No. The railway would be used more and more in dry seasons. Another important element is the traffic that would arise from moving stock about. That would be a very great traffic. We have paid £35 a ton for the carriage of horse seed from Orange to Bourke.
2681. I suppose the fodder trade would be a considerable item? A very big item. There is another thing. I think the Government would do well, if possible, to secure steamers to move up and down the river in connection with the railway, to take wool from the wool sheds and bring it to the railway, and there might be a consolidated charge for the use of the steamers and the railway. That would be one of the most successful means of combating the competition of the river for the wool trade.
2682. To use the steamers as they use them in Darling Harbour? Yes.
2683. *Mr. Douel.*] Suppose the Railway Commissioners would carry the wool at  $\frac{1}{4}$ d. a ton per mile, which would be £1 5s. per ton from Wilcannia to Sydney, do you think that that rate would shut out competition by the river? It would, certainly.
2684. Would it be safe then, to say that the trade would come to Sydney? Yes, if that extremely small charge were made; but I do not think the Commissioners would do such a thing. You would have the whole of the country in arms against you. It would be said, "You carry wool 600 miles at £1 5s. a ton for the Wilcannia people, whilst you charge people only 150 miles away from Sydney £3 10s. a ton."
2685. What is the rate now? The rate from Bourke is £4 0s. 3d. for greasy wool, and £5 0s. 3d. for washed wool.

THURSDAY, 23 APRIL, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHERY.

The Hon. WILLIAM JOSEPH TRICKETT.

JACOB GARRARD, Esq.

JAMES EBENEZER TONKIN, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM MCCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

Alexander Brown, Esq., M.P., sworn, and further examined:—

2686. *Mr. Tonkin.*] Are the Committee to understand from your evidence that your principal objection to this line is that the commerce of the different parts of the colony should gravitate to the nearest port? That is one objection.

2687. Is that your main objection? It is not.

2688. Then, if that is an objection, you would be against the construction of a railway line to any other part of the colony, if it is nearer to the ports of another colony than to our own ports? I should, if the circumstances were exactly similar to the circumstances of this case.

2689. The trade from Hay and Hillston gravitates to the river and goes to Melbourne;—you would object to a railway being made to Hay? Unless there was some warrant for the construction of a railway. If there is no immediate prospect of the railway paying I should not construct it.

2690. Would you advocate that we should give up portions of our colony to the other colonies, because those portions are nearer to the capitals of other colonies than to the capitals of New South Wales? That is a very grave political question. Under the principle of federation, as we have seen it adopted by the Convention, the trade from those parts of the colony will go into its natural channels.

2691. You believe that that is a proper thing for it to do? I am not opposed to it on the broad question of nationality.

2692. Does not that mean giving up a portion of the commerce of the colony? Unquestionably; and if the resolutions of the Convention are carried out, then the trade will find its way into its various natural channels. Those artificial channels will be done away with.

2693. Do you not think that that will be one of the great objections on the part of the people of this colony to the federation scheme as laid down? I am sure it is one of the great objections that would be raised; but it is not an objection with me.

2694. Then you would curtail the extent of this colony to within a radius of so many miles of Sydney? I should say that whatever naturally belongs to the port of Sydney, Sydney would be entitled to, but I would not give Sydney any special advantage, by the expenditure of public money, to drag trade to Sydney which ought to go elsewhere.

2695. Could you inform the Committee what quantity of coal monthly has been sent from Newcastle to Port Pirie or Adelaide for consumption at Broken Hill? No; but it would be a very small quantity.

2696. Has colonial coal been supplied to Broken Hill from any other place besides Newcastle? I believe that some portion of it comes from New Zealand.

2697. Are the New Zealand people able to compete with Newcastle at Port Pirie? I think they are, as the coal is equally good. Some of the Westport coal is quite as good as the best Newcastle coal.

2698. Is Westport so situated that it can compete with the output at Newcastle? I think so; it is a very formidable antagonist.

2699. Do you know the quantity of coke that is sent from Newcastle to Broken Hill? I should think not more than about 400 or 500 tons per month.

2700. Then Newcastle sends a very small quantity compared with the quantity used? A very small quantity.

2701. Do you know what quantity of coke you ever sent to Orange and to Lewis Ponds? About 150 tons a month.

2702. Have you ever sent any to Mitchell, Sunny Corner? No, not myself.

2703. Have any of the others? I think that the Newcastle coke finds its way to Sunny Corner.

2704. A very small quantity? I could not say.

2705. Then you cannot say that, on account of the inferiority of the Lithgow coke, at those particular places they have had to use Newcastle coke? I cannot say that, but I should judge from the circumstances that if they will incur the extra expense of getting Newcastle coke, the coke in their immediate vicinity cannot be satisfactory for smelting purposes.

2706. Can you say of your own knowledge whether the coke that has been sent from Newcastle to Sunny Corner and Lewis Ponds has not been merely an experimental shipment? No; it was sent there for practical purposes.

2707. Beyond experimental? It was a question of supply.

2708. But have you any idea of the amount of coke used at Sunny Corner monthly? No.

2709. Do you object to the construction of this railway on the ground that it may possibly reduce the export of coal from Newcastle? I give you my word that that has not the slightest influence on my evidence in any way.

2710. You stated that the principal mines at Broken Hill have established smelters at Adelaide;—where did you get that evidence? I got that from the mines.

2711. Do you know how many smelters there are in South Australia? I do not; but I know that they are establishing smelting works. It has been decided to spend £70,000 in the erection of smelters at Port Pirie.

2712. Can you mention the names of the companies? It is in connection with the Broken Hill mine.

2713. Do you know that at present there are only three smelters in South Australia for Broken Hill ores? Possibly. I suppose one is the E. and A. Copper Company's smelting works, and there are the Dry Creek and the British Broken Hill.

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2714. Do you know how long they have been established? One of them, I know, we used to supply with coke. That was the Dry Creek; but, unfortunately, the demand for our coke has fallen off. They get coke from England, because it pays them better.
2715. None have been established within the last three or four years? No; I think it was earlier than that.
2716. And, in spite of that, you say that they are now establishing smelters? It is proposed to spend £70,000 on smelting works in Adelaide.
2717. Do you know that that is against the evidence that has been taken by the Sectional Committee at Broken Hill? I am aware of it. After the questions which were asked of me here, I endeavoured to reconcile the information which I had furnished with the evidence of the Sectional Committee; but the value of coke has altered since the time when the Sectional Committee took evidence. There is no doubt that the two managers who gave evidence were both wrong.
2718. You say that the price of coal at present is £2 8s., delivered at Broken Hill? I think so.
2719. Do you know that there have been public meetings held at Broken Hill to discuss this matter with the mining managers, with reference to the erection of furnaces? What do you mean; is it with regard to the Broken Hill Company, or the numerous companies that have supposed mining properties there?
2720. I am speaking of the Broken Hill, Central, the British, the Junction, and all those? That is all Broken Hill.
2721. Do you know that there has been a meeting held, and pamphlets have been published by the mining managers, stating that they can smelt ore better at the mines than they can at Adelaide or Port Pirie? It is quite possible. There was some public meeting held at Broken Hill in connection with the proposed railway, but I do not know any town in the community at which, if you proposed to make a railway through it, they would not hold a large public meeting, if only for the sake of the thousands of pounds which would be spent in the locality.
2722. Have you any knowledge of smelting? Not of the actual work. I have had something to do with it.
2723. You know that certain fluxes have to be used? Yes.
2724. Which are expensive? Yes.
2725. Do you know that certain ore is got out of one mine which contains the necessary fluxes, and that it is used as a flux for mixing with poor ores out of another? I understand that some have more lead, some more tin, and some more silver than others, and they have to be mixed in certain proportions.
2726. Under the circumstances, does it not seem feasible that they could smelt better on the ground than at a distance of 300 or 400 miles from the mine? I think it can be done better at the mine, especially the smelting of the poor ore.
2727. Do you know that in all probability at the depth to which they will go they will get sulphide ores which will have to be treated? I should not be surprised. The history of silver mining in America is wrapped up with that question. Up to a certain stage the mines pay, and after that they are a failure. Mr. Mackay told me that the large mines in America had been abandoned because when they went deeper the ore became too poor for treatment.
2728. When you get into the sulphide ores, do you know that they do not require coke, but can use coal in their reverberatory furnaces? I do not know that—it is possible. But the same difficulty would exist with regard to coal that exists with regard to coke.
2729. In what way? The expense of the traffic.
2730. I want to show, if I possibly can, through you, that coke can be delivered at Broken Hill at a much less price. The difficulty in regard to coke, you say, is as to its quality? Yes.
2731. A great deal of colonial coke is used for smelting purposes at Sunny Corner, and that coke is made at Lithgow. If they can use Lithgow coke there, although it is not so good as the English, do you think they could not use it at Broken Hill? It is a question of the price at Broken Hill. If they can sell it at a price which will give those who use it a better result, it may be used, but they will give us no consideration for colonial coke.
2732. At what price do you say colonial coke can be delivered from Newcastle at Port Pirie? 23s. a ton, cost, freight, and insurance.
2733. What is the reason that the freight is 5s. 6d. more to Adelaide than to Port Pirie? Because of the distance it has to be carried. There is a difference between the two ports. They can get back freight from Port Adelaide, but not from Port Pirie.
2734. But the charge is higher to Adelaide than to Port Pirie;—the charge is 23s. to Port Pirie, and 28s. 6d. to Port Adelaide? I should have thought that the difference was owing to the difficulty of obtaining back freight. I cannot understand it. It may be that they get the bullion back from Port Pirie—Port Pirie has outstripped Port Adelaide.
2735. There must be some other reason for that difference of 5s. 6d. per ton as between the two ports? Well, the distance between Broken Hill and Port Pirie is less than the distance between Broken Hill and Adelaide.
2736. I am speaking of the freight from Newcastle? The rates I gave are from Broken Hill, backwards. You are speaking of the traffic in the opposite direction.
2737. Can you tell what would be the cost of coal delivered at Port Pirie from Newcastle? I should think 18s. or 19s. a ton, including the cost of the coal.
2738. That would be £2 2s.; how is it that the cost is £2 8s. at Broken Hill? I suppose there are other charges. The man who carries on the trade does not do it for nothing—he must have his profit.
2739. Is not that a very large profit where there is such a large consumption—some thousands of tons a month? There are not many thousands of tons a month.
2740. We have evidence that the consumption is 3,500 tons a month? That is a small quantity. It is not the output of the Wallsend mine for a day and a half.
2741. But it would be a lot of money for the profit of the middleman? Yes; but you have to take other things into consideration—the risk of the business, &c. Suppose that a man contracts for all the year round, he may get freight in summer at 8s. or 9s., and in winter it may be much higher.
2742. What is the price of the coal itself? 11s., less 2½ per cent.
2743. What is the freight? I daresay you could make a contract of 8s. or 9s. a ton. There was a time when we paid as much as £1 and £1 5s.

2744. Supposing the coal could be delivered from Lithgow at 11s. a ton less than it is delivered at now, do you think that that would not command a trade? That is a supposition—you say suppose that it can. Of course, if there is a difference of 11s. in the price, the consumer will naturally take the Lithgow coal.

2745. Have you heard that the Commissioners have stated that they will carry the coal from Lithgow to these mines for something like £1 6s. a ton? I have not heard that. It is possible that the Commissioners made that statement, but they are making fish of one and flesh of another if they do it.

2746. Do you know the gradients on the proposed line? I suppose that in that flat country there ought to be easy gradients.

2747. Does not that alter the cost of carriage? Not from Lithgow, because on the Lithgow line you would have to break up your loads for a certain distance.

2748. Then there is a large stretch of country which is a dead level? Yes; but for a certain distance they can only carry a certain quantity.

2749. But if the Commissioners have sworn that they can carry the coal at this price, and that it will pay them? I should attach every respect to the Commissioners' statement, but if they do carry coal at that price they would be dealing unfairly with the northern colliery proprietors.

2750. Do you imagine that the freight, as charged now from Port Pirie to Broken Hill, could be materially reduced? Not only do I imagine it, but I am able to state that, after I had given my evidence here on the last occasion, I had an opportunity of consulting the South Australian delegates, and I told them I had given evidence, that it was more than possible that the rates would be reduced 25 per cent. if we came into competition with them for the Broken Hill trade, and they assured me that they would reduce their rates 50 per cent. in order to secure the trade for South Australia.

2751. Of course, that is independent of whether it would pay or not? I only tell you what they said. The trade is of such importance to them that they will have it at any cost.

2752. Do you think that if South Australia is able to do that, New South Wales is not able also to carry at a loss to save her own commerce? I think South Australia has a natural right to that trade, whilst we can only obtain it by creating artificial advantages to bring it here.

2753. Are you looking at the cost of running the trains on the proposed line as though there would be no intermediate traffic? I cannot see where the intermediate traffic is to come from.

2754. I suppose you did not read the evidence which was taken at Wilcannia? I read the Sectional Committee's Report personally.

2755. But do you know that the evidence taken there tended to show that the traffic from this line would almost pay the working expenses? I am not surprised at that being stated at Wilcannia, where the line is likely to go. If you project a railway to any place, evidence will be forthcoming that it will be the most paying railway the country can undertake.

2756. But would you not have the evidence substantiated by independent testimony before you accepted it? I should.

2757. Do you think the Committee has not done that? I do not wish to say that. I would rather not give an opinion upon the proceedings of the Committee just now.

2758. Evidence has been given as to the quantity of wool coming from certain districts;—if you have the evidence of the Stock Inspector that there are in the district 2,000,000 sheep, should not that be considered? It ought to be considered.

2759. Suppose we have evidence that a certain amount of wool comes from that district? I do not think that a wool railway will ever pay.

2760. But it would assist? It would all contribute.

2761. It would mean a large amount of traffic? It would, in certain seasons of the year. You have a navigable river to compete with at certain times.

2762. You know that the river is very uncertain? It is not so certain as a railway, but they will take advantage of the river when they can do so. I do not think that they will pay 1d. a ton more for the carriage of goods, merely from patriotic motives, than they can get the goods carried for on the river.

2763. Is there a scarcity of wood about Broken Hill for domestic purposes? I should think there is.

2764. And will that not cause the consumption of coal to increase? Certainly, coal is the only fuel that you can substitute for the wood.

2765. Have you any knowledge of the country between Broken Hill and Wilcannia? I have not been over it, but I know the character of the country.

2766. Do you know the country on the banks of the Darling? I do.

2767. What is your opinion of the soil? It is not bad soil.

2768. Do you think it would grow anything if irrigated? I do. You are now getting into a very big question.

2769. Will it be a difficult matter to irrigate the land near the river? No; it is nearly a flat country.

2770. And from your knowledge of the soil, do you think it would grow all the necessary supplies for Wilcannia and Broken Hill? I should think so.

2771. Is there not a possibility of a large traffic arising on that line? Of course there is a possibility in everything, if you come to speculate; but I do not think the country is called upon to spend £1,250,000 as a mere matter of speculation.

2772. Do you think that there would be much of a passenger traffic on the line? You would have a certain proportion of passengers, but a great many of them would go by Melbourne and Adelaide, as they would generally have business in those two large centres.

2773. Do you know how many miles it is from Sydney to Broken Hill by this line? Seven hundred and thirty-five miles.

2774. Do you know the distance to Broken Hill, *via* Melbourne and Adelaide? Over 1,000 miles, I believe.

2775. It is 1,400 miles, that is double the length of this line;—is it not probable that people going to Broken Hill would take into consideration the length of the journey *via* Melbourne and Adelaide, and the extra time and cost of that route? I should not think so when they have business at those centres, which they generally have.

2776. Do you think it would give any material assistance towards paying expenses? A passenger traffic, properly conducted, is the best paying traffic in the world on either a railway or steamboat.

2777. Do you think that if we could bring Broken Hill 700 miles nearer to Sydney than it is at present,

2778.

A. Brown,  
Esq., M.P.  
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there would not be a much larger passenger traffic? A railway makes traffic. I do not say that there would not be a traffic, but I do not think that there would be sufficient traffic to warrant the proposed expenditure.

2778. Have you any idea of the estimated cost of working the line? No.

2779. The estimated cost, including the interest on the capital expended at  $3\frac{1}{2}$  per cent., is £90,630 per year;—from your knowledge of any city where there is a population of say 25,000, do you think that that £90,000 a year is beyond what you would expect from railway freight? I do not understand the question.

2780. Taking the population at 25,000, and considering that the railway runs from that population to the capital of the country, do you not think that the returns from the line would be largely in excess of £90,000 a year? You mean to ask whether it would not be worth our while to spend in working expenses and interest £90,000 a year in order to serve a population of 25,000, and that the freights would more than recoup the expenditure?

2781. Exactly? Well, I doubt it.

2782. Why? Because £100,000, to speak in round numbers, is a lot of money.

2783. Is it a lot to take from 25,000 people in a year? It is a formidable sum.

2784. But you acknowledge that this particular industry would give rise to a great deal of traffic, and that the traffic to and from Broken Hill would be larger than the traffic of ordinary cities? If I were a business man and was asked to make a railway to a city containing that number of people, and I was to spend £100,000 a year and recoup myself from the traffic, I do not think I should do it.

2785. Do you think the Government would be warranted in constructing the line if it can be shown that it will pay immediately the working expenses, independent of the interest on the capital invested? No; I do not think they should be entitled to make the railway if it would not pay the interest on the capital.

2786. Then do you know that if that principle had been acted upon we should not have had a railway made in the colony? We have had a great deal of unprofitable expenditure on railways.

2787. Do you know how many railways there are in the country which are not paying interest on capital and working expenses? I know that there are a great many, and at the rate at which we are going there will be a great many more. Round about Sydney and Newcastle the railways must pay handsomely, but beyond those places I do not know how they can pay. I suppose that the 20 miles of railway in the immediate vicinity of Newcastle would have been the most profitable concern any railway company ever had, if the original company had kept it, instead of the Government taking it over.

2788. Do you believe that it is necessary to construct a line from Newcastle to Tenterfield? I do not think that the line has gone the right way.

2789. Was it necessary to construct a line in that direction at all? No.

2790. You would not have any railways except within 10 miles of a large centre of population? I do not think that we ought always to stop at the consideration whether the railway would absolutely pay, but we ought to have some prospect of its paying. You ought not to construct a railway merely because 10,000 or 20,000 people require it. There ought to be some prospect that the State will not suffer a great loss by the expenditure.

2791. Do you think that this country would have progressed at the rate it has done if we had not constructed railways until we knew that they would pay? No; I do not think it would.

2792. Then do you not think that it is beneficial to the country to make railways, even, though, for a time, they may not pay? I think there is a stage beyond which you cannot go. I think we should hold our hands now. We have done a great deal in railway construction.

2793. Mr. O'Sullivan.] You seem to be dubious about a sufficient amount of traffic being obtainable to justify the construction of this railway? Yes.

2794. Are you not aware that there are 5,000 tons of bullion coming to Sydney every month from Port Pirie? Yes.

2795. That means 60,000 tons a year? Yes.

2796. At the rate of £1 per ton that would be a considerable item in the receipts? Yes; but in order to secure that bullion, if you count upon that, you will have to compete against the steamer enterprise that carries it now. I can tell you, as a matter of fact, that the steamship companies have given me as much as 2s. 6d. a ton for bullion for the privilege of carrying it under certain circumstances. The steamship companies having control of the situation now, demand payment for it. In this particular case the steamers take this bullion and bring it round to Sydney, paying the intermediate freight, because it serves them as dead weight, to enable them to carry a larger quantity of wool than they could carry without it. If you are going to secure that bullion, which at present comes from Port Pirie, and goes home in the large steamers, you must reckon upon the competition of the steamship companies. The company at Broken Hill will pay you no more than they can get the bullion carried for by the present route, and the steamers want it.

2797. Those steamers going to Port Pirie take coal and bring back bullion? Yes; they bring it for the big ocean steamers that go to London.

2798. From the evidence of the railway authorities, it is pretty clear that if the railway were open to Broken Hill, the Commissioners would be able to deliver coal there as cheap as it is delivered at Broken Hill from Port Pirie? That opens up a very large question—the question of the coal traffic. It is being carried on now under an arrangement that is very unsatisfactory. In the north we are compelled to build our own private roads; we are compelled to build our own rolling stock; and in the case of one colliery it means a capital of £70,000 for rolling stock alone. In the north we are compelled to pay rates which are not chargeable in the south and in the west, and in the south and the west the Government find the wagons and draw the coal at a rate 30 per cent. lower than that charged in the north. If they are going to continue that policy from Lithgow to Broken Hill, I can understand the statement that they can carry coal for less than the cost of sending it round by Port Pirie.

2799. We can only go upon the evidence we have received, and if the evidence is to that effect, it is clear that there will not be much competition by steamers in carrying coal to, and bullion back from Port Pirie? You have to compete with steamers already engaged in the trade, and you are not going to cut them out. From Port Pirie you have the South Australian Government, and the Silverton Tramway Company, and if it becomes a question of competing rates by the steamship company, by the South Australian Government, and by the Silverton Tramway, the rates will be lowered, and they will fight for the trade.

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2800. Do you think that private proprietors will carry on a cut-throat competition with the Government, knowing that they must go to the wall? They are doing it now. I know two companies with a capital of £200,000, who are competing with the State; the State is making very little, and the companies are paying no dividends.

2801. We have sworn evidence that at Wilcannia the amount paid per annum in freight is about £80,000—that is, paid to the steamers carrying the traffic down the river. The railway will touch at Wilcannia, and in some seasons it will command the whole of the traffic. Is it not probable that a large proportion of that £80,000 will be paid to the railway instead of to the steamers? Certainly; it must necessarily be so, when there is no river competition; but you have competition to face at other times.

2802. There are certain seasons when the steamers will not be able to compete? They will endeavour to hold their own.

2803. I presume that you have a good idea of the magnitude of the shipping trade at Wilcannia? No; I have not.

2804. Would it surprise you to learn that in 1887 there were 218 vessels running to Wilcannia, representing 36,170 tons? Was the river well up at that time?

2805. Of course, it must have been? There was probably a large flood in the river, and when there is, the storekeepers will supply themselves cheaper by the river than by the railway.

2806. I presume there must have been a high river? Those appear to be abnormal figures.

2807. Yes, they are higher than the figures for 1886 or 1888. At all events these figures indicate that there is a very large traffic at Wilcannia? Yes.

2808. Are you aware that the produce sent away from Wilcannia in one year was of the value of £1,098,543? No; it would not take much wool to make £1,000,000.

2809. Do you know that the value of the imports in one year was £283,387? I did not.

2810. These figures show an enormous traffic, and is it not possible that a railway, running there with certainty and rapidity, would command that traffic? If you are going to ask me whether the railway should go to Wilcannia, I simply say that as you have it at Cobar, I would not let it stop where it is; but I should not take it beyond Wilcannia.

2811. I put it to you—is it not probable that a large amount of traffic would be picked up on the way to Broken Hill? You will get a portion of the Wilcannia trade, necessarily.

2812. From your knowledge of the requirements of Broken Hill, is it not possible that the traffic will represent a great deal of coal, timber, and stores that can be supplied from this country fairly well? You would have a chance of supplying them; but they will get them where they can get them cheapest.

2813. But they are to be supplied by this railway as cheap as they can be got by steamer? My contention is that you cannot do it as a matter of competition.

2814. Have we not a right to assume that the railway officials who have given evidence on the subject have worked the matter out, and they say they are prepared to do it? I have seen estimates of railways prepared, but when the railways were constructed they were found to be very unsatisfactory.

2815. Considering all this traffic in coal, timber, and stores, to say nothing of the passengers that will go to Broken Hill, that place having become the show place of Australasia, does it not seem that there is a probability of its being a profitable line? I should not think so.

2816. *Mr. Copeland.* Do you think it was undesirable for us to construct a railway from Sydney to Albury, instead of allowing the trade to go to its natural port—Melbourne? I think that the Riverina trade now, except for the differential rates, would find its way to Melbourne, and it ought to go there.

2817. Then you would not have constructed a railway to Albury? Not to obtain a trade by means of differential rates.

2818. Do you think that it is a desirable thing for the metropolitan cities of the different colonies not to be connected? No; I do not. Your question had reference to the trade. If it becomes a question of connecting the metropolitan cities, that is another thing. I say that the trade ought to go to the place to which it belongs, and we ought to have on our railways rates that would make them pay.

2819. Assuming that the trade of the Albury district is nearer to Melbourne, and, therefore, ought to go there, would you still refuse to connect Victoria with New South Wales by railway? No; I would not.

2820. Therefore you approve of the railway going to Albury? I do. I think that the metropolitan cities of the two colonies ought to be connected.

2821. You are aware that this railway to Broken Hill and Cockburn is a through railway to Adelaide? Yes.

2822. That is to say, that our railway at Cockburn will connect with the South Australian railway? Yes.

2823. Does not the same principle apply, that is, is it not desirable to connect Adelaide with Sydney? We are already connected with Adelaide through Melbourne, so that that argument does not apply.

2824. Would you advocate for all time to come that our traffic should be compelled to go that roundabout way from Sydney, *via* Melbourne, to reach Adelaide, when we can make a shorter cut? I would not advocate that that should be done for all time. I am only speaking of the immediate construction of this particular railway. I may be prepared to say ten years hence that circumstances warrant the construction of the line.

2825. Do you think that the South Australian people were justified in commencing their line to Port Darwin? I do not.

2826. You think they made a mistake? I think it a very premature undertaking on the part of South Australia.

2827. Do you think that, the Government owning the railway and owning the land, it was not desirable to construct the railway, almost irrespective of the existing traffic? I do not.

2828. You think that it is not desirable that they should go a little ahead of the present traffic and open up the country? That is not going a little ahead of the traffic, spending a million and a half of money where the prospect of the line paying is far distant.

2829. You admit that the railway ought to go to Wilcannia? I say that having got to Cobar, for which there was no earthly justification, you might, later on, just as well let the line go on to Wilcannia. Our finances may admit of the railway going to Wilcannia, but I do not think they will admit of its going to Broken Hill at present.

2830. Would you have advocated the taking of the railway to Bourke? I should not.

2831. Would you advocate the taking of the railway to Jennings? There you make a connection between Queensland and our own railway.

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2832. Will not this railway make a connection with South Australia? Yes, in a way that we do not want. With Queensland we have no other connection, but we are already connected with Adelaide through Melbourne.
2833. Suppose this railway were to stop short at Broken Hill, passengers requiring to go to Adelaide using the Silverton tramway, do you think that would be more desirable? No; I do not think that there is anything to warrant the cost of taking the railway to Broken Hill. The Broken Hill Company is the only one that pays a dividend amongst the whole host of companies that there are there.
2834. Notwithstanding that, if this question were submitted to you—the country having already taken a railway to Cobar—you would advise that the railway be continued to Wilcannia? I should say so.
2835. Having got the railway to Wilcannia, have you ever estimated the cost per mile of taking it to Broken Hill? No; it must be something considerable, with the proposed bridge over the Darling.
2836. The bridge and viaduct are estimated to cost £92,000, and the railway from Wilcannia to Broken Hill, 119 miles, will cost £2,870 a mile, making a total of £359,530 for the railway; and it will be a railway over a level country, where the running expenses must, necessarily, be exceedingly low;—do you think it is not possible for the Commissioners to carry the traffic at a much lower rate than they could on any of the other lines, where the grades are 1 in 33 or 1 in 44, and the railways have cost, perhaps, £10,000 a mile? The Commissioners are handicapped in this instance by the very difficulties you speak of—costly lines with heavy grades. They are handicapped by the heavy grades over the mountains here.
2837. Then the country having gone to the cost of constructing these very expensive lines—costing from £10,000 to £15,000 a mile, when we come to the cheap country you would stop short? I would stop short for the present.
2838. And would not do anything for the settlement and development of the country? Not in our present condition.
2839. Have you any idea of what it would cost to make and maintain a road from Broken Hill to Wilcannia? I know it would cost a great deal in that country.
2840. Do you know it is in evidence that it would cost about £2,000 a mile to make an ordinary road, and only £2,870 per mile to make a railway? That must be a very fantastical estimate. I have been over a road between Narromine and Peak Hill, which, I am satisfied, did not cost £20 a mile.
2841. What kind of country is it? Sandy soil country.
2842. From my experience of roadmaking I do not think it is an over estimate; it was given by the Government Road Inspector—a man competent to make an estimate? I do not think that it would cost £2,000 a mile to make any road between Wilcannia and Broken Hill.
2843. What do you think it would cost to maintain the road? Not much, I should think; the traffic would be very small.
2844. Do you think that if a railway were made to Wilcannia there would not be a considerable increase of traffic between Broken Hill and Wilcannia, thus causing the road to be more expensive to maintain? Yes.
2845. Would you advocate the building of a road, supposing the railway to be taken to Wilcannia, and you admit that that is desirable? No, I do not admit it; but having committed ourselves to the cost of taking the railway to Cobar, I do not see any objection eventually to its going to Wilcannia. I would vote for it.
2846. You say you would vote for it, seeing that we have to take a railway to Cobar? I do not see the same reason against it now, but if the thing was proposed as a whole I should not be in favour of it.
2847. Suppose the railway were taken to Wilcannia, would not that develop a large trade between Broken Hill and the railway terminus? It would develop a trade, but whether a large trade is a matter of speculation.
2848. Would you make a road to assist that trade, or compel them for all time to travel without a road? They would have to get facilities in the shape of roads between the two places.
2849. Which is it preferable to make, then—an ordinary road that would cost £2,000 a mile, or a railway that would cost £2,870 a mile? It is a supposition that the road will cost £2,000 a mile, but assuming it to be correct, if you can build a railway for £2,870 a mile, I question very much whether you ought not to build the railway.
2850. With regard to the bullion, I understood you to imply that the bullion was brought round from Port Pirie at a nominal rate by the steamers? Not at a nominal rate now, because I had a contract to bring it round myself, but I have shipped bullion at nominal rates.
2851. What is the insurance on bullion from Port Pirie to Sydney? I cannot tell from memory—about  $\frac{1}{8}$  per cent.
2852. If we constructed a railway to Broken Hill, would you advise that it should stop at Broken Hill or that we should take it through to Cockburn, to compete with the Silverton tramway? No; I should not advise you to compete with the tramway, or to get into conflict with them at all. I do not think it would be fair to the Silverton Tramway Company.
2853. You would be in favour of the railway stopping at Broken Hill? I should.
2854. Have you any interest in the Silverton Tramway Company? None whatever.

Edward Bulwer Lytton Dickens, Esq., M.P., sworn, and examined:—

- E. B. L. Dickens, Esq., M.P.  
23 April, 1891.
2855. *Mr. Tonkin.*] You represent Wilcannia in the Legislative Assembly? Yes.
2856. Would you like to make any statement as to the proposed railway from Cobar to Cockburn? Yes. I have just returned from Wilcannia, and in doing so I found it necessary to travel *via* Adelaide and Melbourne, as being the easiest and shortest route at the present time. I have heard a considerable amount of the evidence given by Mr. Alexander Brown, member for Newcastle, and I disagree with him on very many points. I may say that I do not think Mr. Brown has that local knowledge of the country which is required in dealing with a matter of this sort, and which I myself possess, having known that country for the last twenty-three years. I consider that a railway of this sort is one of the great factors of civilisation, tending to open up and populate the country. As an example of this, I would like to point out the immense amount of settlement that there has been in the Bourke district since the railway was taken to that town. Anticipating a railway to Wilcannia, during my recent visit there, I noticed that there

there has been a large number of homestead leases applied for on the Darling River, within 50 miles of Wilcannia, and I feel confident if this railway is carried out all the available country on the resumed area in the Wilcannia district will be taken up within a short time. I cannot say for certain the exact number of homestead leases taken up, but I should say that within the last few weeks there must have been fifteen or more taken up.

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2857. That would be in 10,000-acre blocks? Yes; I think they are all 10,000-acre blocks. Mr. Brown answered a question as to the cost of making a road from Wilcannia to Broken Hill. The cost of making such a road would be very great, as a considerable extent of that country consists of loose, sandy soil, and most of the remainder of open plain, which gets very boggy and soft in time of rain, and even if the road was made to Wilcannia I do not think it would divert much trade in the direction of Sydney. Mr. Brown seemed to have some doubt as regards the credibility of the evidence given at Wilcannia before your Sectional Committee; but I can say from my own knowledge that all that evidence was very carefully prepared, and was, to the best of my knowledge, correct. I may state that the navigation of the River Darling is very uncertain. I have known it to be unnavigable for over two years at one time. On several occasions I have known it to be unnavigable for twelve months, and on three occasions I have seen the bed of the river as dry as the floor of this room. On many occasions I have known the clips of two shearings to be stored there in the station wool stores, and on that account I do not think that the river would compete with the railway very greatly to the disadvantage of the latter. I find that the number of bales of wool of last year's clip sent away from Wilcannia was 26,000, besides about 1,200 bales represented by the wool that went away on the backs of the sheep that travelled from the district. As regards the soil on the Darling, from my own experience I find that with a plentiful supply of water it will produce almost anything. There is no difficulty whatever in irrigating the land, as it is all very flat. Since the Sectional Committee visited Wilcannia and Broken Hill there have been very great developments at both places, and there have been some very valuable mineral discoveries made recently within 100 miles or less of Wilcannia, notably the Nuntherungie silver fields, which are situated about 85 miles from Wilcannia.

2858. In what direction is that—north or west? It is north-west.

2859. Out towards Mount Browne? Yes; out in that direction.

2860. *Dr. Garran.*] It would not be on the line of railway? No. There are also the opal fields, situated between 60 and 70 miles from Wilcannia, both of which places I have lately visited, and after a careful examination of them I fancy that they promise to turn out well in the future. In the last twelve months there have been no less than 180 mineral leases applied for in the Wilcannia district. An objection was made to this railway on the ground that it would be injudicious to construct any more railways until there was a universal gauge fixed in the various colonies, but as the New South Wales is the accepted and acknowledged gauge throughout the world at present, this objection, in my opinion, is a very trivial one. A great deal has been said about the expediency of locking the River Darling should this railway to Wilcannia and Broken Hill be constructed; but I think it would be a bad policy to lock the river. You would simply be opening up a highway to Victoria and South Australia, which would compete with the railway. There is a great deal more business done with Sydney from Wilcannia and Broken Hill than is generally imagined, and there are several merchants in Sydney who can give evidence on this point, if required. I think this is a very important point. A great complaint made by the merchants of Wilcannia and Broken Hill, in reference to the Sydney trade, is that they experience great delay in receiving their goods after they are ordered. I am sure that if a railway were constructed, and I say this after having had many conversations with people interested in the district, that a great deal more trade could be done with Sydney than is done now. A great deal more would have been done in the past if the people had had the means of easy and rapid communication. At Broken Hill firewood is getting very scarce. It is now from 16s. to 18s. a ton, and I believe it has to be carted long distances. No doubt in a few years the people of Broken Hill will be almost entirely dependent upon coal or coke. Wood will have to be brought long distances by train, or it will be impossible to get it at all. A gentleman who does business in a large way informed me yesterday that it cost him £3 a ton to get coal to his brick-making works. The cost of the coal to Broken Hill was £2 15s., and there is a further charge of 5s. for the delivery of the coal at the works.

2861. *Mr. Copeland.*] Where are the works located? Close to Broken Hill. I am also informed, from credible sources at Broken Hill, that Lithgow coal could be delivered at Broken Hill, by this railway at about 12s. a ton less than the coal carried by the present route. I feel confident that the extension of the railway to Cobar will not pay unless the line is carried further, and also that it will not have the effect of placing population on the land that the extension to Wilcannia would have, because persons taking up homestead leases naturally, in the first instance, settle upon land where there is permanent water, and from thence work outwards by degrees. Since the Sectional Committee visited Broken Hill the population has increased to a very large extent. The place is undoubtedly of far more importance now than it was then. During my experience of the Darling district I have known very heavy losses to occur in stock, owing to the impossibility of moving sheep in time of drought to country where there was pasturage and water. There is not the slightest doubt that in many cases these losses might have been avoided if there had been railway communication. One witness—I think the Chief Traffic Manager—in giving evidence before the Committee, seemed to think that the river would be a strong rival to the railway, and he compared the proposed railway to Wilcannia with the existing railway to Hay. In doing this he seemed to forget that at Hay, on the Murrumbidgee, there is always a navigable river at one period of the year—as both the Murrumbidgee and the Murray are annually fed by snow waters. This does not apply to the Darling. There is no regular time for a rise in the Darling, and when that river once becomes unnavigable it is impossible to say when the steamers will again be able to ply upon it. I think it was in 1888 that Wilcannia was virtually cut off from all communication with other parts. The river was unnavigable, and the road from Wilcannia to Broken Hill was in such a state that it was almost impossible for teams to travel. The freight by land from Broken Hill during a portion of that year was £20 a ton, and very few teamsters would undertake the journey even at that high rate. If the railway went to Wilcannia, I feel confident that that town would become a big slaughter depôt, as it appears now to be an acknowledged fact that it is possible to convey meat long distances in chilled cars. I am also informed by mining experts at Broken Hill that in all probability large quantities of ore, which are difficult of treatment, and which require large quantities of water in their treatment, would be conveyed to Wilcannia by railway, and would

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would be dealt with there. Hence, not only would there be an abundant supply of water, but, also, in dealing with the ores at Wilcannia, the extra freight of 120 miles on the coal from Lithgow would be saved. I may state that I have made it my duty to have conversations on the subject with people in the district, especially at Broken Hill, who are interested in the railway, and there is a general desire to be connected with Sydney direct. There is also a general feeling at Broken Hill that unless this railway is constructed the best course would be to let them be annexed to South Australia.

2862. *Mr. Tonkin.*] Do you know whether there has been much increase in the population of Wilcannia since the Sectional Committee were there two years ago? I do not.

2863. Do you know Mr. Tully, Inspector of Stock? Yes.

2864. Is his evidence to be relied upon? Undoubtedly.

2865. He states that in the district of Wilcannia there are 3,000,000 sheep, between 17,000 and 20,000 head of cattle, and about 9,000 horses. Have you reason to believe that the number of stock has much increased or diminished? I should say that it has increased.

2866. That was during the late drought? Yes, there were heavy losses in 1888.

2867. Mr. Tully says that over 1,000,000 sheep were lost in that district during the drought? Yes.

2868. And you believe that statement to be correct? Undoubtedly.

2869. And should be accepted as evidence in favour of the construction of this line? Yes, I think so.

2870. Are rabbits doing much injury in that district? They have done, but they are nearly all dead now.

2871. What is the cause of that? They die in the dry season. When I was there, lately, they were dying in large numbers, but I am afraid they will increase again shortly.

2872. It has been suggested that if the railway were constructed it should be fenced in on each side with wire-proof fencing—would that in any way cope with the rabbit pest? To some extent.

2873. Would it be a material factor in the destruction of rabbits? To some extent, but from my own experience I do not put much faith in rabbit fencing.

2874. You do not think that that is the proper way to deal with them? I do; but I do not think it is much good unless you can have a system of subdivisions into small areas.

2875. If you get a fence across the country will it not be easy to subdivide from that fence? Yes, if you have the money to do it. But the lessees, unfortunately, are not in a position to undertake such a large expenditure.

2876. Do you know of any land under cultivation about Wilcannia? Yes; in a small way.

2877. What do they grow? Lucerne, wheat hay, and oat hay.

2878. Do you know the stock reserve just outside the town of Wilcannia? Yes.

2879. That is a very large reserve, is it not? Yes.

2880. It has been suggested that a portion of that reserve should be thrown open to selection in small farms, up to 100 acres each. Do you think that that would be a great advantage to the place? I think anything would that tends to settle the people on the land.

2881. Do you think that people would take small farms in that place? I do not think they would unless they had the railway.

2882. I mean supposing the railway were made? Yes, then they would.

2883. Do you think they would be able to make a living on small areas like that along the river? Yes, if you get the right sort of people—people of enterprise, who are prepared to spend money on irrigation.

2884. Do you think it probable that it would be done? I see no reason why it should not.

2885. We have it in evidence that it would be done. It was said that if the land were thrown open, even without a railway, the whole of it would be taken up by small industrial farmers. Do you think that that is probable? I very much doubt it, unless the railway is made. I should not be prepared to take up 100 acres under such circumstances.

2886. Mr. Brown said that rather than construct a railway to our extreme borders he would allow the trade of that country to gravitate to the nearest port, that is, to another colony. Do you think that that is a proper argument for anyone who has the interests of this country at heart? No; I think we ought to try to induce our outlying people to deal with us in Sydney.

2887. Under certain circumstances, where people are so far away from the capital of the colony, would you be in favour of constructing a line of railway, even supposing for the first few years it would not pay the necessary expenses? I would, and I think that a portion of this line ought to have been made four or five years ago.

2888. You would construct lines for the development of the country in some instances? Certainly.

2889. It was stated here that many of the runs about your district have been given up as worthless on account of the rabbits. Is that true? No.

2890. Do you know of any at all? Yes; I have known one or two, but that is right out on the South Australian or Queensland border, about Tibbooburra and Mount Browne. I do not know of any instances about Wilcannia.

2891. Has any large extent of land been thrown up in that way? No. Those cases that I know of were comparatively small holdings.

2892. Have you any doubt in your own mind that if this railway were constructed it would pay working expenses almost from the start, not including the interest on the outlay? I think it would.

2893. That would be assuming that the expenses were about £50,000 a year? I think the line would pay them.

2894. Have you heard the evidence with regard to the consumption of fuel at Broken Hill? I have not.

2895. Do you know the traffic in articles consumed there is 15,000 tons a month? I know it is an enormous quantity.

2896. Do you think we should not expect to have a fair percentage of that traffic? Certainly. If the statement I quoted now is correct, that you can land Lithgow coal there at 12s. a ton cheaper than is done at present.

2897. *Mr. O'Sullivan.*] How far is Mount Browne from Wilcannia? Roughly, it is something over 200 miles.

2898. Does the trade of that region go to Wilcannia? Yes, mostly.

2899. Does Wilcannia get the trade of the Paroo district? A portion of the Paroo trade goes to Bourke.

2900. How far is Menindie from Wilcannia? About 90 miles.

2901. I presume that Menindie does a certain amount of trade with Wilcannia? Not much—Menindie is below Wilcannia.

2902. Is there mutual intercourse between the two places? Nothing to speak of.

2903. Would not this railway going to Wilcannia benefit the Menindie district? That would be a different matter. At present all the trade from Menindie goes down the Darling to South Australia.

2904. It is probable that the railway would benefit Menindie? Yes, a great deal of the wool would go to Wilcannia.

2905. Do I understand that the rabbit pest is abating round Wilcannia? I should like to explain what I said on that point. What I say is, that owing to the late dry season the rabbits have died in large numbers, and large numbers have been destroyed. It is only in dry times that you can deal with them. In very dry times you can deal effectually with the rabbits, but when there is plenty of water it is impossible to deal with them at all. Owing to the destruction which has taken place amongst the rabbits from the dry weather and the trapping at the tanks, they have decreased to a very great extent, but in a few months they will be quite as numerous as ever. The same thing happened in the year 1888, when a great many rabbits were killed, and they seemed to die out, but since 1888 they have been more numerous than they ever were before.

2906. Have not Mr. Wynne and other pastoralists out there been successful in destroying the rabbits? Not more so than their neighbours.

2907. *Mr. Copeland.*] You said just now that some person who had brickyards paid £3 a ton for coal—£2 15s. to Broken Hill, and 5s. for the delivery at his brickyard? That is what he informed me yesterday.

2908. If the railway took the coal from the western district he would still have to pay for the delivery of his coal at his brickyards; therefore, it is not fair to estimate the cost as £3. At present coal is delivered in Broken Hill at £2 8s. a ton? He informed me that it cost £2 15s. delivered at the Broken Hill station.

2909. I believe you are a stock and station agent? Yes, and land agent.

2910. In case of a drought do you think that if the railway went to Wilcannia they would be likely to bring fodder of any kind by the railway for rams, stud sheep, working bullocks, and horses? They would, for horses, principally.

2911. Would they let the working bullocks die? The working bullocks can always get a living on the scrub—they fatten on the mulga.

2912. But they would have to feed the horses? Owing to the rabbits it is necessary to feed every working horse on the stations, and the expense is enormous.

2913. And the rams—would you let them die? No, we should buy feed for them.

2914. If they could get feed at Orange or Dubbo, would it not pay to take it by railway? Undoubtedly.

2915. Leaving out the fact that you are member for the district, and speaking as a private individual, would you be likely to pay for the carriage of fodder to feed the rams and stud ewes, or would you let them die; or would you, on the other hand, bring them away as starving stock by the railway? In that district they do not go in very largely for breeding high-class sheep; but, of course, rams are always a large item in the expenditure of a station. When you have good rams you would rather feed them than let them die, but the greatest amount of fodder would be required for the horses.

2916. Would the squatters be more likely to make use of the railway to remove their rams to better country, or would they take food to the rams? They would be more likely to take food to the rams.

2917. And I suppose they would be compelled to take fodder for the station horses? You must buy food for the horses even in good seasons, owing to the rabbits.

2918. Is it your opinion that the squatters could use the railway out in the far west to get stock away in time of drought? I am certain of it—that is supposing the season in other parts of the colony was a good one, and they could find food.

2919. Is there anything like a development of alluvial mining at Mount Browne that looks permanent? A great deal of gold has been got in shallow sinkings.

2920. But now they are testing deep leads—do you know whether they have got payable gold in the deep ground? I have not sufficient knowledge to speak with any authority on that point.

2921. Suppose the railway were taken to Wilcannia, would it be likely to get any traffic from the Paroo country? Yes; from the Lower Paroo traffic would come to Wilcannia.

2922. Would it come to Wilcannia, or go to Broken Hill and on to Adelaide? It would come to Wilcannia.

2923. What would be the inducement to bring it to Wilcannia, and thence to Sydney, rather than to Broken Hill and Adelaide? The land carriage to Broken Hill would be a great deal more, and it would not be a good road.

2924. Notwithstanding the longer railway route and the heavier railway rates, you think that the traffic would come to Wilcannia? Undoubtedly.

2925. Have you any knowledge as to where the squatters of that part of the country have their business connections. Are their business connections with Sydney, Adelaide, or Melbourne? One of the biggest properties in New South Wales is Momba, on the Lower Paroo, 50 miles from Wilcannia. It extends about 80 miles from Wilcannia up the Paroo. The owners of that station do their business in Adelaide.

2926. Then they would send their wool to Broken Hill? They never send it to Broken Hill. They have four woolsheds, but the homestead is only 50 miles from Wilcannia. They send it down the river when the river is navigable. I have known them send some of their wool to Bourke, *via* Wilcannia, a distance of 220 miles.

2927. Supposing the railway were taken to Broken Hill, about what distance do you think the squatters would make use of it south of the line. How far would they travel north to the railway. I am speaking of the line from Cobar to Wilcannia, and from Wilcannia out to Broken Hill? All the squatters, I should imagine, between Cobar and Wilcannia would use the line.

2928. From how far south; would they travel 100 miles north to get to a railway station, or would they come further south to Hay? I am not quite sure of the distance between Hay and the proposed railway line.

2929. *Mr. Tonkin.*] It is about 260 miles? It is a question that would be difficult to answer. It depends so much upon local circumstances as regards the road, watering-places, and so on.

2930. *Mr. Copeland.*] Suppose the railway were taken to Broken Hill; then you say that the Momba people

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people and other squatters would not require to use the road. Being at Broken Hill, they would have the choice of using the railway to Adelaide direct, or using the railway to Sydney direct,—all the way, whichever way they went. Which route would they be likely to take from Wilcannia? It is, of course, simply a matter of £ s. d.

2931. I suppose you would not consider it objectionable that the people of Wilcannia should be allowed to take their trade to the nearest and best market? No; I think the trade would naturally come here.

2932. If they did go to Adelaide they would have to pay the Government of New South Wales for the use of the railway as far as Cockburn or Broken Hill? Yes.

2933. And if they used it, it would be likely to pay working expenses? Yes; and the break of guage on the Adelaide railway would cause an additional expense. I should be inclined to think, all things being equal, that the great bulk of the traffic would come to Sydney.

2934. In saying that, I take it for granted that you are not speaking so much as the political representative of the district as a resident of Wilcannia? When I say that, I give my honest opinion.

2935. And you believe that you represent the opinion of the Wilcannia people generally? I am certain that I do. I have lately been there, and have had an opportunity of talking to them.

2936. Do you know the population of Wilcannia, according to the census which has just been taken? I have not heard.

2937. What do you estimate the population of the town and suburbs to be? Roughly speaking, about 1,500. There is one thing I omitted to mention, and that is that there will a great quantity of travelling stock to be trucked from Wilcannia if the railway is made to that place. Large quantities of travelling stock come down from Queensland annually, especially fat cattle, in addition to the local fat stock, which consists principally of sheep. We have very few cattle in the district.

2938. Do you think cattle from Queensland would be trucked from Wilcannia? There is no doubt that large quantities will be trucked there.

2939. *Chairman.*] You think that in good seasons fat sheep would come from that district by the railway? Yes; it is getting more difficult every day to send stock to market, owing to the rabbits, the roads being bare. It is a hard matter to send stock to Melbourne, and the cost is very great. The cost, with the border duty, and one thing or another, amounts to something like 3s. 6d. to land a sheep in Melbourne from Wilcannia.

TUESDAY, 28 APRIL, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.

The Hon. FREDERICK THOMAS HUMPHERY.

The Hon. WILLIAM JOSEPH THICKETT.

The Hon. GEORGE HENRY COX.

JACOB GARRARD, Esq.

HENRY COPELAND, Esq.

JAMES EBENEZER TONKIN, Esq.

WILLIAM SPRINGTHORPE DOWEL, Esq.

EDWARD WILLIAM O'SULLIVAN, Esq.

CHARLES ALFRED LEE, Esq.

WILLIAM MCCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

Walter Macnicol, Esq., Secretary of the Silverton Tramway Company, Silverton, sworn, and examined:—

W. Macnicol, Esq.  
28 April, 1891.

2940. *Chairman.*] You are Secretary of the Silverton Tramway Company? Yes.

2941. How long have you been Secretary? Within a few days of three years.

2942. Your company has made contracts with some of the mining companies at Broken Hill for a term of years, has it not? Yes.

2943. What is the tonnage of bullion and ore sent from Broken Hill, and the tonnage of coke, coal, lime, timber, and flux taken to Broken Hill? From the 1st January, 1890, up to the 31st March, 1891, the total quantity of coke was 56,399 tons; coal, 21,904 tons; mine timber, 28,874 tons; bullion, 54,216 tons; and ore, 119,000 tons.

2944. Where is that to? To Port Pirie and Dry Creek, near Adelaide, and also to Adelaide itself.

2945. What proportion is sent by the mining companies with whom the Silverton Tramway Company has contracts? About 80 per cent. of that quantity is from the mines with whom the company has contracts for a long term of years—eight years. A small portion of the time has expired, and there are about seven and a half years to run.

2946. Does that include the general merchandise? No.

2947. Have you any contract for general merchandise? No; simply limited to the produce and requirements of the mines.

2948. Are you at all acquainted with the country between Cockburn and Wilcannia? I am not.

2949. You have heard, of course, of the projected construction of this proposed railway from Wilcannia to Cobar? Yes, I have.

2950. From your knowledge of the country and places, do you think that any enterprises or industries, mines, or things of that sort, would spring up, which would tend to give trade to the proposed railway if it were constructed? I could not say. I have not made much inquiry about that portion of the country between Broken Hill and Wilcannia, so I am not in a position to give any opinion at all that would be of any value.

2951. Is the population of Silverton increasing largely? No; I think not.

2952. Of Broken Hill? Yes, it has increased, but I cannot agree with the number stated, viz., 26,000, seeing that the whole of the miners do not exceed 5,000. I got information from Broken Hill last week as to the actual number of miners employed at the principal mines, and if they are of any use to the Committee I will give you the figures.

2953. I suppose a large number of the miners are married men? Yes; I should say at least half of them are married. The number that I got from the seven principal mines was 4,592 miners, and I should think that the total number employed by the other mines might, perhaps, make up the number to 5,000.

2954.

2954. Could you give us any information ; have you any returns of the tonnage of merchandise carried by your company ? Not with me. I was asked only to produce a list of the shareholders. I should have been very glad to have brought anything else if it had been indicated that it was required.
2955. Your company carries the whole of the merchandise at all events ? Oh, yes ; certainly.
2956. But you have no information, or approximate information, to give us as to the amount of tonnage ? I can give you, approximately, the tonnage of the general goods—everything else besides those items that I have named. The monthly tonnage would be about 3,000 tons for things other than those that I have mentioned.
2957. *Mr. Garrard.*] Inward and outward ? Yes. I am speaking of the total amount of tonnage.
2958. *Chairman.*] Is the work of the tramway increasing largely ? Yes ; it has increased very considerably since the 1st January, 1890 ; in fact there has been a steady increase in the tonnage.
2959. That increase is still going on ? Yes, apparently still going on.
2960. Have you any information to give us with regard to the passenger traffic ? The number of passengers that travel over the tramway both ways is about 900 per week, including those who travel to Silverton, and the local traffic. It is principally local traffic.
2961. Is this increasing or decreasing ? It is not increasing ; it is stationary. The first year, 1888, the traffic was more than it is now.
2962. Can you give us any approximate idea as to the number of through passengers included in the 900 per week ? No, I cannot. It is a small number. If I were to hazard a guess, I should say fifty or sixty a week, but I do not give you that as being correct.
2963. What are your rates for passenger traffic ? We charge, between Broken Hill and Cockburn, 10s. single, 15s. return ticket, first-class. Our Act authorises us to charge 4d. a mile, and that would come to 11s. 8d., but we charge only 10s.
2964. Have you a list of your shareholders ? Yes.
2965. Have you any objection to produce it ? Not at all. I brought it for that purpose.
2966. Do you issue half-yearly reports ? We do.
2967. Do you happen to have your last half-yearly report with you ? No.
2968. Did the company pay a dividend ? Yes.
2969. A large dividend ? Yes.
2970. Are you at liberty to state what it was ? I think so. Seeing that our balance-sheets are sent to every shareholder, and are public property, I cannot see any objection to my stating what the dividend was.
2971. What dividend did the company pay on the last occasion ? We pay dividends at the rate of 50 per cent. per annum on the paid up capital, which is £1 per share. We pay 10s. per annum per share.
2972. You publish your balance-sheet ? Of course—not in the newspapers, but it is printed and issued to every shareholder.
2973. You do not happen to have a copy with you ? No.
2974. Would you have any objection to giving one to the Committee ? No. If that had been stated in the summons I would have been glad to have brought you one.
2975. Perhaps you would be good enough to let us have one ? I will send one as soon as I go back.
2976. Does your company suppose that its prosperity would be affected at all by the construction of the proposed line ? We think it would not.
2977. As a company, they do not urge any objection ? Not at all.
2978. Are you in a position to gather the opinion of your company as to the propriety of constructing the proposed line ? No, but the opinion of my directors.
2979. Would they be in favour of the construction of the proposed line ? I cannot go so far as to say that they would be in favour of it, but they do not fear the competition. We think that the geographical position of the South Australian ports will always command the traffic.
2980. Would you, individually, regard the construction of this proposed line as a benefit to the community up there ? Yes ; I think it would probably be a benefit to the Broken Hill people to have this railway.
2981. Do you think that it would be an advantage to the large belt of country between the Darling and Broken Hill ? I do not think so.
2982. But taking a prospective view of the matter ? If there were any prospect of settlement ; but, so far as I can learn, there is very little.
2983. *Mr. Trickett.*] What is the length of your tramway ? Thirty-five miles.
2984. And it has a narrow gauge ? Yes ; a 3 ft. 6 in. gauge. It is exactly similar to the South Australian narrow gauge lines.
2985. Before reaching Adelaide or Port Pirie there is a break of gauge, is there not ? Yes ; at a place called Terowie.
2986. And that necessitates all the goods being re-handled ? Not all, by any means. A large proportion of the traffic is with Port Pirie, and a 3 ft. 6 in. gauge runs through to Port Pirie, so there is no transfer at all ; but in going to Adelaide there is a transfer on to the 5 ft. 3 in. gauge.
2987. Do the bulk of the goods come from, and go to, Port Pirie, or Adelaide ? Port Pirie ; and the coal, coke, and bullion all goes to or from Port Pirie ?
2988. So that there is no change of truck ? Not so far as those things are concerned.
2989. At the end of your line it becomes a Government railway, does it not, to Port Pirie ? At Cockburn the line becomes a Government railway.
2990. Does your company work with the Government ? We do. We have an agreement with them for a long term of years.
2991. Do they carry the goods and pay you so much, or *vice versa* ? We pay them a haulage rate. They supply the rolling stock and haul the goods to Broken Hill station, and we pay them a rate per mile.
2992. How long has the contract with the South Australian Railway Commissioners which is at present in existence been in force ? The present contract dates from the 1st July last year, and was made for ten years.
2993. Was that contract made at a much reduced rate compared with the one existing before ? No ; there was no reduction of the rate, but there is a larger tonnage to be hauled for the same money, which means virtually a reduction of rate.
2994. Was that a considerable reduction ? Fifty per cent. additional tonnage to be hauled for the same rate.

W. Macculcol,  
Esq.  
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- W. Macnicol, Esq.  
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2995. Was not that reduction made almost directly the Nyngan to Cobar and Nyngan to Cockburn railway was mooted;—was it not the outcome of that? I think it was some considerable time before that.
2996. Not if it was made in July last, because this railway has been under consideration for eighteen months? Yes; I know that the Sectional Committee were at Broken Hill eighteen months ago. We were negotiating at that time. It was a long time before the agreement was actually concluded. Previous to that there was an agreement between the Tramway Company and the South Australian Railway Commissioners for a term of five years, and this was simply another agreement extending the operation of the previous one.
2997. On better terms? Yes, so far as the Tramway Company was concerned.
2998. You say that the last dividend was at the rate of 50 per cent? Yes.
2999. Can you tell us what the dividend was before the change in the haulage rates was made? I think the dividend immediately before that was at the rate of 40 per cent.
3000. Less than now? Yes.
3001. How do you account for that? The tonnage has increased. It is the increase in the tonnage that has given the additional revenue.
3002. That is by reason of the further development of the mines at Broken Hill? Precisely.
3003. Was not the Silverton tramway, in the first instance, laid in a cheap manner, and for being worked at a slow rate? No; it was laid just as it is now, but it was not completed. It was not ballasted, and station buildings were not erected when it was opened first, in January, 1888. It was in a very incomplete state.
3004. And the trams could travel only at a certain rate per hour? There was a good top on the road, and the trams could travel, I think, at almost the same rate as now, but the ballasting was not completed; the road was not boxed up.
3005. Had the company not to complete it at very great expense? No; it was not an undue expense, but just the ordinary expense in completing it.
3006. I understood that, in the first instance, it was laid down as a very cheap kind of railway, and to be travelled over at only a slow rate of speed, but that, as the traffic developed and became heavier, and the people wanted to travel faster, the company had to spend a very large sum of money to ballast the line? There has been a large sum of money spent, and it may have been the original intention to make such a line, but it was not after the company had the inception of it.
3007. Can you tell us what was spent to complete the line? I can tell you about the total amount spent altogether, viz., £227,000.
3008. I mean since it first commenced to run in its incomplete condition? I cannot tell you now.
3009. It was more in the nature of a surface railway, was it not, when it started—there was no stone ballast? There was gravel and stone ballast.
3010. But very light? All the bottom ballast was put on as it is put on on the South Australian railway—I mean the ballast under the sleepers.
3011. We are dealing with a railway over the same class of country, and I want to ascertain if it proved a failure in the first instance—if it became absolutely necessary to spend a great deal more money on ballast? It was proved to be absolutely necessary, for this reason: In that part of the country the sleepers, unless they are covered, crack under the heat of the sun, and it was found absolutely necessary to cover the sleepers with ballast—to box the line up.
3012. Were they square sleepers? Yes.
3013. All the best kind of sleepers? Every bit of timber used on the railway came from Western Australia—jarrah timber—with the exception of a few sleepers from South Australia, which were very inferior, and which are being replaced gradually.
3014. Have you with you a list of the rates for the carriage of goods to and from Port Pirie and Adelaide? No; I have not brought it with me.
3015. We had evidence as to those rates about fifteen months ago, when the Sectional Committee were at Broken Hill;—are they the same now? No; they are less.
3016. Very much less? Considerably less.
3017. How could we get a schedule of those rates? I could get you the rates from my office, but I have not got them here.
3018. *Chairman.*] You might be able to send those to us when you are sending the balance-sheet? Certainly.
3019. *Mr. Trickett.*] Do you know the district between Broken Hill and Wilcannia? I do not.
3020. You have not traversed it? I have never been in that part of the country.
3021. I suppose you are pretty well acquainted with the working of Broken Hill;—you often hear about it? Yes, naturally.
3022. Do you look upon it as a permanent field of industry as a silver mine? Yes.
3023. For a good many years to come? Yes.
3024. Have you ever considered the question of the low grade ores being sent to Lithgow, or to our western mines, and being treated at our coal mines? I have heard a good deal said about it.
3025. What is your view of that? That the ores will not be sent.
3026. Why? Because they will not pay to send, and, as far as I can learn from mining men, they must be treated on the field.
3027. Would it be as cheap to send the ore to the coal mines, where coal is so cheap, and where water is plentiful, as to truck all the smelting material to Broken Hill, and send the stuff away again? No. As far as I can learn, it would be cheaper and better in every way to smelt on the field, and men capable of giving an opinion say that in a little while no ores will be sent away from the Hill.
3028. Are you able to tell us what is the result, comparing the smelting at Broken Hill, and at Port Pirie, and Adelaide? No, I cannot tell you in figures.
3029. You cannot say what is the most profitable? No. All the ores sent away hitherto have been rich ores.
3030. I refer to the cheaper class of ore; it might possibly suit to treat the good ores locally, but as to the cheap ores, which they must come to in large quantities directly, do you not think it would be better to send them to the smelter, than to bring all the fuel and everything to the mine? My own opinion would be valueless as regards that, but I am quoting the opinion I have elicited from others.

3031. Practical men? Yes. I may state that the Broken Hill Proprietary Company is about to erect additional works at a cost of nearly £70,000, to treat ores that it cannot treat at present. W. Macnicol,  
Esq.
3032. Low grade ores? Not exactly low grade, but what they call the dry ore.
3033. Are they not erecting large smelting works at Port Pirie at the present time? There are large smelting works there already belonging to the British Company. 28 April, 1891.
3034. You are not aware that they are constructing more? No; I do not think that they contemplate constructing any more; in fact the British Company are about to do away with those works, and erect smelters to treat the ores at the mine at Broken Hill.
3035. Your company has, of course, got a long contract for the carrying of all materials over your line of tramway? Yes.
3036. Has that any force in making you give the opinion that you do not care about this railway being constructed? I do not think I have given such an opinion.
3037. I think you said a little while ago that you thought it would be a good thing for this railway to be constructed? I said that so far as I knew, my directors had no objection to the railway.
3038. If they had not secured this contract for the next six or seven years, do you think that they would still think so. I think their opinions would be the same.
3039. It does not affect them? I do not think it would.
3040. Why is that so? I am under the impression that in the face of competition the rates over the South Australian lines would be so reduced as to defy competition. I should think so, from the expressions of opinion that I have heard from prominent South Australian men.
3041. Would it be fair for me to ask you whether, if this proposed line were constructed, you could reduce your rates very much below those at which you are running at present? We could.
3042. And still run at a good profit? Still run at a profit;—I do not know that it would be a good one.
3043. Do you know how long it took to construct these 35 miles of tramway? I cannot say exactly. I was not Secretary of the company at the time, but I should say that it took about fifteen or sixteen months, perhaps eighteen. I am not positive.
3044. Have you been at Broken Hill lately? Six months ago I was at Broken Hill.
3045. *Mr. Copeland.*] How many companies have entered into this compact with you? Four companies.
3046. What are the names of the companies? The Proprietary, the British, Block 10, and the North Broken Hill.
3047. What is the nature of that agreement—is it that they shall exclusively do all the business in connection with their mines with your company? Simply for us to carry the produce of the mines—that is all that is included.
3048. And the mining material back? No.
3049. They have not entered into any agreement about the mining material? No.
3050. About the mining timber? Yes, that is one of the items. There are bullion, ore, coke, coal, flux, and mining timber,—six items.
3051. You did not say how much flux you carried on the line? The reason why I did not mention that was because it is a local traffic. At present it all comes from Silverton, and a place called the Accacia, about 8 miles from Broken Hill, and that is all on our line. The quantity at present is about 7,000 tons a month from those places.
3052. Then, during the continuance of this agreement, those particular four companies must do all their traffic with you, whether the New South Wales Government construct this proposed railway or not? Yes.
3053. That is, so far as their mining material and mining produce are concerned? Yes, just so.
3054. You have no agreement with reference to ordinary goods—merchandise and so forth? No, we have not.
3055. Do you know whether there are any other companies developing their mines besides those four companies? Yes.
3056. Have they entered into any agreement at all? I might say that all the companies at Broken Hill are at present under agreements with our company—I mean all the producing companies—all the companies that are raising ore. But the agreements with the companies other than those I have just mentioned will expire in 2½ years.
3057. Can you give us the names of those companies whose agreements will expire in 2½ years? Yes; the South Company, the Central Company, Block 14 Company, and the Junction Company.
3058. Those are all the companies that are producing ore besides the other four companies? Yes, at present.
3059. So that you have an exclusive agreement with four companies, which has about 7½ years to run, and another exclusive agreement with four other companies, which has 2½ years to run? Exactly.
3060. Then, in addition to those eight companies are there any other companies sinking or developing mines? Oh, yes; there are other companies sinking, but I think they have not struck—got any lode yet. There is the Pinnacles, of course, on the other line.
3061. Do you think that there are any progressive companies, not included in those eight, who are likely to find ore,—have you any opinion as to that? I have no opinion.
3062. You do not profess to have any mining knowledge—you are here simply as Secretary of the Tramway Company? Just so.
3063. On what date was this list of shareholders in your company made? One day last week. It was completed up to the very latest date to which I could get it before leaving Melbourne.
3064. It is dated 24th April? Yes.
3065. Did you have any transfers immediately before that? We have transfers of scrip every week.
3066. Does the Board meet every week? Yes.
3067. And you transfer at the Board meetings? Yes, every Friday.
3068. Were there any New South Wales transfers at the last Board meeting? I think there were not, so far as I can recollect. We have very few New South Wales shareholders.
3069. Did you have many when the company was incorporated? We never had many.
3070. Do you remember whether any members of our Parliament were shareholders in the company at any time? Yes; there is one now.
3071. What is his name? The Hon. R. H. D. White, a member of the Legislative Council. That is the only one. 3072.

- W. Maenicol, Esq. 3072. Is that the only one who has ever been a shareholder? The only member of Parliament, so far as I know, that has ever been a shareholder—so far as I can speak now from memory.
3073. *Mr. O'Sullivan.*] The proposed railway will run from Broken Hill to Cockburn, *via* the Pinnacles, will it not? So I understand.
3074. Therefore, it cannot, to a full extent, compete with you as you are running now—you going by a different route? The only traffic is from Broken Hill—the intermediate traffic is nothing.
3075. You say that you do not fear the competition at all, and can hold your own against it? I think so.
3076. Our Government had better carry out their powers of resumption, and resume your line? They cannot, under our Act, for sixteen years yet.
3077. I suppose, then, that you feel pretty sure that with the contracts you have entered into with the mine proprietors and the South Australian Government, you can defy competition? I should not like to use those words “defy competition.” As I said before, we need not, I think, fear competition.
3078. *Dr. Garvan.*] What are the terms on which the Government could resume? I almost forget the section of the Act. At the end of twenty-one years from the passing of the Act the price is to be based on the preceding seven years' average profits. I think that is it.
3079. It is dependent on the profits? The purchase is to be based on the profits for the preceding seven years, after the expiration of twenty-one years.
3080. *Mr. Tonkin.*] Do you know the names of the directors of the Proprietary Company? Yes, I think I know all of them.
3081. Can you tell us who they are? Yes; *Mr. M'Gregor, Mr. Wilson, Mr. Kelly, Mr. Drew, and Mr. MacBride.* I do not know whether there are any more,—I think there are only five.
3082. Do you know the directors of the British Company also? I am not sure. I think that two of those directors are also directors of the British, but I do not know the others.
3083. Is not *Mr. Jamieson* in the Proprietary? Yes, I think he is. I think he is acting for *Mr. M'Culloch.*
3084. You do not know the directors of the British? I know there are two of those, but I cannot mention others. I think *Mr. A. R. Blackwood* is one. I cannot tell you the number of local directors of the British Company either. It is managed in London.
3085. Do you know the directors of Block 10? No.
3086. Do you know the directors of the North? No.
3087. Can you tell this Committee whether these gentlemen, who are the directors of the Proprietary claim, are shareholders in the Tramway Company? Some of them are.
3088. *Mr. M'Gregor?* Yes.
3089. *Mr. Wilson?* Yes.
3090. *Mr. Kelly?* Yes.
3091. *Mr. Drew?* No, he is not.
3092. *Mr. MacBride?* Yes.
3093. *Mr. Jamieson* is representing some one else? Yes, I think so.
3094. Do you know that *Mr. Blackwood* is, who is in the British? Yes.
3095. Can you tell the Committee what you charge per ton from the Broken Hill mines to the South Australian Border—that is to Cockburn—or do you arrange with the South Australian Government to carry right through and take a percentage? No; we have our own rates and they have theirs.
3096. Would you kindly inform us what your rates are from Cockburn to Broken Hill? There are different rates for different items.
3097. I speak now, for instance, of coke, coal, and timber—that would be the inward loading? Coke, I think, is 6s. 2d. I am sorry I have not the rates with me, but I think I can give them correctly enough from memory.
3098. Well, approximately? Yes, I think that is our rate.
3099. For coal? 4s. 8d.
3100. For timber? 6s. 2d., the same as for coke. I think that is correct.
3101. Now for the outward loading—bullion? Bullion is 7s. 10d. or 7s. 9d., something like that.
3102. Ore? 4s. 8d.
3103. The flux, of course, only comes, as you say, a short distance? Yes, on our own line entirely.
3104. That comes from near Silverton, does it? The bulk of it from Silverton and the balance from a place about eight miles from Broken Hill called the *Acacia.*
3105. Can you give us an estimate of what it is charged per ton on your tramway? 2s. or 3s.
3106. What is the steepest grade on your tram line? 1 in 82 or 84—something like that.
3107. Do you know the grades on the line from Cockburn to Port Pirie or to Adelaide? No, I do not.
3108. Do you know the cost of carriage of traffic from Port Pirie to Cockburn—to where you take possession of the load? I cannot speak from memory about those rates. I have nothing to do with the traffic.
3109. You cannot tell us, either, what it is from Adelaide? No, I cannot tell you.
3110. Do you find the goods traffic increasing on your line? Yes, there has been a steady increase.
3111. Have you an idea of the total tonnage yearly—that is, for flux, coke, coal, timber, bullion, and ore? For last year, 1890, it would be something like 300,000 tons, I should imagine.
3112. That is without the merchandise for the consumption of the township? No, the total of the tonnage carried on the line.
3113. The figures you gave us were for fifteen months, were they not? Yes, up to the 31st March last.
3114. That, according to your figures, was 413,393 tons? Probably.
3115. The passenger fare from Broken Hill to Cockburn, I think you said, was 10s.? Yes.
3116. Is a large amount taken in passenger fares? No, a very small amount. The total passenger traffic over the line inwards and outwards is only 900 per week, and a large portion of that is local traffic between Silverton and Broken Hill, and Cockburn and Broken Hill. The passenger amount is very trifling.
3117. Is there any fuel, coke or coal, delivered at Broken Hill from any place at all except by your tram line? Nothing, except firewood. A little firewood is carted into the town.
3118. You are sure that you are correct in your estimate of the number of tons of coke and coal per month? That is the correct total for 15 months which I gave you.

3119. I am asking you this question because we have it in evidence that there is as much as 7,000 tons of coke a month used at Broken Hill? That is not correct. There has never been in one month coke used to that extent. W. Macnicol,  
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3120. Can you tell us whether there is any probability of the mines altering their style of working with regard to smelting—that is, that they intend to take more ore to the Port to smelt than they do at present, and not smelt so much at the mines? No, it is just the reverse.
3121. It has been represented that nearly the whole of the principal mines are erecting furnaces now in South Australia for the purpose of treating their ores at the Port? That is not correct.
3122. You are certain of that? Yes, it is just the reverse.
3123. The smelting works that are in South Australia number three or four? Four.
3124. Would you name them, please? Port Pirie, Dry Creek, and two at Port Adelaide. When I say two, I mean the smelter belonging to the Junction Company of Broken Hill, and one belonging to an English company—to the English and Australian Copper Company.
3125. How long have those works been erected to your knowledge—have they been erected within the last two years? Oh, yes. The English and Australian Copper Company's smelters must, I think, have been erected before that. I have no knowledge of them.
3126. Have they been erected within the last twelve months? More than twelve months. The Dry Creek works must have been erected more than twelve months ago.
3127. Can you give us an idea when the last of those works was erected? I think the Junction Company's smelters at Port Adelaide were the last.
3128. How long ago was that? Eighteen months ago, perhaps, as near as I can recollect.
3129. Do you think it is their intention to increase those works, or otherwise? I do not think so. I have heard nothing of it. I do not think it is their intention to increase them.
3130. *Mr. Humphery.*] Does your agreement with the various companies bind the companies not to use coal or coke from Bowenfels, or brought from New South Wales? Well, virtually it would.
3131. Is there any special condition that the companies are not to use any coal or coke which is not carried on your tramway? Yes; the agreement binds them to give the whole of the tonnage of those articles to the Silverton Tramway Company.
3132. Would that exclude the New South Wales coal and coke? It is all New South Wales coal now.
3133. But I mean carried from New South Wales by railway? Yes, it would exclude that.
3134. In what way would it exclude that? Unless it came over the Silverton tramway; the whole of the tonnage of coal and coke must come over the Silverton tramway.
3135. Cannot the companies to whom you have referred use any coal or coke except that which comes over the Silverton tramway? I think not, according to their contracts.
3136. Is that the contract? I think so.
3137. Would they be prevented from sending any of their ores over the New South Wales railway if this line were constructed? Yes; in a similar way.
3138. Is there a special condition binding them not to send? The agreement is simply that they shall give the whole of the tonnage of those articles to the Tramway Company for a term of years.
3139. Does it say from any particular port? It can only be between Broken Hill and Cockburn—the termini of the tramway.
3140. If the condition is between Broken Hill and Cockburn, that would not affect the traffic between Broken Hill and Bowenfels? I think it would. It would preclude them from taking coal or coke from any source except over the Silverton tramway.
3141. What is the penalty in the event of the companies using coal brought otherwise than over the Silverton tramway? I do not know. I do not think there is any penalty.
3142. Is there any condition in the contract which would enable the companies to withdraw? No. I do not think they can withdraw.
3143. Can they annul the contract? No; they have no power to annul the contract.
3144. Is there any objection to produce the contract or furnish a copy of it? I cannot say. If this Committee propose it to my directors I will be very glad to convey the request.
3145. It is very necessary that the Committee should have full information on that point, so that we may understand how far the companies are bound to send the whole of the traffic through Adelaide? Well, of course, that is the point. You understand that the Secretary is a servant of the Board of Directors, and I cannot commit the directors to that.
3146. Do you happen to know the rate charged for carrying coal and coke between Cockburn and Port Pirie? No. I cannot tell you the South Australian rate.
3147. Your rate is about 1½d. ? Yes; it is 1'60d. I think that is our rate.
3148. You do not know whether the South Australian Government's rate is more or less than that? It must be less.
3149. Can you say how much less? No; I do not remember their rates.
3150. Have you any agreement with local storekeepers similar to the agreement with the various silver mining companies? No; no agreement.
3151. *Mr. Dowel.*] Can you say if any considerable quantity of wool and live stock is carried between Port Pirie and your tramway? Yes; but I cannot tell the tonnage. I did not prepare myself with it.

George John Morgan, Esq., Mayor of Broken Hill, sworn, and examined:—

3152. *Mr. Tonkin.*] You are Mayor of Broken Hill? Yes.
3153. Have you been long in Broken Hill? Five years.
3154. Ever since its start? Yes, from about the first start of the town.
3155. You heard some evidence given just now by the Secretary of the Silverton Tramway Company with regard to the amount of traffic? Yes.
3156. Do you agree with that evidence? I think the traffic is under-estimated by him.
3157. For instance, 56,000 tons of coke for fifteen months? I have the Customs returns here, and if you like me to refer to them I will give you the amount. I obtained the statement from the Government Officer of Customs.

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- G. J. Morgan, 3158. Will you kindly make a general statement—perhaps it would save time for you to do that? Yes. One return here is with regard to the Proprietary mine. The whole of their tonnage for the year is 152,938? This return is made from actual quantities for the three months ended 31st March, 1891, the first three months of this year.
3159. With that three months have you reckoned that as one-fourth of the year? As a fourth of the year. The totals for a year are 15,808 tons of coal, 44,375 tons of coke, 14,125 tons of timber, 73,430 tons of limestone, 2,230 tons of ironstone (used for fluxing), 1,670 tons of firewood, and 1,300 tons from other sources.
3160. Is that for the one mine? That is for the Proprietary mine. That is the annual quantity, based on the last three months.
3161. What is the total? 152,938 tons.
3162. That is the total tonnage for one mine for twelve months? Yes.
3163. Do you think the three months they base these calculations upon are a fair average for twelve months? Not of the past. It is an increase on the past.
3164. Well, it is hardly a fair estimate; the total would be under that, would it not? The total for the last twelve months would be under that. That is based on the last three months. The increase for the last three months is considerable—both of the output and imports.
3165. Has that increase been gradual, or was that an exceptional three months? There has been a gradual increase for the last three years.
3166. There has not been an extraordinary increase of any kind? Not at all.
3167. So that would be a fair estimate for twelve months—that is nine months to come, in addition to those three? The chances are that there would be a greater increase.
3168. Then, in estimating 152,000 tons, you would say that that is a fair estimate of twelve months' work for that mine? Yes.
3169. Had you similar returns from any of the other mines? I have returns for the South, viz., coal, 5,750 tons; coke, 10,000 tons; timber, 1,500 tons; limestone, 9,000 tons; ironstone, 1,000 tons; general merchandize, 500 tons; total, 27,750 tons. The return for the Central Broken Hill mine is 3,200 tons of coal, 12,000 tons of coke, 2,000 tons of timber, 400 tons of general merchandize; total, 17,600 tons. The return for Broken Hill Proprietary Block 14 is: coal, 1,697 tons, coke, 4,823 tons; timber, 2,882 tons; limestone, 812 tons; ironstone, 100 tons; stores, 61 tons; general merchandize, 132 tons; total, 10,507 tons. The return for Broken Hill Junction is, coal, 650 tons. They had no returns for anything else. I got this information from the mine managers, as taken from their books.
3170. Have you any other return with regard to merchandize? I have the Customs return for that.
3171. These are all imports that you have given us up to the present? Yes; I have here the imports from the 1st July to 31st December, 1890. These returns I got from the Customs-house officer, as follows: coke, 19,562 tons; coal, 10,188 tons; timber, dressed and undressed, 12,579 tons. For machinery the tonnage is not given, but the value is £33,467. For beer, spirits, and wine, the value is £19,843; drapery and wearing apparel, £45,500; butter, eggs, and bacon, £17,667; tea, coffee, and sugar, £14,959; flour, bran, chaff, and oats, 5,809 tons, valued at £37,916; tobacco and cigars, £5,428; dynamite and powder, £10,076; boots and shoes, £15,217; coin, £31,009; hardware, £11,362; galvanised iron, &c., £15,697; railway plant, 237 tons, valued at £5,577; miscellaneous, £184,491. These are all imports for the last six months of last year.
3172. *Mr. Trickett.*] Are those returns taken from the Customs? Those are the returns that I got from the Customs-house officer before leaving. He also gave me a return from the 1st January to the 31st March, 1891, viz.: coke, 18,407 tons (compared with 19,000 for the previous six months); coal, 7,742 tons; timber, dressed and undressed, 12,067 tons; for machinery no tonnage is given, but the value was £16,232; beer, spirits, and wine, £9,814; drapery and wearing apparel, £30,028; butter, eggs, and bacon, £9,542; tea, coffee, and sugar, £8,507; flour, bran, and chaff, 3,875 tons, valued at £27,828; tobacco and cigars, £2,347; dynamite and powder, £7,754; boots and shoes, £7,702; coin, £7,000; hardware, £6,071; galvanized iron, £7,366; railway plant, 2,379 tons, valued at £26,434; miscellaneous, £116,230. Total for three months, £489,280. Total for the previous six months, £677,712.
3173. So that the proportionate increase for the last three months is considerable? Yes, nearly 50 per cent.
3174. Have you a list of the exports? Yes.
3175. For what period? From 1st July to 31st December, 1890, and from the 1st January to the 31st March, 1891—three months of this year as against six months of last year.
3176. Will you please hand that in? Yes. I may say that the total exports for the six months ending 31st December, 1890, amounted to 2,656,279 lbs., value £1,521,477; for the three months from 1st January to 31st March, 1891, 152,208 lbs., value £811,469. The total Customs revenue for 1888, was £65,334 14s. 11d.; 1889, £63,544 10s. 2d.; 1890, £73,722 2s. 9d.; and for the three months ending 31st March, 1891, £22,417 10s. 4d. There is a very marked increase there.
3177. Have you any returns from the post and telegraph office? No, I have not a return of the post and telegraph revenue at Broken Hill.
3178. That also is very large? Yes; it has increased very much. I had only two or three days to collect my information, and I went to the different mine managers, and to the Customs-house to get it.
3179. How long have you been at Broken Hill? Five years.
3180. In what kind of business? That of a builder and contractor.
3181. Therefore you would have peculiar opportunities of noticing the advancement of the place? Certainly.
3182. Has it been gradually advancing during the time you have been there? Yes. During the last four years the population has doubled itself in two years. From, say, 1886 to 1888, the population just doubled.
3183. Can you tell us what is now the population? The population in January last was 24,000.
3184. Do you think it is more or less now? It is increasing very fast.
3185. You think there are more people there now? Oh, yes; people are continually coming. All the mines are putting on more men continually, and the men bring their wives there and build houses.
3186. Do you know how many miners are employed on the Hill? About 6,000 or 7,000, I think.
3187. Is the class of building that is being erected there of a permanent character? All business buildings now are good substantial ones of stone, and a great many of the residents in the suburbs are erecting stone buildings in place of wood and iron ones.

3188. Therefore, so far as you can say, there is every prospect of the place being permanent in its character? Yes. G. J. Morgan,  
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3189. Do you experience much inconvenience in getting your supplies up there for building at the present time? Not very much now. Sometimes things are delayed. The great nuisance is the break of gauge at Terowie. If you are getting things from Adelaide, sometimes they lie there three or four days before they are transhipped. 28 April, 1891.

3190. The goods you require for building, &c., come from Adelaide? Chiefly.

3191. Therefore, you have the inconvenience of changing trucks? Yes.

3192. Do you think that is a great inconvenience? It is a serious inconvenience. I have been delayed sometimes over a week, especially in the wool season, when there is a lot of traffic on the line. It is sometimes very difficult to get stuff up the line.

3193. In what way do you think that the proposed railway would be a benefit to Broken Hill if the line were constructed? It would be a benefit, inasmuch as it would supply Broken Hill with coal, coke, and timber. That is the principal thing we look to. At present the carters have to go out about 15 or 16 miles for firewood for domestic use, and several people now, in the hotels especially, are burning coal instead of wood. Firewood has got too dear. They can get coal at £3 a ton, and they find it just as cheap as wood, and it will shortly be much cheaper, as there is no wood in the district, which is badly timbered; and if this line is constructed it will go through a quantity of timber, besides passing, I understand, through two coal mines.

3194. What is the feeling of the people up there with regard to this line of railway;—are they in favour of it or otherwise? Very strongly in favour of it. A requisition was sent, asking me to call a public meeting, and the room—the Carrington Hall, which was the largest room available at the time—was crowded, and people were very enthusiastic about the railway. The meeting was held about a fortnight ago.

3195. Have you considered the question of railway charges, and do you think that the railway could be constructed and could be run so as to be remunerative? I think so.

3196. What does it cost you per ton now to get your goods up there from Adelaide—the building material you use, for instance? For some time I have not been getting any up directly from Adelaide, but have bought from merchants in Broken Hill; in fact, I have not done much business during the last twelve months.

3197. Do you think the material could be brought up from Sydney and intervening places as cheaply as from Adelaide to Broken Hill? Yes; but I question if such things as building material could be brought by rail from Sydney any cheaper than from Adelaide.

3198. You think that the chief advantage would be the means of getting large quantities of fuel from our own coal mines? Large quantities of fuel and mine timber. The quantity of mine timber imported now is immense, as you will see from those returns; and a great many mines would use the timber that could be got near the river—the gum. I do not know that country myself, but I have been given to understand by some people that there is any quantity of timber near the river, and in the direction the proposed line would go, which could supply those mines.

3199. Do you think the storekeepers and others up there would prefer to get their goods from Sydney rather than from Adelaide? A great many of them would. A great many deal there now. The only difficulty in the way of getting things directly from Sydney is the loss of time in getting them. There are any number of storekeepers who would deal with Sydney merchants; but, if they were to send down an order from Broken Hill, by the time the order went and the goods came, there would be a delay of a month before they got them.

3200. Whereas, if this proposed railway were constructed, they would get them in a few days? Yes.

3201. When the Sectional Committee were making inquiries between Nyngan and Broken Hill, the evidence was that all the people had a kind of sympathy to trade with Sydney in preference to other places;—do you think that that feeling still exists? There may have been a little feeling, but the people there now begin to feel that they are New South Welshmen and not South Australians. The desire of nine-tenths of the people of Broken Hill, at any rate, is to be connected with Sydney, and to look to Sydney as their capital.

3202. You misunderstand me: I said that in most of the towns to which we went between Nyngan and Broken Hill, the evidence of storekeepers was entirely in the direction that if they had the opportunity to deal with Sydney, they would far rather get their goods from Sydney than from ports in South Australia;—do you think that that feeling exists at Broken Hill? That is the feeling in Broken Hill at the present time. I am quite sure of it.

3203. Do they have to get large stocks at a time now? They have. One of the largest drapery establishments there get the principal part of their goods from Sydney, and they told me a short time ago that they would get the whole of their goods from Sydney, but when stocks ran out they had to send to Adelaide for certain lines they had run out of. One of the firm goes to Sydney once every three or four months and orders large stocks, but before he goes down there again they run out of certain lines, and then it is too far and takes too long a time to run to Sydney to make up those particular lines, and they have to send to Adelaide, and sometimes to Melbourne, in order to get things to keep up their stock until they go to Sydney for their supplies.

3204. Owing to the duties that exist in Adelaide, I suppose those goods would be considerably dearer in Adelaide than in Sydney? Yes; considerably dearer.

3205. Have you heard any of the mining people there talk about sending the low grade ores to the coal mines of the western district to be treated? It has been talked of. The question is whether it would pay them better to send the ore or to get the coal, and that question they are not quite clear upon at the present time.

3206. It has not been thoroughly worked out? No; it has not been worked out.

3207. I suppose, on the other hand, that if they got large quantities of coal from Lithgow, or even from Dubbo, it would suit them much better to send their bullion right away to Sydney in one railway train, and to have it put alongside a vessel, than having to send it, as now, either to Port Pirie or to Adelaide, then by coasting steamers to Sydney, there to be transhipped and placed on board the mail boats;—I suppose there is no difference of opinion about that? There are no two opinions about that.

3208. Is that a matter that is often talked of at Broken Hill? Yes,

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3209. And the present arrangement is looked on as ridiculous? Yes; to send it through other colonies so as to get it to its destination here. I was speaking to Mr. Howell a few days before I left Broken Hill, and he told me that there are several companies who would get things from Sydney, but that it took too long to get them round.

3210. That is Mr. Howell, the manager of the Proprietary mine? Yes.

3211. Do you know Port Pirie well? Not much.

3212. You know of it? Yes.

3213. We have had it stated in evidence by one gentleman that they are continuing to build large smelting works there;—do you know if that is a fact or not? They are talking of removing their smelters to Broken Hill now that there is to be a water supply there. I am confident that they will not build any more smelters at Port Pirie. The question is whether they will not remove all their smelters from Port Pirie and Port Adelaide in connection with mines now at Broken Hill. I do not say the Dry Creek, because that is not connected with the mines. The British Company has already put up one and has another in course of erection on the mine, and I think that when that is completed they will remove the others from Port Pirie, and have them up there.

3214. With regard to the present water supply scheme for Broken Hill, do you think it is likely to be carried out with success? Whether it will be a success or not, I do not know.

3215. But you think it will be carried out? The Stephen's Creek scheme will be carried out. They are pushing it on as fast as they can.

3216. I ask that because it appears that one of the great elements in the success of the place is a good water supply;—what do you look forward to as the best means of supplying the Broken Hill district with water? We are looking forward to the Stephen's Creek scheme, and if that is a success, then, to the question whether the weir constructed will hold the water or not. No doubt sufficient water will fall, but the question is whether they will be able to conserve it. I myself think that the water should be brought from Lake Menindie, and that that would be a far preferable scheme. That is the place I think we shall have to go to for a permanent supply.

3217. Did you ever go into the merits of that scheme, as contained in the Bill passed authorising it? No; I did not.

3218. You are not able to say whether it is a feasible scheme or not? I think it is a feasible scheme; but the question is about raising the funds to carry it out. It is an expensive scheme.

3219. Are they carrying out the Stephen's Creek scheme with any degree of vigour? Yes; they are pushing it on as fast as possible, I believe.

3220. Is not the country about there generally good holding country for water? There are dams, but, of course, in putting down dams they generally pick out holding ground and test it before the dam is sunk; but this is rocky ground, and the question is as to whether the water will not percolate through the rock and get away.

3221. But it is a splendid watershed? Yes; there is no doubt about catching sufficient if they can keep it after they have got it.

3222. *Mr. O'Sullivan.*] Do the people of Broken Hill complain of the charges by the Tramway Company? Very bitterly.

3223. And I presume they would therefore like to see a competing line between Broken Hill and Cockburn? Certainly they would. The charges are very high at present.

3224. But, bearing in mind the fact that the Government cannot resume the tramway for sixteen years and a half, do you think the Government will be justified in constructing a line between Broken Hill and Cockburn? Well, I should think so, or as far as Broken Hill.

3225. Do you think it would suffice if they took the line to Broken Hill alone and did not go on to the Border? It would be a great boon to Broken Hill, so far as Broken Hill is concerned; but if they went on to the Border, of course we should have the freight rates reduced, but there would be the break of gauge difficulty.

3226. In going to the Border they would serve another district altogether from that which the tramway serves? Yes.

3227. Is there much population in that district, on what might be called the Pinnacles line? I should think there are about 200 or 300 people at the Pinnacles, and a number at Thackaringa; but I am not sure as to the population there.

3228. This proposed line would serve both the Pinnacles and Thackaringa? Yes.

3229. You told us that the population of Broken Hill was 24,000 last January? Yes.

3230. How did you arrive at that estimate? From the police returns.

3231. You mean in collecting the electoral roll? Yes.

3232. But they do not collect the whole of the population in doing that, do they? Yes; they take the number of people in each house.

3233. I gather from your evidence that there has been a great increase, not only in the population, but also in the imports and exports? Yes.

3234. You say that the imports increased at the rate of 50 per cent.? Yes.

3235. So that we may look upon Broken Hill now as a pretty staple and flourishing town? Yes.

3236. Likely to remain so for many years? Yes, and increase, I think, very much. If we get a good supply of water, I think that in two or three years we shall have 50,000 people there.

3237. *Mr. Dowell.*] Have you a fair knowledge of the country through which the proposed railway would pass? Very little beyond Broken Hill, or for 50 or 60 miles out.

3238. From your knowledge of that portion of the country through which the railway would pass, do you think the best route has been selected? I cannot speak about it after crossing the river. I have no knowledge of that side of the country at all—only from Broken Hill as far as Nuntherungie.

3239. In your official capacity, and from your long residence in that particular part of the country, you have come in contact with a great many persons outside the town of Broken Hill, have you not? Yes.

3240. What is the general expression of opinion of those persons in reference to the construction of this proposed line? All I have met have been strongly in favour of the construction of the proposed line, and most people are of opinion that the line would pay even from the start.

3241. In your opinion there is the probability of the line paying from the start? Yes; and that is the opinion expressed by several others.

3242. What causes you to form that opinion? The quantity of fuel and the heavy traffic, also, in carrying timber; and also because of other mines that would be passed by the railway. There are several mines, including the Black Mountain, which are being developed very fast, and Nuntherungie is likely to be a very good field. There are several good mines there. G. J. Morgan,  
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3243. From your knowledge of the various mines, do you think that their permanency may fairly be considered as established? About the Broken Hill mines there is no doubt. There will be mines there for the next 100 years.

3244. Can you say what distance the proved mines of permanent description extend over? At least 7 miles. The Broken Hill is about 3 miles. Then there is a very good mine that has been paying its way the last two years—that is the Globe Mine—1 mile north-east of Broken Hill, and in the same direction as the Broken Hill line would go. It has not been paying any dividends; but it has been paying working expenses, and for the erection of machinery the last two years.

3245. Can you say if there are any other minerals besides silver discovered or worked in that particular part of the country? Near the Black Mountain there has been a very good copper mine discovered, but the question is whether, it being so far inland, it would pay to work it, unless this proposed line were constructed. The shareholders think it would pay handsomely to work it for copper if this particular line were constructed. Twenty-three feet from the surface, they have taken out stuff, giving 80 per cent. of copper.

3246. And that mine, if developed, you think would be a considerable source of revenue for the proposed railway? Yes; and the Nuntherungie silver mines, and the Black Mountain mines.

3247. Has any tin of a payable character been discovered in that part of the country? I think so; there are several tin mines working; but they also are a long way inland, and the cartage is very expensive.

3248. Would the construction of the proposed line serve these particular mines? It would be very much nearer. They would be brought two-thirds nearer, I suppose, to a railway than what they are at present.

3249. You know the distance from Broken Hill to Sydney by the proposed route, do you not? Yes.

3250. You are aware that the proposed route would be very much shorter to Broken Hill, *via* Cobar? Yes; nearly half the distance.

3251. Do you think it is likely that the people would use this line particularly for passenger traffic? I think there would be a large passenger traffic.

3252. That the chief passenger traffic would go by the New South Wales line? Certainly.

3253. For what particular reason? The people on the Hill would undoubtedly, if they were connected with Sydney, do a large amount of business with Sydney, and therefore would have to go to Sydney to do the business. A great number of excursionists would also travel.

3254. The shorter distance to travel and the lower rate would be very considerable items in inducing those persons that now travel to use the New South Wales line? Certainly. Three times as many people would go to Sydney as go now, they having at present to pass round the other way.

3255. From a knowledge of all the surrounding circumstances, are you clearly of opinion that it would be advantageous to construct the line along the proposed route? I think it would.

3256. And you think that in a very short time it might be a payable undertaking? Yes.

3257. Have you heard any particular reasons urged why the line should not be constructed? I have not in our district.

3258. None? No.

3259. *Mr. Lee.*] When you say that the railway would, in your opinion, pay if constructed, are you estimating that it would have to carry the whole of the traffic to and from Broken Hill to make it pay? The whole of the traffic to Sydney.

3260. But having in view the quantity of stuff that is sent away from Broken Hill every year, and the quantity of coal and coke and timber received there every year, do you think it would require all that trade to make this railway to Sydney pay? Oh, no.

3261. Would one-fourth be sufficient to make the railway pay? One-half of it would make it pay, certainly.

3262. Are you aware that the four principal mines, with the Proprietary at the head of them, are bound down to the Silverton Tramway Company for the next seven and a half years? I heard so, but do not know it for a fact. I have also heard that the companies have power to annul the agreement. I do not think they are strictly bound to send all their ore and stuff by that line. They agreed that they would send all the stuff for a certain time, I think at a certain price; but one of the shareholders, Mr. Walter Sully, who is, I think, about the fourth largest shareholder, came down with me in the train, and he told me that he thought the companies could at any time annul the contract.

3263. But if it is held by the other parties that the contract is binding for the next seven and a half years, does it not follow, if that contract is good, that the greater portion of the goods traffic from Broken Hill could not go by the Cobar railway? If they are bound to them, it could not go, of course.

3264. Would it not be a most important item in railway carriage? Certainly it would.

3265. Would it not at the present time include nearly the whole of the bullion raised at Broken Hill? If they are bound in that way with the Tramway Company.

3266. And the carriage of coke? Yes.

3267. And the carriage of coal for the Broken Hill mines; if these items were taken out of the railway traffic for seven and a half years to come, do you think, in view of that, the prospects of paying the expenses of this contemplated line are favourable? Certainly not.

3268. Seven and a half years is rather a long period in the life of a mine, is it not? It may be in the life of some mines, but I do not think it would be at Broken Hill.

3269. Of course the general opinion is that Broken Hill is going to last for ever; but in seven and a half years the Proprietary mine must be considerably poorer than it is now? Of course, it must get poorer.

3270. And although it may continue to turn out for the next six or seven years the same amount of bullion as it now does, and has been doing for the past few years, still the fact remains that it would have so many hundreds of thousands of tons less to treat? Yes.

3271. Are you also aware that there are four other companies bound down to the Silverton Tramway Company for two and a half years? No; I am not.

3272. Namely, the South, the Central, Block 14, and the Junction? I am not aware of it. They may be, but I think differently. I know Mr. Lane, the manager of Block 14, is in favour of this line being constructed. 3273.

- G. J. Morgan, Esq., 3273. The Proprietary is the principal mine there—the one that yields the largest amount of bullion? At present it is.
3274. Uses the greatest amount of timber, coke, and coal? At present.
3275. If the trade of that particular mine has to be confined to the Silvertown Tramway Company for the next seven and a half years, are you of opinion that the railway, if constructed, would pay, *minus* the trade of the Proprietary mine? Oh, certainly.
3276. Taking the Proprietary mine out altogether, would the remainder of the trade be sufficient to pay the working expenses and the interest on the cost of the construction of the proposed line? Yes. The South mine is as large, and there is no reason why they should not turn out as much bullion as the Proprietary. The Proprietary had a start of the other mines.
3277. I presume that Broken Hill depends entirely on the mining industry? Yes.
3278. Suppose that were to fail in the future, what would become of Broken Hill? That is very hard to say.
3279. Is there anything round it to support the population? No, excepting the mines.
3280. When that day does come there may be a fine town and no inhabitants? Yes; but that will not be in our time.
3281. I suppose you anticipate, in consequence of the prospecting now going on, that further discoveries of minerals will be made? Very much. I think the Barrier is only in its infancy at the present time. There are hundreds of mines coming to the front besides the Broken Hill; in fact, two mines nine miles out of Broken Hill, near Stephen's Creek, lately paid dividends.

Thomas Talbot Wilton, Esq., Colliery Proprietor, sworn, and examined:—

- T. T. Wilton, Esq., 3282. *Mr. Copeland.* Where do you reside? At Wollahra.
3283. Have you any connection with Lithgow? Yes, with two collieries there.
3284. What are you—manager? I am one of the proprietors of the Lithgow Valley Colliery, which is owned by a small registered Company, with very few shareholders. We have two collieries—the Lithgow and the Hermitage.
3285. Can you tell the Committee what is the general selling price of coal at Lithgow? At present we have a Government contract in connection with the Eskbank mine, and are selling coal to the Government at 4s. per ton.
3286. That is round coal? Yes, over specified screens of  $\frac{3}{4}$ ths of an inch.
3287. Is that delivered into Government trucks? Yes. We are selling to private customers at 4s. 6d.
3288. Is there a large quantity of coal, available for many years' supply? So far as the next 100 years are concerned, it is almost illimitable.
3289. Do you know of any difficulty, or can you see any difficulty in the way of sending coal from Lithgow to Broken Hill, suppose this railway were opened to Broken Hill? I may say I had a conversation twelve months ago with Mr. Eddy upon that very point.
3290. Mr. Eddy, the Railway Commissioner? Yes; and he spoke of the necessity of our trying to make coke, as this railway had been projected, and I urged upon him what I thought would be the impossibility of doing this, because of the great distance and cost of carriage, but he said that they would be able to carry the coal there upon such a line as this would be—almost running level from Dubbo onwards—at a very reduced rate, and I understood him to say that no rate which we have now could be taken as a basis for that which would be charged for running the coal in large quantities over such a line as that;—that supposing a level line ran from Dubbo to Broken Hill, they would be able to mass three trains together, as they do from Penrith to Sydney. They run forty and forty-two trucks of coal together, and at several places on the mountains they take treble loads in that way, where there is tolerably level running, taking back empties and, indeed, full trains of coal. The impression that he gave me;—but I cannot say he said so directly—was that the coal would be taken at something like  $\frac{1}{2}$ d. per ton per mile over the entire distance.
3291. Have you gone into any calculation, or prepared any figures to show what price the coal would come to at  $\frac{1}{2}$ d. per ton per mile from Lithgow to Broken Hill? Yes. Though I have no doubt myself that coal would be got at Lithgow at 4s. 6d. per ton, I have calculated it at 5s. per ton. I take the distance from Lithgow to Broken Hill to be 638 miles 28 chains, along the proposed route. Taking it at 638 miles, the trainage only would be £1 6s. 7d. per ton, and say 5s. for the coal would make £1 11s. 7d. delivered in trucks at Broken Hill. Now the cheapest Newcastle coal at Broken Hill is, I understand, £2 7s. 6d. delivered at Broken Hill, and therefore the saving *via* Lithgow would be 15s. 11d. per ton. I think Mr. Alexander Brown, M.P., when here the other day, gave evidence that the cost of Newcastle coal delivered at Broken Hill was £2 7s. 6d. per ton. Other gentlemen gave evidence, and I remember that one spoke of some brickyards where the coal cost £3 per ton. But a gentleman stated here to-day that private consumers had to pay £2 15s.—at least, that is what I understood him to say. However, the large companies, who would have trucks under the most favourable circumstances, I think might be taken as paying the less charge of £2 7s. 6d. I am reckoning that as the charge, and am charging 6d. a ton more for coal from Lithgow than I know it could be got for.
3292. Do you think the Lithgow coal would be equally as serviceable to the Broken Hill mines and others as the Newcastle coal? I have no doubt whatever on that point. The Lithgow coal I am certain is a stronger coal, and it was proved in a trial made on the Pearl some years ago for steaming purposes when we first opened the mines. We then thought that it might be possible for us to do a shipping trade, which experience has since shown us was not possible, because there were no proper appliances. We delivered on board the Pearl 20 tons, with the view of getting a certificate. The Pearl went out, and a trial was made, and the result was that a knot more per hour was gained by the Lithgow coal than by the Newcastle coal. It stood 9 knots for Lithgow, 8 for Newcastle, and 7 for Illawarra coal, and that information was given to me by Commodore Goodenough himself.
3293. As a matter of fact, the Government do largely use your coal on the railways? Lithgow coal takes the express to Melbourne, and does all the work of the Western and Southern lines.
3294. Then so far as steam purposes are concerned, the western coal is a good coal? Yes.
3295. Do you know anything about it for smelting purposes? We have not had much experience. They had an ironworks, and used to make coke in a rough way to smelt the iron.

3296. Is there any coke made at Lithgow? Yes; but from what I understand, it does not bear comparison with either the English coke or the coke made at Newcastle. It requires a special treatment. There is no doubt about that. We have made many experiments. We have tried it in all sorts of ways. We can produce coke, but not in a satisfactory way, with the usual rough appliances. However, tests have been made by scientific men, and there is no doubt whatever that coke can be made from Lithgow coal, but it will require a most expensive plant to do it.
3297. When you say "most expensive," what do you mean? Well, with the market at present open, there would be no warrant now for putting up a plant to make coke successfully, by spending £15,000 or £20,000 for it.
3298. Do you think that if £15,000 or £20,000 were spent in appliances, a good coke, (say) equal to the Newcastle coke, could be made? I cannot say that. I have not sufficient scientific knowledge, but my impression is that it must be so.
3299. In the meantime, do you make much coke? We make none. There is some coke being made at the New Vale Colliery.
3300. Do they crush the coal before making it into coke? I do not think so. You see, we are all at sea about it. We fancy the coal would have to be washed. Taking the coal by itself, there is a larger percentage of ash in the Lithgow coal than in the Newcastle coal. It is believed that by washing and using improved methods of making coke, much of the ash would be got rid of, but we cannot get rid of it.
3301. You have no positive evidence, scientific or otherwise, as to the suitability of the western coal for making coke? No.
3302. So that, even supposing the proposed railway were constructed to Broken Hill, you cannot say positively that you would be able to supply people there with coke? I am certain of that.
3303. How are you certain? Because I know coke can be made.
3304. How do you know? From our own experience. We have produced very good looking coke.
3305. Have you had any tested? I cannot say that we have.
3306. You do not know how it would compare for smelting purposes with Newcastle coke? I do not.
3307. You cannot say positively that if the railway were opened to Broken Hill, anyone would enter into the business of coke-making on modern lines? I am pretty sure of that. There has been no inducement to start coke-making there. There has been only the one successful mine at Sunny Corner that offered itself as a possible customer. There is not temptation enough to put up a first class plant to supply that one company.
3308. The Sunny Corner Company uses Newcastle coke, does it not? Yes. I think it has used some coke from Cullen Bullen, and some from Lithgow.
3309. Some coke from Lithgow? Yes.
3310. I thought you said just now that you did not make coke? We do not.
3311. But in speaking to you, I am speaking to you as a representative of Lithgow? There is coke made at Lithgow.
3312. How much coke is made at Lithgow at the present time? I cannot say any very large quantity.
3313. Can you say anything about the coke that is made there? It bears a heavier percentage of ash than the Newcastle coke.
3314. There is some of it sent to Sunny Corner for smelting purposes;—is that so? There has been—I do not know if it is sent now—and to Lewis Ponds, I think.
3315. I suppose that if lime were required for smelting purposes at Lithgow, there would be no difficulty in getting it from Piper's Flat or Cullen Bullen? No; there are large deposits of it.
3316. What distance is Piper's Flat from the line? I cannot give you the distance exactly, but it is within a very short distance of the line.
3317. What distance is Lithgow from Wallerawang? Seven or 8 miles.
3318. And Piper's Flat is 5 miles from Wallerawang; so that within 14 or 15 miles by rail there is abundance of limestone? Yes.
3319. You cannot say how much coke is made per week or month? No; because no proper test has been made.
3320. You are of opinion that the coal is good, and will bear favourable comparison with Newcastle coal, but you cannot, from practical experience, say anything with reference to the coke? No. I should like to make a remark with regard to the evidence given by the Secretary of the Silverton Tramway Company, who spoke of a contract being made with the Proprietary Company for seven and a half years. If they are bound to take all their supplies over the tramway, it would pay that company to get coal from Lithgow, and to pay the Tramway Company their freight in addition on every ton, although they never sent a ton over their line, because they could get coal delivered at Broken Hill at a saving of 15s. 11d. per ton. They have to pay the company 4s. 8d.; they would still save 11s. 3d., even if they never sent a ton of coal along the tramway.
3321. That is to say, the coal would cost £1 11s. 7d. delivered at Broken Hill—5s. for the cost of the coal, and £1 6s. 7d. per rail? That is so.
3322. You say you could deliver coal at £1 11s. 7d., as against £2 7s. 6d., the price at present paid for Newcastle coal wholesale? Undoubtedly. It would pay the Proprietary Company, and the other companies that have made the contract, even though they paid the Tramway Company 4s. 8d. per ton, for, by having the Lithgow coal, they would effect a saving of nearly 10s. a ton.

T. T. Wilton,  
Esq.  
28 April, 1891.

WEDNESDAY, 29 APRIL, 1891.

Present:—

THE HONORABLE JOHN LACKEY (CHAIRMAN).

The Hon. ANDREW GARRAN.	HENRY COPELAND, Esq.
The Hon. FREDERICK THOMAS HUMPHREY.	WILLIAM SPRINGTHORPE DOWEL, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	EDWARD WILLIAM O'SULLIVAN, Esq.
The Hon. GEORGE HENRY COX.	CHARLES ALFRED LEE, Esq.
JACOB GARRARD, Esq.	WILLIAM McCOURT, Esq.

JAMES PATRICK GARVAN, Esq.

The Committee further considered the proposed Railway from Cobar to Cockburn.

James Hurtle Cummins, Esq., of Broken Hill, sworn, and examined:—

- J. H. Cummins, Esq.  
29 April, 1891.
3323. *Mr. Trickett.*] What are you? Property owner.  
 3324. You are not in any business at Broken Hill? No.  
 3325. Have you long resided there? Over five years.  
 3326. In attending before the Committee, do you come of your own desire, or is it at the request of the people of Broken Hill? At the request of the people of Broken Hill.  
 3327. The outcome of a public meeting was that representatives should be sent to Sydney, was it not? Yes.  
 3328. Are you one of the selected gentlemen? Yes.  
 3329. We have had evidence as to the population of Broken Hill—the Mayor gave evidence that it is about 24,000;—do you agree with that statement? No.  
 3330. What is your estimate? In my opinion the population is now nearly 30,000. The census collected by the police was very incomplete.  
 3331. Has there been a rapid increase of population latterly? Yes.  
 3332. Within the last six months, say? Yes; the population is increasing now very rapidly.  
 3333. The police statistics were handed in at the end of last year, were they not? Yes; in December last.  
 3334. You say, then, the information was vague and incomplete? Yes; it was not carefully collected. There were a large number of people, I am sure, missed; and there has been an influx of people since then.  
 3335. Since the mines have settled down to work again, I suppose there has been a considerable increase? Yes.  
 3336. And you say the population now approaches 30,000? Yes.  
 3337. That, I presume, is the district of Broken Hill—not only the immediate town? That is the municipality of Broken Hill.  
 3338. Would that include Round Hill? Oh no.  
 3339. That is the town of Broken Hill? That is the town of Broken Hill—the municipality.  
 3340. Is there much population, say, within 4 or 5 miles surrounding? No; the town is in itself almost perfect. There are no straggling suburbs to it.  
 3341. Independently of the leading mines of Broken Hill, which we are well acquainted with, do you think that this proposed line of railway would serve any outside mines? Yes.  
 3342. Will you tell us what they are? There is a newly-discovered and somewhat undeveloped field, and good reports come from it—Black Mountain.  
 3343. Whereabouts is that? It is about 120 miles from Broken Hill.  
 3344. Nearer to Wilcannia? Somewhat nearer to Wilcannia.  
 3345. How far, do you think, from the proposed line of railway? About 40 or 50 miles.  
 3346. On which side—north or south? On the north-west.  
 3347. Are those silver mines? Yes; a lot of them are now under the management of one of the late underground managers of the Proprietary mine.  
 3348. Are they developed at all? No; they are in an active state of development just now.  
 3349. Are the reports concerning them good? Yes; I was speaking to the manager, Captain Piper, before I came down, and he has very favourable expectations of them.  
 3350. Are there any other mines that would be served by the proposed railway? There are a lot of mines in Rockwell paddock.  
 3351. Where is that? About 8 miles from Broken Hill.  
 3352. Nearer Wilcannia, on this line of railway? No, it will be about the same distance from Wilcannia. It would be no nearer to the proposed line. Very recently there has been a discovery of asbestos in the Rockwell paddock.  
 3353. From your knowledge of the district, is not the whole of that district supposed to be metalliferous? Yes; the Purnamoota district will, in my opinion, be a most important one some day.  
 3354. Would that be served by this line of railway? Yes. Before the discovery of Broken Hill there were 1,000 or 1,500 people mining in the district of Purnamoota.  
 3355. Did they rush off to the better field? Yes; and Purnamoota, since the discovery of Broken Hill, appears to be a neglected place. The Day Dream is another mine.  
 3356. Where is that? About 18 miles from Broken Hill.  
 3357. Is that abandoned now altogether? No, it is still working, and some of the most expert men—the most reliable men—tell me that the Day Dream is destined to be a really good and payable mine some day.  
 3358. I suppose they are merely prospecting now—they are not treating the stuff, are they? No.  
 3359. Sinking and stoping? I think the active workings would never have been abandoned only they were mismanaged. For instance, they sold all the slag that had gone to the smelters and realised an amount that went into many thousands, and other such mismanagement has led to the abandonment of the Day Dream. There are many other small mining properties in that locality. There is the Pinnacles mine to be served by this railway.  
 3360. That is working, is it not? It is working, but their ores are very difficult to treat.  
 3361. Sulphide ores? Not sulphide. They are refractory ores—carry a lot of silica. There is an immense body of ore there, though.

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3362. That is not the case with regard to the bulk of the ores at Broken Hill—they are not very difficult to treat? No. Taking them on the whole, the ores are very tractable.

3363. Some of the mines have a quantity of zinc, have they not? With the exception of the sulphide bodies.

3364. So far as your experience in the locality has gone, do you think it would be advantageous to the district if this line of railway were constructed? Yes.

3365. Do you also think that it would be remunerative? Yes.

3366. We have heard evidence here that the Silverton Tramway Company, running in connection with the railways to Adelaide and Port Pirie, had a long contract with several of the leading mines at Broken Hill;—how do you think that would affect this railway, if it were constructed? I think there must be some annulling covenant in that agreement, because at the time that agreement was made there was no competition to be feared by the company, and the mines outside the Proprietary had nothing to lose by entering into a contract, and I think it unlikely that such a contract was entered into without some condition of this kind.

3367. Some condition of what kind? Some condition on behalf of the mines.

3368. That it could be dropped if they wanted? Yes; and I think that if that was inserted the proprietors of the tramway must have somewhat anticipated the action of the Government of the colony in constructing this Cobar line. It would have had no other object in view.

3369. This long contract was made almost immediately after the Sectional Committee visited Broken Hill, was it not? Yes.

3370. You are pretty clear on that point, are you not—that when the agitation started for this line from Nyngan to Cobar and from Cobar to Broken Hill this contract was made;—the South Australian Railway Commissioners busied themselves, if I remember rightly, and in conjunction with this other line made a contract of that kind? Yes. The contract was entered into since the Sectional Committee sat at Broken Hill.

3371. Is not the want of a good water supply somewhat of a drawback to the prospects of Broken Hill at the present time? Yes.

3372. With regard to that, what are your views as to the future water supply? In my opinion the future water supply will be the Darling River, through Menindie and Speculation Lakes.

3373. What do you think of the Stephen's Creek scheme that is now being carried out? Three years ago, I, with a committee appointed, interviewed a lot of old hands on the Stephen's Creek, and they told us that sometimes for a period of two years there was not sufficient water running in the creek to cover the bed of it, and I think that the chances of getting storm waters up there to fill their weir, and the chances of its being silted up, renders the Stephen's Creek scheme an impracticable one.

3374. And uncertain? Most uncertain.

3375. But within the last year or so, is it not a fact that very large quantities of water have passed down the Stephen's Creek valley? Yes. With the exception of a year, or two years, out of the five that I have been on the Barrier the river has flooded. That was exceptional.

3376. Do you think the other scheme—the Lake Menindie one—is practicable? Yes; the only reliable one.

3377. But that at present is in abeyance, is it not; although there are Parliamentary rights given, they are not doing anything at present? It is now at a standstill. The people of Broken Hill are always clamouring for a supply of water from the Darling River.

3378. Is there any prospect of the people contributing the necessary money to carry out the scheme? An attempt has been made in connection with the Darling River scheme, which is known as the Stockdale scheme, to raise money in Broken Hill, and I think they have disposed of something like 20,000 shares.

3379. That, of course, would be totally inadequate to carry out the scheme? Quite.

3380. Is not the want of a good water supply a very great detriment to the district? Yes, particularly to the mines.

3381. Is that being felt every day? Yes. The sulphide ores and the refractory ores use a lot of water, particularly the sulphides; and the refractory ores have to be treated by the process of concentration.

3382. And that requires a large quantity of water? Yes. At the present time the concentrating works of the Proprietary mine and Block 14 mine are in disuse, owing to want of water, and the refractory ores are collecting at the mines.

3383. Can they not use the mineral water—the water they get from sinking—for this purpose? It requires all that water for the smelters and the engines. They have water in their dams for the engines, and the water in the shafts they use for the smelters.

3384. But your largest plant up there, at the Broken Hill Proprietary mine, seems always to be going, notwithstanding this want of water? At the present time the concentrators are not working, and for some months the Leaching plant, that turned out 10,000 ozs. of silver per week, was idle, owing to the want of water.

3385. We have had evidence here that large works are in course of construction, and are about to be constructed at Port Pirie, for the purpose of treating these ores down there—is that a fact? Does that refer to the Proprietary mine only?

3386. I do not know which mine. We know there are works there at present, but we had evidence from one gentleman here that large, extended, and new works of that character were going to be erected at Port Pirie to treat the ores down there instead of at Broken Hill? Not to my knowledge.

3387. It is not true, to your knowledge? No.

3388. On the other hand, are any of the companies at Broken Hill erecting, or about to erect, smelting works at Broken Hill? The Proprietary Company are about to erect works for the treatment of sulphide ore. So large will the works be that the consumption of coke will be twice as much as they use at present. They use now at the Proprietary mine 1,300 tons of coke per week. I had that from Mr. Howell only a few days ago.

3389. And as the works increase, of course, so will the necessary amount of coal and coke? For the sulphide ores to be treated the amount used at the Proprietary will be twice as much. From that, I take it the works will be very considerable.

3390. The works will be very considerably increased, and the fuel required will be very much more? Yes.

3391. Is any other company about to erect smelters there? In a conversation with Mr. Warren,

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the manager of Block 10, he said that if we had a water supply which was a reliable one, there was nothing to prevent Block 10 from erecting half a dozen smelters at once.

3392. Has that company got any very large quantity of ore at grass waiting treatment? Yes.

3393. Do you know how much? On one of the dumps there are 10,000 tons, or a little more. We were shown the dump and the figures in the books relating to the quantities, and there were 10,000 tons waiting for treatment when there is a water supply.

3394. That is at Block 10? Yes. It would take five times as much water to treat 1 ton of sulphide ore as it would to treat carbonate ore. That is why they cannot possibly treat the ore until there is an unlimited and certain supply of water.

3395. But with a good water supply, and with fuel supplied at a much cheaper rate than at the present time, could the ores be more profitably and better treated at Broken Hill than elsewhere? Yes; we have had experience to that effect. The Junction mine erected their own smelters at Port Adelaide, and they have not been successful because they could not always command the exact amount of tractable ores to blend. The British mine erected smelters at Port Pirie, and they had the same experience, with the result that the directors of the British have in blast a smelter at the mine and another in course of erection.

3396. They find that it is a great advantage to have two classes of ore at command so as to be able to work the furnaces? Yes.

3397. Is that opinion with regard to local treatment only your own, or is it the opinion of the experts at Broken Hill? The opinion of the experts. When I say "experts," I mean the mine managers. I got this information in conversation with men like that—mine managers, those directly connected with it. It is more than probable that the directors of the Junction mine will either erect new smelters or remove the smelters from Port Adelaide to the Junction mine at Broken Hill.

3398. Then I take it that generally, notwithstanding all the disadvantages of want of water and expense of fuel at Broken, the opinion of those who are competent to judge is, that it is better to treat the silver ores locally than away from the mines? Yes.

3399. Of course you are aware that all the fuel necessary for working the engines and smelting the ore now comes up by way of Adelaide or Port Pirie? Port Pirie.

3400. Would it not be of immense advantage to those mines if cheap fuel could be carried by rail from the western mines of this colony to Broken Hill at a cheap rate—say, about 36s. a ton? I am sure they would take advantage of the reduced prices of coal and coke, which could be supplied from Lithgow or elsewhere.

3401. Although the principal mines may have a contract for the carriage of their goods for a certain price with the Silverton Tramway Company and others, I suppose they have no contract that you know of to prevent them from getting coal from this colony if they require it? I do not think the contract can have been extended to that. It cannot be anything more than for the mere haulage.

3402. Then, notwithstanding that contract which they have, if they could get their coal and other fuel at a much cheaper rate from the colony to which they belong, you think they would get it? Yes; I am sure they would.

3403. Which port do you think is the most advantageous for shipping bullion from? I have made particular inquiries on that point, and I am told Sydney. From Sydney bullion is shipped cheaper than from any other port.

3404. For what reasons? It is such suitable ballast that they take it in preference to anything else, and taking it at the port of Sydney enables them to put it at the bottom of their ships—to trim their ships in a way they could not manage at any other ports between here and the outgoing ports.

3405. This being the terminal port of most of the mail steamers, if they carry large quantities of the bullion, that makes it necessary that it should be brought here to be put at the bottom of the ships? Yes. All the outgoing vessels which are international traders make this their starting point, and of course the mail steamers have necessarily to do so.

3406. The present round-about way of sending the bullion, viz., from Broken Hill, either to Port Pirie or to Adelaide, and then by coaster to Sydney, and then loading it into the mail steamers,—is that a practice which is talked of often with ridicule? No, because that is not generally known; but they say that every shilling even in a ton would be a consideration with their bullion, and if only a shilling per ton were saved the cheaper line would be availed of.

3407. If this line were constructed from Broken Hill right through to Cobar, and then *via* the Western line to Sydney, of course there would be only one handling of the bullion, which would be taken almost to the ship's side—would it not? Yes. Putting aside the existing agreement, I believe that after the construction of this proposed line there would never be a bar of bullion shipped elsewhere than from Sydney.

3408. How many smelters are there at work now, or in blast at Broken Hill? Either eighteen or nineteen—I think nineteen.

3409. And from your former evidence, you seem to think there is a probability of those increasing in number? Yes; there is a great probability of their increasing. There is more than a probability, I am sure, because there is talk now of erecting fresh ones. I think that within the next five years the probability is that that number will be doubled.

3410. I suppose the mines use a great deal of firewood at the present time. Yes.

3411. That is used for the engines or for smelting purposes? They use a great deal. The Junction mine so far has used nothing but wood.

3412. And I suppose that all the country round is pretty well cleared of all the timber that would burn? It has been cleared. Five years ago it was a forest for 20 miles or so round; but now within a radius of 12 or 15 miles there is no timber, and even beyond that there is very little, and what there is of it is scrubby. The cost of firewood at present is 30s. per ton.

3413. Would not this line of railway be of great advantage in bringing that kind of fuel to Broken Hill from our forest country in New South Wales? Yes; because the people estimate that 1 ton of coal would be almost equal to 3 tons of firewood.

3414. We have evidence from a mine proprietor at Lithgow that coal from Lithgow could be supplied at Broken Hill at 36s. a ton; and if that were so, would that not be a very great advantage, seeing that you are paying 30s. a ton now for firewood? Yes; all the householders would use coal for a certainty. That is beyond question.

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3415. Are you acquainted with the country between Wilcannia and Broken Hill? I do not know much of it, except by repute. I know the country for a distance of 20 or 25 miles on the road to Wilcannia, but beyond that I only know of it by repute.
3416. What is its reputed value for pastoral or agricultural purposes? It is a good pastoral country.
3417. What are its growing capabilities? It carries a lot of sheep. It is good stock country—salt bush and blue bush. The Mount Gipps run, which is a very famous one, is on the road to Wilcannia, and there are many others.
3418. Is not the soil good? The soil is good.
3419. It would grow almost anything, would it not, with water? Yes; with the exception of potatoes. I think every vegetable and cereal crop imaginable could be grown there, provided there were a supply of water.
3420. Independently of the mining industry, do you think that any new industries would spring up that would utilise this line of railway if it were constructed? Yes; notably the fluxings—ironstone fluxings. In expectation of this line being constructed, there are now some prospectors holding ironstone claims to supply the furnaces with the ironstone necessary for smelting. Ironstone in the locality of Broken Hill is now getting very scarce. We have found no good permanent deposits of it there yet. It all runs out after they go down a little. They claim to have good permanent reefs and beds of ironstone between Wilcannia and Broken Hill.
3421. I suppose that very large quantities of these fluxings are required for treating the ores, are they not? Yes. Fireclay is another commodity that they say could be procured near Wilcannia. Brick-making would be another very important industry along there.
3422. Anything else? No; nothing, with the exception of the gardening and brick-making and fluxings.
3423. Can you tell us about what proportion of fluxings is used in the furnaces;—for instance, for a ton of silver ore, what quantity of fluxing do they require? That is entirely regulated by the ores being treated. Every charge in a furnace may be different—they alter very considerably. I do not know the exact proportion to the different ores. I do not know even approximately. That seems to be known only to the metallurgists.
3424. Still, it is a very large quantity, is it not? Yes; the fluxings, I think, would average about 80 per cent. That would, I think, be a fair average.
3425. I ask that with a view of showing that the carriage of fluxings, if there were any found along this proposed line of railway, would be a very large item, would it not? Yes; now that they have a supply of lime from Tarrawingie, it is considered that one of the necessary commodities is a good supply of ironstone.
3426. The Tarrawingie fluxing ground is about how far from Broken Hill? From 35 to 40 miles. The line to that place will be completed this week.
3427. That is almost a surface railway, is it not;—have you seen any part of its construction? Yes.
3428. Is there any ballasting on it? Yes; so far as the extension of the town it is ballasted.
3429. Are they square or half-round sleepers? Square.
3430. Is it a good solid piece of work? Yes.
3431. And you say that almost the whole of the 40 miles is nearly completed? Yes. Mr. Lane came in from there this day week, and he told me that the line will be all down this week.
3432. That will be a line of railway capable of carrying big truck loads of this fluxing, will it not? Yes; it is constructed specially for the purpose of supplying limestone from Tarrawingie.
3433. Will you tell us how long that has been in course of construction? A very short time. It is not more than five months since they began laying the first plates. They began laying the plates some time in November.
3434. That is a very rapid piece of construction, is it not? Yes.
3435. Is that built by contract or by day work? It was let by contract to Sadler and Baxter.
3436. You say that as it approaches the town it is fairly well ballasted? Well ballasted, and now well consolidated. The line is thoroughly laid down.
3437. Does that ballast extend any distance beyond the town? I have not seen the line beyond the town.
3438. Have you not heard whether it is ballasted or not the whole distance? No; but if it is not ballasted the whole of the way, it must be ballasted a good many miles.
3439. Is it the same country right through—is it not that red soil country which would require ballasting? Yes.
3440. Have you heard it spoken of as a substantial line right through? Yes. The contractors were complimented by Mr. Lane and Mr. Warren, and also complimented very warmly by the visitors when they came back, on the stability of the line—the general construction of it.
3441. Do you know whether it is properly drained by culverts and box drains along the whole length of it? Yes; the parts of the line that I have seen are so.
3442. Drained so as to prevent its being washed away by surface water—protected in that way? Well it is almost unavoidable, its being washed away by heavy storm waters, because the country is so flat. It would not be washed away, but might be in such a state that the traffic would be stopped for perhaps a few hours or a day, but that might occur only at very long intervals. The lines in South Australia are often subjected to delays of this description.
3443. Owing to the flatness of the country? Yes. I think that is quite as good as the line from Terowie to Cockburn.
3444. And that has answered very well, has it not? Yes.
3445. What are your views as to the terminus of the line if it were constructed,—do you think it should terminate at Broken Hill, or go on to Cockburn? I think that Broken Hill should be the terminus, because there will be three gauges between here and Adelaide, and my experience of the broken gauge in South Australia is that it is very undesirable. You see, goods and other traffic from Adelaide direct to Broken Hill would not be likely, after changing from the broad to the narrow gauge at Terowie, to change again at the Border if this Cobar line were extended to the Border. It would make three changes between Adelaide and Broken Hill. Therefore, the traffic on this line between the Border and Broken Hill would not be worth taking into account, because the people would not transfer their goods unnecessarily, nor would they transfer themselves if they were passengers to Broken Hill.

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3446. On other grounds, would it not be advisable—with a view of tending the traffic towards Sydney—to construct the proposed railway only to Broken Hill;—on that ground would it not be better to terminate it at the town? No; I think there will be a great passenger traffic.

3447. I mean, if we want to try to force the traffic towards Sydney it would be better that the line should terminate at Broken Hill rather than go on to Cockburn? Much better.

3448. I am glad you mentioned about the passenger traffic;—what do you think of the prospects of a passenger traffic? I think that visitors from Adelaide to Sydney will avail themselves of that line, because they could visit and inspect the mines. All the people now in Sydney, Melbourne, and Adelaide are so much wrapt up in the Broken Hill mines that they take almost every opportunity they can get of going to inspect the mines. The mines are very changeable, and the developments in some of them are very rapid. That is why I think that if this line were constructed to Broken Hill it would entice a very large passenger traffic, and that traffic might be enhanced by the fact that it will connect with the trans-continental line of South Australia—the great trunk line through to the Northern Territory. That line is destined, or they believe in South Australia that it is destined, to carry passengers almost half-way to England, because they could ship at Port Darwin.

3449. Do not visitors to Broken Hill from New South Wales complain very much of the roundabout way that they have to go in order to get to those mines now? Yes, every one of them complains. People do not visit the place because the journey is so long. People in business cannot afford the time, and with other classes of people the expense is a consideration.

3450. With regard to storekeepers' goods, how would this line suit them? From my knowledge of the prices of merchandise generally, I should think that if they could land the goods by means of this line at even 25 per cent. below the prices they are charging now for them at Broken Hill, compared with the Sydney prices, they would be selling at a profit. What I mean to say is, that the retail stores, although their prices are very reasonable, are 25 per cent. above the prices that I observe in Sydney. I am sure that goods could be delivered by this line at, say, 5 per cent. on the actual cost.

3451. I suppose a good many of the storekeepers up there get their goods from Sydney now, do they not? They tell me that when they buy large parcels they buy in Sydney, and they even go themselves if they possibly can.

3452. Of course it would be a great advantage to those buyers if they could get their goods directly by rail from Sydney? Yes.

3453. And they could supplement their stocks from time to time so much better? Yes. Any slight monetary advantage will overcome the sympathies which they may have with the other places in doing business. All the storekeepers say that they would like, if they could, to get their goods as quickly from Sydney as they get them from Adelaide, and Mr. Howell, of the Proprietary mine, tells me that when he has a breakdown of his machinery he can very often get the necessary duplicate or repairs in Sydney, which he cannot get in the other colonies, by reason of their having older manufacturing places. But at the very earliest it takes them fifteen days or so to get any part of machinery from here.

3454. Do you know of any other railway line talked of, or mooted, to supply Broken Hill, or to be connected with Broken Hill? Yes; there is a line now spoken of through Menindie.

3455. Whence? Broken Hill. The river from Menindie down is navigable.

3456. Down to what point? Down to the Murray—generally so—and I think the object of the intended company is that that might be carried out.

3457. Of course if that is carried out that will be another diversion of the traffic from New South Wales? Yes, a very considerable one.

3458. Is that freely talked of? Yes.

3459. So that on all those grounds you think it advisable that this railway should be constructed? Yes, for the benefit of the people of Broken Hill and the colony generally.

3460. *Mr. Copeland.*] The Proprietary Company's dams are all full at the present time, are they not? Oh, no, far from it.

3461. I thought I saw in the papers that they had a good supply of water for the present? The local paper stated that the Proprietary Company had about 3,000,000 gallons of water. That was an exaggeration. I had opportunities of knowing the quantity of water that was got, and I estimated it at not more than 1,000,000 gallons.

3462. Have you any experience in farming matters? Yes.

3463. Do you know anything of the soil at Wilcannia—as to its growing capabilities? Yes.

3464. What I wish to know is, whether, if the railway were taken from Wilcannia to Broken Hill, there would be any likelihood of fodder, vegetables, and such things being grown at Wilcannia, by irrigation, and sent on to Broken Hill? Yes; it is expected that, provided there is a line of railway, the whole country will be utilised for vegetable and cereal crops.

3465. Do you think the soil is of such a character that it could produce if it were irrigated? It is the very best of soil.

3466. It would produce abundantly? Yes. At the present time we have parcels of fruit sent in from the river.

3467. Is there any communication at the present time between Broken Hill and Wilcannia except by coach? No.

3468. So that it would be no use their growing anything at Wilcannia at present with a view of sending it on to Broken Hill? No.

3469. You think that if the railway were constructed they would be able to supply Broken Hill with vegetables, horse feed, and things of that kind? Yes.

3470. Are you practically acquainted with smelting? No; only from observation.

3471. Do you know anything of the insurance paid on bullion sent round by sea? No.

3472. With reference to flux—do they not get flux from Tarrawingie? They have not been getting any so far.

3473. But there is ironstone there, is there not, as well as lime? No.

3474. Where do they get their ironstone from now? The Proprietary have been using their own supplies on their own mines. Mr. Howell told me that he did not know what they would do for fluxes.

3475. But there is a flux company? Yes; but the flux company supplied limestone. I think there is the Silvertown Flux Company, but they have only been supplying limestone. You see it requires ironstone as well.

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3476. But Mr. Hogg, surveyor, was connected with an iron supply for fluxes somewhere; if I remember rightly, out Stephen's Creek way? I think you are referring to the Rutland Flux Company, which Mr. Hogg was connected with. I think that was only intended to supply limestone.
3477. But has there been no ironstone brought to Broken Hill hitherto? Yes.
3478. From where? South Australia supplied a lot. On the South Australian side of the Border there are several mines.
3479. Are there none anywhere nearer to Broken Hill? Rockwell paddock.
3480. Is there any tramway from there? No.
3481. Has there been any tram line laid to any of these iron deposits for flux purposes? No; the only tram line that has been laid for bringing fluxing material is to Tarrawingie. That will supply only limestone.
3482. Is there not a large iron lode there? I never heard of it. I think I am right in saying that there would be no ironstone brought in from the vicinity of Tarrawingie.
3483. Is there any iron deposit on the route of this railway between Broken Hill and Wilcannia, or near it? Yes.
3484. Whereabouts? The first one that I can mention, and you will, perhaps, understand where it is situated, is an old mine known as the Razorback.
3485. Is that near Stephen's Creek? Beyond Stephen's Creek.
3486. Nearer Wilcannia than Stephen's Creek? Yes; and there are many other places—in fact, a lot of prospectors are holding claims now with a view of some day working ironstone quarries.
3487. Are you quite sure that hitherto there has been no ironstone brought to the mines except from South Australia? Oh, yes, carted in, but no permanent lodes discovered—only surface lodes. They find them in beds and patches. There is no kind of permanent lode found.
3488. Do any of the deposits between Broken Hill and Wilcannia take that form of lodes? More or less.
3489. Are they large spaces? Yes; but I do not think that they will be beyond the average of ironstone. The country is impregnated with these ironstone deposits.
3490. Do you know what is paid for ironstone per ton? Yes; from 22s. to 24s. per ton, or perhaps an average of 24s.
3491. Delivered at the mine at Broken Hill? Yes.
3492. Does that contain any appreciable quantity of silver generally? Yes.
3493. So as to enhance its value? Up to 9 or 10 ounces of silver some of it, but that would be only small samples.
3494. Still, in using that ironstone for fluxing, they actually get it for nothing, on account of the silver it contains? Yes.
3495. The amount of silver it gives out will recoup them for purchasing the stone? Yes; they make no allowance for it.
3496. They get the silver thrown in? They have some fixed assay before they make any allowance for it.
3497. Is there more than one place where iron deposits can be found between Wilcannia and Broken Hill? Yes. That opens up a large scope, because they could cart it on either side of the line if they found it within 15 miles on either side of the line. That gives them a territory of 113 miles by 30 miles to work upon.
3498. Do you know anything of the line of country between Broken Hill and Wilcannia? Only what the prospectors and the people who have lived out there tell me, viz., that there is abundance of ironstone.
3499. Near the line? Yes.
3500. Is there any limestone that you know of? I have not been told of any particularly good deposits of limestone along there, and if there were it would not be availed of at the mines for some time, because the Tarrawingie flux lime is so very superior.
3501. Is there a very large deposit there? Yes.
3502. What form does that take—is it a hill of limestone? A "blow," something like Broken Hill.
3503. Has it been prospected to any depth? No. It has been prospected sufficiently to satisfy men like Mr. Howell for instance, who told me that the supply of flux there was undoubted.
3504. But you do not know whether they have sunk on it; you know that limestone is merely a deposit? Generally. They frequently sink too, but it does not go to any great depth.
3505. But it is more than likely that they have prospected it, for unless they were assured of its permanency they would not have constructed a line to it? I think it is beyond all doubt that there is a supply of it there for ever.
3506. You think that Broken Hill should be the terminus for this line; I suppose one reason why you think so is, that as the Silverton Tramway Company constructed their tramway they should be rewarded for it—that as they came to the rescue they ought to receive their reward, and not be interfered with by the Government competing with private enterprise—do you hold that opinion? No; I do not view it in that light. The Tramway Company, I think, laid down that line only to benefit themselves.
3507. Still they have benefited Broken Hill, have they not? Oh, yes.
3508. Supposing the Government were to construct a line from Broken Hill to Cockburn, and introduced competition, I suppose that would be an advantage to the Broken Hill people, by reducing the rates and the freights? It must certainly have the effect of reducing the freights on the tram line.
3509. Is there any complaint at the present time as to the high rates of freights or charges? Yes; the people have always expressed their dissatisfaction at the way that line has been conducted, and more particularly the charges that have been made.
3510. But I suppose that, independently of the charges, the tramway gives very great convenience and accommodation to the public? Oh, yes.
3511. You do not think Broken Hill would have been likely to be what it is had it not been for the Silverton Tramway Company? Oh, no; of course it could not have developed with the rapidity it has, inasmuch as bullock teams could not possibly have brought the timber there.
3512. To your knowledge, is any money ever expended on the road between Broken Hill and Wilcannia? I think there is a gang of repairers, or something of that kind—a flying gang of men under the District Surveyor or Engineer for Roads, or some other officer—but nothing of any consequence.
3513. What distance have you ever travelled towards Wilcannia from Broken Hill on the road? About 25 miles.

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3514. Was any part of it metalled any distance away from the town? No; none of it.
3515. Merely cleared of trees and of scrub? Yes.
3516. And a little draining done here and there on the road? Yes; a very little.
3517. *Mr. O'Sullivan.*] You appear to have a good knowledge of Broken Hill and the Barrier region? Yes.
3518. Have you formed an opinion as to how long these mines will last? Yes.
3519. What is that opinion? I can only echo the opinions of such men as Mr. Hatten, Mr. Howell, Mr. Lane, and Mr. Harper. They all say that in our lifetime we shall never see it worked out. The first two years that I lived at Broken Hill, I am sorry to say so now, I had my doubts about the permanency of it. Since the mines have been opened up it is beyond a doubt now. A short time ago, when I was underground at the Proprietary mine, I very carefully looked over it and tried to imagine where the ore could have come from that produced all the bullion. It surprised me to see the small space that has been made where the ore has been procured from. There is very little stoping done. It has been almost all done in the drives, and in fossicking the prospecting drives where the ore has been produced from. There is one block of ore now that is almost the full width of the lode and twice the length of that in Block 10. One of the underground managers took me round it the other day.
3520. But I suppose there is a limit even to that large quantity of ore? Mr. Thomas, of the Central mine, says that in his opinion the ores will get richer at 1,000 feet. He says he is satisfied that the ores at the Central at 1,000 feet will be richer than at the upper levels.
3521. I should like to get from you what is your opinion, after having heard the opinions of those experts, as to what would be the limit of time to which these ores will last;—can you fix any particular time? I could not say.
3522. You have read of the Comstock lode in Nevada? Yes.
3523. That lasted twenty-one years with rich ores, did it not? It lasted for a long time, but I cannot say how long.
3524. You know they went down to 1,200 feet? Yes.
3525. And that the rich ores have now given out, after twenty-one years' profitable working? They are not satisfied yet that they have given out.
3526. Still, it is pretty well understood that they have, and they are working the low grade ores, is that so? I cannot speak as to the Nevada mine.
3527. Can we rely upon these mines lasting twenty-one years in the same way? Yes.
3528. After these mines have worked out, and the mining is absolutely done, what is there to keep the population in the district? Oh, if the mines were to give out the population would go also. There is nothing to support the population there if the mines were to give out.
3529. There is nothing but grazing country, and I suppose there would only be a local trade, and the few industries that have been established in a place like Broken Hill might remain to supply the grazing population? Oh, that would be no consideration.
3530. So that when the mines actually cease, the population will, like the Arabs, fold up their tents and gently glide away? Yes; I do not know that it would be so very rapid either, because there is a lot of unexplored country about there.
3531. I should like your opinion on that point, too; the Barrier Ranges abound in minerals, do they not? Yes.
3532. At least there are various kinds of minerals found on the ranges? Yes.
3533. And the minerals have been proved up to Mount Browne? That is so.
3534. There are also rich spots in the district, such as Corona, Euriovie, and Thackaringa? Corona is not a rich spot.
3535. Are they still working at the Apollyon and the Maybell? The Maybell is working. I do not know about the Apollyon and the Corona. I do not think anything of them. I do not think they will ever get enough silver there to pay for their tents.
3536. So far as you know, the mineral wealth lies about Broken Hill, with a prospect of something good turning out of the Black Mountain? The Black Mountain, the Purnamoota district, and Rockwell. The Rockwell, in my opinion, will be a good mineral country, and there will be good mineral mines found there yet. At the time they worked there the boom was on, and people with any money rushed into anything, and all the capital went to the promoters, and the mines are now lying undeveloped, most of them with shafts sunk 100 and 150 feet. Having done this their funds gave out, and they have remained idle ever since.
3537. I suppose Broken Hill attracted the population from them? Not from Rockwell. Broken Hill is as old a place as Rockwell.
3538. You said just now, in answer to Mr. Trickett, that the population of Broken Hill proper was 30,000;—are you aware that the Mayor of Broken Hill yesterday said it was 24,000? Yes.
3539. How do you reconcile these statements? He based his estimate on the census collected by the police last December. I know, from the manner in which those figures were collected, that they are not reliable. A large number of the streets were missed; and I am sure there must have been as many people missed as would make up the difference. With the people that have come to live and settle at Broken Hill since then, there must be nearer 30,000 than 24,000 there now.
3540. The census was recently taken at Broken Hill, was it not? Yes.
3541. Has the fact as to the actual number of the population not leaked out yet? We are not likely to know what it is for another eight or ten months.
3542. I notice from papers that are kindly forwarded to us occasionally, that Mr. Lane, of Block 14, has been refused permission by his directors to attend on this deputation;—can you assign a reason for that? Yes; the Mayor of Broken Hill and myself interviewed the directors last Saturday in Melbourne, and they gave as a reason that either their secretary, Mr. Knox, or the directors themselves, were in a better position to give information concerning the mine than Mr. Lane is, and that either Mr. Knox or themselves, at the invitation of this Committee, would come over here and give evidence.
3543. There is no feeling of antagonism, then, upon the part of those directors to this proposal? No. We spoke about the advantages and the disadvantages, and about what was generally said up there, viz., that they were opposed to it, and they said that as directors of the mine they were not, and they felt that anything they could do to enrich the Broken Hill mine would be enriching their adjunct properties, such as the Tarrawingie mine, and the Silverton tram line.

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3544. What is the object of the railway proposed to be constructed from Broken Hill to Menindie? In view of a report that the river Darling is likely in the near future to be locked, and that from the point at Menindie down it is generally during the longest period of the year navigable, and that it would take bullion and bring in firewood, fire bricks, fire clay, and all that sort of thing. There is a lot of timber.
3545. So that if a railway were constructed, say from Forbes to Broken Hill, *via* Menindie, it is quite possible that the Broken Hill people might use it as far as Menindie, and ship down the river to Melbourne, or do their business with Melbourne *via* the rivers? I cannot speak as to that. I do not know any of the country between Menindie and Forbes.
3546. You referred just now to the Rutland Flux Company; where is that? That is near Purnamoota.
3547. On the western side of Broken Hill? West or north-west.
3548. But is there not a flux company near the Gorge, on Stephen's Creek? No; there was a flux company in Silvertown, but I think it is defunct now, for some reason or other.
3549. If this line were taken to Broken Hill and stayed there, it would afford nearly all the accommodation that you would require there in connection with Sydney people, would it not? Yes.
3550. If the line stayed at Broken Hill there would be no competition with the Silvertown Tramway, and we could save the construction of about 30 miles of railway, could we not? Thirty-five miles.
3551. So, if we only go to Broken Hill with this railway, and that is its terminus, there would be a continuous line between Nyngan and Adelaide, and all the accommodation required would be given? Yes; I think it would be spoiling a good job to make the line on past Broken Hill to the Border.
3552. There is a possibility, is there not, that there would be 35 miles of unprofitable railway if this line went on to the Border? Yes. You see that if the gauges were similar it would not be necessary to have a double or competing line, but the dissimilarity of the gauges would give the other company so much the best of it that the odd gauge would have nothing whatever to do. It would be only so much useless gear.
3553. Whatever might be done ultimately with this line, the construction of a line to Broken Hill would, in your opinion, be a justifiable national work? Yes; I think that a progressive colony could do nothing less than extend the railways in a manner like that.
3554. *Mr. Copeland.*] You know the whole course of this lode about the Proprietary mine, I suppose? Yes.
3555. Been over it frequently? Yes.
3556. Can you tell the Committee, commencing at the north end, where the lode is payable, and where it has been proven—which mine is that in, farthest north? The Junction mine.
3557. That is on the main lode? Yes.
3558. That is the farthest north? Yes; they have had some rich ore from that.
3559. Are they getting payable ore now? Yes.
3560. Do you know anything about the width of the lode there? I do not know what the average width would be. In some places it is 20 or 30 feet in width there, and narrows down to a few inches. It is mostly found in pockets. The lode there is quite different from the lode at the British, where it becomes true and permanent, supported between two strong walls.
3561. What width is the lode in the British? I suppose it would average from 50 to 60 feet.
3562. Of good payable ore? Yes.
3563. Have you any idea of the average quality? I do not know; that is very hard to come at.
3564. At any rate the lode is from 50 to 60 feet wide? Yes.
3565. What is the distance from the British to the Central, or to Block 10? It is about  $1\frac{1}{2}$  mile from the north end of the British to the Central mine.
3566. Is the lode payable the whole length of that  $1\frac{1}{2}$  miles? Yes.
3567. Can you say what width the lode is in Block 14? The lode is not so regular when you get to the boundary of Block 13. Some parts of the lode in Block 14 are very rich, and some parts are very poor. They have not the same character of lode in Block 14 as is found in Block 13, or Block 12—the Proprietary mine.
3568. Well, what about Block 11? I cannot say what the width of the lode would average in Block 11; but Block 10 is the richest on the field, and the width there is fully 100 feet.
3569. That is all rich ore, is it not? Rich carbonate ore, and some of it kaolin ore.
3570. In Block 10, are they not getting very rich ore? Yes.
3571. From the north end of the British to the south end of Block 10 is a distance of about  $1\frac{1}{2}$  miles through which the lode has been traced to be highly payable and very wide? Yes.
3572. Are they not getting very rich ore in Block 10—500 oz. and all that sort of thing? No; I saw the last of the assays the day before I came down, and the bulk assays were about 260? The highest specimen assays might go four or five times that.
3573. That is Block 10? Yes.
3574. So the reports in the newspapers must be wrong, then? The bulk assays are 260. The sulphide ore is much poorer than than that. It would go from 30 to 40 oz.—40 oz. would be very rich in sulphide ore.
3575. Do you know anything about the width of the lode in Block 10—that is the southernmost part of the lode—I suppose that is where they are getting ore? I cannot speak as to the width of that. I have not been down for a long time.
3576. Do you know the depth that they have proved it to in Block 10? Five hundred feet.
3577. How deep have they proved it in the Central? About the same depth. After going 500 feet in the Central, beginning from the mouth of the shaft, as it were, because the shafts are at different altitudes—
3578. Down to about 500 feet they have proved good rich ore? Yes. The line for a distance of 2 miles is proved to have rich ore. The South mine very recently discovered carbonate ore.
3579. At what depth? At the 400-feet level.
3580. That is a line on the west, is it not? Yes.
3581. What is the greatest depth of payable ore on the field? They are much about the same.
3582. About 500 feet? Yes.
3583. The New Extended is down over that; they are down over 600 feet, are they not? Yes; but they have no ore yet.
3584. But they are sinking for it? They are looking for it.
3585. The Committee may conclude then, at any rate, that there are  $1\frac{1}{2}$  miles to 2 miles of proven payable ore to be worked upon? Yes; beyond all doubt.

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3586. Leaving out of question all the progressive mines that may or may not prove payable afterwards? Yes.
3587. *Dr. Garran.*] You said, in answer to Mr. Trickett, that there was a proposal to make a railway from Broken Hill to Menindie? Yes.
3588. Who is making that proposal;—who is moving in the matter? I had my information privately and confidentially, and would rather I was not asked.
3589. It is not the Silverton Tramway people? No.
3590. It is quite a separate movement? Yes.
3591. Do you know what traffic they expect on that line? Yes.
3592. What do they base their hopes of a dividend on? The carriage of bullion to the river, firewood from the river, brickmaking, and perhaps river passengers.
3593. They propose a line, I suppose, something like this line to Tarrawingie? Yes.
3594. A cheap line? Yes.
3595. A surface line? Yes.
3596. It would, roughly, follow the line of Stephen's Creek, I suppose? No; it would not follow the line of Stephen's Creek; it would cross Stephen's Creek.
3597. Where does Stephen's Creek empty itself when it is in flood? Into the River Darling.
3598. It reaches the Darling? No; it does not reach the Darling.
3599. Does it reach any of the lakes? No; it does not empty directly into any of the lakes.
3600. Did you ever travel over that route from Menindie to Broken Hill? I have been about 80 miles on that route.
3601. Is there any iron or limestone flux on that route? Yes.
3602. Good quantities? There are good quantities of it.
3603. But no large deposits like that at Tarrawingie? Oh, no. That in itself is as phenomenal as Broken Hill.
3604. That is an exceptional deposit? Yes.
3605. Do you think if this line were made that they would bring up any quantity of produce from the Darling River, and from the neighbourhood of those lakes? Yes.
3606. Are you not at present supplying yourselves at Broken Hill with fodder, green stuff, and milk from a very long distance? From Adelaide. The milk comes from as far away as 300 miles by rail. The fodder is got from a distance of from 200 to 250 miles.
3607. Is not the Darling very much nearer to you than those sources are? Oh, yes. This proposed line of railway, from Broken Hill to Menindie, would be about 65 miles.
3608. And you could supply Broken Hill with all those commodities at half the distance you can get them from now? Yes, and of much better quality. The re-trucking, in transshipping from the broad to the narrow gauge, knocks the stuff about so much that any local supply, even if it were inferior, would be taken in preference, because it would be fresher.
3609. Between Terowie and Broken Hill you have no supply? No.
3610. It all has to undergo the break of gauge? Yes; all the vegetables and stuff that could be easily grown at Menindie.
3611. Those farms where the stuff is grown in South Australia, all depend, I suppose, upon the rainfall—there is no irrigation upon any of those farms? No.
3612. But you would have the advantage of irrigation on the Darling? Yes.
3613. So, whether your line went to Menindie or to Wilcannia you would come within reach of water? Yes.
3614. And in either case could supply Broken Hill to great advantage? Yes; and the supply of garden stuff and fodder is generally spoken of as one of the industries that would spring up.
3615. Are you aware that a line between Sydney and Broken Hill, *via* Forbes, would be 62 miles shorter than a line *via* Cobar? I do not know that.
3616. You have not studied the question of distance? No, because I had not the opportunities for knowing what the country is.
3617. Is this project for going to Menindie seriously entertained by *bona fide* people? Yes.
3618. *Mr. Dowd.*] You stated in reply to a question that if the proposed railway were constructed you were of opinion that all the bullion would be carried by that railway—is that so? Yes.
3619. Can you inform the Committee what is the cost at the present time of carrying a ton of bullion to Sydney from Broken Hill? No, but I arrive at my opinion in this way,—from what it would cost in proportion to other goods, sent by the circuitous route to Sydney through Port Pirie.
3620. Can you inform the Committee whether some of the directors of the Broken Hill Proprietary Company are also directors of the Silverton Tramway Company? Yes, they are nearly all the same. All the directors of the Silverton Tramway Company are directors of the Proprietary Company.
3621. Can you say whether they view the proposed construction of this line from Broken Hill to Cockburn as a competitive line? So far as the line from the Hill to the Border is concerned they would undoubtedly view it as a competitive line.
3622. But would not the line, if constructed on the proposed route, serve a large number of mines which the Silverton Tramway Company could not possibly serve—such, for instance, as the Pinnacles? I do not know. It is difficult to say what they could not do with their line. I think they could manage to supply them.
3623. You have given the population of Broken Hill proper—is there any scattered or outlying population that would be served by the construction of this line? Yes.
3624. Is that population considerable in number? I might include Silverton; that would be served by the line. The population of Silverton is about 500; Purnamoota, about 100; Pinnacles, about 150; and Rockwell paddock, I suppose, 100.
3625. You gave Mr. Copeland a list of the mines on the Broken Hill main lode, which you consider would be of a permanent and payable character;—are there mines on the eastern side of this lode of that character—rich and payable? Yes. There have been recent developments in the British Consols quite unexpectedly. In fact, that was pronounced a duffer by some of the most reliable men on the Hill, and it was a surprise to everyone, and it is expected that there will be many more of that kind discovered.
3626. From your knowledge and experience during your long residence in that part of the country, are you of opinion that many rich mining discoveries will be made of a permanent character? Yes.

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- 3627. Outside those already discovered? Yes.
- 3628. And your opinion is fortified, I suppose, by the recent discoveries in the Consols? Yes. The discoveries in the Consols make it impossible to say where there is not silver now on the Barrier.
- 3629. All on the eastern side of the lode? Yes. Five years ago Consols would not have brought a £5 note if they had been put up to auction locally.
- 3630. Do you know of any other minerals in that district, besides silver, which have been discovered? Yes, asbestos. That is a very useful commodity in connection with machinery.
- 3631. Whereabouts has that been discovered? In the Rockwell.
- 3632. In large quantities? Yes; and a very good quality, they say.
- 3633. Any other minerals? No.
- 3634. No tin or copper? No tin in the Rockwell.
- 3635. But in the district through which this railway would pass? Yes; if the tin fields were ever to come to anything they would be served by this line.
- 3636. Any discoveries of copper? None that I am aware of.
- 3637. Still, generally speaking, you are of the opinion that if the line were constructed it would soon be a remunerative one? Yes.
- 3638. And that under any circumstances, it should be constructed as a national work? Yes. In a progressive colony I think that work should be carried out.
- 3639. I presume that you are continually in contact with a large number of town residents and outside population? Yes.
- 3640. What is the opinion of those people with reference to the construction of this line—favourable or otherwise? Decidedly favourable. I have never heard an adverse opinion except from some person signing himself "Local Resident"—some old crank or faddist that opposes everything. With the exception of that one letter, I have never heard of any opposition.
- 3641. The general opinion is that the line should be constructed? Yes.
- 3642. *Mr. Humphery.*] What distance from Broken Hill is the ironstone deposit to which you referred—did you say what distance it was? No, not particularly. The whole country is impregnated with deposits more or less in size and quality.
- 3643. In which direction? Particularly Rockwell, and just on the route of this railway line. That would be about the Razorback.
- 3644. Which railway line? The proposed line from Cobar to Broken Hill.
- 3645. You are not referring to any iron deposits, then, between Broken Hill and Menindie? No.
- 3646. Do you know of any in that direction? No particular ones. They can quarry it almost anywhere there. But it could only be picked up in small quantities. They have no large permanent bodies of it.
- 3647. And the proposed line from Cobar to Cockburn would serve you quite as well as the projected line, of which you spoke, to Menindie, in respect to ironstone? Not so well. I forgot to say that I have heard from people who have seen it, notably Mr. Alison, the Clerk of the Council at Broken Hill, that there are large iron reefs or deposits somewhere between Cobar and Wilcannia. I do not know for what reason he had it tested, but he says that it is of the very best quality.
- 3648. Well, then, the Cobar to Cockburn railway would serve you better than the line from Broken Hill to Menindie? Yes. He speaks so highly of this deposit of ironstone between Wilcannia and Cobar that I should think that that would, for fluxing purposes, supply ironstone in the same manner as Tarrawingie would limestone.
- 3649. Do you know about what quantity, approximately, of ironstone fluxing would be required annually to serve the existing mines, without taking into consideration any possible further discoveries? No; I cannot speak as to quantities.
- 3650. You have no idea what present requirements are? No, I can only speak generally; and from what I know now of the country round about, and from what I gather from the mine owners, one of the next things to which they will have to turn their attention is, where their supply of ironstone is coming from.
- 3651. You said that the consumption of coke was about 1,300 tons weekly? Yes.
- 3652. That is by the Proprietary mine? That is by the Proprietary only.
- 3653. Did you ascertain what quantity of coal was used by the Proprietary? No. They use it only as fuel.
- 3654. I suppose you are aware that the estimate given by the Mayor, of the total consumption of coal and coke at Broken Hill, is less than the figures you have given us as the consumption of coke alone at the Proprietary mine? I do not understand that.
- 3655. You were here during the examination of the Mayor, were you not? Yes.
- 3656. Did he not tell us that the consumption was about 3,500 tons of coke, and I think he said 1,500 tons of coal? Per week?
- 3657. No, per month I think he said; I think the evidence was 7,000 tons, and that was reduced to about 5,000 tons, and 1,500 tons a week was the total consumption of coal and coke? I do not know.
- 3658. You did not ascertain what the consumption of coal is? I can speak very positively about the amount of coke used per week, because Mr. Howell himself told me that it was 1,300 tons, which quantity would be exactly doubled when they treated the sulphide ores.
- 3659. The local paper—*The Silver Age*—of Thursday last, says that the consumption of coke at the Broken Hill mine is 900 tons per week, and the consumption of coal 400 tons? That is wrong.
- 3660. Do you not think it very probable that instead of 1,300 tons being the consumption of coke, the consumption is really 1,300 tons of coke and coal? No.
- 3661. You think not? I am quite clear about the 1,300 tons of coke. I had that information from Mr. Howell, the managing proprietor.

Lewis Lloyd, Esq., Proprietor of Burruga Copper Mines, sworn, and examined:—

- 3662. *Mr. Copeland.*] You are an ex-Member of the Legislative Assembly? Yes.
- 3663. You are also, I believe, the proprietor of a copper mine, are you not? Yes.
- 3664. What is the name of it? Burruga.
- 3665. You are also part proprietor of the Nevada mine, Sunny Corner? Yes.
- 3666. Are you getting ore from the Nevada? Yes, I am.
- 3667. About what quantity per month? I have been raising about 500 tons per month.

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3668.

- L. Lloyd, Esq., 3668. Where is the Burrage mine situated? In the Abercrombie Ranges.  
 3669. What do you do with the ore obtained from that mine? I am smelting that on the ground.  
 29 April, 1891. 3670. But you are getting about 500 tons of ore per month at the Nevada mine at Sunny Corner;—where do you smelt that ore? I am smelting that at Lithgow.  
 3671. What freight do you pay for sending it from the mine at Sunny Corner to Rydal? Fifteen shillings per ton.  
 3672. What is the distance? About 17 miles from the mine to Rydal.  
 3673. What railway freight do you pay from Rydal to Lithgow? One shilling and eightpence per ton, I think.  
 3674. Do you remember the mileage from Rydal to Lithgow? Sixteen or 17 miles.  
 3675. Have you any furnaces erected at the Nevada mine? Yes; there are two of them.  
 3676. You have two water-jacket furnaces? Yes; two blast furnaces.  
 3677. But hitherto you have not used those two furnaces, because it was cheaper to send the ore to Lithgow, I suppose;—is it so? Yes.  
 3678. What do you pay for coal for smelting purposes at Lithgow? Two shillings and sixpence a ton.  
 3679. That is for small coal? Yes.  
 3680. Do you find that suitable for smelting purposes? It is.  
 3681. You smelt with reverberatory furnaces, do you not? Yes.  
 3682. Are they suitable for your kind of ores? Yes; far better than any other class of furnace.  
 3683. The ore you are getting from the Nevada mine is mostly sulphide ore? Yes; very refractory—containing zinc, copper, lead, and a blend of different minerals.  
 3684. That is a very refractory sulphide ore? Yes.  
 3685. But you find no difficulty in smelting with reverberatory furnaces, and use coal instead of coke? Not the least.  
 3686. Do you use any limestone as flux? No.  
 3687. It does not require limestone when you use a reverberatory furnace? No; nor ironstone.  
 3688. Have you had many years' experience in smelting? I have been at it all my lifetime.  
 3689. You are the owner of these furnaces at Lithgow, are you not? Yes.  
 3690. How many furnaces have you erected? Five altogether.  
 3691. Of which you are working how many? Three sometimes. It depends on the quantity of ore I get down.  
 3692. Then you do not require to use coke nor to use limestone in smelting your ores? No.  
 3693. And those ores contain lead, sulphide of copper, zinc, and quartz gossan, and altogether it is a very refractory ore? Yes.  
 3694. From your experience as a smelter, do you think that the Silverton ores could be treated in the same way by reverberatory furnaces? I have no doubt of it.  
 3695. That is the sulphide ores? Yes; in fact, you cannot treat them in any other way.  
 3696. Do you think that if this railway, which we are considering now, were constructed to Broken Hill, we should be in a position to send coal from Lithgow to Broken Hill, which could be used for smelting purposes as well as for steam purposes? Undoubtedly, or bring the ore down to Lithgow—one of the two; bring the ore to the coal or send the coal up there.  
 3697. Do you think from your experience, that it is likely it would pay them to send the ore from Broken Hill to Lithgow to be smelted? It depends on the cost of trainage. I do not know what that would be.  
 3698. I suppose that as you get your small coal at 2s. 6d. per ton, other people would be able to get it at the same price? No doubt. There are thousands of tons there put on one side.  
 3699. You think that getting the coal so very cheap, would enable them to pay freight on sending their sulphide ores from Broken Hill to Lithgow? Yes.  
 3700. And by treating them in reverberatory furnaces they would not need to go to the expense of obtaining lime as a flux? No.  
 3701. Nor would they require iron, I suppose, as a flux either? No.  
 3702. The ores would flux themselves? Yes.  
 3703. Therefore, in adopting the plan of sending their ore from Broken Hill to Lithgow, they would save all the expense of purchasing lime and ironstone as they are doing at present? Yes. It would have to come to that in time after their carbonate ore is done.  
 3704. I suppose there is no question of the completeness of the smelting process by a reverberatory furnace—that is to say, it gets the silver out as thoroughly as the blast furnace does? It comes out exactly in the same way as in the blast furnace.  
 3705. You believe they will be compelled to fall back on reverberatory furnaces in treating their low grade sulphide ores? I have no doubt of that, because it has been so in America at the Great Auconda mine. They have had to fall back on the reverberatory furnace.  
 3706. In addition to your many years' experience in smelting in these colonies, I think you were also a miner at home, were you not? I was a smelter—I never was a miner.  
 3707. Have you seen any of the American mines? I never was in America.  
 3708. So your experience has been gained in the old country and in these colonies? Yes.

Francis Martin Drake, Esq., Metallurgist, sworn, and examined:—

- F. M. Drake, Esq., 3709. *Mr. Copeland.*] Where do you reside? At present at Denison Town, New South Wales.  
 3710. You have resided, I suppose, at Broken Hill? Yes.  
 28 April, 1891. 3711. For how long? I came down about the 1st April. I had been there about eleven months.  
 3712. What was your occupation there? I had charge of the Central Company's smelters.  
 3713. How many furnaces? Three.  
 3714. I suppose their process of smelting is by the water-jacket, is it not? Yes.  
 3715. They use limestone and ironstone as flux? Yes.  
 3716. You heard the evidence given by Mr. Lewis Lloyd just now, with reference to smelting with reverberatory furnaces? I did not catch it all.  
 3717. Are you of opinion that the sulphide ores could be smelted with reverberatory furnaces, and using coal instead of using coke? It is always a matter of cost—the one does the work as well as the other.

3718. The only difference, I suppose, is that you cannot put so much through with reverberatory as with blast? A reverberatory furnace requires more repairs and more skilled labour—a blast furnace requires a higher class of superintendence.

3719. But a reverberatory furnace will do its work quite as efficiently as a blast furnace? Yes.

3720. In that case you would not require to use limestone or ironstone as flux? In the reverberatory furnace you can use a more silicious charge—that is, you can carry more quartz in a charge than you can with the blast furnace, but I question whether you can clean the ore as well in the reverberatory process. It is a matter of argument between metallurgists as to whether the reverberatory furnace is better than the blast, or *vice versa*. The Americans have improved on the German system of blast furnace work, and that is the method—water-jacket—used at Broken Hill. But the old Cornishmen and Welshmen will not hear of it, and they still adhere to the reverberatory furnace.

3721. Are they not using reverberatory furnaces in America for sulphide ores? Yes. It all depends on the price of fuel.

3722. Supposing this proposed railway were taken to Broken Hill, do you think that when the ores get more mixed than they are at present and there are more of sulphides, they would be likely to use coal for fluxing purposes instead of coke? Not for a long time to come—not for a considerable time will they discard the blast furnace, in fact I question if they ever will unless they discover some quicker method of working reverberatories than they have at present.

3723. For sulphide ores would not a reverberatory furnace be better adapted than a blast furnace? As I said before, it is all a question of cost. The sulphide ores can be roasted as they do at Sunny Corner in heaps, and then put through the blast furnace, or they can be put directly into the reverberatory and worked up in one operation.

3724. They could be directly put into the reverberatory without being roasted? They have two operations in the reverberatory. They roast them for a time, and then increase the heat and smelt them in the same place.

3725. But it is not absolutely necessary to roast the ores before smelting them in the reverberatory furnace? No, not in heaps.

3726. But in a reverberatory furnace you save using lime as a flux; you cannot smelt in a blast furnace without limestone? Oh, no.

3727-8. Would it not be a great saving to save all the limestone they would otherwise use? Well, it might be.

3729. About what quantity do they generally use per ton of ore at Broken Hill? I cannot speak positively except as to the Central. At the Central we put through about 50 tons of ore to 15 tons of limestone and 15 tons of ironstone, roughly speaking.

3730. You would use about one-third limestone and about one-third ironstone? No; about 15 tons of each of the fluxes to 50 tons of the ore. That would be 50 to 30.

3731. A little less than one-third? Yes, three-eighths of the total quantity.

3732. Is there very much silica in that ore? It is probably more silicious than any other ore on the Hill except Block 10, and they do not smelt their ore.

3733. Would it not be a great consideration in using a reverberatory furnace for them to save those 15 tons of limestone and those 15 tons of ironstone? I do not think it would pay to do so. It would require so many furnaces to do the work and so many men that I do not think it will ever pay to use reverberatory furnaces there.

3734. It might not pay with carbonate ores, but would it not pay with sulphide ores? I do not think so. At Sunny Corner they are doing good work with blast furnaces—I think as cheaply as anybody does it.

3735. I suppose you cannot speak from experience as to the probabilities of the permanency of the mines; your occupation was only on the surface? Well, I have been on the mines, and I know the opinion of the exports there;—they all look forward to the place being a permanent one. I have great confidence in it myself, so far as I know. The deepest ore that is being taken out is only from a depth of (say) 450 feet in Block 10. I think that is the deepest ore which they are working at present.

3736. They are still carbonate ores, are they not? They are oxidised ores at the 450 feet level.

3737. Does it show any indication of turning into sulphides? No; the ore lies in layers. The sulphide underlies the kaolin, and that underlies the gossan, and these layers are getting deeper and deeper to the southward.

3738. With every indication of permanency? Yes; the further south the deeper the ore.

3739. How wide is the lode in Block 10? I cannot say as to that, I have never measured it, but I think it is 60 or 70 feet.

3740. Can you say what is about the average yield? I cannot remember. Captain Warren has told me these things, but I forget. He has sulphide ore up to 100 oz., and kaolin goes to 1,000.

3741. But what do the bulk assays go to with carbonate ores? I cannot say, but it can easily be worked out from their returns. I never have worked it out.

3742. So far as you know there is every indication of permanency in the lode as you go south? Well, it is permanent all the way through. They have it in the bottom levels of the Proprietary, which is to the north. What I meant to convey was that the oxidised ores were deeper as they went south.

3743. And then they have every reason to expect they will get a large supply of sulphide ores underneath those? They have. On the 400 feet level at the Central they have sulphide ores something over 300 feet in width in their main cross-cut.

3744. Do you know anything of the country between Broken Hill and Wilcannia? Nothing at all.

3745. Have you seen anything of the ironstone deposits which they use for flux? I have been at a place called Balaclava, which is in the Rockwell paddock, which is where we obtained almost all our supplies of iron flux.

3746. Is there a large deposit there? It is not a large one, but it is 7 or 8 feet wide in places, and in some other places 12 feet wide.

3747. That will very quickly run out, will it not? I thought it would run out when I was there, ten months ago, but it still comes in.

3748. Is it your opinion that there will be a large demand for ironstone if it can be found at other places? I am certain there will be. The Proprietary Company have hitherto used nothing but their own, but are making inquiries as to where they can get other. They have used their surface outcrops, containing 10 oz. sometimes, but averaging about 3 or 4.

P. M. Drake, Esq.  
29 April, 1891. 3749. If we have evidence that there are large deposits of iron ore between Broken Hill and Wilcannia, do you think they will be likely to be used and thus give traffic to the railway? You can be sure that they will be utilised if they can be delivered at a reasonable price. We, at the Central, pay 23s. a ton for ironstone.

3750. Do you think there is ore enough proven in these different mines to use up all the ironstone within a reasonable distance of Broken Hill? I cannot say as to that. My experience in mining districts has been that fresh things are continually being discovered.

3751. I mean the deposits that are known;—are they likely to be soon used up in being continuously drawn upon? I do not think they will be used at all if you can supply a better quality, which will not be very hard to do. Both the ironstone and the limestone obtained hitherto has been very poor indeed.

3752. Do you know what percentage of carbonate of lime that limestone contained? I do not remember that percentage, but the percentage of silica goes up to 17 per cent. However, that will be remedied by Tarrawingee giving no limestone that assays more than 4 or 5 per cent. silica.

3753. What percentage of silica does the iron ore contain? That carries 10 or 15 per cent. of silica. If there is 10 per cent. we think we are doing very well, but even that is 1 ton in 10 smelted which we should not smelt.

3754. And you not only smelt what you would not smelt, but you pay for it? Yes.

3755. You think that if there should be any deposit of iron ore found between Wilcannia and Broken Hill, it is sure to be made use of, and give us traffic on the railway, and the same as regards limestone? I am sure of it.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

Railway from Cobar to Cockburn.

APPENDIX.

A.

PRECIS OF PROCEEDINGS RELATING TO THE PROPOSED RAILWAY FROM COBAR TO COCKBURN.

Two routes have been suggested—rival routes they may be termed—for railway communication with Wilcannia and the West (1) by an extension of the proposed Nyngan-Cobar line, and (2) by an extension of the proposed Forbes line.

Under the date of 8/7/84, the Engineer-in-Chief submitted for the information of the Minister a map, showing the several routes to Silverton and the South Australian Border, with a statement of the mileages as under:—

	Distance from Sydney.	Miles to construct.
Via Hay and Menindie.....	745 miles	290 miles
Direct, via Hay.....	730 "	275 "
Via Orange, Forbes, and Wilcannia.....	742 "	470 "
Via Orange and Cudal.....	734 "	470 "
Via Nyngan and Cobar.....	749 "	371 "
Via Narromine.....	710 "	410 "
Via Orange and Menindie.....	694 "	430 "

27/7/84.—The Cobar line was advocated in a petition from residents of Cobar, and presented to the Legislative Assembly by Mr. R. Barton.

Mr. Kirkcaldie in reporting upon this proposal, stated that in his opinion the Forbes route was the best, as it spaced the country better, and would attract business that is now done with Melbourne, via Balranald.

Inspector Hornidge also was of opinion that unless very substantial concessions were made (in rates) we must not hope for any great accession of traffic from the Wilcannia district.

In a petition from persons interested, presented to the Minister by Mr. Barton, it is asserted that the construction of such a line (Cobar) would command the whole of the Middle Darling and Barrier Range traffic.

17/9/84.—A petition from the inhabitants of Menindie was presented to the Legislative Assembly praying for an extension of the railway from Hay to Menindie and Silverton.

2/1/87.—Mr. Kirkcaldie in reporting on this subject, said—"No doubt Cobar would be the nearest route to Wilcannia and Silverton, but a railway to the former town would be of no benefit whatever as far as securing the trade of those districts is concerned."

12/6/88.—A paragraph in the *Daily Telegraph* states that public feeling was, that the Cobar route was preferable to that by Forbes, as being shorter and more quickly made, but that the people would be satisfied to have a railway whatever route it might take.

28/2/89.—In reply to an inquiry by the Minister, the Engineer-in-Chief reported that the best route to adopt would be from Nyngan to Cobar, and thence, via Wilcannia, to Silverton, where a connection could be made with the South Australian railways. This would connect Adelaide with Sydney, and the distance would be nearly the same as via Melbourne, thus,—

Sydney to Adelaide, via Melbourne, 1,086 miles.

Sydney to Adelaide, via Silverton, 1,091 miles.

while in the first case, traffic would pass over 388 miles of New South Wales lines, and in the other case over 771 miles.

2/4/89.—The *Silver Age* in an article of this date, referring to the visit of the Railway Commissioners and to the duty confided to them, stated that surprise was felt that steps in the direction of an effort to secure the Barrier trade were only now being taken. South Australia, it was pointed out, had early recognised the value of the trade, and had carried a line to the Border. It had been frequently debated whether a railway (in communication with Sydney) to Broken Hill would pay, but the writer believed it only required proper management to make it in time "highly payable," not only to the Railway Department but to the colony. With an inexhaustible supply of coal at one end we should be able to run our trains cheaply, and compete with South Australia for the traffic.

2/5/89.—A memo. by Mr. B. R. Wise, submitted for the Minister's information, stated that he (Mr. Wise) had just returned from a tour of the Western districts, where he found all classes of the community complaining bitterly that they were shut out from the markets of this colony. It was universally maintained, that for a large proportion of that country Sydney was the best market if it were accessible. He found wool of the value of £250,000 lying in Wilcannia for want of the means of getting it away, and it had been there for twelve months; and in the same period 800,000 sheep had died of starvation, because there was no way of removing them to country where grass and water were attainable. During his stay in Wilcannia, eggs, and butter, and all kinds of fodder, were selling at fabulous prices, and yet Wilcannia was the entrepôt from which the stations as far back as Cooper's Creek drew their supplies. The demand for agricultural produce in Wilcannia was therefore very great, and, if communication were given with the districts further west, would be enormously increased. Wilcannia should be the entrepôt for all the country west of the Darling, for the southward of Queensland, and a portion of South Australia, and even for some parts of the gulf country in Queensland. To bring about this result—he would say nothing of rival routes—railway facilities must be given, and if this were not done the western trade would be lost to us and go to South Australia. The locking of the Darling should be carried out—not as an alternative but as a necessary consequence of railway communication. It would give us the command of the trade and bring traffic to the railway. The locking would throw the water back in the ans and creeks for a distance of 40 or 50 miles. This would encourage settlement and raise the value of Crown land "enormously."

14/5/89.—The Minister approved of a survey being made from Wilcannia to Silverton, but Mr. Deane intimated that the Railway Commissioners were of opinion that the line from Wilcannia should touch at Broken Hill, and be carried thence via the Pinnacles and Thackaringa, on to the South Australian Border.

4/7/89.—The *Sydney Morning Herald* says "there would scarcely be wisdom in constructing a line from Nyngan to Broken Hill or Silverton unless we were sure of a great deal of the trade of the districts referred to. It is purely a matter of pounds, shillings, and pence. We recognise a duty to the west, but it is possible that in doing a little right (to those districts) a great deal of wrong may be done (to the colony as a whole), as wrong would be done if a railway were constructed to the Darling country which would be taken advantage of only in part. Adelaide, the writer points out, "in her proximity to the Border," has enormous advantages in respect of the trade. If, "he asks," we establish a railway, will those advantages be increased or lessened? "This," he adds, "is the problem to be dealt with, while we see at the same time the necessity of preserving the integrity of the colony and of keeping our resources within our own Border."

The *Western Grazier*, a local paper, published some remarks addressed by a Mr. Donkes to the Railway Commissioner, on behalf of the Wilcannia Railway League. Mr. Donkes quoted statistics freely, but as they were, for a great part, of old date they are not of much value for the present purpose. One fact, however, which he mentioned is worthy of note, viz., that during the year losses of sheep to the extent of 1,000,000 or 1,250,000 had occurred, which might have been avoided if the means of removing the sheep to another district had been available.

24/8/89.—

24/8/89.—His Honor Judge Docker, in a memorandum addressed to the Minister stated—speaking from an experience of the district extending over twenty years—that few people in Sydney had any idea of the amount of traffic passing through Wilcannia, not only to the Darling, but to the wide country of the Paroo, away to the Queensland Border. The bulk of this traffic went to South Australia, and unless we were prepared to acquiesce in the practical annexation (to South Australia) of those important districts, railway facilities should be provided. He was of opinion that if all the traffic, of which Wilcannia was the entrepôt, were carried by railway it would fully justify the construction of a light line. But the soil of the Darling Valley was so fertile that, with the help of irrigation, he expected to see that river become the Nile of Australia, and he knew of no country which presented such facilities for a system of irrigation. A railway would not obtain all the traffic. The bulk of the heavy goods would inevitably go by the river when navigable, but the earnings of the railway for wool and fodder would probably make up for the deficiency in rainy weather. He did not see, however, why a revenue by dues or tolls should not be derived from the river, as it was the expensive snagging operations which had rendered it navigable; and this plan should certainly be adopted if the river were locked, which it ought to be. If the river were rendered permanently navigable it would act as a feeder—not a competitor—of a railway. If a line to Forbes had been made, the best route to Wilcannia would have been by an extension from that point to Euwalalong, and thence across the country to Mount Hope, but under existing circumstances, there could be no doubt that Nyngan should be the point of departure. The distance from Sydney would be only some 20 or 30 miles, while the amount of new construction would be considerably less.

6/8/89.—Mr. E. Quin addressed to the Minister a lengthy letter (of which a synopsis will be found with the papers) dealing exhaustively with circumstances and prospects of the proposed line. He is of opinion that the rabbit is a factor in the case, and that this evil must be successfully combated, and settlement thereby promoted before the line could be a success. One great advantage of the line would be that it would afford the certainty of a market at all times, and a means of saving stock in seasons of drought. Mr. Quin does not consider that the competition of the river would be so formidable as some persons imagine. The delay and uncertainty by the river are serious evils, and the cost of conveying goods by railway would not be greatly in excess of water carriage. He himself had had to pay £4 17s. 6d. per ton to Melbourne by the river. In times of drought, the saving of sheep, by having facilities for transporting them to food and water, would be enormous. It might also pay to transport the ores to a coal district (say Lithgow) for smelting. On the whole, in view of the enormous outlay and the serious contingencies involved, the question required the most careful consideration.

2/9/89.—Mr. Commissioner Eddy had an interview with the Minister to discuss the proposed line, and the following day addressed a communication to the Minister, setting forth that the South Australian gauge, as far as Terowie, is 5 ft. 3 in., and thence to Cockburn and on to Silverton, 3 ft. 6 in. The present, he thought, would be a favourable opportunity to settle the question of gauge, as it would be most disadvantageous for this colony to have to obtain rolling stock for a 3 ft. 6 in. or a 5 ft. 3 in. gauge. If the new line were made by this Government, it must be of the same gauge as the connecting link of South Australia, or we should not be able to participate in the traffic, and the object of constructing the line would be frustrated.

2/4/90.—Mr. E. Quin addressed the Minister, suggesting that, as the Darling was in extremely high flood, it would be a capital opportunity of obtaining information as to flood levels if a competent officer were sent down. Instructions accordingly were given.

11/4/90.—The Minister requested Mr. Deane to inform him if it would be possible to commence the work of making the line at four points at once, viz., Cobar, Cockburn, and the two banks of the river.

Mr. Deane replied that the arrangements would, to some extent, depend upon the progress of the Nyngan-Cobar section of the line. The railway works could certainly be commenced at the four points mentioned by the Minister, and the bridge over the Darling would in reality form a fifth section, and could be put in hand independently. Between the river and Broken Hill, 118 miles had to be constructed, of which 50 miles should be laid from Wilcannia. Between Wilcannia and Cobar was 158 miles, of which 60 miles might be laid from Wilcannia. The navigability of the river was such an uncertain matter that if the Government decided to construct the line arrangements might be made at once for the delivery of permanent way and bridge materials at Adelaide, in order that the first chance of getting up the Darling to Wilcannia might be seized. The line from Cobar to Wilcannia would have in part to be re-surveyed, which would take four months. The work could then be put in hand. Careful sections of the river and borings would have to be made on the subsidence of the flood. The Minister directed that this necessary work should be put in hand without delay.

3/7/90.—A deputation of members of the Legislative Assembly waited on the Minister to urge the immediate construction of the Wilcannia line, urging that the exceptionally good season would very much facilitate the progress of the work. Then again, a bridge would be required at Wilcannia, and as some of the ironwork must be brought from England a considerable time would be lost in getting it on the ground. The Minister gave the deputation a favourable reply, stating that the line, Nyngan to Cobar, had been proposed specially with a view to the construction of this line, and that he would do his best to have the work put in hand at four different points at the same time.

13/10/90.—Mr. Dickens, M.P., wrote to the Minister advocating the early submission of this line to the Public Works Committee. (1). Because it is an intercolonial work. (2). Because of the great delay which would ensue from not passing it in the current session. (3). Because the trade which should come to Sydney is being rapidly diverted into other channels; and (4). Because a Sectional Committee had already travelled over the ground, and the Railway Commissioners (1889) inspected the route, and in view, they said, of the uncertainty attending the carriage of produce by water; of the losses sustained by the pastoralists in times of drought; of the marvellous development of the mining industry; and of the proposal being of intercolonial importance; they recommended the construction of the line, suggesting that it should be taken from Broken Hill to the Border, *via* the Pinnacles and Thackaringa.

C. A. B., 16/5/91.

## B.

[*To Evidence of J. Barling, Esq*]

RAILWAY COMMISSIONERS' REPORT ON PROPOSED RAILWAY EXTENSION FROM COBAR TO WILCANNIA AND SILVERTON.

Office of the Railway Commissioners of New South Wales, Sydney, 15th July, 1889.

IN the reference to us of the proposed Nyngan and Cobar line we were requested to report in regard "to the question of ultimately extending the line to Wilcannia and thence to Silverton, with a view of connecting it with the South Australian system." We have therefore inspected the route from Cobar to Wilcannia and Broken Hill.

The question of railway communication with Wilcannia, Broken Hill, and the South Australian Border is of considerable magnitude, yet it is one that cannot, apparently, remain long undetermined, not only in the interest of the places named and the western district generally, but as a means of direct communication with South Australia from Sydney, and probably, at no distant date, by the construction of a line between the Northern and Western lines, a direct route from Brisbane. Lines of this character can only be dealt with upon national principles, yet there is also a commercial aspect.

While Wilcannia and the surrounding district at present depends upon water carriage for its supplies and as a means of getting wool to the seaboard, the carriage is uncertain, and it is fair to assume that a portion at least of the traffic would go by rail if such a means of transit were available.

The pastoralists are at the present almost helpless in times of drought, and their losses during the past season have been great. A railway would have a material effect on their prospects by affording the means of selling part of their stock in bad times, or of removing the same to more favoured feeding grounds.

The rates now paid for getting the stores used on the stations are excessive, in consequence of the great distances to be travelled to reach the railway at Hay, Nyngan, or Broken Hill.

Another very great consideration is the fact of the marvellous development of the mining industry at Broken Hill, where there is a population of 15,000 souls at present existing, and we were assured it would rapidly increase.

The whole of this trade is out of the hands of New South Wales, and the sympathies of the population are, to a great extent, with South Australia and Victoria, as the communication with New South Wales is so very difficult.

We were assured by the manager of one of the mines that his railway carriage account amounted to £18,000 per month, and were assured that if a through route existed with Sydney, a fair proportion of this traffic might be obtained in spite of our long route. It is probable also that a market would be opened up for coal and coke from our Western coal fields.

This

This route would also be as short from Sydney to Adelaide (and, of course, to places north of Adelaide shorter) as that now existing *via* Melbourne, but the New South Wales railways would receive a 771 miles' proportion instead of 387 miles, as at present to Albury.

With regard to our Northern system and Queensland, if a line is constructed from Werris Creek to the Western line, a shortening of distance between the North and South Australia of about 400 miles would be effected.

The line is only now being roughly surveyed from Wilcannia to Broken Hill, but making the lines throughout on as cheap a principle as possible without fencing, it is roughly estimated that it will cost as under :—

	£
Cobar to Wilcannia .....	497,000
Wilcannia to Broken Hill .....	390,000
Broken Hill to Cockburn, <i>via</i> the Pinnacles and Thackaringa .....	150,000
	£1,037,000
Interest at 3½ per cent. ....	36,205
Rough estimate of cost of working .....	51,000
Interest on rolling stock .....	3,330
	£90,634
Cost per annum.....	£90,634

Of course, it is impossible to offer a pronounced opinion upon the probable financial success of such a large undertaking from the outset, but there is no doubt ultimately it will be successful, and as it is most desirable to open up communication with remote portions of the colony of New South Wales, which are at present nearly, if not wholly, commercially connected with our sister colonies, we strongly advise the Government to adopt the scheme, and to commence it in about four sections, so as to get it opened throughout as quickly as possible.

We suggest the route for the line from Broken Hill to the South Australian Border at Cockburn, *via* the Pinnacles and Thackaringa, as the mining industry at the Pinnacles requires the aid of a railway to develop it, and a private company is also being projected to afford this facility, and we would advise the Government not to grant powers to another private company in the district.

The Bill now before Parliament for constructing an extension of the present Silverton tram-line to the River Darling at Menindie, a distance of about 80 miles, regarding which we have been asked to report, is also affected by this scheme. We are of opinion it would be unwise to authorise the line, yet it is desirable that access should be given with the river from Broken Hill, and if the Government decide to make the Wilcannia line we would advise the rejection of the Bill.

The seal of the Railway Commissioners of New South Wales was affixed hereto this 16th day of July, 1890, in the presence of,—

E. M. G. EDDY,	Chief Commissioner.
W. M. FEHON,	Commissioner.
W. V. READ.	CHARLES OLIVER, Commissioner.

This is the Report of the Railway Commissioners, as submitted by me to the Legislative Assembly this day.—B.S., 19/12/90.

### C.

[To Evidence of Harrie Wood, Esq.]

RETURN SHOWING THE NUMBER OF LEASES ISSUED AND IN FORCE, &C, IN THE DIVISIONS OF BROKEN HILL, SILVERTON, MILPARINKA, WILCANNIA, AND COBAR.

Sir,

Department of Mines, Sydney, 19 March, 1891.

I have the honor to forward herewith a return showing the number of leases issued, &c., &c., in the Divisions of Broken Hill, Silverton, Milparinka, Wilcannia, and Cobar.

I have, &c.,

HARRIE WOOD,

Under Secretary.

The Secretary, Parliamentary Standing Committee on Public Works.

RETURN showing the number of leases issued and in force, &c., in the Divisions of Broken Hill, Silverton, Milparinka, Wilcannia, and Cobar.

#### *Broken Hill.*

NUMBER of mineral leases issued and in force, 144; total area held under lease, 5,402 acres 0 roods 23 perches; located in parishes of Moorkair, Cathcart, Mount Gipps, Yancowinna, Botaira, Sebastopol, Enmore, Tara, Pictou, Soudan, and Yancowinna North, in the county of Yancowinna; Dering, in the county of Farnell.

Number of gold-mining leases issued and in force, 9; total area held under lease, 340 acres 2 roods 8 perches; located in parish of Pictou, in the county of Yancowinna.

#### *Silverton.*

Number of mineral leases issued and in force, 701; total area held under lease, 26,963 acres 3 roods 20 perches; located in parishes of Stephen, Albert, Bomangaldy, Lewis, Bolaira, Mount Gipps, Parnamoota, Alma, Pictou, Balaklava, Robe, Sebastopol, Cathcart, Soudan, Moorkair, Bray, Nadbuck, Naradin, Wankeroo, Tara, Eamore, Umberumberka, Para, Yancowinna, Edgar, Sentinel, Ophara, Mundi Mundi, Dhoon, Coonbarra, and Thackaringa, in the county of Yancowinna; Byjerkeroo, Corona, Coonbarra, Badjerrigara, Torrowangae, Bligh, Cook, Alberta, Flood's Creek, Dering, and Fowler's Gap, in the county of Farnell; Gairdner's Creek and Bomgadali, in the county of Mootwingee; Doon, in the county of Menindie.

Number of gold-mining leases issued and in force, 3; total area held under lease, 30 acres 3 roods 6 perches; located in parishes of Robe and Yancowinna, in the county of Yancowinna; Badjerrigara, in the county of Farnell.

#### *Milparinka.*

Number of mineral leases issued and in force, 2; total area held under lease, 50 acres; located in parishes of Morden and Koornbergerry, in the county of Mootwingee.

Number of gold-mining leases issued and in force, 24; total area held under lease, 333 acres 1 rood 20 perches; located in parishes of Warratta, Orr, and Milring, in the county of Evelyn; Warratta and Mokely, in the county of Tongowoko; Koornbergerry, in the county of Mootwingee.

#### *Wilcannia.*

Number of mineral leases issued and in force, 42; total area held under lease, 1,809 acres; located in parishes of Bomangaldy, Albert, and Victoria, in the county of Yancowinna; Byngano, in the county of Mootwingee; Pampara, Kirk, and Woraro, in the county of Yungnulgra.

Number of gold-mining leases issued and in force, 8; total area held under lease, 164 acres 3 roods 27 perches; located in parishes of Parkes, in the county of Young; Williams, in the county of Yungnulgra.

#### *Cobar.*

Number of mineral leases issued and in force, 35; total area held under lease, 1,102 acres 0 roods 10 perches; located in parishes of Kalooglegay, Moquillamba, Cobar, Beo, and Mopone, in the county of Robinson; Geweroo, Babinda, and Honeybuckle, in the county of Flinders; Kawilta, in the county of Cowper.

Number of gold-mining leases issued and in force, 32; total area held under lease, 228 acres 0 roods 37 perches; located in parishes of Cobar and Moquillamba, in the county of Robinson.

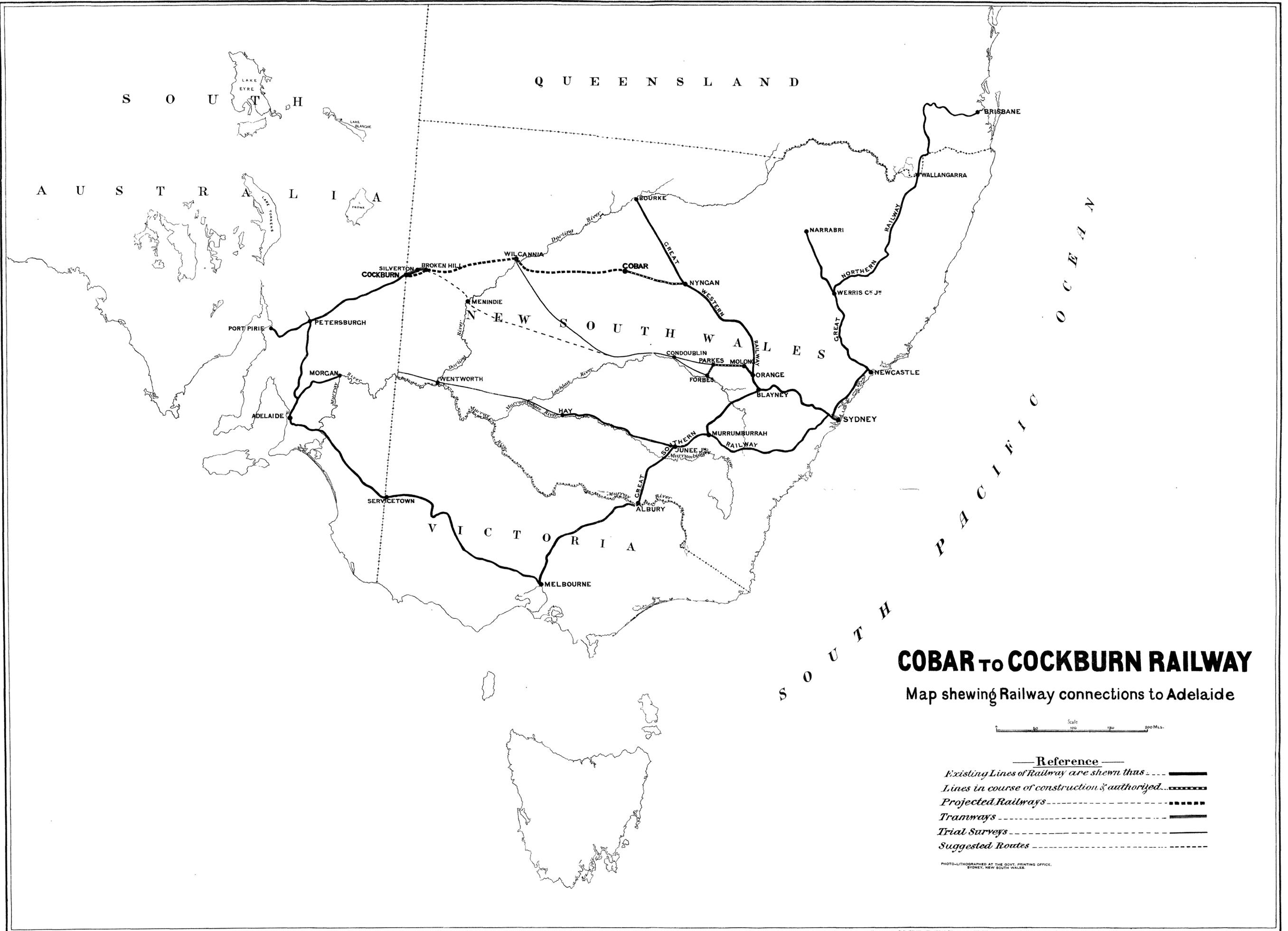
STATEMENT of miners' rights, business and mineral licenses issued, number of men, and value of the machinery employed in connection with the metallic mines in the north-western district of New South Wales during 1890.

Locality.	Miners' Rights.	Business Licenses.	Mineral Licenses.	Number of men employed.	Value of Machinery.
Broken Hill .....	1,463	3,810	190	4,500	} £ 406,885
Silverton .....	51	146	130	900	
Wilcannia .....	71	21	114	185	
Tibbooburra .....	173	38	.....	50	
Milparinka .....	152	39	13	150	5,600
Cobar .....	49	10	14	100	7,500
Hillston .....	84	9	1	122	700
Mount Hope .....	56	6	4	No	return
Nyngan .....	5	2	3	"	"
Nymagee .....	121	1	101	250	42,000
	2,225	4,082	570	6,257	468,985

Approximate revenue derived from rents of leases, deposits, survey fees, miners' rights, mineral and business licenses, during the year 1890 in the following divisions:—

	£	s.	d.
Broken Hill .....	7,573	5	6
Silverton .....	11,422	15	6
Milparinka .....	879	0	0
Wilcannia .....	3,583	8	0
Cobar .....	671	16	0
Total .....	24,130	5	0

[Three plans.]



# COBAR TO COCKBURN RAILWAY

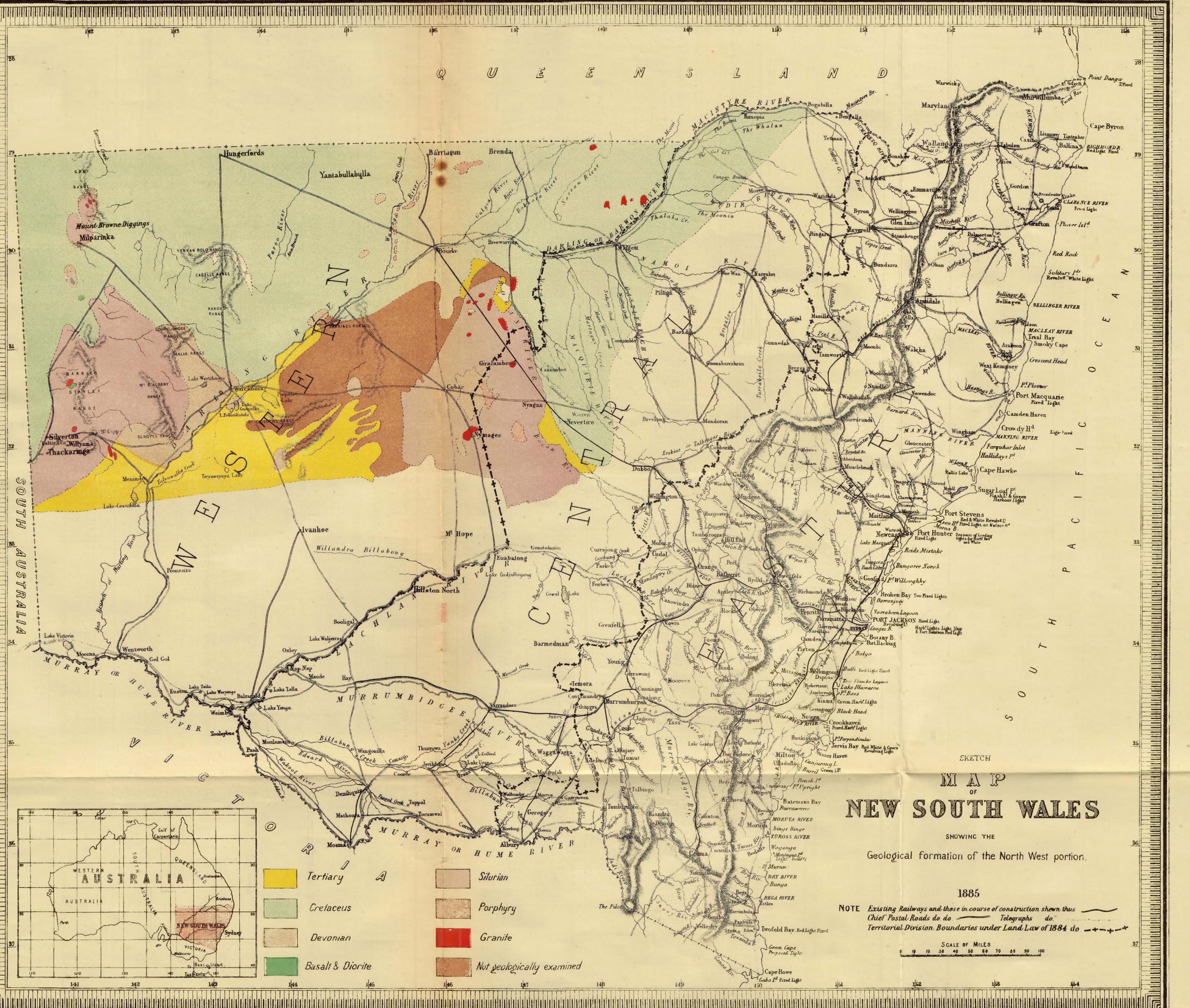
Map showing Railway connections to Adelaide



- Reference —
- Existing Lines of Railway are shown thus ————
  - Lines in course of construction & authorized ————
  - Projected Railways ————
  - Tramways ————
  - Trial Surveys ————
  - Suggested Routes ————

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES.



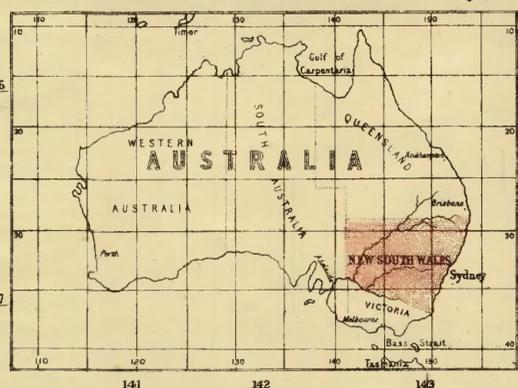
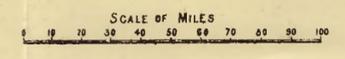


- |   |                  |  |                           |
|---|------------------|--|---------------------------|
|  | Tertiary         |  | Silurian                  |
|  | Cretaceous       |  | Porphyry                  |
|  | Devonian         |  | Granite                   |
|  | Basalt & Diorite |  | Not geologically examined |

SKETCH  
**MAP**  
 OF  
**NEW SOUTH WALES**  
 SHOWING THE  
 Geological formation of the North West portion.

1885

NOTE Existing Railways and those in course of construction shown thus  
 Chief Postal Roads do do  
 Telegraphs do  
 Territorial Division Boundaries under Land Law of 1884 do



1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

PROPOSED RAILWAY FROM RICHMOND TO KURRAJONG.

(REPORT OF MR. STANLEY ALEXANDER.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

Mr. S. Alexander to The Under Secretary for Public Works.

Parramatta, 6 February, 1891.

The proposal to extend the Blacktown-Richmond branch railway through the Kurrajong district originated in a scheme which had for its main object the construction of an alternative line of railway across the mountains, to act as a duplicate to the existing line, on the assumption that duplication of this existing line, to include elimination of the steep gradients and zigzags, that have proved so expensive in working and the main cause of the congestion of the traffic, was practically impossible in point of cost, even if the features of the land admitted of the improvements being carried out at all.

2. This proposal was laid out as a trial survey in the year 1883 between Richmond and Wallerawang. The portion of it which traverses the Kurrajong district is known locally as Lloyd's line, and is shown in full red line on the attached map. The section of this shows the shape of the country, and together with the line laid down by Mr. Wark (shown in blue) sets forth the ruggedness of the features of the upper part of it very well.

3. Applications have been made from time to time since 1882 for the construction of a tramway into the Kurrajong district, but the opinion of the officers of the Department was distinctly against its practicability except by use of steep gradients. At the instance of Mr. G. Bowen, of Bowen Mount, a report was made by Mr. Railway Surveyor Hardy in August, 1889, which points out that the lower part of the district only can be reached, even by steep gradients and at heavy expense, and that the crossing of the Hawkesbury would entail the construction of a new bridge even for tramway purposes.

The line suggested by Mr. Hardy follows the South Kurrajong Road (shown by dotted red line), proposing to terminate near the junction of roads in the centre of the Kurrajong district, at a low elevation. This point is also passed by Mr. Lloyd's line, which, however, reaches it by way of the North Kurrajong Road past Brown's Corner.

4. The subject was resuscitated on the report by Mr. E. B. Price on the whole question of relief of the congestion of traffic on the Western line being published. This reported so distinctly in favour of a line into the Kurrajong district being a remunerative undertaking, that action was immediately taken by the district in pushing the matter, with the result that, on December 11, 1890, an investigation was promised.

5. The deputation that waited upon the Minister on this matter brought forward a fresh proposal, namely, to bridge the Hawkesbury by a new construction at about 22 feet above the bed, to traverse a spur called Thompson's Ridge, giving a more direct route, and, passing under the South Kurrajong Road by a tunnel, to terminate as high up the mountain as possible, at a point which, however, was not expected to be higher than the old stone School-house, an elevation of about 800 feet.

6. The next development of the agitation was a public meeting convened by Mr. William Wark, of the Ridge Kurrajong Heights, to which he presented a scheme of his own for a line of railway on a narrow (1 foot 11 inches) gauge, on the Decauville system, leaving the main line at Emu, crossing the Grose near its confluence with the Hawkesbury, and, passing Box Hill on the south-west part of parish Kurrajong—a district known as Grose Vale—to ascend by steep gradients and sharp curves to a level of 1,653 feet above the sea to the Heights. Notes on this proposal are appended to Mr. Wark's evidence. The opinion of the meeting was, that in view of the action already taken in support of a line from Richmond and the Minister's promise of an investigation, the proposition made by Mr. Wark was premature.

7. The inquiries upon which this report has been based were made in the district between the 20th and 31st of January of the current year.

8. The extent of country that will be directly benefited by the proposed extension is comprised within parishes Currenny and Kurrajong and part of Merroo (portions of county Cook). The whole of this country may fairly be taken to be within the influence of the proposed line, as there is no other outlet for traffic across the Hawkesbury except by the bridges at Windsor and Richmond. The extreme south-eastern part of Currenny only may be said to be midway between these bridges, and equally well served by either, but a railway station at Enfield will attract traffic from this part also. Sackville Reach is far enough away, and not as yet so accessible by road as to admit of its being used from this district.

9. From the north the old Bulga Road passes down through parish Merroo along the Comleroy Road. This is the old established stock route and main line of communication with Sydney from the northern parts of the Colony. The communication from parish Wheeny, lying north of parish Kurrajong, and from the west, is *via* Bell's Line of Road through Kurrajong. The lands on those outlying districts of Merroo and Wheeny are practically all in Crown hands. They will be benefited to some extent by a railway being brought nearer, but no reliance can be placed upon their development in a very long time to produce traffic enough to be appreciable as revenue of a railway. The timber alone may be counted on, and of this there is said to be very large quantities available.

10. The main lines of traffic that traverse the country to be served by the railway are thus seen to be the Bell's Line from the north-west and the old Bulga Road from the north. These meet at Brown's Corner, on the North Kurrajong Road, and pass over the Richmond Bridge;—all other existing roads are branches from these main thoroughfares. It is further seen that the districts which must be relied on to produce traffic for the proposed railway are confined within the parishes Kurrajong and Currency and the southern part of parish Merroo. Some settlement has extended a short distance into the latter parish along the Comleroy Road and along Blaxland's Ridge, a spur that trends north-east from that road down to the Colo, but the furthest settlement is only a few miles from Brown's Corner. Within parish Currency, along the Hawkesbury, on the part known as "The Terrace," the cultivated land extends but 2 miles from Enfield. A leading spur, called the "Bull Ridge," branches from the Comleroy Road at the School-house. This will be traversed by a road extending through to Sackville Reach, a distance of 12 miles, for 6 or 8 miles within parish Currency. There are large holdings of 640 and 1,280 acres on this spur which will be subdivided and sold in moderate-sized blocks when opportunity is favourable. The 640-acre block has already been offered in 17 farms at a reserve of £7 per acre, one of which has been sold. A large quantity of good timber is available on this spur and all over the parish. Railway sleepers have been supplied in quantities from some parts of it. The road to Wilberforce, branching at two points from the North Kurrajong Road, runs eastwards between the Currency Creek and the Hawkesbury, communicating with a large extent of the country. The communications within this parish are seen to be very favourable to its settlement.

11. Parish Currency comprises about 17,000 acres (26 or 27 square miles), and parish Kurrajong about 25,000 acres (under 40 square miles).

12. The order in which the statistics have been compiled has been designed to divide the country into the areas served by the several Post Offices in it. By this arrangement the probable course of traffic from the several parts of the district along the roads of communication can be most readily assumed.

13. The statistics of lands in parish Currency are included under both Comleroy Road and North Richmond, which, including also parts of parish Kurrajong, do not amount to more than 12,000 acres of holdings. There is, therefore, seen to be a very large part of parish Currency, which contains 17,000 acres, for which there are no returns, and which must be taken, therefore, to be still in a state of nature.

14. The statistics of Comleroy Road comprise all the settlement along that road within parishes Merroo and Currency, and some also within parish Kurrajong. There are 34 holdings carrying a population of 217 persons, aggregating 4,237 acres, of which 529 acres are under cultivation. Of this 301 acres are in orchard. The average size of holding is 125 acres. The whole of the traffic from this settlement will pass down the road through Brown's Corner. The production of fruit for 1890 has been given at 11,292 gin cases. The public school shows a register of 84 children on the roll. There is plenty of room for expansion of all kinds within this district, as a portion only of the lands have been taken up by settlers. It is now producing timber for public works. The necessary clearing and killing of bush will produce very large quantities of wood for purposes of fuel. The soil, though very suitable for fruit cultivation, is in general poorer than that of the districts further west, but the shape of the country is more gently undulating. The residents insist very strongly on the adoption of Lloyd's line, providing a station near Brown's Corner, as they claim that their district will eventually carry a large farming population, and will show a greater breadth of cultivation than any of the others, and that a station at any more distant point will be of no benefit to them. The centre of the settlement in the district is about 8 miles from Richmond.

15. The area comprised under North Richmond centres in Enfield and extends along all the roads in both parishes converging at that point. There are 49 holdings, aggregating 7,525 acres, of which 688 acres are under cultivation, carrying 397 acres of orchard. The population is 260 persons, exclusive of residents in Enfield, who may be put at 50 more. There is one property of 2,040 acres in this area and three of 600, 700, and 850 acres each, respectively. Excluding these, the average size of holding is 74 acres. Mr. Charley's 2,040 acres, being a recent purchase, has not yet been developed; but it is his intention to make the most of the favourable situation, and it may be relied on to supply an amount of produce and traffic fully proportionate to its area. The production of fruit within this district during 1890 has been given at 12,852 gin cases. The district extends both ways along the Hawkesbury and 3 miles or so inland. The greatest distance to Richmond from any of the properties cannot be more than 5 or 6 miles. The surface is undulating, without abruptness. The land is all fairly good and should, in such a situation, be utilised to the utmost. The Public School at Enfield shows a register of 74 children on the roll. The soil on some parts of this area is of the very best on the Kurrajong, but the proportion of this is not large.

16. The district under the name of Grose Vale comprises the south-west part of parish Kurrajong, including Bowen Mount and the lands down to the Grose. The number of holdings is 31, and the aggregate acreage 3,973, of which 698 acres are under cultivation. There are 643 acres in orchard. The population is 174 persons. The largest holding on the area is 700 acres, and there are 4 only from 300 to 400 acres. The average is 128 acres. The production of fruit for 1890 is given at 39,624 gin cases. There is some extent of Crown land in this area, but, as described by Mr. Henry Skuthorp, the quality of the greater part of it is inferior, mountainous, and inaccessible. The Bowen Mount Ridge, extending for 3 or 4 miles north and south, with the spurs from it, is accessible from Box Hill, and affords a large area for residential purposes, at a height of about 1,400 feet above the sea—a situation that could hardly be surpassed. The Vale of Arvoa is in the extreme south point of this district.

17. The Kurrajong district comprises 4,110 acres of holdings, of which 1 is 1,000 acres and 1 is 630 acres, in hands of 41 owners. Excluding the larger, the average size of holding is 78 acres. The area under cultivation is 620 acres, of which 477 acres are under orchard, and the production given at

11,704 gin cases. The population is 233. This district covers the hill-side at the foot of the Heights. The highest point of it is probably not more than 1,000 feet above the sea. It is traversed by the road leading to the Heights, which, from about the School-house, becomes very steep. South-westerly the extent of the district is limited by the heavily broken ground about the Gap, but to the north-east there is room for expansion down the valley of the Blue Gum Creek. The bed of the little Wheeny Creek is sunk some hundreds of feet below the level of the ridge at the Cross Roads, so there is an amphitheatre of hilly ground forming the head waters of the creek, which will probably give a very circuitous and expensive route for a line of railway designed to reach a terminus anywhere near the old stone School-house. This point is distant 8 miles from Richmond by the road, but the last 2 miles or so are on very steep hills. The register of children at the Public School at Kurrajong, to which all from the Heights also come, is 73. The whole of the land in the area covered by settlement carries very good soil. The greater part of it is very steeply inclined and rugged, and the quality is not maintained eastwards. The district is essentially suited, by its sheltered situation and mild climate at such an elevation on the south-eastern slope of the mountain, for orchard cultivation and residence. Development of such country, however, entailing very great expense in public works, and in improvement of properties, can be carried out only by slow degrees under any conditions.

18. The geological formation of the whole of the lower part of the districts described is that known as the Wianamatta shales. The Hawkesbury sandstone rocks do not appear except at the highest parts on the Heights and where the shales have been cut through by the watercourses. The soil, being all derived from these shales, is in no wise dissimilar to that found on corresponding formations anywhere else. It is a mistake to describe it as being of the highest fertility, but it is correct to say that, as found in similar situations on the same formation in the Parramatta and Dural districts, it is eminently suited to the cultivation of oranges and lemons. Patches of soil here and there are exceptionally good, the quality being probably due to admixture of decomposed vegetable matter from the abundant forest growths that covered these parts, but in general the product of these shales is a clayey soil which absorbs much labour in working, and cannot be classed very high in natural fertility for general agriculture.

19. The best parts of the country are comprised within the areas known as Grose Vale and Kurrajong; Grose Vale is a misnomer. This district lies immediately surrounding Box Hill and the School and Post Office on the South Kurrajong Road, and is separated by miles of extremely rough and comparatively worthless country from the Grose River. Kurrajong lies in the valley of Little Wheeny Creek. Eastwards of these districts, extending to the extreme limits of parish Currency, the undulations are less rugged and the soil is poorer, the good patches bearing a smaller proportion to the whole. The lower lands along the Hawkesbury are exceptionally good.

20. The statistics of Kurrajong Heights comprise the settlement that has taken place on the highest part of the country, all at an elevation of over 1,400 feet above the sea. The Post Office is at about 1,600 feet; Mr. Comrie's house at 1,870 feet; the Trigonometrical Station is 1,955 feet, and the highest point is 2,005 feet. The number of holdings is 21, aggregating 2,190 acres, of which 203 acres are cultivated exclusively in orchards, the production of which is given as 11,704 gin cases. The population is 119, but including that of the village it may be 150. One holding of 690 acres is quite in a state of nature. The actual extent of the settlement is seen to be insignificant, but the area available for small orchards and for residences is extensive. The Heights should properly be called "The Talbragga Ridge." Bell's Line of Road crosses this ridge and falls hundreds of feet on the east side. Lloyd's trial survey tunnels under it. The ridge extends for some miles north of the road and southwards 2 or 3 miles to a saddle called the "Devil's Hole," maintaining about the same elevation, namely, 1,800 or 1,900 feet above the sea. The Bowen Mount Ridge then extends south of this point for 3 or 4 miles at an elevation of about 1,400 feet. A drivable road has been cut for private use from Bowen Mount to Bell's Road along the ridges. Bowen Mount is reached at present by a very steep road from Box Hill. The whole extent of the elevated Talbragga Ridge and its spurs may be taken to be the site for the settlement on the Heights, being sufficient to carry a large population. There is a considerable quantity of Crown land on this ridge. The formation is the Hawkesbury sandstone. With regard to the advantages of this place as a sanatorium and Summer resort, a reference to Mr. Price's report, a copy of which is given in Appendix, will save further description. The climate is particularly mild, enabling cultivation of oranges and lemons alongside all kinds of English fruits. A fall of snow on the Heights is a rare occurrence, and its continuance on the ground so rare as to be fairly termed phenomenal. The rainfall is heavy occasionally, though the mean to date has been 50.50 inches only. During 1889, 58.76 inches, and during 1890, 87.16 were recorded, but during 1870 it was 111.80 inches.

21. A noticeable feature in all these statistics is the low average given as the production of orchards. This average is 52 gin cases (equivalent to 65 packing cases) per acre, or at the rate of less than one per tree. The explanation is that the cultivation in this district has been undertaken during the last 12 years only, and that a large proportion are young trees, but lately planted or not in full bearing. Taking the acreage as correct, the production within the next few years may fairly be estimated at 150,000 to 160,000 gin cases of marketable fruit, but the actual outturn from these districts during the 12 months ending June 30th, 1890, was only 66,870 cases, as given by the books of Richmond Railway Station, so there is ample room for increasing the production of the orchards.

22. The market for oranges and lemons has been for the most part in Sydney; but it seems that the produce of the Kurrajong is sent largely to Brisbane and Melbourne both by rail and by sea. This very important export trade is certainly deserving of all the support that can be given to it fairly, as the traffic of long lines of railway is benefited. Railway transport for fruit has great advantages over that by sea as so much handling and rough usage is avoided.

23. The first difficulty met with on the extension of the line beyond Richmond is the crossing of the Hawkesbury River. This presents a depression, measured on the trial survey, at the top of the high flood of 1867, of 82 chains in length, of which 60 chains covers the flat submerged land on the Richmond side, and 8 chains the extent of the flooded land on the Kurrajong bank, leaving 14 chains or 924 feet for the span of the Hawkesbury River. The highest flood occurred in June, 1867. This was measured by Mr. John Tebbutt, of Windsor, to have been 62.7 feet above the mean tidal level at South Creek, Windsor. The next highest known flood was in June, 1864, which was measured at 47.4 feet above mean tidal level at the same place. These may be taken as representing 65 and 50 feet respectively over the river bed at the proposed crossing of the railway.

24. The flood of 1867 covered the flats to a depth of 15 to nearly 30 feet. As the water from the main channel had broken over the bank at Yarramundi, there is said to have been a strong current along Cornwall's Lagoon. This occurred in 1864 and again in 1870, during the flood which is recorded by Mr. Tebbutt as having been 44·4 feet high over the mean tidal level at South Creek, or say 47 feet at the proposed railway crossing; but, though there have been two minor floods since then, the inundation of the flats has been caused only by back water from lower down the river.

25. The existing road bridge over the Hawkesbury was built over 30 years ago by a company to whom a concession was granted with rights to charge tolls. Its deck is about 10 feet above the bed of the river, but it has never been seriously damaged by floods. The piers are still in a good state of preservation, and the decking is now being renewed. The bridge at Windsor was built in the year . . . Its deck is about 14 feet above the bed of the river. It has also successfully withstood many floods.

26. The river is very sensitive. Draining a very large area of mountainous country, the accumulation of water on the lower reaches is very rapid after rains. Stoppage of traffic is therefore frequent.

27. The probable cost of constructing a bridge over the Hawkesbury at a level above all known floods, or the cost and practicability of one at any lower level, can only be considered with caution in the absence of all data. The evidence that two low-level bridges have stood securely is in favour of the presumption that a railway bridge would also be safe, but there are many other points in the matter to be considered, and I do not believe at present that, when all the conditions are taken into consideration, a railway bridge over the Hawkesbury at any level lower than above the highest flood will be found practicable.

28. One of the chief points to be decided in the design of a high-level crossing is whether the whole extent of flooded land should be bridged or only part of it. The cost of embanking would be about half that of a timber viaduct, so the saving, if one-half of the whole extent only is bridged, would amount to £8,000 or £9,000. On this point I cannot offer any opinion at present. The cost of the whole viaduct would be so great that after all this saving would be but 10 or 12 per cent. on the total.

29. Between the river and the Heights the courses of the proposed lines are governed by the positions of the natural ridges. The main roads all without exception follow the watersheds of the main drains. These watersheds are very strongly marked features. The objective point to be reached also limits the choice of routes. The direct distance between the settlement on the Heights and the crossing point on the river is but  $6\frac{1}{2}$  miles, while the vertical height to be overcome is 1,500 feet, whereas the point sought to be reached by the proposal of the Richmond League is, in a direct line,  $5\frac{1}{2}$  miles from the river, and the vertical height is but 750 feet. Lloyd's line was designed to cross the Talbragga Ridge at a certain level, and with that object in view his route was well chosen; but the summit level reached by his line was under 1,150 feet above the sea, whereas at least 1,600 feet must be attained in order to carry out Mr. Wark's views as to the service of the Heights. Lloyd's line was, in fact, in tunnel some hundreds of feet below the spot on which the settlement stands. To reach an accessible point on his line from the Heights would entail a descent of 500 or 600 feet down the Cut Rock Road, on the opposite side of the ridge.

30. The impracticability of reaching the Heights by grades and curves admissible on the standard gauge lines is shown by the adoption of the narrow gauge, steep grades, and sharp curves by Mr. Wark's advisers. The lines actually cross near Box Hill at a level of about 700 or 750 feet above the sea. The remainder of the rise to the Heights is attained by Mr. Wark's line in a length of about  $6\frac{1}{2}$  miles.

31. The point chosen by the Railway League, viz., the old School-house, can be reached on the line indicated by them (shown in green), viz., along Thompson's Ridge, by adopting a tunnel under the South Kurrajong Road, and some heavy work in the basin, and crossing of Wheeny Creek. There is information enough to hand to allow of the opinion that the gradients will certainly be flatter than 1 in 40, and the works between the river and the tunnel of a light character. The alternative lines *via* the South Kurrajong Road passing Box Hill, or *via* North Kurrajong Road (Lloyd's Line) passing Brown's Corner, both possess the advantage of rising to a higher level, but their extension to the foot of the Heights at the School-house is hardly practicable. In length all these lines will be about the same, and in point of cost and working gradient there will also be little difference.

32. As a selection among the routes is not to be made now, the question as to their relative suitability is important only in so far as it bears upon the point as to how much of the traffic of the districts to be served will be carried by the line if it is made. The greatest distance to be travelled from any holding in the district to Richmond is so short, that in fact the saving to any resident on Comleroy Road or Grose Vale will be inconsiderable, and it will be found here, as elsewhere, that a portion of the traffic of the country will, as heretofore, be actually conducted along the road in communication into the town from which the supplies are drawn. The figures supplied by the League must be discounted to provide for this contingency; but the fact is, they will not bear much of such treatment.

33. According to existing rules the rates chargeable on goods for the short distance they will be carried on the extension, are so low that there must be an enormous expansion on every line of production and consumption before any substantial sum can be realised as revenue.

34. The extreme distance will be 48 miles from Darling Harbour, Richmond being 39 miles. Deducting the rates for these mileages, the following gives the charges on the extension between the furthest points, viz., 8 miles:—

Classes.	Miscellaneous.	A.	B.	1st.	2nd.	3rd.
	d.	d.	s. d.	s. d.	s. d.	s. d.
Per ton ...	9	11	1 6	3 0	3 9	5 3

On fruit from Richmond the present charge is  $1\frac{1}{2}$ d. per gin case. From Enfield the charge would be 2d. per gin case, leaving  $\frac{1}{2}$ d. per case for the charge on the extension, and from the terminus the charge would be  $2\frac{1}{2}$ d. per gin case, leaving  $\frac{1}{2}$ d. per gin case. Taking the mean charge at  $\frac{1}{2}$ d. per gin case, on 200,000 cases, the revenue realised would be £416. This is assuming an enormous expansion on realised results. The total production of the orchards has been given at 104,171 gin cases, and it has been allowed

in

in paragraph No. 21 that 150,000 to 160,000 cases of marketable fruit may be assumed to be the production within a few years from the given area. These figures have been arrived at from the evidence of the settlers themselves. The actual quantity of fruit sent to market from Richmond Railway Station was, however, 66,870 cases during the year ending June 30th, 1890. There being no other way out of the district, this record must be taken as being indisputable, and the discrepancy may be attributed to weather or to bad season. In any case, the fact remains that there must be a very great expansion before a profit can be made on the carriage of this item alone.

35. Much reliance has been placed on the quantities of firewood that will be available. The consumption of Sydney, which has for so many years been draining the supply along the existing lines as far as Penrith and Picton, is increasing. The lands north of the Hawkesbury may be said to be as yet intact and certainly capable of supplying large quantities. For this trade, however, it seems that a migration of sawyers and carters will take place from other points, as the length of road carriage from the bush to the stations will, for a long time, be so much less on the new extension. This implies that revenue will be made on the new line at the expense of that of existing lines. The despatch of firewood from certain stations is here given to show what is actually being done. One of the largest items of import into the district will be manures, which are more or less a necessity for orchards, as the trees age. From 300 to 500lb. per acre is given as the proper quantity to be used. This would amount, on half the acreage planted, to from 135 to 225 tons per annum. See Appendix

36. The passenger traffic is a purely speculative figure, which can only be realised when the expected Summer resort has become an accomplished fact. This, under any circumstances, must be many years in attainment, and it is openly stated on the Kurrajong, that a railway to a low level will never bring it to pass. At present the total number of families resident in that part is under 70, and the population is under 400, while on the Heights there are but 25 families and 150 persons.

37. It is seen that the greater part by far of the expected profit shown in the League's estimate is from the increased traffic on the existing line between Sydney and Richmond, which will result from the anticipated expansion of all kinds that will take place on the Kurrajong. The value of this estimate can only be tested in one way, since it is admittedly all speculative. The question is, will these sums or any part of them, be revenue additional to that now being earned by the existing lines, or will it be fleeced from their earnings. The very arguments used in favour of the line supply the answer. It is to the superior advantages claimed for this situation over other places on the Western line, that the population and traffic is looked to. In Mr. Price's words, "It will at once rival and probably surpass all other Summer resorts." These are no grounds for the creation by the State of competition with their own lines to other places. It needs rather to be shown that a distinct want is felt by the community of a Summer resort of the kind, or that a substantial and permanent expansion in production, and the settlement of a permanent population on lands hitherto unproductive, will follow.

38. As to the want of a Summer resort, the comparison is not so very unfavourable to places on the Western line. Falconbridge, at 49 miles from Sydney, at an elevation of 1,463 feet, is at about the same distance as would be the terminus of the proposed line, at about 800 feet of elevation. The Heights are 2 miles further, up a very steep road, and from 800 to 1,200 feet higher. Mount Victoria is 77 miles from Sydney, at an elevation of 3,422 feet, and there are eight other places intervening between Falconbridge and Mount Victoria, all over 2,000 feet above the sea, and at distances from 54 to 73 miles from Sydney.

39. As to the development otherwise, the area of the country that will be directly influenced comprises 66 square miles, or 42,000 acres only. This includes a very large area in the west and south-west part of parish Kurrajong, which is practically useless for all purposes of cultivation, and can be developed but very slowly, if ever, but in which lies the greater part of the Crown lands. The area of Crown lands on the Heights is on ground so broken or precipitous that its occupation must be deferred for a long time. Though the possibilities of the district in the course of time may be unlimited, all experience goes to show that a population of 1,000 people, representing under 200 producers occupying the area given, will not develop from the land a traffic to keep a railway in work, and that a very large increase in settlement, and great subdivision of holdings, must take place before such a result can be hoped for.

40. Respecting Mr. Wark's proposal to connect with the Western line at Emu, the advantages that can be claimed for it are, that the expenditure on the crossing over the Hawkesbury is avoided and a position for a station on the Grose is obtained that will attract a tourist traffic to the Vale of Avoca, amounting, according to Mr. Wark's estimate, to 5,000 annually. A narrow gauge railway, as a State undertaking, being out of the question, it has been shown that a standard gauge line cannot be made to reach the Heights. This line will, therefore, have to be taken into the Kurrajong to a terminus on the South Kurrajong Road, near Blady Grass Hill. It cannot, at any reasonable cost, be carried to the old School-house. The natural features of the land will make this an expensive route, but there is nothing serious in the way, and the average cost per mile will not be high; but in the aggregate the extra length to be constructed from Emu will raise the grand total. This extra length is estimated to be about 6 miles.

41. This line has not yet been proposed, but the connection with Emu having been suggested and the facts brought out by this inquiry being adverse to the line from Richmond, the local interests in Kurrajong will certainly be brought to bear upon this connection, which will to all intents and purposes be of as much service to them as the extension from Richmond.

42. It is hence necessary to point out that the facts elicited by this inquiry respecting the Richmond-Kurrajong line, and the conclusions drawn from them, are equally applicable to a line from Emu or from any other point into the Kurrajong. An additional argument against the connection with Emu is that the diversion of the trade of those districts from Richmond, the terminal point on the existing line for so many years, in which all the trade has been done, will be a blow to the interests of all kinds in that place which will certainly need very strong justification before it can be sanctioned.

43. In conclusion, I would submit that the area of the country to be served in the Kurrajong districts is too small to warrant the hope that a legitimate and permanent traffic in local produce and consumption can be developed sufficient to justify the heavy expenditure in construction of a railway into it, either from Richmond or Emu. That the disabilities under which producers labour in the matter of distance from a point in the existing railway and in communicating with it are infinitesimal compared with the difficulties encountered in other parts of the country. 44.

44. One point in favour of this proposal is that it would be an extension of an existing line that can be worked without any great expense in staff or equipment, and not a branch entailing the cost of a junction station and a separate establishment and rolling stock which cannot be fully employed; but all these objections apply against the construction of a branch from Emu.

45. A large part of the traffic claimed as the produce of the district can be realised only at the expense of the revenues of the existing lines, and even this is not of a permanent character. There is no lack of timber for fuel within easy distances from Sydney. Fuel is now being taken into Melbourne from points 100 miles distant. The market price obtainable governs the distance from which it can be brought, and the influence on this price, by the sudden introduction of the large quantities necessary in order to make an appreciable revenue for the proposed line, would certainly bring within reach other areas now unused. This traffic is not of a nature that can be properly claimed as a main reliance. It should rather be treated as a contingency in support of other permanent sources of revenue.

46. It is very doubtful that the creation of a new Summer resort will result from a scheme which can only reach such a low level on the mountain. It is not clear at all that the existing townships and settlements on the Western line will not sufficiently satisfy all such demands for another generation, but there is no doubt that the construction of a line to open out a new Summer resort in competition with existing lines, and to the detriment of standing interests which have been created by the State, is quite unjustifiable.

STANLEY ALEXANDER.

P.S.—I am requested to point out that specially high rates for carriage of goods are charged on the Camden Tramway, and that the General Traffic Manager has suggested the imposition of high rates on the proposed extension of the railway into Nowra over the Shoalhaven River. The extension across the Hawkesbury into Kurrajong is a nearly parallel case, as the crossing over this river is the main difficulty to the traffic by road. The rates would be in the nature of a toll. As, however, the road bridge cannot be abolished, it would be in a still better position in competition with the railway. The object should rather be to make the railway attractive in every way.

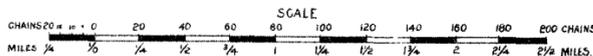
[2 Plans.]



# DIAGRAM PLAN

Showing surveyed and proposed Railway routes

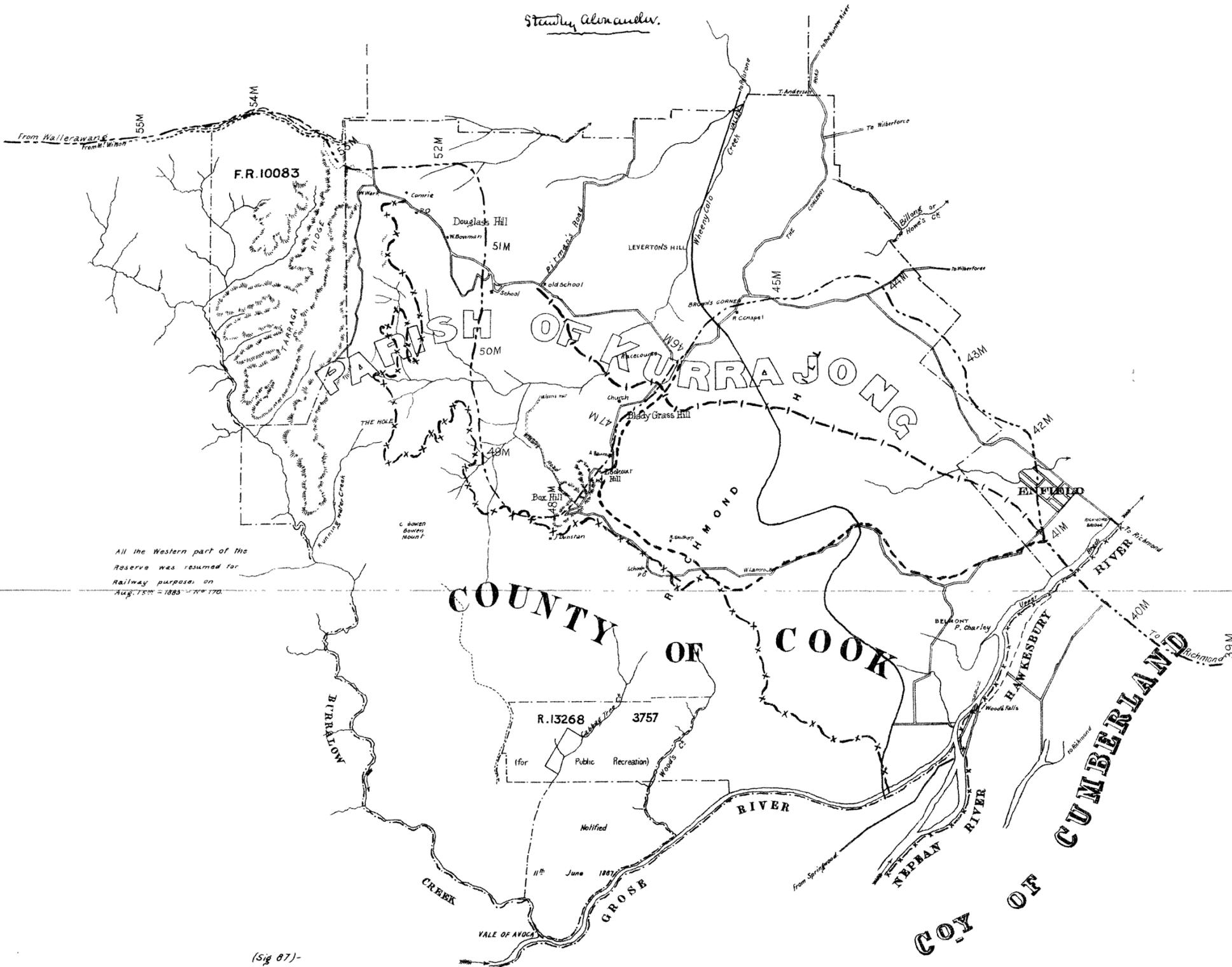
To the Kurrajong



-Notes-

- M<sup>r</sup> Griffin's suggested Line -| -| -| -|
- M<sup>r</sup> Hardy's Suggested Line - - - -
- M<sup>r</sup> Townsend's Line from Emu to Rylston via Colo Valley — — — —
- M<sup>r</sup> Work's Line from Emu to Kurrajong Heights x-x-x-x
- M<sup>r</sup> Lloyd's Line from Richmond to Wallerawang - · - · - ·
- Roads are shown thus ———

Steady Alexander.

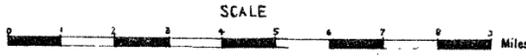


(Sig 87)-

# DIAGRAM PLAN

Showing surveyed and proposed Railway routes

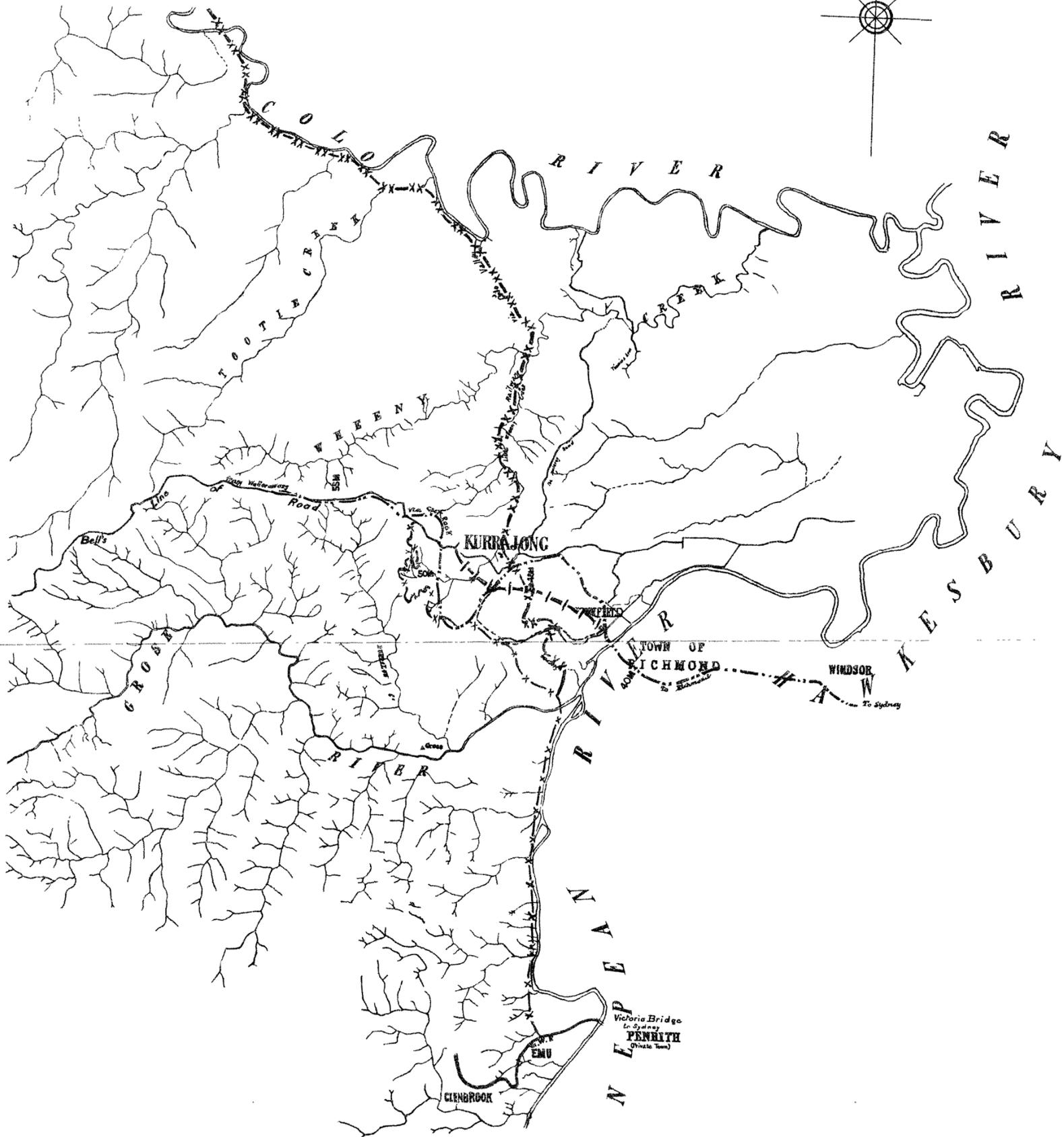
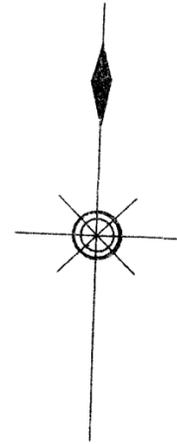
## To the Kurrajong



—Notes—

- McGriffin's suggested Line - - - - -
- McHardy's suggested Line - - - - -
- McTownsend's Line from Emu to Rylston via Colo Valley - - X - X -
- McWark's Line from Emu to Kurrajong Heights - - - x - x - x -
- McLloyd's Line from Richmond to Wallarewang - - - - -
- Roads are showing thus - - - - -

Stanley Almonder.



## ERRATA.

Page.	Number of Appendix.	Line of Appendix.	Errata.
22	8	6	Read "Jerilderie" for "Mildim."
25	22	4	Read "821" for "121."
25	22	9	Read "765" for "755."
25	24	1	Read "of" for "and."
26	29	1	Read "489" for "486."
26	30	1	Read "years 1885 to 1889" for "year 1889."
27	32	1	Read "years 1886 to 1890" for "1889."
27	34	17	Read "bales" for "rates."
27	34	35	Read "Wargam" for "Waggan."
28	38	3	Read "county" for "country."
30	42	22	Read "1890" for "1990."
33	51A	10	Read "being" for "berries."
34	52	4	Read "Warwillah" for "Wanvillah."
34	52	9	Read "Warwillah" for "Wanvillah."
34	52	40	Read "Warwillah" for "Wanvillah."
34	52	42	Read "Eli Illwah" for "Eli Illwah."
34	52	47	Read "Willurah" for "Willmat."
34	53	25	(Mean rainfall) column 4, read 16.95.
34	53	25	(Mean rainfall) column 7, read 18.82.
34	53	25	(Mean rainfall) column 9, read 22.52.
35	53	47	(Mean rainfall) column 4, read 22.61.
35	53	47	(Mean rainfall) column 6, read 19.51.
35	53	70	(Mean rainfall) column 9, read 14.45.
35	53	93	(Mean rainfall) column 4, read 15.52.
35	53	93	(Mean rainfall) column 9, read 32.07.
35	53	93	(Mean rainfall) column 10, read 13.75.
37	57	11	Read "districts" for "distances."
39	62	22	Read "Murray Hut" for "Murrabut."
40	65	5	Read "Gunambil" for "Goonamable."
40	65	5	Read "Butherwa" for "Buthema."
41	68	30	Read "engines" for "engineers."
41	68	33	Read "avoiding" for "showing."
41	69	3	Read "Cobram" for "Codram."

1891.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## THE PROPOSED RAILWAYS FOR RIVERINA.

(REPORT OF MR. STANLEY ALEXANDER.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

Mr. S. Alexander to The Under Secretary for Public Works.

### PART I.

Sydney, 30 March, 1891.

THIS inquiry was instituted by direction of the Honorable the Minister for Public Works, to ascertain whether certain lines of railway, asked for by landholders and others in different parts of the tract of country known as Riverina, were such as would open up the country and be self-supporting if not remunerative. As each line is advocated in the interests of the particular district which its supporters have selected for their own personal objects, it cannot be expected that any one of them would be comprehensive enough to serve such a large extent of country.

2. The whole of Riverina is very easy country for railway construction, the scarcity of certain necessary materials and the distance from the seaboard being the only conditions tending to enhance the cost of construction above the minimum. Thus it happens, the cost of construction per mile being so nearly the same for different lines, and there being no natural difficulties in the way, a line can be projected in almost any direction across the country. The lines advocated do in fact cross each other, having for their objects the attraction of the coveted traffic to particular centres at points on the existing lines of railway, or are designed to carry the traffic in the direction considered by their promoters to be most beneficial to their own interests. It is therefore necessary to deal with the whole country at once, and not, as in ordinary cases, to consider each project on its own merits.

3. The instructions in fact did not limit this inquiry to the particular routes indicated by the promoters, nor, in taking into consideration the merits of any one route asked for, was it to be understood that the claims of that part of the country alone were to be considered.

4. A fairer field for projects for railway construction, one less trammelled by difficulties of construction or more promising as revenue producing in the future is seldom presented for consideration. Nearly the whole of the country is land that can be ploughed and will bear crops. The extent covered by natural features such as rocky hills or swamps, which must ever remain in a state of nature bears an insignificant proportion to the whole. The rainfall on the area is fairly good and over larger portions on the eastern half, which are of the finest class of cultivable land, the rainfall is exceptionally regular.

5. Extensive tracts of this country now carry a farming population who have proved the quality of the land by cultivation and have given proof of their faith in it by the prices they have paid for their farms. All the land offered for sale by the Government has been, with few exceptions, taken up at prices higher than is generally considered to be remunerative for land to be used for grazing sheep only. Much of it has been sold as "special areas."

6. A large tract of country on the south-west part of Riverina is occasionally covered by flood waters from the Murray, and is intersected by water-courses and ravines. Much of this country is covered by forests of red-gum, a timber which thrives best in the parts that are most frequently submerged, or are actually in a constant condition of saturation. This tract may comprise roughly one-fifth of the whole of Riverina. It is contained within the Edwards and Murray Rivers.

7. During conditions of flood in the Murray, the peculiar configuration of the land in the neighbourhood of Howlong, Oil-tree Lagoon, and parts of the Billabong and Urangeline Creeks occasions a complication of overflows along low hollows connecting these rivers. It happens, at long intervals of time, that the natural water-courses that are the more or less well defined drains of the high country traversed by the main line of railway between Wagga Wagga and Albury, become, by these over-flows, the recipients of the surplus waters from the Murray River itself. The extent of land so flooded is not very great on the whole, but the volume of flood-waters passing over is very considerable, and must be reckoned with in designing a railway line. Moreover, the course and extent of these floods may be taken as roughly representing the extent of what is called in this country the "plains land," as distinguished from the "forest land," or, in fact, the only part of the "plains land" in the eastern and south-eastern part of Riverina, which may be assumed to be unfit for cultivation.

8. The eastern part of the country is hilly. The summit level is at Mount Galore on the north-east, and thence the ridge follows about the boundary of counties Urana and Mitchell southwards; thence divided by the Billabong Creek, the hilly land turns westwards to Gumbargna. From Mount Galore the trend of the watershed is north-east, crossed by the Narrandera-Jerilderie railway a few miles from Narrandera, and terminating opposite Yanko. East and north of these limits, which on the whole are but a small part of Riverina, lies all the hilly land in the country; the rest is all very level. There is a block of high-lying country extending east and west through Murray Hut, Borrigan, and Saverlake; also an elevated tract of land called Clear Hills, between the Billabong and Coreen Creeks; but these do not offer any difficulties to railway construction.

9.

9. The whole of the country is divided centrally from east to west by the Billabong Creek. This water-course is crossed by the main line of railway at Culeairn. It is joined by the Cockotjedong Creek, which carries the greater part of the drainage of the north-east, after it has passed through Lake Urana, and at the same point by the Columbo Creek from the north; thence, after having passed Jerilderie, it is joined by the Yanko Creek, and, under the name of the Moulamein River, it flows into the Edwards River at Moulamein.

10. The Edwards River obtains all its water from the Murray at numerous points at and west of Tocumwal. These off-takes from the main stream all converge near Deniliquin into one main channel. West of this point all the tributaries and branches of the Edwards, and all the network of independent water-courses covering the large area of country enclosed between that river and the Murray are dependent on the Murray itself for their water. The rainfall on such an extent of country cannot feed so many drains. This tract forms the southern part of county Wakool, and the west part of county Cadell.

11. North of the Edwards River up to the Murrumbidgee the plains extend west and east from Balranald across the Narrandera-Jerilderie line. A line drawn between Morundah and Brookong; thence south-west to Gunambil, and following the course of the Billabong for about 15 miles, passing 7 or 8 miles south of Jerilderie, and then bending south-west to Tuppal, will represent nearly the boundary between the "plains" and the "forest land" in Riverina. These are the terms used in these districts to distinguish these classes of country. They indicate, not merely the land that is treeless and that which carries timber, but definitely the land that is cultivable and that which cannot be relied on to yield crops profitably. There are similar treeless patches, some of them of considerable area, scattered all through the "forest land," and a width of some extent is found along the banks of all the main water-courses. From this and other features peculiar to them their character may be described as resulting from lodgement of water. In parts, the soil on these lands cannot be inferior, if of sufficient depth, to some of the best soil in the forest land, and much of it has been proved to be capable of yielding good crops. Considerable settlement has taken place on similar land to north of Deniliquin and southwards down to Moama, but in general, though carrying good grass, the land is unsuitable for farming. So long as there remain unoccupied areas of land within the "forest" country to be offered for sale, whether by the Government or by private owners, these extensive tracts of "plains" will continue in use as sheep runs only.

12. It is noticeable throughout the central and western parts of Riverina that the best soil is found on the higher lands. The country surrounding Mount Galore, from head of the Boree Creek, extending to near Brookong, and southwards for a width of about 25 or 30 miles from the main line of railway, is mostly all of the finest quality. Some considerable areas of similar land are found in the neighbourhood of Urana, and the whole block of the Clear Hills, comprising about 30,000 acres of land, is about the best soil in the country. Similarly the whole of the high land, the centre line of which passes through Murray Hut, Berrigan, and Saverlake, is very good soil. These districts have been selected for settlement, and now carry the major part of the population who have supplied the statistics, and on whose representations this inquiry has been instituted. It is the land within these districts which, according to the professions of the pastoral holders who have secured such large areas of it, will be cut up and offered for sale in farms as soon as railway facilities render its value too high to justify its retention for grazing purposes.

13. The River Murray forms the southern border of Riverina. The following points on this border have been touched by main or branch lines of railway of the Victorian system. The most eastern point is Wodonga on the through line to Sydney, at 187 miles from Melbourne. Next, proceeding westwards down the Murray, comes Wahgunyah, at 173½ miles from Melbourne, opposite Corowa. A bridge over the Murray connects these towns. Then comes Yarrowonga; it is opposite Mulwala; a bridge connecting these towns is being built over the river. Yarrowonga is 162 miles from Melbourne. Cobram, 155 miles from Melbourne, is at a point on the Murray about 8 miles above Tocumwal. Strathmerton Railway Station, 145½ miles from Melbourne, and about 9 miles from Tocumwal, is the accessible point on the railway from that place. Echuca is 145 miles from Melbourne. The Victorian line is here continued through, along the Deniliquin and Moama Railway Company's line, 45 miles inland into New South Wales to Deniliquin, which is 190 miles from Melbourne. Koondrook is opposite Barham. It is the terminus of a short district line branching from the main line at Kerang. It is 194 miles from Melbourne. Swan Hill is 214½ miles from Melbourne. This is the most western point touched on the Murray by Victorian lines.

14. Wodonga, Wahgunyah, Yarrowonga, Strathmerton, and Echuca are the points on the Victorian lines through which the whole of the traffic of the southern and most of the western part of Riverina passes. The river having been bridged between Corowa and Wahgunyah, the bulk of the traffic from south-west Riverina crosses at that point, and a substantial bridge now being built between Mulwala and Yarrowonga will further improve the connection with Victoria. Between Tocumwal and Strathmerton the road is periodically flooded and otherwise difficult, but the river gives easy access to Echuca, and the Deniliquin and Moama line is practically an extension of the Victorian system into Riverina.

15. The first proposition for a railway for developing Riverina was made prior to 1878, and was recommended by Mr. John Whitton, late Engineer-in-Chief, in a letter dated January 10, 1878. The surveys which were made were subsequently lost in the Garden Palace fire. This route left the main line of railway at Hanging Rock, and passed through Urana and Jerilderie to Hay, with a branch from Jerilderie to Deniliquin. The line from Deniliquin to Moama was at that time in full work, having been opened for traffic on July 4th, 1876.

16. The following lines have been constructed:—Leaving the main line at Junee at 287 miles from Sydney, and traversing the north bank of the Murrumbidgee River to Hay, 454 miles from Sydney. This length of 167 miles was opened for traffic in July, 1882. The cost is given at £940,874, being an average of £5,634 per mile. From this line, at Narrandera, a branch was taken across the Murrumbidgee to Jerilderie, 412 miles from Sydney, a length of 65 miles, at a cost of £406,648, being an average per mile of £6,256. There is a line now under construction from Culeairn, on the main line, at 356 miles from Sydney, to Corowa, a length of 47 miles 40 chains, placing Corowa at a distance of 403½ miles from Sydney. The Company's railway from Deniliquin to Moama was opened for traffic on July 4th, 1876. Its length is 45 miles, and its cost is given at £162,672. This sum is inclusive of all charges. It gives an average cost per mile of £3,615. The gauge of the railway is the same as that of the Victoria lines, viz., 5 feet 3 inches. The gap thus left between Jerilderie and Deniliquin is, as surveyed in a direct line, 44½ miles.

17. The following proposals have been made for railways for the service of this country, each having been put forward by separate advocates:—

Hay to Deniliquin.—This has not been proposed for construction by Government, but by a private Company who, in the Session of 1887, failed to obtain legislative authority for its construction. The length is about 73 miles.

Jerilderie to Deniliquin.—Length, as surveyed, 44½ miles.

Jerilderie to Tocumwal, *via* Murray Hut.—Length, about 35 miles.

Jerilderie to Mulwala, *via* Berrigan.—Length, about 53 miles.

Coonang to Urana.—Length, about 16 miles.

Oil-tree Lagoon, *via* Burraja, Daysdale, and Berrigan, to Murray Hut.—Length, about 62 miles.

The Rock  
Yerong Creek } to Urana.—Length, about 48 miles.

#### THE PROPOSED RAILWAY FROM JERILDERIE TO DENILIKUIN.

18. As the country passed through by the Deniliquin-Moama railway occupies a somewhat unique position within Riverina, it is chosen first for consideration. The area within the influence of this line would also be passed through by the lines from Hay and from Jerilderie to Deniliquin. The central position of Deniliquin and its connection with the Victoria system by a railway on the same gauge, allowing of interchange of rolling stock and uninterrupted communication across the border by a permanent bridge, gives it peculiar facilities and a command of traffic.

19. The Deniliquin-Moama railway carries all the traffic, both inwards and outwards, from an extent of country including the whole of counties Townsend and Cadell, and a part of Wakool, as far as Moulamein westwards. Its terminus at Deniliquin is only 190 miles from Melbourne, while Jerilderie, the nearest point on the New South Wales lines, though 45 miles only distant from Deniliquin, is 412 miles from Sydney. See Appendix No. 42

20. By aid of reintroduction certificates, goods from Sydney taken by sea to Melbourne, and carried across Victoria, are brought into Riverina, burdened only with small incidental charges. Goods imported from Europe are taken across Victoria in bond, and pay New South Wales duty when dutiable at Moama. See Appendices Nos. 25 and 25A

21. The operations of this railway best illustrate its usefulness to the country it serves. The following are returns at Deniliquin terminus, compared with those at Hay and at Jerilderie for the twelve months ending 30th June, 1890. See Appendix No. 55:—

	Deniliquin.	Jerilderie.	Hay.
Goods outward.....	16,350 tons	2,897 tons	1,033 tons
Goods inward.....	3,742 "	2,431 "	6,579 "
Wool outward.....	23,400 bales	4,053 bales	3,456 bales

The live stock carried southward into Victoria was—336,000 sheep, and 333 head of cattle. These are stated to have been below the average. On 19th and 20th August, during the inspection, one lot of 400 head of cattle from Queensland were in process of transportation. The wool had been collected by carriers from thirty stations at distances of 50 miles north and 68 miles west of Deniliquin. The station supplies returned by the carriers from Deniliquin amounted to 585 tons. Of wheat from the neighbouring farms, the railway carried 58,817 bushels.

22. To the construction of this railway is due the whole of the agricultural and industrial development that has taken place in the country embraced by its influence. During the last few years there has been no development, on the contrary a decline has taken place. There being no limit to importation into the country by way of Victoria, but a practical bar to all export, either to Victoria or into New South Wales, no interchange of produce or manufactures can take place. The exceptions being wool and live stock, the land is naturally being devoted to the production of these commodities. Agriculture needs free communication with outside markets. Farmers cannot sell their produce to each other. A larger amount of the products of the soil have been produced than can be sold. The balance is stored, and less acreage is laid out in cultivation during the next season, the land being used for grazing, a business for which there is an unlimited market and a certain profit attainable, free of the discouragements that surround the raising of crops. Under such conditions of things it is found, as may be expected, that the small holdings are being bought up and the acreage in individual hands is being increased. The number of families resident in these districts is said to be fewer now than was the case some years ago. Grazing can only be carried on profitably on large holdings, and successfully by a class of settlers who are probably but a percentage of the number that can make a living by cultivation of small holdings. See Appendix No. 51A

23. The statistics of the settlement as now existing in the districts extending from the Murray, and comprising the whole of county Cadell and northwards into county Townsend as far as the Billabong, and eastward nearly to Tuppall, comprise a total of under 250 holdings, representing a population of about 1,250 persons, exclusive of the population of the towns and the employes on the stations. These are—Moama, 600; Mathoura, 150; Deniliquin, 2,500; and employes, say 500. Total resident population, 5,000.

The average size of the holdings is between 900 and 1,200 acres, and the total area under cultivation is under 30,000 acres, and the total held by settlers is 250,000 acres. The total yield of wheat during the season of 1889–1890 has been arrived at from compilation of various returns:— See Appendices Nos. 9, 11, 12, 13, and 16.

Wheat exported over bridge into Victoria ... ..	68,550 bushels
Wheat shipped coast-wise ... ..	687 "
Wheat—average quantity operated on at Moama mill ... ..	69,721 "
Wheat locally used in Deniliquin ... ..	29,106 "
Wheat in Moama store on 30th June, 1890 ... ..	70,833 "
Wheat held in store by farmers at their barns ... ..	50,000 "
Total bushels ... ..	288,897

Of

Of the quantity exported into Victoria, a considerable part has been returned in the form of flour bran, and pollard.

24. The operations at the port of Moama show the following imports and exports into and from Riverina, by way of Moama only:—

See Appendix  
No. 24.

Import value of all goods imported into Riverina at Moama—an average of six years ... ..	£309,541
Number of bales of wool exported at Moama—average of six years	24,764

See Appendix  
No. 15.

25. The total acreage of the Deniliquin Sheep District is 2,501,869 acres. The sheep carried on this area number 1,436,103. The whole of the wool produced from these, comprising twenty-four pastoral holdings, and also from several more distant ones, as also all the return supplies pass through Moama by the railway. During dry seasons, when the Murrumbidgee does not serve, the goods from numbers of more distant places necessarily follow the same route.

26. The following are the principal particulars regarding the towns in this part of the country passed through by the Deniliquin and Moama railway:—

See Appendix  
No. 48.

*Moama.*—Not as yet incorporated—

Number of dwelling houses ... ..	161
Population ... ..	600
Business establishments ... ..	32
Flour mill, capable of turning out 30 tons of flour weekly ... ..	1
Printing office ... ..	1
Grain store of Associated Farmers ... ..	1
Public buildings of all kinds ... ..	8

See Appendix  
No. 47.

*Mathoura.*—A township half-way between Moama and Deniliquin—

Number of dwelling-houses ... ..	27
Population ... ..	150
Business establishments ... ..	9
Flour mill ... ..	1
Saw mill ... ..	1
Public buildings of all kinds ... ..	4

See Appendix  
No. 44.

*Deniliquin.*—From the municipal return for the year ending 31st December, 1889—

Number dwelling houses ... ..	570
Population ... ..	2,500
Capital value of all property ... ..	£230,210
Receipts, exclusive of loans ... ..	£4,493

See Appendix  
No. 11

In this town are a large number of business establishments and several factories, including a flour mill and two breweries. The flour mill at present consumes from 20,000 to 30,000 bushels of wheat yearly, but can turn out 20 tons of flour weekly, and the one brewery, which malts its own barley, has trade for no more than 500 bags yearly. The duty on malt exported into Victoria is 4s. 6d. per bushel, and on barley it is 3s. per cental. The superiority of the barley grown in these and other parts of the south of Riverina has been insisted on by many witnesses, but in the lack of an outlet to a market the production is limited to the local consumption. The commercial interests of the town are suffering from the stagnation and decline of the agricultural interest in the surrounding districts.

See Appendices  
Nos. 36 to 40.

27. The value of the timber in the forests of the Murray is shown by the great use made of it on the Victorian side. Nearly the whole of the industry is conducted in that colony. There are two saw-mills near Mathoura, and one on the Murray, within New South Wales, but the greater part of their trade is in supplying log timber to Victoria. The local demand for sawn timber is small, and the duty on the border of 1s. 6d. or 2s. per hundred feet superficial prohibits export. The log timber is free. Red gum timber is cut and carried by river to Echuca from a distance of 240 miles above Moama, and from 145 miles below. There are 8 mills on the Murray owned by Victorians, having a cutting capacity of 50,000 feet superficial daily, and seven-tenths of the timber used is procured from New South Wales. The total area of the red gum forests on the Murray whence timber is brought to Echuca is 252,420 acres. The quantity of red-gum timber cut on the whole of the Murray forest reserves was, during 1889, 15,131,869 feet superficial, and the revenue derived in New South Wales from this cutting was £8,205 7s. 1d., whereas the total revenue from the forests of the whole Colony during the same year was £9,778 4s. 4d. The value of these forests is shown by these figures. It is fortunate that the red gum tree is of comparatively rapid growth, and that it especially flourishes in the land so much subject to inundation as to be of no use for any other purpose.

28. A deputation from Echuca Chamber of Commerce pointed out that a series of railway lines were projected in Victoria, commencing from Echuca, and going south-westwards through Boort and Donald to Murtoa, on the main line to Adelaide. This, entailing 157 miles of construction in Victoria, would very considerably shorten the through route to Adelaide, if the connection between Jerilderie and Deniliquin were completed. The importance of opening out the western districts of Victoria which depend for their supplies of store stock on New South Wales and the facilities given to transfer of stock by completion of these lines was insisted upon. The distance from Sydney to Adelaide by the existing route is 1,049 miles. The saving on this route, therefore, amounts to 104 miles in the through journey. Echuca is, next to Wodonga, the most important market for stock on the border. The proposed connection with Jerilderie is now of the greatest importance to the interest of Echuca.

See Appendices  
Nos. 14, 16, 17,  
20, 21, 22, 23,  
and 24.

29. The traffic on the rivers is a very important factor in the commerce of Riverina. The Edwards river is navigable during favourable seasons to 10 miles above Moulamein, and the Murrumbidgee throughout its course as far as Wagga Wagga, though traffic is not now carried so far. The import value of goods shipped at Echuca for ports on the Murrumbidgee and Edwards Rivers, an average of six years, was £67,630. The number of bales of wool landed at Echuca wharf, river-borne from the Murrumbidgee River only, an average of four years, was 56,882. The number of steamers working on the Murrumbidgee and Edwards Rivers during 1889 was 82, and of barges, 59, having an aggregate tonnage of 13,856 tons, and the value of cargoes carried was £66,957. The great importance of the port of Moama is shown by the amount of customs revenue collected there during 1889, being £13,762 7s. 1d., second only to Albury, where £28,315 6s. 10d. was collected.

30. A Victorian railway by-law, dated June 28, 1889, fixes the rebates payable on goods forwarded from Melbourne to Riverina. The operation of this rule is limited by an imaginary line drawn from Jingellic, on the Murray, westwards across Riverina, to Balranald, on the Murrumbidgee. Its exact position is defined in the by-law and shown on the attached maps. Roughly described, the rebate line crosses the main line of railway at Gerogery, passes just north of Daysdale, and about 8 miles south of Jerilderie; then, turning northwards, it passes Jerilderie about 4 miles to the west, as far as the south boundary of the river back blocks which it traverses westwards to Balranald.

31. This rule, as affecting the portion of Riverina under consideration, provides a rebate on goods forwarded from Melbourne through Echuca to any destination north of this rebate line, whether by river, rail, or team, but no rebate is allowed on goods sent through Echuca to points south of the rebate line. Goods sent to Deniliquin do not, therefore, obtain any remission of the Victorian railway rates, but on goods sent to Jerilderie or Hay, for instance, being points to the north of the line, a remission is granted. The proportion is considerable.

## Melbourne to Echuca.

	Freight.	Rebato.
On first-class goods... ..	48/6	nil.
„ second-class goods ... ..	60/6	10/6
„ third-class goods ... ..	72/6	22/6
„ fourth-class goods ... ..	84/6	34/6

32. The operation of this rule is shown by the following selected examples :—

Corrugated iron is carried from Melbourne to Deniliquin—

If for destination north of rebate line, at ... ..	72/6	per ton	
It is carried from Sydney to Hay and Jerilderie at ... ..	80/0	„	

For full details see Appendix No. 51.

Fencing wire is carried from Melbourne to Deniliquin—

If for destination north of rebate line, at ... ..	67/3	„	
It is carried from Sydney to Hay and Jerilderie ... ..	80/0	„	

Wire netting is carried from Melbourne to Deniliquin—

If for destination north of rebate line, at ... ..	71/3	„	
It is carried from Sydney to Hay and Jerilderie ... ..	66/8	„	

Groceries are carried from Melbourne to Deniliquin—

If for destination north of rebate line, at ... ..	72/6	„	
They are carried from Sydney to Hay and Jerilderie at ... ..	86/8	„	

Tinware is carried from Melbourne to Deniliquin—

If for destination north of rebate line, at ... ..	83/9	„	
It is carried from Sydney to Hay and Jerilderie at ... ..	86/8	„	

Tools are carried from Melbourne to Deniliquin—

If for destination north of rebate line, ... ..	72/6	„	
They are carried from Sydney to Hay and Jerilderie at ... ..	86/8	„	

Agricultural Implements are carried from Melbourne to Deniliquin—

If for destination north of rebate line, at ... ..	83/9	„	
They are carried from Sydney to Hay—Jerilderie at... ..	86/8	„	

Bags are carried from Melbourne to Deniliquin—

If for destination north of rebate line, at ... ..	67/3	„	
They are carried from Sydney to Hay—Jerilderie at... ..	130/0	„	

Saddlery and Harness are carried from Melbourne to Deniliquin—

If for destination north of rebate line, at ... ..	76/3	„	
They are carried from Sydney to Hay—Jerilderie at .. ..	86/8	„	

These examples show that on a number of articles Deniliquin has now to pay very much higher rates for carriage from Melbourne than is paid at Hay or Jerilderie for carriage from Sydney.

33. The general rule under which goods are delivered at Hay or Jerilderie from Sydney is given to the "truck rates" in the "N.S.W. Railway Rate-book." By this rule, goods are carried from Sydney as all stations distant over 340 miles on the south-western or Jerilderie lines at a uniform maximum rate, so, if the line be extended to Deniliquin, the same rates will be payable to that point without any addition for the extra distance the goods are carried. The benefit to Deniliquin in this respect alone by this extension will consequently be considerable. If the rebate line be retained in its present position much of the traffic will probably be diverted from Melbourne and will come from Sydney, but an amendment of this position, so as to place Deniliquin to the north of the rebate line, would, though still further benefiting Deniliquin, certainly affect the course of the traffic considerably.

34. That the position of the rebate line is not rigidly fixed for ever must be pointed out again. The connection by railway between Jerilderie and Deniliquin will bring the southern portion of Riverina into touch with Sydney, and the only remedy applicable by Victoria in order to retain the inwards traffic into Riverina is by pushing the rebate line southwards. It may, in fact, be made concurrent with the border. To this Colony, on the other hand, the profit derivable from carrying the extra goods into Riverina over 340 miles only of her railways will be the benefit, and this will be curtailed by the necessity for carrying the goods for nothing over the extra mileage.

35. Carrying this illustration out to the farthest practicable limit the following may be given as the position into which this Colony may be forced, as regards the traffic inwards into Riverina, that is the down traffic from Sydney, by the connection between Jerilderie and Deniliquin being completed. (1) The purchase of the Company's line between Deniliquin and Moama will be a necessity. (2) Unless the competitive principle be abandoned altogether the existing railway charges and rules will still obtain, entailing the carriage of goods as far as Moama, 502 miles from Sydney, to within 146 miles of Melbourne at the same rates as are now paid for carrying them 340 miles. (3) The Victorian rebate line will certainly be pushed southwards to the border. (4) The examples given in appendix No. show that goods will be delivered in Moama at a much lower rate from Melbourne than from Sydney, and (5) The rates for the up traffic from Moama for stations in this Colony's lines for some distance from the border—as is now the rule between Albury and Junee—must be made exceptionally high in order to keep out importation from Victoria.

36. The working of the railways has given ample experience of a similar condition of things on the Great Southern Railway, but in that case the farthest distance from Sydney is 386 miles to Albury, against 502 miles to Moama. The length of line on which the up traffic is hampered by high rates is 99 miles on the former, whereas it will be 150 miles on the Moama line. The operation of the principle will therefore be more intensely felt on this district.

37. The information supplied by the business people of Moama and Deniliquin sets forth very fully the disabilities under which they labour, having a prohibitive border duty on one side and an unbridged gulf on the other, and a great deal of pains has been taken to show that the trade would be done with Sydney in a large proportion of goods were there direct communication by railway. There is proof enough, however, in the existence of the competition here and elsewhere that the railway rates are a very important factor in determining the market from which the supplies are drawn, and that the most favourable will be dealt with.

38. The papers on the subject of the extension of the line to Deniliquin show that the sole objection hitherto taken has been the dread of the competition for traffic extending along that channel into New South Wales. The minute written by Mr. Goodchap, dated 9th June, 1884, No. 7,024, puts the whole case from this point of view very clearly, but if these arguments are to be held to be conclusive of the matter, the inference to be drawn is that these border districts must either be abandoned, or be allowed to be exploited by extensions of the Victorian system of railways. The fact of the Deniliquin and Moama line having been authorised for construction would seem to be a recognition of the last of these alternatives. This experiment, having now been in operation for sixteen years, has been useful in proving that there is a limit to the development of a district under such conditions, and that the result is eminently unsatisfactory—so much so, in fact, that it is really questionable if the first alternative would not be the wisest course to adopt in such cases. The land is not now, however, virgin ground, upon which such an experiment may be tried. Interests have been created and obligations incurred which cannot be renounced.

39. That the extension of the Victorian railways into the country is not regarded as a solution of the difficulties in the southern part of Riverina is shown by the absence of any proposition of the nature along the whole border. The Deniliquin and Moama line has been a commercial success in the interests of the proprietors, and authority for a connection between Deniliquin and Hay is sought for by speculators, but experience of the past sixteen years in the country traversed by the Deniliquin and Moama line, especially of the last five years, during which the depression has been in operation most strikingly, have not induced any of the districts to move in the same direction. The reason is clearly that so long as the prohibitive customs duties obtain on the border, a connection with the markets on the other side of it gives facilities for importation only. Local production must be consumed on the spot, and be of limited quantity, and the commodities only that can be sent over the border profitably must be dealt with.

40. The trade of a district is made up of exports and imports. Given the conditions in soil, climate, and situation, necessary for the development of agriculture, it is of no importance as affecting the progress of that district whence the supplies are drawn. It has been shown by the evidence of traders in southern Riverina and in Hay that some considerable portion of their supplies are procured from Sydney by sea through Melbourne. So, even under the conditions now in force, the Sydney market does supply some portion of the wants of the country. It is contended that not only this portion, but a considerably higher percentage will be drawn from Sydney if the communication is completed, but as this does not take into consideration the certainty of a reduction in rates being brought about by alteration of the position of the rebate line, no reliance can be placed on the increase in the down traffic from Sydney into Riverina being substantial enough to materially affect the railway revenues. It is sufficient to point out that, though this down traffic does not exist now, and though it may not be brought into existence by the railway being built, yet even now the Sydney markets are drawn upon for supplies for these districts, and, as the rates will certainly be lowered, and population and progress create larger demands, this traffic may be relied on to keep pace with the advancement of the districts;—so, for the imports into Riverina, with or without the railway connection, the road for supplies is open and sure.

41. All the conditions having been proved during a long series of years to be favourable for agriculture, the one thing needful for the progress of the district is the road for exportation of produce, or there can be no production beyond local wants. So long as the border duties remain in force the sole market for the produce of Riverina will be within the Colony, and the traffic in these commodities will be over the colony's railways. This will provide a volume of up-traffic in the direction of Sydney, which is at present not in existence, but which, judging by inference from the operations in the past, may be relied on as to result from the opening of the communication.

42. The figures given in paragraph 23, showing the actual population and acreage, and the production of one staple only during the past season may be fairly taken in support of the foregoing statement. Of this total production (288,897 bushels of wheat) the figures show that 120,833 bushels were, on 30th June last, held in store, wanting a market, being in excess of local consumption and of the quantity that found a market over the border.

This surplus wheat alone represents a tonnage of over 3,000 tons, which was available for export as up traffic from the district on 30th June last,

43. Development of settlement may be expected both from sub-division of lands already alienated and from the lands that will become available in the future. The position at the end of the year 1889 was as follows for the two counties concerned—Townsend and Cadell:—

	Total area.	Total alienated.	Reserves.	Other unalienated.
	acres.	acres.	acres.	acres.
Cadell.....	563,200	293,824	119,761	149,615
Townsend .....	2,109,440	1,371,053	425,024	313,363

NOTE:—A note at foot of the return in the Statistical Register mentions that the figures in the column "other unalienated" include areas under process of alienation, and held under various forms of law, so that the total of free Crown land is considerably less than the figure given; but the actual total is not given, nor can it be obtained for this report.

Cadell is a small county on the southern border. Of the reserved land, 65,886 acres are under forest, principally of red-gum, on the Murray and Edwards rivers, and the remainder will not probably be spared, but there still remains 149,615 acres (*see note*), which will be available for settlement within a few years. On the Mathoura estate alone there are 12,000 acres of leasehold. The evidence of Mr. W. R. Virgoe, late owner of this property, which, however, in some respects, shows a much better average quality of land than obtains generally, gives the value placed upon it. He states that any land in this district that might be offered would fetch from £3 to £5 per acre now; that the whole of the 93,000 acres of freehold on the Mathoura estate was valued and sold for £5 per acre in 1837; that £7 per acre has been offered for portions, and that he is now letting land on the estate at from 4s. 8d. to 6s. per acre, in farms of from 400 to 3,000 acres.

44. County Townsend is very large; it extends north to the south boundary of the Murrumbidgee River back blocks and west to half-way between Deniliquin and Moulamein; it consists entirely of plains land. The bulk of the reserve is for water, so a considerable portion may possibly be spared, but the greater part of the county lies too far north of the proposed line to be much influenced by it. This part is, however, traversed by one of the suggested main lines of irrigation canal. The lands still unalienated, and the reserves that may be spared, would probably reach a total of 400,000 acres (*see note*, paragraph 43). Regarding the use that can be made now of this "plains" country, giving an idea of what it may become under the vivifying influence of irrigation and railway communication, the statistics that have been supplied by Mr. Porter, of Booroban, showing the settlement that has taken place in his neighbourhood, show that the necessary natural conditions are existent in the soil and climate even in that forbidding looking country, "The Old Man Plain," and that labour will make the land fruitful and capable of supporting a population. These statistics are given in full as they seem to be very interesting, as well as important.

*See Appendix No. 52.*

45. The records of the rainfall in this part of Riverina show for 16-mile gums too high a mean, as they have been taken too recently; but at Wargam the mean is 14.46 inches for eight years; at Willurah, 14.07 inches for twelve years; at Warwillah, 13.91 inches for ten years. The record rises in the Southern parts giving:—

*See Appendix No. 53.*

At Moama ... ..	16 70 inches for 10 years.
Mathoura ... ..	19.51 " 5 "
Deniliquin ... ..	17.89 " 4 "
Carnulla ... ..	10.15 " 8 "
Tuppal ... ..	17.47 " 8 "
Jerilderie ... ..	18.90 " 4 "

46. The details of the statistics of these districts has already been given in paragraph 22. The climate is not suitable for production of oats, but the barley grown has proved to be of exceptionally good quality. There is practically as much certainty of a crop of this as of wheat in the district. It is probable that considerable quantities of this cereal would be produced, as the supply of this Colony has hitherto been largely imported. In addition to the recognised townships, given in paragraph 25, there are other centres of population within the area under the influence of the existing and proposed railways which give promise of increasing. Wanganella and Carnago, both on the Billabong, are naturally situated in positions to draw traffic. There is some settlement in the neighbourhood of both, and extended over the country to the south of the Billabong. The whole of the land here is, even under existing conditions, regarded as good for cultivation, and is more or less settled.

47. With regard to the prospect of a traffic in stock, the operations of the Deniliquin and Moama line seems to show that a large portion of their revenue is derived from the transport of stock into Victoria. The transport across the border by this railway, during the twelve months ending 30th June, amounted to 336,000 sheep and 333 head of cattle. The situation of Deniliquin and Moama is peculiarly favourable with relation to the surrounding country and to Victoria, to the western districts of which there is as yet no other than a round-about access possible from this country, and from Queensland, *via* Wilcannia. The totals of stock passed over at Moama during last year, 1889, are given in Appendix. Of these, a large proportion must have been the surplus from the stations within Riverina and north of the Murrumbidgee. The supply of the western districts of Victoria has been referred to by the members of the Echuca Chamber of Commerce. A large proportion of this stock is fat, or partly so, as shown by the numbers trucked. On these very level lines this traffic is evidently remunerative. The trains on the Deniliquin and Moama line have consisted of forty-two loaded trucks of stock, amounting in weight to 400 tons, behind the locomotive. Mr. Tennant states that 300 to 350 tons can be drawn comfortably. The rates in force on the whole length of 45 miles are £1 6s. 3d. per truck for sheep, and £1 2s. 6d. per truck for cattle, against the £1 10s. per truck over a corresponding length on the lines of this Colony. From this source alone the revenue derived by the Deniliquin and Moama line for the year was £4,032 6s. 9d. The import duty into Victoria is 5s. per head for cattle, and 6d. each for sheep. The stock-market in Echuca is said to be second in importance only to that at Wodonga, and the members of the Echuca Chamber of Commerce anticipate a material increase to it on completion of the connection between the termini,

*See Appendix No. 42.*

*See Appendices Nos. 5, 6, and 7.*

Jerilderie

Jerilderie and Deniliquin. It has been stated that stock traffic is the least paying to a railway. This may be the case as an average in the Colony, but on such very level lines as in Riverina, where the rolling-stock and the staff will not probably be fully occupied, the fixed expenditure in interest on capital and wages will, in the absence of stock traffic, be debitable against other sources of revenue. This an important consideration.

48. In summarising the points that have been brought to notice in the foregoing, the subject becomes naturally divided into two parts, which separately afford room for consideration, (1) as to the need for the connection in the interests of the district dis severed from communication with the rest of the Colony, and (2) as to the general effect upon the revenues of this Colony's railways and its trade by the opening of another through connection with Victoria.

49. It is seen that there is a population of 1,250 persons in occupation of a tract of country that supports three towns, aggregating 3,250 in population. This settlement, excluding the large pastoral holdings, is located on 250 holdings, averaging 900 to 1,200 acres, having under cultivation 30,000 acres, and producing a very large surplus over consumption and the needs of the limited market available, thus proving the suitability of the soil and climate for the production of cereals. The proximity of the seaport of Victoria gives peculiar facilities for importation of supplies of all kinds, not necessarily confined to the trade of the alien colony, but also by sea from its own capital, or from Europe direct. The surrounding country is producing large numbers of live stock, the surplus of which finds a market over the border with marked benefit to the interests of both colonies. The average value of the land in the southern part of the district is nearly up to the point at which the subdivision of the large estates may be assumed to be commercially the proper course to adopt, while it is now, by reason of its geographical position, very much below the average value of land within a few miles distance across the border, though, by all accounts, in no wise inferior in quality. Of this land, in county Cadell, there will shortly be nearly 150,000 acres (*see note, paragraph 43*) available for selection; and in county Townsend the quantity may be estimated at 200,000 acres within the influence of the railway. The conditions under which this country is worked will, by the completion of communication into New South Wales, be so materially altered as reasonably to justify the assumption that the Crown lands will be materially raised in value, and the anticipation that when distributed and settled the population of the districts will rise to fully 10,000 persons, including that of the towns. The full production of the land will be available for this Colony, and form a distinct volume of up-traffic over the railway which is not now in existence, and the timber of this part of the Murray will for the first time in history be carried into its own territory.

50. With respect to the objections to the connection, it is considered that the scope of an inquiry of this kind cannot be extended to embrace the variety of questions relating to the course of traffic and general policy that go to make up the subject. The actual effect of the opening of this through line must be more or less a matter of conjecture, based upon the experience gained in the working of the main line between Sydney and Melbourne. In order that an opinion may be formed on the matter, it is obvious that a separate investigation into this working during past years should be undertaken. The facts as they have come to light have been pointed out in this report, and some opinion on the question of policy has been hazarded. No more can be done here.

51. This subject cannot be left without drawing attention to the probability that a connection by railway between Jerilderie and Deniliquin will be found in policy to entail the purchase of the Deniliquin and Moama line, as this link will then become a part of the colonial system, and be found impracticable in working, connecting, as it will, the systems of separate colonies. The Act of Incorporation provides that the line may be purchased by the Government after the expiry of twenty-one years from 3rd March, 1874 (*i.e.*, on 3rd March, 1895). A copy of the clauses relating to this is given in Appendix No. 43.

52. The conclusion at which I have arrived on the subject of connecting Jerilderie and Deniliquin by railway is, that not only the development, but the existence of the agricultural industry in this southern part of Riverina, is dependent upon this communication being made for it with the rest of this Colony. This view is borne out by the experience of the past few years, during which these industries have sensibly languished, and by the exhibition of a large surplus of grain, for which there was no market but at a ruinous reduction on value. The fact of the industry having advanced to this stage, in spite of the disabilities under which it labours, is a proof that a steady advance in all departments may be anticipated on communication with markets being made for it.

53. I believe that the working expenses of the line will be at once earned from the traffic within this Colony only to and from this district, irrespective of the intercolonial traffic, the amount of which can only be conjectured, but which in stock alone must be considerable; also, that the benefit to the revenues of the existing lines north of Jerilderie will be very marked from the new traffic that will be introduced, which will be distributed over lengths far distant from the areas in which it is produced.

54. As for the competition for the inward trade into Riverina, it must be remembered that south of Jerilderie an alteration of the conditions cannot but be beneficial to this Colony, and for the countries north of Jerilderie, that the distance from Melbourne to Jerilderie will be at least 50 miles greater than to Albury, and that between Jerilderie and the border there will be 100 miles of this Colony's railways to be travelled over.

55. With respect to the route by which the line should be taken, I believe that consideration should be given to the future of the large tract of country intervening between the Moulamein and Murrumbidgee Rivers. The time may come when conservation of water may bring into use for settlement these large areas of Crown lands, the very sale of which would construct the line. The present existence of the settlement there, shown by Mr. Porter's statistics, is a promise of the possibilities of the future. There being already some settlement along the Billabong, and between Conargo and Deniliquin, on land which is all cultivable, I would recommend the line being constructed *via* Conargo, as shown by full red line on the map, with the object of providing for a branch from that point, *via* Boorooban, to Balranald. Construction of this line cannot be contemplated for a long time, so long, in fact, as this country remains under the present conditions, but the route is one that commands the whole breadth between the rivers, and would not enter into competition with the river traffic in any way. The length to be constructed between Jerilderie and Deniliquin would be about 50 miles, instead of 45 miles by the direct route.

## PART II.

## THE PROPOSED RAILWAY FROM HAY TO DENILIKUIN.

The railway from Hay to Deniliquin has not been proposed for construction by the Government, but by a company, who have endeavoured, hitherto without success, to obtain the necessary authority from Parliament. There has, in fact, been no movement of any sort in favour of the line except by the promoters of this company. Their refusal to give any assistance to the inquiry in Hay would seem to indicate that their object is purely speculative, and not prompted by desire to benefit the country. There was no information regarding the project obtainable in Deniliquin, the interests of which would not be fully served by such a lengthy route to the metropolis and the Colony generally. The independent testimony obtained in Hay, however, supplies a basis on which an opinion may be formed on the merits of the question as a matter of policy, though as the statistics of actual and probable traffic have been withheld, being hardly procurable except as a free gift of the interested parties, the probability of such a line being a paying concern can only be inferred.

2. The returns that are available for the municipal district of Hay show as follows:—

See Appendix No. 46.

	1889.	1885.	1880.
Population ... ..	2,750	.....	.....
Number of dwellings ... ..	580	.....	.....
	£	£ s. d.	£ s. d.
Capital value of all property ... ..	329,335	277,850 0 0	250,721 0 0
Total receipts ... ..	4,055	4,016 13 0	3,130 17 4

3. The railway was opened to Hay in July, 1882. The distance from Sydney is 454 miles, and from Melbourne, *via* Albury and Junee, 456; but by the proposed line, *via* Echuca and Deniliquin, the distance would be reduced to 265 miles from Melbourne. The traffic at the Hay railway station has been during the years ending:—

30th June, 1889—inwards ... ..	2,190 tons.
outwards ... ..	8,142 "
wool—outwards ... ..	10,167 "
30th June, 1888—inwards ... ..	1,033 "
outwards ... ..	6,054 "
wool—outwards ... ..	3,456 "

4. The only evidence procurable regarding the traffic on the river from Hay was supplied by Mr. Whitecombe, who pointed out that the wool traffic on the railway from Hay had decreased from 7,481 bales, 1885-86, to 2,618 bales in 1889-90, while during the last season 22,479 bales had been shipped by steamer from Hay. Regarding the stock crossing the river southwards this witness gave 372,205 sheep as having passed in 1887, 533,113 in 1888, and 304,268 in 1889. This is the regular route from Queensland, *via* Wilcannia, by which large numbers of cattle travel. The permanent bridge over the river at this point makes this a point of concentration for stock.

5. The quantity of wool carried on the Murrumbidgee River, and passed through Echuca, as given by Mr. Pope, the Customs' officer at Moama, was 56,882 bales, as an average of the last four years. This quantity was collected from very long lines of river-bank, both above and below Hay. During 1889 there were trading on the Murrumbidgee River sixty-one steamers and forty-seven barges, aggregating 11,656 tonnage. Mr. Morton, of Hay, who is the Secretary to the Carriers' Union, stated that wool will this season be brought by teams to Hay from 200 miles inland northwards, from within 50 miles of the Darling, as that river being in high flood is difficult to load on, also from within 50 miles of Cobar. He pointed out that the Silverton line has diverted traffic from Hay, as also will the Cobar line when open. He gave 1,685 bales of wool as having been delivered in Hay from points north of the river during last season, and 1,320 tons of goods as having been returned from Hay by teams; also, that during the drought of 1888, large quantities of forage were passed through Hay to the surrounding districts, having been brought by rail and also by teams from the southward.

See Appendix No. 16.

See Appendix No. 17.

6. The cost of transport of greasy wool from Hay by railway to Sydney is 64s. 9d. against 74s. 3d. to Albury and 104s. 3d. to Melbourne. On the cost by river all information was refused by the steamer companies; but from other evidence it was gathered to be 20s. per ton from Hay to Echuca, exclusive of insurance, which is 14s. per ton in addition, contracts having been taken for delivery of wool in Melbourne at 50s. per ton. The rates are not fixed, being subject to modification by contract. Mr. Jenkins, of Buckenong, stated in Narrandera that his wool is delivered from above Narrandera to Melbourne by river at 70s. per ton, exclusive of insurance.

7. The freights to Hay by the New South Wales lines are governed by the "truck rate" rules before noticed. According to these, the maximum rate chargeable on goods carried to Hay is 130s. per ton, or by the 6-ton truck-load it is 86s. 4d. per ton for the three numeral classes, and 80s. per ton for galvanized iron and fencing wire. The cost of transport to Hay from Victoria is subject to the rebate rules for goods taken into Riverina. Hay is situated about 25 miles north of the rebate line. The rebates allowed by the Victorian railways on goods forwarded to Hay by river, rail, or teams through Echuca or Wodonga, are given below:—

	Melbourne to Echuca.		Melbourne to Wodonga.	
	Full rate.	Rebate.	Full rate.	Rebate.
First class .....	48/6	Nil	59/3	9/3
Second class .....	60/6	10/6	74/10	24/10
Third class .....	72/6	22/6	90/5	40/5
Fourth class .....	84/6	34/6	106/-	56/-

The operation of these allowances from Albury northwards as far as Junee, on the Great Southern Railways, is considerably modified by the special high rates for the up-traffic charged on this length, but Hay gets the full benefit of the rebate on all goods brought there from Echuca by river, and it is needful to point out with particular emphasis that if the Hay-Deniliquin line be built by a company, Hay will certainly get the full benefit of the Victorian rebate on all goods carried by it, for it is not at all likely that



12. It seems, from the information given by the storekeepers at Hay, that the bulk of their trade is done with Melbourne. Those dealing in large parcels, or whose importations are made from Europe direct, endeavour to make their requisitions and to time the arrival of their goods in Melbourne to enable them to take advantage of the river while it is open for traffic, and to bring up during the season sufficient to last until the next river season. On the other hand, the business of the small traders is done more conveniently with Sydney, because of the speed and certainty of transit and a avoidance of the small charges, such as for customs entries and agency, which tell on the small consignments, but are not appreciable on the large ones. It seems also that much of the goods carried by the railway into Hay during the dry season has been brought round by sea from Melbourne to Sydney, being delivered there by Melbourne merchants at favourable rates. From this it is clear that if a new line of railway communication is opened with Melbourne, reducing the rail carriage to Hay from 454 to 265 miles, the alternative to the river route will immediately be this new short railway from Melbourne, and the inference is unavoidable that the route from Sydney will be unused altogether. If the traffic be not abandoned altogether, the competition by a line of 454 miles in length against one of 265 will be ruinous. It is seen that the traffic carried on the main line to and from Hay is not inconsiderable, but the figures and the information given show that the quantity fluctuates with the condition of the river. The traffic in wool especially is heavy only when the river is unfavourable. As the line to Deniliquin will do away with all uncertainty, and will carry goods at least as cheaply as the river, the traffic now done in Hay by the existing railway will most likely be all absorbed.

13. It is highly improbable that any advantage will be obtained by Hay or the countries to the north of the Murrumbidgee by connection with the agricultural lands in the southern parts of Riverina. The existing railway into Hay may be relied on to supply all requirements, but there will certainly be an advantage to all agricultural interests in those southern lands by the connection. The Jerilderie to Deniliquin line would in this respect, as opening up the whole of the colony to their products, be of very much greater benefit, but as the productions of farm and dairy about Hay are not equal to the consumption in Hay and its neighbourhood, and very far short of the requirements in dry seasons, the direct line to Deniliquin would be immediately beneficial to farmers in the south. This, however, would at once introduce a competition with the existing railway line of another form, namely, for the traffic in produce within the Colony itself.

14. It may safely be assumed that the traffic in stock southwards will supply a large part of the revenue of this line. The information given regarding this traffic on the Deniliquin and Moama line seems to afford strong evidence in favour of this. The whole of the distance between Hay and Deniliquin suffers very severely every summer, not only because of the dryness of the country, but from the large number of stock passing over it. In this respect alone, viz., for the transport of fat or saleable stock into Victoria, can this line be said to be really beneficial to the districts on the Murrumbidgee?

15. Since it appears that a sacrifice of a large part of the traffic of the existing lines, and also the institution of a new competition for traffic in farm produce within the Colony is inevitable, a question naturally arises as to whom the change will benefit. No part of the information supplied proves that the change will be productive of good to any part of the community in the districts on the Murrumbidgee, except in the way of rendering personal communication with the south easy, which is now difficult in the extreme, and of shortening the distance over which stock will have to be trucked. A connection between Jerilderie and Deniliquin will accomplish both these ends. The line will, it is believed, be one that will pay, but at the expense of other existing undertakings, and not by force of any development in the country traceable to benefits to be conferred by its construction. The development of the lands lying between the Murrumbidgee and the Billabong or Moulamein River will be considered in another part of this report. This can be effected without entailing any of the objectionable features or complications that must ensue from the line proposed between Hay and Deniliquin.

### PART III.

#### THE PROPOSED RAILWAYS

FROM JERILDERIE TO BERRIGAN AND MULWALA ;

FROM JERILDERIE TO TOCUMWAL ;

FROM OIL TREE, ON THE CULCAIRN-COROWA LINE, VIA DAYSDALE, TO BERRIGAN.

ALL of these proposals, having been designed for the service of the same tract of country, may conveniently be dealt with together.

2. The grounds upon which the extensions of the Narrandera-Jerilderie line base their claims for consideration, are that they connect the New South Wales system of railways with that of Victoria, opening through communication between the colonies, and developing the country *en route*. An extension of the Berrigan line to Tocumwal or Cobram, instead of to Mulwala, has not been proposed, but it is being discussed in the district, and will therefore receive consideration in this report as a possible development in the future.

3. The proposal to branch off from the Culcairn-Corowa line (now under construction) at about Oil Tree Lagoon, and to traverse the country between Daysdale and Berrigan contemplates the service of the country only. The connection with an existing line at a point so near the border is due to the position of that line and the country to be served, as Oil Tree is the nearest point to it that can be connected with. If the conclusions drawn from this investigation are just, this proposal must be credited with being the only one of all the lines proposed for this part of Riverina which would really act in developing the country and in feeding the existing system without competing with other lines or being antagonistic to their interests in any way. The objections to it that will be pointed out are considered to be fatal to its adoption, but the suggestion may be claimed to be a very good one, though the scheme has been very roughly got up and weakly supported.

4. The lengths of the several routes, suggested or possible, are approximately as follows:—

From Jerilderie to Tocumwal, along the stock route, <i>via</i> Murray Hut	...	35	miles.
From Jerilderie to Berrigan	... ..	25	"
From Jerilderie to Mulwala, <i>via</i> Berrigan	... ..	53	"
From Jerilderie, <i>via</i> Berrigan, to Tocumwal	... ..	43	"
From Jerilderie <i>via</i> Berrigan, to Barooga	... ..	43	"
From Oil Tree Lagoon, <i>via</i> Daysdale, to Murray Hut	... ..	62	"

5. The country served by these lines is comprised between the Billabong Creek and the Murray River. It is bounded on the east by the stock route between Urana and Corowa, and on the west by the "Plains," the limits of the forest land being at the farthest about 20 miles to the west of the stock route between Jerilderie and Tocumwal. This area includes the whole of county Denison and the southern part of county Urana.

6. The tract of country designated Clear Hills, in the parish of that name, but extending east into Gunambil, and west into Boregerry, in county Urana, lies between the Billabong and Coreen Creeks. The stock route passes north and south along the east side. The greater part of it is elevated country. The soil on this portion is a rich red loam of the highest fertility. The pastoral holdings, Gunambil and Wangamong, occupy a portion, but most of the high land has been taken up by settlers. The summary of the settlement and cultivation here given formed part of the statistics collected by the Urana railway league, in support of connecting Urana with the main line of railway at Conong, but the whole of it may also be taken credit for in support of the proposal for Oil Tree Lagoon, *via* Daysdale. They are as follows, included within the parishes of Clear Hill, Wangamong, Gunambil, and Boregerry:—

Number of holdings ... ..	37
Resident population (say) ... ..	250
Aggregate acreage of holdings ... ..	35,546 acres.
Aggregate acreage under crop ... ..	5,386 "

7. There is no township in the district, so distances can be given from no fixed point but the Clear Hills post office. This may be taken to be 16 miles from Urana, 30 miles from Jerilderie, 8 miles from Daysdale, and 34 miles from Corowa. These places, with Corowa, are the outlets for all traffic. All the wool is sent through Corowa, and the supplies are obtained from the nearest townships. The quantity of wheat sent to Jerilderie, the only possible market for this grain, the product of the harvests of 1889-90 and 1890-91, was 20,800 bushels each season, but this is only an indication of the capability of the land in production. The best of it, covering an area of about 30,000 acres, is, perhaps, unequalled in quality in Riverina. It is said that an expert has predicted a great future for this district, in the production of grapes for wine-making. The land has been settled for the most part but a few years, but many of the farms are in an advanced stage of improvement.

8. This fertile area covers the space between the Billabong and Coreen Creeks, a distance of 9 or 10 miles, and extends east and west for about 5 miles. A heavy growth of pine timber has sprung up since the days when, as pasture for stock only, the place was named Clear Hills, but all the timber of any useful size has long since been cut away, the last saw-mill having been removed from the neighbourhood about two years ago. The forest reserves on Clear Hill, amounting to some thousands of acres, will probably engage the attention of the Forest Department as being eminently suitable for conservation of pine timber. Water has been found at depths down to 190 feet in all the wells that have been sunk of a quality suitable for all purposes. In elevated ground, this is a very important feature.

9. The Clear Hills districts, lying north of the Victorian rebate line, obtain full benefit from the operation of the Victorian railway by-law on goods forwarded from Melbourne. The following are the rebates given on goods sent there through Wahgunyah:—

	Mileage rate.			Rebate.		
	£	s.	d.	£	s.	d.
First-class ... ..	2	16	0	0	6	0
Second-class ... ..	3	10	6	1	0	6
Third-class ... ..	4	5	0	1	15	0
Fourth-class ... ..	4	19	6	2	16	0

10. Southward of these districts, in county Denison, the Coreen Creek divides the waters of the Billabong from those of the Murray. Along the middle of this county, east and west, the elevated land extending from Bull Plain through Savernake, Berrigan, and Murray Hut merges north of Tuppall into the western "plains." The whole of this, excepting patches of "plains," is "forest" land, the soil being eminently suitable for cultivation of cereal crops. The distance apart between the main stock routes along the northern boundary of the county is  $37\frac{1}{2}$  miles. The traffic routes through the county are mainly the mile wide stock routes from Jerilderie to Tocumwal, and from Urana to Corowa, but the opening of the bridge over the Murray between Mulwala and Yarrowanga will bring into use the now little used routes from Jerilderie, *via* Berrigan, and from Urana, either *via* Daysdale, or by a more direct line passing through Bull Plain.

11. The centres of settlement are Daysdale, Berrigan, Tocumwal, Mulwala. The places named Murray Hut, Savernake, and Bull Plain have not yet become developed. The following, giving the agricultural settlement that has taken place, is compiled from statistics supplied by the respective centres, *viz.*, Tocumwal, Mulwala, Berrigan, and Daysdale. These statistics are given as correctly as the returns admit, distributed over the several divisions of the country being dealt with so that the present importance of each part of it may be estimated. The bulk of the settlement occupies the country between Bull Plain and Murray Hut, but there is considerable settlement to the west of the stock route, and also round about Mulwala and Tocumwal.

#### SUMMARY of Settlement in County Denison.

	Number of Holdings.	Population.	Total Acreage of Holdings.	Acreage under Crop.
From the stock route on the east along the middle of county to the extreme west, and over the whole of northern part.	138	1,026	182,255	14,036
Southern part of country about Tocumwal .....	36	680	22,481	2,053
"    "    about Mulwala .....	108	784	57,136	5,000
	282	2,390	261,872	21,089

12. This is inclusive of the population of the townships of Berrigan, Mulwala, and Tocumwal, but the actual population of the country may be set down at a percentage higher, since such returns cannot take note of the numbers of labourers and employees of all kinds all over the country. The population, in fact, may be taken to be nearly 3,000.

13. Especially noticeable in these statistics are seventy-three holdings, aggregating 12,038 acres, giving an average of 165 acres each, situated in parishes Mulwala, Boomanoomana, Taramia, and Denison. These are the special areas for which £2 to £6 per acre has been paid. This land is generally not of the best class. These settlers now all depend upon Mulwala and Yarrowanga for their supplies and for an outlet for their produce. The conditions under which farming operations can be carried on in these districts render it certain that, unless railway communication is established in the neighbourhood, the whole of these small holdings will be absorbed into the larger areas on completion of the conditions under which the land was taken up.

14. The markets for the production of these districts, excepting the wool, which is all sent to Melbourne, and such of the wheat as is sent into Victoria, chiefly in bond for gristing, and a small quantity, which may travel through Corowa round by Wodonga into New South Wales again, is Jerilderie. Very clear statements, showing the production of the different parts of this district during the past two seasons, have been supplied by Mr. Wise, of Jerilderie; the mill belonging to his firm was erected in Jerilderie in 1885, about the time that settlement became attracted to these parts. The operations of the firm for consecutive years since have been as follows:—

In 1885	...	...	...	...	...	...	310	bags of wheat.
„ 1886	...	...	...	...	...	...	7,930	„
„ 1887	...	...	...	...	...	...	9,595	„
„ 1888	...	...	...	...	...	...	18,216	„
„ 1889	...	...	...	...	...	...	11,994	„
„ 1890	...	...	...	...	...	...	26,381	„

Including 4,000 bags sent way by rail and 2,000 bags retained by farmers, the estimated production of that season was 32,380 bags, or 135,000 bushels of wheat for the season of 1889-90. Mr. Wise also estimates the yield of the same districts for the last season of 1890-91 at 40,000 bushels, and has distributed the production over the districts as follows:—

		1889-90.	1890-91.
Produced in the direction of Deniliquin and Tuppal...	...	5,000 bags.	6,000 bags.
„ „ Murray Hut and Tocumwal	...	7,000 „	8,000 „
„ „ Berrigan and Mulwala...	...	15,000 „	21,000 „
„ „ Clear Hills	...	5,000 „	5,000 „
		<u>32,000</u>	<u>40,000</u>
Bags	...	32,000	40,000
Bushels	...	135,000	167,000

These figures are exclusive of the quantities that have been sent into Deniliquin, or across the border into Victoria. From Tocumwal a shipment has lately been made to Echuca of 18,000 bushels. So the total product may fairly be set down at 200,000 bushels of wheat produced during the past season.

15. All accounts agree in the excellence of the barley produced in these parts, but the market is absolutely restricted to the requirements of the only brewery using the grain for malting purposes. This is at Deniliquin, and its consumption is about 2,000 bushels per annum only. Consignments sent to Sydney have not been profitable, as the imports from New Zealand keep the price down. The market for this grain and for oats and hay is properly in the interior of this Colony. The production of these districts in these staples can be limited only to the quantity of land available for settlement.

16. As to the land that may be opened for settlement, there is plenty of evidence that the value has risen to a price at which subdivision and sale of the large holdings would seem to be profitable, but the facts are all in support of experience in such matters that land is not parted with, except at the full price obtainable. In several cases lately £3 and £4 per acre has been given by holders of pastoral property for land thrown open for sale by Government, while of 6,080 acres offered on Barooga, only 1,920 acres realized the reserve price of £3 10s., and about 5,000 acres of inferior land below Tocumwal were sold in October last by Government at £2 to £2 5s. per acre to seven settlers.

17. For the rapid development of a country, such as is necessary in order that a railway may become self-supporting within a short time, reliance must be placed upon the Crown lands available. The *Statistical Register* for 1889 shows that in county Denison the lands alienated were 203,203 acres, and lands unalienated were 591,797 acres. Some alienations have taken place since the date of this return, but these have not been extensive. A return supplied by the Lands Department gives the following areas and distribution of reserves in county Denison:—

Water reserves	...	...	...	...	42,228	acres.
Forest reserves	...	...	...	...	20,735	„
Travelling stock	...	...	...	...	19,206	„
Other purposes	...	...	...	...	3,480	„
Total	...	...	...	...	85,649	acres.

18. The total area of the settlement, as given by the statistics collected in this county, is 261,872 acres. Mr. Sproule, in his evidence given at Berrigan, stated that he had lately sold 2,800 acres in that neighbourhood at an average of £4 3s. 9d. per acre, and that the firm (Messrs. Horsfall & Sproule) intended to dispose of 20,000 acres in parishes Mairjimmy and Berrigan. The Tuppal Estate, comprising in all 159,373 acres of freehold land, is to be offered for sale during this month in five blocks, ranging from 8,040 to 53,337 acres. Of this, one block, containing 15,475 acres adjoining, east of the stock route at Murray Hut, and the other four blocks west of that route. Attached to this run are 18,356 acres of land held under lease from the Crown, much of which may be available, but it is situated south of the main road towards the Murray, and is mostly of inferior quality.

19.

NOTE:—The Tuppal Estate was offered in Melbourne on 17th March, but no sale was effected. The highest bid was £2 12s. 6d. per acre for Boorobanilly, 15,475 acres, at Murray Hut.

See evidence by Mr. Wise.

See Appendix No. 70.

See Appendix No. 72.

See note, paragraph 43, Part I.

19. The position of the rebate line being altogether north of county Denison, the benefits of the Victorian railway by-law relating to goods forwarded from Melbourne into this part of Riverina are confined to goods of the higher class only, and do not, therefore, affect general trade greatly.

	4th class.	Rebate.	3rd class.	Rebate.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
From Melbourne through Yarrowonga .....	4 13 6	0 10 0	.....	.....
From Melbourne through Cobram .....	4 10 0	0 6 6	.....	.....
From Melbourne through Wahgunyah .....	4 19 6	0 16 0	4 5 0	0 1 6

But, as pointed out in the paragraph relating to the rebates granted for goods through Echuca, there is no reason why the rebate line should not be made concurrent with the border, in the interests of the competition for the trade, in which case the high rebates given in the following table may be allowed :—

From Melbourne through .....	Wahgunyah.		Yarrowonga.		Cobram.	
	Rate.	Rebate.	Rate.	Rebate.	Rate.	Rebate.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
First class .....	2 16 0	0 6 0	2 13 4	0 3 0	2 11 3	0 1 3
Second class .....	3 10 6	1 0 0	3 6 6	0 16 6	3 4 2	0 14 2
Third class .....	4 5 0	1 15 0	4 0 0	1 10 0	3 17 1	1 7 1
Fourth class .....	4 19 6	2 9 6	4 13 0	2 3 6	4 10 0	2 0 0

See Appendix  
No. 50.

20. The towns on the New South Wales side of the border are Tocumwal and Mulwala; neither of these have been incorporated; in fact, Mulwala is but in embryo, as the bridge over the Murray, connecting it with Yarrowonga, has not been finished, but Tocumwal has risen to some importance from its position at the end of the stock route. Full details concerning it are given in Appendix supplied by the Progress Association. The communication across the river is by punt, and some extent of difficult ground, occasionally submerged by floods, has to be crossed to reach the nearest railway-station. The question as to whether the road bridge shall be built here, or opposite Cobram—some 8 miles further up the river—has been the subject of another report, which contains full descriptions of both sites.

See Appendix  
No. 63.

21. Regarding the connection with Tocumwal by a railway, either from Jerilderie direct, or *via* Berrigan, the following extract from that report is here given :—“ Nothing less than the construction of the branch line from Strathmorton to the border, opposite Tocumwal, can give that place a commanding position. From the Victorian point of view, the construction of this branch cannot be recommended on any grounds, excepting on an understanding between the Governments of the two colonies, that a junction of railways shall be made at the border, at Tocumwal. It is very improbable that Victoria will consent to an arrangement involving expenditure of a large sum of money, upon a line, which of itself bringing no additional revenue, will be in addition to expenditure already incurred in reaching the border. The interests of the town of Cobram, which has been created by that line of railway, and now number 800 inhabitants, will be inflexibly opposed to the proceeding.” The Victorian railway having already been brought to the border, at Cobram, at a point very suitable for communication with the centre of important districts in New South Wales, interests will, year by year, grow and strengthen in the vicinity in this Colony, rendering the connection with Tocumwal, either from the Victorian or from this Colony's system less and less advisable.

22. As to the advisability of connecting with the border the arguments used in favour of connecting Jerilderie and Deniliquin were not the promotion of an intercolonial traffic, which, however, will by that connection, and by the existing through line be thoroughly well carried out, but the development and service of a tract of country which has been proved in a long series of years to be capable of making a railway pay good interest and of creating two large towns, and supporting a population. The sole argument that can be advanced in favour of connecting at any of the points on the border in county Denison, rather than with Deniliquin, is that the through distance between Sydney and Melbourne will be less. The distances between these points by various routes is here given :—

<i>Via</i> Albury .....	577 miles
„ Jerilderie and Deniliquin .....	647 „
„ Jerilderie and Tocumwal .....	602 „
„ Jerilderie and Mulwala .....	629 „
„ Jerilderie, Berrigan, and Cobram .....	611 „

This advantage is proposed to be attained by the construction of a short line which will serve but a very small area in Riverina, necessitating the construction of other lines for the service of other parts of it.

23. Importance is given to the Tocumwal line from Jerilderie as being a short one. There are considerable disadvantages in this shortness. At every extension of a branch from an existing line, there is an area within 10 or 15 miles of the junction which is practically unprofitable to the branch. It has been found and reported that the difference between 10 and 28 miles of road carriage has not sufficed to attract the traffic from the established market town at the end of the long road to the railway station in the vicinity. Hence the scope of country served by the long line is greater in proportion to its mileage than that of the short line. Branches as feeders of the main system in this Colony have hardly been commenced yet, but Victoria has ample experience of the depleting effect upon her average per cent. on capital expended by what are called there “ Cock-spur ” lines.

24. A diagram is attached to this report, showing in colours the extent of country that would be served by each of the proposed lines, viz., between Jerilderie and Tocumwal, and Jerilderie and Mulwala. These areas coloured show that neither of these lines will serve a large part of county Denison nor Clear Hills, for which provision would still have to be made. A deviation at Berrigan to Barooga or Tocumwal would still further curtail the usefulness of the line. Though greater distances are benefited, 20 miles may be taken to be the range in which the influence of railway transport will be appreciably felt.

25. For the proposed line from Oil Tree, another diagram shows that the 20-mile limit covers nearly the whole of the country, the statistics of which have been under treatment, and, taken with the following points, shows good reason for the opinion given in paragraph 3, as to the good qualities of this proposal. The terminal point of this line, say at Murray Hut, entailing 62 miles of new construction, would bring that point within 425 miles from Sydney, whereas, *via* Jerilderie, it would be 432 miles; Berrigan becomes 412 miles from Sydney, or *via* Jerilderie, 437 miles. The objections to the proposal which I consider to be fatal are that though traversing good country all the way within county Denison, it passes all along the stock route southwards through poor land, which is already within the influence of the railway from Culcairn to Corowa, and which must therefore be unprofitable to one or the other. It also avoids the district of Clear Hills, and does not provide in any degree for the claims of the north-eastern parts of Riverina.

26. Daysdale is situated on the stock route between Urana and Corowa, at about 26 miles from the former place, and 26 miles from the latter. The position is of some importance, but the statistics supplied of the settlement in its vicinity show seventeen holdings aggregating 15,000 acres only, which can be separated from those of areas included within the range of other proposals, or from those that naturally belong to the Culcairn-Corowa line. The township though in existence for a very long time is very small. A return gives the quantity of wool carted down the stock route through Daysdale as 10,000 bales annually from eleven stations and selectors. The Urangeline clip is taken a more direct route. It is also stated that the local storekeepers, Messrs. M'Guinness, Prosser, & Co., brings about 400 tons of goods annually to Daysdale from Corowa.

27. A summary of the settlement to be served by any line leaving Jerilderie, and going southwards to the border, either at Tocumwal or Barooga, is as follows. This has been compiled, having in view the necessity that would exist for another line being taken down through the eastern part of county Denison to serve lands not accommodated by this line:—

Number of holdings	...	...	...	...	...	...	...	...	112
Total acreage	...	...	...	...	...	...	...	...	143,792 acres
Population	...	...	...	...	...	...	...	...	857
"    Tocumwal	...	...	...	...	...	...	...	...	350
"    Berrigan	...	...	...	...	...	...	...	...	50
Total population	...	...	...	...	...	...	...	...	1,257

#### PART IV.

##### THE PROPOSED BRANCH LINE FROM COONONG TO URANA.

COONONG is a small station on the Narrandera-Jerilderie line at 384 miles from Sydney. The proposal to construct a branch line from this point to Urana, a distance of about 16 miles, must be dealt with separately because of its isolation from other projects. Though no extension of this line beyond Urana has as yet been suggested, it may be assumed that the interests evoked in its favour will not rest content with the line being permanently terminated at Urana. The statistics supplied in support of the line show that the bulk of the agricultural settlement lies south of the Billabong Creek in the Clear Hills district. If these be subtracted, the quantity left is found to be insignificant.

2. Urana owes its origin and its existence to being situated at the crossing point of the most important stock routes in this part of Riverina. It was here and flourishing before Narrandera and Jerilderie were born, and it is flourishing still. Its evil fortunes began when the projected line from the Rock was abandoned in favour of the Junee to Hay line, and continued when the branch from Narrandera to Jerilderie was made direct instead of round the east side of the lake. This was all done a long time ago, however, and now Urana proposes to remedy the matter by construction of a branch from Coonong. The continued existence of Urana in spite of its isolation is proof of the natural advantages of its position. These would have magnified its importance had the line originally projected from the Rock been built, whereas the trade of Narrandera and Jerilderie has been created by the railways alone.

3. The stock routes from Narrandera and Wagga Wagga meet in Urana, and there diverge to Jerilderie and Corowa. The traffic along these routes is given by Mr. P. R. Brett, Stock Inspector (*Appendix No. 8*). These figures show a very large traffic. The distances are as below along these routes:—

From Urana to Narrandera	...	...	...	...	...	37 miles
From Urana to Wagga Wagga	...	...	...	...	...	68 "
From Urana to Jerilderie	...	...	...	...	...	33 "
From Urana to Corowa	...	...	...	...	...	52 "

Two pastoralists at Narrandera gave 42,000 head of fat sheep and 900 head of cattle as being sent annually to Corowa from their stations by this route.

4. The existing tracks for communications from the nearest railway stations pass over ground as bad for road construction as can be. The distance by road to Coonong is 18 miles, over perfectly level land of heavy soil, which carries the rainfall on its surface. The only road metal available is a gravel found in great abundance near Urana and round the southern shore of the lake. For lack of good material for foundation this is not a suitable stone for road making, for the peculiarly severe nature of the traffic, which is very heavy on the axles, and not of the rapid and diverse character needed for consolidation of gravel. To the difficulty of transport over this road during the winter months is attributed the necessity of procuring much of the general goods from Victoria. It seems that the road from Morundah, entailing double the cartage to Urana, has frequently to be used, because that from Coonong is impassable. The greater part of the trade of the storekeepers is done with Sydney, and given a railway all stores would be procured thence.

5. Details are given of the township of Urana and its trade in Appendices 57 to 61. There are ninety-eight buildings in the town, of which sixty-three are dwelling houses, having a population of 430 persons. The merchandise brought into the town amounts to from 717 to 772 tons annually. The public buildings include a large permanent Court-house. The site of the town is high and dry, and extensive enough to admit of very great expansion. The place being north of the Victorian rebate line obtains the full benefit of the rebate allowed on goods forwarded to it from Melbourne through Corowa, and in its trade with Sydney it has also the benefit of the truck-rate rules in force on this Colony's railways.

6. From Urana eastward to Brookong a distance of 20 miles is unbroken plains. The Butherwa Pastoral Holding adjoining contains 50,000 acres, of which 24,000 acres has been secured; but of the Crown lands left a large proportion is taken up by the stock routes. The land is all poor. On the Brookong property the Crown lands are mostly far in the north-east. North-east of Urana are some reserved Crown lands on which a high price has lately been placed. In this direction the large quantity of Crown lands on parishes Pine Ridge, Lake and Boree Creek are beyond the practicable range of the proposed railway, most of it being more accessible from the stations on the existing line. South of Urana, between Urana Creek and the Billabong, a distance of 10 miles or so, is the North Gunambil property, on which are reserves containing 5,000 or 6,000 acres of Crown land. The rest is all secured. This tract is "plains," all treeless; very good grazing land, but not of a class suitable for settlement within a very long time. North of Urana, on the Coonong property adjoining the lake, as also some part of the Crown reserve, is land of the rich red loamy character found in parts all over this end of Riverina, which can hardly be surpassed in quality. It is probable that this would all be saleable at a price high enough to justify the owner in putting it into the market; but north and eastwards to the railway line the land is all poor.

7. The route proposed for the line leaving Coonong Station approaches Lake Urana along reserve No. 1,179 between the creeks. It passes the Coonong head station within a short distance on the north. After having crossed Coonong Creek the ridges of the sand hills can be traversed leading directly into Urana along an elevated route. The Colombo and Coonong Creeks and a depression admitting flood waters from the swampy and lake country on the north-east into Lake Urana would be crossed. On the extreme north shore of the lake is an extensive deposit of coarse sand forming here the bank of the lake for a mile or so, which is admirably adapted for ballast. The quantity is practically unlimited.

8. A possible extension of this line beyond Urana would cross the Urana Creek, between the town and the lake, and keeping well to the west to avoid a tract liable to flooding, would cross the Billabong Creek, near North Gunambil head station. A reserve, No. 93, could be traversed on this route, and possibly to the south of the Billabong also reserve No. 3,109 might be taken advantage of, or the stock route might be followed if Corowa is made the objective point. This line should, however, skirt the eastern side of Clear Hills, in order to serve that district effectually, and thence be taken *via* Bull Plain direct to Mulwala. The whole of this route south of the Billabong would pass through good land, on which considerable settlement has taken place in parishes Clear Hills, Wangamong, Bull Plain, and Mulwala, whereas the extension along the stock route to Corowa cannot be supported. The distance by the route indicated from Coonong to Mulwala is about 70 miles.

9. The following list of distances give the respective positions of the two lines with relation to each other, viz., from Jerilderie and from Coonong, within county Denison:—

From Bull Plain to Murray Hut (direct) ... ..	33 miles
From Bull Plain to Berrigan (direct) ... ..	20 "
From Mulwala to Tocumwal (by road) ... ..	32 "
From Mulwala to Barooga (by road) ... ..	24 "

This shows that two lines traversing this country in a parallel southerly direction do most completely serve the whole of the agricultural area in the county as well as that of Clear Hills and Urana, and embrace all the interests that have been brought to bear upon the question, but at cost of constructing 105 miles or 113 miles of railway (depending upon the border being touched at Tocumwal or Barooga), and entailing a new junction station at Coonong and separate equipment and staff for each line, and, moreover, that within county Denison, the lines are so close together as to be really in competition.

10. Considering this line in detail, it is found that an extension beyond Urana must be contemplated either at once or in the near future. Carried as far as Urana only it would not materially assist in the development of the Clear Hills district, and if this were provided for in any other way the trade of Urana and its neighbourhood would be found to be insignificant. Of the country between Coonong and Urana the proposed line would not materially aid development or settlement. The points at which it could be reached would be at Coonong head station, within a few miles only of the junction, and at Urana. Past this again another length of 10 or 15 miles would be absolutely unproductive of revenue as far as Clear Hills; but from this point throughout its entire length down to Mulwala all is good country, capable of carrying a large population.

11. Considering how short the distance is from Coonong to Urana by road, the argument in favour of bridging this by a railway, because of the badness of existing roads and expense of making good ones, an argument that is repeatedly used in favour of railway construction, holds good merely for the through traffic from Urana, and loses sight of the necessity that will still exist for making the approaches to the stations. The construction of this or any line does not in any degree obviate the necessity for making good roads as approaches to the stations.

12. The statistics of the settlement in the neighbourhood of Urana, as supplied by the Progress Committee, comprise settlement at considerable distances away from Urana, which can only be claimed as part of the district to be served in the absence of any other scheme. However, they comprise twenty-five holdings, aggregating 39,619 acres, of which 1,000 acres are under crop. This is exclusive of the settlement of Clear Hills, but professes to take in all else within 20 miles radius. The disproportion between this sparse settlement and the size of the town of Urana, which is given as containing 430 inhabitants, is very striking.

13. The statistics of Clear Hills has been given in paragraph No. 6, Part III. It comprises thirty-seven holdings, with a population of 250, and an aggregate acreage of 35,546. The nearest point of this is fully 11 miles from Urana. The southern extension of the line to Mulwala will embrace the following, viz.:—136 holdings, aggregating 109,130 acres, and carrying a population, including that of Mulwala.

Mulwala and Coreen, of 813 persons. The sum of all these, representing the total settlement that would be served by a line from Coonong *via* Urana and Bull Plain to Mulwala is:—

Number of holdings	...	...	...	...	...	...	...	...	198
Total acreage	...	...	...	...	...	...	...	...	184,295 acres
Population	...	...	...	...	...	...	...	...	1,109
Township Urana	...	...	...	...	...	...	...	...	430
„ Mulwala	...	...	...	...	...	...	...	...	244
„ Daysdale	...	...	...	...	...	...	...	...	50
Total population	...	...	...	...	...	...	...	...	1,833

For illustration, the statistics of settlement given in paragraph 27, of Part III, that would be served by the other line southwards from Jerilderie, is given here also:—

Number of holdings	...	...	...	...	...	...	...	...	112
Total acreage	...	...	...	...	...	...	...	...	143,792 acres
Population	...	...	...	...	...	...	...	...	857
„ Tocumwal	...	...	...	...	...	...	...	...	350
„ Berrigan	...	...	...	...	...	...	...	...	50
Total population	...	...	...	...	...	...	...	...	1,257

NOTE.—For details of Crown reserved lands, see the Appendices to this report.

## PART V.

### THE PROPOSED BRANCH RAILWAYS FROM HANGING ROCK TO URANA AND YERONG CREEK TO URANA.

THESE proposals are treated in this place in the report, as the country traversed by them is on the extreme eastern side of Riverina, and can by description be fittingly connected with the country passed through by the other proposed lines without entailing repetition, and also because the recommendations with which this report is concluded, are partly based on the advantageous position occupied by the existing line, contiguous to an extremely fertile and fairly populous district, for a base from which to start a trunk line intersecting all the districts in this eastern part of Riverina. See Appendixes Nos. 63, 64, and 65.

2. The line originally surveyed left the main line at Hanging Rock, passed through Urana and Jerilderie, and branched to Hay and Deniliquin. The plans of this are not now in existence. On the ground, the 3-chain road from the Rock to about 18 miles out, is the remains of the proposal. This has now become a highway for the use of the settlement that has taken place all along it, and about Green's Gunyah. The mail road in use from the Rock passes through Bullenbong and along the stock route to Urana. From Bullenbong a road branches off to Narrandera, passing north of Mount Galore. The course traversed by the surveyed line passed a little south of Brookong, but the advocates of the Rock line propose to deviate nearer to Green's Gunyah, and to traverse the stock route in order to bring the line nearer to settlers who have taken up extensive areas of land south and west of Mount Galore. The object of the Yerong Creek proposal being to traverse country much to the south of that passed through by the Rock line, a route to Urana from Yerong Creek has necessarily been proposed, that leaves Green's Gunyah some miles to the north. Hence the divergence of interests. This, however, has resulted in the compilation of statistics of a large area of country from Boree Creek down to Wallandoo, and a large amount of information.

3. The bulk of the settlement shown by the combined statistics lies between the stock route and Urangeline Creek, and extends westwards to within 5 or 6 miles of Brookong and Urangeline. South of the Urangeline Creek there is little settlement for a long way. North of the stock route in parish Galore as far as the Mount, and in parish Boree Creek, there are a very large number of settlers, but in parish Osborne the greater part of the area is still Crown land, though there are no less than forty-four settlers on the land already thrown open in special areas. The statistics of parishes Clyde and Lake have been included by the Rock railway league, but these are too far away to derive any benefit, being rather more interested in communications with the existing line from Narrandera.

4. In considering the merits of this north-west corner of Riverina, the striking features that tell in its favour are the very large areas of Crown land still available in reserves, and the good quality of the land generally. The greater part of the areas of parishes Lockhart and Osborne are Crown lands, and large areas are also in reserve in parishes Boree Creek and Lake, but Lockhart and Osborne together show a total of 35,000 acres\*, which can all be made available for settlement. Excepting some tracts of stony land on the spurs, trending down from Mount Galore, and swampy country between the Mount and Green's Gunyah, all this land is of the very highest quality. A large number of special areas have been sold within the last two years in this neighbourhood in blocks from 160 to 320 acres, at £2 to £2 10s. per acre. At this price, or even up to £3 per acre, any land thrown open on this side of Riverina would be taken up directly. Nearly the whole of the country is gently undulating and well drained. The boundary between counties Urana and Mitchell, from the water-shed of the waters of the Murrumbidgee and the Billabong on which Mount Galore is the highest point. These slopes run out in parishes Mucra, Brookong, and Hebden, into level "forest lands," merging westward in "plains." The capabilities of the whole of this country are very great. Even under existing conditions, aided by improvement to the road communications, the advancement in settlement, population, and production that will be made within the next decade will probably be greater than in any other part of New South Wales within the same period. e Appendixes 75 and 76.

5. Regard must be had to the fact shown by the statistics, that of the areas held by the settlers, little more than one-fifteenth has as yet been cultivated, and that the distance of cartage precludes the production of things which are always saleable. The straw being of no value, the wheat is stripped, and the product results in a load of about half a ton per acre to be sent away; whereas in the form of hay the weight would be 2 tons per acre. It is universally believed that hay is a more remunerative and safer crop than wheat, provided the carriage to a railway is short. An illustration of this was given by Mr.

\* The large area of Crown land quoted for Lockhart and Osborne is not all in reserves.

W. B. Sangar at Wangamong. He holds 3,200 acres, of which he cultivates 200 acres annually. His out-turn in wool amounts to about 10 tons, whereas his agricultural produce on a fifteenth part of the area amounts to about 200 tons in weight. The capabilities of the district are very much enhanced by the high average of rainfall, which is to date at Wagga Wagga 23 inches, at Walbundry 21·81 inches, and at Yerong Creek 23·31 inches. All over the western parts of Riverina the mean is generally 6 inches lower.

6. In analysing the statistics to show what portion may be fairly taken into account as revenue-producing for a line of railway through this country, the difficulty met with is, that so much of the settlement is now actually within a reasonable distance of the existing railway line. The boundary between counties Urana and Mitchell pass north and south for about 36 miles, at a distance of 15 to 20 miles from the railway, and no settler south of the stock route can be at a greater distance from it than 30 miles.

The stations Hanging Rock, Yerong Creek, and Doodal Cooma, all serve this country. South of the Urangeline Creek there is little settlement, but north of the stock route, at a distance so far removed from the settlement on the south that no line can be devised to meet the requirements of both localities, excepting one from Wagga Wagga along the stock route, there is a quantity of Crown land and settlement of importance enough to demand to be considered in the matter.

7. The statistics have therefore been divided into three divisions according to the plan indicated above.

*North of stock route in county Urana, omitting parish Clyde.*

No. of holdings	...	...	...	...	...	...	...	...	40
Population	...	...	...	...	...	...	...	...	175
Total acreage	...	...	...	...	...	...	...	...	40,368
Acreage under crop	...	...	...	...	...	...	...	...	2,307

*South of stock route in county Urana, omitting parish Munyabla.*

No. of holdings	...	...	...	...	...	...	...	...	63
Population	...	...	...	...	...	...	...	...	278
Total acreage	...	...	...	...	...	...	...	...	74,029
Acreage under crop	...	...	...	...	...	...	...	...	4,107

*In county Mitchell, including parish Munyabla.*

No. of holdings	...	...	...	...	...	...	...	...	100
Population	...	...	...	...	...	...	...	...	544
Total acreage	...	...	...	...	...	...	...	...	81,332
Acreage under crop	...	...	...	...	...	...	...	...	6,792

*A summary of these is also given to show the importance of the district as a whole.*

No. of holdings	...	...	...	...	...	...	...	...	203
Population	...	...	...	...	...	...	...	...	997
Total acreage	...	...	...	...	...	...	...	...	195,729
Acreage under crop	...	...	...	...	...	...	...	...	13,206

The average size of the holdings is seen to be 964 acres, but there are among them numbers from 1,500 to 6,000 acres, as the majority are small. Mr. Halliday of Brookong has expressed his intention to subdivide a large area on the eastern part of his property (Brookong), which, being all on the high land, consists of the best in these parts.

8. The traffic from these districts in agricultural produce and supplies is all carried on by the roads to the neighbouring railway stations. The Brookong wool, amounting to 3,000 bales, is taken to Sydney, but the clips from Urangeline (3,000 bales) and from Wallandoon (1,150 bales) are taken down by road to Wodonga, from which place supplies are carted back. The whole of the settlers' wool is sent through Sydney.

9. The explanation of the course adopted by Urangeline and Wallandoon is found in the high rates charged on this Colony's line, on carriage of goods from Albury northwards as far as Junee. These districts are charged special rates on goods delivered at Albury from Melbourne. In the higher classes these are favourable, but they also get the benefit of the rebate on goods destined north of the rebate line. These rates are here given.

*Victorian Railway rates—Melbourne to Albury.*

Classes.	Mileage Rate.	Special Rate.	Rebate.	Net Rate.
Agricultural	16·8	19·0	.....	19·0
Special A	21·0	23·3	.....	23·3
Special B	28·9	30·11	.....	30·11
Miscellaneous	45·2	47·2	.....	47·2
First-class	60·0	62·9	9·3	53·6
Second-class	75·10	73·6	20·0	53·6
Third-class	91·8	83·6	30·0	53·6
Fourth-class	107·6	83·6	30·0	53·6

*New South Wales Railway rates—Albury to Hanging Rock.*

	Mileage Rate.	Special Rate.
Miscellaneous	5·3	.....
Special A	6·1	.....
Special B	10·0	.....
First-class	20·2	31·0
Second-class	24·8	38·0
Third-class	33·7	52·0

10. With reference to the claims of Yerong Creek to be made the starting point of a railway into these districts, the description of the settled area, and the positions of the large reserves of Crown lands show that, though the parishes immediately adjoining Yerong Creek are, as claimed, thickly populated, and contain land of the very best quality, yet all these settlements lie more compactly in proximity to the existing railway, and are therefore better served as a whole by it than on the parishes farther north, even

as

as far as the stock route only. Parish Wallandoo, the farthest west of the existing line on which settlement to any extent has taken place, cannot in its farthest point be more than 22 or 23 miles from the line. Finlay and Ross hold but nine settlements between them, and on Urangeline one only is shown. Further there are no large blocks of reserve land such as are in the northern parishes on which a population can be looked for with complete certainty within a few years.

11. The evidence and inquiry failed to elicit any reasonable object for extending either of these lines to Urana. In a direct line from the nearest settlement in parish Hebden, Urana is distant 20 miles. The whole of this space of country is "plains" land which will probably be unproductive of revenue for generations of time. No nearer approach is made on this route to the distant settlements and Crown lands on the north, in parishes Boree Creek and Emu Plains, or Lake, sufficient to justify the line, and no new country is tapped but that which naturally belongs to the existing line from Narrandera. The need for still further extension in the future beyond Urana, has not been thought of, and the necessities of the districts upon which Urana partly depends is neglected. A further extension southwards from Urana would entail 10 or 12 miles more of unprofitable construction, making the whole length of the line over "plains" 30 miles long. As a new branch or "Cockspur," terminating at the outer limits of the settlements or beyond, at any point that may seem to give promise of development, such a line does not command enough country to give a hope of becoming self-supporting. It must be remembered that these branches can contribute to the revenue of the general system, only by developing new revenue, as a large part of their earnings throughout the range of 10 or 15 miles from the parent line is actually filched from it, and until development does begin no fresh contribution is made. The rates chargeable for the short distance cannot make up a large sum total for a great many years in such sparsely settled countries. As this branch is one that it is very desirable should be built, it is proposed to show in the conclusion to this report how it may be constructed as part of a system.

12. In the matter of construction the route along the 3-chain road from Hanging Rock present no difficulties. There is a long incline rising out of the Bullenbong Creek, which is crossed at  $8\frac{1}{2}$  miles from the Rock, rising westwards for a mile or so to the summit, after which the surface is very level, and the descent to the plains gradual from about 15 miles from the Rock. The whole of the rest of Riverina is so very level that the minor inequalities on this part of it assume more importance by comparison than they deserve. There are really no difficulties anywhere, other than places that are flooded during exceptional conditions of rainfall and Murray water, as mentioned before, and the supply of the necessary materials. There is a good gravel-pit of great extent at the Rock, from which the main line was ballasted, but all timber, except for fencing, must be brought from a distance by rail.

NOTE.—The Crown reserved lands in counties of Urana and Mitchell are given in detail in the Appendices Nos. 75 and 76.

## PART VI.

THE sum of the proposals that have been made for the service and development of this, the eastern part of Riverina, described in Parts III, IV, and V of this report may be taken to comprise construction of the following three lines. The branch line from the Culcairn-Corowa railway is excluded, and also any extension of the line from the Rock past the cultivated land towards Urana. The whole extent of each of these lines must be contemplated for immediate construction, as any section of each line cannot command enough country to be self-supporting alone.

- A. A branch from Jerilderie to the border at Barooga, passing about midway between Murray Hut and Berrigan, through Wait-a-While. Length, about 42 miles.
- B. A branch from Coonong *via* Urana, and Bull Plain to Mulwala. Length, about 70 miles.
- C. A branch from Hanging Rock to Green's Gunyah. Length, about 26 miles.

These lines are shown on plan No. 3.

2. These three lines will command the whole of the country outside the influence of the existing lines, and will give railway accommodation to existing and prospective settlement as nearly as can reasonably be provided without entering unduly into competition with the existing system, or with each other. Development of the whole country will be assured by their construction, and all the requirements of the numerous Progress Committees and Railway Leagues, with the sole exception of Tocumwal, will be amply satisfied.

3. These are the grounds upon which the first two lines, *viz.*, from Jerilderie to Barooga, and from Coonong to Mulwala, can be recommended; but the objections to them are very serious. The intercolonial traffic that will arise will introduce many complications. For instance, the traffic now carried on from and to stations on the Junee-Hay line with Victoria, *via* Albury, will be transferred to the new lines. The distances may be compared, taking Narrandera as a central point on the Junee-Hay line:—

From Narrandera <i>via</i> Albury to Melbourne ... ..	350 miles.
" " " Jerilderie, Conargo and Moama, to Melbourne ...	316 "
" " " " Barooga and Cobram, "	262 "
" " " Coonong, Mulwala, and Yarrowonga "	271 "

4. The sole drawbacks to this traffic will be the breaks at the border at Barooga-Cobram and at Mulwala-Yarrowonga. These will form interruptions sufficient to enable the existing line and the line through Moama to retain all traffic to which despatch is a prime necessity, but for all else, representing stock and general goods, these lines will be in competition with existing lines and with each other, and the objectionable feature in this matter is that without this intercolonial traffic these lines cannot for a long time be self-supporting. The very design of the system should have for its object the promotion of intercolonial traffic, whereas, in the interest of the general revenues, rates will have to be imposed as a bar to this traffic.

5. Respecting the third line on this list, *viz.*, the branch from Hanging Rock: As before mentioned, it does not command sufficient extent of country to give promise of large revenue. Westward of its terminus the whole land to Urana is open plains, which will yield nothing. Southwards there is but an extent limited to a few miles in depth and width, from which traffic can reach the new line by a shorter road than to the existing line; but northwards the whole extent of country to Boree Creek will be under its influence. It will carry the wool from the Brookong shed and possibly from the Urangeline also. The district is one that will surely repay by expanding under the impulse of railway communication, but such confined areas cannot, for the space of a generation in time, carry the population and be subdivided to the extent necessary to provide the large production and consumption needed for support of a railway.

6. The main trunk line, marked on plan No. 4, commencing from the Rock, would traverse the best parts of the settled and cultivable area throughout this part of eastern and southern Riverina, and it seems to me to be free from all the objections quoted against the lines above described. In its course parallel to the border, between Bull Plain and Murray Hut, it operates, while serving the districts much better than north and south lines, in acting as a barrier between the rest of Riverina and the Victorian territory, being at every point very much nearer to Sydney than by any of the other routes. All the objectionable features of the competition for the trade of these parts will be more easily met on this line, because of the gap between it and the termini of the Victorian lines on the border, and this line cannot as the others will, introduce new features in the competition for the trade of the northern parts of Riverina and the Colony generally. Moreover, as shown by dotted lines, connections with these termini can be carried out whenever desired in the future, without disturbance to the system.

Jerilderie to  
Barooga, *via*  
Wait-a-While,  
42 miles ;  
Coonong to  
Mulwala, *via*  
Urana, 70 miles ;  
Hanging Rock to  
Green's Gunyah,  
26 miles ; total,  
138 miles.

7. The advantages in favour of this route are (1) the length to be constructed is about 100 miles between the Rock and Murray Hut, to make a complete line for fully developing the country, as compared with the sum of the other three lines, viz., 138 miles. (2.) It will be worked under one system of rolling stock and staff. (3.) It entails the construction of but one new junction station on the new line. (4.) All parts of it contribute to the revenue of the whole, for the traffic from the distant points will be carried over its whole length. (5.) There being but one junction with an existing line, there is but one length of new line to be constructed through country near enough to the existing line to be served by it, whereas the three other proposals, having all separate junctions, comprise three times the length subject to this disadvantage. (6.) Branches from it, as connections with the Victorian system, or with the existing lines in this Colony, can be made in the future. In fact the system is capable of expansion as the need arises.

8. The objections that may be advanced to this route, as far as can be foreseen, are,—(1.) The line would traverse an extent of 24 miles between the Urangeline and the Billabong Creeks which, though not altogether coming under the category of "plains" land, nor yet of "forest" land, is still low, flat, and in parts subject to flooding, being covered for the most part with the stiff clayey soil, common on land in similar localities all over Riverina. There are, however, several settlers on this part. Very much of the land is, again, private property, but this is an objection applicable to every line that can be projected in this country. The answer is, that no line can be devised in Riverina to avoid crossing patches of similar land, more or less extensive, and that in the aggregate, in proportion to its length, this line crosses less land of the kind than the others. (2.) It will be objected also that this line avoids Urana by 10 miles. I can only maintain that the connection of Urana to a railway cannot be done except at a heavy loss, and that however much the local interests in Urana may suffer, the interests of the settlements, existing and prospective, will not be affected adversely. Also, that by taking this line *via* Urana, and then southwards *via* Clear Hills instead of direct, a distinct robbery of traffic from the Narrandera-Jerilderie line would be perpetrated. (3.) It may be objected that this line would take away from the Narrandera-Jerilderie line the traffic of districts which now actually supply tonnage to that line. This is true, but the recommendations on this report include the connection of Jerilderie and Deniliquin, which will amply compensate for the little traffic taken away. Moreover, the existing line has proved itself to be incapable of developing the district, which, in fact, lies outside the sphere of its influence, being from 20 to 30 miles away.

STANLEY ALEXANDER.

To the Under Secretary for Public Works.

## APPENDIX.

## THE PROPOSED RAILWAYS FOR RIVERINA.

## LIST OF APPENDICES.

NO.	NO.
1. Stock exports to Victoria at Tocumwall.	40. Revenue of Forest Reserves.
2. Customs receipts at Tocumwall.	41. Red-gum forest reserves on Murray River.
3. Stock exports at Moama.	42. Returns of Deniliquin and Moama Railway.
4. Stock imports at Moama.	43. Extracts from Act of Incorporation, Deniliquin and Moama Railway.
5. Stock imports and exports at Moama.	44. Return for Deniliquin.
6. Do do do	45. Do Echuca.
7. Stock passing through Deniliquin.	46. Do Hay.
8. Stock passing through Urana.	47. Do Mathoura.
9. Wheat operated on at Moama Flour-mills.	48. Do Moama.
10. Do do Jerilderie Flour-mills.	49. Do Daysdale.
11. Wheat purchased in Deniliquin.	50. Do Tocumwal.
12. Wheat in Moama Co-operative Store.	51. Railway goods rates.
13. Wheat dispatched from Jerilderie.	51A. Customs tariff of Victoria. Extracts.
14. Wool landed at Echuca Wharf.	52. Statistics of Booroorban.
15. Wool exported from Moama.	53. Rainfall of stations in Riverina.
16. Wool brought to Echuca from Murrumbidgee.	54. State of agriculture, Murray Electorate.
17. Steamers on Edwards and Murrumbidgee Rivers.	55. Traffic returns, Hay and Jerilderie.
18. Wheat exported at Moama.	56. Bales of wool carted to Corowa past Daysdale.
19. Wheat shipped coastwise from Moama.	57. Statement by the Urana Railway League.
20. Imports and exports over the Border.	58. Return of population of Urana township.
21. Customs revenue collected.	59. Details of the town of Urana.
22. Imports at Moama.	60. Trade done by Urana merchants.
23. Exports at Moama.	61. Abstract of Urana statistics.
24. Imports at Moama.	62. Statement by the Clear Hills Railway Comm'ttee.
25. Goods re-introduced at Moama.	63. Estimated cost of line from Yerong to Urana.
25A. Do do	64. Return of traffic, Yerong Creek Station.
26. Holdings, Murray Electorate.	65. Estimate of traffic, Yerong to Urana.
27. Do do	66. Letter by Mr. Henry Holschier.
28. Area of Murray Electorate.	67. Letter by Mr. M. A. Ashton.
29. Details of Murray Electorate.	68. Statement by Jerilderie-Tocumwal Railway League.
30. Lands cultivated in Murray Electorate.	69. Letter from Mr. Dunne regarding Tocumwall Punt.
31. Leasholds in Murray Electorate.	70. Letter from Messrs. Eaton and Tewksbury on the sale of barley.
32. Yield of Wheat in Murray Valley.	71. Reserves in county Waradgery.
33. Production in Murray Electorate.	72. Do do Denison.
34. Wool handled by Messrs. Permewan, Wright, & Co.	73. Do do Townsend.
35. Timber cut on Murray Reserves.	74. Do do Cadoll.
36. Do do	75. Do do Urana.
37. Do do	76. Do do Mitchell.
38. Red-gum forest reserves on Murray River.	
39. Timber cut on Murray Reserves.	

## APPENDIX No. 1.

## Stock Exports to Victoria at Tocumwall, 1888-89.—(Supplied by the Customs Collector.)

	1888.		1889.	
	No.	Value, £3,183	No.	Value, £7,499
Cattle .....	1,276	460	1,189	200
Horses.....	36	59,586	11	12,819
Sheep .....	59,586	16	32,213	16
Pigs .....	2,118	30,500	21	57,524
Wool (greasy) .....	568	7,642	3,541	11,706
" (scoured).....			213	
" About 3,600 bales of the above went by steamer to Echuca.				

## APPENDIX No. 2.

## CUSTOMS Receipts at Tocumwall, 1888-89.—(Supplied by the Customs Collector.)

	1888.	1889.
Duty collected .....	£1,756 9 0	£2,009 8 7
Value imports .....	20,602 0 0	29,661 0 0
" exports .....	106,371 0 0	89,939 0 0

## APPENDIX No. 3.

## EXPORTS of Stock from New South Wales to Victoria, at Moama, from 1st January to 31st December, 1889.—(Supplied by the Stock Inspector.)

1889.	Horses.	Cattle.	Sheep.	Pigs.
January .....	23	205	7,203	236
February .....	3	92	2,247	57
March .....	15	207	6,518	21
April .....	7	177	1,827	21
May .....	25	195	8,486	1
June.....	7	608	5,647	13
July .....	8	281	23,797	43
August.....	28	1,191	54,840	16
September .....	70	1,993	53,340	10
October .....	48	3,482	82,883	60
November .....	56	3,190	42,522	85
December .....	21	3,369	32,158	40
Total .....	311	15,089	326,468	593

## APPENDIX No. 4.

IMPORTS of Stock to New South Wales from Victoria, at Moama, from 1st January to 31st December, 1889.

1889.	Horses.	Cattle.	Sheep.	Pigs.
January .....	85	142	2,260	9
February .....	281	184	1,944	35
March .....	23	1,194	12,335	11
April .....	12	123	4,108	3
May .....	18	331	29,901	35
June .....	62	1,537	28,321	19
July .....	37	741	17,831	24
August .....	11	480	4,278	24
September .....	46	550	1,110	20
October .....	15	1,467	9,047	27
November .....	23	145	3,269	75
December .....	4	145	4,388	18
<b>Totals .....</b>	<b>557</b>	<b>7,131</b>	<b>118,792</b>	<b>300</b>

JOSEPH WEIR,  
Inspector of Stock at Moama.

## APPENDIX No. 5.

LIVE STOCK.—Imports and Exports of Stock from New South Wales to Victoria, at Moama.—(John Weir.)

	Imports, 1889.	Exports, 1889.
Horses .....	557	311
Cattle .....	7,131	15,089
Sheep .....	118,792	326,468
Pigs .....	300	593

## APPENDIX No. 6.

IMPORTS and EXPORTS of Stock, New South Wales and Victoria, at Moama, for six months ending 30th June, 1890.—(John Weir.)

	Imports.	Exports.
Horses .....	166	117
Cattle .....	3,854	10,357
Sheep .....	21,261	182,394
Pigs .....	423	854

Owing to wet weather the transfers of stock during this period have been less than usual.

## APPENDIX No. 7.

Stock passing through Deniliquin during year 1889.—(A. M'Culloch.)

Through Deniliquin	Sheep.	Cattle.	Horses.	Through Deniliquin towards Victoria.	Sheep.	Cattle.	Horses.
To Hay .....	60,000	Quantities		From Hay .....	260,000	18,756	652
Jerilderie .....	50,000	unimportant.		Jerilderie .....	36,000	3,000	84
Toocumwall .....	20,000	"		Toocumwall .....	10,000	800	90
Moulamein .....	45,000	"		Moulamein .....	20,000	1,000	30

## APPENDIX No. 8.

Stock passing through the Urana District for 1888-89.

Roads.	1888.			1889.		
	Horses.	Cattle.	Sheep.	Horses.	Cattle.	Sheep.
Narandera to Corowa .....	60	3,000	200,000	100	6,700	240,000
Deniliquin to Wagga .....	40	4,000	300,000	30	3,000	162,000
Albury to Germanton .....	100	8,000	150,000	120	7,000	130,000
Narandera to Mildim .....	20	1,000	100,000	30	1,500	100,000
Other roads in small lots.....	50	1,000	50,000	100	1,600	70,000
	<b>270</b>	<b>17,000</b>	<b>800,000</b>	<b>380</b>	<b>19,800</b>	<b>702,000</b>

## APPENDIX No. 9.

Moama Flour-mills, C. C. Palmer.—Particulars of Wheat operated upon.

From June 30, 1884, to June 30, 1885.....	15,982 bags.
" 1885, " 1886.....	17,385 "
" 1886, " 1887.....	20,112 "
" 1887, " 1888.....	18,512 "
" 1888, " 1889.....	13,625 "
" 1889, " 1890.....	14,825 "
Yearly average .....	16,733 "
" .....	69,721 bushels.

## APPENDIX No. 10.

## Jerilderie Flour-mill, Wise Bros. (Thos. Wise.)

Commenced operations in 1885 .....		310 bags.
Purchased during 1886 .....		7,990 "
" 1887 .....		9,595 "
" 1888 .....		18,216 "
" 1889 .....	11,994 bags	} 14,904 "
Purchased by other parties, 1889 .....	3,000 "	
" during 1889 .....	26,381 "	} 32,381 "
" by other parties, 1890 .....	4,000 "	
Remain in farmers' hands .....	2,000 "	
Total for 1890 .....	32,381 bags =	134,921 bushels.
Local consumption .....	4,500 "	= 18,570 "
Total production .....	36,881 "	= 153,491 "

*Districts in which produced.*

In direction of Deniliquin .....	5,000 bags.
" Tocumwall .....	7,000 "
" Berrigan and Mulwala .....	15,000 "
" Clear Hills .....	5,000 "
	<u>32,000 "</u>

Estimated production of above districts during season of 1890-91 is 40,000 to 45,000 bags of wheat.

## APPENDIX No. 11.

(Supplied by A. Llewellyn.)

Quantity of wheat purchased in Deniliquin during 12 months ending June 30, 1890, exclusive of all despatched from Deniliquin ..... 7,000 bags = 29,166 bushels.

## APPENDIX No. 12.

(Supplied by John Lewis, Moama.)

Number of bags of wheat remaining in Moama Farmers' Co-operative Store on June 30, 1890 ..... 17,000 bags = 70,833 bushels.

## APPENDIX No. 13.

(Supplied by Station-master, Jerilderie, 27th August, 1890.)

Grain despatched from Jerilderie for 12 months ending June 30, 1890..... 7,490 bags = 27,000 bushels.

## APPENDIX No. 14.

RETURN of Bales of New South Wales Wool landed at Echuca Wharf for shipment at Melbourne for the years 1884 to 1888—all river-borne—from all parts, including the Darling, Murrumbidgee, and Edwards Rivers (as far as Moulamein).

Year.	Bales.	Year.	Bales.
1884 .....	46,077	1887 .....	78,853
1885 .....	33,444	1888 .....	52,808
1886 .....	50,955	1889 .....	80,897

C. C. POPE,  
Sub-Collector.

Custom House, Moama, 6th May, 1889.

## APPENDIX No. 15.

RETURN of Bales of Wool exported from Moama to Victoria *via* Murray Bridge for the years 1884 to 1888, inclusive, by all ways, trains, and vehicles.

Year.	Bales.	Year.	Bales.
1884 .....	23,803	1887 .....	26,487
1885 .....	23,034	1888 .....	24,690
1886 .....	24,833	1889 .....	25,647

C. C. POPE,  
Sub-Collector.

Custom House, Moama, 6th May, 1889.

## APPENDIX No. 16.

RETURN of New South Wales Wool landed at Echuca Wharf from the Murrumbidgee only for shipment to Melbourne for the years 1886 to 1889.

Year.	Bales.	Year.	Bales.
1886 .....	39,437	1889 .....	48,982
1887 .....	68,646	1890 .....	70,462

C. C. POPE,  
Sub-Collector.

Custom House, Moama, 14th August, 1890.

## APPENDIX No. 17.

## PORT OF MOAMA.

RETURN showing the number of Steamers and Barges, with their aggregate tonnage, and value of cargoes, for the Murrumbidgee and Edwards Rivers, for the years 1884 to 1889.

Years.	Murrumbidgee River.				Edwards River.			
	Steamers.	Barges.	Aggregate Tonnage.	Value of Cargoes.	Steamers.	Barges.	Aggregate Tonnage.	Value of Cargoes.
1884 .....	47	36	8,934	£ 63,589	12	7	1,474	£ 3,174
1885 .....	63	52	11,580	62,277	9	9	1,114	1,761
1886 .....	49	43	8,741	39,379	9	9	1,100	2,537
1887 .....	87	65	13,918	79,790	14	15	1,857	2,990
1888 .....	77	72	16,006	80,226	13	8	1,513	4,157
1889 .....	61	47	11,656	57,731	21	12	2,200	8,226

## APPENDIX No. 18.

RETURN of Wheat exported to Victoria, *via* Moama, from the 1st January to 30th April, 1889, by train or vehicle, comprising all wheat that has crossed the Border.  
13,005 bags. Value, £13,005.

RETURN of Wheat exported to Victoria, *via* Moama, from 1st January to 31st December, 1889, by train or vehicle, comprising all wheat that has crossed the Border.  
16,452 bags. Value, £16,452.

## APPENDIX No. 19.

SHIPPED coastwise from Moama for the year 1889.

Flour .....	1,158 bags	Bran .....	124 bags.
Wheat .....	165 "	Pollard .....	71 "

## APPENDIX No. 20.

IMPORTS and Exports across Border between New South Wales and Victoria.

(Extract from "Statistical Register," 1889, Part I, Nos. 37 and 48.)

Stations.	Imports.	Exports.		Total Exports.
		New South Wales Produce.	British and Foreign Produce.	
Albury .....	£ 577,941	£ 885,190	£ 238,850	£ 1,124,040
Swan Hill .....	26,730	845,765	.....	845,765
Mulwala .....	23,739	27,383	.....	27,383
Euston .....	7,083	55,299	202	55,501
Howlong .....	12,877	17,461	524	17,985
Tocumwal .....	2,000	89,939	89,939	89,939
Moama .....	324,457	828,394	10,577	838,971
Corowa .....	115,341	330,709	10,586	341,295
Wentworth .....	16,687	339,453	1,256	340,709

## APPENDIX No. 21.

CUSTOMS Revenue collected during 1889.

(Part I, No. 54.)

Albury .....	£ 28,136	s. 6	d. 10	Moama .....	£ 13,762	s. 7	d. 1
Corowa .....	6,218	10	9	Mulwala .....	1,707	8	2
Deniliquin .....	10,900	10	7	Swan Hill .....	716	1	4
Euston .....	1,189	15	0	Tocumwal .....	2,009	8	7
Howlong .....	1,129	17	8	Wentworth .....	11,889	10	6

APPENDIX No. 22.  
IMPORTED, *via* Moama, year 1889.

Goods.	Quantities.	Value. £
Flour .....	792 tons 10 cwt. ....	91,71
Fruit (green) .....	2,520 packages .....	1,221
Grain (bran) .....	5,179 bushels .....	374
" (oats) .....	5,069 " .....	121
" (pollard) .....	1,021 " .....	73
" (wheat) .....	2,967 " .....	728
Hay .....	88 tons 5 cwt. ....	433
Iron (cast) .....	12 tons 8 cwt. 1 qr. ....	252
" (bar, rod, &c) .....	62 tons 11 cwt. 1 qr. ....	755
" Wire (black) .....	394 tons 4 cwt. 1 qr. 14 lb. ....	5,599
" (galvanized) .....	155 tons 6 cwt. 2 qrs. 1 lb. ....	3,078
" Wire (galvanized) .....	20 tons 15 cwt. 1 qr. 27 lb. ....	433
" (galvanized) Manufactures .....	274 tons 8 cwt. 2 qrs. 22 lb. ....	8,125
Live Stock (cattle) .....	6,950 No. ....	26,319
" (horses) .....	700 .....	8,334
" (sheep) .....	121,433 .....	73,290
Machinery .....	422 packages .....	5,826
Potatoes .....	594 tons 13 cwt. 3 qrs. 27 lb. ....	3,420
Rice .....	55 tons 3 cwt. ....	898
Sugar .....	465 tons 5 cwt. 1 qr. 27 lb. ....	10,544
Timber (undressed) .....	326,686 superficial feet .....	2,662
" (dressed) .....	111,614 " .....	1,218
Woolpacks .....	376 tons 2 cwt. 3 qrs. ....	7,644
Total value of all goods imported during the year ended 31st December, 1889 .....		324,457

APPENDIX No. 23.

Goods exported from Moama to Victoria for the year 1889.

Articles.	Quantities.	Value. £	Articles.	Quantities.	Value. £
Carriages .....	15 No. ....	800	Sheep .....	335,060 " .....	158,094
Firewood .....	8,504 tons .....	2,109	Pigs .....	543 " .....	684
Fish (fresh) .....	415 packages .....	566	Meat (fresh) .....	915 cwt. ....	965
Flour .....	556 tons .....	4,860	Personal Effects .....	367 packages .....	800
Bran .....	7,345 bushels .....	305	Hides .....	1,094 No. ....	865
Oats .....	143 " .....	25	Kangaroo Skins .....	111 bundles .....	499
Pollard .....	1,720 " .....	86	Sheep Skins .....	738 " .....	1,681
Sharps .....	2,610 " .....	174	Tallow .....	1,760 cwt. ....	1,707
Wheat .....	61,405 " .....	12,281	Lumber (rough) .....	2,667,129 feet .....	13,335
Hay and Chaff .....	490 tons .....	2,082	" (log) .....	9,333,207 " .....	14,933
Jewellery .....	15 packages .....	2,109	Travellers' Samples .....	546 packages .....	4,948
Cattle .....	15,055 No. ....	95,960	Wool (greasy) .....	22,979 bales .....	394,183
Horses .....	265 " .....	3,561	" (washed) .....	4,233 " .....	119,000
Total value for the year 1889 .....					888,971

APPENDIX No. 24.

PORT OF MOAMA.

RETURN of Value and Imports for the years 1884 to 1889, both inclusive.

Year.	Import value of goods shipped at Echuca for ports on the Murrumbidgee and Edward Rivers only	Import value of goods crossed over border for Deniliquin, Mathoura, and Moama by rail- way trucks and vehicles.
	£	£
1884 .....	66,763	339,874
1885 .....	64,038	644,623
1886 .....	41,116	211,764
1887 .....	82,780	246,626
1888 .....	84,383	195,400
1889 .....	65,957	218,961

APPENDIX No. 25.

New South Wales Goods reintroduced at Moama *via* Victoria, for the year 1889.

Biscuits .....	6 cases.	Oilman's Stores .....	2 cases
Confectionery .....	16 " .....	Sugar .....	5 cwt.
Cocoa .....	1 bag.	Maizena .....	1 case.
" .....	1 package.	Tea .....	18 cases.
Coffee .....	8 cases.	" .....	38 ft. c.
" .....	6 sacks.	Wine .....	11 cases.
Glucory .....	4 cases.	" .....	2 $\frac{1}{2}$ casks.
" .....	1 box.	Tobacco .....	9 cases.
Drugs .....	11 cases.	" .....	58 boxes.
Fish (preserved) .....	2 " .....	" .....	28 packages.
Fruits (canned) .....	1 " .....	Cigars .....	4 cases.
" (dried) .....	1 " .....	" .....	2 packages.
Jams .....	16 " .....		

The above return does not include free goods.

## APPENDIX No. 25A.

New South Wales goods re-introduced at Moama, via Victoria, from the 1st January to 30th June, 1890.

Arrowroot .....	1 case.	Milk (preserved) .....	1 case.
Biscuits .....	19 "	Maizena .....	7 boxes.
Barley (pearl) .....	2 bags.	Oil (kerosene) .....	5 cases.
Boots and shoes.....	5 packages.	Oilman's stores .....	13 "
Coffee .....	3 sacks.	Rice.....	12 bags.
" .....	17 cases.	Stationery .....	2 cases.
Chicory .....	5 "	Starch .....	2 "
Confectionery.....	13 "	Spirits .....	3 "
Cheese.....	1 "	Sauces .....	1 "
Candles .....	10 boxes.	Sugar .....	25 cwt.
Drapery .....	4 "	Tea .....	5 cases.
Earthenware .....	2 casks.	" .....	58 packages.
Fruits (dried).....	2 cases.	Tobacco .....	5 cases.
" (canned) .....	13 "	" .....	51 boxes.
Fish (preserved) .....	14 "	" .....	6 packages.
Farina .....	2 bags.	Cigars .....	2 "
Ginger (preserved) .....	2 cases.	Vinegar .....	2 cases.
Hops .....	2 "	Wine .....	153 "
Hardware .....	3 packages.	" .....	9 octavos.
Honey.....	2 cases.	" .....	13 1/2-casks.
Jams .....	6 "	Wire Netting Glod .....	36 rolls.

## APPENDIX No. 26.

NUMBER and Size of Holdings, Murray Electorate, 1889.

(Statistical Register, 1889, Part IV.)

Holdings from	1 to	100 acres	No.
"	101 to	500 "	88
"	501 to	1,000 "	114
"	1,001 to	2,000 "	95
"	2,001 to	3,000 "	77
"	3,001 to	4,000 "	34
"	4,001 to	5,000 "	11
"	5,001 to	10,000 "	9
"	10,001 to	15,000 "	15
"	15,001 to	40,000 "	4
"	40,001 upwards	"	14
"	"	"	28
Total..			489

## APPENDIX No. 27.

AVERAGE Size of Holdings in Murray Electorate, 1889.

6,827 acres.

## APPENDIX No. 28.

Total area of Murray Electorate 1889 .....	4,753,920 acres
Total area cultivated Murray Electorate .....	35,001 "

## APPENDIX No. 29.

No. of Holdings, Murray Electorate, 1889, more than 1 acre.....	486
Hands employed on farms.....	979
" " stations .....	634
Total area cultivated .....	34,938
" " enclosed .....	3,316,401
" " unenclosed.....	22,015
" " of holdings .....	3,338,416

## APPENDIX No. 30.

LANDS under Cultivation, Murray Electorate, during year 1889.

1885.....	24,836 acres.
1886.....	25,586 "
1887.....	31,906 "
1888 .....	31,398 "
1889.....	35,001 "

## APPENDIX No. 31.

MURRAY Electorate Crown Leaseholds, 1889-90.

Area enclosed .....	1,036,931 acres.
" unenclosed .....	320 "
" cultivated .....	63 "

## APPENDIX No. 32.

AVERAGE yields of Wheat, Murray Valley (including Albury, Hume, and Murray), 1889.

During year 1886 .....	12.1	bushels per acre.
" " 1887 .....	14.4	" "
" " 1888 .....	10.2	" "
" " 1889 .....	7.68	" "
" " 1890 .....	10.93	" "

## APPENDIX No. 33.

MURRAY Electorate—Production during 1889.

Cream separators used .....	6
Butter made .....	38,609 lbs.
Cheese made .....	2,954 "
Hams and Bacon cured .....	38,229 "

## APPENDIX No. 34.

WOOL handled by Messrs. Pernewan, Wright, &amp; Co.

Dear sir, Deniliquin, 16 August, 1890.  
 Herewith we beg to hand you particulars of the quantity of wool from, and goods to, the various stations around Deniliquin.  
 This list does not contain such stations as Cobran, Mathoura, &c., the wool from which goes into the railway below Deniliquin.

Yours, &c.,  
 M'COLLOCH CARRYING COMPANY LIMITED,  
 Per JAMES SKINNER.  
 PERMEWAN, WRIGHT, & COMPANY LIMITED,  
 Per W. H. SUNDERLAND.

A. LLEWELLYN, Esq.

## Summary.

Total quantity of wool brought into Deniliquin .....	23,400 bales.
Total quantity of goods distributed from Deniliquin .....	585 tons.

## RETURN for the year 1889.

Name of Station.	Compass bearings.	Distance.	Rates.	Goods Tonnage.
Deniliquin .....	North .....	2	900	10
Moroceo .....	South-east .....	29	400	10
Tuppal .....	East .....	30	2,000	30
Quiamong .....	North-east .....	23	250	5
Hartwood .....	" .....	32	1,500	30
Puckawidgee .....	" .....	25	1,200	20
Boonoke .....	North .....	28	700	20
Booabula .....	" .....	28	500	20
Wanganella .....	" .....	23	600	15
Zara .....	North-west .....	32	600	30
Morago .....	" .....	20	400	10
Baratta .....	" .....	31	1,000	30
Weral .....	West .....	35	500	10
Moonbria .....	North-east .....	43	700	15
Steam Plains .....	" .....	44	600	15
Willurah .....	North .....	45	1,100	30
Warwillah .....	" .....	40	700	20
Waggan .....	" .....	50	700	15
Carooamboon .....	North-west .....	42	500	15
Mungah .....	" .....	45	500	15
Tullah .....	West .....	47	800	5
Nyingay .....	North .....	50	500	5
Bundynlumbah .....	North-west .....	60	700	30
Noorong .....	West .....	68	900	10
Calimo .....	" .....	25	500	10
Goolgumbla .....	North-east .....	58	1,800	50
North Wakool .....	West .....	35	400	10
Sundry small farmers .....	.....	.....	1,500	20
Wanganella Township .....	North-west .....	25	.....	20
Conargo .....	North-east .....	23	.....	15
Pine Ridge .....	" .....	45	50	10
Warbreccan Station .....	South-east .....	3	900	25

## APPENDIX No. 35.

RETURN of Timber cut on the Murray Forest Reserves during the year 1887.

Red-gum exported in the log, 4,995,777 superficial feet; estimated value on the river bank, at £1 10s. per 1,000 superficial feet, £7,493 1s. 6d.  
 Red-gum, cut in the Colony, measured in the log, 864,450 superficial feet; estimated value of sawn timber at the mill, at 10s. per 100 superficial feet, £4,322 6s.  
 Pine, sawn in the Colony, measured in the log, 112,451 superficial feet; estimated value of sawn timber at the mill, at 14s. per 100 superficial feet, £787 3s.  
 Red Gum piles exported, 124; estimated value on river bank, £248.

Total quantity of timber cut, 5,972,678 superficial feet.

The above return gives the superficial feet of timber in the log; but as there is a loss of about one-third in sawing, it would perhaps be as well to deduct one-third of the gross log measurement for loss on timber sawn in the Colony; the estimated value of timber in the log is not affected through loss in sawing.

## APPENDIX No. 36.

## RETURN of Timber cut on the Murray Forest Reserves during the year 1888.

Red-gum exported in the log, 13,523,900 superficial feet; estimated value on the river bank, at £1 10s. per 1,000 superficial feet, £20,293 7s.

Red-gum, sawn in the Colony, measured in the log, 2,017,450 superficial feet; estimated value at the mill, £10,087 5s.

Pine, sawn in the Colony, measured in the log, 648,450 superficial feet; estimated value at the mill, at 14s. per 100 superficial feet, £4,539 3s.

Total quantity in superficial feet, 16,194,800.

The above return gives the superficial feet of timber in the log; but as there is a loss of about one-third in sawing, it would perhaps be as well to deduct one-third of the gross log measurement for loss on timber cut in the Colony; the estimated value of timber in the log is not effected through loss in sawing.

## APPENDIX No. 37.

## RETURN of Timber cut on Murray Forest Reserves during the year 1889.

Red-gum exported in the log, 13,281,019 superficial feet; estimated value on the river bank, £1 10s. per 1,000 superficial feet, £18,571 11s.

Red-gum timber sawn in the Colony, measured in the log, 1,850,850 superficial feet; estimated value at the mill, at 10s. per 100 superficial feet, £9,255.

Total quantity in superficial feet, 14,231,869.

The above return gives the superficial feet of timber in the log; but as there is a loss of about one-third in sawing, it would perhaps be as well to deduct one-third of the gross log measurement for loss on timber sawn in the Colony. The estimated value of timber in the log is not effected through loss in sawing.

## APPENDIX No. 38.

## SCHEDULE of Forest Reserves on which red-gum timber is cut and carried by water to Echuca in the log and sawn there.

Number of Reserve.	Name of Forest Reserve.	Country.	Parishes.	Number of Acres.
<i>Above Moama.</i>				
3,252	Blackwattle Creek.....	Cadell .....	Bama .....	6,500
3,253	Moira .....	" .....	Bama, Moira, and Gulpa.....	37,000
3,265	Millewa .....	Townsend .....	Corowalla, Boongooka, Narratolla, and Wosmere.	68,580
3,215	Barroga.....	Denison .....	Barwaga .....	2,560
3,210	Boomanoomana .....	" .....	Boomanoomana .....	960
3,208	Mulwala West .....	" .....	Mulwala .....	1,340
2,216	Mulwala .....	" .....	Mulwala and Turramia .....	4,480
<i>Below Moama.</i>				
3,254	Moama .....	Cadell .....	Toorongabby, Burrumburg, and Tacetonan .....	51,000
3,258	Koondrook .....	Walkool .....	Cangan, Littel, and Backam .....	80,000

In this schedule is given the full extent of the land reserved on the various forest reserves.

## APPENDIX No. 39.

## RETURN of Timber cut on the Murray Forest Reserves during the year 1889.

(Supplied by John A. Manton, Forest Ranger, 16/8/90.)

	1887.		1888.		1889.	
	Super. feet.	Value.	Super. feet.	Value.	Super. feet.	Value.
<i>Red-gum.</i>						
Exported in log (value, £1 10s. ) .....	4,995,777	£ 7,493	13,528,900	£ 20,293	13,281,019	£ 18,571
Sawn in Colony, measured in log (value, 10s. after sawing) .....	864,450	4,322	2,017,450	10,087	1,850,850	9,255
Totals .....	5,860,227	11,815	15,546,350	30,380	15,131,869	27,826
<i>Pine.</i>						
Sawn in Colony, measured in log (value, 14s. after sawing at mill) .....	.....	.....	648,450	4,539	112,451	787
Red-gum piles exported .....	Number.	.....	.....	.....	.....	.....
Estimated value on river bank .....	124	248	.....	.....	.....	.....

## Licenses and Royalty payable on red-gum timber.

License—10s. per month for each man engaged, and in some forests 12s, 6d. per  
On red-gum piles, 10s. each up to 40 feet length.

„ „ 15s. „ over 40 „ up to 50 feet.

„ „ 20s. „ „ 50 „ „ 60 „

„ „ 30s. „ „ 60 „ length.

feet royalty at stump.

## APPENDIX No. 40.

## REVENUE from State Forests and Reserves.

(Schedule II.—Forest Conservancy Report, 1889.)

Country.	Name.	Quantity.	License Fee.	Royalty.	Total.	
		Super. ft.	£ s. d.	£ s. d.	£ s. d.	
Cadell .....	Moama .....	1,221,356	23 0 0	763 6 8	786 6 8	Red-gum.
	Moira .....	503,060	88 0 0	254 12 1	312 12 1	Ironbark.
Denison .....	Boomanoomana .....	46,971	50 0 0	29 7 1	79 7 1	Red-gum.
	Mulwala .....	3,454,964	130 0 0	1,602 0 4	1,732 0 4	"
Townsend .....	Barooga .....	958,560	.....	679 2 1	599 2 1	"
	Wahgunyah .....	61,398	30 0 0	30 13 11	60 13 11	Pine.
	Gulpa Island .....	391,008	31 10 0	244 17 10	276 7 10	Red-gum.
	Millewa .....	1,908,484	49 10 0	1,191 18 6	1,241 8 6	"
Urana .....	Columbo, Piney Bridge ..	10,400	1 0 0	5 4 0	6 4 0	Pine.
Wakool .....	Koondrook .....	2,705,016	95 10 0	1,690 11 6	1,786 1 6	Red-gum.
	Campbell's Island.....	723,528	18 0 0	452 4 0	470 4 0	"
	Barham .....	2,257,476	50 0 0	1,184 9 1	1,234 9 1	"
Totals .....		14,242,251	.....	.....	8,614 17 1	
Totals for Colony .....		16,225,207	.....	.....	9,778 4 4	

## Revenue from Trees cut, 1889.

County.	Reserve.	Quantity.	Royalty.	
		Trees.	£ s. d.	
Cadell .....	Backwater Creek .....	16	2 0 0	Box.
Denison .....	Campbell's Island .....	17	17 0 0	Red-gum.
Wakool .....	No. 1,630 .....	63	31 10 0	"
Total .....		95	50 10 0	
Total for Colony .....		972	478 18 10	

## Schedule V.—1889.

Total area of reserves on Murray, Edward and Wakool Rivers..... 456,750½ acres.  
 Total number of reserves on do do ..... 75

## APPENDIX No. 41.

## RED-GUM Forest Reserves.

(Schedule VII.—Forest Conservancy Report, 1889.)

Country.	No. and Name of Reserve.	Approximate area.	Country.	No. and Name of Reserve.	Approximate area.
		acres.			acres.
Cadell .....	2,420 .....	1,450	Townsend .....	1,792 Marago .....	4,549
	3,252 .....	6,500		3,031 Baratta .....	651
Denison .....	Backwater .....	.....	3,263 Gulpa Island.....	13,500	
	3,253 Moira .....	36,730	3,264 Tupper .....	4,200	
	3,254 Moama .....	51,200	3,265 Millewa .....	68,502	
	3,255 .....	810	Townsend & Wakool	2,125 Neimur .....	34,332
	107 .....	270	3,262 Edward River .....	38,406	
	1,639 .....	.....	Urana .....	2,103 Boundary Gums ..	40
	Boomanoomanah .....	400	Wakool .....	1,445 A. Wakool .....	21,578
	2,386 .....	370	1,786 Melool .....	5,410	
	3,208 Mulwala W. ....	1,340	1,787 Jugur .....	11,933	
	3,209 No. 4 .....	960	1,790 Edward River .....	11,471	
	3,210 Boomanoomanah No. 2 ..	1,841	1,834 .....	10	
	3,211 do No. 3 ..	108	2,066 Campbell's Island ..	6,400	
	3,212 do No. 1 ..	300	3,258 Koondrook.....	76,853	
	3,213 Cottadidda No. 2 ..	280	3,259 .....	1,320	
	3,214 do No. 3 ..	150	3,260 .....	1,890	
	3,215 Barooga .....	2,500	3,261 .....	2,240	
	3,216 Mulwala .....	4,500	3,268 .....	5,400	
	3,241 .....	400	Waradgery .....	2 Hay, Corowa .....	12,998
3,242 .....	360				
4,504 .....	48		Approximate Total .....	432,238	

## APPENDIX No. 42.

RETURN taken from Statistical Register, 1889.—Deniliquin and Moama Railway.

Opened for traffic .....	July 4th, 1876
Number of miles open .....	45
Capital .....	£162,672
Revenue fund .....	£10,702
Debentures outstanding .....	£46,000
Number of passengers carried .....	16,131
Goods tonnage.....	20,535
Locomotives.....	4
Passenger carriages.....	6
Goods waggons .....	62
Gauge .....	5 ft. 3 in.

Return of Coaching and Goods Traffic supplied by Mr. D. Tennant, Secretary D. and M. Railway Co., for twelve months ending June 30th, 1890.

Revenue from coaching traffic.....	£6,105 10s. 2d.
Do Goods traffic, outward tons .....	£16,350 10s.
Do do inwards tons .....	£3,742 5s. 3d.
Wool—outward bales .....	23,339
Earnings from goods traffic .....	£11,906 17s. 9d.
Total earnings .....	£18,584 12s. 11d.

Return of Coaching and Goods Traffic at the stations Hay and Jerilderie, for twelve months ending June 30th, 1890.

	Hay.	Jerilderie.
Revenue coaching.....	£6,396 14s. 1½d.	£1,695 11s. 5d.
Goods outwards—tons .....	1,033	2,897
Do inwards—tons .....	6,579	2,431
Wool outwards—bales .....	3,456	4,053
Earnings from goods.....	£14,211 18s. 9d.	£5,776 6s. 1d.
Total earnings .....	£20,808 12s. 11d.	£7,471 17s. 8d.

## APPENDIX No. 43.

EXTRACTS from the Act incorporating the Deniliquin and Moama Railway Company, assented to 3rd March, 1874.

*Clause 181.*—It shall be lawful for the Governor at any time after the expiration of the term of twenty-one years from the passing of this Act to purchase the said railways and other works with all its hereditaments, stock, and appurtenances, upon giving to the company three calendar months' notice in writing of such intention, and upon payment of a sum equal to twenty-five years' purchase of the annual divisible profits, estimated on the average of the seven then next preceding years. Provided that if the average rate of profits for the said seven years shall be less than at the rate of fifteen pounds in the hundred, it shall be lawful for the company, if they shall be of opinion that the said rate of twenty-five years' purchase of the said average profits is an inadequate rate of purchase of such railways and other works and property, reference being had to the prospects thereof to require that it shall be left to arbitration in case of difference to determine what (if any) additional amount of purchase money shall be paid to the company. Provided also that such option of purchase shall not be exercised except with the consent of the company, while any such reduced scale of tolls, fares, and charges as aforesaid shall be in force.

*Clause 185.*—Whensoever any railway, the property of the Government of New South Wales, shall be connected with a reach any point of the line of railway authorised by this Act the company shall at their own cost, within six months after notification by the Government to the said company of the fact of such connection, adopt and maintain upon and throughout the line of railway so authorised the gauge mentioned in such notification. And if within twelve months after the delivery of such notification the company shall not have completed the works necessary in consequence of such adoption of gauge throughout their line of railway, the said railway, and all the works, stations, stock, and plant connected therewith shall be forfeited to Her Majesty.

## APPENDIX No. 44.

MUNICIPAL District of Deniliquin—Return for the year ending 4th February, 1890.

(Extracted from Return A.)

Estimated population.....	2,500
Estimated number of dwellings.....	570
Capital value of fee-simple of unimproved lands.....	.....
Estimated capital value of all property in the Municipality.....	£230,210
Receipts from ordinary rates.....	£711 4s. 2d.
Total receipts, exclusive of loans .....	£4,493 16s. 2d.
Expenditure for Public Works .....	£2,310 13s. 10d.
Total expenditure .....	£4,097 15s. 9d.
Total extent of roads and streets made .....	6 miles.
Do do unmade .....	20 miles.

## APPENDIX No. 45.

ECHUCA, 1889.

1.—Estimated number of dwellings.....	840
2.—Estimated population .....	5,470
3.—Capital value of unimproved lands .....	.....
4.—Annual value of improved lands, buildings, &c. ....	£30,000
5.—Estimated capital value of all property in the Municipality .....	£326,270
6.—Total extent of roads and streets made.....	5 miles.
7.—Do do unmade.....	45 miles.
8.—Estimated value of Municipal buildings, the property of the Council .....	£5,000
9.—Receipts from ordinary rates .....	£1,600
10.—Total receipts, exclusive of loans .....	£3,000
11.—Expenditure on Public Works .....	£2,500

## APPENDIX No. 46.

Borough or Municipal District of Hay—Return for the year ending , 1890.  
(Extract from Return A.)

Estimated population .....	2,750
Estimated number of dwellings.....	580
Capital value of fee-simple of unimproved lands .....	£44,627
Estimated capital value of all property in the Municipality.....	£329,336
Receipts from ordinary rates.....	£1,490 Os. 2d.
Total receipts, exclusive of loans .....	£4,055 8s. 5d.
Expenditure for Public Works .....	£1,878 9s.
Total expenditure .....	£4,177 19s. 10d.
Total extent of roads and streets made.....	5 miles.
Do do unmade.....	29 miles.

## APPENDIX No. 47.

PARTICULARS of the township of Mathoura.

Railway-station, D and M line.  
Police-station.  
Three hotels.  
Three general stores.  
Saw-mill.  
Blacksmith's shop.  
Post and telegraph office.  
Place of Worship in use by Anglican and Presbyterian.  
Public School; 60 on roll.  
Baker, and butcher's shop.  
Twenty-seven dwelling houses.  
Population, 150.

## APPENDIX No. 48.

PARTICULARS of the town of Moama.

161 Dwelling houses.  
Population, 600.  
Six hotels.  
Sixteen tradesmen's establishments.  
Flour mill, printing office, grain store of associated farmers.  
Railway station (D. and M. line), School of Arts, Anglican Church, public school, police-station, court-house, lock-up, post and telegraph office.

## APPENDIX No. 49.

PARTICULARS of the township of Daysdale.

Two hotels.  
Two blacksmith's shops.  
Branch of Commercial Bank.  
General store and sale-yards.  
Government stock watering tank.  
Nine buildings exclusive of the Coreen Home station.  
Population, 50.

## APPENDIX No. 50.

PARTICULARS of the township of Tocumwall.

Two banks.  
Three hotels.  
Thirteen stores and tradespeople's establishments.  
Two places of worship—Wesleyan and Roman Catholic, Mechanics Institute, post and telegraph office, police-station, court-house, public school, Collector of Customs office, resident medical man.  
Two auctioneers.  
Seventeen dwelling houses.  
Population, 300.

## APPENDIX No. 51.

COMPARISON of Goods Rates from Sydney to Hay and Jerilderie, and from Melbourne to Echuca and Deniliquin.

*New South Wales Railways.*

	£	s.	d.
From Sydney to Hay, Jerilderie, maximum per ton .....	6	10	0
Do First, Second, and Third classes, per 6 ton truck load .....	26	0	0
Do Equivalent to per ton .....	4	6	8
Do Galvanised iron and fencing wire, per truck of 6 tons .....	24	0	0
Do Equivalent to per ton .....	4	0	0

*Deniliquin to Moama Railway.*

	1st.	2nd.	3rd.	4th.
Echuca to Deniliquin .....	18/9	22/6	26/3	33/0

*Victorian Railways.*

	1st.	2nd.	3rd.	4th.
Melbourne to Echuca.....	48/6	60/6	72/6	84/6
Rebate for goods destined north of rebate line .....	Nil.	10/6	22/6	34/6
Net rate on goods destined north of rebate line.....	48/6	50/-	50/-	50/-

No rebate is allowed for goods passing through Echuca destined to points south of the rebate line within New South Wales.

*Some*

Some examples showing Railway Rates.

	North of Line.	Destination South of Line.
<b>Corrugated Iron—</b>		
Melbourne to Echuca .....	50/-	72/6
Moama to Deniliquin .....		22/6
Sydney to Hay-Jerilderie .....		80/-
Carried from Melbourne to Deniliquin—If for destination north of rebate line .....	at	72/6 per ton.
Do Do south do .....	at	95/- "
Do Sydney to Hay-Jerilderie .....	at	80/- "
<b>Fencing Wire—</b>		
Melbourne to Echuca .....	48/6	48/6
Moama to Deniliquin .....		18/9
Sydney to Hay-Jerilderie .....		80/-
Carried from Melbourne to Deniliquin—If for destination north of rebate line .....	at	67/3 per ton.
Do Do south do .....	at	80/- "
Do Sydney to Hay-Jerilderie .....	at	80/- "
<b>Wire Netting—</b>		
Melbourne to Echuca .....	37/6	37/6
Moama to Deniliquin .....		33/9
Sydney to Hay-Jerilderie .....		66/8
Carried from Melbourne to Deniliquin—If for destination north of rebate line .....	at	71/3 per ton.
Do Do south do .....	at	71/3 per ton.
Do Sydney to Hay-Jerilderie .....	at	66/8 per ton.
<b>Groceries—</b>		
Melbourne to Echuca .....	50/-	60/6
Moama to Deniliquin .....		22/6
Sydney to Hay-Jerilderie .....		86/8
Carried from Melbourne to Deniliquin—If for destination north of rebate line .....	at	72/6 per ton.
Do Do south do .....	at	83/- "
Do Sydney to Hay-Jerilderie .....	at	86/8 "
<b>Ironware—</b>		
Melbourne to Echuca .....	50/-	84/6
Moama to Deniliquin .....		33/9
Sydney to Hay-Jerilderie .....		86/8
Carried from Melbourne to Deniliquin—If for destination north of rebate line .....	at	83/9 per ton.
Do Do south do .....	at	118/3 "
Carried from Sydney to Hay-Jerilderie .....	at	86/8 "
<b>Tools—</b>		
Melbourne to Echuca .....	50/-	60/6
Moama to Deniliquin .....		22/6
Sydney to Hay-Jerilderie .....		88/6
Carried from Melbourne to Deniliquin—If for destination north of rebate line .....	at	72/6 per ton.
Do Do south do .....	at	83/- "
Carried from Sydney to Hay-Jerilderie .....	at	86/8 "
<b>Agricultural Implements—</b>		
Melbourne to Echuca .....	50/-	72/6
Moama to Deniliquin .....		33/9
Sydney to Hay-Jerilderie .....		86/8
Carried from Melbourne to Deniliquin—If for destination north of rebate line .....	at	83/9 per ton.
Do Do south do .....	at	106/3 "
Carried from Sydney to Hay-Jerilderie .....	at	86/8 "
<b>Bags—</b>		
Melbourne to Echuca .....	48/6	48/6
Echuca to Deniliquin .....		18/9
Sydney to Hay-Jerilderie .....		130/-
Carried from Melbourne to Deniliquin—If for destination north of rebate line .....	at	67/3 per ton.
Do Do south do .....	at	67/3 per ton.
Carried from Sydney to Hay-Jerilderie .....	at	130/-
<b>Saddlery and Harness—</b>		
Melbourne to Echuca .....	50/-	72/6
Echuca to Deniliquin .....		26/3
Sydney to Hay-Jerilderie .....		86/8
Carried from Melbourne to Deniliquin—If for destination north of rebate line .....	at	76/3 per ton.
Do Do south do .....	at	98/9 "
Carried from Sydney to Hay-Jerilderie .....	at	86/8 "

COMPARISON of Wool Rates from Hay and Jerilderie to Sydney and to Melbourne, via Albury, and also from Deniliquin to Melbourne, via Echuca.

<i>New South Wales Railways.</i>			
	Dumped.	Undumped.	Greasy.
From Hay to Sydney .....	71/7	83/9	64/9 per ton
„ Jerilderie to Sydney .....	74/9	83/9	64/9 „
„ Hay to Albury .....	74/9	85/-	67/3 „ average
„ Jerilderie to Albury .....		78/-	67/3 „ „

<i>Victorian Railways.</i>			
	Rates. 300 lb.	Bales. 4 cwt.	
From Echuca to Melbourne—			
River borne from Murrumbidgee and tributaries, or by rail or river from north of Murrumbidgee...	29/10	22/6	per ton.
By rail or teams from north of rebate line .....	37/4	27/6	„
By rail or teams from south of rebate line .....	41/8	30/-	„
From Albury to Melbourne—			
By rail or teams from north of rebate line .....	37/4	27/6	„
		average 32/5	
By rail or teams from north of Murrumbidgee .....	29/10	22/6	per ton.
		average 26/2	

Dumped wool is charged 3d. per bale less than above rates.

*Deniliquin and Moama Railway.*

From Deniliquin to Echuca .....	15/- per ton.
---------------------------------	---------------

Summary.

## Summary.

	Bales. 300 lb.	Bales. 4 cwt.
From Deniliquin to Melbourne—		
By rail or teams from south of rebate line .....	56/8	45/- per ton.
River borne or by rail or teams from north of Murrumbidgee.....	44/10	37/6 "
By rail or teams from north of rebate line .....	52/4	44/6 "
From Hay to Melbourne, via Albury—		
From north of rebate line .....	Average.	112/1 "
From north of Murrumbidgee .....	Average.	105/10 "
From Jerilderie to Melbourne, via Albury—		
From north of rebate line .....	Average.	105/1 "
From north of Murrumbidgee.....	Average.	198/10 "
From Hay—Jerilderie to Sydney—		
Undumped and greasy only .....	Average.	74/3 "

Regarding the cost of transport from Hay to Echuca by river, all information was refused by Mr. Brown, local agent in Hay, by order of the directors of the steamer company, but Mr. J. McCaw, who had been for some years agent of Permewan, Wright, and Co. in Hay, stated he had known the following rates to have been used, viz. :—

Steamer freight on wool from Hay to Echuca .....	20/- per ton.
Insurance for river transit .....	14/- "
Permewan, Wright, and Co. have carried wool from Hay to Melbourne by river at .....	50/- "
Do do do do Narrandera do do .....	70/- "

These last rates, subtracting rail freight from Echuca, and neglecting the insurance, which is said to be paid by the Melbourne agents, leave about 20/- per ton for the river freight alone—BETWEEN HAY AND ECHUCA.

## New South Wales Railways.—Truck Rates.

1. The maximum rate for any class of traffic (except explosives) from southern stations to stations distant over 305 miles from Sydney on the Southern, and 340 miles from Sydney on the South-western and Jerilderie Lines, is £6 10s. per ton, or if in truck loads not exceeding 6 tons, the maximum charge will be :—Galvanised iron and fencing wire, £24 per truck ; other 1st, 2nd, and 3rd class goods, £26 per truck.

## APPENDIX No. 51A.

## EXTRACTS from the Customs Tariff of Victoria, October 1, 1889.

	s.	d.
Animals—		
Bulls, cows, calves over 6 months, heifers, oxen, steers (except working bullocks in teams) .....	5	0 each.
Colts, fillies, geldings, horses, mares, not in saddle or harness .....	5	0 "
Sheep, rams, ewes, wethers or lambs .....	0	6 "
Pigs .....	2	0 "
Bacon .....	0	2 per lb.
Butter .....	0	2 "
Cheese .....	0	8 "
Fruits—Green berries, oranges, or lemons .....	0	9 per bushel.
" nct otherwise enumerated .....	1	6 "
Grain—		
Oats and barley .....	3	0 per cental.
Maize, peas, beans wheat .....	2	11 "
Barley—pearl and Scotch .....	7	6 "
Oatmeal .....	9	0 "
Maizena—Maizelour or cornflour .....	0	2 per pint or lb.
Grain or pulse of any kind, not otherwise enumerated, prepared in any way .....	5	0 per cental.
Hams .....	0	2 per lb.
Honey .....	0	2 per pint or lb.
Hops .....	0	8 per lb.
Implements—agricultural— <i>ad valorem</i> .....	20	per cent.
Jams and jellies .....	0	3 per pint or lb.
Leather (except crust or rough tanned) .....	0	6 per lb.
" manufactured— <i>ad valorem</i> .....	25	per cent.
Malt .....	4	6 per bushel.
Onions .....	20	0 per ton.
Potatoes .....	10	0 "
Sugar—the produce of sugar cane .....	3	0 per cwt.
Timber—undressed .....		free.
" boards—dressed or planed .....	1	6 per 100 ft. super.
" hardwood .....	2	0 " "
" pulings .....	0	9 per 100.
" shingles .....	0	9 per 1,000.
" spokes and felloes, in rough .....	0	6 per 100.
" staves—dressed— <i>ad valorem</i> .....	25	per cent.
Tobacco—manufactured .....	1	0 per lb.

APPENDIX No. 52.  
STATISTICS of Boorooban.

Dear Sir,

Boorooban, 30 November, 1890.

Your letter of the 16th to hand, asking for information of the settlement about here.

Unfortunately I was again away from home, which accounts for the delay in answering your letter. I have taken down on paper the particulars you require as near as I possibly can, and I think in nearly every case it is very nearly correct. As you will see, there are very few who go in for cultivation, except a little for their own use; and the reason of this is that they are too far from a market or railway to take it there. Nearly all these selectors have good land for wheat-growing, and would grow large quantities if this Hay and Deniliquin railway were made, and it would also cause a lot more settlement, as there is yet a good deal of land in the neighbourhood to be taken up. Nearly all—with about three exceptions—get their mail from this post office, and a large lot of settlers outside of those mentioned east and west, would bring their produce in if a line were made past here; but at the present state of affairs farmers cannot grow crops profitably as they are too far from market, and cannot cart their produce from 30 to 50 miles upon bad roads.

Two years ago I myself lost the sale of over £2,000 worth of chaff and hay through not being able to get it into Hay in time—the season was so bad that teams were not to be had at any price—and that same season many thousands of herding sheep died on this road, and close to this place, travelling to Victoria in search of feed, whereas had there been a railway their lives would have been saved, and I believe the same thing will happen this season, as the grasshoppers are eating every vestige of grass on this route, and tens of thousands of sheep are still coming down.

Hoping this will meet with your approval, and apologising for the delay,

I am, &amp;c,

S. PORTER.

Any other information you require of this neighbourhood I shall only be too happy to supply it as far as lies in my power.

S. Alexander, Esq.

S.P.

STATISTICS

STATISTICS of settlement about Booroorban.

Name of Settler.	Parishes in which situated.	Name of run on which holding is situated.	Distance from Booroorban.	Acreege C.P. or purchased.	Acreege leasehold.	Acreege under crop.	Kind of crop.	Sheep.	Horses.	Cattle.
R. H. Woodward...	Squatter'sholdings.	Wargam .....	10 miles East	.....	.....	50	Wheat	35,000	50	75
Hon. W. Campbell		Wauvillah .....	At Booroorban	.....	.....	50	"	40,000	60	100
J. Lamb .....		Wilurah .....	20 miles East	.....	.....	70	"	80,000	65	50
P. B. Curtain .....		Nyangay .....	3 " North	.....	.....	40	"	18,000	40	30
Hon. David Moore		Bundyulumblah .....	15 " West	.....	.....	45	"	45,000	62	80
Messrs. Johnston and Martin.		Tchelery .....	30 " "	.....	.....	35	"	35,000	35	30
S. Porter .....	Booroorban .....	Wauvillah .....	At Booroorban	1,400	4,000	300	"	2,000	50	70
C. Lee .....	" .....	" .....	3 miles West	1,280	1,800	160	"	1,800	25	31
J. Moore .....	North Caroonboon	Bundyulumblah	8 " "	748	1,812	Nil	"	1,000	14	7
F. Porter .....	" .....	" .....	8 " "	772	1,788	"	"	1,200	10	21
J. Nisbet .....	Miranda .....	" .....	12 " "	640	1,920	20	Wheat	1,500	11	9
H. Edmunds .....	Chambers .....	Pevensoy .....	18 " "	640	1,920	Nil	"	1,400	12	15
T. Rochfort .....	" .....	" .....	18 " "	640	1,920	"	"	1,200	5	Nil.
J. Dillon .....	" .....	" .....	17 " "	640	1,920	"	"	1,100	8	4
J. Skene .....	" .....	" .....	21 " N.W.	640	1,920	40	Wheat	1,050	7	8
E. C. Dillon .....	Godfrey .....	" .....	22 " "	640	1,920	Nil	"	1,000	6	4
M. A. Dillon .....	" .....	" .....	23 " "	640	1,920	"	"	1,110	4	2
M. Bowden .....	" .....	" .....	23 " "	640	1,920	"	"	1,200	8	9
E. J. Dillon .....	" .....	" .....	23 " "	640	1,920	"	"	1,350	7	4
M. Dillon .....	Wandigong .....	" .....	24 " "	640	1,920	"	"	1,500	10	14
J. Ross .....	Miranda .....	Bundyulumblah	20 " West	640	1,920	20	Wheat	1,800	15	4
J. Parry .....	Malaka .....	Tchelery .....	22 " "	640	1,920	50	"	1,000	12	6
R. Parry .....	" .....	" .....	22 " "	640	1,920	Nil	"	600	4	Nil.
J. Gibbs .....	" .....	" .....	24 " "	640	1,920	"	"	1,130	10	6
E. Gibbs .....	" .....	" .....	24 " "	640	1,920	"	"	1,108	8	3
- M'Lean .....	" .....	" .....	25 " "	640	1,920	"	"	1,250	6	Nil.
W. Gibbs .....	" .....	" .....	25 " "	640	1,920	"	"	1,200	6	8
R. Metcalf .....	" .....	" .....	22 " "	640	1,920	"	"	900	4	8
- Lockwood .....	Gwynne .....	" .....	26 " "	1,280	.....	200	Wheat	800	12	12
- Cox .....	Near Head Station	Bundyulumblah	24 " S.W.	1,280	.....	100	"	600	12	14
P. Crow .....	Near Bundy Station	Murgha .....	25 " "	1,280	.....	53	"	750	9	20
J. Hanlon .....	Wargam & Palmer	Wargam .....	8 " East.	500	1,500	10	"	900	8	21
T. Hanlon .....	Palmer .....	" .....	9 " "	320	600	Nil	"	450	7	4
D. Hanlon .....	" .....	" .....	6 " "	100	300	"	"	200	5	Nil.
J. Lewis .....	Nyangay .....	Nyangay .....	5 " N.E.	320	450	"	"	500	4	"
B. H. Woodward...	Wargam .....	Wargam .....	6 " East.	640	1,920	"	"	1,100	6	"
C. H. Woodward...	" .....	" .....	8 " "	640	1,920	"	"	1,150	4	"
M. M. Porter .....	Booroorban .....	Wauvillah .....	1 " West	80	240	"	"	250	10	4
Late P. Butterworth, now M. M. Porter.	" .....	" .....	1 " "	80	240	"	"	.....	.....	.....
C. Simper .....	Paradise East .....	Eli Ilwah .....	8 " N.E.	1,040	1,920	120	Wheat	1,200	40	15
H. Boyle .....	" .....	" .....	10 " "	640	1,920	20	"	1,050	16	10
F. Watson .....	North of Paradise East.	" .....	12 " "	300	900	Nil	"	500	5	8
A. M. Porter .....	Nyangay .....	Nyangay .....	5 " "	380	610	20	Wheat	600	4	2
- Claughlin .....	Unknown to me .....	Burrabogie .....	16 " "	500	900	Nil	"	.....	.....	.....
- Morrison .....	" .....	Willmat .....	22 " East	320	960	"	"	850	14	9
E. O'Connor .....	" .....	" .....	20 " "	640	1,920	"	"	800	5	7
- Watson .....	" .....	" .....	17 " "	640	1,920	"	"	750	10	2
- McIntosh .....	" .....	" .....	17 " "	640	1,920	"	"	940	8	6
E. Lamb .....	" .....	" .....	21 " "	640	1,920	"	"	1,300	9	4
A. Skene .....	Drysdale .....	Nyangay .....	4 " North	640	640	"	"	300	8	16
T. Skene .....	" .....	" .....	5 " N.W.	630	.....	"	"	350	4	3
No. of holdings ..	45			29,050	66,650					

APPENDIX No. 53.

RAINFALL at Stations in Riverina.

(From the Government Astronomer's Annual Report.)

	Albury.	Boonah.	Balranald.	Buchinbong.	Bullenbong.	Burrabogie.	Burrumbidgee.	Burroughs.	Colombo.	Corra.	Cornwall.	Corowa.	Deniliquin.	Hay.
1870	...	37-19	...	...	...	...	...	31-61	...	...	...	...	...	...
1871	30-86	27-19	...	...	...	...	...	24-89	...	...	...	...	...	...
1872	28-45	...	...	...	...	...	...	25-81	...	...	...	...	...	...
1873	29-12	...	...	...	...	...	...	18-92	...	...	...	...	...	...
1874	27-78	...	...	...	...	...	...	19-03	...	...	...	...	...	...
1875	34-30	...	...	...	...	...	...	24-26	...	...	...	...	...	...
1876	20-51	...	...	...	...	...	13-20	10-52	...	...	...	...	...	...
1877	20-85	...	...	...	...	...	16-88	14-28	...	...	...	...	...	...
1878	32-83	26-44	...	...	...	19-89	26-88	23-49	...	...	...	...	...	...
1879	28-77	18-82	12-89	...	...	15-16	22-43	20-15	...	18-62	...	...	...	...
1880	25-95	20-03	9-26	...	...	15-80	19-25	17-92	...	15-81	...	...	...	...
1881	23-60	18-19	17-21	...	...	16-93	17-44	18-41	...	...	14-90	...	...	10-79
1882	22-42	20-22	13-65	14-87	19-90	...	15-09	19-33	...	11-23	17-31	...	...	15-26
1883	23-50	16-03	2-17	12-02	18-59	...	11-69	13-79	...	12-28	14-94	16-88	...	10-55
1884	20-88	14-35	8-77	12-33	16-38	12-67	13-51	11-87	...	9-37	11-88	13-15	...	8-77
1885	24-49	19-10	10-05	...	16-26	22-15	17-26	13-59	...	10-90	17-95	19-31	...	11-12
1886	29-05	17-18	13-11	16-78	19-14	21-00	22-36	15-72	13-78	12-58	14-74	21-42	14-00	14-07
1887	42-92	27-51	19-05	26-05	28-03	25-32	32-58	26-91	27-89	26-33	26-95	32-35	21-77	22-22
1888	23-52	11-34	5-29	10-83	12-70	5-81	12-07	14-07	9-42	11-83	9-98	14-06	9-44	7-13
1889	36-64	30-24	18-34	25-74	29-79	25-84	22-91	26-22	25-03	26-62	29-45	34-06	26-34	26-91
1890	33-70	21-03	14-49	...	20-10	...	...	...	36-50	17-44	20-10	24-48	17-75	17-36
Mean.....	28-58	21-51	12-61	...	20-10	15-75	...	18-90	...	16-33	17-82	22-20	17-09	15-02

Year.	How-long.	Jerilderie	Kentucky	Kilaryana.	Lahallec.	Ma-thoura.	Moama.	Mulwala.	Mooljar.	Narrandera.	Puckawidgee.	Saver-nake.	Sixteen-mile Gums.	Steam Plains No. 2.
1870	...	...	...	...	...	...	...	...	34-84	...	...	...	...	...
1871	...	...	...	...	...	...	...	...	17-66	...	...	...	...	...
1872	...	...	...	...	...	...	...	...	16-60	...	...	...	...	...
1873	...	...	...	...	...	...	...	...	18-10	...	...	...	...	...
1874	...	...	...	...	...	...	...	...	15-24	...	...	...	...	...
1875	...	...	...	...	28-38	...	...	...	17-43	...	...	...	...	...
1876	...	...	...	...	17-57	...	...	15-66	15-93	...	...	...	...	...
1877	...	...	...	...	14-64	...	...	15-21	12-25	...	...	...	...	...
1878	...	...	...	...	27-98	...	19-74	27-81	17-35	...	...	...	...	...
1879	...	...	...	...	20-04	...	12-92	20-44	15-13	...	...	...	...	...
1880	...	...	...	...	19-25	...	21-90	21-09	10-93	16-17	14-14	...	...	...
1881	...	...	...	...	15-65	...	15-94	17-90	14-05	15-89	16-61	...	...	...
1882	...	...	...	...	17-97	...	15-68	20-20	12-25	17-88	17-10	...	...	...
1883	...	...	...	...	15-46	...	15-06	17-01	11-69	15-47	12-72	...	...	...
1884	...	...	13-18	...	14-05	...	11-02	13-32	9-80	12-04	9-43	...	...	...
1885	18-42	...	18-47	...	17-80	20-01	17-33	19-41	12-84	16-43	14-20	17-31	...	...
1886	22-34	12-86	19-69	18-81	16-74	14-84	15-86	20-94	15-00	17-32	12-62	21-30	...	12-10
1887	27-15	27-20	35-89	28-76	28-62	27-43	26-04	31-98	22-55	24-11	24-46	31-84	22-41	22-97
1888	17-50	10-64	12-12	13-15	13-01	10-41	10-77	17-05	6-89	10-44	12-39	14-49	7-57	6-93
1889	32-21	21-88	28-34	29-70	28-72	24-87	20-19	31-81	21-58	24-71	26-82	28-66	21-75	27-01
1890	23-52	...	...	...	18-95	...	22-41	19-96	17-15	24-93	17-26	...	13-93	15-84
Mean.....	23-57	18-90	21-28	...	19-62	...	17-22	20-69	15-63	19-64	16-16	22-73	16-42	18-14

Year.	Steam Plains No. 1.	Uardry.	Urana.	Wagga Wagga.	Wanga-nella.	Wid-giewa.	Walbun-dria.	Wanga-mong.	Wargan.	War-willa.	Wil-luab.	Wunna-murra.	Yarra-bee Park.	Yerong Creek.
1870	35-60	...	...	...	31-58	36-30	...	...	...	...	...	...	...	...
1871	19-42	...	21-08	...	19-04	22-84	...	...	...	...	...	...	...	...
1872	19-82	...	28-78	30-21	10-43	22-40	...	...	...	...	...	...	...	...
1873	19-68	...	18-30	20-83	23-61	19-15	...	...	...	...	...	...	...	...
1874	16-84	...	17-56	28-35	13-59	17-88	...	...	...	...	...	...	...	...
1875	18-58	...	24-57	24-56	22-53	22-68	...	...	...	...	...	...	...	...
1876	8-69	...	11-24	16-15	15-45	11-07	...	...	...	...	...	...	...	...
1877	10-86	...	9-85	...	11-76	15-70	...	...	...	...	12-00	7-45	...	...
1878	19-60	...	9-01	21-78	23-43	19-86	...	...	...	...	...	24-50	...	...
1879	14-50	...	14-86	22-69	12-85	18-95	...	...	...	...	14-13	18-05	...	...
1880	14-77	...	15-75	18-53	12-31	16-34	19-23	...	...	11-02	9-73	16-80	...	...
1881	13-94	...	14-42	18-13	13-56	13-07	18-01	...	...	14-21	14-64	14-76	...	...
1882	13-36	...	16-44	24-00	14-55	18-02	22-04	18-02	9-91	11-94	12-27	15-01	...	...
1883	11-38	11-47	13-25	17-27	13-24	13-90	16-50	14-15	11-03	10-87	8-47	13-01	...	...
1884	8-28	9-04	11-44	15-81	9-46	11-44	14-31	9-79	8-90	8-48	9-17	11-45	...	...
1885	14-48	11-39	13-87	21-51	13-03	16-20	19-69	17-52	13-48	13-46	13-85	19-86	...	...
1886	12-38	13-70	13-95	21-04	12-52	15-51	21-53	15-29	13-56	12-35	14-49	14-50	14-50	19-07
1887	23-31	24-94	23-31	33-67	19-62	26-44	31-57	30-20	23-46	22-37	23-91	29-09	23-85	30-43
1888	7-47	6-87	10-54	16-87	7-59	8-67	15-76	9-89	8-05	8-54	8-57	13-00	10-55	11-39
1889	26-89	25-35	28-81	26-96	25-29	23-93	35-61	21-52	27-19	25-89	27-17	26-44	27-65	30-65
1890	17-62	20-84	17-93	27-87	17-67	18-73	25-62	18-14	...	17-41	18-84	15-64	19-32	26-40
Mean .....	16-60	15-44	17-90	23-01	15-73	18-22	21-81	17-50	...	14-23	14-44	17-44	17-11	23-31

Year.	Yanko.	Yanma.	Bull Plain.	Canoon.	Cannin Creel.	Collin-dina.	Gum Creek.	Merto.	Mitta-gong.	Murgha.	Noo-rong.	Overton.	Tuppal.
1870	36-00	38-26	...	...	...	...	...	...	...	...	...	...	...
1871	19-25	23-73	...	...	...	...	...	...	...	...	...	...	...
1872	20-24	21-04	...	...	...	...	...	...	...	...	...	...	...
1873	16-42	17-81	...	...	...	...	...	...	...	...	...	...	...
1874	9-44	17-89	...	...	...	...	...	...	...	...	...	...	...
1875	23-87	22-68	...	...	...	34-96	...	...	...	...	...	...	...
1876	12-20	10-51	...	...	...	15-23	...	...	...	...	...	...	...
1877	13-68	12-62	...	...	11-17	15-18	...	...	...	...	13-07	...	...
1878	21-37	20-42	...	...	13-77	26-34	...	...	...	...	16-03	...	...
1879	15-45	19-41	...	...	13-00	19-11	...	...	...	...	12-03	...	...
1880	14-79	16-00	...	...	9-73	23-52	...	...	...	7-28	9-85	...	...
1881	10-44	19-74	...	...	11-59	17-34	...	...	...	13-36	8-22	16-79	...
1882	16-01	16-08	19-86	...	14-49	21-16	15-48	...	...	14-20	16-42	20-92	12-37
1883	12-71	15-40	14-58	...	12-61	17-19	12-97	14-69	...	12-84	14-10	14-39	12-67
1884	10-78	10-36	11-62	...	8-75	13-41	8-74	13-76	...	9-27	9-73	11-63	11-44
1885	15-45	15-69	19-76	...	11-91	21-31	14-03	20-75	...	...	12-26	14-78	17-35
1886	14-11	15-13	22-65	13-83	14-55	20-96	14-33	20-36	30-38	13-75	12-74	17-16	16-27
1887	30-86	26-46	32-85	19-78	20-13	31-26	27-12	29-85	44-85	18-37	21-73	28-43	26-16
1888	9-51	7-33	14-27	7-19	6-38	13-92	5-39	13-76	19-12	7-99	5-64	11-93	11-20
1889	24-59	22-97	27-37	21-29	23-86	31-27	25-91	22-96	33-94	26-71	23-13	30-34	32-29
1890	17-61	15-86	21-19	...	16-89	20-65	16-68	17-61	...	...	15-98	...	20-54
Mean .....	17-63	18-39	20-45	...	13-43	21-70	15-64	19-22	...	...	13-66	18-50	17-81

## APPENDIX No. 54.

STATE of Agriculture, Murray Electorate, 1889.

Wheat for grain .....	23,503 acres.	Market gardens .....	3 acres.
"    hay .....	10,105 "	Other crops .....	37 "
Barley for grain .....	306 "	Total area under crop .....	35,001 "
Oats for grain .....	100 "	Produce—Grain, wheat.....	351,616 bushels.
"    hay .....	41 "	"    barley.....	4,278 "
"    green food .....	25 "	"    oats.....	1,344 "
Rye for grain .....	5 "	"    rye.....	46 "
"    green food .....	30 "	"    Hay, wheat .....	17,818 tons.
Potatoes .....	13 "	"    oats .....	49 "
Lucerne and grasses for hay .....	83 "	"    lucerne, &c. ....	215 "
"    "    green food.	692 "	"    Potatoes.....	39 "
Vineyards, for wine-making .....	1 "	Vineyards—Wine produced .....	100 gallons.
"    "    table use .....	2 "	"    table grapes.....	2 tons.
Orangeries, bearing .....	6 "	Oranges produced .....	6,580 dozens.
Orchards .....	50 "		

## APPENDIX No. 55.

TRAFFIC Returns of Railway Stations for twelve months ending June 30, 1890.

	Hay.	Jerilderie.
Revenue—Coaching .....	£6,396	£1,695
Goods, outwards .....	1,033 tons.	2,897 tons.
"    inwards.....	6,679 "	2,431 "
Wool, outwards .....	3,456 bales.	4,053 bales.
"    inwards .....	.....	.....
Earnings from goods traffic .....	£14,211	£5,776
Total earnings .....	£20,808	£7,471

## APPENDIX No. 56.

RETURN supplied by Daysdale Progress Committee, showing number of bales of wool annually carted through Daysdale to Corowa, along stock route.

From Mahonga.....	3,000 bales.	From Colombo .....	200 bales.
"    Monsalong .....	1,500 "	"    Yathlong .....	350 "
"    Gunanbil .....	1,400 "	"    Myall Plains .....	150 "
"    Noweranic .....	800 "	"    M'Geogh Bros. ....	120 "
"    Butherwa.....	500 "	"    Selectors .....	2,146 "
"    Nangunia.....	350 "		
"    Wangamong .....	200 "	Total .....	10,616 bales.

## APPENDIX No. 57.

STATEMENT by the Urana Railway League.

The Examiners, Public Works,—

Gentlemen,

Urana, 27 September, 1890.

We beg to lay before you the following facts and statements in support of our claim for a railway from Coonong Siding to Urana :—

## 1. Cost of construction.

The distance, 17 miles, is through a perfectly level country. There is only one small bridge required, viz., over the Colombo Creek. The line can be run along the present road, and the embankments, culverts, and metalling there can be utilized. No land need be purchased, for even in the town there are plenty of unsold Government allotments on which to erect station buildings. Half the way is fenced in on both sides.

Should it be considered advisable to bring the line by a different route, there is a reserve of 3,000 acres, extending half way across Coonong Station, and Mr. M'Caughy offered any land required at £2 per acre. Abundance of ballast can be obtained both near Coonong homestead and at Urana.

This can be made the most cheaply-constructed line in the Colony. We ask but for a light railway, and as an impression prevails in the country that this kind of line should be tried, we put forward this as a suitable opportunity for making the experiment.

## 2. Traffic.

As will be seen by the statistics laid before you by the representatives of Clear Hills, there is in that district a large number of farmers who look to the construction of this line to provide them with an outlet for their produce. In spite of having to cart their wheat from 30 to 40 miles to the nearest railway station, they have this year over 4,000 acres under crop, and are rapidly clearing their land to augment this already large area. In the event of this line being granted, they are prepared to go still more extensively into wheat growing, and others who have not yet done so will also enter into the same pursuit.

It may not be amiss to state here that wheat growing in this district is an industry that has sprung up within the last five or six years. Five years ago there was not one-fifth of the grain now produced. Selectors see clearly that the enormous development in labour-saving agricultural implements, they can now sow large areas with so little expense as with ordinary seasons and prices to make handsome profits, provided they have but the means of bringing their produce to market: also that the country must for the future look for its grain supply, not to the little paddocks of the older settled parts of the country, but to the broad plains of these distances where agriculture can be carried on in the extensive manner now prevailing in America. If, then, the increase in wheat-growing has been so great in the few years just passed, it is only fair to assume that the increase will be in a still greater ratio in the next few years, and that there will be no lack of traffic on the new lines which are being asked for by the farmers of these southern districts.

Besides the area in the Clear Hills district, there are within less than 20 miles of Urana about 1,500 acres under crop this year, and in almost every case it will be found that selectors are taking measures to increase their acreage.

### 3. Bad Roads.

The road from Coonong Siding is for a great part of the year, and particularly at shearing time, when traffic is greatest, quite impassable. To Widgiewa Siding the road is equally bad. During this winter carriers absolutely refused to bring goods from either of these sidings, and local storekeepers were obliged to get their goods consigned to Morundah, many miles more distant. The cost of putting the present road into proper repair would go far towards paying for a railway; and it should be remembered that money expended on roads is entirely lost, whereas if laid out in railways there is some revenue derived.

### 4. Irrigation.

This railway will run along the surveyed line for the proposed canal to the Urana Lake, and it will extend to the outer limit of the area proposed to be irrigated. Now, if the Government are in earnest with their irrigation scheme, and the large sums expended in elaborate surveys would seem to show that they are, the necessity for this railway cannot be gainsaid. To make irrigation profitable there must be the means of transporting the produce in the quickest time and at the cheapest rate to the market. If, then, this scheme is to be carried out, this line should be started without delay, so that by the time the canals are ready to irrigate the railway may be prepared to take away the produce.

### 5. Unsold Lands.

Close to the town are large reserves, in which are locked up some of the finest agricultural land. On Butherwah and Brookong alone there are at least 30,000 acres, which will, in the course of a few years, have to be thrown open, and the increase of value caused through having railway communication will more than suffice to pay the cost of the line.

Again: Mr. Halliday of Brookong has signified his intention of disposing of, to farmers, 35,000 acres, as soon as the irrigation scheme is started, and without doubt other landholders will follow his example.

### 6. Trade secured for Sydney.

By the construction of this line the whole trade of the district will be secured for Sydney, instead of a large portion going to Victoria, as is now the case.

### 7. Other facts.

(1.) A company has been formed to carry on a meat-freezing establishment at Narrandera. This will be the means of largely increasing the traffic to and from that town, and great numbers of sheep and cattle will be sent there from this district.

(2.) The great market for our farmers' hay and oats is the dry district of the Lower Murrumbidgee; the line to Coonong Siding will lead directly towards that district.

### Rival Routes.

Two other lines to Urana have been advocated, viz., from The Rock and from Yerong Creek. Consideration of these lines is absurd. The Rock is over 60 miles from here, and Yerong Creek nearly 60. As the settlers of these two districts are mostly within 20 miles of the main line to Albury, they should ask for a light line to feed the main one instead of an expensive branch to Urana. Why construct a railway of over 60 miles when two light feeders will serve the purpose—one 17 miles from Coonong Siding to Urana, and another 15 to 20 miles from either The Rock or Yerong Creek to the midst of the settlers in either of the localities. As already pointed out, the line to Coonong will enable farmers to despatch their produce where the market is best along the Murrumbidgee, while the other proposed lines would prevent them from so doing.

### Conclusion.

We trust, then, you will weigh well the reasons we have advanced for the construction of this line. We feel assured it will prove a paying one, and will assist the present unprofitable Jerilderie line in becoming remunerative.

With the throwing open of the reserves here, the breaking up of the large estates, and the initiation of a system of irrigation, this town will become the centre of a wealthy and thickly populated district.

Appended are reliable and carefully prepared statistics of the town and country.

We have, &c.,

Signed, on behalf of Urana Railway League,

JOHN B. MARTIN, M.B., Chairman,  
JOHN WISE, Secretary,  
G. J. STEVENS,  
P. C. BUTT.

## APPENDIX No. 58.

RETURN showing Population of Town of Urana. (Residents only.)

Names.	Occupation.	No. in family.	Merchandise.	Area under crop in acres.
John Sorley .....	Coachbuilder .....	6	2½ tons	
John Wilson.....	Contractor .....	2	.....	
William Gibbs.....	Labourer .....	7	.....	
William Sheather.....	Carrier .....	6	.....	
Chas. Whitford .....	" .....	8	.....	
John Gaunt .....	Labourer .....	2	.....	
Wm. Smith .....	Carter .....	9	.....	
Wm. Timms .....	Coach-driver.....	3	.....	
Mrs. Tweedio .....	.....	3	.....	
Mrs. Langton .....	.....	2	.....	
Geo. Wooten .....	Carpenter .....	8	.....	
Samuel Parker.....	Tailor .....	1	.....	
Wm. Smith .....	Drover .....	7	.....	
Mrs. Campbell.....	Baker .....	4	.....	
Benj. Culley .....	Storekeeper .....	13	170 tons	30 acres oats.
Ronald Seton .....	Postmaster .....	10	.....	
P. R. Brett .....	Stock Inspector .....	16	.....	
A. Kilgour.....	Bank Manager .....	1	.....	
Wm. Gilroy .....	Constable .....	3	.....	
Thos. Ashford .....	Coach-builder .....	1	.....	
Wm. Ashford .....	Blacksmith .....	1	.....	
Paul Tietze .....	Hair-dresser.....	1	.....	
Wm. Nette .....	Bootmaker .....	3	.....	
John Johnston.....	Grocer .....	5	.....	
H. A. Hill.....	Storekeeper .....	6	160 tons, Widgiewa; 60 tons, Corowa.	
A. Hacker .....	Builder .....	5	.....	
Thos. Smith .....	Saddler .....	7	.....	
Chas. Bronff .....	Contractor .....	7	.....	
J. Trainor .....	Gentleman .....	9	.....	
M. Nolan .....	Butcher.....	9	.....	
J. Lucey .....	Manufacturer .....	1	30 tons	
T. MacMabon .....	Labourer .....	1	.....	
E. Fletcher .....	Poundkeeper .....	10	.....	3 acres oats.
James Fox .....	Hotel-keeper .....	12	30 to 40 tons	
S. Shuback .....	Carpenter .....	1	20 to 30 "	
A. J. Chammin .....	Bootmaker .....	1	5 tons	
Wise Brothers .....	Butchers .....	4	20 to 30 tons	
James Clark .....	Blacksmith .....	4	.....	
Wm. Ahkin .....	Gardiner .....	8	19 to 15 tons	
W. Dalliston .....	Blacksmith .....	4	30 to 40 "	
J. Clune .....	Wheelwright .....	1	.....	
J. E. Patterson .....	Hotel-keeper.....	9	35 tons	
G. B. Barwick .....	Herdsmen .....	7	.....	
Evan Gough .....	Drover .....	3	.....	
Richard Bailey.....	Carter .....	6	.....	
J. Nicholson .....	Carter .....	5	.....	
John Price .....	Carrier .....	5	.....	
Geog. Gibbs .....	Labourer .....	7	.....	
J. Tuddenhan .....	" .....	7	.....	
J. Pascoe .....	Bricklayer .....	6	.....	
V. Freund .....	Butcher.....	10	.....	
A. Gaunt .....	Contractor .....	7	.....	
J. Maloney .....	Hawker .....	5	.....	
E. E. Welby .....	Hotel-keeper .....	11	25 tons	40 acres oats.
Thos. Freeman .....	Plumber .....	5	.....	
J. M'Crabb .....	Hotel-keeper .....	7	30 to 40 tons	10 acres oats.
H. Dempsey .....	Horse-breaker .....	7	.....	
W. Petts .....	Carrier .....	8	.....	
Henry Smith .....	" .....	5	.....	
T. Warren.....	Selecter .....	14	.....	
W. Martin .....	Carpenter .....	1	.....	
J. Carmody .....	Teacher .....	4	.....	
E. C. Luekey .....	Bank Manager .....	4	.....	
H. Maclean .....	Overseer .....	9	.....	23 acres oats.
Jas. Thatcher .....	Labourer .....	3	.....	
W. King .....	Blacksmith .....	2	.....	
W. Martin .....	Carrier .....	5	.....	
Matthew Bell .....	Minister .....	4	.....	
W. Simon .....	Coach-driver.....	10	.....	
A. J. Rootes .....	Sergeant Polico .....	1	.....	
— Hornsby .....	Trooper .....	2	.....	
G. J. Stevens .....	Storekeeper .....	6	78 tons	
Dr. Martin .....	Medical Officer .....	3	.....	
Robt. Turner.....	Labourer .....	6	.....	
E. Skellington .....	Hospital Warder .....	7	.....	
A. Brasch .....	Store Manager .....	1	.....	
R. Whitman .....	Labourer .....	7	.....	
James Ahken .....	Gardener .....	2	.....	
R. Empie .....	Storeman .....	1	.....	
James Walker .....	Gardener .....	6	.....	
Totals .....		430	717 to 772 tons	106 acres.

## APPENDIX No. 59.

## DETAILS of the Town of Urana.

Number of houses (dwellings) .....	63
Public Buildings:—1. Court-house. 2. Police Station. 3. Sergeant of Police's residence. 4. Post and Telegraph Office. 5. School of Arts. 6. Public School—107 children enrolled. 7. Hospital	7
Bank of New South Wales and Australian Joint Stock Bank.....	2
Presbyterian Manse.....	1
Business places:—Hotels, 4; saddlery, 1; bootmakers, 2; baker, 1; blacksmiths and wheelwrights, 3; plumber, 1; stores, 5; butcher, 1; tailor, 1; watchmaker, 1; cordial factory, 1; hairdresser, 1; boarding-house, 1.....	23
Churches, 2 (Catholic and Church of England).....	2
Total buildings.....	98
Town Common, permanent .....	1,431 acres
"    temporary .....	3,712 " } 5,203 acres.

## APPENDIX No. 60.

## NOTES ON Trade done by Urana Merchants.

The following accompanied the Urana statistics:—John Scroby, coachbuilder, 24 tons; B. Carry, storekeeper, 170 tons; H. A. Hill, storekeeper, 210 tons; J. Lucas, cordial factory, 30 tons; L. Fox, hotel-keeper, 30 to 40 tons; G. Schuback, carpenter, 20 to 30 tons; C. J. Chamin, bootmaker, 5 tons; Wise Brothers, butchers, 20 to 30 tons; W. Ahkin, gardener, 10 to 15 tons; W. Dalliston, blacksmith, 30 to 40 tons; J. G. Paterson, hotel-keeper, 35 tons; E. E. Welby, hotel-keeper, 25 tons; J. M'Crabb, hotel-keeper, 30 to 40 tons; G. J. Stevens, storekeeper, 78 tons. Total, 717 to 772 tons.

## APPENDIX No. 61.

## ABSTRACT of Statistics, Town of Urana.

POPULATION, 430; merchandise, 717 to 772 tons; cattle, 250; horses, 150; area under crop, 106 acres.

District within a radius of 20 miles, but excluding Clear Hills.

Farmers.—Acreage, 39,619 acres; area under crop, 1,031 acres; produce—hay, 2,700 tons, wool, 3,152 bales; cattle, 403; horses, 319; sheep, 50,434.

Station-holders.—Acreage, 745,259 acres; area under crop, 650 acres; proposed increase, 3,000 acres; sheep, 846,503; cattle, 3,276; horses, 860; wool, 52,907 bales.

Totals for whole district (except Clear Hills farmers).—Acreage, 784,934 acres; area under crop, 1,837 acres; sheep, 896,937; cattle, 3,929; horses, 1,329; wool, 56,059 bales.

## APPENDIX No. 62.

## Clear Hills Railway Committee to the Public Works Examiners.

Gentlemen,

We respectfully submit the following reasons for urging the Government to construct the Coonong-Urana Railway, and we take leave to tender those reasons to you in conjunction with the farmers' petition hereto attached.

1. That the distance (15 miles) is entirely free from engineering difficulties, and its construction will be inexpensive owing to the level nature of the country.

2. That splendid ballast is obtainable both at Urana and half-way to Coonong siding, the convenience of which will assist to lessen the cost of construction of this line.

3. That surrounding Urana on all sides there are many thousands of acres of Crown lands suitable for settlement which, if opened to the public, would be immediately settled upon, and would make this the best paying line in the Colony if constructed.

4. That in Clear Hills district, commencing 10 miles south of Urana, there are this year at least 3,000 acres of crop and nearly 1,000 acres of fallow being prepared for next year, the returns from which must find its way to Sydney market over this line.

5. That owing to the richness of the soil the roads become boggy and unfit for traffic after a small fall of rain, compelling the farmer to dispose of his grain to his disadvantage, when the market is glutted at harvest time.

6. That under the disadvantages we labour, viz., bad roads and 40 miles of cartage, the area under cultivation in this district is yearly increasing, which points to the conclusion that if the Government provide us with proper facilities for transit of grain to Sydney, importation of grain to the Colony must shortly cease.

7. That the construction of this line of railway will greatly increase the area under cultivation, and secure to our own metropolis a lot of trade that now goes to Melbourne.

8. That this line taken in conjunction with the Corowa-Culcairn railway, and a line to Murrumbidgee or Tocumwal, will bring all the farmers who are now agitating for railway communication for one hundred and fifty (150) miles of the Murray Valley within twenty-five (25) miles of a railway. We believe that reference to a map of the Colony will show this.

9. That the construction of this line will serve the true interests of the State, of a large population, and open the Sydney market to a large community of farmers.

We are, &c.

ANTHONY HALL, President.

FRANCIS PATEY,

ALEXANDER MURRAY, } Vice-Presidents.

## APPENDIX No. 63.

RETURN showing estimated cost of light unfenced Line of Railway from Yerong to Urana, together with estimated Goods Traffic which such line would be called upon to carry.

*Estimated Cost Light Unfenced Line.*

Yerong to Urana, 50 miles, costing at outside price £3,000 per mile ..... £150,000

*Estimated*

*Estimated Passenger and Goods Traffic.*

Population—1,900 fares averaging, say, £1 per annum.....	£1,900
Wheat grown in line 30 miles from Yerong Station—say, 200,000 bushels or 5,360 tons at carriage rate with that grown south of Urana, say, 20s. per ton .....	5,360
Wheat grown south of Terminus, Urana—say 100,000 bushels or 2,680 tons at average carriage rate as above, at 20s. per ton .....	2,680
Wool—from 905,352 sheep as shorn along line and in district abutting on the Terminus, Urana, say, 1,620 tons at 20s. ....	1,620
Revenue derivable from market-going and travelling stock (reasonable estimate) .....	750
Revenue from goods receivable for Urana District, say, 700 tons, at 20s. per ton .....	700
Revenue from goods receivable for indyng residents along line from Young, 500 tons .....	500
<b>Total revenue .....</b>	<b>£13,510</b>

This total would give a return of 5 per cent. upon 50 miles of railway costing £5,400 per mile, and as the whole line between Yerong and Urana would traverse a level country, there cannot be the slightest probability that the cost of a light unfenced feeding line would be at any such rate.

Nor can it be urged that the estimated revenue is excessive, seeing it is based upon statistics which are undoubtedly reliable. And it must always be borne in mind that the construction of railways through agricultural areas tends immediately to immensely increase production and therefore increased revenue returns.

G. F. PLUNKETT.

## APPENDIX No. 64.

YERONG Creek Railway Station Returns for the twelve months ending 30th June, 1890.

Tonnage outwards .....	1,236 tons.
"    inwards .....	632 "
Bales Wool.....	2,741
Passengers out .....	3,461
Bags Wheat .....	12,000

G. F. PLUNKETT.

## APPENDIX No. 65.

ESTIMATE of Traffic, Yerong to Urana.

THE amount of traffic to be gained for the line from the terminus, Urana, may be gauged from the following statistical facts:—

Urana has a population of 500, and within a radius of 20 miles there are 320,000 sheep with a continually moving total through the district of 120,000, and 1,000 fat cattle, with many thousands of sheep, are annually sent to market. At Clear Hills, to the south of Urana, there are 5,000 acres of land under cultivation, which would be trebled if there was railway communication, and upon Clear Hills, Mahongu, Goonamble, and Butlema, there are over one hundred families living upon selected lands. From 500 to 700 tons of loading are brought into Urana annually, but with the railway this would be increased tenfold, as at present station-holders procure their supplies from Victoria.

G. F. PLUNKETT.

## APPENDIX No. 66.

Womboota, 14 August, 1890.

Dear Sir,

I exceedingly regret that circumstances prevented me from being present at the interview you had with the gentlemen at present in Moama for the purpose of collecting information regarding the extension of railway from Deniliquin to Jerilderie, and the more so since I could have given information perhaps not in your possession regarding land at present under cultivation of wheat, and the output of produce of the district. You may be aware when starting our grain store last year, in canvassing the district, I had careful statistics taken of the land then under cultivation and in preparation of becoming so, and proved the result to be 20,000 acres actually under crop, and about 4,500 under bare fallow and maiden fallow, within 25 miles of Moama. These statistics were taken to test the feasibility of the store, and for the correctness of same I can vouch. The result of the last year's harvest you may have a fairish idea of, but yet I doubt whether you take the same amount of interest in same as what we do; and for your guidance will inform you that the same was about 15 bushels per acre, or, otherwise, 75,000 bags of good wheat available for export. Had the spring been less moist than it was, and not lodged the crops the way they were, the result would have been fully 100,000 bags. I need not ask you to point out to these gentlemen how heavily we are handicapped through our produce being shut out of the Victorian markets, and having no communication with our own, for that I (you) now fully understand, and were it otherwise you know likewise the tremendous impetus it would give the district as a wheat-producer of the Colony. I sincerely trust that they may get a fair idea of the district, and the urgent want of direct communication with not only the Sydney but likewise the inland markets of New South Wales, for should such relief fail us I am very much afraid that it is only a question of time when sheep must again take the place of our promising rising generation upon the land here. I am certain that the disadvantages we at present are handicapped with will crush us out of the race of competition. Wishing you most heartily success in your noble endeavours to benefit the district,

I remain, &amp;c.,

HENRY HOLSCHIER,

Chairman of Farmers' Association, Womboota, N.S.W.

To Mr. John Lewis, Chairman of Railway League, Moama.

## APPENDIX No. 67.

LETTER from Mr. M. A. Ashton.

8 September, 1890.

THE principal reasons that may be advanced for the construction of the line from Hay to Deniliquin, are—

1. That it would be to the interest of the district to have facilities for trading with the nearest capital; and,
2. That it would be in the interests of the general body of taxpayers, inasmuch as it appears to me to offer the only solution of the differential rate difficulty, so far as south-western Riverina is concerned. My reason for the latter view is this: at present goods are carried from Sydney to Hay at the same rate (about) as from Sydney to Narandera, the distance being nearly 120 miles greater. This is tantamount to doing 120 miles haulage for nothing. Assuming that mileage rates are arranged on the lowest possible basis consistent with profit, this can never pay. If the Deniliquin line were made the position would at once be altered. Sydney is 454 miles from Hay, and Melbourne about 275,—a difference of 179 miles. Assuming the advantages of the Sydney and Melbourne markets to be equal, the destination of the traffic to the two capitals would be determined by distance. The point midway between Melbourne and Sydney, *via* Hay, would be about 10 miles east of Whitton. All things even, Melbourne would get all the traffic south-west of that, and Sydney all the traffic north-east. Instead of carrying 140 miles for nothing, as at present therefore, the Government would be paid full rates for half carriage to Melbourne and Sydney. Instead of reducing the returns on the Hay-Junce line therefore, the tendency of the line to Deniliquin would be to increase them, by putting an end to the differential system.

M. A. ASHTON,

Journalist, Riverina Gazette.

APPENDIX

## APPENDIX No. 68.

## STATEMENT by Jerilderie-Tocumwal Railway League.

Gentlemen,

In placing before you carefully-prepared statistics to assist you in reporting fully on the necessity or otherwise of a railway line from Jerilderie to Tocumwal, the members of the Tocumwal Railway League beg permission to urge the following reasons in its favour, and request you to lay these, with the statistics, before the Honorable the Minister for Works:—

1st. That a Crown reserve for travelling stock one mile wide extends over the whole of the proposed route, therefore no land would have to be purchased by the Government to construct the line.

2nd. That the above stock route, which is 35 miles long, contains about 22,400 acres of land, which would readily sell in special areas of 320 acres each at £4 10s. per acre, yielding a sum total of £100,000.

3rd. That an eminent engineer estimated the cost of proposed line would not exceed £1,200 per mile, the country to be traversed being level throughout, and no costly bridges or engineering work would be required, the total cost, therefore, being, say, £44,000, would leave a surplus for the Government after paying the cost of construction. The increased value put upon adjacent reserves along the line would, if desired, considerably swell this surplus.

4th. That the construction of the line would dispense with the need of a stock route.

5th. That the proposed line is within three miles of valuable and almost inexhaustible granite quarry, owned by the Government, whence ballasting, building stone, and road metal of a superior kind could be obtained, the scarcity of which has hitherto greatly retarded the progress of Government works in Riverina.

6th. That the opening up of the stock route by subdivision would induce the settlement of an estimated population of 350 souls, which alone, apart from the profit derivable by the State, should warrant its construction.

7th. That the richness of the soil renders the road unfit for traffic except in dry weather, and the cost of forming a metalled road as required would be greater than constructing a railway.

8th. That with the railway facilities for carrying our produce to market largely-increased areas would be put under crop in addition to the land along the stock route, of which alone two-thirds, or 14,000 acres, would be cultivated, with an estimated yield of 280,000 bushels of grain. It would also obviate the necessity of importing large quantities of flour as at present; a large quantity of surplus labour would be absorbed; a remunerative traffic with the metropolis and back districts would be secured, and the line would act as a valuable feeder to the Narrandera-Jerilderie line.

9th. That there are two Government wells with permanent supply of water at suitable points along the route to supply engineers and the surveyed route of the proposed Murray canal traverses many miles of the route.

10th. That in view of the present federation proposals the fact should not be lost sight of that this is the shortest alternative route from Sydney to Melbourne, and which could be used to relieve the traffic between Junee and Seymour junction in Victoria, showing duplication over that distance.

11th. That your petitioners are the holders of 378,831½ acres of land, every acre of which is adaptable for cultivation, and of which we have this year cultivated 8,098 acres, leaving an area of 370,733½ acres fit for future cultivation.

12th. The farmers on the border suffer great losses by expensive carriage over bad roads to Jerilderie, whilst heavy protective duties bar their produce going to Victorian markets. A rail connection would therefore be a great boon to this class of settlers. In support of this contention, we may state that, about two years ago, sufficient capital was subscribed at Tocumwal to float a flour milling company, but the project had to be abandoned, owing to the want of means of transit to convey flour to other Riverina towns in non-agricultural districts, whilst the Victorian protective duties, effectually barred sending it that way.

13th. That the unprofitableness of the Narrandera and Jerilderie line is attributable to the fact that it runs entirely through pastoral holdings, whilst the projected line would penetrate the heart of a rich agricultural district populated chiefly by farmers, and needing only a railway to develop its resources. The apparent result would be that the Tocumwal-Jerilderie section would not only be profitable in itself, but would increase the traffic on the already constructed lines.

14th. We would like to direct your attention to the existing conditions on the Victorian side adjacent to the Murray River. The soil in the Goulburn Valley, and the natural features of the country are precisely similar to those in this district. In other respects, such as a large uncultivated area with no outlet for produce, a sparsity of population, and no railway communication, it was, ten years ago, perhaps in a less advanced condition than the district lying between the Murray and Jerilderie is at present, but the Goulburn Valley district immediately opposite here is now the largest wheat producing area, and the railway line the most profitable one in that colony. With railway facilities and a large settled population there is good reason to believe that a similar prosperous future is in store for this district.

We have, &amp;c.,

FRANCIS MANNING,

President.

PETER A. DUNNE,

Secretary.

On behalf of the Tocumwal-Jerilderie Railway League.

To Messrs. Gilliat and Alexander, Public Works Examiners.

## APPENDIX No. 69.

LETTER from Mr. Dunne to Messrs. Gilliat and Alexander, Public Works Examiners.

Tocumwal, 24 July, 1890.

THE punt at Codram stopped working owing to floods on or about the 17th June last, and has been idle ever since. On that date the river at Tocumwal was 7 ft. 3 in.; 18th, 7 ft. 6 in.; 19th, 7 ft. 9 in.; 20th, 8 ft. 6 in.; 21st, 9 ft. 2 in.; 22nd, 10 ft.; 23rd, 10 ft. 9 in.; 24th, 11 ft. 9 in. Water from Codram should reach here in a day. The punt at Tocumwal continued to work as usual until the river reached 15 ft. 6 in. I saw bullocks and waggons cross on it when at that height. It suspended work for two days, during which the river rose to 15 ft. 9½ in. on the 8th instant. Since then it has been falling, and this morning it was 10 ft. high at Tocumwal.

PETER A. DUNNE,  
River-gauge Reader.

## APPENDIX No. 70.

LETTER from Messrs. Eaton and Tewksbury on the sale of barley.

Dear Sir,

Wagga, 14 July, 1890.

Yours of 14th current, re barley, to hand. We are pleased to inform you that the barley we purchased from you has fully justified the high opinion we formed of it. For malting purposes it has proved excellent, producing far superior malt than we have ever obtained from best Victorian barley.

Should the barley you have growing at present be up to same sample, we will have no hesitation in buying.

Yours, &amp;c.,

EATON AND TEWKSBURY,

Brewers, Malters, Aerated Water and Cordial Manufacturers, Wagga Wagga Brewery.

Mr. James Roche, Tocumwal.

APPENDIX No. 71.  
RESERVES in the County of Waradgery.

Parish.	Purpose for which reserved.	Area.	Total area in parish.
Abercrombie .....	Water Reserve.....	acres. 640	acres. 640
Beabala .....	do .....	3,474	3,474
Bedarbidgal .....	Travelling Stock Reserve .....	16	16
Benduck North .....	Water Reserve.....	234	2,798
	do .....	1,960	
Do South .....	Travelling Stock Reserve .....	604	5,276
Beresford .....	Railway Reserve .....	2,675	
Boyong .....	Travelling Stock Reserve .....	1,522	2,042
	Water Reserve .....	1,079	
Brush .....	do .....	2,042	893
	do .....	893	
Budgee .....	do .....	872	2,202
Burrabogie .....	Travelling Stock Reserve .....	1,330	
	Water Reserve.....	1,920	
Chambers .....	Camping Reserve.....	40	2,712
Cluny .....	Water Reserve.....	2,712	
Coonoon .....	Travelling Stock Reserve .....	1,490	1,490
Cuba .....	.....	.....	.....
Darcoola .....	Water Reserve.....	1,040	1,040
	Forest Reserve.....	1,860	
Dowling .....	Travelling Stock Reserve .....	2,861	6,684
	Water Reserve .....	2,263	
Eli Elwah .....	do .....	5,159	5,791
	Travelling Stock Reserve .....	632	
Eurohe .....	Water Reserve.....	440	440
Gelan .....	do .....	430	430
Godfrey .....	do .....	1,232	1,232
	do .....	1,400	
Grant .....	Travelling Stock Reserve .....	3,115	6,515
	Reserve for Access .....	2,000	
Gre-Gre .....	Water Reserve .....	444	444
Hackett .....	Travelling Stock Reserve .....	3,890	3,890
	Forest Reserve.....	3,234	
Hay .....	Water Reserve .....	394	4,872
	Temporary Common .....	1,226	
	School Reserve .....	18	
Hay, South .....	Water Reserve.....	619	9,399
	Forest Reserve.....	6,000	
Hiawatha .....	Travelling Stock and Railway Reserve .....	2,150	1,360
Hgunbah .....	Travelling Stock Reserve .....	1,360	
Illiliwa .....	Water Reserve .....	196	196
Ita .....	Travelling Stock Reserve .....	1,192	1,192
Ita .....	Water Reserve .....	620	2,420
	Travelling Stock Reserve .....	1,800	
Jellalabad .....	do .....	192	192
	do .....	1,529	
Jimbuck .....	Refuge Reserve in time of flood .....	1,080	6,960
	Travelling Stock Reserve .....	4,351	
Killendoo .....	Water Reserve .....	2,722	2,722
Lang .....	do .....	44	44
	do .....	56	
Lara .....	Travelling Stock Reserve .....	1,568	1,024
	do .....	2,120	
Laura .....	Water Reserve .....	584	2,953
Lorraine .....	Travelling Stock Reserve .....	2,374	2,040
Magnolia.....	do .....	2,040	
Maude .....	Water Reserve .....	2,030	11,052
	Travelling Stock and Camping Reserve .....	3,090	
Melrose .....	Village Reserve .....	5,032	754
Midgecleugh .....	Water Reserve.....	754	
Mingah .....	.....	.....	.....
Mungadal .....	Forest Reserve.....	152	472
	Water Reserve.....	320	
Narawidgery .....	do .....	154	5,997
	Travelling Stock and Railway Reserve .....	5,813	
Nerong .....	Water Reserve .....	2,950	2,950
	Water Reserve .....	720	
Oxley .....	Refuge Reserve in time of flood .....	610	3,613
	Travelling Stock Reserve .....	2,253	
Palmer .....	.....	.....	.....
Paradise .....	Travelling Stock Reserve .....	3,520	9,022
	Railway Reserve .....	4,702	
Do East .....	Water Reserve .....	800	9,251
Patterson .....	Travelling Stock Reserve .....	6,067	
Pembelgong .....	Water Reserve .....	3,184	1,818
	do .....	1,818	
Pevensay.....	Travelling Stock Reserve .....	840	5,910
	Water Reserve .....	5,070	
Pimpampa .....	do .....	4,420	5,479
	Travelling Stock Reserve .....	1,059	
Quondong .....	Water Reserve .....	1,018	6,954
	Travelling Stock Reserve .....	4,488	
Quondong .....	Refuge Reserve in time of flood .....	1,443	1,443
	.....	.....	

Parish.	Purpose for which reserved.	Area.	Total area in parish.
		acres.	acres.
Quianderry.....			
Rankin .....	Water Reserve .....	3,120	3,120
Russell .....	do .....	3,736	3,736
Rutherford.....	Travelling Stock Reserve .....	2,452	6,534
	Water Reserve .....	4,382	
Simson.....	Travelling Stock Reserve .....	10,931	12,211
	Refuge Reserve in time of flood .....	1,280	
Sinclair .....	Travelling Stock Reserve .....	1,852	1,852
Thellangering.....	Water Reserve.....	3,000	6,042
	Travelling Stock Reserve .....	3,042	
Do West.....	Water Reserve.....	6,805	8,532
	Travelling Stock Reserve .....	1,727	
Tindale .....	Water Reserve .....	3,824	3,824
Tongul .....	do .....	6,005	6,005
Toogimbie .....	do .....	5,408	5,408
Toopuntal .....	do .....	2,655	2,655
Tully .....	Travelling Stock Reserve .....	2,360	5,073
	Water Reserve .....	2,713	
Twynam .....	do .....	320	320
Ulonga .....	do .....	180	4,372
	Travelling Stock Reserve .....	4,192	
Wahwoon .....	Water Reserve .....	294	294
Wallaby .....	Travelling Stock Reserve .....	1,835	1,835
Wandigong .....		741	741
Waradgery.....	Water Reserve .....	328	4,626
	Travelling Stock Reserve .....	4,146	
	Common .....	152	6,460
Do East .....	Travelling Stock Reserve .....	1,200	
	Forest Reserve.....	660	6,460
	Water Reserve .....	4,600	
Do West .....	do .....	2,715	3,355
	Travelling and Camping Reserve .....	640	
Warrigal.....			
Waymea .....	Water Reserve .....	1,320	1,320
Wilgah .....	do .....	790	790
Willama .....	Travelling Stock Reserve .....	2,908	2,908
Willis .....	Water Reserve.....	1,749	1,749
Wingen .....	do .....	1,590	1,590
Wirkinberjal .....	Travelling Stock Reserve .....	1,246	2,836
	Water Reserve .....	1,590	
Wooloombyl .....			
Wooloomdool.....	Water Reserve .....	3,354	3,354
Wyoming .....	Travelling Stock Reserve .....	1,800	1,800
Yang Yang.....	Water Reserve .....	1,257	3,749
	Travelling Stock Reserve .....	2,492	
Yimbaring .....	Water Reserve .....	1,594	8,171
	Travelling Stock Reserve .....	6,577	
	Total area of Reserves, County Waradgery .....		38,082
			266,902

## APPENDIX No. 72.

## RESERVES in County Denison.

Parish.	Purpose for which reserved.	Area.	Total Area
		acres.	acres.
Barooga .....	Water Reserve .....	1,911	4,146
	Forest Reserve along Murray River.....	2,500	
	Camping Reserve .....	335	
Berigau .....	Water Reserve.....	629	831
	Travelling Stock Reserve .....	205	
Boomanoomana .....	Water Reserve .....	411	4,314
	Travelling Stock Reserve .....	148	
	Forest Reserve along Murray River.....	3,448	
	Quarry and Trigonometrical Reserve .....	307	
	Water Reserve .....	537	2,264
	Village Reserve .....	640	
Bull Plain .....	School Reserve .....	36	
	Travelling Stock Reserve .....	819	2,264
	Camping Reserve.....	117	
	Road Reserve .....	115	
Carlyle .....	Water Reserve .....	840	1,013
	Travelling Stock Reserve .....	173	
Coreen West .....	Water Reserve .....	1,765	3,249
	Travelling Stock Reserve .....	1,484	
	Water Reserve .....	3,858	5,793
Cottadidda .....	Forest Reserve along Murray River.....	730	
	Camping Reserve .....	885	
	Village Reserve .....	320	

Parish.	Purpose for which reserved.	Area.	Total Area.
		acres.	acres.
Denison .....	Water Reserve .....	1,782	2,123
	Travelling Stock and Camping .....	341	
Dry Forest .....	Water Reserve .....	2,498	2,936
	Camping Reserve .....	320	
	Travelling Stock Reserve .....	118	
Finley .....	Water Reserve .....	588	2,186
	Travelling Stock Reserve .....	1,598	
Gereldory .....	Camping Reserve .....	52	639
	School Reserve .....	45	
	Forest Reserve along Murray River .....	340	
	Travelling Stock Reserve .....	252	
Headford .....	Public Purposes .....	320	320
Kilnyana .....	Water Reserve .....	790	790
Lalaity .....	do .....	2,812	2,812
	do .....	640	
Langunya .....	Travelling Stock Reserve .....	1,746	2,386
Momalong .....	Water Reserve .....	1,860	1,860
	do .....	530	
	Travelling Stock Reserve .....	226	
Mulwala .....	Racecourse Reserve .....	243	6,936
	Reserve for refuge in time of flood .....	750	
	Forest Reserve along Murray River .....	5,187	
	Water Reserve .....	4,188	
Nangunia .....	Travelling Stock Reserve .....	62	4,250
	Water Reserve .....	121	
Narrow Plains .....	Camping Reserve .....	515	636
	Water Reserve .....	121	
Osborne .....	Water Reserve .....	2,261	2,261
Sargood .....	Travelling Stock Reserve .....	3,233	3,233
	Water Reserve .....	1,014	
Tocumwal .....	Reserve for Access .....	87	3,300
	Reserve for Temporary Common .....	433	
	Reserve for Police Purposes .....	19	
	Reserve for Public Purposes .....	66	
	Camping Reserve .....	745	
	Travelling Stock Reserve .....	937	
Savernake .....	Water Reserve .....	1,750	2,300
	Travelling Stock Reserve .....	640	
Tongaboo .....	Water Reserve .....	684	684
	do .....	1,851	
Turramia .....	Camping Reserve .....	400	3,100
	Travelling Stock Reserve .....	100	
	Forest Reserve along Murray River .....	743	
Ulupna .....	Water Reserve .....	801	2,300
	Travelling Stock Reserve .....	1,499	
Wahgunyah .....	Water Reserve .....	560	7,017
	Travelling Stock Reserve .....	990	
Wangamong .....	Forest Reserve along Murray River .....	6,067	2,412
	Water Reserve .....	2,412	
Warmatta .....	do .....	1,019	2,379
	Forest Reserve along Murray River .....	1,360	
Warragubagra .....	Water Reserve .....	900	920
	School Reserve .....	20	
	Travelling Stock Reserve .....	1,200	
Woperana .....	Water Reserve .....	3,796	5,516
	Camping Reserve .....	160	
	Forest Reserve along Murray River .....	360	
Total Area of Reserves in County Denison .....			85,649

## Summary.

Water Reserves .....	42,228 acres.
Forest Reserves .....	20,735 "
Travelling Stock Reserves .....	19,206 "
Other Purposes .....	3,480 "
Total .....	85,649 "

## RED-GUM Timber Reserves, fronting the Murray, County of Denison.

No. of Reserve.	Area.	Parish.
1,639 .....	400 .....	Boomanoomana.
2,386 .....	370 .....	Turramia.
3,208 .....	1,340 .....	Mulwala.
3,209 .....	960 .....	Boomanoomana.
3,210 .....	1,841 $\frac{1}{4}$ .....	"
3,211 .....	108 .....	"
3,212 .....	300 .....	Cottadidda.
3,213 .....	280 .....	"
3,214 .....	150 .....	"
3,215 .....	2,500 .....	Barooga.
3,241 .....	400 .....	Tocumwal.
3,242 .....	360 .....	Woperana.
*3,216 .....	4,500 .....	Mulwala and Turramia.

APPENDIX No. 73.  
RESERVES, County Towensend.

Parish.	Purpose for which reserved.	Area.	Total area in parish.
		acres.	acres.
Banangalite .....	Water Reserve .....	2,843	5,851
	Forest Reserve .....	1,488	
	Travelling Stock Reserve .....	1,520	
Baratta .....	do .....	4,690	6,954
	Water Reserve .....	2,264	
Belmore .....	do .....	4,956	4,956
Billabong .....	do .....	6,293	6,293
Bingellibundi .....	do .....	1,015	1,015
Birganbigil .....	do .....	320	320
Blackwood .....	do .....	1,665	1,717
	Canal Reserve .....	52	
Boobula .....	Water Reserve .....	3,457	3,457
Boonoke .....	do .....	1,433	1,529
	Canal Reserve .....	96	
	Water Reserve .....	4,788	
Booorooban .....	Travelling Stock Reserve .....	492	5,815
	Temporary Common .....	168	
	Forest Reserve .....	367	
	Water Reserve .....	332	
Boreo .....	Travelling Stock Reserve .....	2,060	2,302
Bowna .....	Water Reserve .....	800	800
	do .....	572	
Boyeo .....	Forest Reserve .....	5,708	7,130
	Railway Reserve .....	850	
Brassi .....	Water Reserve .....	1,239	1,239
	do .....	1,566	
Bullatella .....	Forest Reserve .....	4,415	5,729
	Crossing Reserve .....	18	
	Water Reserve .....	513	
Bungooka .....	Forest Reserve, partly fronting the River Murray .....	13,300	13,813
Campbell .....	Timber Reserve .....	1,193	1,193
Caroonboon .....	Water Reserve .....	4,173	4,173
Caroonboon North .....	do .....	3,644	3,644
Carso .....	do .....	1,522	1,522
Citlagathon .....	do .....	420	420
Colima .....	Forest Reserve .....	11,450	18,932
	Reserves in time of flood .....	825	
	Water Reserve .....	6,657	
	do .....	2,067	
Conargo .....	Canal Reserve .....	170	5,292
	Travelling Stock Reserve .....	868	
	Timber Reserve .....	640	
	School Reserve .....	18	
	Temporary Common .....	1,529	
Conargo North .....	Water Reserve .....	2,600	2,600
Coolagali .....	do .....	1,836	1,836
Coolambil .....	do .....	5,023	5,023
Coronalla .....	do .....	6,203	19,808
Forest Reserve .....	13,605		
Cudoc .....	do .....	5,241	7,000
Curraganung .....	Travelling Stock Reserve .....	1,759	
Curraganung North .....	Water Reserve .....	600	600
Darwilly .....	Travelling Stock Reserve .....	6,100	8,526
	Water Reserve .....	2,426	
Deniliquin North .....	Temporary Common .....	6,800	6,800
	Water Reserve .....	468	
	Travelling Stock Reserve .....	812	
Deniliquin South .....	Temporary Common .....	3,776	5,870
	do .....	650	
	Railway Reserve .....	164	
Derrulaman .....	Water Reserve .....	6,388	9,338
	Canal Reserve .....	160	
	Forest Reserve .....	2,790	
Devon .....	do .....	1,280	4,052
Drysdale .....	Travelling Stock Reserve .....	2,772	
Water Reserve .....	2,050		
Dulverton .....	Travelling Stock Reserve .....	2,140	7,190
	Railway Reserve .....	3,000	
	Forest Reserve .....	1,173	
Dunkeld .....	Water Reserve .....	1,232	2,655
	Travelling Stock Reserve .....	250	
Edgar .....	Forest Reserve .....	2,750	6,894
	Water Reserve .....	4,144	
	do .....	3,733	
Euroka .....	do .....	876	5,430
	Forest Reserve .....	319	
	Camping Reserve .....	502	
Euroley .....	Water Reserve .....	3,600	3,600
Finley .....	do .....	2,720	2,720
Gilbert .....	do .....	1,102	1,102
Gobram .....	do .....	1,173	1,173
Gonawarra .....	Camping Reserve .....	1,122	1,826
	Water Reserve .....	704	
Gotha .....	do .....	3,019	3,019
Harold .....	Water Reserve .....	3,019	3,019

Parish.	Purpose for which reserved.	Area.	Total area in parish.
		acres.	acres.
Hartwood	Water Reserve	2,439	2,710
	Access Reserve	271	
Hebden	Travelling Stock Reserve	677	677
Jung Jung	Water Reserve	1,000	1,132
	Travelling Stock Reserve	132	
Kerranakoon	Water Reserve	1,990	6,778
	Travelling Stock Reserve	1,888	
	Forest Reserve	2,900	
Lamb	Water Reserve	320	320
Loch	Travelling Stock Reserve	772	772
Mallec	Water Reserve	4,387	4,387
Monimail	Railway Reserve	5,120	5,980
	Travelling Stock Reserve	860	
Moonbria	Water Reserve	1,369	1,369
Moonbria North	Travelling Stock Reserve	1,074	1,074
	Water Reserve	2,143	7,231
Morago	Travelling Stock Reserve	3,888	
	Forest Reserve	1,200	
Morton	Water Reserve	307	307
	do	2,522	6,857
Moultrassie	Travelling Stock Reserve	447	
	Forest Reserve	3,888	
	Railway Reserve	397	
Mundiwa	School Reserve	20	3,351
	Village Reserve	1,000	
	Forest Reserve	1,934	
	Water Reserve	2,027	
Nallam	Forest Reserve	5,681	7,708
	Water Reserve	4,761	4,992
Nardoo	Camping and Travelling Stock Reserve	231	
Narrama	Water Reserve	270	270
	do	569	9,509
Narratoola	Forest Reserve	9,000	
Neerim	Water Reserve	5,213	5,213
Nyangay	Travelling Stock Reserve	124	1,404
	Railway Reserve	1,280	
North Caroonboon			
Officer	Travelling Stock Reserve	1,307	1,307
Palmer	Water Reserve	1,706	1,706
	do	2,429	2,629
Peppin	Railway Reserve	200	
	Water Reserve	5,434	6,308
Powheep	Timber Reserve	874	
	Water Reserve	600	
Puclaewidgee	Travelling Stock Reserve	100	1,898
	Canal Reserve	1,198	
Pungulgui	Water Reserve	2,260	2,260
Purdanima	do	1,735	1,735
Quandong	do	1,413	1,413
	do	2,239	3,079
Quiamong	do	168	
	Travelling Stock Reserve	672	444
Ricketson	Water Reserve	444	
Ronald	Timber Reserve	3,600	3,600
Stanaforth	Water Reserve	920	920
	do	1,300	6,642
Tawarra	Canal Reserve	65	
	Forest Reserve	5,277	
Tholobin			
	Water Reserve	4,213	6,066
Thulabin	Travelling Stock Reserve	1,853	
Thurgoon	Water Reserve	4,288	4,288
Towool	do	1,944	1,944
	do	894	6,194
Tumudgery	Forest Reserve	5,300	
Walla	Water Reserve	1,460	1,460
	do	397	3,737
Wandook	School Reserve	56	
	Travelling Stock Reserve	764	
	Temporary Common	2,520	8,690
Wangonilla	Water Reserve	5,238	
	Travelling Stock Reserve	3,452	
Warbreccan	Crossing Reserve	6	3,464
	Water Reserve	3,458	
	do	320	2,764
Wargum	Forest Reserve	2,444	
Warrawool	Water Reserve	3,453	3,453
Warriston	do	4,799	4,799
Warwillah	do	794	794
	Forest Reserve	4,550	10,464
Werni	Water Reserve	5,914	
Werkenbergal	do	2,242	2,242
	Camping Reserve	175	1,278
Willeroo	Railway Reserve	224	
	Canal Reserve	388	
	Water Reserve	491	1,330
Willurah	do	1,330	
	do	320	
Winter	Railway Reserve	3,880	8,100
	Travelling Stock Reserve	3,950	

Parish.	Purposes for which reserved.	Area.	Total area in parish.
		acres.	acres.
Wollomai	Village Reserve	618	1,031
	Water Reserve	413	
Wonue	do	1,289	7,573
	Forest Reserve	6,284	
Wononga	Water Reserve	1,520	1,560
	Camping Reserve	40	
Woonox	Railway Reserve	2,800	6,497
	Travelling Stock Reserve	2,271	
Wureep	Temporary Common	1,426	3,212
	Water Reserve	2,663	
Yalama	Timber Reserve	549	2,822
	Water Reserve	1,101	
Yatgadoori	School Reserve	18	1,489
	Travelling Stock Reserve	1,700	
Yallokool	Water Reserve	1,489	4,742
	do	4,565	
Yaloke	Travelling Stock Reserve	177	108
	Water Reserve	108	
Zara North	Railway Reserve	2,460	7,107
	Camping and Travelling Stock Reserve	4,647	
Zara South	Water Reserve	521	521
	Total	425,021	

APPENDIX No. 74.  
RESERVES in County Cadell.

Parish.	Purpose for which reserved.	Area.	Total area in parish.
		acres.	acres.
Bama	Aborigines Reserve	1,908	21,644
	Forest Reserve, along the Murray	13,786	
	Travelling Stock Reserve	1,678	
Bonarca	Water Reserve	4,272	1,880
	Village Reserve	1,209	
Bunnaloo	Camping Reserve	219	744
	Water Reserve	452	
Burrumbury	Camping Reserve	744	744
Caldwell	Forest Reserve, along the Murray	8,121	955
	Water Reserve	955	
Caloola	School Reserve	40	931
	Village Reserve	891	
Gotha			
Gothoo			
Gulpa	Water Reserve	5,040	14,133
	Travelling Stock Reserve	2,470	
Marah	Forest Reserve, along the Murray	6,623	1,136
	Water Reserve	1,136	
Mars	do	152	723
	School Reserve	38	
Mathoura	Public purposes	313	969
	Camping Reserve	58	
Moama	Temporary Common	167	9,354
	Travelling Stock Reserve	969	
Moura	Forest Reserve, along the Murray	3,650	11,696
	Travelling Stock Reserve	1,582	
Nallam	Water Reserve	422	1,525
	Temporary Common	3,540	
Perriacoota	Police Reserve	160	1,910
	Water Reserve	3,718	
Porthole	Travelling Stock Reserve	1,369	1,142
	Forest Reserve, along the Murray	6,609	
Tataila	Water Reserve	1,525	552
	Camping Reserve	435	
Tantonan	Water Reserve	81	747
	Forest Reserve, along the Murray	1,394	
Thule	Water Reserve	1,142	607
	do	448	
Thyra	School Reserve	30	552
	Temporary Common	74	
Tomara	Water Reserve	747	747
	do	11,209	
Toorangabby	Village Reserve	1,560	30,650
	Camping and Travelling Stock Reserve	250	
Wirringan	Forest Reserve	17,640	607
	Water Reserve	607	
Womboota			
Wongal	Water Reserve	360	8,423
	Forest Reserve	8,063	
Yarraman	Water Reserve	160	160
	do	23	
Yarra	Village Reserve	650	673
	Water Reserve	514	
Yarra	Water Reserve	514	514
	do	558	
	Total	119,761	

## APPENDIX No. 75.

AREA of Reserves, County Urana, East of Railway Line (Narrandera to Jerilderie).

Parish.	Purpose for which reserved.	Area.	Total area in parish.
		acres.	acres.
Betts .....	No Reserve in this Parish .....		
Bungagong .....	Travelling Stock Reserve .....	2,800	3,078
	Water Reserve .....	273	
Brookong North .....	Forest Reserve .....	4,000	8,107
	Water Reserve .....	148	
	Camping Reserve .....	189	
Brookong .....	Travelling Stock Reserve .....	3,770	4,480
Carnarney .....	do .....	3,280	
Combermere .....	Water Reserve .....	1,200	4,822
	do .....	4,822	
Cockatgedong .....	do .....	1,584	5,348
	Travelling Stock Reserve .....	3,764	
Clive .....	Water Reserve .....	1,160	1,368
	Camping Reserve .....	208	
Culhvel .....	Water Reserve .....	1,650	5,970
	Camping Reserve .....	320	
	Travelling Stock Reserve .....	4,000	5,759
Conong .....	Water Reserve .....	2,480	
	do .....	3,279	3,571
Colombo .....	do .....	3,571	
	Forest Reserve .....	16,420	16,770
Clyde .....	Water Reserve .....	100	
	Camping Reserve .....	250	
	Travelling Stock Reserve .....	1,560	6,690
Hastings .....	Water Reserve .....	4,890	
	Camping Reserve .....	240	3,454
Lake .....	Water Reserve .....	1,194	
	Camping Reserve .....	120	7,240
Lockhardt .....	Forest Reserve .....	2,140	
	Travelling Stock Reserve .....	3,350	10,350
Morundah .....	Water Reserve .....	3,890	
	Forest Reserve .....	9,500	5,100
Morundah South .....	Travelling Stock Reserve .....	850	
	Water Reserve .....	2,140	3,714
Mucra .....	Travelling Stock Reserve .....	1,880	
	Forest Reserve .....	1,140	539
Munyabla .....	do .....	794	
	Water Reserve .....	2,920	4,630
Nowranie .....	do .....	318	
North Gunambal .....	Camping Reserve .....	76	4,340
	Reserve for Suburban Settlement .....	145	
Piney Ridge .....	Water Reserve .....	4,630	4,160
	do .....	4,340	
	do .....	760	1,478
Ross .....	Canal Reserve .....	100	
	Forest Reserve .....	3,300	11,210
Widgiowa .....	Water Reserve .....	1,478	
	Travelling Stock Reserve .....	8,120	1,900
Wagh .....	Water Reserve .....	2,877	
	Forest Reserve .....	213	4,306
Yathong South .....	Water Reserve .....	1,480	
	Forest Reserve .....	420	4,954
Napier .....	Water Reserve .....	4,306	
	Water Reserve .....	4,140	780
Wallandoon .....	Camping Reserve .....	814	
Kendall .....	Water Reserve .....	780	3,336
	do .....	3,336	
Watt .....	do .....	15,278	19,678
	Travelling Stock .....	4,400	
Hebden .....	Water Reserve .....	3,381	4,381
	Travelling Stock .....	1,000	
Faed .....	Water Reserve .....	5,653	5,833
	Camping Reserve .....	180	
	Canal Reserve .....	1,090	5,348
Yathong .....	Water Reserve .....	1,388	
	Travelling Stock .....	2,870	2,764
Finlay .....	Water Reserve .....	2,764	
	Travelling Stock .....	2,700	4,465
Galore .....	Water Reserve .....	1,765	
Osborne .....	Forest Reserve .....	11,360	11,360
	Water Reserve .....	7,525	
Boree Creek .....	Canal Reserve .....	180	7,705
Sumner .....	Water Reserve .....	320	
Urangelino .....	do .....	1,550	1,550
	Travelling Stock .....	6,014	
Urana .....	Water Reserve .....	820	8,884
	Temporary Common .....	2,050	
	Forest Reserve .....	6,700	13,636
Batherwa .....	Water Reserve .....	3,576	
	Travelling Stock .....	960	1,600
Thurrowa (from county map; parish map missing).	Reserve from Conditional Purchase .....	2,400	
	Water Reserve .....	1,600	

## APPENDIX No. 76.

AREA of Reserves, County Mitchell, lying west of the Railway Line (Wagga Wagga to Albury), and extending from that line about half way to Narrandera, and south of the Murrumbidgee River.

Parish.	Purpose for which reserved.	Area.	Total area in parish.
		acres.	acres.
Arajoel .....	Water Reserve.....	5,003	5,163
	Canal Reserve.....	160	
Ashcroft .....	Water Reserve.....	862	2,308
	Travelling Stock Reserve .....	1,446	
Berry Jerry .....	Forest Reserve.....	3,000	5,806
	Water Reserve.....	2,533	
Bulgary .....	Canal Reserve .....	273	3,055
	Water Reserve.....	3,055	
Bullenbong .....	do .....	4,342	8,708
	Travelling Stock Reserve .....	4,366	
Edgehill .....	Canal Reserve .....	523	5,337
	Water Reserve.....	960	
Grubben .....	Travelling Stock Reserve .....	3,854	5,476
	Water Reserve.....	3,676	
Hanging Rock .....	Travelling Stock Reserve .....	1,800	4,036
	Forest Reserve.....	3,676	
Leitch .....	Water Reserve .....	360	1,043
	Travelling Stock Reserve .....	1,043	
Milbrulong .....	Forest Reserve.....	6,539	6,539
	Water Reserve.....	960	
Mundawaddery .....	Travelling Stock Reserve .....	200	1,160
	Water Reserve.....	4,887	
Mundowy .....	Travelling Stock Reserve .....	2,100	9,377
	Camping Reserve .....	160	
Osborne .....	Canal Reserve .....	30	4,835
	Forest Reserve.....	2,200	
Pearson .....	Canal Reserve .....	95	2,954
	Water Reserve.....	3,293	
Tootool .....	Travelling Stock Reserve .....	1,447	4,540
	Village Reserve .....	160	
Uranquinty .....	Water Reserve.....	2,794	381
	Water Reserve.....	3,185	
Vineent .....	Camping Reserve .....	1,355	2,764
	Trigonometrical Station Reserve .....	74	
Wanberrina .....	Water Reserve.....	151	8,802
	Travelling Stock Reserve .....	156	
Yarragundry .....	Water Reserve.....	912	4,529
	Forest Reserve.....	1,852	
	do .....	3,400	8,802
	Water Reserve.....	5,402	
	Canal Reserve .....	129	4,529
	Travelling Stock Reserve .....	1,300	
	Water Reserve.....	3,100	

Sydney: George Stephen Chapman, Acting Government Printer.—1891.

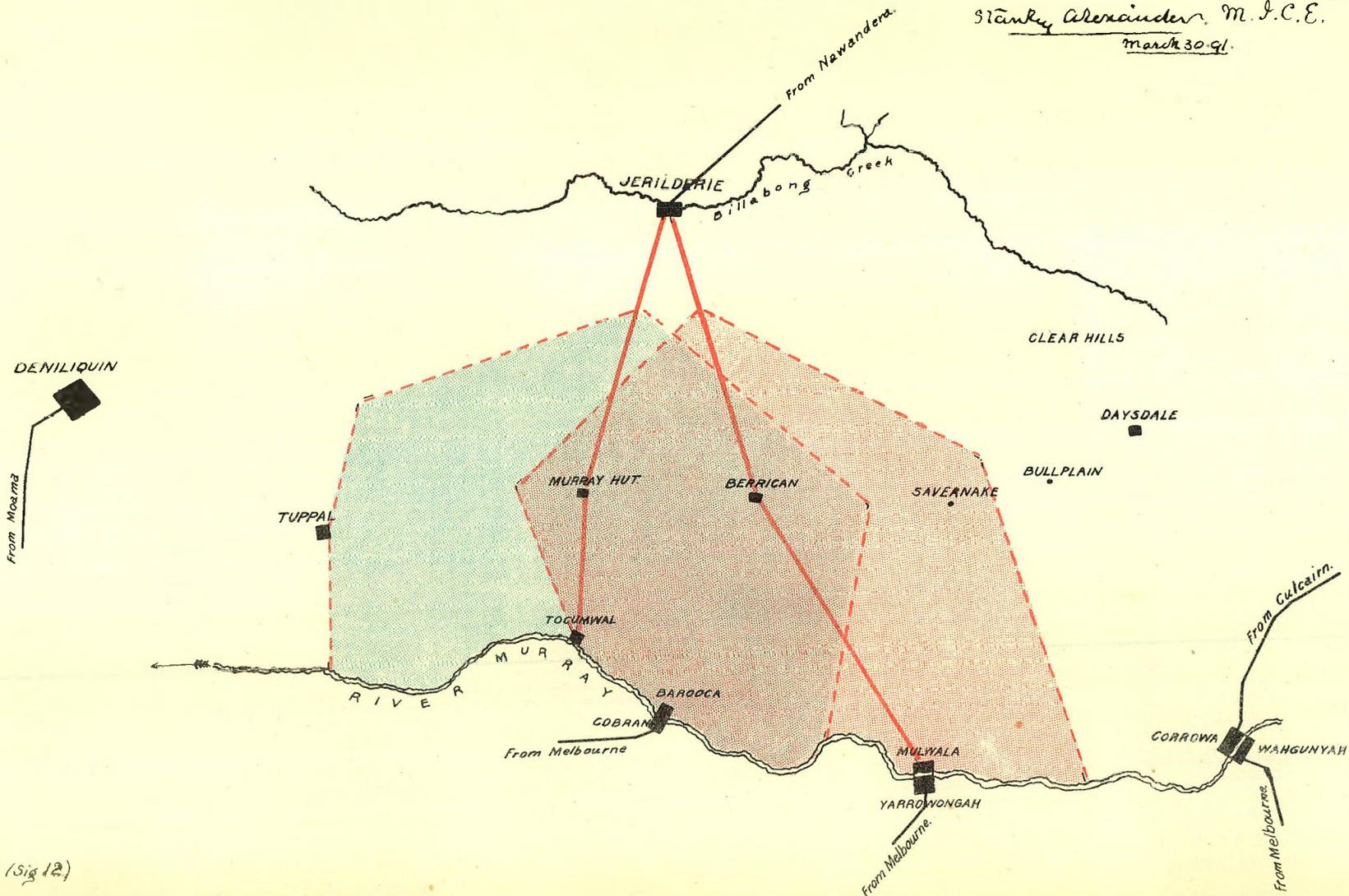
[1s. 9d.]



No. 1.  
 DIAGRAM SHEWING EXTENT OF COUNTRY,  
 SERVED BY LINES FROM JERILDERIE  
 TO TOCUMWAL AND MULWALA.

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,  
 SYDNEY, NEW SOUTH WALES.

*Stanley Alexander, M. I. C. E.,*  
*March 30 91.*



(Sig 12.)

Nº 2.

DIAGRAM

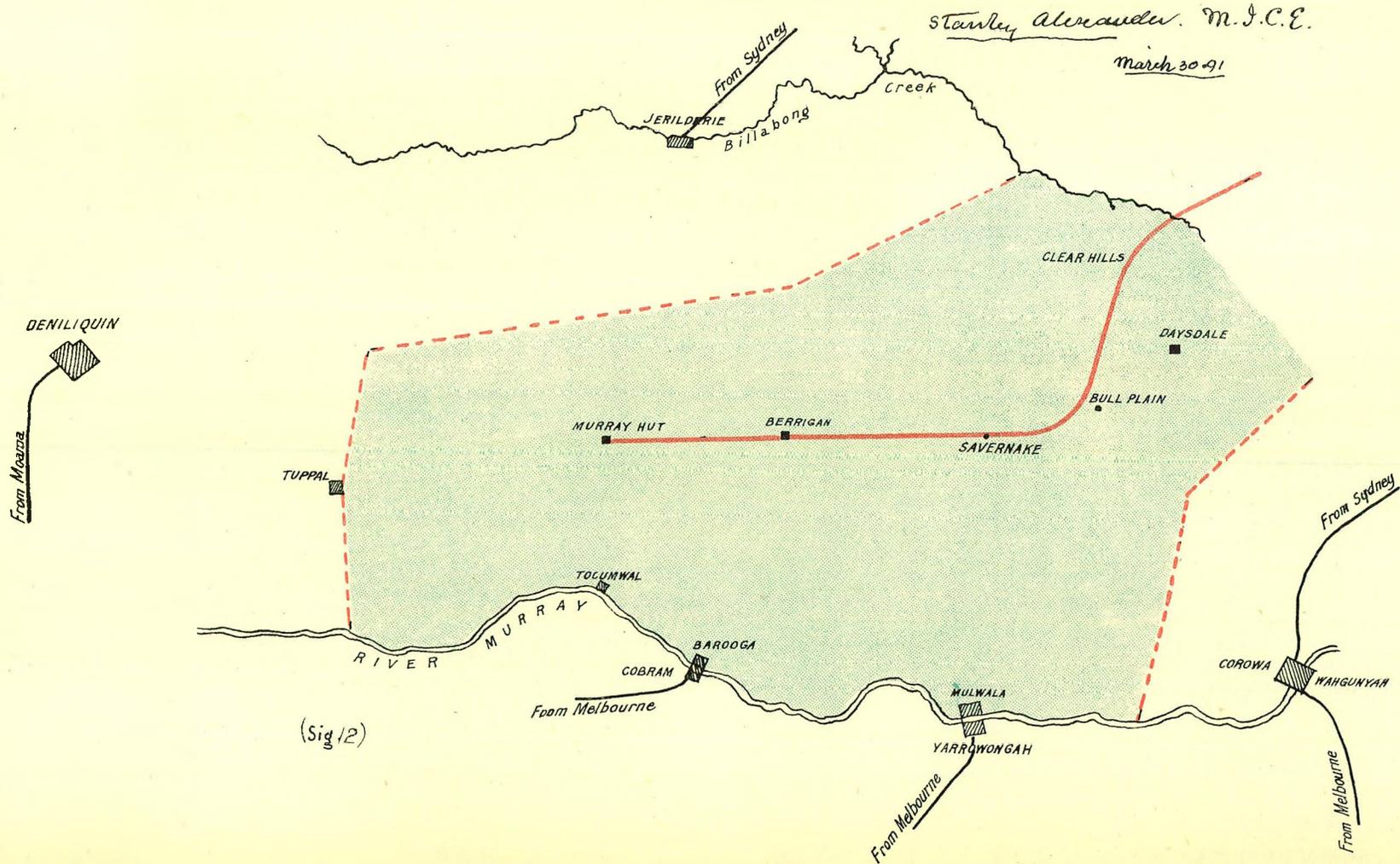
SHOWING EXTENT OF COUNTRY SERVED

BY A LINE THROUGH BULL PLAIN TO MURRAY HUT.

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE.  
SYDNEY, NEW SOUTH WALES.

*Stanley Alexander. M.I.C.E.*

*March 30 91*

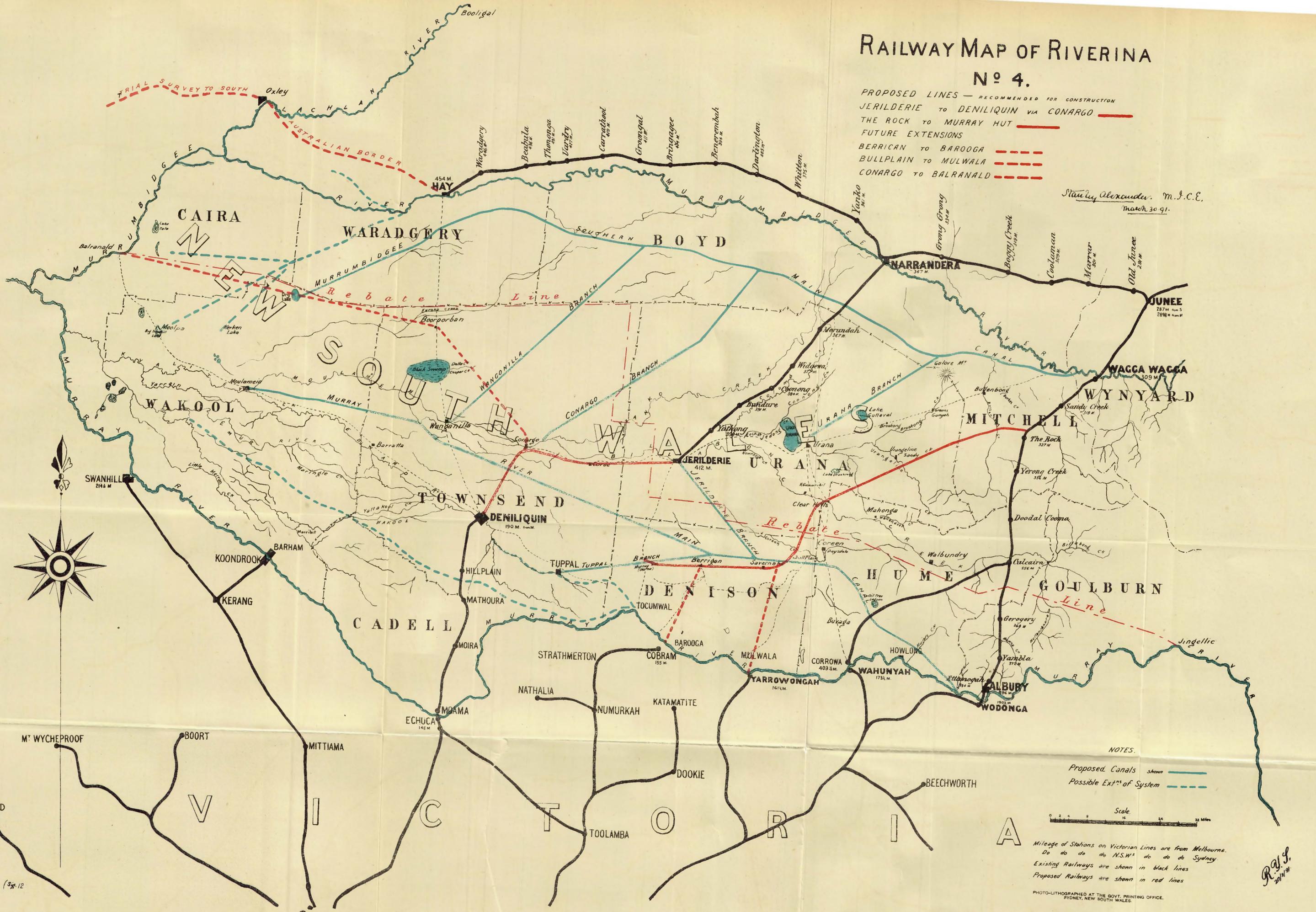




# RAILWAY MAP OF RIVERINA No. 4.

PROPOSED LINES — RECOMMENDED FOR CONSTRUCTION  
 JERILDERIE TO DENILQUIN VIA CONARGO ———  
 THE ROCK TO MURRAY HUT ———  
 FUTURE EXTENSIONS  
 BERRICAN TO BAROOGA ———  
 BULLPLAIN TO MULWALA ———  
 CONARGO TO BALRANALD ———

Stanley Alexander, M.I.C.E.  
 March 30, 1911.



NOTES.  
 Proposed Canals shown ———  
 Possible Ext<sup>n</sup>s of System ———  
 Scale  
 0 2 4 8 16 32 Miles

Mileage of Stations on Victorian Lines are from Melbourne.  
 Do do do do N.S.W.'s do do do Sydney  
 Existing Railways are shown in black lines  
 Proposed Railways are shown in red lines

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,  
 SYDNEY, NEW SOUTH WALES.

Ray J.  
 20/11/11

1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

PROPOSED BRANCH RAILWAY TO JAMBEROO.

(REPORT OF MR. E. B. PRICE.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

Mr. E. B. Price to The Under Secretary for Public Works.

Sir,

January 2, 1891.

I have the honour to report that, according to the instructions of the Minister, I have visited and thoroughly examined the District of Jamberoo.

On the evening of my arrival I met about thirty of the farmers at a public meeting, and on the following days rode through all parts of the surrounding district, accompanied by a few of the residents.

Owing to the hilly nature of the country it is impossible to judge of its extent or capabilities, except by close examination.

I also visited the butter factories and some of the larger private dairies, and took extracts from their books.

The village of Jamberoo is about 5 miles inland from Kiama, and comprises two hotels, four stores, two tanneries, two forges, three wheelwrights, two tailors, two butchers, one bootmaker, three milliners, one saddler, one bacon-curer, two butter factories, several tinsmiths, four churches, one public school, and about forty private residences.

It is the centre of one of the best dairying districts in the Colony, a district which may be described as a basin, 6 miles in diameter, almost surrounded by mountains, which rise on the west and south to a height of over 2,000 feet, with precipitous sandstone cliffs on top, while on the north and east they gradually fall away into rolling hills a few hundred feet in height.

All the land below the sandstone cliffs is of the richest basaltic nature, capable of growing anything.

It is cut up by deep ravines with permanent springs of pure water, and is thickly populated by a thrifty and intelligent class of farmers.

An idea of the amount of settlement is best got by ascending one of the low hills near Jamberoo. From the top of one of these I counted sixty farms.

About 100 farmers are now sending milk to the Jamberoo butter factories, and, as near as I could ascertain, there are fifty others who are either too distant, or have small factories of their own, and, therefore, do not send. Some of these reside in the outlying district on top of the mountains at the Pheasant Ground.

There are also the good lands of Broger's Creek and the upper end of Kangaroo Valley which are populated and transact their business with Jamberoo.

The products of the district are at present, butter, eggs, poultry and bacon, all of which are produced in large quantities.

No crops are grown to send away, in fact little is grown except for feeding cows and poultry.

Fruit is not generally grown, though there are several large orchards containing many varieties of good fruit.

The farms are comparatively small. Taking those represented at the public meeting I found the average to be 143 acres, and the average number of cattle milked daily, 35, giving an average of 2 gallons per day each cow. It requires about 2 acres to keep one cow all the year round.

Most of the farmers send the milk to either the "Woodstock" or "Waughope" factories, and take back a proportion (not exceeding one-third) of the separated milk for rearing calves.

Under present arrangements the surplus milk is contracted for by a bacon curer, who rents the piggeries, in connection with the butter factories. At these establishments from 400 to 500 pigs are kept.

This is the weak point in the factory system, as the price obtained for the skim milk is very small, and the piggeries are a great nuisance.

Both factories are worked on strictly co-operative principles, and the profits divided monthly in proportion to the number of gallons supplied by each subscriber. Yet the return is small, varying during the past two years from 7½d. to 2½d. per gallon—the average being 5d.

It will be seen from the foregoing that the district is highly developed and in a very prosperous state, in fact there are few localities that can compare with it.

It is a pity the main line could not have come through Jamberoo; but the nature of the country rendered the cost prohibitive. The point was fully discussed when the line from Kiama to Nowra was before the Parliamentary Standing Committee on Public Works. The evidence of the officers of the Railway Construction Branch was strongly in favour of leaving Jamberoo to be served by a Branch.

Mr. Wright, District Engineer, estimated the cost of the Branch which he had just surveyed from Shellharbour Station at £30,000, and said it would be a "very easy" line to construct. For the same branch the present estimate is £50,000.

Three lines in all have been surveyed into Jamberoo at different times, use being made of portions of the old survey for the main line, except in the case of Mr. Wright's survey from Shellharbour. Unfortunately, the field-book of this survey was lost, so the estimate furnished with the other papers can only be taken as approximate, and would probably be reduced considerably by a re-survey.

Before any final decision can be arrived at as to the comparative merits of the different lines, I think both the Shellharbour and the Terragong Swamp routes should be resurveyed with a view of reducing the cost as much as possible without injuring the permanent character of the works, but bearing in mind that the line can never go more than a mile or so beyond Jamberoo, and therefore will never be used for express traffic where curves and grades become objectionable.

As laid out at present, the curves are extremely easy for a branch line.

So far, the Shellharbour line is the cheaper; but the line on the south side of the Terragong swamp would better serve the rich land.

The line direct into Kiama seems out of the question, as it entails very heavy works and does not follow the lie of the country.

The estimated cost is nearly £92,000.

When examining into the merits of any proposed work, it is necessary to consider—1st. Whether it will be of National or only local importance; 2nd. Whether it will open up an undeveloped district; and 3rd. Whether it will pay.

This branch to Jamberoo cannot be said to be of national importance, as it can never be extended beyond the mountains, neither will it develop any new district of importance.

To therefore justify its construction at present, when many other places are more urgently requiring railway communication, it must be shown that the increased traffic it will bring to the railway system will pay working expenses and interest on cost of construction. This can only be done by developing new industries, and intercepting traffic which now goes by other means of conveyance.

The principal new industries expected to be created are coal-mining and milk exportation.

With regard to coal, I examined some of the seams which crop out about 700 feet below the top of the mountains and 1,300 feet above Jamberoo.

These are from 25 to 30 feet thick, and extend for many miles.

Drives have been put in in two places, and reports obtained, which leave no doubt as to the commercial value of the coal. The distance from a seaport or railway would appear to be the only cause for the mines not being worked.

Mr. Wilkinson, Government Geologist, with whom I have had several interviews, expresses the opinion that the coal from some portions of the field is of great value and can be profitably worked.

In 1877 he personally examined the coal-seams to the west and south of Jamberoo, and reported very fully. He says the coal to the west is much better than that to the south, where it has been injured by volcanic action.

He describes the coal as being either "semi-bituminous" or "splint" and "good for steam, household, and smelting purposes."

He estimates the quantity under 13 portions, comprising 2,810 acres, at 21,100,000 tons, after allowing for waste in getting.

He also expresses the opinion that good coal extends under the whole sandstone tableland between Jamberoo and Broger's Creek, as he found good coal at the latter place.

It may therefore be taken for granted, that if a branch line is constructed to Jamberoo, private enterprise will extend it to the coal-seams, which are only 4 miles further, and large quantities of coal be sent to Illawarra Lake, when improved, or to Kiama, and to Jervis Bay—in the event of no good coal being found there.

It is impossible to estimate what the output would be; but whatever it amounts to, the railway should benefit to the extent of not less than 1s. per ton.

The export of milk will depend on the demand and the price which the milk companies can afford to pay producers. At present the Fresh Food and Ice Company get a large quantity of milk from Albion Park and the stations near Kiama, and are paying about 6d. per gallon, which is a low price; still it is double what the Jamberoo farmers get back from the butter factories at this season of the year.

In order to send milk to a distance—in summer especially—it is essential that the road carriage before reaching the railway should be short. After being cooled it is not of such consequence.

For this reason Jamberoo now sends no milk to Sydney, though the farmers immediately about Kiama send over 450 gallons per day.

As to the question of demand, I learn from the Inspector of Dairies in Sydney—an unprejudiced witness—that the demand for country milk is increasing every day, and the quality of the supply improving. It must be obvious to all who consider the question that all local dairies about Sydney must in time be closed. The value of land is becoming so great in the suburbs that little profit can be made even when double the price obtained by the country milk companies is charged.

Nearly all produce from Jamberoo, such as butter, eggs, and poultry, now goes to the "South Coast and West Camden Co-operative Co." The Company's manager informs me that he believes in a short time milk will be sent to Sydney and churned here instead of in the country, and that he is now starting experimental creameries.

Mr. Pateson, manager of the Fresh Food and Ice Company, has furnished me with a printed copy of their scale of payments to suppliers. I find the price varies from 10d. to 5d. Nothing less than 5d. has ever been paid. The average price for the year is 7d. per gallon. He says they cannot at present get sufficient milk to meet the demand. Two years ago they sold daily 2,000 gallons. Now they sell over

6,000,

6,000, although several other companies have since started. He considers that within a few years of the proposed line being opened Jamberoo could get sale for 4,000 gallons daily. He is intimately acquainted with the district and considers it the best in the colony.

The Railway Commissioners now charge 10d. per mile haulage on the milk companies vans. These hold about 110 tins on an average, equal to about 1,300 gallons.

From Jamberoo to Sydney would be charged 72 miles, which, at 10d., amounts to £3 per van.

The milk used by the two Jamberoo factories amounted last year to 1,425,791 gallons, showing an increase of 252,223 gallons over the previous twelve months.

Butter produced was 599,006 lb.; number of kegs sent to Sydney, 9,676; total weight about 363 tons, which at 24s. 6d. equals £444 freight paid to railway.

If the milk had been sent to Sydney instead of butter the carriage paid would have been £3,790.

It is therefore apparent that after a few years, the new industries of coal mining and milk exporting would go a long way towards making up the interest on the increased railway capital.

With regard to the acquisition of traffic which is at present lost to the railway, I have no power to demand the production of steam packet companies' books, and therefore cannot give an estimate of the Jamberoo traffic, which now goes by sea and will continue to do so until a railway is constructed into the heart of the Jamberoo district.

So long as producers have to pay a heavy charge for cartage over a hilly road, amounting at present to £1 per ton on some goods, so long will they continue to save a few shillings by using the steamer instead of the railway from Kiama.

The railway does not get one half of the present traffic. Much of the goods which is sent to Kiama is in reality for Jamberoo, the Kiama storekeepers acting as agents for the Jamberoo farmers.

Some idea of the steamer traffic could be got by comparing the returns from Kiama Railway Station for one month during the recent strike—when the steamers stopped running—with the previous month. This would not, however, show the full amount as the farmers kept back their orders for cattle feed as long as possible or did without.

That the steam packet companies fear the extension of the railways is shown by Mr. Keon's evidence before the Sectional Committee on the Kiama to Nowra Railway. He, as agent for the Illawarra Steam Navigation Co., requested not to be asked to produce his books, and said he believed the company would object to produce them.

It is not my intention to give any estimate of the probable increased revenue to be derived by the construction of this line as I do not believe in such estimates.

If the railway is made the entire traffic to and from over 20,000 acres of the richest land in the colony will, in all probability, pass over the railway, in addition to the output of an extensive and easily worked coal-field.

A short branch of 5 miles is difficult to work profitably, especially where the principal traffic is in goods, but where, as in this case, it is likely to do away with steamer competition and develop new industries it may become a matter of policy to construct it.

For the above reasons, and after a careful investigation of the whole question, I am of opinion that a branch should be constructed to Jamberoo; but that, as it can never be more than a branch, the cost of the line should be kept as low as is consistent with the safe working of a slow traffic.

I have, &c.,

EDWARD B. PRICE.



1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

PROPOSED RAILWAYS TO LUDDENHAM AND MULGOA.

(REPORT OF MR. E. B. PRICE.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

Mr. E. B. Price to The Under Secretary for Public Works.

Sir,

16 February, 1891.

I have the honor to furnish the following report on the question submitted to me by the Minister.

When pursuing my investigations in connection with my recent report on the proposed alternative line to Blayney, I was struck with the large area of undeveloped agricultural land which lay in the angle between the Southern and Western railways, and stretched out as far as the Nepean. This tract of country may be referred to under its old name of the "Cowpastures."

It appeared to me then that this state of undevelopment was largely owing to the want of railway communication with the metropolis, and I therefore suggested that the construction of a branch from Liverpool was worthy of future consideration—such a line to form, as it were, a continuation of the St. Peter's to Liverpool loop-line.

The publication of this report naturally gave rise to other schemes, promoted in each case by the residents of the adjoining railway townships.

Four distinct lines have been now proposed, viz. :—

- (1.) Blacktown to Mulgoa.
- (2.) Liverpool to Luddenham and Mulgoa.
- (3.) Penrith to Mulgoa and Luddenham.
- (4.) St. Mary's to Mulgoa and Luddenham.

(1.) BLACKTOWN TO MULGOA.

This is a portion of Mr. Gipp's proposed alternative line to Blayney. He, however, did not bind himself to any particular point of connection; but doubtless selected Blacktown as being already a junction station on the Western line.

I did not meet any one at Mulgoa or Luddenham who advocated this line from Blacktown. The majority are strongly in favour of the line suggested by me in my previous report.

If there was no probability of the St. Peter's-Liverpool loop-line being constructed, something might be said in favour of Blacktown, as a point of junction, on the head of directness.

This advantage would, however, be compensated for by the line entering into competition with the existing line for at least 5 miles of its length.

I think it may be assumed that the Liverpool loop-line will be constructed before long, and then the advantage of directness will lie on the side of Liverpool as a connection.

Though possibly a little cheaper to construct, it offers much fewer advantages than the Liverpool route, and may, therefore, be dismissed from further consideration.

ST. PETER'S TO LIVERPOOL LOOP-LINE.

As the reduction of mileage between Liverpool and Sydney would add enormously to the advantage of Liverpool as a point of junction for any line into the Cow-Pastures, I thought it my duty to go over the country to be traversed by the second section of the proposed direct line to Liverpool.

I find that if the line is continued from Burwood Road it will open up a considerable area of good country, much of the land being elevated several hundred feet, and admirably suited for suburban residences.

Bankstown,

Bankstown, especially, should become one of the healthiest and most popular suburbs.

It is undecided where the line would join the existing railway at Liverpool. It may either cross George's River twice, and open up the Moorbank Estate, much of which is fairly elevated, or it may skirt round the north bend of the river, and possibly join near Cabramatta Station.

Whichever course it takes it must reduce the distance to Sydney by about 6 miles, and relieve the suburban line of the southern traffic.

My inspection confirmed my previous opinion as to the merits of this line.

## (2.) LIVERPOOL TO LUDDENHAM AND MULGOA.

I went in detail over almost the whole of districts of Cabramatta, Bringelly, Luddenham, and Mulgoa—which this line would open up—with a view of learning by actual observation the capabilities of the country.

The following is a general description of the country passed through by a line due west from Liverpool:—

For the first mile the land is poor, and covered with ti-tree scrub; the land then rises and becomes better, and when properly cultivated grows splendid fruit. Much of it, however, is of a nature which will require constant attention and manure.

As far as the Old Cow-Pasture Road the original holdings have been subdivided and sold in small farms or residential sites; many allotments are owned by Sydney business people who would doubtless build were direct railway communication established.

The country then rises into the "Puzzling Hills," as they are well called on the old maps. This range forms the watershed between the Nepean and George's Rivers, and carries the aqueduct of the Sydney Water Supply. These hills are from 200 to 300 feet in height, and are broken up in a wonderful manner forming beautiful building sites. They are generally covered with good soil. Most of the land is a fairly open forest, but some large areas were cleared and apparently cultivated in old days.

The much advertised "Hoxton Park Estate" comes in a little to the south. It does not appear to have been a success, so far as can be judged by the few inhabited cottages which still remain. It must, however, be borne in mind that much of the land is covered with a dense forest, requiring a considerable capital to clear, unless proximity to a railway enables the timber to be immediately disposed of as fuel.

After crossing the main range some beautiful open rolling grass country is seen to the north, which was once all under wheat.

No doubt constant cropping and inferior seed brought disease and in the end induced people to believe that wheat could not be grown.

I am informed that the Public School Master at Mulgoa has lately grown some perfectly sound wheat by a process of his own. I therefore see no reason why scientific farming should not cause all this country to again yield good grain crops, especially now that the land has lain idle for years.

Along Kemp's Creek is some fine orchard land on which some hardworking and intelligent settlers have lately planted gardens. Three years ago the land was dense bush, and already fair crops of very superior fruit and vegetables are being carted 15 miles to Parramatta market.

There are some very rich flats along South Creek, and nicely elevated country—here settlement is also springing up.

Except for one strip of poor ironstone country about 1 mile wide, which extends between Kemp's Creek and South Creek, all the land about here is good for fruit growing, and even this poor strip has been chosen in one instance for growing wine grapes.

The land between Badgery's Creek and the Bringelly Road is good; it is generally elevated.

Near the Bringelly Road occurs a high ridge of basalt, which has been terraced and planted with wine grapes by enterprising German settlers, who understand the value of decomposed basalt. A considerable quantity of wine is produced, which is said to be of a superior quality.

The village of Luddenham lies along the Bringelly Road; in itself it is of little importance. Near it, however, are some very large areas of cleared land, of good quality, and well elevated.

Good land extends from here all the way to the Nepean and Mulgoa, which lies rather to the north.

Settlement is rapidly springing up about Luddenham and Mulgoa, owing to the richness of the soil, the elevation of the country, and to the favourable terms offered by the owners of land who have cut up their estates into small farms.

All this country could be irrigated as easily as the area held by the Mulgoa Irrigation Company. Its elevation of course must always add to the cost of pumping, which will be very considerable.

Wonders are now being done in the way of fruit-growing without any irrigation, though certainly this is an exceptionally good year. The largest peaches and apples I have ever seen here, or in other countries, I saw growing in newly-planted orchards near Badgery's Creek, and at Mulgoa.

The present Mulgoa Irrigation scheme embraces but a small area of the country under consideration, which needs railway communication.

The larger portion of the land which it is proposed to irrigate lies within 4 miles of the Western railway, and actually crosses it at St. Mary's.

The village of Mulgoa lies at the most remote corner, and yet is only 7 miles in a direct line from Penrith.

It must be therefore understood that, though the irrigation works will produce a traffic for a railway from Liverpool, these works alone would never justify the construction of a line of such a length. It is the opening up of the intervening country which must be looked to.

Any line into Mulgoa will benefit the settlers across the Nepean, who hold land on the table-land between the Warragamba and Nepean Rivers. Some of this land in the neighbourhood of the Nepean is fairly good, and grows excellent fruit.

From the above description it will be seen that, supposing the Liverpool loop-line to have been constructed, the line from Liverpool would place in direct communication with Sydney a large area of country with a fairly rich soil, admirably suited for suburban residences and gardens.

One could hardly choose prettier building sites than those to be found amongst the hills along the Sydney water supply conduit, 20 miles from Sydney.

No steps have yet been taken to render this aqueduct available for irrigation, though the advantage of doing so was strongly urged by Mr. Clark in his report on the Prospect Scheme for water supply in 1876-77. The following is an extract:—

After calculating that an average of forty million gallons would daily have to be run to waste, he says:—

“ Situate, as the conduit will be, on or near the top of a ridge, it will command a wide extent of country on either side, and which, for a distance of many miles, is chiefly of an agricultural and pastoral character.

All that would be necessary in order to bring this quantity of water into use for irrigation, pastoral, or manufacturing purposes, would be the provision of reservoirs to contain it. For this purpose the country is especially favourable. A cursory examination of it, with a view of utilising the water otherwise to be wasted, shows that there are sites more or less suitable for ten storage reservoirs in the length of 21 miles of the conduit south of Prospect, and no doubt numerous other sites exist. Time will not permit me here to pursue this subject, but it is perfectly evident that this portion of the county of Cumberland may derive large advantages from the use of the water. Very many eligible sites for residences and homesteads exist in the district passed through. . . . I am unable to go fully into the estimate of the value of the water in an agricultural or pastoral district. It is possible, however, to estimate what a surplus quantity of twenty million gallons per day would do. It would supplement the rainfall to a extent of 12 inches per annum on 20,000 acres at a time when most required.”

I give the above fully, as it bears out in the strongest manner my previous remarks on the future possibilities of this district.

The character of the country crossed is a series of rolling ridges, with creeks between. Two of these ranges rise to a considerable elevation. There are, however, depressions—for instance, at the entrance to the Cecil Hills tunnel—through which a line could be taken without difficulty.

The ascents and descents are gradual, but owing to the peculiar nature of the hills, careful survey will be needed before any definite line can be marked out. The existing maps are very erroneous.

It may also be found advisable to add to the cost of the line in order to serve the outlying country or to extend it right into Mulgoa.

These are, however, matters for the Railway Construction Branch.

As to the cost of this branch or of other lines I refrain from offering any opinion. In my previous report—for the sake of comparison—I applied the estimate furnished to me of the Blacktown to Mulgoa line to this line, as they both run through somewhat similar country, though I stated that this line would probably be the more expensive. I also suggested the construction of only 15 miles of line, and not 17, which would be necessary to bring the line right into Mulgoa.

Nevertheless, I am now credited with estimating the cost of the whole line at £6,000 per mile.

The deputation which waited on the Minister said the line could be made for £50,000,—on what grounds I know not. My belief is that the line would be cheap at double this amount.

I wish, therefore, it to be clearly understood that the lines shown on the accompanying map, are only intended to indicate the general direction any line might possibly take.

### (3.) PENRITH TO MULGOA AND LUDDENHAM.

This line is promoted by the people of Penrith. Its length would be about 10 miles. For nearly the entire distance it would pass through good land.

I was surprised and disappointed on my late visit to find that large areas of good land in close proximity to Penrith are lying idle and only used for grazing purposes.

I had expected, and been lead to suppose, that the whole country along the road to Mulgoa was thickly populated. The reverse is the case. In fact, the poorer land near Cabramatta and Liverpool stations supports a larger population than the country in the neighbourhood of Penrith or Kingswood.

It cannot be the want of railway communication.

Further out the settlement increases, and some very nice places are met with. The country along the Mulgoa Creek is very rich, and offers beautiful building sites, which would no doubt be built upon if a railway from Penrith were constructed.

From the formation of the country, it is probable that the Nepean River once ran through where the Mulgoa Creek now flows. Some strange convulsion of nature may have caused it to turn back and hide itself among the mountains in a narrow gorge.

If the object aimed at were merely to connect the villages of Mulgoa and Luddenham with the railway and a market town, then this line would be the most direct route.

Such a line would, however, prove of little or no use to the main portion of the country it is desired to open up. Its advantages would be entirely local. It would benefit Mulgoa at the present time probably more than any other line, as it would give the small producers easy access to a considerable town, and induce settlement along the route.

Penrith even now is ceasing to be the fruit market of Mulgoa, as I find settlers sending their fruit direct to Sydney.

It was asserted to me that Mulgoa and Luddenham could never produce more fruit than Penrith could consume.

This shows a poor appreciation of the capabilities of the district on the part of the supporters of this line.

If fruit-growing on a large scale—as is contemplated by the Irrigation Company, and by numbers of settlers, who have already planted extensive orchards—is to prove remunerative in the future, when the supply becomes very great, preserving works must be established on the co-operative principle, and also exporting on a systematic scale must be had recourse to.

The amount of dried and tinned fruits now imported into the Colony is enormous, not to mention green fruit from other colonies.

There is no just reason for this, as we can grow as good fruit as any country in the world, and produce our own sugar and tin.

This

This season it has been impossible to dispose of all the oranges and grapes. In many gardens they have not been pulled. How will it, then, be when all the young orchards and vineyards come into full bearing?

It is absolutely certain that preserving and exporting on a large scale must be engaged in.

This fact is well understood by all the modern fruit-growers in these outlying districts, and they have taken the precaution to plant the superior kinds of apples and peaches.

In a few years the fact of having railway communication with a town such as Penrith will prove of little advantage to the country fruit-growers, except so far as the line would form a link in the connection with a sea-port.

It has been stated to me that the timber trade alone would make the line pay.

This will not bear investigation, as I find that if the whole of the firewood which is cut up on the south side of the railway at Kingswood came over the new line it would add only about £600 to the gross annual receipts.

It would, however, prove a great advantage to the new settlers to be saved the long drawing into Kingswood, and enable them to turn their waste timber into cash.

This question of firewood traffic applies equally to all the proposed lines. There is not much more good timber left than would supply sleepers for the line and fencing for the future subdivisions.

#### (4.) ST. MARY'S TO MULGOA AND LUDDENHAM.

Though my instructions do not tell me to report on this proposal, yet, it having been brought under my notice during my recent visit, I consider it my duty to remark briefly on it.

It is promoted by the residents of St. Mary's, and some of the settlers in Luddenham mentioned it with favour as being more direct to Sydney than the proposed line to Penrith.

This line would be about 11 miles in length, and would run for almost its entire course through the centre of the Irrigation Company's property, which is now uninhabited, except in the neighbourhood of Mulgoa and St. Mary's.

It is similar to the Penrith line, as being a local line and promoted by local interests.

Its construction would enormously enhance the value of the irrigation area.

I am given to understand that the Company would give all the land for nothing. I, however, look upon this line as one which should be constructed by the Company in their own interests, certainly as far as the Bringelly Road, say, 7 miles.

A light railway will cost them little more than a good macadamised road, such as they will have to construct to allow of access to their land.

#### CONCLUSION.

Having thus discussed separately the different proposed lines, a decision has to be arrived at as to which would in the end prove the best in the general interests.

In my opinion none of these lines would pay for some years to come.

In fact, none of the advocates except those of the Penrith line claim that they would.

They, however, all claim that the rich and beautiful country in the interior should be assisted to become something better than bush grazing land.

No line appears to me as at all likely to meet the requirements of the case except the line from Liverpool to Luddenham and Mulgoa.

Such a line would be of little use without the completion of the Liverpool loop-line.

Whether it is right to construct a line, with the object of developing an unproductive district, is not for me to decide.

It may be said that there are other parts of the country equally rich, or more so, and equally neglected; so there are, but the circumstances are not quite the same.

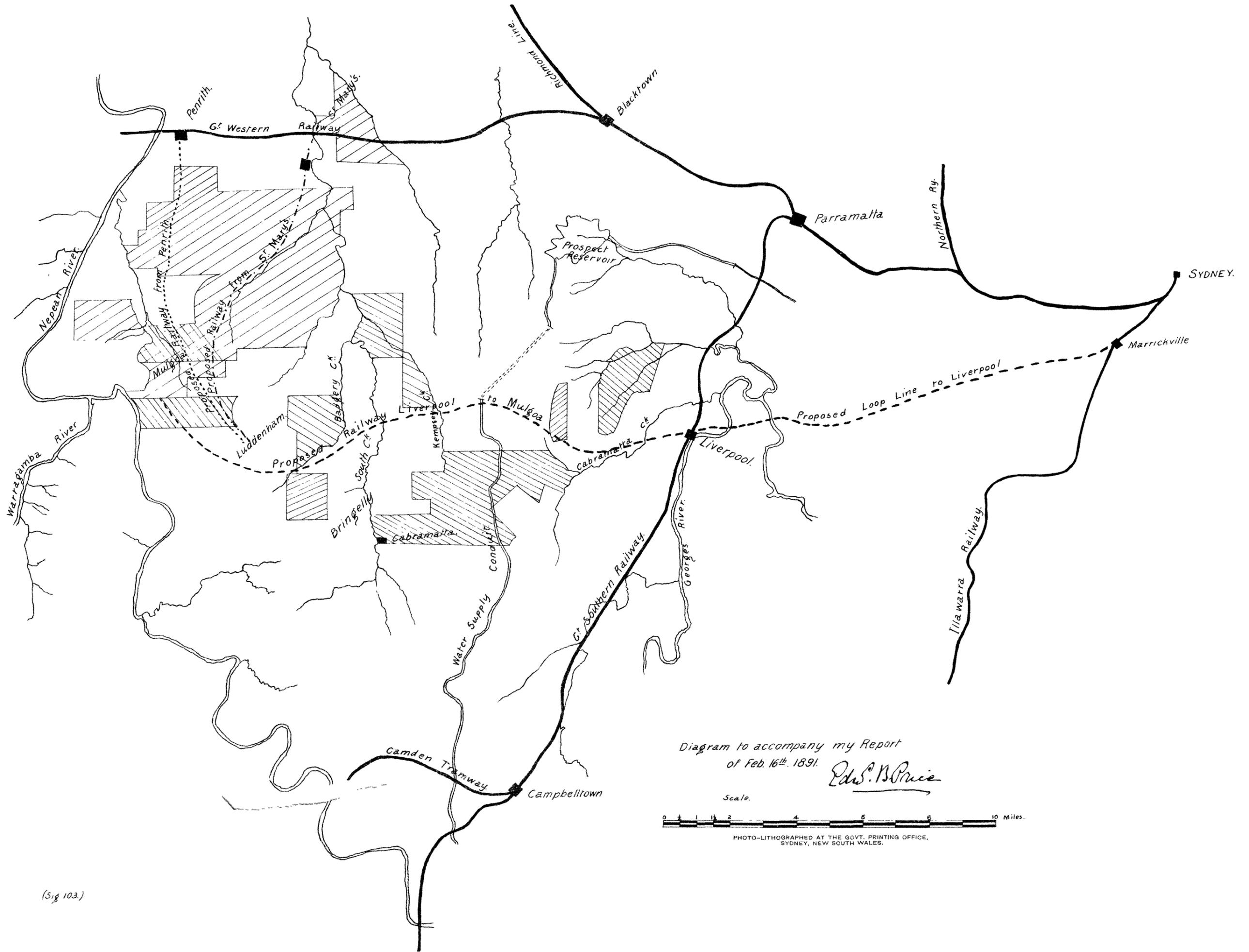
Its proximity to the metropolis renders this Cow-Pasture district of more than ordinary value, not only for agricultural, but for residential purposes, and with direct railway communication it must become thickly populated; but without railway communication its advance will be very slow.

As a proof of this, I find that several Sydney professional men own building sites, even at Mulgoa, and only await railway connection before commencing to build.

I have no hesitation in recommending that the line from Liverpool should be surveyed, in order that the Government may be in a position to decide whether or not the expenditure necessary to construct the line would be greater than the merits of the case will justify.

I have, &c.,  
EDWD. B. PRICE.

[One map.]



1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

PROPOSED RAILWAYS TO PROSPECT QUARRIES.

(REPORT BY MR. E. B. PRICE.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

Mr. E. B. Price to The Under Secretary for Public Works.

SIR,

23 March, 1891.

I have the honor to report that, in accordance with the Minister's instructions, I have examined into the question of constructing a branch line to Prospect Quarries, with the object of enabling the Water and Sewerage Board to lease the Quarries on advantageous terms.

Three distinct Quarries have been opened at various points on Prospect Hill, which are still in working order.

Some confusion has arisen on account of the different situations and characters of the Quarries; I have therefore marked them A, B, and C, on accompanying plan.

The Quarry A, now in the hands of the Water and Sewerage Board, and which it is proposed to lease, is situate on the west side of the hill, rather low down, and not far from the Western Road.

The stone it contains is of a finer grain than that in the other Quarries, it is partly columnar and very similar to Kiama blue-stone.

The second Quarry (B) is the large one from which the stone pitching for the reservoir is being obtained; it is still being worked by the Harbours and Rivers Branch, and so could not be leased for some time to come.

It contains stone of a much coarser grain than either of the others, it being more of the nature of granite.

The stone is valuable for road-making and building purposes.

The Quarry, however, is difficult to work on account of the heavy head of earth and rotten stone.

The third Quarry (C) is at the south side of the hill, high up. Here the stone is in horizontal beds and of a moderately fine grain. It should be easily worked and yield better building stone than either of the others, and as good road metal.

From any of the Quarries road metal can be obtained of a very superior nature though some persons may prefer one to the other.

The supply may be looked upon as inexhaustible.

So far back as 1869 the value of Prospect Hill as a quarry was so well understood that all the correspondence relating thereto was printed by order of Parliament.

All the papers go to show that the stone was eagerly sought after in old days; in fact the Roads officers considered it superior to all others.

It may therefore be taken for granted that if railway access is given to the Quarries the output will be very great, as I see no reason why the stone could not be supplied as cheaply as that from Kiama. The short carriage should more than compensate for the extra cost of working.

The second Quarry (B) is the only one so far which has heavy head or much waste.

From the third Quarry (C) a tramway was laid some 20 years ago, which curved round the east side of the hill and joined the Western Line in the direction of Toongabbie.

At that period very little sale could be got for screenings, which are now valuable for asphalt and concrete.

The tramway was laid on the surface, with steep grades, and worked by horses, and consequently proved a failure.

The position of the Quarry, high up the hill—necessitating the use of shoots and short auxiliary tram roads—also added to the cost of working; it is therefore hardly to be wondered at that the undertaking proved a financial failure.

It appears to be an absolute necessity that whatever line is constructed should run right into the Quarry, and should have good grades, and be constructed to carry ordinary rolling stock and heavy locomotives.

The Quarry should also be worked on a systematic plan, entailing a considerable preliminary outlay.

Three lines have been proposed, viz., (1) from Fairfield and (2) Merrylands, on the Southern Railway and, from (3.) Toongabbie on the Western :—

Fairfield  
route.

(1.) The line from Fairfield would pass through Smithfield and thence to either of the Quarries B or C. It could only reach A by curving round the hill at the end of the Dam.

The promoters, however, contemplate reaching the Quarry B, now being worked by the Government.

The advantage claimed for this line is that it would serve the population at Smithfield, and between there and Fairfield.

The line could follow the general course of Prospect Creek, and would be easy to construct. The only difficulty would be the rise over the Water Supply Conduit, into the Quarry.

The length would be a little over 4 miles.

The settlement at Smithfield would appear at first sight to be an important point in favour of this route being adopted; on investigation, however, I find that the Smithfield traffic would not pay its own working expenses.

This is owing to Smithfield being less than 2 miles from Fairfield Railway Station, which already gets all its traffic, so that all increase in receipts must be derived from the carriage over an additional 2 miles of line.

Smithfield and its immediate neighbourhood contain about seventy houses. The principal industry is tanning, and there are 7 tanneries at work, one of which is a large establishment. The dressed leather sent away in February amounted to 13 tons.

The total inwards and outwards goods at Fairfield station for February was 606 tons. Of this the Stationmaster estimates that three-fourths comes to or from the Smithfield side of the line, but the greater part consisted of firewood. It would be fair, therefore, to allow that at the outside 100 tons per week would be the traffic with Smithfield and Prospect under the present conditions. 100 tons at (say) 6d. would yield £2 10s.

The passengers for February numbered 5,331, including workmen engaged at Fairfield. Not more than 4,000 would come from the Smithfield side of the railway; but as many live near to Fairfield, only about 3,000 at the outside would use the tramway from Smithfield. 750 passengers per week at 3d. would yield £9 7s. 6d.

The total income from goods and passengers would amount to £11 17s. 6d. per week, equal to £617 10s. per year.

As the distance is so short from Smithfield, unless the passenger traffic was carried out regularly with cars meeting every train the number of passengers would fall far short of 750 per week. This service could not be carried out in connection with the metal trains from Prospect Quarry, but would have to be distinct. The working expenses of one engine for fuel and wages, together with wages of conductor and cleaner, would amount to over £1,000 per annum. The line therefore would not nearly pay working expenses at present as far as Smithfield.

A considerable amount of improvement is now going on about Smithfield, so it is possible in the future that the traffic would pay for the construction of an ordinary tramway along the road from Fairfield as far as Smithfield, say  $1\frac{1}{2}$  mile.

Merrylands  
route.

(2.) The line from Merrylands would serve a small population living within  $1\frac{1}{2}$  mile of the Railway Station.

It could only reach the Quarry A by curving round the hill at the end of the Dam.

The promoters, however, prefer the Quarry C, which is the nearest to Merrylands.

One land proprietor offers to give  $1\frac{1}{2}$  mile of land free. His property is at Prospect, and stretches along the Water Supply Aqueduct.

This line appears to me to be altogether out of the question.

Its length would be  $4\frac{1}{2}$  miles, and the country crossed a series of ridges, entailing heavy works in order to get good grades.

It would certainly pass through some good land and greatly enhance its value, but this would not compensate for the disadvantages of the route in an engineering point of view.

Some well timbered land is passed through near Prospect, where sleepers could be got.

The wayside settlement is so small that little passenger traffic could be expected for some time to come.

The goods traffic would be principally firewood, and probably tiles and drainpipes from Sherwood Tile Works.

Toongabbie  
route.

(3.) The line from Toongabbie would not pass through any settlement worth mentioning, and would depend entirely on the Quarry traffic for support.

It would run direct into Quarry A, and could be extended to B and C if desired.

The line would be a very easy one to construct, as the land has a gentle fall nearly the whole way from the Quarry to Toongabbie.

Only half a mile of land need be purchased, as the remainder of the line could be laid on Government land, and along Toongabbie lane, which is very little used.

I think, however, it would be better to shorten the line by joining the Western Line at 18 miles from Sydney, instead of at Toongabbie Platform.

This would leave the line to be constructed only  $2\frac{1}{2}$  miles long.

Having looked carefully into all these proposals, and gone over each route twice, I have not the slightest doubt that, if the object aimed at is the development of Prospect Quarries, the Toongabbie line is the proper one to construct.

It is vastly superior to the others in length, grades, and ease of construction, and runs direct into what appears to me will ultimately prove the best Quarry, and the only one which is remote from the Water Supply Conduit.

The others closely adjoin it, and it is questionable whether it would be wise to allow of their being worked on a large scale for fear of contamination to the water supply from the numbers of men employed.

Both the other lines would have to cross the conduit to get to the Quarries.

I have no means of estimating the probable quantity of stone which would be annually supplied from the Quarries.

The demand for good road metal is practically unlimited, and will go on increasing as more land is settled on, and by-roads constructed.

Even were no line constructed to Prospect but liberal terms offered to lessees, I believe a good rental and royalty would be obtained.

When

When tenders were recently called for, the period named in the lease was much too short, and the terms were so stringent that would-be tenderers were frightened.

I met several well-to-do men who would be willing to pay a rental and a royalty of 1s. per ton, provided they got a fairly long lease which would justify their laying out capital in opening up the Quarry and purchasing plant.

I think, however, that it would be a matter of policy to construct—or at any rate undertake to construct—the railway before calling for tenders, as a very much better price would be obtained.

I have no doubt that the carriage of stone will pay a dividend on the cost of constructing the line from near Toongabbie.

The conclusions I have arrived at are:—1st. That the Prospect Quarries are a valuable property, and should have a railway constructed to them. 2nd. That the line from near Toongabbie is the best line which can be got.

I have, &c.,  
EDWARD B. PRICE.

[Two plans.]

[1s.]

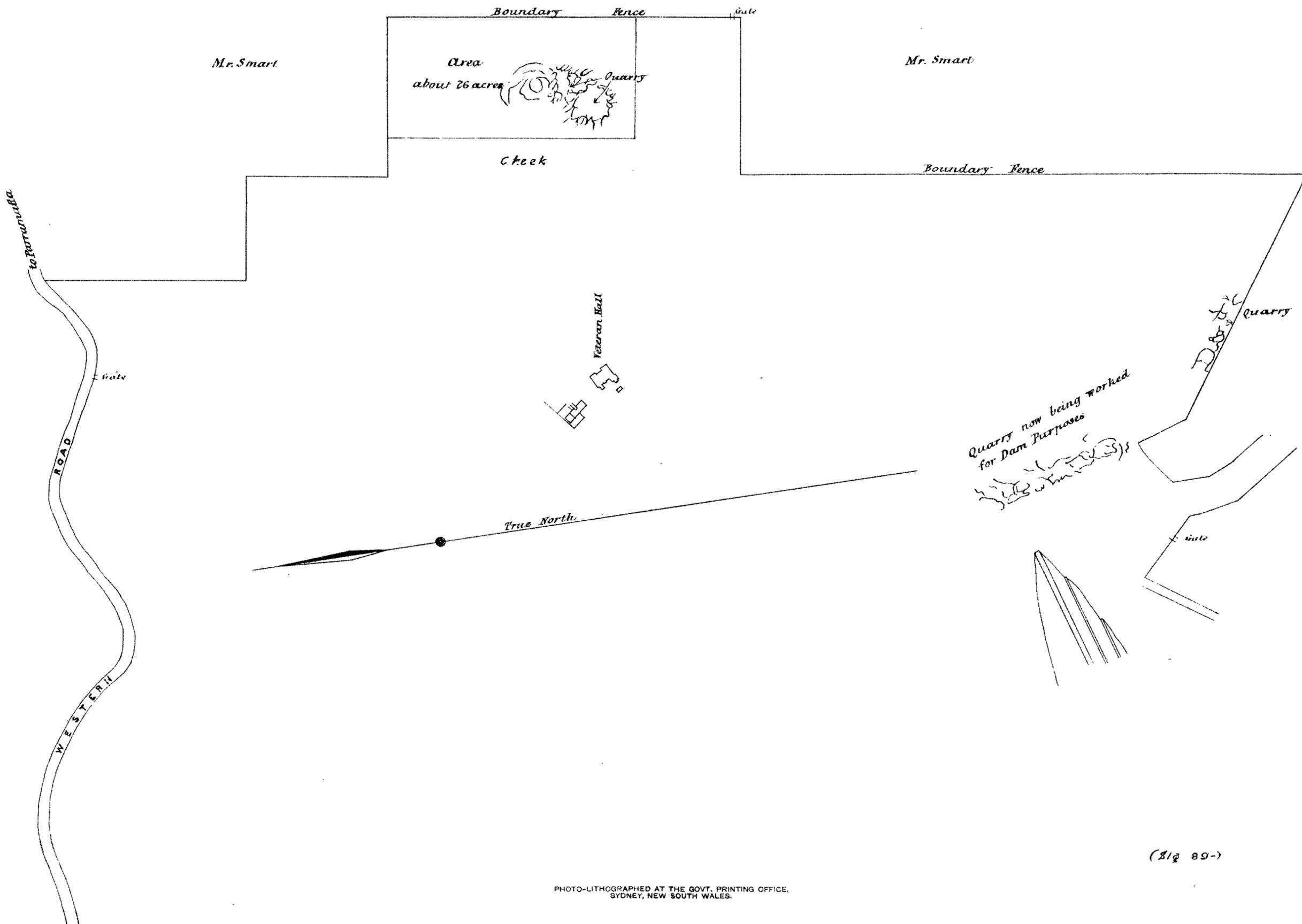


PLAN SHEWING PORTION PROPOSED TO BE LEASED

FOR QUARRY PURPOSES AT PROSPECT RESERVOIR

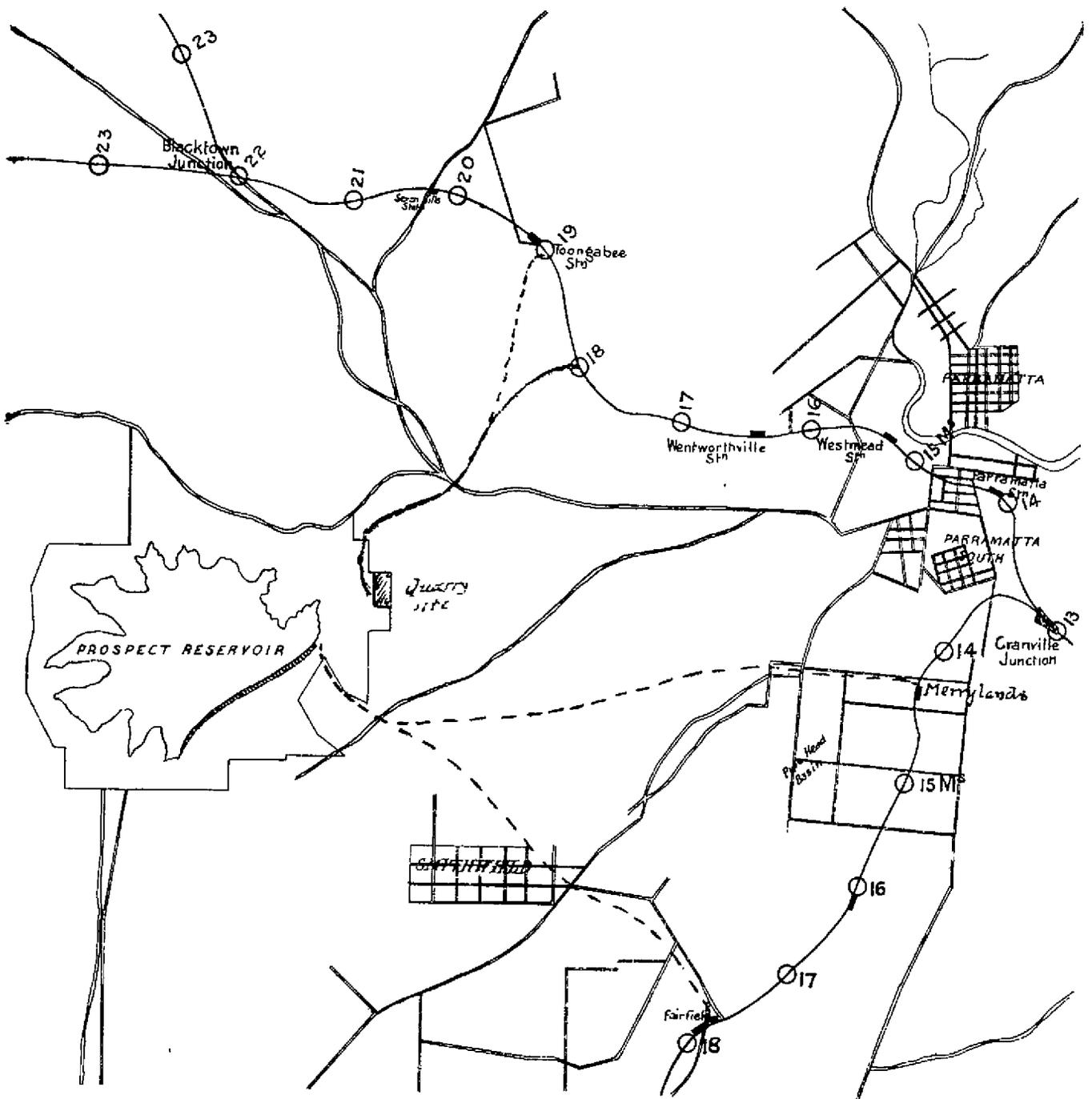
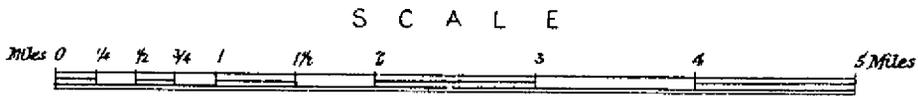
Scale 400 feet = 1 in

Note. The portion is coloured red



(812 89-)

*Local Sketch shewing Prospect Reservoir and site of Quarries.*



(818 89-)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,  
SYDNEY, NEW SOUTH WALES.

1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

## RAILWAYS.

(REPORT OF MR. P. SCARR ON PROPOSED LINE FROM GALONG TO BURROWA.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

Mr. P. Scarr to The Under Secretary for Public Works.

Department of Public Works, Sydney, 8 December, 1890.

Proposed Railway from Galong to Burrowa.

Sir,

In accordance with your instructions I have the honor to submit the following report upon the proposed line of railway from Galong to Burrowa.      §      ¶

### Area to be served.

This will be comparatively limited, extending from Kalangan (half-way between Galong and Burrowa) on the south, to Numby and Kebyu on the north; Rye Park and Narrawa on the east, to Calabash and Douglas on the west,—an area of about 750 square miles.

Beyond these places the traffic would go southward to the Great Southern Railway, eastward to Goulburn and Gunning, northward to Cowra, and westward to Young.

It will thus be seen the existing railways practically so drain the outlying portions of the district that no traffic can be expected from distant places, as in other places where branch railways have been constructed.

No back country would be drained by this line. The district itself would have to entirely support it—that is the area I have named above.

And further, if the proposed extension to Crookwell be eventually carried out an additional slice of the traffic from the east and north-east will in all probability be filched from Burrowa.

### Nature of the Country.

I have traversed a considerable part of the Burrowa district in several directions and followed the course of the line between Galong and Burrowa.

The country through which the line passes, as well as that in the vicinity of Burrowa, is of good quality, and a large proportion fit for agriculture.

Such as is not adapted for that purpose may be called superior grazing country.

This character prevails for some miles in every direction round the town, but to the north and east the land gradually becomes more hilly, whilst to the north-east a good deal of rough broken country exists, having only a small proportion fit for agriculture, chiefly along the banks of the creeks, where some good alluvial flats exist.

### Size of Holdings.

At present the land is generally held in large estates, ranging up to 10,000, 13,000, and even 25,000 acres. These are within 20 miles of the town of Burrowa, fourteen or more estates of 5,000 acres and over, besides numerous others between 1,000 and 5,000 acres.

The average size of the holdings in the electorate is 883 acres—a high average as compared with others in the eastern division. These estates are used almost entirely for grazing purposes.

The holdings used for agricultural purposes are small and comparatively few in number.

It would appear that in years past a much larger number of selectors existed in the district, and that for some years a process of absorption of the small holdings into the large estates has been steadily going on until the result, as stated above, has been reached.

On the whole the agricultural industry throughout the district is evidently languishing, with little prospect, so far as can be seen, of a revival.

## Agriculture.

The total area cultivated in the whole of the Burrowa Electorate for the year ending 31 March, 1890, is given in the Statistical Register as 8,655 acres, being but 1·98 of the total area alienated, or 0·89 of the whole area of the electorate.

The wheat produced being 78,403 bushels, besides other produce which appears to have been only sufficient to supply local wants.

In the article flour it does not appear that the one local mill now at work has been able to compete successfully with those on the existing line of railway.

The flour produced has been used principally for home consumption.

As an agricultural district, then, Burrowa does not compare favourably with other districts having a similar climate and position.

The following table will afford an easy reference for comparison with some of these districts:—

District.	Distance from Sydney.	Proportion of Land Cultivated to Area Alienated.	Area Cultivated.	Remarks.
	Miles.		Acres.	
Carcoar .....	184	4·82	33,023	
Gundagai .....	287	4·53	35,647	
Young .....	249	6·33	57,994	
Orange .....	192	11·67	31,248	
Tumut .....	307	2·78	11,396	20 miles from rail.
Inverell .....	466	4·38	14,453	45 " "
Burrowa .....	232	1·98	8,655	16 " "

Of the sixty-two country electorates Burrowa stands forty-first on the list, both as to the proportion of land cultivated and to the average size of holdings.

These statistics will give some idea as to the position of the agricultural industry in the district at the present time.

As a source of remunerative employment to the proposed railway it affords little encouragement. And unless it can be shown that an extensive change would be likely to take place as a result of the opening of the line traffic must be looked for from some other sources.

## Prospective Increase in Agriculture.

It has been asserted that the cause of the present position of things has been brought about by the absence of railway communication with a market for produce—and that with the construction of the proposed line the present position of things would be so altered as to cause large areas of land to be placed under cultivation; either by the division of the larger estates, by sale or lease, amongst agriculturists, or by the present holders themselves cultivating on a large scale.

After careful investigation and consideration, and comparing the position of this district with others in which agriculture has been successfully carried on, I have come to the conclusion that sufficient grounds do not exist for these expectations.

As a matter of fact a large quantity of the best land in the Burrowa district lies between that town and the railway line at Binalong and Galong, and yet is not largely cultivated.

Burrowa, itself surrounded by excellent farming land, is but 16 miles from Galong and 20 from Binalong—not a sufficient distance to bar profitable cultivation entirely.

Take the case of Tumut, where maize is grown to the amount of 231,468 bushels per annum and sent by road in large quantities to Gundagai Railway Station (20 miles) for the Sydney market.

Whilst it will be found upon inquiry that in the other districts referred to above grain and other produce are carted long distances to the railway.

Only two of the railway stations of the districts quoted are nearer Sydney than Binalong and Galong.

It would not appear then that to the distance from the railway is the absence of cultivation to be attributed, but more likely to the fact that the land can be applied more profitably to sheep farming by capitalists than to agriculture by others.

And instead of the large estates being subdivided or placed under the plough, instances are not wanting to show that the reverse is taking place, even along with the existing railways.

In the Burrowa Electorate during the last few years the immense Bendinine Estate, having the Great Southern Railway running through it, has been accumulated by the aggregation of the smaller holdings and by selection.

The selectors have been bought out and farms added to the estate until now, as I am informed, it consists of considerably over 50,000 acres. A large quantity of the land being eminently adapted for agriculture.

The whole tendency throughout the Colony seems rather to be in the direction of the accumulation of large estates than the breaking up of those already existing, and there is no apparent reason why the Burrowa district should form an exception.

At the sale of the Ballyryan Estate near Burrowa twelve (12) months since, the principal purchaser was an adjoining land owner who bought largely and now uses the land entirely for grazing purposes.

Instances of landholders cultivating for market on an extensive scale are exceedingly rare throughout the colony.

Nor are cases where leasing of land for this purpose prevails numerous.

The principal exception, and almost the only one, is on the Bathurst Plains, unless it be where very rich alluvial land along river banks are used for special purposes.

I have dwelt at some length upon this question of the extension of agriculture, as a possible result of the construction of the proposed railway, as it appears to be the key to the whole question.

### Wool and other Traffic.

The district to be tapped is now heavily stocked with sheep, on many of the estates up to one and a quarter to one and a half sheep per acre, and the chief product of the district consequently is wool.

There was received from the Burrowa district at Binalong, during the year ending 30th September, 1890, 502 tons wool, and at Galong 169 tons.

Allowing for some increase in the quantity from places which now send wool to Goulburn, Cowra, and Young, yet no substantial increase can be expected in this item of freight.

The present quantity may be therefore almost taken as a fixed quantity.

The extension of the line to Crookwell would be to some extent competing with the extension to Burrowa.

### Mineral Traffic.

A good deal has been said as to the probable traffic from the mines of the district.

The principal one is the Wallah Silver Mine, 20 miles east of Burrowa.

I visited and went through the workings of this mine, and so far as can be seen and judged by one who is not an expert, there appears to be a large body of ore available.

Of its value I do not presume to offer any opinion. The shareholders, however, appear to be very sanguine as to the ultimate results of their operations.

If their expectations are realised no doubt the mine will support a considerable number of people, and produce a corresponding amount of traffic.

But so far the eventual success of the venture does not appear so well assured as to make it an important factor in the present question.

At Frogmore, 16 miles north of Burrowa, is a copper-mine at present being worked. This I did not see.

This mine was first opened some fifteen years ago, and after several attempts to work it, which for certain reasons proved failures, operations were renewed by the present owners, who are sanguine as to their prospects, which are reported to be very favourable.

So far there is not yet sufficient development to prove the ultimate success of this venture as a means of support to a large population.

### Passenger Traffic.

This is a difficult item to estimate. I have credited Burrowa with two-thirds of the total tickets issued at the two stations for the year.

### Summary.

The whole question of the prospect of the proposed line proving a financially successful undertaking must depend upon how far it would have the effect of improving the industries of the district to be tapped.

It has been shown that at present the land is held in large estates which are used as grazing farms, and that little agricultural produce is at present available for export.

No other industries exist on a scale worth bringing into consideration.

Therefore the chief product is wool; and as the land is already stocked up to, or nearly up to, its full carrying capacity, little or no increase can be expected in the quantity of wool to be produced.

To the increase in agricultural operations, then, must be looked such an increase in freight as will afford remunerative employment for the railway, unless the mines of the district are so developed in the future as to provide a means of living for a population to come in from outside.

This last probability is so uncertain as to make it unwise to at present take it into consideration.

The question then presents itself: Is there such a prospect of the district being so devoted to the pursuit of agriculture as a result of the construction of the railway that a payable traffic will arise from that source?

From no other source does it appear at present is such a traffic likely to be obtained.

The result of my inquiry leads me to the conclusion that this is not likely to come to pass.

### Conclusions.

After careful consideration, and being guided by the experience of what has taken place in other parts of the Colony, I arrived at the following conclusions:—

- 1st. That the present traffic is altogether insufficient to provide even for working expenses.
- 2nd. That the traffic would not increase sufficiently within a reasonable time to return working expenses and interest upon the cost.
- 3rd. Therefore that for years the line, if constructed, must be run at a heavy loss, even if it should ever become payable, which, from the small area to be drained by it, is very doubtful.
- 4th. Consequently, looking at the question from a commercial point of view, the railway should not be carried out.

I have, &c.,

PERCY SCARR.  
Proposed



## *ERRATA.*

Page 4,	paragraph 23,	line 2.	Read "famous" for "farmer's"
„ 4,	„ 23,	„ 2.	„ "succession" for "immersion"
„ 7,	„ 40,	„ 11.	„ "£197 15s." for "£197 15s. 4d."
„ 8,	„ 45,	„ 9.	„ "£8,939" for "£9,119."

1891.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

RAILWAYS.

(REPORT OF MR. STANLEY ALEXANDER, EXAMINER OF PUBLIC WORKS PROPOSALS, ON THE PROPOSED RAILWAY FROM TARAGO TO BRAIDWOOD.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

Mr. Stanley Alexander to The Under Secretary for Public Works.

Sydney, 16 May, 1891.

THIS proposed railway has been designed to leave the Goulburn-Cooma branch of the main southern trunk line near the township and railway station of Tarago, at 158 miles 11 chains from Sydney. This point is 21 miles from Goulburn. The length of the proposed line, as permanently surveyed and marked on the ground, is 29 miles 11 chains, placing Braidwood at 187½ miles from Sydney. The estimated cost of constructing this is £182,058, giving an average cost per mile of £6,020.

2. Within a short distance of Tarago the proposed line passes out of the county of Argyle into the county of Murray. The boundary between the counties of Murray and St. Vincent is passed at the Shoalhaven River. This river from its source near the Big Badja mountain forms, throughout its whole length, the boundary dividing the county of St. Vincent from the counties of Murray, Argyle, and Camden. The railway line from Goulburn towards Cooma crosses the Great Dividing Range at a short distance to the south of Tarago, so this is the nearest point on that line from which a divergence can be effected in a south-easterly direction towards Braidwood. This portion of the dividing range is called the Gourcock Range. It traverses the county of Murray in a southerly direction joining and merging into the main coast range at the Big Badja mountain, between the counties of Dampier and Beresford. From that point the main coast range trends east of north to near the coast at Nowra, where it is cut through by the Shoalhaven River.

3. These main features of the country are delineated on the attached map as nearly as can be shown on the small scale to which such a map is necessarily confined. They define the boundaries of the district to be served by the proposed railway, forming the natural barriers that govern the practicable routes into and out of the country, separating it from the coast, and barring its communications with the main line of railway already constructed. This general configuration is shown clearly enough, but the minor features, which are of at least as much importance in determining the course of traffic, can only be given in words.

4. The general elevation above the sea of the tract of country enclosed between the ranges is over 2,000 feet. The Gourcock Range is sharply defined, rising some hundreds of feet above this level, and the coast range also presents a rocky edge to the plateau, covered with a heavy growth of timber, and falling with great abruptness eastward to the sea-level. Along this crest there are several eminences, the Sassafrass, Currockbilly, Budawang and Sugarloaf Mountains, which rise to very much greater elevations. The Shoalhaven River traverses the whole district from south to north, rising at an elevation of about 3,500 feet above the sea, gathering volume from the neighbouring country and deepening its channel in its progress. The position of the area drained by this river, being a depression parallel with the coast line and marked off from it by a mountain range, is peculiarly favourable to the maintainance of a moist condition of atmosphere, though as shown by the records not necessarily producing a high average of rainfall. The steepness and rocky nature of the slopes of the country drained result in very rapid accumulation of water in the lower reaches of the river, rendering its passage, even where possible between the deeply-cut banks, a matter of considerable uncertainty.

5. The coast range is cut through to the south-east of Braidwood by the watercourses named Bell's Creek, Major's Creek, and Araluen Creek, all falling through 1,200 or 1,400 feet in height, within a few miles, to the level of Araluen Valley, which is about 1,300 feet above the sea only. The combined water, after having received that of the Deua and Modong Rivers from the southwards, flowing under the name of the Moruya River to the sea past Moruya.

6. One of the outlets by road from the high land to the coast passes down from Braidwood along Bell's Creek into the Araluen Valley to Moruya, and another passes due east from Braidwood, crossing the coast range at a very high elevation near the top of the Sugarloaf Mountain. This road communicates with Nelligen on the Clyde River, within a few miles of Bateman's Bay, on water navigable for steamers, having fallen through about 3,500 feet of height within the last 15 miles. There is still another road of communication with the coast from Braidwood, viz., via Nariga to Nowra, passing over Sassafrass Mountain. It is seen from this that the district now being discussed is in direct touch by three roads, two

of which at least are in very admirable condition and very well laid out, with three important points on the coast, viz., Nowra, Bateman's Bay, and Moruya, all being centres of separate districts, and to a considerable extent representing distinct varieties of products and industries. The distances by these roads are:—

From Braidwood to Moruya, <i>via</i> Araluen	... ..	52 miles.
" " " Nelligen, <i>via</i> Moruya	... ..	30 "
" " " Nowra, <i>via</i> Nariga	... ..	75 "

7. The inland communications from Braidwood, though not burdened with the necessity for traversing such excessive heights as in the direction of the coast, are sufficiently difficult to form important factors in determining the courses of traffic. The dividing range, separating this district from points on the existing railway lines, is passable in several places, and in fact, communication is open for vehicles to any station on the line between Cooma and Bungendore, though by circuitous routes, principally through Parker's Gap, which is about south-west from Braidwood, and passage of stock is probably carried on freely through numerous unnamed passes leading directly to stations on the Cooma line by shorter roads than to Braidwood, though probably they are very much rougher. Stock traffic, however, cannot entirely be relied on to provide revenue for the proposed line. Little or no development in the pastoral industry can be hoped for, and, on the whole, the amelioration of the conditions under which this is now flourishing would probably be trifling, but the existence of this range of mountains, dividing this district from the existing railway line, and at a distance of 18 or 20 miles from it, for a stretch of 40 miles or so of country (measured north and south) is, in my judgment, sufficient to warrant the promoters of the proposed line in claiming the whole extent of country south of Braidwood lying between the ranges (coloured red on the map) as rightly looking to Braidwood as the centre of its trade, and depending upon communications being opened to Braidwood for development in all other directions of settlement and industry.

8. Throughout this southern part of the district the Shoalhaven River is shallow and of comparatively small volume, but north of Braidwood the crossing-places are few at any state of the river, and are hardly negotiable at all during all seasons of rain. The river has been bridged at one place only throughout its length, namely, on the main road between Tarago and Braidwood. No provision has been made by the Roads Branch for direct communication with existing railway stations, except by this bridge, from any of the parishes to the north of it on the east side of the river. On the other hand, the roads leading into the town of Braidwood from all this area of country have received considerable attention and are in very good condition. A subsidised mail coach plies between Nariga and Braidwood, affording the only means by which the railway can be reached by public conveyance. The storekeepers of Braidwood maintain business relations with the Nariga district. Though the distance to Nowra is little more than to Braidwood from Nariga, the declivity of the country and the consequent difficulty on the road, must ever very sensibly increase the cost of transport over that from Braidwood. When connected by the railway now under construction, Nowra will be 94 miles from Sydney direct, as compared with 187½ miles from Braidwood by the proposed railway *via* Tarago.

9. Though on the face of them these figures do not appear to support the inclusion of the districts surrounding Nariga in the area to be served by the proposed railway, the difference in elevation between Nariga and the coast, and the ruggedness of the intervening country, the fact that in the face of Nowra being a seaport attended on by steamers, the course of traffic is still through Braidwood, seem to afford grounds for concluding that the direct traffic in passengers only from the Nariga district will be affected by the completion of railway communication into Nowra. Between places at such a distance apart, however, the question of competition between the railway lines can hardly be worth consideration; and if, during a generation of time, the service by the sea has not sufficed to develop the resources of the table land, the interests involved in that service cannot be quoted against the institution of other means of communication. The fact that a new line of railway is being constructed along the coast would seem to show that the argument has practically been abandoned.

10. The area coloured red on the attached map is the space enclosed by the boundaries that have been described, and for which the statistics of settlement, cultivation, and population have been collected. It is submitted as fairly representing the area that will be directly influenced by the proposed railway, whence its revenue will be directly supplied, and which may, according to the promoters, be relied on to be capable of supporting a railway line at the present time, and, in the near future, of enabling it to earn a substantial revenue over and above expenses. It comprises thirty-four parishes, of which ten are in the county of Murray, two in the county of Dampier, and twenty-two in the county of St. Vincent.

11. A summary of the principal heads of the statistics gives the following:—

Appendix P.	Population of the districts...	... ..	3,630 persons.
	Total acreage of holdings ...	... ..	315,732 acres.
	Total acreage under cultivation ...	... ..	3,330 "

The estimated population of the townships is set down at 1,718, of which 1,380 are in Braidwood alone. These are in addition to the figures given above, which include all holders of land who are resident in the towns. The total population of the area dealt with becomes therefore 5,348, but this may fairly be increased to 6,000, as many have refused to supply details for the statistics, and there must be a considerable floating population in a mining district, which cannot be taken count of in such a census.

Appendix O.

12. The list of the parishes comprising this area shows the acreage of unalienated land in each, inclusive of all lands held under lease from the Crown, the areas of which are all included in Appendix P. The boundaries of this area are found, very conveniently so for purposes of statistics and comparison, to be nearly coincident with those of the Braidwood electorate, detailed statistics of which are annually published by the Government Statistician. From these, the details of which are given in Appendices, the following particulars are taken for comparison. They represent the statistics for the year ending March 31, 1890:—

Appendices F, G,  
H, I, J, K, L.

	The total area under crop in the electorate ...	... ..	4,330 acres.
	The total area alienated in holdings over 1 acre ...	... ..	263,933 "
	To this have to be added large areas of lands leased from the Crown and from Church and School lands, which are all included in the total quoted in paragraph No. 11 to arrive at the total acreage under occupation.		
	The total area of the electorate ...	... ..	904,320 acres.

Appendix O.

	According to the statistics supplied by the League the total area of holdings is..	315,732	"
	And by the calculation the area of Crown lands is...	502,299	"
	Making the total acreage of the area dealt with ...	818,031	"

This

This compares very well with the full area of the electorate which is not completely covered by the area coloured red on the map. Again, the total number of holdings in areas over an acre in the electorate is 563, while the total number given in the statistics is 575. These latter include a large number of small holdings of less than 1 acre, but the comparisons are decidedly in favour of the reliability of the figures that have been supplied.

13. The production of all kinds in the district is given in full detail in the statistics, but the figures in the "Statistical Register" are in a very much more convenient form. The total acreage under cultivation is given at 4,380 acres out of an aggregate of holdings of 315,732 acres; of this cultivation, 3,739 acres was in grain crop, 305 under potatoes, and 176 in orchard. Of live stock carried by these lands, there were 67,226 sheep and 30,192 horned cattle. The production of dairies was—

Butter	...	...	...	139,615 lb.
Cheese	...	...	...	14,995 "
Bacon and ham	...	...	...	85,836 "

14. As indicative of the extent and nature of the settlement, the following figures are also useful:—

The number of places of worship	...	...	...	21
„ public schools	...	...	...	32
„ private schools	...	...	...	6
„ scholars in all	...	...	...	1,758

In addition to Braidwood, there are seven distinct townships or centres of settlement. The number of electors on the existing roll is 1,554. The total weight of gold sent away by escort during 1890 was 7,619 ounces, which is probably not more than half the full quantity produced in the district during that year.

15. The town of Braidwood has but just been incorporated as a municipality, so the full details concerning it are not obtainable as yet. It contains:—

Population in the town alone	...	...	...	1,380
Number of dwelling houses	...	...	...	205
„ places of worship	...	...	...	5
„ schools	...	...	...	2 (410 scholars)
„ public buildings and places of amusement...	...	...	...	8
„ banks	...	...	...	2
„ hotels	...	...	...	10
„ shops	...	...	...	49
„ factories and other business places	...	...	...	18

16. The distances from this centre to the principal points may most conveniently be given here:—

From Braidwood to—	From Braidwood to—
Tarago ... .. 30 miles.	Moruya ... .. 52 miles.
Bungendore ... .. 32 „	Nelligen... .. 30 „
Marulan ... .. 54 „	Araluen ... .. 17 „
Cooma ... .. 78 „	Monga ... .. 13 „
Yass ... .. 75 „	Elrington ... .. 10 „
Jemaicumbene ... .. 6 „	Nariga ... .. 25 „
Larbert ... .. 12 „	Nowra ... .. 75 „
Sergeant's Point ... .. 9 „	Reidsdale ... .. 10 „

All the roads of communication concentrating on Braidwood from these places, at least within the area under description, are exceptionally good.

17. The distribution of the settlement is exhibited in the Appendix, showing the population and acreage held in each of the parishes. The whole of this settlement is now occupied almost exclusively in the pastoral industry, the sum total of production being unequal even to the local demands for consumption in nearly every article. This is not attributable to poverty of soil or insufficient area of cultivable land, but to the certainty that any excess over local demands must be a dead loss to the producers. There are no records available in any form that can be referred to of the state of agriculture and settlement in past years during which the large mining populations of Araluen, Major's Creek, and Bell's Creek, and on the Mongarlowe River consumed all and more than could be produced; but the history of the districts about Reidsdale at the head of the Jemaicumbene Swamp, and of the lands on the west bank of the Shoalhaven River, in parishes Jinglemoney and Jineroo, supply evidence of the decadence that has taken place in this respect since the dispersment of the crowds of miners. The Reidsdale Estate was situated on an exceptionally fertile tract of land at the foot of a low range forming the western watershed of the Mongarlowe River, in parish Seymour. It was in the first instance minutely sub-divided into farms and extensively cultivated, the quality of the soil and the climatic conditions of the locality being then as now favourable to production of all manner of food supplies. The evidence shows that this settlement has all become resolved into the hands of the few whose immediate necessities did not oblige them to follow the hand to mouth occupation of existing entirely on the production of a few acres of land, and to whom the acquisition of a greater breadth of land gave the opportunity of prosecuting pastoral industries with success. A similar condition of things has caused an exodus from the lands on Jinglemoney and Jineroo, which also are of an extremely fertile character.

18. A similar belt of fertile land is found in parishes Budawang and Mongarlowe, at the foot of the Currockbilly Range. The statistics show a settlement here of forty-eight holdings, aggregating 8,687 acres, and carrying a population of 420 persons. This fertile tract is narrow, bounded by barren ground on either side. Its fertility is explained by its geological structure. It is on the Mongarlowe Gold-field which covers the whole area drained by that river and its tributaries. The alienations took place long ago before the reservations were proclaimed. The area actually under cultivation is given at 209 acres only, an extent that probably does not suffice to feed the population. Here there has been no exodus, because the conditions are favourable to the holders. The extensive areas of Crown lands in the midst of which they are placed afford ample scope for grazing cattle free of all charge, and admits of profits from stock that are hopeless from cultivation. I believe that this tract of country is capable of providing fifty more farms, and of carrying double the population now subsisting on it, without in any degree trenching on the mineral rights of the Crown.

19. Though the dispersement of the population of non-producers of food stuffs has brought about a total stagnation of the agricultural industries, extension of railway communication in the Colony generally has produced a condition of things eminently suitable to disposal of stock, and to the pastoral industry generally. The fertile lands in this district bear but a small proportion to the whole area, which is entirely a country of granite and slate, but climatic and other conditions combined with facilities for transport admit of a combination of grazing and cultivation that has produced a class of farmers whose numbers go to make up the whole of the country settlement. A considerable number of these are tenants of the Crown, or of the large freeholders, or of the Church and School lands. In parishes Percy, Boyle, and Bruce, the aggregate of the Church and School lands, all cleared, amount to 20,951 acres. The number of holdings in these parishes is given at 105, aggregating 48,387 acres, and carrying a population of 590 (these figures are probably much too low).

Appendix O.

Appendix P.

See Mr. R. Maddrell's evidence.

20. Mr. Robert Maddrell is the owner of a large estate in the vicinity of Braidwood, amounting to 30,000 acres, of which 22,000 acres are leased to tenants. "He has altogether 44 tenants. Of these, 26 are farmers, and 18 are farmers and graziers. Of the 26 farmers, their holdings average from 10 to 220 acres, and the holdings of the 18 graziers and farmers range from 26 to 6,600 acres." Two of the large portions are let to Mr. Maddrell's sons. His evidence is very much to the point on this subject. It shows the demand for land on such terms, and the certainty that the whole country might be similarly subdivided at the will of the freeholders.

21. The Araluen district occupies a unique position with relation to the table lands and to the coast. At a distance of 17 miles from Braidwood, and 35 miles from Moruya, and accessible only by the one road, it is an extensive open area at 1,200 or 1,300 feet above sea level, enclosed by lofty ranges. The Bettowynd district, lying on large tributaries of the Moruya River to the west of the Araluen valley, must be coupled with it. The principal details of the statistics are here reproduced:—

	Bettowynd.	Araluen.
Population ... ..	74	615
Number of holdings ... ..	12	105
Total acreage held ... ..	10,121	896
Acreage under crop ... ..	198	237

These figures are probably very nearly correct. The difference between the total acreages and the populations and the number of holdings is very striking. The average size of holding in Bettowynd is 844 acres, and in Araluen between 8 and 9 acres. The total of cattle admitted to in Araluen is 1,599, being between 15 and 16 head per holding. Two owners admit to having 130 head of cattle each, and large numbers have from 20 to 50 head. The largest holdings are two of 100 and 120 acres each, and one of 60 acres. Moreover, more than one quarter of the acreage is under crop. The explanation of this state of affairs is in the large extent of common lands appertaining to Araluen, amounting to over 3,000 acres, in addition to whatever land may be of use for stock along the neighbouring ranges, for all the area enclosed by the watershed of the Araluen and its tributaries is gold-field reserve. If the figure given above is correct the common lands amount to about 50 acres per head of population, or 300 acres per holding, which is certainly a very liberal allowance as a pension to the remnants of the miners who worked the field twenty years ago. There can be no doubt that the conditions in force in those days will never be reproduced in Araluen, and that the continuance of restrictions upon such large areas of land in favour of the resident population, enabling numbers of them to engage in pastoral pursuits at the public expense, is an anomaly that should be rectified.

22. The parish of Bettowynd comprises the area drained by the several tributaries of the Deua River between the Modong Creek and the Araluen. The only access to it is directly from the township of Araluen. The original selectors have nearly all been absorbed by the large holders. The country is mountainous, and the cultivable tracts in the bottoms are of small extent, but for grazing purposes the district is very highly utilized and exceedingly well qualified.

23. The present population of Araluen is the remains with their descendants of the original body of men whose operations on this farmer's field were finally crushed by the immersion of floods which culminated in 1872. Employment is still found for some portion on the works still being prosecuted, and on the extent of land cultivated, but the existence of the settlement has been due entirely to the extensive tracts available for depasture of stock. The community does not raise sufficient in any article of consumption for its own needs, being supplied from the coast, though there is a sufficiency of cultivable land, and the capacity of the soil and climate is eminently suited to many lines of cultivation. The conditions under which the gold that may be left can be obtained will require the employment of resources far beyond the power of the ordinary digger, whose occupation has now passed away, but the substitution of all other industries, conducing to permanent development of the district, can only be brought about by a radical change in the conditions under which the land is now secured.

24. The Elrington parish, comprising the creeks that form the head waters of the Araluen, viz., Major's and Bell's Creeks and the Back Creek flowing into the Shoalhaven, was of old the site on which very large quantities of gold were produced. Here, as in Araluen, a considerable population has settled, but the extent of land held is much greater. A great deal of capital has been expended on works and machinery, and the existence of rich ores has been proved in several reefs on this field, but the industry depends for success and development upon the suitability of the appliances to reduction of gold from complicated ores, and the district has no other resources in extent of fertile lands which can be relied on for development in any other more permanent directions.

Appendix O.

25. Attached is an Appendix, showing approximately as nearly as can be arrived at by scaling from the parish maps the extent of unalienated Crown lands in the area to be served by the railway. These figures include large areas that are now held under annual lease, being within the gold-field reserves and the Church and School lands, in parishes Percy, Boyle, and Bruce, amounting to 20,951 acres, also annually leased. All this land is already included in the statistics of settlement, but the extensive areas of forest reserves and the lands open for selection added to the above bring the total to the large figures shown—502,259 acres. The area of the electorate is 904,320 acres, of which 315,732 acres is given as occupied. It is almost unnecessary to point out that the mountainous country that forms the bulk of this area cannot be affected in any way by improved communications, except by being afforded an outlet for the timber. Settlement is by slow degrees penetrating into the heart of the ranges, as the bottoms of all the valleys carry good land, and some access in values would accrue, but the main reliance for revenue producing

producing purposes must be in the carriage of timber from these extensive forests, and not in increased settlement.

26. The quality of timber on these ranges cannot be too highly rated; but the extent of the trade that may result can only be inferred indirectly. As an indication of the advantages derivable from rail carriage for 30 miles of the way, the rates in force may be compared. The charge from Braidwood to Tarago by rail will be 1s. 4d. per ton for logs and girders, and 2s. per ton for sawn stuff. To this has to be added the cost of carriage from the mills to Braidwood, say about 10s. per ton, bringing the total charges as far as Tarago to 11s. 4d. or 12s. per ton. The cost of transport now by teams the whole way is about 22s. per ton. This would make a clear saving of about 10s. per ton, or about 3s. or 4s. per 100 feet superficial in favour of the mills. Note.—Hardwood is rated at 30 cubic feet or 360 feet superficial per ton. Some timbers, such as ash and plum, are lighter, but the bulk of the stuff is as stated. It seems, from information obtained in Goulburn, that prior to the opening of the main line of railway the supplies of timber were mostly drawn from the forests in the neighbourhood of Braidwood; but since that opening they have regularly been obtained from Wingello, Bundanoon, Burrawang, and other places on the Sydney side of Goulburn. The drain during this long series of years has sensibly told on these forests, and the quality of the timber obtainable has also receded. On the other hand, the quality and the class of timber available on the Gourcock and Currockbilly ranges leaves nothing to be desired; and large orders are ready, and in fact offered, but the price is necessarily limited and prohibitive. There can be no question that the saving in cost of carriage of 3s. to 4s. out of the price obtainable—viz., 13s. 6d. to 14s. 6d., delivered at Tarago, being all in favour of the district—will give an immense impetus to the timber trade, with marked benefit to the building and manufacturing industries in the adjacent parts of the Colony.

27. In other respects the magnitude of the figures given as the extent of the Crown lands cannot be quoted in favour of the construction of this line, except in relation to certain localities where the conditions under which it is retained by gold-fields regulations may be relaxed.

28. With regard to the production of dairies and orchards, any calculation based on the capabilities of the soil and climate must be subjected to extensive discounting. The question becomes resolved into a consideration, not of what the country is capable of producing, but of the use that will be made of the opportunity, and whether the district can hold its own in competition with others. For every railway proposed these items are prominently set forth in support, while the Colony's lines for hundreds of miles are in full work through lands equally suitable. Hundreds of tons of fruit are rotting on the ground or breaking down the branches of the trees here, as in many other districts; and year by year this will be repeated, until enterprise opens out a trade with other populous countries where production is not so prolific. The accessible lands of the Colony are fully capable of producing all the dairy produce required, and immense tracts of it would be so utilised if the trade were found to be remunerative. These industries are in the nature of specialities. Though they are and ever will be prosecuted with more or less success all over the country, no district, unless specially favoured by natural conditions, can aspire to become a producer for the Colony generally, but must be content to provide for its own local wants.

29. In the course of the inquiry a visit was made to the coast at Moruya and Bateman's Bay, and to Nelligen on the Clyde River. The main points of the information obtained there is detailed in the evidence. As affecting the interests of the proposed railway, the chief of these are that the bulk of the passenger traffic to Sydney from the coast, and from long distances to the south, passes by road through Moruya and Araluen to Braidwood. The steamer communication is weekly only; traffic of all kinds is maintained by sea. The productions of Moruya and the districts to the south are confined to those from dairying, traffic in stock being an unimportant item on the whole. A surplus of maize is produced, which is sent to Sydney by sea, and to Araluen and the high lands through Braidwood; and large quantities of bark are also shipped. Cultivation of wattle for bark is receiving now considerable attention on this coast and in the valley of the Moruya, whence quantities are sent through Braidwood. The whole of the flour consumed on the coast is imported from Sydney. Much of it is stated to be actually the product of the Goulburn mills, which has been travelled round the whole way. A similar anomaly is shown by the cheese and bacon from this part of the coast, finding a market in Goulburn and districts south of it, having been distributed from the Sydney emporium. Facts of this kind are very naturally reckoned on by supporters of a line to Braidwood. If they are to be explained simply by the difference in cost of carriage, then every mile of railway laid in the direction of the coast would tend to diversion of the course of this trade. Between localities so dissimilar in all conditions of soil and climate and possible industries a direct interchange of commodities suited to the wants of each would undoubtedly arise if it could be carried on profitably.

30. As factors in the matter of cost of carriage, however, there are two points that have all the weight in the speculation. The railway charges are practically fixtures, whereas the steamer rates are entirely optional with the company. A through line to the coast would, beyond all question, supplant this portion of the steamer traffic, but a line as far as Braidwood only could not compete.

31. The calculation is simple and indisputable—one item is sufficient.

*Cost of carriage of flour from Goulburn to Moruya.*

By rail from Goulburn to Sydney—special up rates ... ..	10/9 and 9/8 per ton.
By sea from Sydney to Moruya... ..	15/- 15/- „
	<hr/>
	25/9 24/8 „
	<hr/>
Say ... ..	30/- per ton all told.
By rail from Goulburn to Braidwood—Class A ... ..	5/8 per ton.
By teams from Braidwood to Moruya ... ..	60/- „
	<hr/>
	65/8 „
	<hr/>

32. The timber trade done in the districts bordering Bateman's Bay and the Clyde River is of very great extent, supplying the Colony generally with ironbark and spotted gum for all manner of works and carriage building. That this also can be profitably travelled all the way round by Sydney, instead of direct, must be demonstrated for the benefit of Braidwood folk, to whom the anomaly seemed unaccountable.

*Cost of carriage of timber from Clyde River to Goulburn.*

From Clyde River to Sydney by sea—3/6 per 100 feet, super...	...	12/8 per ton.
By rail from Sydney to Goulburn—		
Logs and girders—Class A ... ..	...	12/5 "
Sawn stuff—Class A + 50 % ... ..	...	18/8 "
By sea and rail, <i>via</i> Sydney—		
Logs and girders ... ..	...	25/1 "
Sawn stuff ... ..	...	31/4 "
From Clyde River by road to Braidwood ... ..	...	40/- "
By rail Braidwood to Goulburn—		
Logs and girders—Class A ... ..	...	5/8 "
Sawn stuff—Class A + 50 % ... ..	...	8/6 "
By teams and rail <i>via</i> Braidwood—		
Logs and girders ... ..	...	45/8 "
Sawn stuff ... ..	...	48/6 "

33. The existing condition of things, as also the effect of the construction of a line to Braidwood as affecting the traffic in general goods supplied to Braidwood from Sydney, is not so easily disposed of, as the variety of articles embraces the greater part of the goods classification. It is moreover the most important matter in this connection, and the one that has been most disputed.

Appendix T.

34. It is necessary first to premise that the steamer rates are elastic. There is a "dead weight" charge and a charge by "measurement," and the discrimination between these is in the power of the steamer officials. The "dead weight" charge of 15s. per ton is much more favourable to the public than the "measurement" charge of 20s. per 40 cubic feet. The "dead weight" charges, like the railway rates, being for weight only, can be readily dealt with; but the "measurement" charges cannot in this place be compared with them at all. In the cases of crockery and furniture, for instance, the actual charge may be double or more of the rate by weight only.

35. The cartage rate in force from Nelligen to Braidwood is 40s. per ton, and 20s. per ton for the return journey. From Tarago to Braidwood the rate is 20s. per ton, and 10s. per ton for the return journey. The detailed railway goods rates are given in the Appendix quoted in margin.

36. An examination of the railway goods classification fails to show any article in the classes "Miscellaneous" and "A" that are likely to be carried from Sydney to Braidwood. The charges compare, however, as follows:—

In the miscellaneous class the railway freight from Sydney to Braidwood amounts to ... ..	...	12/7 per ton.
The steamer freight from Sydney to Nelligen is ... ..	...	15/-
The team rate from Nelligen to Braidwood is ... ..	...	40/-
	—	55/- "
Showing in favour of the railway to the extent of ... ..	...	42/5 "
In the A class the railway freight from Sydney to Braidwood amounts to ... ..	...	16/1 "
The steamer freight from Nelligen to Sydney is ... ..	...	15/-
The team rate from Nelligen to Braidwood is ... ..	...	40/-
	—	55/- "
This shows in favour of the railway by ... ..	...	38/11 "

In class B there are several articles, such as bags, woolpacks, salt, and saltpetre, which would all be dead weight.

The railway freight from Sydney to Braidwood is ... ..	...	29/7 per ton.
The steamer freight from Sydney to Nelligen is ... ..	...	15/-
The team rate from Nelligen to Braidwood ... ..	...	40/-
	—	55/- "
Showing in favour of the railway by ... ..	...	25/5 "

In the first of the numerical classes are found a number of articles of which agricultural implements, fencing wire, corrugated iron, shovels and spades, soap and sugar may be instanced—comparing the cost of transport of these:—

The railway charges from Sydney to Braidwood is ... ..	...	59/5 per ton.
The steamer charges from Sydney to Nelligen is ... ..	...	15/-
The team charge from Nelligen to Braidwood is ... ..	...	40/-
	—	55/- "

Showing 4s. 5d. per ton in favour of the steamer, but as many of these articles would certainly be charged at the measurement rate, the difference in such cases would be the other way.

In the second of the numerical classes are found a great number of articles dealt with from which the following may be selected as representative. Ale and beer in bulk, candles, furniture, iron, (bar, rod, &c.,) rope, springs, rice, tin plates, &c. The cost of transport of these as dead weight by rail:—

From Sydney to Braidwood is ... ..	...	73/8 per ton.
The steamer charge from Sydney to Nelligen is ... ..	...	15/-
The team charge from Nelligen to Braidwood ... ..	...	40/-
	—	55/- "

By measurement on the steamer this charge becomes at least 60s. per ton, and in many cases much higher in practice.

In the third of the numerical classes there is a very extensive range of articles including by far the greater portion of the stock of a country store, such as groceries, furnishing goods, drapery, ale and beer bottled, china and glassware, cutlery, corrugated iron, tea, tools, stationery, &c., &c. This class comprises such a large proportion of the total imports into Braidwood that the cost of carrying it may be taken to rule the whole, and, as so much of it would be rated by measurement, an imposition of heavy percentages

is necessary in order that a comparison may be instituted. The dead weight charges are:—

By rail from Sydney to Braidwood ... ..	102/- per ton.
The steamer from Sydney to Nelligen ... ..	15/-
The team from Nelligen to Braidwood ... ..	40/-
	55/- "
By measurement on the steamer this becomes ... ..	60/- "
Or with 50 % added ... ..	90/- "
Or with 100 % added ... ..	120/- "

37. Summing up the foregoing it is found that in class miscellaneous the charges are in favour of railway transport by 42s. 5d. per ton.

In class A they are favourable to the railway by ... .. 38/11 per ton.

In class B the advantage is in favour of the railway by ... .. 25/5 "

In the first class taking the "dead weight" and the "measurement" rates together, the charges are about equal.

In the second class the advantage is in some cases in favour of the steamer by 18s. 8d. per ton, but that for goods rated by measurement this is reduced to at most 13s. 8d. per ton, and in many instances nullified altogether.

In the third class the dead weight charges by the steamer are lower than those by the railway by 47s. per ton, but by measurement this saving is at once reduced to 42s. per ton, and in many cases it becomes nil.

38. There is a further apparent advantage in favour of the road and sea route, that all goods sent back from Braidwood to Nelligen are carried at half rates, according to the existing practice on the roads, but the productions of the district will ever be of those classes so highly favoured by the railway classification, viz., agricultural produce, shown in the last four columns and the special classes. Those rates are low enough to defy all competition.

39. This investigation shows very clearly the direction in which competition may take effect. The steamers, by simply relaxing their measurement practice, though not their written regulations, without undertaking any additional burden, may reduce their average charge enormously. That they will do so may be taken to be certain, but in the following detailed estimate of the traffic this speculation has not been taken into consideration at all. It will be seen that I have gone in detail throughout the goods classification and credited the railway with all that it may reasonably be expected to carry, bearing in mind the existence of the measurement charges on the steamers.

40. The following is my estimate of the probable operations on the proposed line for some years to come.

<i>The Estimated Goods Traffic.—Goods outwards.</i>				£	s.	d.
Miscellaneous class ... ..	100 tons	...	...	6	13	4
A class (including 500,000 feet of timber)	1,800 "	...	...	315	0	0
B class (say) ... ..	20 "	...	...	4	0	0
First class ... ..	100 "	...	...	55	16	8
Second class ... ..	50 "	...	...	33	10	10
Third class ... ..	100 "	...	...	88	15	0
Wool ... ..	100 "	...	...	25	0	0
Other special classes ... ..	800 "	(various rates)	...	197	15	4
Total ... ..	3,070 tons			£726	10	10
				(say) £730	0	0

<i>Goods inwards.</i>				£	s.	d.
Miscellaneous class (the proportion that may be carried by rail) ... ..	50 tons	...	...	3	6	8
A Class do do ... ..	600 "	...	...	60	0	0
B class do do ... ..	600 "	...	...	120	0	0
First class do do ... ..	500 "	...	...	200	0	0
Second class do do ... ..	150 "	...	...	75	0	0
Third class—very numerous, but generally the rates by steamer and road are favourable (the proportion that may be carried by rail) ... ..	100 "	...	...	70	0	0
Total ... ..	2,000 tons			£528	6	8
				(say) £530	0	0

<i>Stock Traffic outwards.</i>				£	s.	d.
Cattle, 3,000 head ... ..	230 trucks at 15s.	...	...	172	10	0
Sheep, 7,500 " ... ..	68 " 10s.	...	...	34	0	0
Sheep, 7,500 " (from Manar) ... ..	68 " 5s.	...	...	17	0	0
Calves, pigs, horses, &c., say ... ..	...	...	...	20	0	0
Total ... ..	...	...	...	£243	10	0
				(say) £245	0	0

<i>Coaching Traffic both ways.</i>				£	s.	d.
Passengers, first class ... ..	2,600 at 4s. 10d.	...	...	628	6	8
" second class ... ..	5,200 at 3s. 4d.	...	...	866	13	4
" half-way (from other stations) ... ..	1,000 at 2s.	...	...	100	0	0
Parcels, mails, &c. ... ..	...	...	...	200	0	0
Total ... ..	...	...	...	£1,795	0	0

*Summary*

*Summary of Estimated Receipts annually.*

	£	s.	d.
From coaching ... ..	1,795	0	0
„ goods inwards ... ..	530	0	0
„ „ outwards ... ..	730	0	0
„ live stock ... ..	245	0	0
<b>Total ... ..</b>	<b>£3,300</b>	<b>0</b>	<b>0</b>

*Estimated annual Expenditure and Receipts.*

	£	s.	d.
Estimated cost of construction ... ..	182,100	0	0
<b>Annual Expenditure—</b>			
Interest on capital, 3½ per cent. ... ..	6,374	0	0
Expenses on maintenance ... ..	8,889	0	0
„ locomotives and traffic ... ..	1,976	0	0
<b>Total, annual expenditure ... ..</b>	<b>£12,239</b>	<b>0</b>	<b>0</b>
<b>Of this sum the working expenses above amount to ... ..</b>	<b>£5,865</b>	<b>0</b>	<b>0</b>
<b>Estimated receipts ... ..</b>	<b>£3,300</b>	<b>0</b>	<b>0</b>
<b>Total estimated loss annually ... ..</b>	<b>£8,939</b>	<b>0</b>	<b>0</b>
<b>Loss on working expenses only ... ..</b>	<b>£2,565</b>	<b>0</b>	<b>0</b>

41. The nearest approach obtainable to the quantity of goods brought by steamers for Braidwood annually is 3,000 tons. I have estimated that the railway will carry 2,000 tons inwards. This includes of course, numbers of articles that are now brought by this route, and allows for a reasonable expansion, but it may be taken roughly to leave about 1,500 tons to be carried by the steamers still.

42. The following points only seem to need explanation. The tonnage of wool is arrived at from the total number of sheep in the electorate, 67,226, the clip of which would amount to about 150 tons, of which 100 tons has been credited.

43. The figures of the passenger traffic supplied by the Railway League are 8,756 both ways during 1890. For the following reason I do not feel justified in adopting these. Two coaches, running five days per week both ways for fifty-two weeks, carrying ten passengers each on each trip, or forty passengers daily, make up 10,400 passengers yearly as the possible total. The numbers quoted are seven-eighths of this. Again, the tickets issued at Tarago Railway Station for the year ending June 30, 1890, amounted to 4,572. This is inclusive of all traffic around Tarago, but supposing that all inwards came with through tickets, and that all travelled to and from Braidwood, the total would amount to 9,144, or not much in excess of the League's figures. I have accepted three-fourths of their total, viz., 7,800 only, and rated them at one-third first-class and two-thirds second-class, adding 1,000 more for those picked up at intermediate stations.

44. The details of the annual expenditure have been taken from the Railway Commissioners' report. I am responsible for the figures of the estimated receipts only. A comparison of these shows that the estimated annual loss entailed by the construction of this line would be £8,939, of which the loss on working expenses only would be £2,565. That the amount of receipts must be increased by 78 per cent. of the estimate before the working expenses alone are recouped, and that they must be nearly quadrupled before the line can pay its way.

45. There are yet further results that may be anticipated from the construction of this line, viz., increased revenue to the existing line (1) from carriage of the produce of the district upwards, and (2) from carriage downwards of that portion of the goods that may be diverted from the steamers. The volume of up traffic (goods outwards) has been set down at 3,070 tons, and of this it is estimated that 2,590 tons (including 1,400 tons of timber and 800 tons of farm produce) will be new traffic, which will be distributed to various points at a cost of £671. Of the down traffic (goods inwards) set down at 2,000 tons, it is estimated that 1,500 tons will be the new traffic, earning £2,645 for the existing line. The live stock may produce £500, and the coaching traffic £300. The sum of these amounts to £4,116. This reduces the estimated annual loss from £9,119 to £5,003.

46. It is necessary to point out clearly that a large portion of this sum can be earned only in the event of the steamers retaining their present charges, a disregard of their own interests that is very unlikely to be perpetrated. The details are here given.

47. The estimated value of the extra traffic along the existing railway that may result from construction of a railway to Braidwood:—

*Goods traffic.—Up traffic from Tarago.*

	£	s.	d.
Miscellaneous... .. 20 tons	11	5	0
A class ... .. 1,600 „	210	0	0
B class ... .. 20 „	4	10	0
First class ... .. 75 „	34	7	6
Second class ... .. 25 „	13	12	11
Third class ... .. 50 „	35	12	6
Special classes... .. 800 „	331	13	4
<b>2,590 tons</b>	<b>£671</b>	<b>1</b>	<b>3</b>

Down

*Down traffic to Tarago.*

							£	s.	d.
Miscellaneous...	...	...	...	...	50 tons	...	28	2	6
A class	...	...	...	...	450 "	...	316	17	6
B class	...	...	...	...	400 "	...	511	13	4
First class	...	...	...	...	400 "	...	1,028	6	8
Second class	...	...	...	...	100 "	...	318	6	8
Third class	...	...	...	...	100 "	...	440	8	4
					<u>1,500 tons</u>		<u>£2,643</u>	<u>15</u>	<u>0</u>
							(say) £2,645	0	0

*Live Stock.*—Supposing that all shipments now made at Yass, Bungendore, and Marulan are made at Braidwood, a fair allowance for the extra earnings on the existing line would be (say) £500.

*Coaching.*—Probable extra traffic earned by reason of general expansion in the district (say) £300.

*Summary.—Earnings on the existing line.*

Goods—Up traffic	...	...	...	...	...	...	...	...	£671
Do —Down traffic	...	...	...	...	...	...	...	...	2,645
Live stock	...	...	...	...	...	...	...	...	500
Coaching	...	...	...	...	...	...	...	...	300
									<u>£4,116</u>

48. The only conclusion that can be derived from this is, as stated by the Railway Commissioners, that "there is no prospect of this line being anything but a drain upon the system for a long time." My extended examination of the country and consequent intimacy with its capacity and resources strongly inclined me in its favour; but the figures in these estimates, though merely matters of opinion, convince me that the discrepancy between the receipts and the expenditure cannot be overcome by any process of stretching in either direction.

49. The directions in which expansion can be confidently anticipated are in increase of settlement by further subdivision of the large holdings, either by sale or leasing, and on lands now under restrictions of mining regulations, and by the gradual absorption of other Crown lands now open for selection. These would add a considerable increment to the permanent population, and react upon the traffic of the railway largely. The outturn of timber might, in the course of time, double the estimated quantity, without imposing any strain upon the available supply. But the institution of arrangements for sending dead meat to market, and the probability of products of all kinds being utilised that are now wasted, introducing fresh sources of revenue, and an access to the population, cannot be speculated on in an estimate of this kind. Similarly, though enterprise may now and again give an impetus to mining operations, nothing so extensive or permanent has been proved as to justify high anticipations for the future. The Nariga part of the district on which great hopes are based is but 43 miles from Nowra, the intended terminus of the coast railway, which will place Nariga within 137 miles from Sydney, whereas *via* Braidwood it is 212 miles. In the mining interest this difference is very important, though in all other respects, as I have already stated, I consider that the Nariga district has rightly been joined to that of Braidwood for the purposes of this inquiry.

STANLEY ALEXANDER, M.I.C.E.

The Under Secretary for Public Works.

## THE PROPOSED RAILWAY FROM TARAGO TO BRAIDWOOD.

### LIST OF WITNESSES.

1. Mr. E. Smith, butcher and miner, Araluen.
2. Mr. Price, Manager, Bank of New South Wales, Araluen.
3. Mr. Grierson, manager for Messrs. Mort & Co., Bodalla.
4. Messrs. Simpson, Gannon, Emmett, senior and Emmett, junior, of Moruya.
5. Mr. Anderson, grazier, Moruya.
6. Mr. Thorpe, manager for Mr. Vider, Nelligen.
7. Mr. Webber, saw-miller, Nelligen.
8. Mr. R. J. C. Maddrell, grazier, Braidwood.
9. Mr. J. O'Brien, grazier, Braidwood.
10. Mr. E. Francis, builder and contractor, Braidwood.
11. Mr. T. Stuart, Agent for Messrs. Hassall, Roberts, and Royds, Elrington.
12. Mr. R. Geelan, stock dealer, Braidwood.
13. Mr. T. Lee, foreman, Roads and Bridges Department, Braidwood.
14. Mr. T. Farleigh, grazier, Larbert.
15. Mr. J. Musgrave, proprietor, Braidwood Dispatch.
16. Mr. P. J. Galwey, warden's clerk and mining registrar, Little River and Nariga Divisions.
17. Mr. W. J. Chapman, auctioneer, Braidwood.
18. Mr. J. Basingthwaite, grazier, Larbert.
19. Mr. W. Bridgemant, coach-builder, Braidwood.
20. Mr. J. M'Donald, storekeeper, Braidwood.
21. Mr. R. Kennedy, farmer, Reidsdale.
22. Mr. R. Hassall, grazier, Braidwood.
23. Mr. W. J. Bruce, storekeeper, Araluen.
24. Mr. W. Hennessey, miner, Major's Creek.
25. Mr. R. Maddrell, grazier, Braidwood.
26. Mr. E. Grenenger, tanner, Braidwood.
27. Mr. R. M. Higgins, storekeeper, Braidwood.
28. Mr. J. W. Bunn, grazier and census enumerator, Braidwood.
29. Mr. M. W. Lyons, farmer, Reidsdale.
30. Mr. M. Gallagher, farmer, Durran Durra.

(1.)

Araluen, 3 April, 1891.

*Mr. Edmund Smith*, butcher in Araluen, and miner, came into the valley in 1854, and has been here ever since, excepting for a trip home to England; commenced mining regularly about eight years ago; he took up the continuation of a lead of drift in unworked ground, and worked it by means of a tail-race cut in the bed-rock for 2½ miles from the commencement to where he is working now; this, with the exception of the last half-mile, is all through private land belonging to Macgregor and Co., originally the old Burnell Estate; worked this for six years, to the expiration of his lease; during last two years has worked Crown land, continuing the same race for draining the ground in the original bed of the creek; the claim has 1,400 feet frontage to the creek; during all this time he has been employing on an average of seventy men and boys and about twenty horses, for six years; and now he has twenty-five hands and six horses in work; has fully eight or ten years' work in front of him, as, in addition to the lease, he has 2 acres of purchased land on the bank adjoining, which will occupy the men for two years; there is another claim working on the private land belonging to Macgregor and Co., in Sydney; the name of this claim is the "Southern Cross," or the "Oriental" (a company of seven men); this claim was started at Christmas; it is all in unworked ground; there are hundreds of acres of unworked ground on the east side of the river, in deeper ground than was worked by the old miners, which will be worked some day; there are also other working parties in the valley; procures maize and oats both locally and from Moruya, and from Sydney; the local production of maize is not sufficient for the consumption, or, at all events, the supply is not enough, because most of the produce from the lower parts of the river is sent by sea to Sydney; always treats direct with the grower if he can manage it; when he has to procure from Sydney he gets from Tarago, because it comes cheaper; cartage from Tarago to Araluen is £1 per ton, and from Moruya is £2 10s. per ton each way; all other stores he procures from Moruya, because the sea freight is so much less than the rail freight; there is a good road to Major's Creek, 7 miles; the labour he employs at the mine is all local, all native to the place; all have some property or holding in Araluen; they are the descendants of the original miners who worked the ground, and have been employed on the same kind of mining all their lives; the tail races of the same sort as the one he has constructed have superseded the pumping engines; there are several others on private land, excepting the last half-mile of his own, which is on Crown land; machinery is not, therefore, required; there is a water-wheel belonging to a Chinese party; there are no reefs in the valley, but on the hill side on the east, near Dirty Butter Creek, a reef is being worked; and again on the spur between Major's and Araluen Creeks some shafts have been sunk, and some gold got; on the Doua River, 10 miles down, the Devil's Pinch Reef was being worked for many years; it is now idle; it dips under the river; the Sidling Reef, opposite the former, has also been abandoned; all the passenger traffic goes to and from Tarago, from as far down the coast as Bega, or beyond; originally, before the railway to Cooma was built, the traffic was by sea, but now it has been diverted to the railway; there is a regular line of coaches daily, and opposition also.

E. SMITH.

(2.)

NOTES on information supplied by Mr. W. Price, Manager of Bank of New South Wales, Araluen Branch.

Araluen, 4 April, 1891.

All trade is done with Moruya, from which the distance is 34 miles, while Braidwood is only 17 miles; there are regular carriers—one or more—on the road to Moruya, but none between Araluen and Braidwood; with regard to supplies for Araluen, it is merely a question of cost of transit, and if these could be brought from Braidwood cheaper than from Moruya, that route would certainly be adopted.

adopted; there must be 500 or 600 people on the Araluen and its neighbourhood, supplies for whom would amount to a considerable quantity; all the passenger traffic goes *via* Braidwood to Sydney; the population is of miners or their descendants; they keep large quantities of stock grazing on the common lands, and have a little cultivation and orchard, but the greater number make a living by mining, to which they have been all their lives accustomed; many go away to other mining fields, but are ever ready to return on any new find being made; there is not very much fruit produced on the whole, but the orchards are very profitable to the owners, and the cultivation is most successful; the climate and soil of the valley are eminently suited for some kinds of grapes, but apples and pears are sure to thrive very well; the difficulties to shipping in Moruya, owing to the failure of the harbour works entailing the sending of all goods to Bateman's Bay by road or by a small steamer, are very much against the route to Sydney by sea; the following are the recognized heights of certain points hereabouts:—

Irish Corner Mountain, near Reidsdale	...	...	...	3,758	feet	above	sea	level.
Top at Bell's Creek Mountain	...	...	...	2,658	"	"	"	"
Araluen	...	...	...	1,280	"	"	"	"

## (3.)

NOTES on information supplied by Mr. Grierson, Manager of the Bodalla Estate (Mort & Co.).

Bodalla, 6 April, 1891.

The difficulties in shipping to Sydney have lately been represented to the Minister for Public Works by a deputation of which he was a member; produce outwards and goods inwards have to be transhipped at Bateman's Bay into a small steamer in order that it may be brought into the entrance of the Moruya River, or else everything has to be carted through Moruya, 18 miles further, to Bateman's Bay; the estate turns out, or could turn out, 500 head of fat stock annually; he has not sent any stock direct to market; has hitherto sold to dealers exclusively; some stock sold to a dealer was taken up to the rail through Cobargo, but this was in order that some other purchases might be picked up on the way; he considers that Melbourne is the proper market for fat stock from these coast districts, but this can now only be got at by sea from Eden by arrangement with Howard Smith's steamers, which will call there on being guaranteed £30 of freight; by road and rail he considers that the Braidwood route would be adopted if the railway were built to Braidwood, but he would not send any stock through Tarago; the Tasmanian steamers take 80 or 100 head of stock weekly to Tasmania from Eden; this affords some outlet for these districts; Bateman's Bay, it is said, could be readily made serviceable for shipping on to the large steamers, in which case it would certainly be largely used for the Melbourne and also for the Sydney market; dairy produce—cheese and bacon—made on this estate, is all sent to Sydney, whence it is distributed up country and goes as far or farther than Goulburn; flour, of which 2 tons per week is used on the estate, is brought from Sydney by sea; he often gets Hayes' Goulburn flour by that route; a traffic might be made between the coast and the high lands in dairy produce and wattle-bark and maize, exchanging for flour, hides, tallow, and leather manufactured in Goulburn; much of the wattle-bark sent by sea to Sydney is carried up country to the tanneries in Goulburn; the maize grown on this south coast is known to be very much superior in respect of keeping sound for a longer time than the produce of the parts north of Sydney; corn here has been kept for twelve months without becoming weevilled; the maizena factory belonging to Mort & Co., at Merimbula, can only use this southern maize as, for this purpose, the maize has to be kept throughout the year in order that a supply may always be available for the works; very large quantities of maize are sent to the high lands from the coast; the production of maize on this coast is practically limited only by the market; under the existing shipping arrangements, competition with the northern rivers in the Sydney market is impossible, and the cost of transport by road to the high lands is prohibitory; at present the use to which maize is put on the coast is for feeding pigs, which are turned into the standing crops; he has on the estate about 450 acres under this crop; one paddock of 140 acres is expected to yield 80 bushels per acre; it is flat-bottom land on the Tuross Creek, of deep alluvial soil, as good as any on the northern parts of the Colony.

## (4.)

NOTES on information supplied by the following gentlemen at Moruya:—Mr. W. H. Simpson, J.P., grazier and farmer; Mr. T. H. Gannon, J.P., grazier and butcher; Mr. J. Emmett, senior, storekeeper; Mr. J. Emmett, junior, storekeeper.

Moruya, 7 April, 1891.

Mr. Simpson has known cheese of his production having been sent from Sydney as far as Queanbeyan by the railway; most of the flour used on this coast is from the Goulburn mills; an interchange of traffic between the high land and the coast would result in competition and reduction of the carting charges over the road; all the surplus maize from the coast is sent up through Araluen to Braidwood; the wattle-bark, both from the coast and from places such as Araluen, all goes by sea to Sydney, and much of it is sent up country to Goulburn; similarly with hides; it is known for a fact that hides from Moruya have gone to Goulburn tanneries; there is a certainty that the trade in flour would be done by the direct route if the railway were extended to Braidwood, and a probability that the demand on the coast would give an impetus to the production of wheat and gristing in Braidwood itself; the consumption of bagging on the coast for grain, chaff, and wattle-bark is very large; this also might be brought overland; the articles that might be sent to the high lands comprise maize, dairy produce—such as cheese and bacon—wattle-bark, and hides, which would be exchanged for the following from Goulburn and other places—flour, leather, bagging; the fruit grown on the coast is a month or more earlier than on the high land, and kinds can be produced in this climate which must ever be imported into the high lands; in these, therefore, an interchange might be effected; the rough and frequent handling to which cheese is subjected on the steamer route is very damaging; from the factories to Braidwood there would be no more than the double handling done to reach the train, whereas by the sea there are several; the surplus stock of the coast are sent to Sydney by way of Marulan, but all these would go *via* Braidwood—never to Tarago over the metalled roads; all passenger traffic now goes *via* Braidwood, and much of it from Bega also.

## (5.)

NOTES on information supplied by Mr. Anderson, of Lake View, Bergalia.

Moruya, 7 April, 1891.

These districts of the coast are devoted to dairying, and not to fattening or breeding, but still some quantity of spare fat stock are always available for market if one can be got; and many calves not required for local consumption or for dairying are always to be had; as yet the spare stock of these classes has not been numerous, as the business of exporting from the district has not been prosecuted; he does not consider that the extension of the railway to Braidwood would do much towards advancing this stock traffic; considers that there is no ground for the objection that has been quoted to the carting of cheese from the coast to the high lands; cheese has actually to go through a great number of handlings and vicissitudes now before it can reach a market by sea, and on the road to the railway it could not be more damaged than it is on the route now adopted; he is of opinion that back loading in the shape of flour would be got to the coast from Braidwood if a traffic from the coast could be instituted; many articles produced in both districts could be profitably exchanged; regarding the passenger traffic, as he himself always travels to Sydney *via* Braidwood, he considers this route to be the best; it is available every day, whereas the sea route can only be got once a week, and in point of time it is the shortest.

NOTES on information supplied by Mr. Thorpe, manager for Mr. Vider, saw-miller and storekeeper.

Nelligen, 8 April, 1891.

He has known people to go by road all the way through to Kiama, *via* Milton and Shoalhaven, in preference to travelling to Sydney by the sea; the opening of the railway towards Cooma diverted best part of the goods and the passenger traffic from the steamers; he believes that the extension of the line to Braidwood would divert the whole of the passenger traffic from the sea route, and that much of the goods traffic also might go by the road and rail; he is now engaged in filling orders for timber wheelwright work for Goulburn; the timber for this work is spotted gum; has now an order for forty pairs of naves of ironbark and spotted gum for Goulburn, and also for spotted gum shafts; flour from Hayes' mill in Goulburn is brought here *via* Sydney; before the railway was opened to Cooma coach-builders and wheelwrights used to send teams down to this coast for timber from Queanbeyan and Cooma, but now the coast timber is all taken to Sydney by sea, and distributed thence by the railway; storekeepers goods are taken up from Nelligen to Braidwood by the road, and the teams bring back as back freight hides, leather, tallow, and sheepskins; would judge that the quantity carried up to Braidwood from Nelligen averages 30 tons per week, and that the traffic is on the increase; the maize chiefly goes up from Moruya, as the river gives facilities for transport to Sydney from the Clyde districts.

NOTES on information supplied by Mr. Webber, saw-mill owner on Clyde River.

Nelligen, 8 April, 1891.

The quantity of goods brought to Nelligen in 1886 by the I.S.N. steamers and sent out along the Braidwood road in teams was 5,000 tons; this information was given to him by the I.S.N. Company's agent at the time, in assistance to an agitation being made for continuance of the road vote; he believes that the traffic has increased since 1886, judging by the number of teams at work now; the loads on the drays are from 2 to 4½ tons drawn by eight or ten horses; the freight paid from Nelligen to Braidwood is 60s. per ton all round; the I.S.N. Co. charge 3s. 6d. per 100 feet superficial for carriage of timber to Sydney, and the sailing vessels charge 3s. per 100; his charge at his own timber yards in Sydney for all rough building timber is 13s. per 100 feet superficial, but for selected best qualities for wheelwright and waggon work the charge is 15s. and 16s. per 100; the timber of this coast is 2s. per 100 better for wheelwright work than that from the north; spotted gum is now being used for wheels and buggy poles, and passes for American hickory; timber from his yards in Sydney is sent to all parts of the Colony and to New Zealand; his firm have ninety customers and connections in every town on the Northern and Southern lines; Cobb & Co., at Bourke, are his largest customers; timber is often sent by him direct from the mill to Braidwood, but the purchaser pays all carriage from the mill; the population of the police district of Nelligen, including all Bateman's Bay, was 701 at the last census; the passenger traffic by the road to Braidwood is considerable; there is a regular mail coach and also a private conveyance; he himself always travels to Sydney by that route; people never go by sea if they can help it; he does not believe that the steamers get fifty passengers per annum from the Bay; to persons who take their own horses to Braidwood, and go thence by coach and rail, there is a saving of 5s. in the cost of the journey to Sydney.

Braidwood, 13 April, 1891.

*Mr. Robert J. C. Maddrell* is renting 5,500 acres of land from his father, all in the immediate vicinity of Braidwood; is a native of Braidwood; has generally from 850 to 1,000 head of bullocks on this land for fattening; turns off on an average 750 fat bullocks yearly, but has succeeded in getting away 1,250 in an exceptionally good season; these are sent to both Sydney and Melbourne, depending on the market; when sending to Sydney he trucks at Tarago, but sometimes at Marulan; Marulan is about 56 miles by the road from Braidwood; this route is adopted to save trainage; it is dependent on the state of the market which, if good, obliges the stock being trucked at the nearest point, but if low economy has to be studied; the stock have to be travelled 30 miles to Tarago, and once on the road they might as well go the other 26 miles to Marulan at a trifling extra cost; if the trucking could be done at Braidwood no travelling would be needed; he would be inclined to send stock in small quantities by railway for every weekly sale, thus getting the benefit of the average market prices; has now two applications

cations from persons who propose to slaughter cattle in Braidwood and send dead meat to Sydney market in the event of the railway being built; this climate is a suitable one for this purpose, and the quality of the beef fattened here is very highly spoken of; it has competed very well in the Sydney and Melbourne markets against that of the noted breeders; one proposer of the slaughtering arrangements is such a man as would be capable of carrying out this scheme, and he confidently believes that it will be put into practice if the railway is built; for Melbourne he principally trucks at Yass; to get there the stock have to pass Bungendore, 32 miles from Braidwood; Yass is 43 miles beyond Bungendore; this extra travelling is done to economise the cost of transporting the stock, but if the trucking could be done in Braidwood advantage could be taken of the markets, and stock might be sent only when these are favourable; there would not then be the same need for studying so closely the cost of the carriage; Braidwood would then be on a level in the matter of command of a market with other places so served by a railway line, whence stock can be trucked on the same days on which information of a good market is received; when once the stock are on the road the extra distance to be travelled is insignificant in cost; he does not cultivate now, as he can buy all produce he requires as reasonably from his father's tenantry; the land being farmed by the settlers on Budawang is all rich chocolate soil of very good quality, suitable and used for potatoes, oats, and wheat; fruit also grows very well in some of the orchards in that locality; the farms in the parishes of Budawang and Mongarlowe are very good; the land is not nearly so heavily timbered as that on the Little River or Monga; the Monga land would better repay clearing than the Budawang land; he believes that any land thrown open, even on the heavily-timbered country of Monga, would be readily taken up by settlers; there are numbers of people scattered all over the Colony connected with residents in Braidwood, people who are natives of this district who have moved to other parts; this is shown by the influx that takes place at every holiday time, such as Christmas; these are more or less desirous to return; at the time when the railway was looked upon as a certainty, a considerable number of people came to Braidwood anticipating making settlement here; a contractor named Iceley informed him that a contract for £10,000 worth of granite for Sydney could have been filled in these districts but for the cost of the transport to Tarago; he considered that the length of road between Braidwood and Tarago made all the difference in the cost of delivering the material; this man said that on the completion of the railway a considerable trade in granite would be done with Sydney, as the granite in this part is of particularly good quality; respecting the production of fruit, last season he supplied Mr. Lamb at Rooty Hill factory with 15 tons of apples, which were grown on his father's property, Bedervale, and some at Little River; he offered to continue supplying apples this year also, but Mr. Lamb did not require them, as this fruit seems to have been in plentiful supply this season; he found that the business was payable, and this gives an indication of the quality of the production as well as of its being a payable industry; he has been assured by people from Bega that fully one-third of their passenger traffic will come *via* Braidwood if a railway is built; a number do come by this route even now, but a great increase will result.

ROBT. J. C. MADDRELL.

(9.)

Braidwood, 13 April, 1891.

*Mr. James O'Brien* resides at Belle View, on the Jemaicumbenc swamp; owns about 20,000 acres freehold, including conditional purchase and leasehold about 3,500 acres; these properties (freehold) are on Mount Elrington, Parker's Gap, and Karwarie; the leaseholds are on Belle View and Mount Elrington; has been in these districts 39 years; runs cattle on all these properties; at present there are about 4,000 head on them; they are capable of carrying more under improvement, but they are fully stocked now; the season is a little unfavourable; has dealt principally in fat stock for the last few years; can send away about 1,400 head of stock of all sorts annually; sends fat stock to both Sydney and to Melbourne, depending upon the market; for the Melbourne market he always trucks at Yass; to get there all stock would have to go *via* Mount Elrington and Bungendore, and Gundaroo; this distance makes about a week's driving from Mount Elrington; for the Sydney market he trucks at Tarago; this would be three days' driving from Mount Elrington; sends fat stock down to Shoalhaven and Kiama when there is a good market, because of the population, and the railway works that are going on now; did send to Cobargo a couple of times, but in that case he sold to a dealer; a grazier named Collins, at Bega, occasionally sends cattle up this way for the Sydney market when there happens to be no demand in Bega district, or for the Tasmanian market; he anticipates being able to increase his outturn of fat stock regularly year by year by carrying on improvements to his property; clearing and laying down permanent grasses; finds perennial rye grass, colt's foot and prairie grass succeed well here; has no farms let on his properties except small areas let to his own employees; bought several farms about Mount Elrington from settlers who had been resident for a long time; these had taken up their land about 1853 or 1854, and the market for their produce was in the mining camps of Araluon and Major's Creek; the dispersment of this population deprived all these farmers of their market, and left them no outlet for their produce, so they could not hold on to the land; there were about seven farms aggregating about 500 acres, for which he gave from £4 to £5 per acre all round; these were on Mount Elrington, Farrendon, and Highgate, on the west bank of the Shoalhaven River; during those times, when there was a market, he himself used to cultivate 200 acres of land at Jemaicumbene and Mount Elrington, but since the population went away he crops only what can be consumed on his own property; has had hay in his shed for years without being able to find a purchaser; he has cultivated 100 acres on Jemaicumbene, and 100 acres on the west of Shoalhaven at Highgate; on that side of the river he considers that 1,500 acres of land on his property could be found cultivable; there are 300 to 400 acres on one flat by the river near Mount Elrington; if the railway came to Braidwood he would dispatch both for Sydney and Melbourne all fat stock at Braidwood; the cattle could be brought in from the paddocks and trucked in half a day; there would not be much travelling to be done at all, whereas under the present conditions, having got them on the road it seems better to continue travelling to Yass past the station of Bungendore, as the cost of this extra piece on the journey is comparatively trifling when once the cattle are on the road; he believes that a trade in dead meat can be carried on from Braidwood, as the climate during so many months is suitable to its preservation; at the time when the railway was looked upon as a certainty about two or three years ago, he offered a price for a piece of land near the town in order to institute business in this line; he believes that it will be prosecuted if the railway is built; have been up the Little River, about 7 miles above

above Monga, and saw a fine scope of good land on one side or the other of the river; this, and for a couple of miles down, past which he has not seen, would all be capable of supporting families by farming or grazing; he considers that the Araluen reserve along Bell's Creek is very good grazing country; it would all be taken up at once if thrown open; there have been applications for it which have been disallowed; obtains his store stock from all parts; they all come to his property by road always.

JAMES O'BRIEN.

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(10.)

Braidwood, 14 April, 1891.

*Mr. Edward Francis*, builder and contractor, has been in Braidwood for 33 years; has also been engaged in mining operations and in the timber trade and saw-milling; his saw-mills were on the Mongarlowe River, near Monga, on the Clyde Road and the Little River Road; one was transferred to the M'Cree's, about 12 years ago, and another was burnt; used to cut mountain gum, messmate, white top, plum tree, sassafras, blackwood, and mountain ash; the market for this timber extended to Goulburn, Queanbeyan, Jinendera, and Gunning; the railway opened to Goulburn in 1869, and the saw-mills in the forests north of that place, in the vicinity of the line, were opened some years after; the opening of these forests and the extension of the line southwards past Goulburn took away the market; the carting from his saw-mills to his agents timber-yards in Goulburn was 70 miles; the trade could not be continued under the strain of such a competition; the railway having been opened to Tarago 5 or 6 years ago affords some relief to the trade, but it is being carried on under great disadvantages; building timber has to be delivered in Goulburn at about 13s. per cent., and special classes for waggon and carriage work obtains 1s. or 1s. 6d. per cent. more; if from this the cost of carriage is deducted the balance left for all the operations at the mill and in the forest is enough only to give a bare subsistence to those engaged; in old times before the railway opened the price of timber in Goulburn was 16s. and 18s. per cent., which left a fair margin for the mill; if the railway was extended to Braidwood, the existing price, viz., 13s. 6d. or 14s. 6d. per cent., would also leave a good profit to the miller; the principal timbers are mountain gum and messmate, which were supplied for all ordinary purposes in building and contracts; of these the supply is unlimited; there is hardly any limit to the quantity that could be supplied; he is of opinion that a traffic in timber amounting to 500,000 feet annually can safely be reckoned on; believes that the quantity sent away even now amounts to 60,000 or 70,000 feet; there are orders in the district amounting to 40,000 feet now; an order from Mr. Ball, of Goulburn, for mountain gum for railway waggons, 25,000 feet, is now being supplied by Mr. Grant; the blackwood is on the Budawang Ranges; Mr. M'Cree himself, whose saw-mills are there, can give all particulars regarding this timber.

EDWARD FRANCIS.

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(11.)

Braidwood, 14 April, 1891.

*Mr. Thomas Stuart*, Commissioner for Messrs. Hassall, Roberts, and Royds, at Major's Creek; has been on the creek for thirty-seven years; during this time he has been mining, grazing, and farming; and is still pursuing the same occupation; the reefs that have been worked are Dargue's, Plum's, Thomson's Blow, Kell's Reef, the United Miners, the Pipe-clay, and the Young Australian; these are on the 640 acres of Messrs. Hassall, Roberts, and Royds that has been under offer to the Major's Creek Gold-mining Co.; shafts have been sunk on all, and they have been worked down to 70 and 80 feet; in all of them the workings are down to the pyrites; the chlorination works are situated at Dargue's Reef, and the crushing plant is on the Major's Creek, with tram lines laid to both United Miners and Dargue's; about £45,000 have been spent by the Company in machinery and works; the operation now in progress is the sinking of the main shaft on Dargue's Reef, 50 feet in depth; the plant was stopped in working about December last, as negotiations were on foot to float the affair into an English company; at the time of stopping there were about seventy men employed; he is well acquainted with all these reefs, and he knows that there is any quantity of ore—especially in Dargue's and United Miners—to keep the plant constantly at work for a long series of years; the depth of the reefs is not known; there is another reef, named Rigby's, on Mr. T. Robert's property, on which a shaft 80 feet deep has been sunk to the pyrites; there is plenty of ore visible about 4 feet wide; on the Crown land, the reef is Snobb's—on the same line as United Miners; a shaft has been sunk over 100 feet; the ore is pyrites, with other minerals; this is on a lease of Mr. Blatchford's, on which a good deal of prospecting has been done on "the big hill;" also on Crown lands outside of Mr. Blatchford's there is a reef called "Rise and Shine;" a shaft has been sunk about 100 feet, and pyrites proved in a reef about 2 feet wide; then there is Stuart's lease; the shaft is down about 25 feet, proving gold and silver in quartz in a reef about 18 inches wide; there are about twenty parties comprising about 50 men at work in the creeks on the 640 acres of the Company's land; these men all pay for licenses to the Company; on the Crown land there are about 100 men at work under miner's rights; these men are constantly at work, but many of them have to depend upon rainfall for water to wash with; the whole area within the basin drained by Major's Creek down to the waterfall carries gold; the greater part of it is high above reach of water, and can only be worked during rain; on Long Flat down to the Back Creek, there are about twenty-five or thirty men at work; here, the washing is done in puddling machines near reservoirs of water; there is no one working on the Back Creek itself; the Long Flat is very nearly worked out; the ground left by the old diggers is now being worked profitably; it will last for many years, as the processes are being improved, and much poor ground is now payable; a new race has been brought in from Back Creek, which commands a good portion of the Long Flat on one side; this race is about 4 miles long; all the miners own stock in cattle, horses, and sheep, which run on the Crown lands; mostly all have their own residences, and are permanently settled; many of them cultivate, but they depend mostly upon the mining for a living, but many have produce to dispose of; he, himself, has 80 acres freehold and 40 acres leased from other persons; cultivates about 10 acres in wheat, hay, and potatoes for home consumption; some land on the Back Creek is very good; there is no market for produce; fruit is growing in every garden on Major's Creek in profusion, but there is no use for it; the locality cannot be surpassed for cultivation of apples, pears, and cherries and plums; the miners outside of the Company's land must depend upon the success of the treatment of pyrites in their

their works; if this is found payable, several more mines will soon be in operation, and the field will become populous; in view of the immense quantities of ore available, it is not too much to say that the locality of Major's Creek will carry a population of several hundred families within a few years.

THOMAS STUART.

(12.)

Braidwood, 14 April, 1891.

*Mr. Robert Geelan*, dealer in stock, has been in Braidwood for thirty-two years; owns land 24 miles from town on the Goulburn Road, 777 acres freehold, and also about 40 acres in Braidwood; keeps the stock in which he deals on his land; he puts through annually between 4,000 and 5,000 head of cattle and 13,000 and 14,000 sheep; sheep are increasing in the district; cattle breeding is carried on extensively by the smaller settlers throughout the district; his operations are confined chiefly to buying cattle in the district or in the local salcyard, and selling them in Goulburn or in other districts; in the case of sheep he mostly introduces into the district from outside; the cattle bought in Braidwood and district are chiefly stores bred in the district; these are all travelled to destination except in times of scarcity of grass; he does not deal largely in fat stock, as he could not make a profit on the work, having to travel them to the railway; he has lost money in the business; the 30 miles is three days on the road, and with the rail journey the stock lose greatly before they reach the market; his son-in-law is butchering in Braidwood; their intention is to institute a trade in dead meat to Sydney, slaughtering in Braidwood; believes that this will pay well, and that the climate here will enable this being carried on all through the year, with the aid of the freezing cars during the summer; he considers that a considerable traffic would be done by a railway line in store stock from these districts, though the cost of transport by rail is much higher than by road, yet a dealer can get so much better price for the stock after the rail journey than after the road journey that it pays him to use the rail; in case of a person sending to these districts to buy stores which he intends to fatten on his property in another district, it will not pay him to take them away by train, but it does pay a dealer who has to get as good a price as he can after the journey; believes that all the fat stock sent away from Braidwood will be trucked at this place; knowing the district well he would say that there ought to be about 6,000 head of fat cattle sent away from here annually; this he considers a fair estimate; again regarding store cattle, for the last fifteen years he has been taking these to Wagga; it costs about 5s. a head to drive them, and he is sure that they lose 5s. in condition; it is clear, therefore, that he could pay 10s. a head for the trucking; the fat sheep would certainly go away in trucks; considers that between 10,000 and 15,000 sheep (fats) annually could be sent away as a fair estimate; the store sheep are generally brought into the district; any of these sent away from here would travel by road, since this travelling does not show effect on store sheep or affect their value nearly so much as with cattle; he generally sends a couple of trucks of horses annually to Sydney for sale; he is aware that Messrs. Hassall, Madrell, and O'Brien and others send their stock to Marulan and to Yass at present by road, but he believes that all will be trucked at Braidwood, as this point is so near the properties, and a saving in men and time will be effected; one cause that prevents travelling to Tarago is that the road is all metalled, a very objectionable point for travelling stock, and also that the road is not well provided with camping reserves; it is fenced nearly the whole way, and very little feed is to be got on the road; prior to nine years ago he, on several occasions, despatched mobs of turkeys—400 and 500 in each mob—from Braidwood to Goulburn, travelling them on the road; the journey took about six days; he used to send about 500 fowls monthly at the same time; there is nothing to prevent such a traffic being renewed as it is profitable.

ROBERT GEELAN.

(13.)

Braidwood, 14 April, 1891.

*Mr. Thomas Lee*, Foreman in the Roads and Bridges Department, in charge of a gang of bridge carpenters, at work now at Warri, repairing the road bridge over the Shoalhaven River; has been in this district since 1866; employed in mining during the early part of his stay, and since then has been road and bridge contracting and farming for the last eighteen years; owns 206 acres of freehold and C.P. land in Reidsdale; has owned this land for fourteen years; cultivates wheat and potatoes, and crops, altogether about 11 acres this year; consumes all but potatoes, which are sold in Braidwood and Araluen; there is only a limited demand locally; last year he got £4 10s. per ton for potatoes wholesale; this year will have about 20 tons; might get £5 for them; gets about 8 tons per acre, but he uses mostly all new ground, lately cleared, which is covered with very heavy timber, so his crop is usually very much better than those grown on his neighbour's land; the high price last year was due to the general failure of the potato crops in these districts through wet rotting the potatoes, and this year there was a very heavy frost, about six weeks or two months ago, which cut down large areas of the crop; both last year and this year his crop has not suffered, so he reaps the benefit of the high price; this is the best crop for a farmer to grow if £3 could be got for it per ton; wheat will not pay; his soil is red, heavily timbered; it is opposite Kennedy's, under the ridge of the mountain; the land on the forest reserve adjoining him on the mountain is all very good land, heavily timbered; some of this is too mountainous, but there are many parts suitable for settlement, which would be taken up by settlers if thrown open, in spite of its being so heavily timbered; there is splendid land from the east slope of Budawang Mountain past Monga, all along the Little River to the head, and round to west of Reidsdale, and northwards again to Murgarlowe, where poor land commences; the whole of this extent of country is all forest reserve, except where it has been taken up at Monga; one or more selections were taken up at the head of Little River twenty years ago and abandoned; it is all heavily timbered, with no open places; parts are mountainous, but there are flats along the river; it would be selected if thrown open, as there is no land available for settlement; the timbers are mountain gum (the principal timber), messmate, and whitetop; is living on Bell's Creek.

THOMAS LEE.

(14.)

14 April, 1891.

*Mr. Thomas Fairley*, grazier, at Larbert, on the Shoalhaven River. "Fairleigh" is the name of his place, on the east bank of the river; owns freehold 256 acres, and leases 2,887 acres from the Crown and from the Church and School Lands; generally has from 1,500 to 2,000 sheep, and about 40 or

50 cattle for the use of the home; generally fattens 500 or 600 sheep annually, and sells to local butchers if possible, but otherwise he sends them to Homebush; trucks the sheep at Tarago; sometimes buys store sheep in the market at Braidwood, and sometimes in Goulburn; drives them to his place, but if the country was very dry he would truck them from Goulburn; all his part of the country is used more for sheep than cattle; it is all good sound sheep country, and the river flats are all of the best quality for cultivation; he cultivates for his own consumption only, but a neighbour, John Basingthwaite, cultivates from 100 to 150 acres; Larbert is 27 miles from Tarago; there is plenty of land open for selection in the neighbourhood of Larbert; some is being taken up nearly every week in conditional purchases and leases; some of it is good, and some is very indifferent; the railway at Manar would be 4 or 4½ miles from Larbert; there is a good road to it; the Shoalhaven River in the neighbourhood of Larbert and Marlow is crossable only at two fords near Larbert; these are the best fords on the river as far as he knows it, but these are impassable in extra wet weather, and from what he hears the river is not crossable throughout every ordinary winter down below Larbert for loaded teams; under such conditions the people of Narriga and Marlow will all have to pass through Larbert to reach the railway at all.

THOS. FAIRLEY.

(15.)

Braidwood, 15 April, 1891.

*Mr. John Musgrave*, proprietor of the *Braidwood Dispatch*, has been connected with this district for thirty years, and has had much experience in gold-mining and agricultural pursuits; regarding the prospects in mining matters, he is of opinion that the alluvial deposits have only been partially developed in the Araluen and Jemaicumbene districts; some years ago he held a third share in a claim on the east side of Araluen, which was very rich, and had been followed up during two years by another party below, and had given washings of from 8 to 15 oz. daily, as informed by the manager; his party found it to be very payable until a break in the lead occurred, where a watercourse had crossed it; after this the lead could not be picked up again, but he is of opinion that it is still in existence, and continues on the other side of the interruption; there is plenty of new ground in the valley, especially on the eastern side, which has not yet been worked, and which, according to the opinion of the Rev. W. B. Clarke, is probably the richest part of the ground; the cause of the abandonment of the working in the valley was a succession of floods, together with the attractions of other gold-fields, which at that time broke out and withdrew the majority of the population; has known the time when the population of Araluen was 12,000. He then ran a special service and delivered his paper to subscribers in Araluen; this was between 1865 and 1875; it was between 1870 and 1872 that the floods destroyed the workings and the population became scattered; the field was payable up to the occurrence of the floods, so the inference is that gold in quantity has been left behind—attention having been turned from the place; the desired improvement in the communications to the district would have the effect of bringing the field into notice again, causing the introduction of capital for development of the deeper ground; the large reserves, amounting to several thousand acres of common lands, in the valley are capable of affording room for a large population of miners; in addition, the area of the gold-field reserve covers the whole of the valley of the Araluen, Major's, and Bell's Creeks, and extends as far as the Jemaicumbene Creek; the valley of the Jemaicumbene Creek is auriferous from the Shoalhaven River up to Reidsdale, but on this the Church and School Lands only are Crown lands, though extending for about 6 miles on one side of the creek; there are two parties working, one on each side of the Jemaicumbene Creek, on separate leads of gold, employing about fifty hands altogether, and successfully; the Little River, or Mongarlowe River, has been very successfully worked, both in the alluvial and the reefs; the reef now being operated on is the Day Dawn; the last crushing gave 180 ounces of retorted gold for three weeks work, with a small Huntingdon mill; they are employing twenty hands; there have been a number of reefs worked on that river down to the water level, below which capital was not available for proceeding further, but which must eventually induce speculation; reefs have also been discovered on the coast side of the Currockbilly and Budawang Range, one field in that neighbourhood having now a population of 100 persons engaged on quartz reefing; the access to all these fields herein mentioned will be through Braidwood—Araluen being 17 miles only from Braidwood and 35 from Moruya; all supplies of all kinds would be brought *via* Braidwood, and fresh enterprise would be brought to bear upon the industry if the communications were improved by the extension of the line to Braidwood; he knows from personal inspection of the country that the range and the eastern slope of the Currockbilly and Budawang Range carries very good soil on gradients suitable for settlement and improvement; this is all forest reserve, covering a very extensive area, which will produce first-class timbers for ever; the Narriga gold-field is about equidistant from Tarago and Braidwood, but the road to Tarago crosses the Shoalhaven and rough intervening country, whereas the road to Braidwood avoids these difficulties; at present the greater portion of the supplies go to Narriga from Braidwood; two of the leading storekeepers have branch establishments at Narriga; a mail coach connects these places twice a week, whereas there is no direct communication with Tarago; about Narriga there is a large breadth of good, rich soil; and also further on in the district of Sassafrass; there is a good amount of settlement at both places; there is a considerable extent of Crown land heavily timbered in these districts; the production of fruit of all the English varieties is very certain in the districts about Braidwood; at present there are hundreds of tons of fruit wasting or being fed to pigs; the late varieties thrive here especially; some quantities are taken down to the coast; the climate of these districts being within the influence of the sea air is moister than that of the country farther inland; the conditions are eminently suitable to production of the later varieties of apples; the districts of Cooma, Queanbeyan, and Goulburn, not being so favourably situated are regularly supplied by hawkers from the Braidwood district; would point out that the cultivated grasses all flourish here and are permanent; clover seems to have become indigenous to the district; the butter produced here is considered to be a much better article, because of the climate, than that produced in the warmer climates; the grasses seem to be more suitable for milk giving and fattening also.

JOHN MUSGRAVE.

(16.)

Braidwood, 15 April, 1891.

*Mr. Patrick James Galwey*, Warden's Clerk and Mining Registrar for Little River and Narriga Division; resident at Little River for the last 25 years; was gold mining up to the last six or seven years in the Little River district; there are large quantities of alluvial there still unworked which would pay for ground sluicing, but the supply of water is the difficulty; during wet weather washing is still done; there are about 70 or 80 alluvial miners (Europeans), and about 45 Chinamen engaged in alluvial at the Little River; these men are permanently settled, having houses of their own and families; they make most of their living by mining, but all keep some cattle; there is a large extent of Crown land; none of the miners hold any extent of land; they usually hold the regular two-acre blocks; the men employed at the Day Dawn are not regular residents, being nearly all strangers; there is no other reef at work but the Day Dawn, excepting a prospecting claim at Swiper's place, about a mile from the Day Dawn; there are several reefs on the river which have been worked, carrying good payable gold down to the water level; this level is about 50 feet from the surface on an average in all this district; the deepest working has been down to 100 feet; the water has in every case overcome the work, and new capital is necessary to carry on; these reefs are the Homeward Bound, the Red White and Blue, the Dog's Head, Alma, and Great Britain; these are the principal reefs that have been sunk on to any depth; they all carry rich payable stone down to that level; these reefs generally strike east and north-east; none of them are north and south reefs; no such true north and south reef has been found yet; they are all on the east side of the Little River; no reefs but barren ones have been found on the west side; the bottom of the Day Dawn is fully 200 feet deeper than any sinking yet done on the river; it is 205 feet deep from the surface; it is in a hollow on Settler's Flat, which joins Fagan's Creek about a quarter mile down; the other reefs are on ground fully 100 feet higher at the surface than that at the Day Dawn; this reef has been traced only as far as seen now in the workings; the Homeward Bound has been traced to the extent of the 10-acre lease; the Red, White, and Blue and Dog's Head are supposed to be the same reef; they have been traced 300 yards between the two shafts, not beyond; none of these reefs are held by anyone at present; they could be taken up at once; they run 8 to 12 or 14 inches in width, averaging (say) 8 inches; the country rock through the Little River district is slate and sandstone, joining the granite at 3 miles from Little River on the west side; the population of the Little River district is, according to the census he has just made, exactly 760, exclusive of forty-five Chinese and two aboriginals; this district comprises the basin of the Little River, including Monga, and extending down to the confluence with the Shoalhaven; the watershed commences along the road, about 2 miles outside of Braidwood; he is of opinion that now the existence of payable gold has been proved in the Day Dawn at the depth, that the other reefs will attract attention, and he has no doubt whatever that proper management would enable them to be profitable; there is a narrow belt of very good soil running parallel with the Currockbilly and Budawong Range, at the east of the Little River, which cannot be surpassed for growth of root crops; on this land there are about twenty settlements; the land has nearly all been taken up for over twenty years; no farms have been sold out there; the quality of the potatoes is so good that a market can nearly always be found for them; now that the large mining population has been dispersed, cultivation has, to a large extent, been given up in favour of grazing; this belt of land extends from Monga, 21 miles northwards, following the range; there are settlers nearly all along it, with patches of Crown land between them; grazing is largely prosecuted, as the settlers have such large areas of Crown lands on either side of them upon which the cattle can graze, all being gold-field reserves; outside of this belt there is no land fit for settlement except for grazing purposes; at Narriga, the only work being done now is the cutting of a race from the Corang River to the Golden Terrace Company's ground, on the banks of the Shoalhaven; the Corang River comes out of the Currockbilly Range on the Western Fall; the race will be 24 miles long; there are forty men employed; sixteen miles of the race have been cut, at an expense of £10,000; the Golden Terrace is a Melbourne Company having 500 acres of special leases on the right bank of the Shoalhaven; they have not done any other work but at the race, which will not be finished for another six months; the ground is all alluvial wash; the Beasley River Company have a race partly cut a distance of 9 miles; has cost £4,000 or £5,000 at the present; this is a Sydney syndicate; the Beasley River comes from the Currockbilly Range also; the ground is alluvial; the extent is close on 300 acres; the dam that was washed away was built on the Beasley or Endric River; it was to have been 50 feet high; there has nothing been done since the wash away about three months ago; the Warden has granted six months' suspension for reconstruction of the company; nothing is now being done; lower down the Beasley River, the Primrose, a Melbourne company, have partly erected a dam, and cut a race some 7 miles in length to work at Primrose Point; the wash at this place is under the basalt; up to this nothing payable has been found, and no work is being done; the population about Narriga engaged in mining is about ninety, but the country is thickly populated, being a very old settled locality; from Narriga to Tarago is 25 miles, but to Braidwood it is 33 miles; the road to Tarago crosses the Shoalhaven at Oallen crossing; this is a tolerably good crossing; it is very subject to being stopped by floods, as rainfall up in the mountains causes floods in the Shoalhaven to rise rapidly; there is very little cultivation about Narriga; the mining works give employment to the people; the township is only a nominal affair; from Narriga to Nowra is 70 miles; the traffic from Narriga goes *via* Tarago when the river is passable; the road is very poor; very little money has been spent on it; but the Braidwood to Narriga is a very good road, on which money is being constantly spent.

P. JAMES GALWEY.

Braidwood, 15 April, 1891.

*Mr. W. J. Chapman*, auctioneer in Braidwood, has been in business here for six years; from his books he has taken the aggregate amount of stock that passed through his hands between 1st September, 1889, and 31st August, 1890, representing the sum of his transactions; it is to be noted that many lots are counted twice over, having been resold by him; these could not be separated; 7,650 head of cattle, 37,108 sheep; again, similarly for the six months from 1st September, 1890, to 28th February, 1891, the totals were—4,931 head of cattle, 32,873 sheep; his operations are chiefly in store stock, as the fat stock are usually sent direct to market by the owners, or are bought and taken away by dealers

dealers themselves; some quantity of fat cattle are sold here, but not very many; the transactions have materially increased since he commenced the business, but the difficulties in buyers coming here from other districts, having to travel by road for 30 miles from the nearest point on the railway are detrimental to the trade; with respect to the trucking of cattle at Yass and Marulan having been travelled from the neighbourhood of Braidwood, he explains that the road to these places being unmetalled and well supplied with resting places afford good travelling routes on which cattle do not suffer or lose nearly so much as on the shorter journey from Braidwood to Tarago; if the railway were extended to Braidwood there can be no doubt that all this trucking would be done here; cattle could be put into trucks on one day and be in the market at Homebush on the next without having been subjected to any of the trials of travelling by the road, and they would consequently bring better prices; he has calculated in conjunction with Mr. Geelan, that, taking the cost of driving store cattle from Braidwood to Wagga Wagga at 5s. per head, and calculating the cost of taking a full special train load of fourteen trucks from Tarago to Wagga Wagga at 8s. per head, though this represents a cost of 3s. per head by rail above the cost of travelling by road, yet the condition in which the stock would arrive in Wagga Wagga would more than repay this charge; having a good knowledge of the operations of the district in stock, he would estimate that 3,000 head of cattle would be trucked annually at Braidwood; sheep have lately been more profitable than cattle, accounting for the large increase in the sales during the last six months quoted; according to the numbers of sheep now held in the district, he would estimate that 7,500 would be trucked at Braidwood and 7,500 at Manar annually; these would all be fat sheep; in addition to the above there would be some traffic in store stock, but of this quantity he cannot venture to give an estimate; believes that 200 horses pass through his hands at the sales annually, but the traffic in these by rail would not be appreciable; as agent for owners he himself has sent away 100 bales of wool from Braidwood during the last season; this represents only two of the clips of the district.

W. J. CHAPMAN.

(18.)

Braidwood, 16 April, 1891.

*Mr. John Basingthwaite*, grazier at Larbert, owns about 800 acres freehold at that place; cultivated last year 100 acres in wheat and hay; had 70 acres of wheat, which he threshed for grain; obtained 1,500 bushels; it is good soil; sold 1,000 bushels in Braidwood to the miller, and the rest is stored; requires some for his own use, but will sell if the market rises; runs both sheep and cattle, but principally sheep at Larbert; Mr. Alex. Rirey is neighbouring his property, and runs sheep; this country generally is very suitable for cattle-grazing, but during the last few years sheep have been increasing; the crossings of the Shoalhaven at Larbert, of which there are two, are good; his property is on the left bank of the river; the Reedy Creek has to be crossed to get to Tarago; the distance from Larbert to Tarago is 20 miles, and from Manar 7 or 8 miles; he sent away by rail to Sydney during 1890, 108 tons of chaff, hay, and straw; during last year he threshed 2,160 bushels of wheat at the property on the Long Swamp, rented from W. Scott; this is about 5 miles from Manar, to the west; this wheat was sent to Goulburn from Bungendore, 12 miles away; it would have been trucked at Manar had the railway been built to that place, as the cartage would have been 5 miles only; is not now working that property; has given it up; it is now stocked by Mr. Scott; during 1890 he procured by rail from Sydney and other places 15 tons of goods; the traffic from the Little River and Nerriga goes to Braidwood, to which there is a coach road, but none to Tarago; the Shoalhaven River is a great obstacle in the direct traffic to Tarago; during wet seasons the Shoalhaven is impassable; have known the fords to be stopped for six or eight weeks; the only bridge is on the road from Tarago to Braidwood, at Wollar; it is probable that much of the Little River and Nerriga traffic would join the railway at Manar, crossing the Shoalhaven by the bridge at Wollar; not much money has been spent on the road from Nerriga to Tarago, which crosses the Shoalhaven at several places, of which Peter Roberts' is the chief one; from Larbert to go to Tarago with teams and stock people have to go through Manar; there is the old original road from Larbert to Marulan; some stock does go now to Marulan, but some also to Tarago; he himself always sends his stock to Tarago, and trucks there; believes that if the railway is built, the greater number of people, if not all, would truck their stock at Manar; has a couple of hundred sheep now ready for market which he would ship at Manar to-morrow if the line were there; has also 50 tons of hay in hand which he might send, and 50 tons of straw; this he will probably truck at Tarago, as there is little prospect of disposing of it locally; there are also on his place twenty fat bullocks, which he would send *via* Manar, but now he will have to send them to Tarago.

JOHN BASINGTHWAITE.

(19.)

Braidwood, 16 April, 1891.

*Mr. William Bridgemant*, coach-builder, has been established here five years; the chief timbers he uses are spotted gum and plum tree; obtains the former from the Clyde, and the plum tree from Monga; the spotted gum is used for all carriage works, and costs in the rough delivered in Braidwood 25s. per hundred; this is of especially good quality; the plum tree timber costs 15s. per hundred delivered; American and English ash and hickory he procures from Sydney by rail to Tarago; this is nearly all dressed as shafts, spokes, and felloes; has brought some by sea through Nelligen; the steamer makes the cheapest route, but for other business reasons he is obliged to use the rail; he has to procure all his iron and steel from Sydney; this is also for the same business reasons sometimes brought by the coast and sometimes *via* Tarago, though the sea route is the cheapest; coal, to the quantity of 10 tons, he has brought here from Sydney, but the cost of this in the carriage between Tarago and Braidwood was prohibitive, especially as it has to be bagged in order to be carried in the carts; his average tonnage of imports from Sydney amount to half a ton per week—amounting to about 25 tons per annum; his business is now confined to the district, because of the difficulty in the communications; he instances Mr. Cummins, of Wollongong, who since the railway opened to that place is extending his business to all parts of the Colony; does not use the blackwood timber; he follows coach building only, not the heavy heavy waggon work which is done by the wheelwrights.

W. BRIDGEMANT.

(20.)

Braidwood, 16 April, 1891.

*Mr. James McDonald*, storekeeper (general), has been here in business for two years, but was here between 1879 and 1884; all produce required, such as maize, oats, barley, potatoes, and such like, are procured from Sydney by rail, also salt, and timber of pine and American goods of soft description. Flour is obtained from Goulburn, but sometimes from Wagga Wagga; the major part of the flour comes from Goulburn; the local mills are stone mills, but the preference is for roller flour; Goulburn flour is dearer at Goulburn than the local flour is in Braidwood; large quantities of maize are brought up from Moruya; one, Tom Cooper, is constantly engaged in this business alone, carting it up himself; this is a wonderfully good season for maize all along the coast, and very large quantities will be sent into Sydney, which is the distributing point; the Moruya people send it to the best market, as the Braidwood people purchase in the cheapest market; no hardwoods are imported from outside; the forests in the district supply all required, of excellent quality; there are two small cheese factories at work, but quantities of bacon are produced; cheese is sometimes imported from Sydney, and direct from Bodalla, it being a better article than that produced locally; this is much better than it used to be, but there is room for improvement, which will probably be brought about by improved cultivation of the pastures; the imported article is dearer than the local; in the matter of butter, he sent away on his own account to Sydney, and along the railway lines to Hay, Wagga Wagga, and other places, 15,425 lb. during last year; this butter was all produced in the adjoining districts, some was brought up from the coast; other exports to Sydney comprise hides, skins of all kinds of wild animals, wattle bark; all these things almost invariably are sent by rail from Tarago; very rarely is anything sent by the coast, and only when there happens to a team going down to catch the steamer; during the first three months of this year, which are always quiet months of the year, he brought up from the coast *via* Nelligen 40 tons 15 cwt. 3 qr. of general goods; the aggregate for a twelve month would amount to fully 200 tons; the cartage rate from Nelligen to Braidwood is £2 per ton; this is the rate he has paid all along; occasionally he has sent down back loading to the coast, and has then given £1 per ton for it; the teams usually return empty to the coast; the cartage rate from Braidwood to Tarago is 10s. per ton as back loading, and 20s. per ton from Tarago to Braidwood; the measurement charged by the I. S. N. Co. makes up a very high rate; referring to the first paragraph of this evidence, he wishes to point out that the produce brought up from Sydney is over and above the quantity locally produced, excepting maize, which is not produced here in any quantity; the local production in produce is very often below the consumption—depending upon the season; during the last two years he has had to import wheat, barley, oats, and potatoes; has never known butter to have been imported into Braidwood from outside; the steamer freight from Sydney is 20s. per ton for dead weight, and 25s. per ton for measurement of 40 feet to the ton.

JAS. McDONALD.

Braidwood, 16 April, 1891.

*Mr. Richard Kennedy*, farmer, Reidsdale, owns 250 acres of purchased land, and leases 7,000 acres from the Crown; his father owns 350 acres adjoining; the two properties are worked as one place; last year he did not cultivate much land, because he has fully two years crop stored in his shed wanting a market; up to last year he cultivated in hay, wheat, oats, and potatoes, from 60 to 80 acres; this year potatoes are scarce, and the price will be high, but he has only 3 acres in crop which will be poor because of the dry weather and the frost of five or six weeks ago; in ordinary years when the crops are good potatoes are not saleable; his father came on to the land in 1858; since then has purchased out several of the settlers in their vicinity, and in 1871 he made a purchase of some Crown land; there used to be many more settlers in and about Reidsdale who used to cultivate very extensively; of the 600 acres now held by his father and himself, fully 400 acres have been cultivated; the market was in the Araluen and Major's Creek diggings which were then populous; since the miners became dispersed there has been no market for produce, and many of the small settlers had to sell out as they had not space enough for cattle grazing; the prices given were, for the first 100 acres, in 1858, his father gave £8 per acre; the next purchase was the Government land; the other purchases ranged from £3 10s. to £6 per acre; the whole of the Reidsdale is very good, capable of growing any crop; about four years ago Mr. Patrick Allen gave £1,000 for about 360 acres of land in this district, near his property, at the head of the Jemaicumbene swamp; his fat cattle he usually sells to dealers, who take them away to market; they do not keep sheep at Reidsdale; the back boundary of Reidsdale on the east is the boundary of the Crown land, all forest reserve; the soil generally is very good; it is heavily timbered; all the land in the valley of the Little River above Monga is very good, but it is heavily timbered; it is the pick of the land; if a railway were made to Braidwood any of this land would be taken up if thrown open, but under existing conditions he does not think any one would purchase or select there; a railway would allow of the timber being enough to pay for the land; on the reserve on Bell's Creek there are about 3,000 acres, the whole of which is good grazing land, but not fit for cultivation; on this he made application for 400 acres under non-residential clause, and the application was refused because the land is within the population area of Araluen; he and several others are renting something over 7,000 acres of this and other land in the Araluen Valley on annual lease; obtains all his stores in Braidwood from the storekeepers; makes butter and sells in Braidwood; does not make bacon, but rears a number of store pigs which are bought by the coast buyers to be fed on the maize; Mr. Donald Grant, of Reidsdale mill, has informed him that he has an order from Rogers, in Goulburn, for 30,000 feet of mountain gum weekly, which is to be delivered at Tarrago at 10s. per hundred, from which he has to pay 5s. for carriage to Tarago; has another order from Ball, of Goulburn, for timber for railway stock, to be delivered at Tarago, at 12s.; this order he is carrying out, but the former he cannot touch except when out of other work; this is also for mountain gum.

RICHARD KENNEDY.

Braidwood, 16 April, 1891.

*Mr. R. Hassall* of Bellview, of Messrs. Hassall, Roberts, and Royds, owning large properties on Araluen and Jemaicumbene; last year the firm trucked 1,400 fat cattle to Melbourne, at Yass, also about 150 fat cattle were sold to go to Shoalhaven; also about 400 were sold to local butchers and consumed in the district; the average number despatched by train may be taken at 1,400, but in a good market the property could turn out many more, and many of those sold on the spot would also be sent away; with a railway station on the spot advantage could be taken of the markets, which are always fluctuating, resulting in very much larger despatches than are now made; the product of the district would be largely enhanced, as the turn over would be more rapid; it would be more profitable to send down beasts that are not quite fat in order to get a market that happened to be good, and place fresh ones in the paddocks, then as now we are obliged to do, keep the cattle until they are prime; in addition we sent away fifty fat bullocks to Sydney from Tarago; ordinarily he has been in the habit of sending the cattle intended for Sydney *via* Marulan; would point out that no trade can be done in calves until a railway is brought nearer to the runs; and that the necessity for bringing up the calves renders the cows unserviceable for fattening or any purpose for the space of a year; calves cannot be travelled 30 miles to be trucked; they would not fetch anything after the journey, but if they could be trucked on the spot they would fetch prices in Sydney, and the cows could be fattened, and within three months be fit for the butcher; the same applies to lambs; hence with a railway as far as Braidwood the outturn from the district in stock alone would be very much greater than is now the case; in explanation of the trucking being now done at Marulan and Yass, instead of at Tarago, there is in the first place the objection of travelling stock on a macadamised road; then that to send stock 30 miles by road entails the same quantity of preparation for camping and driving as for three times or more of the same distance; the extra expense for the extra distance travelled is trifling, and there is a positive saving effected in trainage; it is his firm conviction that if the railway be extended to Braidwood all stock of the district will be trucked there; he considers that his present outturn of 1,950 fat cattle yearly would be increased by 500, if the railway is brought to Braidwood.

R. HASSALL.

Braidwood, 17 April, 1891.

*Mr. William Blackwood Bruce*, storekeeper of Araluen, has been engaged in this business for seven years consecutively, but prior to that he had kept a hotel in Araluen and a store; has been in Araluen for thirty-four years; at one time he owned 400 acres on Back Creek, in parish of Bettywynd; this he sold to Messrs. Hassell, Roberts, and Royds: obtains all his supplies for his store from Moruya; it is 35 miles from Araluen; Braidwood is 17 miles; flour, bran, and pollard he obtains now and for the last six months from Wagga Wagga, but previous to that from Goulburn, by rail through Tarago; all other supplies are brought from Sydney to Moruya; the cost of carriage is from Sydney to Moruya 20s., and from Moruya to Araluen 50s., total £3 10s. per ton in all; does not send anything from Araluen to Moruya, so these charges are exclusive of any for back loading; does not get any goods from Sydney *via* Tarago, so he cannot tell what the cost would be; procures his supplies of maize principally locally; within a radius of 20 miles there is a large quantity of maize grown but not anything like enough for the consumption; the claim horses and the horses used by business people make up a very large consumption in maize; the supplies of maize are procured mostly from Moruya, locally grown there; but at present, as has often occurred before, maize is procured from Sydney both *via* sea through Moruya and by rail and road through Tarago; it is now brought, within the last week through Tarago; he is now paying 20s. per ton for carriage of flour, bran, and pollard from Tarago to Araluen and has paid this charge during the last two years; the carrier, Tom Cooper, trading entirely on his own account in maize for the last two years is now supplying Araluen and Braidwood with maize; has within the last two or three weeks, been bringing it by rail through Tarago, probably on account of the difficulties against shipping at Moruya; three years ago he himself brought seven truck loads with maize from Sydney, which he brought through Tarago, because he found this to be cheaper than by the sea route; a considerable trade in wattle has been done in wattle bark, grown principally on the Moruya side of Araluen, amounting to more than 100 tons; this also goes both ways, but the greater part goes by Moruya; it can be taken quicker to market *via* Tarago, and the time of transport can be gauged to a day, but by the sea route the time is long and uncertain; dairy produce, such as butter, cheese, and bacon is procured in the neighbourhood and from Reidsdale, similarly with chaff and hay; some portion of the common land in Araluen West would make very good agricultural land—all is good grazing land; the passenger traffic all goes *via* Tarago; has hardly ever known any one to go by steamer; the big flood was on 11th February, 1860; there was much destruction caused; engines and works were covered over, and numbers of men were thrown out of work temporarily; but the main cause of the desertion of the gold-field is that the workable ground left still untouched is deep, requiring expenditure of capital in drainage works, and is quite beyond the power of the ordinary miner, either individually or in parties; there are large areas of land that have never been touched, because the water prevented the bottom from being reached; there are now five parties of men at work, employing a large number of men and horses which are given in the statistics; these are all working with races for draining the ground; there are three main races; the population has diminished in the last ten years; all the miners have cattle running on the common land; some hold considerable numbers and are engaged entirely in cattle grazing and dealing.

W. B. BRUCE.

Braidwood, 17 April, 1891.

*Mr. William Hennessey*, mining on Major's Creek; working on alluvial ground, washing in the creek; every flood brings down a fresh supply of gold; he is working near the Major's Creek crushing machinery; the gold is very fine mixed with black sand; has to be separated with amalgam; there is a place near the road bridge which has been yielding gold over and over again for years; this happens throughout the creek; there are about forty men who constantly find employment; and now this present rain will wash the dirt they have broken down during the dry weather and enable to make up for the time lost; the

Long

Long Flat is being worked by twenty men who obtain water from a race, the property of O'Hare, from the head of Back Creek; in Major's Creek, wherever you can bring water to bear upon it, payable gold can be washed out; during rain only can this now be done; but if a race could be worked on to the land, very large quantities of gold could be got; Mr. Forsyth's Mine at Wyanbene is now stopped, but the show was very promising, as the assays were very rich in silver; in the same neighbourhood is Krawaree and Snowball; there are about sixteen men at present working at the latter place; the approach to these places will always be through Braidwood; two applications are in by two different companies to mine on Snowball; they propose to cut a bar in the creek called the Kurrumbene Creek, which will allow of a flat being worked; this is expected to be very rich; this place will probably find employment for a number of men; Heslington's party is cutting a race on a tributary of the Kurrumbene to work alluvial; all the Wyanbene and Krawaree country is well stocked with cattle which must all travel through Braidwood; they fatten very well there.

WILLIAM HENNESSEY.

(25.)

Braidwood, 17 April, 1891.

*Mr. Robert Maddrell*, of Bedervale, near Braidwood, owning large properties in the neighbourhood; the sale of his fat bullocks on average of the past two years has been 750; the sales of last year were 650, and of the year before 850; most of these have been bought on the ground by Mr. O'Neill, and forwarded to Yass, and then by train; always hitherto he has sold on the place; has not sent a beast to market on his own account yet; a few of the cattle have been sent to Sydney; but the principal buyer, O'Neill, has sent his purchases to Melbourne; the route to Sydney has been during the past two years by Tarago, but previously it was *via* Marulan; he believes that all stock will be trucked at Braidwood, if the line is brought to this point, because the fat stock lose so much in condition in travelling by road; his property is divided thus; he has altogether 44 tenants, of those 26 are farmers, and 18 are farmers and graziers; of the 26 farmers, their holdings average from 10 to 220 acres each, and the holdings of the 18 graziers and farmers average from 26 acres to 6,600 acres; this large acreage is explained by the fact of two large portions of land being leased to his two sons; the whole of the land leased amounts to 22,000 acres, and the remaining 11,000 acres he holds on his own account, and on this he fattens stock; a good deal of the tenants' land has been cleared and farmed, but cultivation has been discontinued owing to there being no market for the produce; much of the land formerly under cultivation is now used for dairying and grazing purposes; the fact is that, during the continuance of the extensive mining operations in Araluen, Major's Creek, Bell's Paddock, and Little River, the market afforded by the assembled population induced cultivation, and the inference is that a radical improvement in the communications, bringing the districts nearer to the markets of the Colony, will again bring cultivation into practice: the land now under cultivation on his property does not amount to more than one-tenth of the area that was formerly cultivated, owing to the market for the produce having been lost; all the farms into which his property has been divided are let; in fact, if he subdivided the land that he now holds, he could put 50 more farming tenants on the estate, judging from the applications made to him for farms; in reply to his frequently urging the present tenants to cultivate more extensively, he is told that it cannot be made to pay; it seems that the employment afforded by contracting, carrying, and mining gives a more certain means of enabling the people to live and pay their rents than cultivation of the land; he certainly would subdivide his property and increase the number of tenantry, if the railway were brought to Braidwood, but not otherwise, as the rents he would obtain in that event would pay him better than the profit gained from grazing; he believes from his experience of the matter that the large land owners in this district might, as in his own case, let large areas of their land in farms; and there can be doubt but that this will be done if the railway is built, simply because it will pay better; would point that an area of 1,500 acres on the Jemaicumbene Creek is now in the hands of one tenant; formerly there were several tenants on this land, all cultivating, but owing to the markets being lost all these farms have become merged into one; on the expiry of this lease he would redivide the land into farms, if inducement offered; would point out that a run of gold has been discovered on Reedy Creek, which passes through a portion of this land on Jemaicumbene, and several applications have been made to work it, but under the conditions of the lease he is debarred from permitting the operations; the creek is 2½ miles long, on the northern side of the swamp; gold has been traced in it from its source throughout, but the water and drift sand encountered would entail the use of machinery and application of capital; he believes that a large quantity of gold is here locked up; on the expiry of the lease he will allow works to be undertaken; mention has been made to him by several influential gentlemen in Sydney as to the prospects of a dead meat industry being payable from Braidwood on the connection of that place by railway; calculations have been made, taking the present market prices for fat stock and for meat in the carcase, showing that a substantial margin is left in favour of this business; under some conditions of the market it is likely that it could not be made to pay, but such conditions are not of frequent occurrence, and are being rendered less frequent than formerly by improvement in communications and the large supplies of stock coming forward; he is in a position to say that the industry would be widely supported, both locally and in Sydney, as this climate is a particularly favourable one for its prosecution; the rail being brought to the place would enable the small holders of stock, as well as the larger ones, to dispense with the middleman, to whom some portion of the profits now go, by sending direct to the market smaller lots of stock and more frequently than is now possible, and enabling holders to take immediate advantage of the fluctuations of the markets; the stock operated on in this way would be cattle, sheep, pigs, and poultry; at present there are no calves sent to Sydney; some years ago a trade was done in them, but the distance to Tarago by road reduced the condition of the calves so much that the business had to be discontinued; it would certainly be revived, since the prices obtainable are very remunerative.

ROBT. MADDRELL.

(26.)

Braidwood, 17 April, 1891.

*Mr. Ernest Grenenger*, tanner in Braidwood, has been established here for thirty-two years. Obtains some hides in this locality, but also from Sydney, because the district cannot supply all his requirements; uses up between fifty and sixty hides weekly; the leather is sent all over the country as far

far as Hay, and to Sydney, but not on the Northern line; the Goulburn tanners only manufacture leather for their own use; there is another tannery in Braidwood; have sent leather down to the coast; but there are plenty of tanneries down there, as the water is plentiful along the coast; his bark is all procured within this district from as far as Araluen; the production is greater than the consumption locally; large quantities of bark pass through Braidwood to the rail at Tarrago from even below Araluen; the Goulburn tanneries would probably consume 100 or more cattle hides weekly each; he believes that they obtain their bark from the Crookwell direction, as most of the wattle sent from here goes to Sydney; the construction of the railway to Braidwood will enable him to enlarge his trade considerably, because his production would cost very much less as the carriage of the hides would be cheaper, and he has an unlimited market in Sydney for the leather produced; the quicker return for the money would enable him to provide more material, and possibly consume all the wattle bark which now passes through to Sydney; his total tonnage imported from Sydney was about 24 tons of raw hides, and he despatched by train and steamer about 40 tons of leather; he sends by steamer whenever he can catch a team; he pays 20s. per ton carriage to Nelligen, and the steamer freight is another 20s. per ton; carriage to Tarago is 10s. per ton, and the other way from Tarago to Braidwood is 20s. per ton; carriage from Sydney to Braidwood is from £2 to £2 10s. per ton by sea; the principal market for leather is in Sydney; there is a difference in the rail charges for manufactured and raw material, but not by sea; from Sydney to Braidwood by sea the hides would cost £3 10s. per ton, and by rail £1 14s. 8d.; but the cost of carriage of the leather by sea would be £2 per ton to Sydney, and by rail £4 6s; the leather returned is but one-third of the weight of the hides brought up; the disadvantage of the steamer route is that the steamer arrives in Sydney on Tuesday morning, on the day when the leather sales take place, and very seldom can the sale be made on that day, so that one week is lost, but if a steamer is just missed, owing to mishap or bad weather on the road 2 weeks are lost, whereas by the train no time is lost at all.

E. GRENGER.

(27.)

Braidwood, 17 April, 1891.

*Mr. R. M. Higgins*, storekeeper in Braidwood; has been in business here a little over fifteen years, but has been in the district for about thirty years; deals in general stores of all kinds; his supplies come principally *via* Nelligen; by rail some classes of goods are, however, brought very much cheaper than by steamer; the cartage from Nelligen to Braidwood is £2 and £1 for back carriage; cartage from Tarago to Braidwood is £1, and the back carriage is 10s. to 12s. per ton; the principal item produced in the district and sent away is butter, the greater part of which is sent by rail by parcel rate, which is 4s. 6d. for parcels under 80 lb., and 6s. 6d. over 80 lb. up to 100 lb; has sent 1,530 lb. during the first three months of this year, but during the winter months not so much is sent, and generally in keg by ordinary goods rates; at present he sends butter only to Sydney, though some of the traders in town do despatch to such places as Narrandera; the train here would enable him to carry on a regular trade with places along the lines not only in butter but in other lines of produce; Sydney being the only market, and one in which the prices are always lower than anywhere else, the connection by railway would enable him to deal with other markets; so much handling would be saved, and the expense in handling and carting to Tarago; there is little profit in the trade in produce; the production of produce would necessarily be very much increased, since the storekeepers can only buy a limited quantity, and the farms are capable of producing very much more than they do at present; the average quantity of goods he brings up from Nelligen is 10 to 15 tons per month; the measurement rates are charged by the steamers on all bulky articles, such as drapery, tea, furniture, and several lines in the grocery trade, boots and shoes, &c.; it is only the heavy articles that are rated at dead weight; Bodalla cheese often comes here from Sydney by rail, as the quality is superior to the local article; flour he procures from Goulburn, as the local mill is not made up of the modern appliances; the flour imported from Goulburn for Braidwood would amount to 35 to 40 tons per month, but the supply to Araluen also passes through Braidwood, making the total (say) 50 tons in all; the trade of Narriga is done through Braidwood mostly, as the direct road between Narriga and Tarago is very bad; the bark he had from Narriga had to be brought *via* Braidwood, and it is now being taken by the same route; at present there is no other way for the passenger traffic to get from Narriga except *via* Braidwood, as there is a coach on this road; bacon is largely produced here, which is all sent to Sydney, and the trade in which would be greatly fostered by the railway being built.

R. M. HIGGINS.

(28.)

Braidwood, 17 April, 1891.

*Mr. John William Bunn*, grazier, now census enumerator, has received permission from the Government Statistician to supply certain details of the population lately collected; the municipality of Braidwood, comprising 9 square miles, contains a population of 1,509 persons; in the town of Braidwood there are 1,380 persons; in 1881 the population of the town was 1,066; in Jemaicumbene the population is 242; in Major's Creek the population is 427.

J. W. BUNN.

The number of dwelling-houses in the municipality is 289 inhabited, and uninhabited 29, and 4 in process of being built.—J.W.B.

(29.)

Braidwood, 18 April, 1891.

*Mr. Mark William Lyons, J.P.*, farmer and grazier at Reidsdale, owning 600 acres freehold, acquired this by purchase, from time to time; settled in Reidsdale first about 15 or 16 years ago; in those days there were many more settlers in Reidsdale than now; the farms were too small there—of 50 and 100 acres; there was even then a considerable population in Araluen, but not so large as in former years; these formed the market, which was supplied by the small farmers in Reidsdale and elsewhere

where; when the population became dispersed, the small farms could not keep a family, and the farmer could not even find a sale for his produce; wheat only could be sold; of his own 600 acres, having between 200 and 300 acres clear and fit for the plough, he cultivates only about 20 acres; of the last crop of hay he has only been able to sell 4 tons; if there were a railway to Braidwood, the land east of Reidsdale, which is all forest reserve, would all be worth selecting for the timber alone, if it were thrown open; the land is mostly of very good quality; the land on the common, on the Bell's Creek, would all be selected if available; it is all good grazing land; it would be useful to settlers who have other land at Reidsdale, for use as grass paddocks; he turns off about forty head of fat cattle every year—always sells to dealers; it would not pay to send such small lots to Sydney to the market direct; it would pay if the railway were at Braidwood, as the cost of driving them to Tarago would be saved; pigs and poultry would also be sent away, and fat calves; the cost of carriage to Tarago is prohibitive; there must have been more than twice the number of settlers and families at Reidsdale twenty years ago than now; nearly all the farmers now there have bought up one or more settlers who have left; the last purchase he made was 100 acres at £5 per acre, five years ago; frosts are rare in summer; there was one about two months ago.

MARK WILLIAM LYONS.

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(30.)

Braidwood, 18 April, 1891.

*Mr. Matthew Gallagher*, farmer, at M'Donell's Creek, in parish Durran Durra; owns 800 acres freehold; renting 35 acres of Church and School land; cultivating 35 acres in wheat, hay, and sometimes barley; his farm is  $7\frac{1}{2}$  miles from Braidwood and 3 miles from Larbert by going direct; grazes cattle—about 200; turns out 50 fat cattle yearly; sells to dealers, and by auction at the Braidwood sales; has never travelled his stock, nor sent to Goulburn or Sydney market. To do so would oblige him to make arrangements for driving and camping, and the profits might not pay for all this, having to be distributed over such small numbers; he is milking fifty cows daily, and selling the butter in Braidwood; is now fattening thirteen pigs; makes about 14 cwt. of bacon every year; sells that also in Braidwood; he bought about a year ago a neighbour's farm of  $223\frac{1}{2}$  acres, at £4 12s. per acre, by auction; this was rather above the general value of the land in his district; all the land about there is taken up; is paying £12 per annum for 35 acres as rent, which was fixed by auction; this is Church and School land; all his neighbours graze cattle and cultivate about the same as himself; the benefit that will be derived by him and his neighbours from the railway will be in enabling them to send their stock and produce to the markets of the Metropolis and Goulburn, and to obtain cash in payment, which they cannot do now from the storekeepers, and also to send to the markets their produce in calves, poultry, and other things which are not now saleable; has been about fifteen years in his present neighbourhood, but for the past thirty years has been in the Braidwood district; has another place at Tudor Valley, close to W. Taylor's place; this is 80 acres; and in addition has some rented land; he runs cattle there, and works it from his place in Durran Durra.

MATTHEW GALLAGHAN.

## THE PROPOSED RAILWAY FROM TARAGO TO BRAIDWOOD.

### LIST OF APPENDICES.

<p>A—Details of townships.          B—List of Places of Worship.          C—Coaching traffic between Braidwood and Tarago.          D—List of public schools.          E—Operations of Braidwood Post Office.          F—Cultivation in Braidwood Electorate.          G—Holdings in           "           "          H—Productions of       "       "          I—State of Agriculture in Braidwood Electorate.          J—Live stock in       "       "          K—Schools in           "           "</p>	<p>L—Electors in Braidwood Electorate.          M—Gold production.          N—Rainfall return.          O—List of parishes.          P—Summary of statistics.          Q—Mining reports.          R—Saw-milling reports.          S—A letter from Mr. C. B. Payno.          T—Railway, road and steamer charges.          U—Report of the railway committee of Braidwood.</p>
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### APPENDIX A.

#### DETAILS of Townships.

(Returns supplied by the Railway League.)

#### TOWNSHIP OF BELL'S CREEK, PARISH SEYMOUR.

Number of dwelling-houses, 11.  
 Population, 90.  
 Tradesmen's business places, 2.  
 Places of worship, 1—Union Church.  
 Public buildings—Public school and post office.

#### TOWNSHIP OF ARALUEN, PARISH ARALUEN.

Number of dwelling-houses, 121.  
 Population (including Redbank, Newtown, and Araluca West), 628.  
 Tradesmen's business places, 16.  
 Places of worship—Church of England, Roman Catholic, and Union.  
 Public buildings—Court-house, lock-up, police residence, oddfellows' hall, institute, public school, post, telegraph, and money order office.  
 Other buildings—Convent and Convent School.

#### TOWNSHIP OF JEMAUMBENE, PARISH BOYLE.

Number of dwelling-houses, 50.  
 Population, 120.  
 Tradesmen's business places, 2.  
 Places of worship, 2.  
 Places of amusement, 1.  
 Public buildings—Public school and post office.  
 Other buildings—Convent and Convent school.

#### TOWNSHIP OF NARRIGA, PARISH MEANGORA.

Number of dwelling-houses, 19.  
 Population, 126.  
 Tradesmen's places of business, 2.  
 Places of worship, 1.  
 Public buildings—Public school, post office.

#### TOWNSHIP OF BORO, PARISH BARNETT.

Number of dwelling-houses, 2.  
 Population, 18.  
 Places of worship, 1.  
 Public buildings—Public school, post office.

#### TOWN OF BRAIDWOOD.

<p>Church of England with school house and parsonage.          Roman Catholic Church with school house and presbtery.          Presbyterian Church.          Wesleyan Church.          Baptist Church.          Convent—166 scholars, 8 teachers,          Superior public school—244 scholars, master, and 4 other          teachers.          Hospital—matron and wardman.          Institute.          Court-house.          Police station and lock-up, superintendent, and 4 police.          Gaol—2 warders.          Post and telegraph office.          Pooley's line of coaches.          Maloney's line of coaches.          Bank of New South Wales.</p>	<p>Commercial Bank.          Two solicitor's offices.          Oddfellows' hall.          Skating rink.          Two coach factories.          Seven forges.          Two auction marts.          Lemonade factory.          Two tanneries.          One boot factory.          Two flour mills.          Printing office.          Ten hotels.          Forty-nine shops (27 not included in dwellings).          Two hundred and five dwellings.          Population, 1,380, within town boundary.</p>
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#### TOWNSHIP OF SERGEANT'S POINT, PARISH BUDAWANG.

Number of dwellings, 12.  
 Population, 60.  
 Tradesmen's places of business, 4.  
 Places of worship, 3.  
 Public buildings—Public school, police and mining registrar's quarters, post office.  
 Places of amusement, 1.

TOWNSHIP OF ELDRINGTON (MAJOR'S CREEK), PARISH ELDRINGTON.

Number of dwellings, 80.  
 Population, 427.  
 Tradesmen's places of business, 14.  
 Places of worship, 3.  
 Public buildings—Public school and residence, police barracks and lock-up, post and telegraph office,  
 mining registrar's office.  
 Places of amusement, 2.

APPENDIX B.

LIST of Places of Worship.  
 (Return supplied by Railway League.)

Place.	Parish.	
Braidwood .....	Braidwood .....	Church of England. Roman Catholic. Presbyterian. Wesleyan. Baptist. Union.
Bell's Creek .....	Seymour.....	Church of England. Roman Catholic. Union.
Araluen .....	Araluen .....	Church of England. Roman Catholic. Union.
Oranmear .....	Oranmear .....	Roman Catholic.
Jemaicumbene .....	Boyle .....	Church of England. Roman Catholic.
Reidsdale .....	Seymour... ..	Roman Catholic.
Narriga .....	Meangora .....	Union.
Boro .....	Barnett .....	Roman Catholic.
Sergeant's Point .....	Budawang .....	Presbyterian. Roman Catholic. Union.
Eldrington .....	Eldrington .....	Church of England. Roman Catholic. Union.

Total number—21.

APPENDIX C.

COACHING Traffic between Braidwood and Tarago for the years 1889 and 1890.

(Return supplied by the Railway League.)

Total number of passengers who travelled by coaches, both ways, not including those who } During the year 1889—5,600  
 went by private vehicles or on horses ..... } " " 1890—8,756

APPENDIX D.

LIST of Public Schools.

(Return supplied by Railway League.)

Name.	Parish.	Scholars on Register
Braidwood .....	Braidwood .....	244
Manhittee .....	" .....	25
Bell's Creek .....	Seymour .....	30
Reidsdale .....	" .....	27
Araluen .....	Araluen .....	70
" West .....	" .....	54
Red Bank .....	" .....	72
Bombay .....	Jinglemoney .....	28
Back Creek .....	Bendoura .....	14
Krawaree .....	Krawaree .....	16
Durran Durra .....	Durran Durra .....	15
Oranmear .....	Oranmear .....	23
Mudmolong { .....	Bettowynd .....	25
Bettowynd { .....	" .....	10
Upper Deua .....	" .....	54
Jemaicumbene .....	Boyle .....	30
Moniga .....	Meangora .....	23
Meangora .....	" .....	15
Boroo .....	Barnett .....	15
Charleyong .....	Marlowe .....	28
Uradure .....	" .....	16
Budawang .....	Budawang .....	19
Sergeant's Point .....	" .....	55
Monga .....	Monga .....	25
Packwood .....	Percy .....	18
Major's Creek .....	Eldrington .....	133
Larbert { .....	Larbert .....	17
Limekilns { .....	" .....	23
Six-mile Flat .....	Bruce .....	19
Corang River .....	Wogwog .....	21
Manar .....	Maloon .....	21
Mudbury Creek .....	Warri .....	26

Total number of public schools ..... 32  
 Number of scholars on register ..... 1,218

APPENDIX E.

OPERATIVES at the Braidwood Post Office during the year 1890.

(Return supplied by the Railway League.)

Sale of postage stamps .....	about	£1,300
Number of letters posted .....		96,223
Value of money orders issued .....		£5,017
Value of savings bank deposits .....		£1,707

APPENDIX

## APPENDIX F.

SETTLEMENT and cultivation in Braidwood Electorate during 1889.

*(Statistical Register.)*

Total area of electorate .....	904,320 acres.
Average area of holdings.....	469 "
Total number of holdings.....	563 "
Area alienated in holdings over 1 acre .....	263,933 acres.
Area cultivated .....	4,380 "

## APPENDIX G.

HOLDINGS in Braidwood Electorate during 1889.

*(Statistical Register.)*

Number of holdings over 1 acre .....	563
Hands employed on farm.....	805
" on station .....	53
Area cultivated.....	4,344 acres.

## APPENDIX H.

PRODUCTION in Braidwood Electorate during 1889.

*(Statistical Register.)*

Cream separators used.....	2
Butter made .....	139,615 lb.
Cheese made .....	14,995 "
Bacon and ham cured .....	85,836 "

## APPENDIX I.

STATE of Agriculture in Braidwood Electorate during the year ended March 31, 1890

*(Statistical Register.)*

Wheat for grain .....	1,577 acres.
"    hay.....	295 "
Maize.....	219 "
Barley .....	77 "
Oats .....	1,563 "
Other grain crops .....	8 "
	<hr/>
	3,739 acres.
Potatoes .....	305 "
Tobacco .....	5 "
Lucerne and sown grasses.....	57 "
Vineyards.....	22 "
Orangeries.....	1 "
Orchards .....	176 "
Market gardens.....	15 "
Other crops .....	59 "
	<hr/>
Total area under crop.....	4,380 acres.
Permanent artificial grasses.....	104 "

## APPENDIX J.

LIVE Stock in Braidwood Electorate on March 31, 1890.

*(Statistical Register.)*

Horses .....	3,881
Sheep.....	67,226
Swine .....	1,843
Cattle (ordinary).....	26,992
Dairy cows.....	3,200

## APPENDIX K.

SCHOOLS in Braidwood Electorate during the year 1889.

*(Partly from Statistical Register.)*

Private schools—number .....	6
Number of teachers .....	18
"    scholars.....	540
Public schools—number .....	32
Number of scholars.....	1,218
Total number of scholars on register in public and private schools..	1,758

## APPENDIX L.

NUMBER of Electors on roll in Braidwood Electoral District.

At election of 1889 .....	1,609
"    for 1891-92 .....	1,554

## 27

## APPENDIX M.

## GOLD PRODUCTION.

Sent away by escort from Braidwood, during 1889—5,774 oz. : value, £22,110.

This was the largest quantity recorded during 1889 for the southern division—the next being Adelong, whence 2,804 oz., value £10,995 were sent away; and the total from the division having been 11,364 oz., value £43,875.

Sent away by escort from Braidwood, during 1890—7,619 oz.

These figures are exclusive of quantities sent by other ways than by escort. The total output of gold is probably double the quantities herein given.

## APPENDIX N.

## RETURN OF RAINFALL.

(Extract from Meteorological Records.)

	Braidwood.	Bedervale.	Lake George.	Lake Bathurst.
1877	24·37	.....	.....	.....
1878	28·25	.....	.....	.....
1879	45·31	.....	.....	.....
1880	31·87	.....	.....	.....
1881	23·87	.....	.....	.....
1882	20·76	.....	.....	.....
1883	21·54	.....	.....	.....
1884	23·51	.....	.....	.....
1885	22·25	.....	26·85	23·40
1886	23·89	.....	30·75	24·95
1887	41·12	43·06	42·11	41·22
1888	20·13	21·58	24·26	21·09
1889	26·60	29·14	26·42	28·56
1890	36·35	36·94	30·98	32·34
Mean.	27·84	32·68	30·23	28·59

Bedervale is the residence of R. Maddrell, Esq., a few miles from Braidwood.

## APPENDIX O.

List of parishes comprised by the area to be served by the proposed railway from Tarago to Braidwood, with the area of Crown land in each.

## COUNTY OF MURRAY.

Parishes.	Acres of Crown Land.
Barnet .....	10,300
Larbert .....	8,370
Fairy Meadow .....	2,270
Mulloon .....	7,010
Warri .....	14,050
Palerang .....	17,920
Jinglemoney .....	20,000
Jimeroo .....	7,760
Ollalulla .....	10,710
Oronnear .....	17,250
Krawarree .....	10,920
(11 parishes) Total .....	126,560 acres.

## COUNTY OF DAMPIER.

Parishes.	Acres of Crown Lands.
Curramdene .....	17,760
Jinden .....	13,000
Wyanbene .....	20,020
(3 parishes) Total .....	50,780 acres.

## COUNTY OF ST. VINCENT.

Parishes.	Acres of Crown Lands.	
Tallagandra .....	25,170	
Bendoura .....	5,250	
Bettowynd .....	15,085	
Araluen .....	17,430	
Seymour .....	Nil.	
Elrington .....	4,170	
Monga .....	23,810	
Coghill .....	1,200	
Milo .....	21,560	
Boyle .....	673	Crown land.
Percy .....	20,951	} Church and School land in the three (3) parishes—actuals.
Bruce .....		
Braidwood .....	2,120	
Budawang .....	16,400	
Mongarlowe .....	25,260	
Durrar Durra .....	3,500	
Wog Wog .....	18,460	
Marlowe .....	9,890	Summary.
Corang .....	47,370	County Murray..... 126,560 acres.
Meangora .....	19,480	County Dampier ... 50,780 "
Jerricknorra .....	11,150	County St. Vincent 325,019 "
Sassafras .....	22,290	Total ..... 502,359
Columnburra .....	13,800	
(23 parishes) Total .....	325,019 acres.	

These areas, excepting Church and School lands, have been computed by scaling from the parish maps, and they are therefore approximately correct only.—S.H.A.

APPENDIX P.

SUMMARY of Statistics of Districts to be served by the proposed railway from Tarago to Braidwood.  
(From details supplied by the Railway League.)

County and parish.	Population.	Acreage of holdings.	Acreage under cultivation.	Number of holdings.
<b>COUNTY OF MURRAY.</b>				
Parish Barnet .....	61	16,506	31	11
Larbert .....	123	23,726	227	16
Fairy Meadow .....	82	12,430	138	7
Mulloon .....	48	13,370	77	7
Warri .....	29	8,051	35	2
Jinglemoney .....	25	1,843	35	18
Jineroo .....	86	19,891	99	18
Ollalulla .....	36	11,775	30	4
Oronnear .....	50	7,623	62	12
Krawaree .....	79	23,286	68	17
	<b>619</b>	<b>138,501</b>	<b>802</b>	<b>112</b>
<b>COUNTY OF DAMPIER.</b>				
Parish Jindera .....	20	4,285	14	2
<b>COUNTY OF ST. VINCENT.</b>				
Parish Tallaganda .....	24	2,212	13	5
Seymour .....	184	13,813	335	35
Boyle .....	307	27,139	193	53
Meangora .....	20	2,693	22	17
Budawang .....	288	3,053	83	22
Mongarlowe .....	132	5,634	126	26
Bettowind .....	74	10,121	198	12
Milo .....	12	6	5	2
Corang .....	9	160	10	1
Braidwood .....	74	10,121	198	22
Bendoura .....	60	2,546	57	12
Tomboye .....	20	2,715	22	6
Monga .....	61	4,653	93	16
Marlowe .....	86	9,402	61	12
Jerrichnora .....	17	7,560	8	4
Wog Wog .....	20	2,143	32	6
Coghill .....	82	15,437	102	10
Durrant Durra .....	123	26,479	272	22
Percy .....	268	16,871	363	50
Elrington .....	500	4,915	41	21
Araluen .....	615	896	237	105
Bruce* .....	15	4,377	43	2
Total, in county of St. Vincent .....	<b>2,991</b>	<b>172,946</b>	<b>2,514</b>	<b>461</b>
Grand Total .....	<b>3,630</b>	<b>315,732</b>	<b>3,330</b>	<b>575</b>

SUMMARY OF POPULATION.

County of Murray ...	619
"  Dampier ...	20
"  St. Vincent ...	2,991
Total of districts...	3,630
Town of Braidwood...	1,380
Bell's Creek ...	+20
Nariga ...	+40
Araluen ...	+100
Jemaicumbene ...	+40
Boro ...	+18
Elrington ...	+100
Sergeant's Point ...	+20
Total of townships	1,718
Grand Total	5,348

APPENDIX Q.

MINING.—A summary of the reports.  
PARISH BUDAWANG.

THERE are water races in working order extending over 60 miles in length, which will be in use when rainfall supplies the water for washing alluvial ground for gold.

On the Little River—ground sluicing for gold—

Number of men engaged .....	125
Yield of gold during 1890 .....	1,025 ounces.
Value of machinery .....	£2,500

The Day Dawn Gold-mining Company—

Quartz reef—Depth of main shaft .....	205 feet.
Yield of gold from January 1 to April 20, 1891, per month .....	120 ounces.
Cost of machinery .....	£2,000

\* Probably an error. Some holdings have been included in Durrant Durra. † The bulk of the population of these townships is given in the statistics of the districts.

NOTE.—I consider that this sum total would, by a proper census, be raised to 6,000, since a number of persons have refused to supply any details; and in a mining district there must be a considerable floating population which cannot be taken count of.

When fully opened out this mine will keep 50 men employed.

There are numerous reefs on which more or less work has been done, but of these four have been systematically worked to depths on payable gold, and have been stopped for lack of capital.

#### PARISH ARALEEN.

There are six parties at work washing alluvial, employing 84 men and 37 horses and drays. The cost of the work done in races is estimated at £10,000. The yield of gold during last year (1890) was 2,675 ounces.

#### PARISH ELRINGTON.

On Jemaicumbenc Swamp Messrs. Smith & Co. are working alluvial for gold—

Number of men employed .....	20
Cost of machinery .....	£35
Wages, &c., paid weekly .....	£50

On Major's Creek the principal works are the property of the Major's Creek Gold-mining Company comprising extensive crushing and gold-saving apparatus and chlorination works. There are seven proved reefs on the property. The work now being done is confined to sinking the main shaft to provide ore for the plant which is capable of keeping 150 men in employment. The company have spent about £45,000 on works and machinery.

In addition to the above there are four proved reefs on the same field which will be worked simultaneously with those of the Major's Creek Company.

There are now about twenty parties comprising about 50 men who are finding employment in washing gold on the Major's Creek Company's land, paying for license to the Company.

On Long Flat there are about 25 or 30 men at work on alluvial.

The alluvial mining both on Major's Creek and on Long Flat is dependent now mostly on the rainfall for supply of water, so the population actually engaged is fluctuating.

#### PARISH BOYLE.

On Jemaicumbene Creek a syndicate is working alluvial, managed by Mr. John Welsh; number of hands employed, 22.

Messrs. Bennet and Bowman are using a water race 5 miles long; cost of works, £500; number of men employed, 2.

#### PARISH SEYMOUR.

On Bell's Creek—Quartz reefing.—There are twenty-nine distinct reefs that have been proved to be auriferous and payable down to and below water level, but capital is not forthcoming for further work. Cost of machinery on the ground, £2,000; number of hands employed, a few.

#### PARISH JINGLEMONEY.

Mr. Denis M'Grath is ground sluicing for gold. A water race 9 miles long is being used, 1 man only employed.

Messrs. Bond and Payne are also ground sluicing. A water race 6 miles long is in use; number of men employed, 3.

#### PARISH BORO.

Mr. J. H. Blatchford is prospecting for silver, employing 4 men. He estimates the value of his machinery at £1,200.

#### PARISH MARLOWE.

The Horse Shoe Bend alluvial gold mine, 170 acre lease. The work in progress is directing the water of the Shoalhaven river into a race 4 miles long. The company was formed to spend £15,000, but additional ground has been taken up; number of hands employed, 30.

#### PARISH MENANGORA.

The Sandy Point and Gibraltar Gold-mining Company, 200 acre lease. A water race is being cut that will be 24 miles in length, and will cost £12,000. The machinery is valued at £8,000. Number of hands employed, 20.

The Eudrich River Gold-mining Company, 150 acre lease. Preparations are being made for ground sluicing. A dam and race 17 miles long are being constructed at a cost of £20,000. Number of hands employed, 20; cost of machinery, £10,000.

#### PARISH OALLEN.

The Golden Terrace Gold-mining Company, 525 acre lease. A water race is being cut that will be 24 miles long, and will cost £10,000. The machinery is valued at £14,000; number of men employed, 50.

#### PARISH PERCY.

Mr. Peters is using a water race 1 mile long; value of work done is £100. Number of men employed, 2.

#### PARISH JERRICKNORRA.

The Gladstone Quartz Reef Gold-mining Co., Messrs. O'Neill Bros., 10 acre lease.

Number of hands employed .....	4
Value of machinery .....	£200

There are in addition four parties of men working water races, aggregating 56 miles in length for ground sluicing for gold. £10,000 has been spent during the past year, and £20,000 will be required in addition to complete the works.

Number of hands employed .....	50
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#### PARISHES KEAWAREE AND WYANBENE.

The operations in these parishes are chiefly as yet confined to prospecting. The indications are very promising both in alluvial and in quartz-reefing, and some capital is being expended on race cutting and other preparatory works.

#### PARISH MONGA.

Messrs. M'Rae and party are ground sluicing on Warrambucca Creek. They have sunk shafts and proved the ground to be payable. Water raised by engine power is being used.

Number of men employed .....	6
Value of work done—about .....	£50
Value of machinery—about .....	£100

There are 3 other men who have been working on the same creek washing for gold for about two years past, and have been making fair wages.

### APPENDIX R.

#### SAW MILLING.—A summary of the reports.

#### PARISH SEYMOUR.

Messrs. Grant and Co. are cutting messmate, mountain ash, mountain gum, white top, and stringy bark, employing 7 men at the mill, and 2 men in carrying. The forest is very extensive and practically inexhaustible. The present output is 4,000 to 5,000 feet per week.

PARISH

PARISH MONGA.

Mr. Hugh M'Rae.—The estimated value of machinery is £2,000; employing 5 hands, and turning out 3,000 feet per week.

Mr. George M'Rae.—The estimated value of machinery is £300; employing 5 hands, and turning out 6,000 per week.

PARISH TALLAGANDA.

Mr. George Crandell is employing 6 hands, and turning out 2,000 feet weekly of mountain ash, mountain gum, messmate, and silver top. Was lately offered a contract to supply £1,000 worth delivered at Goulburn, but could not take it up as the length of carriage to Tarago would have cost too much.

PARISH OLLALULLA.

Mr. H. Thompson has been obliged to close this mill as he cannot continue to supply timber at the rates offered, owing to the length of road carriage to the railway. His machinery cost £500.

APPENDIX S.

A LETTER from C. B. Payne, Esq., late of Braidwood.

Dear Sir,

Waverley, 18 April, 1891.

I quite forgot to mention when speaking to you that when I was in business in Braidwood I sent a large quantity of butter by rail to Hay, Junee, Narranderra, Young, Cooma, and many other places, also bacon. This had to go by coach to Tarago. If the train were into Braidwood this trade would be greatly increased. The coach carriage took a lot of the profit off. If the train ran into Braidwood the carriage would be so much less, which would give the storkeepers a better chance to compete with other markets.

I am, &c.,

C. B. PAYNE.

Stanley Alexander, Esq.

APPENDIX T.

RAILWAY, Road, and Steamer Charges for transport of Goods between Sydney and Braidwood.

	Miles.	Special Classes.			Numeral Classes.			Live Stock.		Hay, in 6-ton loads.	Straw, Chaff, Fodder, in 6-ton loads.	ON UP JOURNEY.		
		Miscellaneous, in 6-ton loads.	A.	B.	1st.	2nd.	3rd.	Sheep.	Cattle.			Grain, flour, bran, pollard, potatoes, in 6-ton loads.	1st Sept. to 31st Jan.	1 Feb. to 31st Aug.
From Sydney to Tarago	157	11 3	14 1	25 7	51 5	63 8	88 1	84 5	101 10	46 1	40 9	11 6	10 4	
From Sydney to Braidwood	187	12 7	16 1	29 7	60 6	73 8	102 1	04 5	116 10	62 7	46 6	13 0	11 9	
Between Tarago and Braidwood (increment of through rates).	30	1 4	2 0	4 0	8 0	10 0	14 0	10 0	15 0	6 6	5 9	1 6	1 5	
Between Tarago and Braidwood (local rates).	30	3 1	3 6	5 6	11 2	13 5	17 0	20 0	20 0	17 0	17 0	.....	.....	

BY TRANS.

From Tarago to Braidwood	20s. per ton all round.
From Braidwood to Tarago	10s. " "
From Nelligen to Braidwood	40s. " "
From Braidwood to Nelligen	20s. " "

BY STEAMER.

From Sydney to ports (dead weight)	16s. per ton.
" " (measurement)	20s. per ton of 40 cubic feet.

APPENDIX U.

RAILWAY Committee's Report to Stanley Alexander, Esq., Examiner of Public Works Proposals.

Sir,

We have much pleasure in handing you the statistics and other information which we have had collected, showing the present resources of the district and its further capabilities on being placed in direct railway communication with other parts of the Colony.

You will have been able to form for yourself, from your personal visits to different portions of the district, a pretty good idea of the character of the country, and its facilities for supporting a large population, and helping to promote the general welfare of the Colony.

It has been shown to you, by the evidence you have taken from the residents of the adjacent coast districts, that the proposed railway would be likely to draw a considerable amount of traffic to be distributed from Goulburn through the various Southern districts which now goes by sea to Sydney, especially as some of the harbours on the coast are becoming altogether unnavigable.

The returns of our trade from Tarago show a very material increase every year, without showing any falling off in our trade via Nelligen, nearly the whole of which will be diverted to Braidwood on the completion of the line.

It is somewhat difficult to obtain the exact figures as to the present trade via Nelligen, as the ship-owners naturally refuse to give information as to the annual tonnage. But from the number of carriers (twenty-eight in all) having teams on the several roads between Braidwood and the seaports, and from the tonnage of goods received by the business people who have sent in returns, it may be estimated at not less than 3,000 tons per annum inwards to Braidwood, and the return traffic, of which we have no account, must make a considerable addition to this.

There are no official returns procurable of the number of passengers inwards to Tarago by rail, but the coaching returns sent in to you may be accepted by you as thoroughly reliable, being taken from the books of the coach proprietors, which show the number both ways for 1890 to be 8,756, against 5,600 for the previous year, giving an increase of 3,156 passengers. This does not include passengers who travel otherwise than by the regular lines of coaches.

We may point out that our gold-mining resources, though only partially developed as yet, compare favourably with any of the gold-producing districts in the Colony. The official return of the gold won for 1890 being 7,619 ounces, the value of about £30,000; this is taken only from the Mint returns, and would be found much greater if the amount sent down privately and not by escort could be ascertained. There are extensive mining works in course of construction, which, in the aggregate, have had an expenditure upon them of, in round numbers, some £50,000, and which will require half as much more capital to complete, but which, when finished, will most probably double the gold yield as shown in the returns quoted.

As a pastoral district we have always been noted for the excellence of our fat stock and the fertility of our grasses, which is to be attributed mainly to the quality of the soil, but principally to the moisture of our climate. As a proof of our pastoral capabilities, we may point out that we help largely to supply the dairymen's requirements on the coast with springing heifers, and last year there were over 4,000 fat cattle sent from here to Melbourne, besides those which were sent to Sydney and the adjoining districts.

Our climate is eminently suited for the growths of all classes of English products, such as wheat, oats, barley, potatoes, and all kinds of vegetables and fruit. At present our farmers do little more than supply local requirements (excepting fruit, and some items in dairying, which under present conditions are sent away to other places in small quantities), but if an outside market were opened up to them, the extent of new land that would be tilled, or old tilled land recropped, would be incalculable, for as a fact, if the returns of the period between 1868 and 1870 are referred to, it will be seen that when we had a large local consumption the breadth of land under tillage in this district was surpassed by only two or three districts in the Colony. So much for our capacity for increased agricultural production.

And lastly, we can with confidence assert that our timber resources are almost untouched, and that the impenetrable forests which will be opened up by the extension of the line to Braidwood will supply timber for railway and house-building purposes for many years to come. As a matter of fact, the timber of the rivers accessible to the proposed railway terminus has been for many years past hauled for miles to the mills, thence sent by sea to Sydney, and transported by rail to different parts of the Southern Line, and a great proportion on to the Cooma Railway Line, not more than 30 miles distant from Braidwood.

Signed on behalf of the Braidwood Railway League,—  
 AUSTIN CHAPMAN,  
 Honorary Secretary.

[One plan.]

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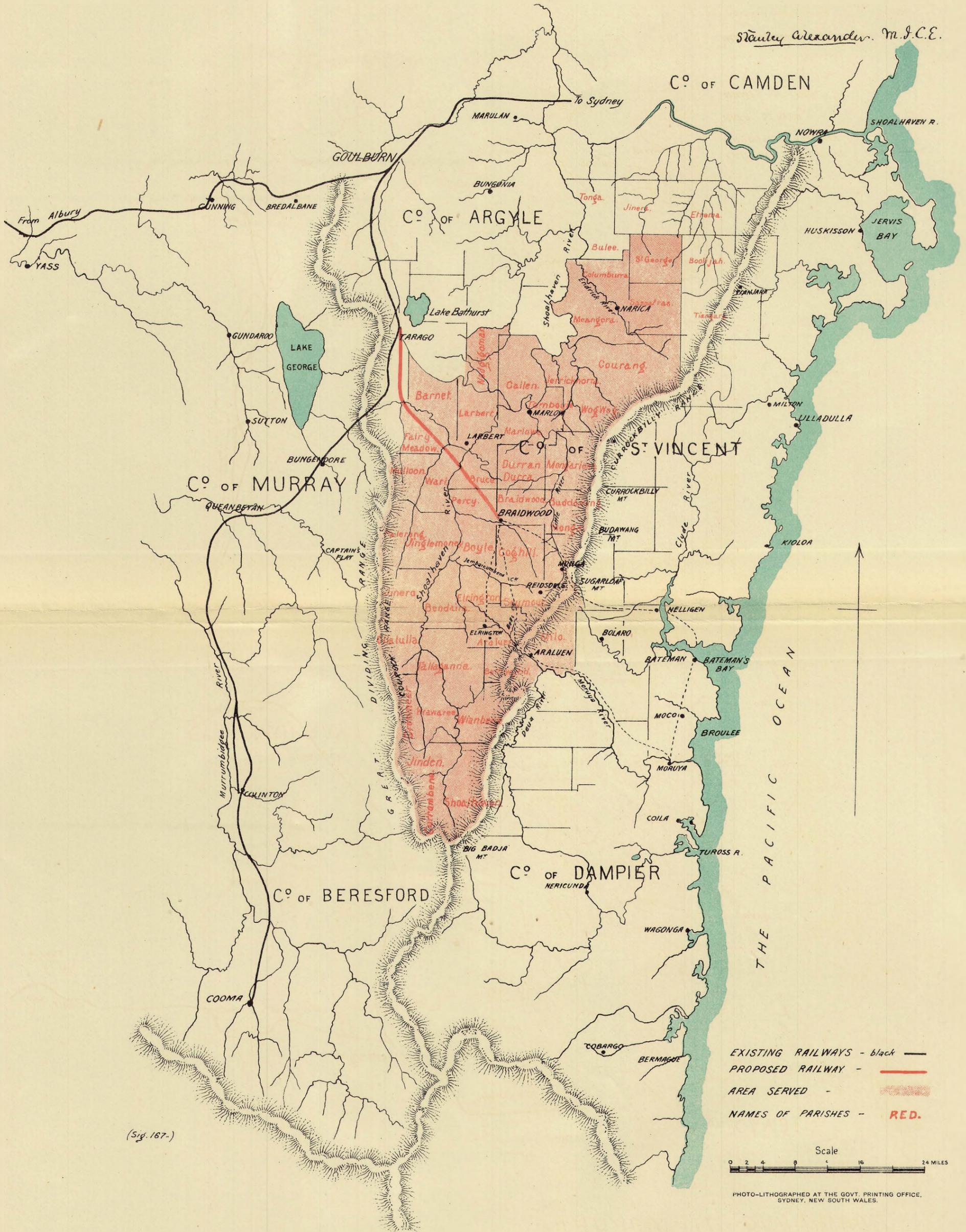
Sydney: George Stephen Chapman, Acting Government Printer.—1891.

[2s.]



# THE PROPOSED RAILWAY TARAGO TO BRAIDWOOD

Stanley Alexander, M.I.C.E.



(Sig. 187-)

EXISTING RAILWAYS - black —  
 PROPOSED RAILWAY - red —  
 AREA SERVED - red shaded  
 NAMES OF PARISHES - red.

Scale  
 0 2 4 8 16 24 MILES

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,  
 SYDNEY, NEW SOUTH WALES.

1891.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## TRAMWAY FROM THIRLMERE RAILWAY STATION TO VANDERVILLE, OR THE OAKS TOWNSHIP.

(REPORT OF MR. E. B. PRICE.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

Mr. E. B. Price to The Under Secretary for Public Works.

Sir,

12 May, 1891.

I have the honor to submit the following report on the proposal to construct a tramway from Thirlmere Railway Station to Vanderville, or the Oaks Township.

The name "The Oaks" is also applied generally to the elevated district along the upper portion of Werriberri Creek, a district raised about 1,000 feet above sea-level, and more or less cut off by a precipitous rise from the lower country about Camden and Picton.

The soil is generally of a rich clay nature, and when drained and cultivated produces good root-crops and maize.

Some considerable orchards have lately been planted near Vanderville, where the soil is not so heavy, and is well suited for fruit.

At present very little agriculture is gone in for; but most of the country is used for dairy-farming, though in old days large areas were under wheat.

I would estimate the elevated plateau of "The Oaks" to contain about 8,000 acres of fairly good land, much of which is cleared.

Between Thirlmere and the Oaks district the soil is generally lighter and better suited for fruit culture than anything else; very little of it has been cleared. The population along the proposed route is small. The number of farmhouses is about 20, exclusive of the village of Vanderville, which consists of about 20 cottages and one store.

I should estimate the population of the entire districts which would be benefited by the construction of this line as under 1,000, while that of the immediate neighbourhood is about 200.

The outlying districts which are included are Burragorang, and the Wollondilly Valley, Cox's River, and Werombi.

The main portion of the traffic from these districts now comes through the Oaks to Picton or Camden; in fact there is no other good road.

The Wollondilly and Cox's River Valleys are very fertile, and produce heavy crops of maize. They are, however, narrow, and very inaccessible, as the road from the Oaks has to cross the Burragorang Mountain, and descend by a zig-zag track for 1,500 feet.

These facts, together with the distance (10 miles to Burragorang, and 20 miles to Cox's River), would render it very improbable that any large traffic would ever come from these valleys to a tramway terminating at Vanderville.

The present traffic is in ordinary supplies which are carted from Picton—the export trade being chiefly bacon, poultry, and eggs; a little maize is also occasionally sent away; but, as a rule, it is all used for fattening pigs, which are purchased elsewhere, and brought to the valleys for fattening.

Many of these pigs come by rail to Picton, and might possibly be brought over the tramway, though I think it would be cheaper to drive them the extra few miles.

I have little doubt that the tramway would get the major portion of the traffic from these outlying districts; but I do not think it would assist much in their development, or greatly increase their exports, as the difficulty of road carriage would still be very great.

Much of Werombi—which lies on the tableland to the north of the Oaks—is fertile, and well suited for fruit culture and dairying.

A large portion of its traffic would, doubtless, go by the tramway terminating at Vanderville. Camden would, however, still get a good deal, and, in the event of a line being ever made to Mulgoa, some would go that way.

The present trade of the Oaks and the outlying districts is done with Picton and Camden—the greater part with Picton, as it is over 300 feet higher than Camden, and on the main line. The distance from Vanderville is about 10 miles in each case.

From the map it would appear that the line to Vanderville should form an extension of the Camder tramway. The precipitous rise in the country renders it impossible to get a good grade by this route. For the same reason the line could not go from Picton.

The promoters have, therefore, chosen the easiest route, by proposing to go to Thirlmere, which is 960 feet above sea level, Picton being 549, and Camden only about 220.

As no survey had ever been made of the proposed line, I spent some time in carefully examining the country with an aneroid to satisfy myself that a line could be got. (See levels on parish map.)

It was quite evident that no road tramway could be got, but that four-fifths of the line must be constructed as an ordinary light railway.

The only difficulty is the crossing of the valley of Crocodile Creek, the rise from which to the top of the ridge along which the Picton road runs being rather sudden.

If a light railway, with rather severe grades and curves is all that is necessary, then this can be got over without much expense by a grade of 1 in 25 (or, with heavier works, 1 in 30). (See red-line on parish map herewith.)

There would be considerable difficulty in getting a line with lighter grades, and probably one of the routes shown in dotted red would have to be adopted with heavy works.

Much of the line would be easy to construct, and for about 2 miles could be laid on the public road. Sleepers and ballast could be obtained locally, and little or no land would have to be purchased.

Near Thirlmere the line would pass through Government land for 2 miles, and the promoters have promised to give nearly the whole of the remainder.

I do not, however, think that taking the line throughout it could be constructed for less than £5,000 per mile, with 1 in 30 grades and 8-chain curves.

This would give £55,000 as the cost of the whole 11 miles. The interest on this sum would, at 4 per cent., amount to £2,200 per annum, which the line should earn, exclusive of working expenses, in order to prove remunerative.

The present trade of the district, as previously stated, is in bacon, poultry, eggs, timber, and a little milk, hay, fruit, and maize, together with oxide of iron, which is sent in bags to Melbourne for gas purifying purposes and as a flux.

I do not think the present traffic would pay even working expenses, which would certainly amount to nearly £2,000 a year to keep one locomotive in steam and pay station charges and maintenance; the traffic would, therefore, have to greatly develop.

Agricultural products, for reasons previously stated, would not much increase, except from the immediate neighbourhood of the line.

Fruit-growing would, doubtless, be gone in for on a larger scale, and much of the large area of Government land in the district is well suited for the purpose, although the greater part is exceedingly poor.

The timber trade would very much increase, not so much in sleepers and valuable timber—as the quantity of workable timber is limited—as in firewood, of which there is an enormous supply.

I have no doubt that a very large trade in sawn fuel would be established soon after the opening of the line, as already considerable quantities are being carted to Picton.

In my opinion, however, the main hope of the line paying a dividend lies in the iron-ore deposits. I cannot, therefore, do better than quote from Mr. Wilkinson's report of January 30th, 1891, on the "Iron-ore deposits of New South Wales." He writes:—

"The Picton deposits are situate 8 miles from that town, which is 53 miles from Sydney, and therefore 24 miles nearer than Mittagong. They consist of brown hematite with a little magnetic, and are precisely similar in origin to those of Mittagong, having been formed at the surface by ferruginous springs; consequently they cannot be expected to extend deep below the surface\*. Taking 25 feet as the probable average depth, I have estimated that on "The Oaks," the estate of Mr. J. Mitchell, M.P., they occupy an area of 5.7 acres, containing 562,590 tons of ore, and on "The Hermitage," the adjoining estate of Mr. W. G. Hayes, 799,470 tons within an area of 8.1 acres—or, reckoned together, a total of 1,362,060 tons.

"An average sample of ore, consisting chiefly of hard compact brown hematite from the largest deposit in Mr. Mitchell's estate, yielded the following result on analysis by Mr. Mingaye, F.C.S., Analyst to the Department of Mines:—

*Brown Hematite from near Picton.*

Moisture at 100° C.	...	...	...	...	...	1.77
Combined water	...	...	...	...	...	11.88
Ferric oxide	...	...	...	...	...	71.55†
Ferrous oxide	...	...	...	...	...	Trace.
Manganous oxide	...	...	...	...	...	do
Alumina	...	...	...	...	...	10.35
Lime	...	...	...	...	...	Nil.
Magnesia	...	...	...	...	...	0.25
Silica	...	...	...	...	...	4.10
Sulphuric oxide	...	...	...	...	...	Trace.
Phosphoric oxide	...	...	...	...	...	do
						99.90

"An average sample of soft argillaceous brown hematite from another deposit on the same property yielded on analysis—

	Metallic iron	...	...	...	...	40.35 %
Insoluble in acids	{ Silica	...	...	...	...	23.00 %
	{ Gangue	...	...	...	...	26.35 %

"An

\* Note.—A trial shaft shows the depth to be about 15 feet in one place.  
† Equal to metallic iron, 50%; insoluble in acids, 5%.

“An average sample of mixed compact and soft argillaceous brown hematite from Mr. W. G. Hayes' estate yielded on analysis—

Metallic iron	...	...	..	...	...	...	37.56 %
Insoluble in acids	{	Silica	...	...	...	...	23.80 %
		Gangue	...	...	...	...	28.95 %

\* \* \* \* \*

“The existence of coal near Picton has not yet been proved, but seeing that the Hawkesbury sandstone formation occurs at the surface it is probable that the Mittagong coal-seams would be found at a depth of about 700 or 800 feet. In the event of coal not proving workable the ore could be taken to Mittagong for treatment.”

From this report it would appear that much of the ore is rich enough to work were smelting works established on a large scale within reasonable distance.

The quantity available is, however, not very great, when the expense of starting such works is considered.

It is probable that works will be established on the main line or near the Mittagong coal-seams, and the ore conveyed thereto, in which case a light line to Thirlmere would pay well so long as the iron deposits held out.

The conclusions I have arrived at after spending, at different times, altogether ten days in examining the districts of the Oaks, Burratorang, Warragamba, Cox's River, Picton, and Camden are,—

- (1.) That the back districts are very much handicapped, and will develop but slowly, without better means of communication.
- (2.) That the proposed light railway to Thirlmere would be of great benefit to the elevated country in the immediate neighbourhood of the Oaks, but would prove of little real service to the outlying districts and river valleys, partly owing to the direction the line takes, whereby the traffic is drawn away from the metropolis and a seaport, and partly from the fact that it will not do away with the heavy road carriage necessary to reach its terminus at Vanderville.
- (3.) That the present traffic would hardly pay working expenses, but that after a year or two a small return might be expected, chiefly from fuel.
- (4.) That if the iron ore deposits are worked on an extensive scale the line would pay a dividend, but that such working would exhaust the deposits in about ten years.
- (5.) That the question resolves itself into one of railway policy—whether light branch lines should be constructed into outlying districts to act as feeders to the main lines, and to assist in the development of the country, even though such lines could not pay in the first instance or possibly for many years to come.
- (6.) That if the Government decide that such lines should be made that the question of a line into the Oaks district should be considered, as it is probable by the time the timber supplies and ore deposits are exhausted that the district will be sufficiently developed and populated to support a railway without these temporary resources.
- (7.) That before the route to Thirlmere is adopted the whole country should be carefully examined to see if it would not be possible to connect the Oaks with any line which may be made to Luddenham or Mulgoa.

Such a line, I am informed, was surveyed many years ago by private enterprise, as portion of the main Southern Railway.

I have, &c.,  
EDWD. B. PRICE.

[One plan.]





1891.

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NEW SOUTH WALES.

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# THIRD ANNUAL REPORT

OF THE

# BOARD OF WATER SUPPLY AND SEWERAGE,

BEING FOR THE YEAR

1890.

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Presented to Parliament by Command.

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SYDNEY : GEORGE STEPHEN CHAPMAN, ACTING GOVERNMENT PRINTER.

1891.



1891.

NEW SOUTH WALES.

BOARD OF WATER SUPPLY AND SEWERAGE.

(ANNUAL REPORT FOR 1890.)

Presented to Parliament by Command.

To the Honorable the Secretary for Public Works,—

Sir,

The Board of Water Supply and Sewerage have the honor to submit to you their third annual Report.

WATER.

1. During the past year the supply of high-level water to the city has been greatly increased, and the number of screw-down hydrants fixed, viz., 405, have materially increased the facilities for fire extinction. Over 75 miles of pipes were laid and 4,154 ball hydrants fixed; the extent of mainlaying is not so satisfactory as the previous year, which is accounted for by the continuous rainy season and also the loss of time occasioned by one of the district contractors having failed to carry out his contract and his successor being very slow.

2. During the year an accident happened to the 48-in. supply main, it is supposed through the too sudden closing of the inlet valve at Crown-street Reservoir, the effect being a ram in the pipes which fractured one of them. The Botany engines, whose fires are kept banked ready for any such emergency, were immediately started, and the supply kept going.

3. The new Worthington pumps were started on 25th March, and after the main had been thoroughly tested and made efficient, the pumps were found to work smoothly and silently. By the end of the year a 36-in. rising main was laid for these engines to pump through from Crown-street to Paddington Reservoir, but owing to the smallness of the latter reservoir the engines are not able to work to their best advantage, as they can only work for three hours at a stretch. A pair of Tangye engines were also erected temporarily to pump to Woollahra, as the old Blake engines which they replaced were thoroughly worn out; another set of Worthington engines were ordered from England to take up this duty, and eventually to pump also direct to Waverley, thus doing away with the pumping plant at Woollahra Reservoir; to enable this to be done, a 24-in. wrought-iron main was contracted for in the Colony, to be laid from Crown-street to Woollahra Reservoir; from thence it will be connected to the present 18-in. rising main to Waverley.

4. The supply to North Shore is at present through a 9-in. main laid under the harbour from Dawes' Point to Milson's Point, and is then pumped to the heights

2—A

of

of North Sydney. An accident happened to this submarine 9-in. main by a vessel letting go her anchor over it, and in getting it up again it carried away the main; this breakage was quickly repaired through the kindness of the Engineer-in-Chief for Harbours and Rivers immediately placing his staff of divers and gear at the Board's disposal, and the supply was restored before any very great inconvenience had been experienced by the inhabitants of North Sydney. The Engineer-in-Chief for Harbours and Rivers is pushing on with the erection of the engines at Ryde, and has completed laying the 24-in. supply main to Ryde, and the wrought-iron reservoirs at Ryde and Chatswood, and is laying the rising main to these reservoirs.

5. The Board had to take action with regard to the possible pollution of the catchment area near Robertson, caused by a piggery establishment, which was at once removed.

6. The "strike" which took place during the year caused some interruption to the works being carried out by the Board, and a great deal of inconvenience with regard to their coal supply, but fortunately having about 500 tons in reserve at the Botany Waterworks, no stoppage took place.

7. As the demand for high level water for the city is and has been increasing so rapidly, the Board are confirmed in their decision to erect a large reservoir, to contain at least 20,000,000 gallons at about 20 feet higher than the Paddington Reservoir. The site which has been found to be most suitable was that originally selected in the Centennial Park, between the Queen-street and Ocean-street gates. It is to be hoped that it will not be long before the required approval is given to this very necessary work. The increase of water pumped is 277,000,000 gallons over that of the previous year, and towards the end of the year more water was being pumped than was being used by gravitation.

8. A meter testing and repairing and tap testing department was found by the Board to be absolutely necessary, and one was started to work in July, and during the six months 34,335 taps were stamped, and 1,956 rejected as defective; 863 new meters were tested, 340 readjusted and tested, and 146 repaired; 826 new meters were fixed on the Board's mains during the year, making a total of 3,788 meters in use.

9. According to the returns sent in weekly from the Engineer-in-Charge at the Prospect Reservoir of the daily discharge from the reservoir to Sydney, there is a difference of about 122,000,000 gallons less than the previous year, or a difference in the daily average of about 334,000 gallons. This difference is remarkable in the face of the fact that 75 miles of new mains were laid, supplying an estimated population of nearly 20,000 people more than the previous year, and nearly 4,000 more houses connected to the sewers, and can be accounted for by only two reasons, viz., the greater rainfall of 1890 as compared with 1889, the difference being 24.26 in favour of 1890, the total amount being 1889 57.16, 1890 81.42 inches; the other reason is the control exercised by the Board over waste which in every city is a great item, this control is exercised both by the vigilance of the officers in inspection of premises and by the enforcement of the regulations insisting on all water fittings being properly tested before supplied to consumers, and water meters affixed to the supply to all buildings used for trade purposes.

10. An analysis is made by Mr. Hamlet, Government Analyst, every month, of the water which is taken from different points of supply and distribution; in all of them Mr. Hamlet characterises the quality of the water as being thoroughly satisfactory. [See Appendix.]

## LIVERPOOL.

11. After several surveys had been made of the different routes of pipe line to convey the water from the Sydney water supply canal for the supply of Liverpool, a scheme was finally adopted of making a small reservoir of about 2,000,000 gallons a few yards from the canal, close to the southern end of Cecil Hills tunnel, the canal to be tapped by a 15-in. pipe discharging into the reservoir, and thence a 9-in. supply main to be laid to Mount Misery, about  $4\frac{3}{4}$  miles, where in the future it is proposed to construct a balance reservoir to hold 1,000,000 gallons, at a height of 100 feet above the town, and distant therefrom  $1\frac{1}{2}$  miles. From Mount Misery a 6-in. pipe to be laid to and through the town.

A contract was let for conveying and distributing the trunk main pipes between the canal and Mount Misery, and was practically completed at the end of the year.

## CAMPBELLTOWN.

12. There has been a great improvement in the revenue derived from this extension, the figures are:—

Year.	Revenue.	Expenditure.		Percentage of Net Revenue on Capital.
		Loans.	Maintenance.	
	£ s. d.	£ s. d.	£ s. d.	
1889 ... ..	128 18 0	2,174 15 11	95 8 0	1.5
1890 ... ..	346 16 0	2,178 0 2	140 17 0	4.7

The above table shows a satisfactory increase in the percentage of revenue, less maintenance, on amount expended. The total amount expended from loans is £4,352 16s. 1d.

## SEWERAGE.

13. On the 30th September, 1889, the "Metropolitan Water and Sewerage Act Amendment Act" was passed by Parliament, which transferred to the Board the control of all existing sewers, as well as the main and subsidiary sewers of the new system carried out by the Minister for Public Works. The mileage of sewers varying from 6 in. to 24 in. in diameter thus transferred was over 70 miles from the City Corporation, and 13 miles from the Government.

14. During the year over  $9\frac{1}{2}$  miles of sewers were laid by the Board and at the end of the year the total length of sewers under the jurisdiction of the Board was over  $122\frac{1}{2}$  miles.

15. The area of the Sewage Farm under cultivation, which is under the superintendence of Mr. J. N. Oxley, was increased to 4 acres 3 roods, and the total amount received for the produce was £198 0s. 1d. A contract has been let for the levelling of about 10 acres, which will shortly be finished. This farm has performed the duties required of it most admirably, viz., absorption of all sewage matter discharged by the main out-fall sewer at Botany; it was never regarded or intended as an agricultural or pastoral farm, as it is simply a bed of sand. The process is as follows:—the liquids are separated from the solids on the city side of Cook's River, in a building erected for the purpose; the liquid is then syphoned under the river and used on the farm in the way of irrigation. The solids are taken over a bridge in trucks by a steam motor,

motor, and distributed on the land where it is at once dug in. This system has been in operation some four years, and even now after a crop has been taken off the sand is just as void of soil as ever. The liquid percolates through about 10 feet of sand, and a sample taken from the effluent was submitted to Mr. Hamlet, the Government Analyst, who pronounced it no worse in quality than many samples of water obtained in wells in the suburbs of Sydney, which are used for drinking purposes and the adulteration of milk.

16. According to the records of the City Council about 18,000 houses were connected with the sewers at the date of transfer of the Sewerage to the Board. During the past year, leaving out the city, there have been 3,804 houses connected by the Board.

17. A change was made by the Board in the method of issuing licenses to drainers, the previous plan of having the application endorsed by two licensed drainers was abolished, in lieu of which the applicant had to submit himself for examination to the two District Sanitary Inspectors, who tested his fitness to carry out house drainage. During the year the licenses of five drainers were cancelled, and ten others were cautioned by the Board. There have been 500 certificates issued by the Board certifying that the plumbing and sewerage work on premises has been carried out in accordance with the by-laws and regulations; and when this system becomes more generally known the public will no doubt very largely avail themselves of it, as the possession of such a certificate is an official assurance that the premises to which it may relate are in a proper sanitary condition. It is worthy of note the advantage property owners in the suburbs take of the facilities afforded them in improving the sanitary conditions of their properties. In some cases persons of small means intimated their willingness to connect their premises to the sewer, but were debarred from doing so from pecuniary circumstances, to meet such cases a scheme of doing the work on the "deferred payment system" was suggested; but on the advice of the Board's Solicitor the question had to be abandoned, as under the existing Acts the Board had no power to carry the scheme into effect.

18. The inspection of residential hotels revealed a most lamentable and, in some instances, an almost incredible state of things. Notices to place their premises in a proper sanitary condition were served, and most of them have since been remedied; and it is to be hoped that the proprietors of others will not force the Board to use the powers which they possess in the interests of public health.

19. The ventilation of the sewers has been expeditiously carried on, and the system of using Nature's forces by erecting shafts with induct cowls to throw air into the sewers and other shafts with exhaust cowls, has proved eminently satisfactory. The whole system is kept under strict observation by the Sewerage Engineer, who has daily records taken of the temperature of the various sewers. 337 of these ventilating shafts have been erected, comprising a length of 12,639 feet, and ventilating an area of 370 acres, which is more than one shaft to the acre. In connection with this, a cowl-testing station has been erected at the Board's depôt at Crown-street, which has proved of very great service in determining the most efficient cowl.

20. To the Sewerage Engineer's report is attached a diagram showing the annual death-rate from the year 1856. It may be of some satisfaction to know that the death-rate of Sydney, and also of the suburbs, compares very favourably with the

the older towns of England, and that, though 1888 was a very dry year, the death-rate was only about 17·50 per 1,000. In glancing at the table it is curious to note the effect of the rainfall on the death-rate, viz., that when the year is dry the death-rate is high, when wet there is a low death-rate. As the records in former years have not been kept with that care which is essential to their being of great value as statistics, not much credence can be placed on them; but for the last few years the table is as correct as it can be made.

#### GENERAL.

21. The working of the Water Department for the year shows an improvement on the previous year; the debit balance for the year being £1,319 15s. 7d., as against £5,718 0s. 4d. for the previous year. This debit balance is after paying maintenance and management, interest on loans expended in water supply, and after writing off for depreciation the sum of £3,421 15s. 2d. The percentage of expenses to revenue was in 1889 26·32, as against 23·82 in 1890. The percentage of revenue on capital in 1889 was 4·49, and in 1890 it was 4·57. These comparative results cannot but be highly satisfactory. The following table is a comparison of the percentage of expenses of maintenance and management to revenue with other water works companies in London, Canada, and the United States with the Sydney water supply for the year 1889:—

Southwark and Vauxhall.	Lambeth.	Toronto.	Baltimore.	Lawrence.	Salem.	Sydney.
40·39*	31·4*	40·27	46·84†	24·75†	55·0†	26·32

\* The returns of these two companies are compiled from their half-yearly balance sheet, ending 31st March, 1890, and the figures doubled.

† This percentage is working expenses to receipts, not revenue; the working expenses of Sydney to receipts was 23·65.

Adelaide, year ending 30th June, 1890—Working expenses to revenue, 21·20 per cent.

Sydney, year ending 31st December, 1890—Working expenses to revenue, 23·82 per cent.

22. The working of the Sewerage Department, after paying for maintenance and management and interest on loans, shows a credit balance of £14,773 7s. 2d. The percentage of expenses to revenue was 27·20. The percentage of revenue on capital was 6·38. As the Sewerage Department was only initiated this year the expenses would be greater, and that accounts for the percentage being higher than the water Department.

23. The Board anticipate that during the approaching year the remainder of the Nepean Water scheme, with the exception of the reservoir at Potts' Hill, and the second supply main from that locality to Crown-street, will be completed and transferred to them. This will include the whole of the canal works and pipes from Pheasant's nest to Potts' Hill, the Prospect Reservoir, the supply main to North Shore with engines, reservoirs and pumping mains, also the maintenance of the canal. The balance of the capital value of these works to be transferred will increase the debt on the Board by the amount of about £300,000, on which interest will have to be provided, besides the annual cost of maintenance of canal, which is about £5,000 per annum.

24. The Board were obliged at the latter end of the year to take some vigorous action with regard to unpaid rates. A final notice was issued to such ratepayers who had not complied with the demand on the usual rate notice paper, informing them that their rates had not been paid, and giving them warning that if not paid within seven days legal proceedings would at once be taken. 20,250 of these reminders were

were sent out, and it is satisfactory to record that 80 per cent. of them were paid within the time specified. The number of rates that remained unpaid was 4,260, representing a monetary value of £14,370 14s. 5d., for which summonses were issued and amount recovered. In every community there is always a section who will never pay moneys owing by them until made to do so, but it is to be hoped that in future it will not be necessary to resort to such extreme measures in such a number of cases.

25. To save time and cost to ratepayers situated in outlying districts having to come into the city to pay rates of small amounts, a system was tried during the year of sending an officer to attend for certain days in the week at a central Municipal Council Chamber, and receive such rates on the production of the rate notice paper. The results were not quite so satisfactory as might have been anticipated. This no doubt was owing, to some extent, to the system being novel, and not properly understood by the ratepayers. To enable this to be done the Board were greatly assisted by the Municipal Councils interested placing the free use of a room in their chambers at the disposal of the Board. All the Municipal Councils who were requested cordially assisted, with the exception of the Council of Rockdale. The above system will be tried again during the next year, when, no doubt, greater advantage will be taken of the convenience by the ratepayers interested.

26. The question of building new offices for the Board, mentioned in our last annual report as having been transferred to the Public Works Committee, was dealt with during the past year by that body, who reported on it favourably to Parliament, and a Bill was introduced and passed enabling the Board to resume the land and build new offices; the land was therefore resumed and tenders were called for the erection of the buildings; that of Mr. P. Hill was accepted for the sum of £28,900, to be completed about June, 1892.

27. The Board instituted monthly visits to the several centres of works under their control, and have made great improvements at the different depôts.

28. During the year fifty-seven meetings of the Board were held, at which the attendance was as follows :—

	Present.	Absent.
T. Rowe, President ... ..	56	1
B. Palmer, Vice-President (City Member) ... ..	56	1
R. R. P. Hickson (Official Member) ... ..	54	3
C. W. Darley " " ... ..	55	2
J. D. Young (City Member) ... ..	53	4
G. W. Lander (Suburban Member) ... ..	49	8
J. Graham " " ... ..	56	1

29. Attached are the Reports from the Engineer for Water Supply and the Engineer for Sewerage, with diagrams, also the balance sheet.

REGINALD BLOXSOME,  
Secretary.  
March 11, 1891.

THOS. ROWE,  
President.

APPENDIX.  
ANALYSIS OF ACCOUNTS.  
WATER SUPPLY TABLE.

Year.	Average Daily Supply.	Total Supply for Year.	Number of Houses supplied.	Estimated Population supplied.	Average Daily Supply during year.		Mains.	
					Per House.	Per Head of Estimated Population.	Mains laid.	Mains cleaned.
1888	Gallons, 8,144,169	Gallons, 2,072,621,623	61,718	206,246	Gallons, 132	Gallons, 27 49	miles yds. 53 893	miles yds. 4 369
1889	8,320,000	3,219,244,160	67,924	326,035	120	27 05	86 1,468	16 907
1890	8,486,034	8,097,462,486	71,501	348,204	118	24 70	75 866	7 278

WATER RATES.

Year.	Gross Water Rates.	Cancelled.	Net Revenue.	Gross Receipts paid to Treasury.	Less Refunds, &c, by Treasury.	Net Receipts paid to Treasury.	Amount Outstanding.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1888	125,762 3 0	276 4 0	125,485 19 0	90,089 9 11	957 14 6	89,131 15 5	40,791 2 6
1889	141,531 3 0	2,007 4 9	138,923 18 3	147,016 0 1	1,105 6 9	145,039 13 4	34,672 3 2
1890	140,316 0 2	3,325 10 10	145,090 9 4	168,949 17 0	60 11 1	188,889 5 11	24,691 7 0

MAINTENANCE.

MANAGEMENT.

Year.	Maintenance of Mains, &c.	Wages and Expenses.	Coals.	Rents.	Total Maintenance.	President and Board fees.	Salaries.	Stationery and Printing.	Advertising and Incidental.	Total Management.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1888	677 17 2	7,076 13 3	901 14 6	767 4 8	10,029 11 6	1,263 10 3	4,099 13 10	1,303 7 1	523 6 4	9,182 2 6
1889	3,289 3 2	13,830 5 10	1,489 13 10	1,750 10 0	20,356 12 10	1,708 12 6	12,146 15 8	933 0 11	1,103 13 7	16,182 11 8
1890	3,676 3 1	13,036 0 4	2,272 11 11	960 16 9	20,546 1 1	1,242 10 0	10,912 0 2	965 6 9	1,122 12 0	14,242 8 11

GENERAL SUMMARY.

Year.	Revenue.	Total Maintenance.	Total Management.	Total Maintenance and Management.	Interest.		Total Interest.	Depreciation.	Total Expenses.
					On Loan Capital.	On Debentures.			
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1888	125,485 19 0	10,023 11 6	9,182 2 6	19,205 14 0	59,976 7 3	4,300 0 0	64,276 7 3	.....	83,482 1 3
1889	138,923 18 3	20,386 12 10	16,182 11 8	36,568 4 6	101,477 5 5	4,150 0 0	105,627 5 5	2,446 8 8	144,641 18 7
1890	145,090 9 4	20,546 1 1	14,212 8 11	34,788 10 0	105,099 19 9	4,000 0 0	109,099 19 9	3,421 15 2	147,310 4 11

SEWERAGE TABLE.

Year.	Number of Houses Sewered.	Estimated Population served.	Now Sewers.	Storm-water Drains.	Existing City Sewers.	Total Length of Sewers.	Ventilating Shafts Erected.	Sewers Ventilated.
1890	22,765	109,272	Miles. 49.48	Miles. 2.86	Miles. 70.27	Miles. 122.61	Feet. 12,639	Miles. 14.5

SEWERAGE RATES.

Year.	Gross Sewerage Rates.	Cancelled.	Net Revenue.	Gross Receipts paid to Treasury.	Less Refund by Treasury.	Net Receipts paid to Treasury.	Amount Outstanding.
1890	£ s. d. 83,291 9 7	£ s. d. 3,491 13 7	£ s. d. 81,799 11 0	£ s. d. 74,180 6 7	£ s. d. 48 5 10	£ s. d. 74,132 0 9	£ s. d. 7,619 4 5

MAINTENANCE.

MANAGEMENT.

Year.	Maintenance of Sewers.	Wages and Expenses.	Sewage Farm Maintenance.	Rents.	Total Maintenance.	President and Board Fees.	Salaries.	Stationery and Printing.	Advertising and Incidentals.	Total Management.
890	£ s. d. 427 16 0	£ s. d. 8,238 13 3	£ s. d. 1,097 0 10	£ s. d. 1,041 13 4	£ s. d. 11,450 8 5	£ s. d. 1,427 2 6	£ s. d. 7,796 17 0	£ s. d. 1,110 6 3	£ s. d. 464 19 7	£ s. d. 10,799 5 4

GENERAL SUMMARY.

Year.	Revenue.	Total Maintenance.	Total Management.	Total Maintenance and Management.	Interest.		Total Interest.	Depreciation.	Total Expenses.
					On Loan Capital.	On Debentures.			
1890	£ s. d. 81,799 11 0	£ s. d. 11,450 8 5	£ s. d. 10,799 5 4	£ s. d. 22,249 13 9	£ s. d. 36,141 10 1	£ s. d. 8,635 0 0	£ s. d. 44,776 10 1	.....	£ s. d. 67,026 3 10

GOVERNMENT LABORATORY, SYDNEY.

RESULTS of Analyses of Potable and Polluted Waters; by WILLIAM M. HAMLET, Government Analyst.

Date.	Mark or Number of Sample.	Description.	Expressed in Grains per Gallon.				Expressed in Parts per Million.				Dissolved Gases. Expressed in Cubic Centimeters per Litre.				Hardness.		Examination for Organisms.	Appearance in the standard 2 foot Tube	Poisonous Metals	General observations on character of water.
			Total Solid Residue, dried at 110°	Chlorine as Chlorides.	Nitrogen as Nitrates and Nitrites	Phosphates from animal impurity.	Free Ammonia.	Albuminoid Ammonia.	Oxygen absorbed in 15 min.	Oxygen absorbed in 3 hours.	Free Oxygen.	Free Nitrogen.	Carbon Dioxide.	Degree of Aeration.	Before Boiling.	After Boiling.				
1890.																				
25 April	1519	SYDNEY WATER SUPPLY— Sample taken from fountain at No. 5 platform, Redfern Railway Station.	6.51	2.3	Traces	None	None	.08	.43	.88	5.70	9.98	1.26	17	4	3.5	..	Clear greenish, yellow tint.	None	An excellent water, suitable alike for drinking, washing, and all other domestic purposes.
10 July	3	Crown-street Reservoir (sample taken on the 2nd July, 11.30 a.m.)	7.7	2.3	None	do	.05	.01	.43	.88	7.1	13.14	1.32	21½	5	3½	Present	Clear	do	This water maintains its reputation, the analysis clearly indicating a safe, wholesome water, suitable for drinking and all other domestic purposes.
"	"	Randwick fountain (sample taken on the 2nd July, at 10.30 a.m.)	6.65	2.3	do	do	None	.06	.36	.61	7.12	13.14	1.30	21½	5	3½	do	do	do	This analysis embodies the Wanklyn ammonia process, also the oxygen process, used in the analysis of the supply to the City of London, together with a microscopic examination. The combined results corroborate each other, and enable me to say that the water is wholesome, and suitable for drinking purposes.
12 Aug.	1742	Crown-street Reservoir	6.37	2.3	Trace	None	.04	.10	.45	.92	5.57	14.05	1.23	21.80	4.0	3.0	do	do	do	There has been a gradual but perceptible improvement in the quality of the water supplied to the City of Sydney. At the present time it is equally as good as was the old Botany supply in its best days. Fully one-half of the oxygen consumed is due to the water having dissolved peaty matter from the catchment area. Making due allowance for this, the water would fall under Class II by the best English authorities— that is to say, it would be regarded as a safe and wholesome drinking water.
"	1743	Waverley do	6.08	2.1	do	do	.00	.06	.32	.65	5.35	13.00	1.20	20.45	4.0	3.6	do	do	do	
"	1744	Basin, head of canal	6.16	2.3	None	do	.05	.07	.25	.60	4.76	14.68	1.26	20.01	4.0	3.4	do	Clear and bright.	do	
"	1747	Prospect Reservoir	6.16	2.3	do	do	.05	.07	.35	.80	4.52	15.27	1.22	21.01	4.0	3.1	do	do	do	
"	"	Macquarie-street Old Botany supply	6.01	2.7	do	do	.02	.03	.30	.62	6.87	13.10	1.25	21.22	4.0	3.0	do	do	do	
17 Sept.	"	Crown-street Reservoir	6.28	2.3	Trace	do	.01	.08	.29	.71	"	"	"	"	4.0	2.8	Present	do	do	Upon comparison with two typical waters, such, for instance, as those supplied to the City of London by the Kent and Lambeth Companies, it will be seen that the Sydney supply takes a high position as a potable water, and is therefore admirably suited to the requirements of a large city.
"	"	Waverley do	6.23	2.3	do	do	None	.04	.28	.73	"	"	"	"	4.0	3.0	do	do	do	
"	"	Basin, head of canal	6.02	2.3	do	do	.04	.08	.31	.67	"	"	"	"	4.0	3.1	do	do	do	
"	"	Prospect Reservoir	6.80	2.3	do	do	.02	.14	.32	.75	"	"	"	"	4.0	3.0	do	do	do	
"	"	COMPARISON ANALYSIS— Kent Company, London	25.06	1.4	.350	do	None	.03	.30	.75	"	"	"	"	19.0	6.0	do	do	do	
"	"	Lambeth Company, London	20.27	0.9	.150	do	do	.10	.32	.96	"	"	"	"	13.0	3.0	do	do	do	
7 Oct.	"	SYDNEY WATER SUPPLY— Crown-street Reservoir	6.16	2.4	Trace	do	.01	.09	.30	.77	"	"	"	"	"	"	do	do	do	Last month I compared the quality of the Sydney Water Supply with that of the City of London, the result being that the new Nepean supply was admirably suited for all domestic purposes. On this occasion I append an analysis of the New York Water Supply (Croton Water System). The results show that the Sydney supply is decidedly superior in quality to that served to the inhabitants of New York.
"	"	Waverley do	5.88	2.4	do	do	None	.06	.20	.51	"	"	"	"	"	"	do	do	do	
"	"	Basin, head of canal	6.16	2.4	do	do	.04	.06	.29	.75	"	"	"	"	"	"	do	do	do	
"	"	Prospect Reservoir	6.16	2.4	do	do	.03	.07	.29	.78	"	"	"	"	"	"	do	do	do	
"	"	CROTON WATER SYSTEM, NEW YORK	5.75	2.5	.41	do	0.16	0.63	1.50	2.30	not given	"	"	"	"	"	do	do	do	
11 Nov.	3	SYDNEY WATER SUPPLY— Crown-street Reservoir	6.44	2.4	Traces	None	None	.08	.32	.65	"	"	"	"	"	"	"	do	do	Compared with the previous month's analysis, the organic impurity is somewhat above the normal, but the amount is not greater than what is sometimes found in good water. The excess in the case of the Randwick sample is doubtless due to matters in suspension, and may be largely removed by filtration.
"	4	Fountain at Addison-road, Randwick	6.26	2.4	do	do	.04	.18	.46	.91	"	"	"	"	"	"	suspended matters.	do	do	
"	"	Basin, head of canal	6.58	2.4	do	do	.02	.08	.31	.80	"	"	"	"	"	"	Clear	do	do	
"	"	Prospect Reservoir	6.30	2.4	do	do	.04	.10	.36	.85	"	"	"	"	"	"	do	do	do	
17 Dec.	"	Crown street Reservoir	6.44	2.4	do	do	None	.04	.32	.85	"	"	"	"	"	"	Clear	Slightly peaty	do	The quality of the water supplied to the City of Sydney, as shown by the analysis of the above samples is thoroughly satisfactory. The water may be regarded as quite suitable for drinking, and for all household purposes.
"	"	Fountain, Addison-road, Randwick	6.50	2.4	do	do	do	.03	.26	.65	"	"	"	"	"	"	"	do	do	
"	"	Prospect Reservoir, near inlet	6.20	2.4	do	do	.05	.05	.30	.75	"	"	"	"	"	"	"	do	do	
"	"	Basin, head of canal, Prospect	6.30	2.4	do	do	.02	.08	.30	.78	"	"	"	"	"	"	"	do	do	

\* Mean of periodical analysis made between 1883 and 1886.



METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE—BALANCE-SHEET, WATER SUPPLY, 31ST DECEMBER, 1890.

DR.	£ s. d.	£ s. d.	CR.	£ s. d.	£ s. d.
To amount advanced by Treasury Loans to May 25th, 1888 .....	2,076,313 0 0		By Metropolitan Water Supply Works—amount expended to 25th May, 1888, from Loans by New South Wales Government. ....		2,499,970 0 0
Interest.....	423,657 0 0	2,499,970 0 0	Lands.....	144,554 10 8	
To Amount advanced by Treasury Loan 52 V. 17 .....	150,000 0 0		Reservoirs.....	47,561 10 1	
Colonial Treasurer's Advance Account .....	78,442 10 0	228,442 10 0	Mains.....	241,453 18 8	
To City Council Water Fund.....		380,667 16 11	Buildings.....	16,127 8 9	
Colonial Treasurer—advance on account of Summons Fees .....		297 14 8	Machinery.....	28,288 2 5	
Debentures .....		80,000 0 0	Working plant and tools .....	3,089 19 4	
Outstanding Accounts due to contractors .....	22,423 13 10		New mains.....	£183,402 0 7	
Rates overpaid.....	1,696 12 7	24,120 6 5	"    Campbelltown.....	4,352 16 1	
To Amounts due contractors for deposits on contracts .....		620 0 0	"    Liverpool.....	78 9 3	
Balance as per Revenue Account.....		34,966 1 10	Sundry works.....	496 16 4	
			Meter and tap-testing account.....	308 10 0	
			Stores.....	31,729 4 3	
			New offices .....	378 16 7	
			Furniture .....	1,805 6 6	
					703,627 9 6
			By Rates and accounts outstanding .....	24,691 7 0	
				2,067 8 6	
					26,758 15 6.
			By Summons fees .....		
			E. S. and A. C. Bank; amount at credit of contractor's deposits .....		210 6 7
			A. J. S. Bank, credit balance Summons Fees Advance Account .....		620 0 0
			Colonial Treasurer, Balance Cash Account .....	15,306 18 6	87 8 1
			"    "    1890 Vote .....	1,388 17 10	
			"    "    Loans Trust Account .....	1,113 12 10	
			"    "    Trust Account, Wages .....	1 1 0	
					17,810 10 2
		£ 3,249,084 9 10			£ 3,249,084 9 10

10

Sydney, 2nd February, 1891.

MELBE GREEN,  
Accountant.

METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE—"SEWERAGE" REVENUE ACCOUNT FOR THE YEAR ENDING 31ST DECEMBER, 1890.

REVENUE.	£ s. d.	£ s. d.	EXPENDITURE.	£ s. d.	£ s. d.
To Sewerage rates arrears.....	10,519 13 10		<i>Maintenance.</i>		
"    "    1890.....	65,138 13 8		By Working expenses and charges.....	411 17 8	
New sewers.....	3,086 10 2		Repairs to sewers.....	427 16 0	
New services.....	5,106 4 0		Rent.....	1,041 13 4	
Drainers' licenses.....	152 0 0		Wages.....	7,872 0 7	
Sale of plans.....	1,033 0 0		Sewerage farm maintenance.....	1,697 0 10	11,450 8 5
"    farm produce.....	198 0 1				
"    labels.....	17 7 10		<i>Management.</i>		
Miscellaneous receipts.....	40 0 0		By President's salary and Board fees.....	1,427 2 6	
	85,291 9 7		Salaries.....	7,796 17 0	
Less—			Stationery and printing.....	1,110 6 3	
Rates cancelled.....	3,491 18 7	81,799 11 0	Advertising, incidental expenses, &c.....	464 19 7	10,799 5 4
			By Interest on—		
			£ s. d.		
			City Council Debentures... 88,000 0 0—12 months at 6 %	5,280 0 0	
			"    "    "    38,000 0 0—12 "    5 %	1,900 0 0	
			Redfern "    "    30,000 0 0—12 "    4 %	1,200 0 0	
			Darlington "    "    3,000 0 0—11 "    6 %	165 0 0	
			"    "    "    2,000 0 0—9 "    6 %	90 0 0	
			161,000 0 0		
			Loans, 43 V. 11..... 400,000 0 0—12 months at 4 %	16,000 0 0	
			"    46 V. 23..... 100,000 0 0—12 "    3½ %	3,500 0 0	
			"    48 V. 26..... 20,000 0 0—12 "    3½ %	700 0 0	
			"    50 V. 28..... 250,000 0 0—12 "    3½ %	8,750 0 0	
			"    52 V. 17..... 31,432 7 2—12 "    3½ %	1,110 2 5	
			801,432 7 2		
			Loans, 50 V. 28..... 2,590 6 0 )		
			"    52 V. 17..... 2,437 4 10 ) 12 months at 3½ %	274 3 9	
			"    53 V. 23..... 2,806 3 6 )		
			7,833 14 4		
			Union Bank overdraft..... 122,974 13 1—1 Jan. to 2 Sept.	4,135 12 3	
			"    "    "    127,110 5 4—2 Sept. to 31 Dec.	1,671 11 8	44,776 10 1
			By Balance.....		14,773 7 2
	£	81,799 11 0		£	81,799 11 0

Sydney, 2nd February, 1891.

MELBE. GREEN,  
Accountant.



Sir,

Assessors Department, 28 January, 1881.

I have the honor to submit to the Board a report of the progress made in the work of this Branch during the year 1890.

*Rate Notices.*

During the year 155,036 rate notices were served, being an increase of 23,381 as against the number served during 1889—and this increase in the number of notices has consequently necessitated a wide additional area being traversed in order to serve them.

*New Mains and New Sewers.*

The number of properties which became liable from new mains and new sewers during the year is 7,681, and as the majority of these have been laid or constructed in parts that were not previously liable for rates, they have to a like extent increased the area of the districts controlled by the officers of this Department.

*New Assessments.*

The number of new buildings which have been erected during the year, and which on completion were assessed and rated by this Department, is 2,698. The work of assessing these new buildings has been admirably done by our own officers and given almost universal satisfaction to the public, notwithstanding that in many instances the assessments made by us have exceeded those fixed by the Municipal authorities, copies of which assessments we have just received.

*Recovery of Rates.*

The experiment made in August and September of sending a cashier to several of the suburban Council Chambers for the purpose of receiving rates did not altogether meet with the success that might have been expected, but nevertheless the opportunity given was availed of by a large number of ratepayers; and no doubt, since the Board have decided upon making another trial during the present half-year, the ratepayers will more fully realise the advantage thus offered to them and appreciate it accordingly.

That the public are becoming aware of the fact that when final notices are served stating that the rates must be paid by a certain date or proceedings will ensue, is evident by the manner in which the rates have been paid on the service of these notices. Still, in the face of this, it is noticeable that in many instances the same persons have to be summoned each year before they will pay their rates.

It is gratifying, however, that notwithstanding the increase of 11,734 additional rates having to be collected, and also the general depression experienced in all trades, to find that the amount outstanding shows a decrease of £9,995 13s. 3d. in the water rates as compared with 1889, and also a decrease of £2,909 4s. 11d. in the sewerage rates, as compared with the amount handed over to the Department by the Municipal Councils on the 1st January, 1890.

*Special Fees.*

The number of applications for the use of water for other than domestic purposes have considerably increased during the year, and the charging of a special fee for using water for gardens in lieu of having to fix a meter, has been largely availed of by the public.

HERBT. J. BEAUMONT,

Assessor.

The Secretary, Board of Water Supply and Sewerage, Sydney.

The number of premises rated and supplied with water on 31 December, 1890:—

	Properties Rated.	Properties Supplied.
City and Suburbs	72,688	71,384
Campbelltown	196	117
	<u>72,884</u>	<u>71,501</u>

City and Suburbs.	1890.								1889.					1890.				
	No. of Properties liable, 1st January, 1890.		New Houses on old Mains or Sewers becoming liable during year.		Properties becoming liable through		Total No. of Properties liable, 31st December, 1890.		No of Final Notices issued.	Summonses issued.		Amount outstanding on 31st December, 1889.		No. of Final Notices issued.	Summonses issued.		Amount outstanding on 31st December, 1890.	
	Water.	Sewerage.	Water.	Sewerage.	New Mains.	New Sewers.	Water.	Sewerage.		District Court.	Small Debts Court.	Water.	Sewerage.		District Court.	Small Debts Court.	Water.	Sewerage.
Bourke Ward	1,144	1,084	17	52	...	...	1,161	1,136	230	21	37	£ 3,790 7 5	£ 1,604 18 6	400	65	34	£ 2,170 13 5	£ 982 5 11
Brisbane Ward	1,291	1,240	38	68	...	...	1,329	1,328	400	20	103	2,136 3 7	1,202 8 4	552	35	56	2,368 3 10	827 12 5
Cook Ward	5,677	5,610	101	165	...	...	5,778	5,775	1,050	...	110	1,932 5 6	913 9 3	1,700	23	427	870 11 2	643 9 5
Denison Ward	4,082	3,118	92	325	...	1	4,174	3,444	975	10	177	5,365 0 9	1,294 18 6	1,300	42	196	3,321 5 5	1,005 16 5
Fitzroy Ward	3,551	3,229	49	129	...	5	3,600	3,363	1,000	...	98	1,018 11 10	890 19 10	1,200	18	274	877 9 0	238 3 9
Gipps Ward	1,812	1,627	47	85	...	...	1,859	1,712	190	2	20	1,940 16 9	468 11 6	756	25	131	1,057 13 6	218 6 10
Macquarie Ward	1,856	1,812	37	68	...	...	1,893	1,880	450	21	56	1,930 14 2	1,805 10 8	450	40	52	1,857 13 8	1,616 0 8
Phillip Ward	2,343	2,217	42	105	...	...	2,385	2,322	600	3	120	1,137 9 6	859 15 6	926	33	222	1,024 12 0	562 13 1
Alexandria	1,545	...	41	...	17	...	1,603	...	300	...	16	301 12 8	...	530	...	70	272 12 7	...
Ashfield	2,030	...	88	...	120	...	2,238	...	185	...	68	605 13 7	...	400	1	58	567 1 10	...
Balmain	5,026	...	124	...	37	...	5,187	...	900	...	23	1,256 11 9	...	1,484	5	262	733 18 4	...
Burwood	1,092	...	61	...	89	...	1,242	...	250	...	80	368 17 5	...	350	1	101	254 3 5	...
Camperdown	1,321	...	48	...	10	...	1,369	10	600	...	110	161 10 9	...	500	1	90	192 16 9	224 11 8
Campbelltown	92	...	3	...	101	...	196	...	...	...	...	38 7 1	...	62	...	10	65 16 7	...
Canterbury	6	...	20	...	173	...	199	...	...	...	...	24 2 9	...	...	...	...	47 11 7	...
Concord	136	...	33	...	86	...	255	...	70	...	15	94 19 7	...	110	...	25	212 8 1	...
Darlington	701	700	14	16	...	...	715	716	120	...	43	43 18 9	...	86	...	14	50 2 3	35 6 8
Drummoyne	...	...	49	...	132	...	181	...	...	...	...	...	...	...	...	...	25 14 1	...
Enfield	56	...	26	...	92	...	174	...	20	...	1	16 0 10	...	30	...	6	28 16 2	...
Five Dock	10	...	...	...	11	...	21	...	...	...	...	4 10 8	...	...	...	...	20 12 10	...
Glebe	3,422	...	38	...	...	...	3,460	...	600	...	136	1,154 7 7	...	822	1	176	1,136 3 8	...
Granville	96	...	65	...	433	...	594	...	10	...	...	25 13 10	...	124	...	44	98 7 9	...
Guildford	7	...	6	...	...	...	13	...	...	...	...	7 19 5	...	10	...	2	16 12 8	...
Homebush	3	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	0 19 0	...
Hurstville	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Islands	3	...	16	...	...	...	19	...	...	...	...	...	...	...	...	...	16 13 4	...
Kogarah	10	...	32	...	177	...	219	...	...	...	...	...	...	...	...	...	35 11 3	...
Leichhardt	3,348	...	208	...	72	...	3,628	...	450	...	94	1,074 18 5	...	1,060	4	256	604 19 1	...
Macdonaldtown	1,153	...	14	...	...	...	1,167	...	200	...	23	174 17 7	...	264	...	26	169 14 9	...
Marrickville	2,445	...	148	...	42	...	2,635	...	200	...	...	732 19 9	...	500	3	74	735 14 3	...
Newtown	3,822	...	156	...	...	...	3,978	...	600	...	114	702 19 5	...	1,100	3	185	412 9 9	...
North Botany	1	3	...	...	...	...	1	3	...	...	...	...	...	...	...	...	7 13 0	8 17 4
North Sydney	2,435	...	206	...	406	...	3,047	...	530	...	100	454 5 10	...	779	1	155	485 13 0	...
Paddington	3,700	4	87	103	3	3,100	3,790	3,207	650	3	196	641 2 7	7 4 6	960	3	248	761 17 5	582 0 1
Petersham	1,989	...	128	...	58	...	2,175	...	530	...	83	336 6 7	...	820	3	154	275 3 9	...
Prospect and Sherwood	23	...	3	...	...	...	26	...	...	...	...	7 12 6	...	6	...	3	2 0 3	...
Randwick	830	...	69	...	25	...	924	...	200	...	19	709 14 11	...	288	5	68	513 3 10	...
Redfern	4,167	1,615	146	213	...	991	4,313	2,819	800	...	280	4,733 7 0	1,471 17 3	924	6	191	1,700 19 3	325 8 3
Rockdale	101	...	88	...	162	...	351	...	3	...	...	10 5 9	...	...	...	...	118 5 10	...
St. Peter's	1,109	...	28	...	12	...	1,149	...	50	...	16	123 0 11	...	250	1	48	86 3 9	...
Strathfield	233	...	35	...	26	...	294	...	50	...	7	78 13 0	...	120	1	25	56 1 11	...
Waterloo	1,833	...	50	2	...	397	1,883	399	250	...	70	316 12 10	...	375	1	43	430 12 0	137 10 2
Waverley	1,597	...	107	...	8	...	1,712	...	600	1	81	559 11 2	...	544	3	134	389 17 7	...
Woollahra	1,730	...	137	4	76	819	1,943	823	650	1	118	656 13 0	...	468	3	73	598 9 9	202 6 3
Totals	67,828	22,259	2,698	1,355	2,358	5,323	72,884	28,937	13,713	82	2,423	34,668 16 7	10,519 13 10	20,250	327	3,933	24,673 3 4	7,610 8 11

City and Suburbs.	STOCK.						GARDENS.					
	1889.			1890.			1889.			1890.		
	No. of Stock Registered.	Amount of Fees Paid for the Year.	Amount Outstanding on 31st December, 1889.	No. of Stock Registered.	Amount of Fees Paid for the Year.	Amount Outstanding on 31st December, 1890.	No. of Gardens Registered.	Amount of Fees Paid for the Year.	Amount Outstanding on 31st December, 1889.	No. of Gardens Registered.	Amount of Fees Paid for the Year.	Amount Outstanding on 31st December, 1890.
Bourke Ward	29	£ s. d. 9 2 6	£ s. d. .....	28	£ s. d. 7 12 6	£ s. d. .....	4	£ s. d. 1 2 6	£ s. d. .....	7	£ s. d. 4 10 0	£ s. d. .....
Brisbane Ward	88	24 17 6	0 8 0	65	17 12 6	0 10 0	.....	.....	.....	1	0 10 0	.....
Cook Ward	419	114 0 0	20 5 0	546	143 17 6	0 10 0	1	0 5 0	0 2 6	4	4 17 6	.....
Denison Ward	161	48 7 6	9 15 0	364	102 15 0	.....	1	1 0 0	.....	2	1 10 0	.....
Fitzroy Ward	240	69 12 6	3 5 0	269	71 17 6	0 10 0	23	8 2 6	0 10 0	36	19 0 0	2 10 0
Gipps Ward	47	14 0 0	0 15 0	50	13 10 0	.....	.....	.....	.....	1	0 5 0	.....
Macquarie Ward	77	21 10 0	0 10 0	117	28 12 6	0 5 0	.....	.....	.....	3	1 5 0	0 5 0
Phillip Ward	58	18 5 0	2 0 0	216	60 17 6	.....	1	0 10 0	.....	2	0 15 0	.....
Alexandria	150	43 15 0	0 5 0	154	36 15 0	.....	.....	.....	.....	2	0 10 0	.....
Ashfield	74	18 5 0	3 5 0	86	25 0 0	.....	41	24 10 0	1 15 0	63	41 2 6	15 10 0
Balnain	325	86 10 0	16 5 0	299	89 2 6	0 15 0	25	8 10 0	1 0 0	38	24 5 0	2 15 0
Burwood	64	18 17 6	0 5 0	81	21 10 0	.....	17	7 0 0	.....	24	15 5 0	1 15 0
Camperdown	120	29 12 6	1 5 0	216	67 7 6	.....	2	1 0 0	.....	7	3 0 0	.....
Campbelltown	.....	.....	.....	1	0 5 0	.....	.....	.....	.....	.....	.....	.....
Canterbury	.....	.....	.....	1	0 2 6	0 2 6	.....	.....	.....	.....	.....	.....
Concord	.....	.....	.....	16	3 7 6	.....	1	0 15 0	.....	2	1 5 0	.....
Darlington	.....	.....	.....	84	24 15 0	.....	.....	.....	.....	.....	.....	.....
Drummoyne	106	31 2 6	1 5 0	.....	.....	.....	.....	.....	.....	2	1 0 0	.....
Enfield	.....	.....	.....	3	0 7 6	.....	.....	.....	.....	1	0 10 0	.....
Five Dock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glebe	372	126 6 6	29 7 6	367	121 15 0	1 10 0	23	7 12 6	2 10 0	35	21 10 0	1 5 0
Granville	5	2 10 0	.....	16	5 2 6	.....	.....	.....	.....	3	0 15 0	.....
Guildford	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Homebush	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hurstville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kogarah	.....	.....	.....	13	2 0 0	.....	.....	.....	.....	4	4 17 6	.....
Leichhardt	377	95 10 0	1 5 0	372	93 0 0	7 5 0	19	8 0 0	.....	40	10 10 0	.....
Macdonaldtown	81	24 7 6	.....	60	15 5 0	0 5 0	2	0 15 0	.....	2	1 10 0	3 15 0
Marrickville	165	46 5 0	0 15 0	177	44 10 0	0 15 0	24	9 12 6	0 10 0	49	31 2 6	3 0 0
Newtown	363	99 12 6	0 5 0	355	91 7 6	0 5 0	13	5 12 6	.....	20	15 15 0	1 10 0
North Botany	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
North Sydney	78	18 15 0	2 15 0	70	21 7 6	.....	34	12 2 6	1 5 0	67	36 12 6	5 10 0
Paddington	253	112 15 0	5 0 0	355	93 15 0	0 15 0	22	8 10 0	0 5 0	26	14 17 6	4 15 0
Petersham	101	28 15 0	0 5 0	124	35 17 6	0 5 0	32	16 12 6	.....	68	46 7 6	4 15 0
Prospect and Sherwood	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Randwick	54	17 10 0	3 0 0	109	30 5 0	.....	10	5 17 6	.....	35	20 2 6	4 10 0
Redfern	320	91 7 6	14 0 0	291	105 10 0	1 10 0	7	3 5 0	.....	11	5 15 0	0 10 0
Rockdale	1	0 2 6	.....	1	0 2 6	.....	.....	.....	.....	7	3 10 0	.....
St. Peter's	106	32 7 6	.....	109	26 10 0	0 5 0	2	0 15 0	.....	3	1 15 0	.....
Strathfield	3	0 17 6	.....	11	3 5 0	.....	4	1 5 0	.....	9	6 7 6	0 5 0
Waterloo	266	75 5 0	3 10 0	253	65 12 6	0 15 0	5	1 7 6	.....	7	3 0 0	.....
Waverley	166	48 7 6	5 10 0	116	51 7 6	1 0 0	36	13 0 0	1 0 0	61	40 15 0	6 10 0
Woollahra	220	67 10 0	7 10 0	246	64 12 6	1 0 0	64	31 2 6	0 10 0	97	59 12 6	16 0 0
Totals	4,889	1,436 1 6	132 7 6	5,636	1,586 12 6	18 2 6	413	178 5 0	9 7 6	739	444 5 0	75 0 0

HERBERT J. BEAUMONT,  
Assessor.

City and Suburb <sup>g</sup>	1889.		1890.		Number of Notices delivered during 1890.						
	Number of Prosecutions.	Amount of Fines inflicted.	Number of Prosecutions.	Amount of Fines inflicted.	Water and Sewerage Rates.	New Houses on Old Mains and Sewers.	New Mains, including notices to connect.	New Sewers, including notices to connect.	Second Notices to connect with Sewers.	Number of Final Notices issued.	Total.
		£ s. d.		£ s. d.							
Bourke Ward	1	0 10 0	1		2,288	69				400	2,757
Brisbane Ward	10	1 7 6	7	2 0 0	2,582	126				552	3,260
Cook Ward	14	5 10 0	13	2 15 0	11,354	266				1,709	13,320
Denison Ward	4	2 0 0	34	6 0 0	8,164	417		2	1	1,300	9,884
Fitzroy Ward	15	6 2 6	14	1 0 0	7,102	178		10	2	1,200	8,492
Gipps Ward	3	1 0 0	3		3,624	132				756	4,512
Macquarie Ward	18	9 10 0	10	2 10 0	3,712	105				450	4,267
Phillip Ward	2	1 10 0			4,686	147				926	5,759
Alexandria		0 10 0	21	1 10 0	3,090	41	34			530	3,695
Ashfield	3	0 10 0	11	6 5 0	4,060	88	193			400	4,741
Balmain	13	5 10 0	12	1 15 0	10,052	124	68			1,484	11,728
Burwood	8	5 10 0	7		2,184	61	91			350	2,686
Camperdown			10	1 10 0	2,642	48		10		500	3,200
Campbelltown					184	3	166			62	435
Canterbury					12	20	340				372
Concord					272	33	86			110	501
Darlington	3	1 0 0	3		1,402	30				86	1,518
Drummoyne						49	229				278
Enfield					112	26	92			30	260
Five Dock					10		11				21
Glebe			23	7 0 0	6,844	38				822	7,704
Granville					192	65	707			124	1,088
Guildford					14	6				10	30
Homebush					3						3
Hurstville	1					1					1
Islands					3	16					19
Kogarah					20	32	352				404
Leichhardt	5	1 2 6	39	7 15 0	6,696	208	72			1,060	8,036
Macedonaldtown	1		1	0 5 0	2,306	14				264	2,584
Marrickville	16	6 0 0	6	2 0 0	4,890	148	78			500	5,616
Newtown	15	7 0 0	24	3 15 0	7,644	156				1,100	8,900
North Botany					4						4
North Sydney	3	1 0 0	4		4,870	206	435			779	6,290
Paddington	24	3 0 0	22	5 10 0	7,400	190	3	6,232	575	960	15,360
Petersham	8	4 5 0	8	1 0 0	3,878	128	70			820	4,896
Prospect and Sherwood					46	3				6	55
Randwick	1	0 7 6	13	3 0 0	1,660	69	25			288	2,042
Redfern	12	3 10 0	43	8 5 0	8,234	359		1,980	785	924	12,282
Rockdale			3	2 0 0	202	88	256				546
St. Peter's	4	2 0 0	3	0 10 0	2,218	28	12			250	2,508
Strathfield			1		466	35	24			120	645
Waterloo	10	6 0 0	6	0 15 0	3,666	52		792		375	4,885
Waverley	2	0 7 6	18	4 0 0	3,194	107	8			544	3,853
Woollahra	10	4 7 6	6	4 5 0	3,460	141	150	1,630		468	5,849
Robertson			3	3 2 0							
Totals	206	79 10 0	369	78 7 0	135,442	4,053	3,522	10,656	1,363	20,250	175,286

HERBERT J. BEAUMONT,  
Assessor.

SUMMARY of Rates, Fees, &c., for Water.

Ward or Borough.	No. of Properties Liabile.	Water Rates.		Meter Accounts.		New Mains.		House Supply.		Stock.		Gardens.		Special Fees.		Revenue for 1890.		Less Rates Cancelled or Removed.		Net Revenue.		Arrears from previous years.		Total Water Rates receivable to 31st December, 1890.	
		£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Bourke Ward.....	1,161	9,081	2 2	4,015	2 3	.....	99	16 8	7	12 6	4	10 0	14	16 8	13,222	0 3	469	14 0	12,752	6 3	3,790	7 5	16,542	13 8	
Brisbane Ward.....	1,329	6,680	4 5	2,634	15 3	.....	117	8 6	18	2 6	0	10 0	20	8 4	9,471	9 0	206	15 4	9,264	13 8	2,136	3 7	11,400	17 3	
Cook Ward.....	5,778	7,398	8 10	1,945	17 2	.....	65	0 6	144	7 6	4	17 6	1	15 0	9,560	6 6	88	6 2	9,472	0 4	1,932	5 6	11,404	5 10	
Denison Ward.....	4,174	6,495	14 0	7,739	19 10	.....	85	4 7	102	15 0	1	10 0	7	15 0	4,432	18 5	486	17 11	13,946	0 6	5,365	0 9	19,311	1 3	
Fitzroy Ward.....	3,600	6,176	15 4	1,236	6 4	.....	30	4 6	72	7 6	21	10 0	2	2 6	7,589	6 2	76	6 3	7,462	19 11	1,918	11 0	8,481	10 11	
Gipps Ward.....	1,859	4,146	14 1	2,484	16 3	.....	30	6 5	13	10 0	0	5 0	2	10 0	6,678	1 9	120	18 6	6,557	3 3	1,940	16 9	8,498	0 0	
Macquarie Ward.....	1,893	7,342	11 6	1,362	6 4	.....	84	14 9	28	17 6	1	10 0	5	0 0	8,825	0 1	197	7 3	8,627	12 10	1,930	14 2	10,559	7 0	
Phillip Ward.....	2,385	3,808	12 8	858	9 6	.....	28	8 1	60	17 6	0	15 0	8	3 6	4,765	6 3	426	19 7	4,338	6 8	1,137	9 6	5,475	16 2	
Alexandria.....	1,603	1,193	4 1	77	16 7	2	6 10	9	14 0	36	15 0	0	10 0	3	7 6	1,323	14 0	48	11 8	1,275	2 4	301	12 8	1,576	15 0
Ashfield.....	2,238	2,959	1 2	101	2 6	42	5 2	40	5 11	25	0 0	56	12 6	2	15 0	3,227	2 3	69	3 2	3,167	19 1	605	13 7	3,773	12 8
Balmain.....	5,187	4,422	5 5	2,345	10 6	6	3 4	37	2 1	89	17 6	27	0 0	9	14 3	6,917	13 1	56	2 11	6,861	10 2	1,256	11 9	8,118	1 11
Burwood.....	1,242	1,796	10 2	94	8 0	22	13 3	26	6 1	21	10 0	17	0 0	1	10 0	1,979	17 6	40	2 1	1,939	15 5	368	17 5	2,308	12 10
Camperdown.....	1,869	1,242	6 3	70	18 7	.....	40	4 4	67	7 6	3	0 0	4	0 0	1,427	16 8	35	17 7	1,391	19 1	161	10 9	1,553	9 10	
Campbelltown.....	196	232	0 4	70	1 0	43	8 6	1	6 3	0	5 0	.....	.....	347	1 1	28	12 9	319	8 4	38	7 1	356	15 5		
Canterbury.....	199	38	2 2	4	19 0	30	7 11	5	19 1	0	5 0	.....	.....	79	13 2	8	10 10	71	2 4	24	2 9	95	5 1		
Concord.....	255	258	15 4	285	11 6	24	8 4	9	7 5	3	7 6	1	5 0	1	0 0	583	15 1	21	15 6	561	19 7	94	19 7	656	19 2
Darlington.....	715	689	0 3	139	9 3	.....	5	0 8	24	15 0	.....	.....	2	0 0	860	5 2	3	13 7	856	11 7	43	18 9	900	10 4	
Drummoyne.....	181	68	3 9	4	10 0	.....	9	10 0	.....	.....	1	0 0	0	15 0	83	18 9	0	12 9	83	6 0	.....	.....	83	6 0	
Enfield.....	174	105	8 7	0	18 0	23	14 10	9	7 5	0	7 6	0	10 0	140	6 4	5	4 8	135	1 8	16	0 10	151	2 6		
Five Dock.....	21	17	4 0	0	10 11	45	15 7	5	14 5	123	5 0	.....	.....	193	9 11	4	18 1	188	11 10	4	10 8	193	2 6		
Glebe.....	3,460	3,739	9 0	751	10 8	.....	31	7 5	5	2 6	22	15 0	2	0 0	4,552	4 7	34	10 11	4,517	13 8	1,154	7 7	5,672	1 3	
Granville.....	594	235	16 2	2	13 1	142	9 1	21	16 0	.....	.....	0	15 0	1	0 0	404	9 4	3	9 1	401	0 3	25	13 10	426	14 1
Guildford.....	13	12	4 4	0	16 6	.....	1	1 8	.....	.....	.....	.....	.....	14	2 6	.....	.....	14	2 6	.....	.....	7	19 5	22	1 11
Homebush.....	3	6	5 0	1	11 6	.....	.....	.....	.....	.....	.....	.....	.....	7	16 6	.....	.....	7	16 6	.....	.....	.....	.....	7	16 6
Hurstville.....	1	.....	.....	.....	.....	.....	0	1 7	.....	.....	.....	.....	.....	0	1 7	.....	.....	0	1 7	.....	.....	.....	.....	0	1 7
Islands.....	19	250	12 3	317	14 4	40	12 3	46	10 10	.....	.....	.....	.....	655	9 8	.....	.....	655	9 8	.....	.....	.....	.....	655	9 8
Kogarah.....	219	71	18 10	.....	.....	32	12 2	8	16 8	2	0 0	4	17 6	0	5 0	120	10 2	4	2 6	116	7 8	.....	.....	116	7 8
Leichhardt.....	3,628	2,865	12 1	444	2 7	16	18 10	47	16 9	100	5 0	10	10 0	2	17 6	3,498	2 9	117	1 1	3,371	1 8	1,074	18 5	4,446	0 1
Macdonaldtown.....	1,167	812	18 10	60	19 8	.....	4	3 6	15	10 0	5	5 0	.....	.....	893	17 0	7	7 8	891	9 4	174	17 7	1,066	6 11	
Murrickville.....	2,635	2,602	17 7	107	19 3	11	2 10	77	16 1	45	5 0	34	2 6	.....	.....	2,870	3 3	46	10 4	2,823	12 11	732	19 9	3,565	12 8
Newtown.....	3,978	3,957	12 7	166	9 8	.....	63	7 3	91	12 6	17	5 0	5	15 0	4,302	2 0	58	9 8	4,243	12 4	702	19 5	4,946	11 9	
North Botany.....	1	6	12 9	22	4 6	.....	.....	.....	.....	.....	.....	.....	.....	23	17 3	.....	.....	23	17 3	.....	.....	.....	.....	23	17 3
North Sydney.....	3,047	3,629	16 0	345	19 1	80	10 0	70	13 11	21	7 6	42	2 6	5	10 0	4,235	19 0	95	16 2	4,140	2 10	454	5 10	4,594	8 8
Paddington.....	3,790	4,338	12 3	812	1 7	0	16 3	38	12 5	94	10 0	19	12 6	0	5 0	5,304	10 0	148	5 2	5,156	4 10	641	2 7	5,797	7 5
Petersham.....	2,175	2,501	16 2	95	19 2	11	13 10	38	3 8	36	2 6	51	2 6	3	0 0	2,737	17 10	74	3 4	2,663	14 6	336	6 7	3,000	1 1
Prospect and Sherwood.....	26	35	9 6	.....	.....	1	12 5	1	12 5	.....	.....	.....	.....	37	1 11	.....	.....	6	7 4	30	14 7	7	12 6	38	7 1
Randwick.....	924	1,673	15 3	672	17 2	12	10 5	28	9 8	30	5 0	24	12 6	1	0 0	2,443	10 0	34	15 5	2,408	14 7	709	14 11	3,118	9 6
Redfern.....	4,313	4,258	2 4	7,554	10 11	.....	62	4 2	107	0 0	6	5 0	1	0 0	11,989	2 5	82	2 7	11,906	19 10	4,733	7 0	16,640	6 10	
Rockdale.....	351	137	13 0	31	12 0	45	11 1	17	6 0	0	2 6	3	10 0	0	16 8	236	11 3	7	1 3	229	10 0	10	5 9	239	15 9
St. Peters.....	1,149	669	16 2	123	3 9	0	15 3	7	3 9	26	15 0	1	15 0	1	0 0	830	8 11	11	8 2	819	0 9	123	0 11	942	1 8
Strathfield.....	294	587	11 0	50	9 1	7	6 6	20	2 8	3	5 0	6	12 6	.....	.....	675	6 9	15	19 3	659	7 6	78	13 0	738	0 6
Waterloo.....	1,883	1,370	18 5	462	15 9	.....	11	0 4	64	7 6	3	0 0	3	0 0	1,917	2 0	26	18 6	1,890	3 6	316	12 10	2,206	16 4	
Waverley.....	1,712	2,311	17 10	814	11 8	2	16 11	42	0 10	52	7 6	47	5 0	0	10 0	2,771	9 0	75	16 5	2,695	13 4	559	11 2	3,255	4 6
Woollahra.....	1,943	3,076	8 1	529	12 4	39	15 0	63	19 7	65	12 6	75	12 6	9	3 6	3,860	3 6	72	19 11	3,787	3 7	656	13 0	4,443	16 7
Totals.....	72,884	103,805	19 11	38,883	3 0	686	14 2	1,444	8 10	1,604	15 0	519	5 0	125	15 5	146,070	1 4	3,309	15 4	142,760	6 0	34,668	16 7	177,429	2 7

HERBERT J. BEAUMONT,  
Assessor.

GENERAL SUMMARY of Rates, Fees., &c.

Summary of Sewerage Rates.									General Summary of Rates, Fees, &c., for Water and Sewerage.						
Ward or Borough.	No. of Properties liable.	Sewerage Rates.	New sewers.	Sewerage service.	Arrears transferred from Municipal Councils on 1st January, 1890.	Total.	Less rates cancelled or removed.	Total sewerage rates receivable for 1890.	Gross Total water and sewerage rates receivable for 1890.	No. of summonses issued.	Amount sued for during 1890.	Amount paid without summonses.	Total paid during 1890.	Arrears to 31 December, 1890.	
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Bourke Ward	1,136	12,414 7 6	.....	651 3 4	1,604 18 6	14,670 9 4	535 13 1	14,134 16 3	30,677 9 11	99	1,734 9 3	35,789 1 4	37,523 10 7	3,153 19 4	
Brisbane Ward	1,328	8,190 10 4	.....	1,262 0 6	1,202 8 4	10,654 19 2	1,180 19 7	9,523 19 7	20,924 16 10	91	1,299 9 11	16,426 0 8	17,725 10 7	3,199 6 3	
Cook Ward	5,775	8,391 0 9	.....	269 2 3	913 9 3	9,573 12 3	62 15 5	9,510 16 10	20,915 2 8	450	1,356 14 2	18,043 17 11	19,400 12 1	1,514 10 7	
Denison Ward	3,444	7,106 17 9	0 10 3	735 15 9	1,294 18 6	9,138 2 3	873 6 8	8,764 15 7	28,075 16 10	238	1,715 18 4	12,031 16 8	23,747 15 0	4,328 1 10	
Fitzroy Ward	3,363	6,779 12 11	2 18 11	346 16 3	890 19 10	8,020 7 11	114 15 2	7,905 12 9	16,387 3 8	292	1,016 3 8	14,252 7 3	16,268 10 11	1,118 12 9	
Gipps Ward	1,712	3,937 8 9	.....	431 5 1	468 11 6	4,887 5 4	284 15 4	4,552 10 0	13,050 10 0	166	760 8 10	11,014 0 10	11,774 9 8	1,276 0 4	
Macquarie Ward	1,880	9,145 18 6	.....	462 19 5	1,805 10 8	11,414 8 6	347 3 1	11,067 5 5	21,622 12 5	92	1,374 7 1	16,777 1 0	18,151 8 1	3,475 4 4	
Phillip Ward	2,322	4,401 14 8	.....	353 15 6	859 15 6	5,615 5 8	217 9 10	5,397 15 10	10,873 12 0	255	1,038 3 6	8,246 3 5	9,284 6 11	1,589 5 1	
Alexandria	.....	.....	.....	.....	.....	.....	.....	.....	1,576 15 0	70	67 15 6	1,236 6 11	1,304 2 5	272 12 7	
Ashfield	.....	.....	.....	.....	.....	.....	.....	.....	3,773 12 8	69	99 3 6	3,091 7 4	3,190 10 10	583 1 10	
Balmain	.....	.....	.....	.....	.....	.....	.....	.....	8,138 1 11	267	334 10 2	7,065 9 5	7,399 13 7	738 8 4	
Burwood	.....	.....	.....	.....	.....	.....	.....	.....	2,308 12 10	102	202 3 0	1,850 11 5	2,052 14 5	255 18 5	
Camperdown	10	270 13 11	.....	270 13 11	.....	541 7 10	0 15 9	540 12 1	2,094 1 11	91	68 10 9	1,608 2 9	1,676 13 6	417 8 5	
Campbelltown	.....	.....	.....	.....	.....	.....	.....	.....	356 15 5	10	13 17 6	277 1 4	290 18 10	65 16 7	
Canterbury	.....	.....	.....	.....	.....	.....	.....	.....	95 5 1	.....	.....	47 11 0	47 11 0	47 14 1	
Concord	.....	.....	.....	.....	.....	.....	.....	.....	656 19 2	25	22 14 5	421 16 8	444 11 1	212 8 1	
Darlington	716	812 7 5	.....	15 17 2	.....	828 4 7	66 10 11	761 13 8	1,662 4 0	14	34 4 5	1,541 10 8	1,575 15 1	86 8 11	
Drummoyne	.....	.....	.....	.....	.....	.....	.....	.....	83 6 0	.....	.....	57 11 11	57 11 11	25 14 1	
Enfield	.....	.....	.....	.....	.....	.....	.....	.....	151 2 6	6	13 0 0	109 6 4	122 6 4	28 16 2	
Fivedock	.....	.....	.....	.....	.....	.....	.....	.....	193 2 6	.....	.....	172 9 8	172 9 8	20 12 10	
Glebe	.....	.....	.....	.....	.....	.....	.....	.....	5,672 1 3	177	218 15 2	4,314 7 5	4,533 2 7	1,138 18 8	
Granville	.....	.....	.....	.....	.....	.....	.....	.....	426 14 1	44	24 14 0	302 12 4	327 6 4	99 7 9	
Guildford	.....	.....	.....	.....	.....	.....	.....	.....	22 1 11	2	3 13 4	1 15 11	5 9 3	16 12 8	
Homebush	.....	.....	.....	.....	.....	.....	.....	.....	7 16 6	.....	.....	6 17 6	6 17 6	0 19 0	
Hurstville	.....	.....	.....	.....	.....	.....	.....	.....	0 1 7	.....	.....	0 1 7	0 1 7	.....	
Islands	.....	.....	.....	.....	.....	.....	.....	.....	655 9 8	.....	.....	638 16 4	638 16 4	16 13 4	
Kogarah	.....	.....	.....	.....	.....	.....	.....	.....	116 7 8	.....	.....	80 16 5	80 16 5	35 11 3	
Leichhardt	.....	.....	.....	.....	.....	.....	.....	.....	4,446 0 1	260	351 14 0	3,482 2 0	3,833 16 0	612 4 1	
Macedonaldtown	.....	.....	.....	.....	.....	.....	.....	.....	1,066 6 11	26	20 15 9	871 16 5	892 12 2	173 14 9	
Marrickville	.....	.....	.....	.....	.....	.....	.....	.....	3,565 12 8	77	139 8 7	2,686 14 10	2,826 3 5	739 9 3	
Newtown	.....	.....	.....	.....	.....	.....	.....	.....	4,946 11 9	188	313 14 0	4,217 13 0	4,531 7 0	415 4 9	
North Rotary	3	7 0 2	9 6 11	.....	.....	16 17 1	.....	16 7 1	45 4 4	.....	.....	28 14 0	28 14 0	16 10 4	
North Sydney	.....	.....	.....	.....	.....	.....	.....	.....	4,594 8 8	156	230 6 8	3,872 19 0	4,103 5 8	491 3 0	
Paddington	3,207	841 14 5	1,993 15 8	193 16 11	7 4 6	3,036 11 6	71 7 5	2,965 4 1	8,762 11 6	251	459 7 8	6,953 16 4	7,413 4 0	1,349 7 6	
Petersham	.....	.....	.....	.....	.....	.....	.....	.....	3,000 1 1	157	201 4 9	2,518 12 7	2,719 17 4	280 3 9	
Prospect & Sherwood	.....	.....	.....	.....	.....	.....	.....	.....	38 7 1	3	1 7 10	34 19 0	36 6 10	2 0 3	
Randwick	.....	.....	.....	.....	.....	.....	.....	.....	3,118 9 6	78	174 6 6	2,426 9 2	2,600 15 8	517 13 10	
Redfern	2,819	2,562 3 2	352 5 6	111 1 6	1,471 17 3	4,497 7 5	270 1 7	4,227 5 10	20,867 12 8	197	400 2 4	18,439 2 10	18,839 5 2	2,028 7 6	
Rockdale	.....	.....	.....	.....	.....	.....	.....	.....	239 15 9	.....	.....	121 9 11	121 9 11	118 5 10	
St. Peters	.....	.....	.....	.....	.....	.....	.....	.....	942 1 8	49	63 11 4	792 1 7	855 12 11	86 8 9	
Strathfield	.....	.....	.....	.....	.....	.....	.....	.....	738 0 6	26	69 5 11	612 7 8	681 13 7	56 6 11	
Waterloo	399	277 3 6	110 4 11	0 4 2	.....	387 12 7	3 3 3	384 9 4	2,591 4 8	44	50 1 11	1,971 6 7	2,021 8 6	569 17 2	
Waverley	.....	.....	.....	.....	.....	.....	.....	.....	3,255 4 6	137	255 16 6	2,602 0 5	2,857 16 11	397 7 7	
Woollahra	823	.....	617 8 0	1 12 8	.....	619 0 3	13 1 6	605 18 9	5,048 15 4	76	141 8 7	4,089 10 9	4,230 19 4	817 16 0	
Totals	28,937	65,198 13 8	3,086 10 2	5,106 4 0	10,519 13 10	83,851 1 8	3,491 18 7	80,359 3 1	257,788 5 8	4,260	14,271 8 10	211,126 12 1	225,398 0 11	32,390 4 9	

HERBERT J. BEAUMONT,  
Assessor.

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Water Supply and Sewerage Department,  
Sydney, 7th January, 1891.

### Third Annual Report of the Engineer for Water Supply.

I HAVE the honor to submit to the Board the Third Annual Report of work performed and projected, and of incidents and accidents that transpired during the year 1890, in the Branch under my control as Engineer for Water Supply during the year 1890.

I enclose Inspector Robertson's returns—pipes laid, hydrants fixed, and work performed by his staff of operatives; also, Mr. Fyfe's report of the performances of the pumping engines under his charge.

Another enclosure is a return of meters, taps, &c., tested, and repairs effected in the Meter Tester's Department, and a return of meters fixed during 1890 and previous years.

### Pipe-laying.

This Branch maintained a fair amount of activity throughout the year, but falls short of that of 1889, because of the reduced importance of the suburbs, which had, by the activity of former years, begun to fall away in their requirements.

The Board's decision to give a more liberal supply of high-level water to the central section of the City, and generally to improve existing supplies, kept the Board's operatives and contractors fairly active, using much material, and adding largely to the expenditure of the Board without increasing the revenue.

A large quantity of this class of work is projected, and will, it is hoped, be completed during 1891, and will materially add to the effectiveness of the supply, both for fire extinction purposes, domestic and other uses, such as giving supplies at the upper stories of lofty buildings.

### Interruption to Supplies.

On the 5th of January the supply of water from Potts' Hill suddenly ceased to flow, and news followed that the 48-inch trunk main had burst during the night at Summer Hill; at 6 a.m. operations for its repair were set in motion, a new length was inserted, and its restoration complete by 2 a.m. the next morning; meantime, in order to obviate scarcity of water, the Botany pumps were started, with such effect as to cause but little inconvenience to the public.

The fracture was considered to have been caused by the rather too sudden closing of the inlet valve at Crown-street.

On the 21st November the submarine supply main to North Shore was fractured by being dragged by the fluke of the anchor of the steamer "Bucephalus," which anchored just over the same, and swinging round drew the line of mains until a break was effected. The Harbours and Rivers Department permitted their staff of divers to effect repairs, which, for want of exact castings, was delayed till 4 p.m. of the 23rd, the district meantime suffering an interruption to supplies.

### Starting the Worthington Pumps.

The powerful pumping engines which had been in course of erection during 1889 were completed and tried on 25th March; their great power caused the 20-inch main to fracture near Moore Park gates; before allowing them to work again, the line of mains was tested up to 118 lbs., under which pressure two further fractures took place when the pumps resumed work, the working pressure being limited to 60 lbs. per square inch. At this pressure they worked throughout the year without further casualty, beyond twice blowing out one lead joint in Crown-street, which was found to be due to the form of the socket.

The Worthington pumps, after a few days of preliminary adjustment, worked smoothly, silently, and with a marked economy of coal consumption. This statement appears incompatible with the increased consumption of coal per million gallons raised, as shown by the returns, but is reconciled by the fact that up to 24th December the work was done in one-third less time than formerly through the 20-inch main, which doubles the duty on the engine; moreover, bad coal was supplied during part of the strike, and owing to the smallness of the Paddington Reservoir two stoppages and two starts are necessary daily. When the 36-inch main in Park Road was finished on the above date the economy was made apparent.

Rotative

### Rotative Engines.

When the Worthington engines were properly started, the rotative pair became disused, excepting on two occasions—viz., when a heated bearing on the Worthington engine caused a short interruption, and later in the year, while the Park Road 36-inch main was being connected to the delivery system, when this work was just completed, the defects and broken parts became so dangerous as to necessitate the rotative engines being altogether stopped. They are now disused, pending the decision of the Board as to whether they shall be repaired.

### The Blake Engines.

These engines showed such unmistakeable signs of failure, and their duty of raising water to the Woollahra reservoir being indispensable, it was determined to purchase and fix in the machine-room two pairs of direct-acting Tangye engines, pending the importation and erection of the duplicate Worthington engine, to avert danger of interruption of supplies to Woollahra. The Blake engines, though greatly deteriorated, are still able to do full work, but may not last a day, and might last a month.

### Tangye Engines.

The above plant was hastily erected, and, though they took up the work of the Blakes, they showed many defects, and entailed a considerable cost in alterations and repairs, but they are now meeting requirements fairly well.

### North Shore Engines.

These are a pair of Blake duplex direct-acting, capable of raising 10,000 gallons per hour to the higher levels of North Shore.

This quantity would meet all requirements if the water were available for the engines to raise it. As is known to the Board, however, the 9-inch main across the harbor does not convey enough water to that suburb to afford a constant supply to the higher levels, which are, in consequence, subjected to intermittency.

If the permanent scheme were not so soon to be completed, a second pipe across the harbor would be laid, but the time to elapse before the permanent scheme is ready to deliver water is so short as to place that expedient out of the question.

### Woollahra Pumps.

The above plant is situate at Woollahra, and is employed raising water to Waverley Reservoir.

The spur driving-wheel of this engine was replaced by a new one during the year, the old one being repaired ready for replacement. It has performed its duty very well, and with fair economy.

### The Botany Pumping Plant.

This pumping plant is still in a fairly efficient working order, should occasion call for its use. About 11 cwt. of coal is consumed weekly to keep the engines in readiness for any sudden call. As elsewhere related, they were called into requisition during 1890.

### Consumption of Coal.

The consumption of coal for the work done is abnormal, owing to three facts, viz. :—1st., smallness of main and velocity of pumps (previously referred to); 2nd., to two stops and starts daily; 3rd., bad coal during the "strike."

### Completion of certain Works.

During the year the new building and works at Crown-street, which may be enumerated as under, were completed and put in use, viz. :—New Worthington engine, together with engine and boiler house and chimney, machine shop, valve wells for suction and delivery, valve-house for delivering and adjusting supplies to engine (in Riley-street), together with the laying of a 42-in. main thence to the engine-house, meter testers' rooms, new blacksmith's shop; the gates on depôt were renewed, and the surrounding walls and palisading renovated generally, and put in good repair.

The

The fence of pipe depôt at Newtown was repaired and the footways around it paved. Park Road depôt was formed and a gantry for lifting castings, &c., on and off drays and stacking same, was erected.

The high-level tank for the supply of a limited district of land at Ashfield, too elevated to be fed from the Prospect Scheme, was completed in November, and is now in use; its capacity is 100,000 gallons, and is circular in form, raised on brickwork walls to an elevation of 223.30 feet above H.W.M. It is filled from Woollahra by means of existing mains.

A 36-in. main, composed of the old pipes used for crossing ravines temporarily in the execution of the scheme known as "Hudson Bros." was laid from the Moore Park Gates to the Paddington Reservoir; it was completed and put in use on the 24th December, as a rising main for the present, until the new rising main is completed. The office of this pipe will be dual, viz.:—To isolate the pumping operations from the city supply mains, the fluctuations in which, being irregular, induce a dangerous tendency in the engines to "race" if not carefully watched; and, in the second place, to act temporarily as a rising main, in which capacity it enabled the pumps to raise the daily quota of 3½ million gallons in a third less time, besides reducing the pressure in the mains from 60 lb. per square inch to 38 lb., under which pressure the engines work admirably, but not with anything like their full power and economy until a more elevated reservoir is secured. When the laying of the new 36-in. rising-main from Crown-street to Paddington is completed, which was within about five weeks of completion at the end of the year, the working pressure will be further reduced to 35 lbs.; this main is designed to be used for conveying the Paddington level water to the city to meet the growing demand for high-level water in the central parts of the same and elsewhere, the distribution scheme for which has been approved by the Board, and is being carried out now.

On the 6th August the Minister for Works assented to the Board's proposal for the direct indenting, through the Agent-General, of an engine in duplication of the present Worthington, the power to be the same, but to be adapted to work at its greatest economy when raising half the quantity now being raised to Paddington to the Woollahra Reservoir, which is at double the elevation; this engine may be expected very shortly.

In order that this engine might perform its work without danger from fracture of mains, the Board called for tenders for a 24½-in. wrought-iron main, which is to be laid from the Crown-street pump along Crown and Fitzroy Streets and Moore Park Road as far as Gordon-street, whence it is considered, as the remainder of the main, although a 20-in. cast-iron, is largely freed from pressure from its elevation, it will be safe for the work.

Through this pipe, as soon as laid, it is intended to feed Woollahra by the proposed Worthington engine, and to dispense with the Tangyes.

The wrought-iron pipe contract is being executed by contract in the Colony by Messrs. G. & C. Hoskins, who were the lowest tenderers.

The first few feet of this main has been laid and connected with the delivery of engines through the Crown-street depôt, in order that the depôt might be formed to its ultimate levels.

For the same reason *the terminal* extremity of the 42-in. duplicate main from Potts Hill will be laid underground from the inlet valve well, under the stores, to Gipps-street, from which main a branch has been laid at the bottom level of reservoir and valve well to connect the 42-in. main with the Worthington pumps, so that, in the event of any interruption to the mains from the reservoir during cleansing, accident, or other reason, there should be no interruption to the pumping.

### Continuous Rains.

The rains were so heavy and continuous during the early part of the year as to incur some danger of a washaway on the Botany series of dams. As these dams were of no further service to the Board two of them, Nos. 7 and 8, were cut through to obviate their filling and carrying away.

### Great Fires.

The greatest fire on record in Sydney broke out on the premises of Messrs. Gibbs, Shallard & Co., printers, in Hosking-lane ; it obtained such a hold in that building, it being believed that it was alight at 8 p.m., and was only discovered at 2.30 a.m. on 1st October, and the buildings in the vicinity were so densely crowded, that some of the most valuable buildings in town were fired, notably Messrs. Young & Lark, the City Bank, Messrs. Bull, Price's, and many others.

The water supply in Castlereagh-street was admirable, both in pressure and quantity, until a branch main was broken by falling walls in Hosking-lane and Moore-street, which rendered the pressure of no service excepting for feeding the engines. The pressure in Pitt-street was low, but the flow in the 12-in. main was abundant for feeding the engines ; the two path mains, being 4-in. low-level, fed at one end, were of very little use ; since then these two last-named mains have been converted into high-level mains, fed both ends, by the operations of improvements which the Board had approved and only awaited completion.

Another great fire occurred at Dibbs' wharf, through a kerosene store taking fire, on 3rd December ; the flames raged for many hours, but were at last extinguished, before the whole of the kerosene cases were burnt, many thousands being saved. The water was reported to be satisfactory, though a better supply is under consideration for this locality.

The attention of the Board was brought to bear on the weak supply of high-level water to the Western suburbs by the Railway Department, the Commissioners requesting that their depôt at Eveleigh should be provided with a better means for fire extinction.

On the Department undertaking to contribute £1,200, the Board authorised a line of 15-in. mains to be laid from the 30-in. in Crown-street to Eveleigh, and a 12-in. thence to Newtown Bridge, which is about to be completed, and will very greatly improve the supply to the Western suburbs, as well as afford security against fire at the Eveleigh workshops and to all premises along its course.

### Improvements to existing supplies.

During the year, from the growing feeling that a more liberal distribution both of high and low level water must be initiated to meet the requirements of modern buildings for fire extinction and other demands, the Board approved of a very large vote for one instalment of the scheme for the centre of the city. This proposal is all but completed. Another for the general improvement of the supply to Surry Hills was passed, because the mains are both old and very small.

Three or four other localities are being prepared for early submission to the Board, all of which are but indifferently supplied now, viz., Woolloomooloo, Miller's Point neighbourhood, Pyrmont, Strawberry Hills, Darlington and parts of Chippendale, and other minor parts.

When these are completed the Board may rest satisfied that their scheme will be second to none for liberality, both as to the supplies and provision for fires.

The Board's pumping establishment will also be on a scale that the Board may justly feel proud of, but wanting the means of putting forth its full energy in the form of a capacious and more elevated reservoir than that at Paddington, which is both too low and too small for its functions. To this end it is to be hoped that the Government will concede one of the sites at Centennial Park.

In order for the full development of the capacity of the duplicate main from Pott's Hill another reservoir on the level of Crown-street will be required, but not for a few years. Meantime, the relative merits of different sites are being considered.

The Board has approved of a reticulation for the heights of Hurstville, Bexley, &c., and also of a gas engine and pumps for the same and receiving tanks ; pipes are daily expected to carry out this work ; the engine will be ready about the early days of February, and the tank will be advertised immediately.

The supply to Balmain heights has lately become most suddenly inadequate, and a scheme for its improvement is being considered.

## Botany Pumps.

Quantity of water pumped and coal consumed during the years 1879 to 1890 inclusive :—

## FROM BOTANY TO CROWN-STREET RESERVOIR.

Year.	Water Pumped.			Coal Consumed.
1879	...	...	1,488,297,152 galls.	6,365 tons.
1880	...	...	1,522,843,440 „	6,320 „
1881	...	...	1,281,692,592 „	4,997 „
1882	...	...	1,364,004,000 „	4,808 „
1883	...	...	1,729,537,200 „	5,510 „
1884	...	...	1,590,107,040 „	5,754 „
1885	...	...	1,729,441,440 „	6,237 „
1886	...	...	1,864,123,400 „ (Nepean water partly received)	7,240 „
1887	...	...	1,047,638,880 „ „ „	4,040 „
1888	} No water was raised from Botany, as the Nepean scheme was complete.			
1889				
1890	...	...	9,615,120 galls.	49 „

## FROM CROWN-STREET TO PADDINGTON AND WOOLLAHRA.

Year.	To Paddington.	To Woollahra.	Coal Consumed.
1879	480,205,500 galls.	Nil.	758 tons.
1880	511,906,510 „	„ „	599 „
1881	372,323,963 „	17,767,046 „	508 „
1882	453,060,680 „	36,410,630 „	559 „
1883	571,414,074 „	55,382,384 „	739 „
1884	569,034,960 „	83,867,744 „	817 „
1885	568,146,150 „	94,959,800 „	704 „
1886	585,848,540 „	124,994,480 „	972 „
1887	633,380,590 „	190,100,040 „	1,192½ „
1888	724,914,200 „	300,112,240 „	1,613¼ „
1889	843,068,150 „	339,163,150 „	1,683½ „
1890	992,457,890 „	367,108,960 „	2,355½ „

## FROM WOOLLAHRA TO WAVERLEY.

1887—From April 2 to December 31,	19,317,700 gallons.	
1888—From January 1 to December 31,	61,236,931 „	181 tons.
1889—From January 1 to December 31,	80,679,780 „	197 „
1890—	85,113,600 „	228 „

## PUMPED AT NORTH SHORE.

30,420,740 gallons, 231½ tons.

## Liverpool Supply.

A contract for conveying and distributing the trunk main pipes between Mount Misery and the canal was let, and practically completed at the end of the year.

The contract for laying them will be let in January. The smaller mains and reticulating pipes for the town are about to arrive from England, and the work of laying them will proceed simultaneously with the trunk main, so that both works will be completed at the same time.

## Watson's Bay.

During the year the water was given to this district it had to be given from the Waverley reservoir at a level of 360 feet, and consequently exerts great pressure on the pipes near the sea level, causing joints, pipes, and hydrants to occasionally burst.

Mileage .

## Mileage of Mains Laid.

75½ miles of main were laid during the year making 214 miles since the Board's formation.

## General.

The order of the Board to substitute ball and screw hydrants for fire plugs is being carried out by the Board's operatives at a quick rate, and a saving of cost over fixing by contract; 405 screw down hydrants and 4,154 ball hydrants were inserted in City and Suburbs during the year.

The Secretary.

J. TREVOR JONES,  
Engineer for Water Supply.

Sir,

7 January, 1891.

I have the honor to submit Annual Report of work done during the year 1890:—

*Main-laying.*

During the year pipes of various sizes laid number 42,515, giving a total length of 75 miles 866 yards, making an average distance of 1 mile 795 yards per week. The mileage this year is less than that of last, owing to the continuous rainy season, which has retarded the work considerably. Great loss of time was also experienced in the early part of the year by one of the contractors failing to carry out his contract, with the result that fresh tenders had to be called for. His successor has not carried out the work as expeditiously as he might have done. It is satisfactory, however, to state that the work that has been done is of a very substantial nature.

*Main-cleaning.*

During the year the work of main-cleaning has not been carried on to such an extent as last year, owing to the Boards operatives being busily engaged on work of a more urgent nature, they having done good service during the latter portion of the year in fixing hydrants in the city and suburbs, which has been a source of great saving to the Board.

*Inspections.*

The waste water inspectors have done good service this year in detecting a number of evasions of payment of rates for stock, machinery, &c., although the number of these inspections has not been so great as last year, owing to a great part of their time having been taken up securing information of the assessor.

I cannot close this report without testifying to the very able and willing manner in which the whole of the officers and employeess under my supervision have carried out their duties.

Water Engineer.

D. C. ROBERTSON,  
Inspector.

## SUMMARY of Work done during year 1890.

Mains laid	...	...	...	42,515 pipes = 132,866 yards = 75 miles 866 yards.
„ cleaned	...	...	...	7 „ 278 „
„ removed	...	...	...	813½ „
„ repaired	...	...	...	178 „
Hydrants fixed	...	...	...	Screw-down, 405; ball, 4,154
Private works paid for by plumbers and others for inserting branches and valves	...	...	...	68
Inspections made of premises	...	...	...	50,121
Notices served to abate pollutions	...	...	...	474
„ „ pay special fees	...	...	...	1,073
„ „ affix meters	...	...	...	74
„ „ abate waste of water	...	...	...	1,313
No. of verdicts, 85 (obtained for non-payment of fees); fines	...	...	...	£28 15s.
Leaks—services cut off to prevent waste	...	...	...	1,673
Services cut off for non-payment of rates	...	...	...	77
Horse-troughs supplied	...	...	...	City, nil; Suburbs, 5
Gas engines supplied	...	...	...	33 „ 6
Gulley shafts supplied	...	...	...	37 „ 33
Main drillings to connect service	...	...	...	467 „ 2,766
Extensions from existing services	...	...	...	851 „ 2,455

ABSTRACT OF MAINS LAID during the Year 1889.

2-D

District.	Number of different sized Pipes.														Lengths of different sized Pipes, including bends, valves, &c., in yards.												Total No. of Pipes for District.	Total length of Mains for District, in yards.		
	3"	4"	6"	9"	12"	15"	18"	20"	24"	30"	33"	36"	42"	3"	4"	6"	9"	12"	15"	18"	20"	24"	30"	33"	36"	42"				
1. Alexandria .....		216	8												655	26													224	681
2. Ashfield .....		857	173	88	416	117									2,603½	474½	207	1,681	477½										1,651	5,503½
3. Balmain .....		324													983½														324	983½
4. Burwood .....		1,180	234												3,597½	713½													1,414	4,311½
5. Camperdown .....		3			150										10½			609½											153	619½
6. Campbelltown .....		1,005													3,150														1,005	3,150
7. Canterbury .....		1,941	832												5,908½	2,538													2,773	8,446½
8. Concord .....		546	144	12	1	1	848								1,670½	448½	53	10	9½	3,366									1,552	5,557½
9. City of Sydney .....	2	367	4,138	1,156	187	3								4	1,141½	12,746½	3,565	784	26										5,833	18,267
10. Enfield .....		533	621	160											1,625½	1,893½	489½												1,314	4,008½
11. Five Dock .....		1,037	653												3,227½	1,971													1,710	5,198½
12. Glebe .....		369	175												1,130½	544½													544	1,675
13. Granville .....		3,189	245												9,658½	747½													3,434	10,405½
14. Hurstville .....		154	339												462½	1,037													493	1,499½
15. Kogarah .....		1,176	1,219	429											3,584½	3,708	1,304½												2,824	8,597½
16. Leichhardt .....		361	233	198	201	1	2								1,104½	732½	597	676	1	12½									996	3,123½
17. Marrickville .....		855	305												2,611½	926													1,160	3,537½
18. Newtown .....		123	43	84											383½	143½	257½												250	784½
19. North Sydney .....		1,931	1,564	342											5,802	4,748½	1,051												3,837	11,601½
20. Paddington .....		241	117												750½	362½													358	1,113
21. Petersham .....		338													1,033														338	1,033
22. Prospect Sherwood .....			2		1	21										7½		1½	62½										24	71½
23. Randwick .....		376	84												1,148½	258													460	1,406½
24. Redfern .....		209	790	2		418									639½	2,441½	2		1,399½										1,419	4,482½
25. Rockdale .....		1,928	767	269											5,836	2,344	820												2,964	9,000
26. Special Contracts .....					6			2	6	19	3	451	33					36½			20	27½	93	12	1,835	140		520	2,164	
27. St. Peters .....		154													464½														154	464½
28. Strathfield .....		328	40												995	123													368	1,118
29. Waterloo .....		201	289		264										943½	902½		1,073½											754	2,919½
30. Waverley .....		140	3												428	9													143	437
31. Woollahra .....		602	2,703												1,852½	8,178½													3,305	10,030½
32. Work done by Board's Operatives.	10	85	18	52		9		3	7	1			12	38	251½	44½	154		24½		11	82	17					197	674½	
Total for year.....	12	20,739	15,739	2,792	1,226	570	850	5	13	20	3	451	45	42	63,653½	48,070	8,560½	4,871½	2,000½	3,378½	31	109½	110	12	1,835	191½	42,515	132,866		

Grand Total, 42,515 pipes=75 miles 866 yards.

MAINS LAID, 1890.

District and Street.	No. and Size of Pipes.									Length of each size.	Length of main.	Total length for district.	Total No of pipes for district.
	3"	4"	6"	8"	12"	1 1/2"	1 3/4"	2 0"	2 1/4"				
<b>ALEXANDRIA, No. 1.</b>													
Lawrence-street	158									yds. 479	yds. 505		
Do		8								26			
Queen-street	33									99 1/2	99 1/2		
Frederick-street	25									76 1/2	76 1/2		
Total for year	216	8								655	681	681	224
<b>ASHFIELD, No. 2.</b>													
Henry-street	102									301	301		
Croydon Road				167						749	763		
Do		5								14			
Holden-street		66								141	141		
Church-street		25								77 1/2	77 1/2		
Central Road	55									165 1/2	165 1/2		
Hampden-street	63									189 1/2	189 1/2		
Shepherd-street	75									228	228		
Mill-street	22									69	69		
Elizabeth-street		63								193			
Do				1						3 1/2	199 1/2		
Do		1								3 1/2			
Anthony-street	35									107 1/2	107 1/2		
Norton-street	55									169 1/2	169 1/2		
Lyons-street	56									172 1/2	172 1/2		
Beatrice-street	56									173 1/2	173 1/2		
Etonville-street	137									413	413		
Vinc-street	25									76 1/2	76 1/2		
Julia-street	60									199 1/2	199 1/2		
Moonbie-street	45									142	142		
Spencer-street	45									132 1/2	132 1/2		
Parramatta Road					117					477 1/2			
Do				88						923 1/2	1,782 1/2		
Do		13								267			
Do		19								49 1/2			
Do										60			
Total for year	857	173	89	416	117					2,603 1/2	5,503 1/2	5,503 1/2	1,651
<b>BALMAIN, No. 3.</b>													
Foucart-street	38									115	115		
Creek-street	35									109	109		
Johnstone-street	12									35	35		
Cook-street	48									147	147		
Conlon-street	83									95	95		
Joseph-street	45									137 1/2	137 1/2		
Theodore-street	61									183 1/2	183 1/2		
Ellen-street	52									161 1/2	161 1/2		
Total for year	324									983	983	983	324
<b>BURWOOD, No. 4.</b>													
Albert-crescent	68									211	211		
Cheltenham Road	238									725	725		
Park-avenue	109									333	333		
Bishop-street	88									266	266		
Norwood-street	16									52	52		
Willie-street	123									377	377		
Webb-street		110								336			
Do		3								9	345		
Wellington-street	35									107	107		
Cantor-street	37									112	112		
Wright-street	149									449	449		
Brand-street	78									236	236		
Richmond-street	35									106 1/2	106 1/2		
Gordon-street	99									299 1/2	299 1/2		
Wonga-street	49									151 1/2	151 1/2		
Bald-street	5									16 1/2	16 1/2		
Shaftesbury Road	39									119	119		
Nicholson-street		124								377 1/2	405 1/2		
Do		9								28			
Total for year	1,180	234								3,597 1/2	4,311 1/2	4,311 1/2	1,414
<b>CAMPERDOWN, No. 5.</b>													
Parramatta Road	1									3 1/2	232		
Do				54						228 1/2			
Pymont Bridge Road	2									6 1/2	387 1/2		
Do				96						381			
Total for year	3			150						10 1/2	619 1/2	619 1/2	153

MAINS LAID, 1890—continued.

District and Street.	No. and Size of Pipes.									Length of each size.	Length of main.	Total length for district.	Total No. of pipes for district.
	3"	4"	6"	9"	12"	15"	18"	20"	24"				
<b>CAMPBELLTOWN, No. 6.</b>													
Queen-street		122								yds. 374	yds. 374		
Broughton-street		50								150	150		
Cordeaux-street		109								334½	334½		
Lithgow-street		211								641	641		
Lindsay-street		120								366	366		
Condamine-street		88								266½	266½		
Oxley-street		35								106	106		
Milgate's-lane		58								175½	175½		
Allmans-street		147								447½	447½		
Dumaresque-street		27								172	172		
Start-street		38								117	117		
Total for year		1005								3,150	3,150	3,150	1,005
<b>CANTERBURY, No. 7.</b>													
Palmer-street			189							572	572		
Jeffrey-street			113							343	361		
Do			5							18			
Robert-street		109								333	333		
Charles-street		47								140½	140½		
John-street		44								132½	132½		
Broughton-street		68								205½	205½		
George-street			30							1,160½	1,232½		
Do		18, &c.								72			
Minter-street		101								314½	314½		
Church-street		158								474½	474½		
Goodlet-street		46								135½	135½		
Woodlands-street		87								264½	264½		
George's River Road			150							462½	502		
Do		11								39½			
Croydon-avenue		175								531½	531½		
Brighton-avenue		182								549½	549½		
Dunmore-street		124								374½	374½		
Wentworth-street		169								512½	512½		
Clyde-street		96								289½	289½		
Melrose-street		38								119½	119½		
Cook-street		36								109½	109½		
Balmoral-avenue		223								678½	678½		
Lyminge-street		91								272	272		
Windsor Road		110								341½	341½		
Total for year		1,941	832							5,908½	8,446½	8,446½	2,773
<b>CONCORD, No. 8.</b>													
Parramatta Road						848				3,366	3,465		
Do						1				9½			
Do					1					10			
Do				12						53			
Broughton-street		133								26½	404½		
Concord Road			65							196½	196½		
Church-street		105								320	320		
Wharf Road		56								172½	172½		
Burwood Road			72							225½	426½		
Do		66								200½			
Bennett-street		67								208½	208½		
Cabarita Park Road		119								361½	364		
Total for year		546	144	12	1	1	848			1,670½	5,567½	5,567½	1,552
<b>CITY OF SYDNEY, No. 9.</b>													
Wynyard-street			42							132	143		
Do		3								11			
Margaret-street			54							164	164		
Carrington-street			73							221	221		
Young-street				5						15	627		
Do			201							612			
Phillip-street			71							217	217		
Bridge-street			23							70	70		
Macquarie-place			65							204	204		
Arbitration-street			42							125	125		
Albert-street			14							39	39		
Spring-street				34						106	114		
Do				2						8			
Bent-street				24						75	75		
Charlotte-place			70							218½	218½		
Essex-street				43						135	177		
Do					1 (put pipe)					1			
Do			12							41			
George-street North			7							23	22		

MAINS LAID, 1890—continued.

District and Street.	No. and Size of Pipes.									Length of each size.	Length of main.	Total length for district.	Total No. of pipes for district.	
	3"	4"	6"	9"	12"	16"	18"	20"	24"					
CITY OF SYDNEY, No. 9—contd.											yds.	yds.		
Margaret-street			11							36	36			
Bridge-street			27							80	80			
Bent-street			13							42	42			
Queen's-place			45							138½	138½			
Phillip-street			232							717½	717½			
Hunter-street			121							374½	374½			
Margaret-street			10							35	145			
Do				35					110					
Bowman-street		9								23	445			
Do			135						417					
Do				1, &c.					5					
Alfred-street		1								2	56½			
Do			18						54½					
Sussex-street				573						1,732	1,766			
Do			6						34					
Goodlet & Smith's (fire service)			39							127	129½			
Do do		1							2½					
Hay-street				62						189	196½			
Do			2						7½					
Sussex-street			132							401½	401½			
King-street			114							352½				
Do				19						59	411½			
Pymont-street			114							358				
Do		2								12	370			
Point-street			141							428				
Do		11								38½	466½			
Way's-terrace			60							179				
Bay View-street			12							48	79			
Do		10								30				
Do		1								1				
Slip-street			19							56½	56½			
Market-street			29							94½				
Mill-street			80							242½	260½			
Do		6								18				
Day-street			43							132½	137½			
Do		2								5½				
Wharf-street			31							99½	99½			
Herbert-street		60								184½				
Barker-lane			36							112	112			
Church-street			1							1				
Do		59								173½	177½			
Do		1								3				
Steam Mill-street			31							91½	91½			
Washington-street		13								40				
Little Goodlet-street			115							358	359			
Do				1						1				
John-street			155							473	535½			
Do				6						21½				
Do		13								41				
Wilton-street			83							259½	286			
Do		9								26½				
Macdonald-street			31							96½	96½			
Bay View-terrace		32								101½				
Pitt-street			158							482	502½			
Do				6						20½				
Wilmot-street			38							120½	120½			
Union-lane			41							130				
Jones-street			86							265½	265½			
Thomas-street			36							113½				
Hay-street			118							376½	376½			
Harbour-street			77							243½				
Do		6								22½	266			
Lackey-street			59							170½				
Do		13								40	216½			
Allen-street			203							622				
Edward-street			45							143	157			
Do		4								14				
Burns-street			53							161½	161½			
Quay-street			68							208½				
Dixon-street			61							192	192			
Liverpool-street			213							556				
Do				40						116	672			
Uthor-street		28								88				
Hercules-street		14								44	44			
Challis-avenue			57							174				
Liverpool-street					93					396½	673½			
Do				73						227½				
Do		14								49½				
King-street					78					319	628½			
Do				81						258				
Do		14								51½				
Cleveland-street		1								6½	703½			
Do			185							587				
Do				19						73½				
Do					1					10½				
Do						3, &c.				26				

MAINS LAID, 1890—continued.

District and Street.	No. and Size of Pipes.									Length of each size.	Length of main.	Total length for district.	Total No. of pipes for district.
	3"	4"	6"	9"	12"	15"	18"	20"	24"				
<b>CITY OF SYDNEY, No. 9—contd.</b>													
Drumitt-street		1								yds. 4½	yds. 473	yds.	
Do			99							313			
Do				29						98½			
Do					14					57			
Riley-street		9								34			
Do			11							39½	yds. 396½	yds.	
Do				105						323			
Total for year	2	367	4,138	1,156	187	3			4	1,141½ 12,746½ 3,565 784 26			
<b>ENFIELD, No. 10.</b>													
Croydon-avenue			328							1,004½	1,004½		
Badmington-street			165							500½	500½		
Burwood Road				43						183½	yds. 147½	yds.	
Do		4								14			
Bligh-street		16								48½	48½		
George-street		118								356½	356½		
Lily-street			123							373½	yds. 396	yds.	
Do		7								22½			
Rose-street		80								242½	242½		
Waratah-street		118								360½	360½		
Violet-street		144								441½	441½		
Seymour-street		46								140	140		
Burwood Road				117						355½	yds. 371	yds.	
Do			5							15½			
Total for year	533	621	160							1,625½ 1,893½ 489½	4,009½	4,008½	1,314
<b>FIVE DOCK, No. 11.</b>													
Iron Cove Bridge			172							499	499		
Carey-street		157								476½	476½		
Cambridge Road			83							254½	yds. 262½	yds.	
Do		2								7½			
Park-avenue		64								194½	194½		
Thornley-street		60								183	183		
Renwick-street		157								478½	478½		
Tavistock-street		47								142½	142½		
Marlborough-street		47								143½	143½		
Wolseley-street		22								64	64		
Napier-street		76								235½	235½		
Great Northern Road			398							1,217½	yds. 1,280	yds.	
Do		19								62½			
Queen's Road		227								690	690		
First-avenue		124								381½	381½		
Park Road		55								167½	167½		
Total for year	1,057	653								3,237½ 1,971	5,198½	5,198½	1,710
<b>GLEBE, No. 12.</b>													
Derwent-lane		89								272½	272½		
Grose-street		90								272	272		
Francis-street		86								265	yds. 332	yds.	
Do			21							67			
Greek-street		78								237	237		
Franklin-place		25								79	79		
Bay-street			154							477½	yds. 482½	yds.	
Do		1, &c.								5			
Total for year	369	175								1,130½ 544½	1,675	1,675	544
<b>GRANVILLE, No. 13.</b>													
Good-street		192								587½	587½		
Bowden-street		105								318½	318½		
Harris-street		99								301½	301½		
Brisbane-street		63								190½	190½		
Allen street		89								266½	266½		
Prince-street		110								324½	324½		
Albert-street		23								68½	68½		
Alfred-street		22								60½	yds. 800	yds.	
Do			244							742½			
A'Beckett-street		94								297	297		
Onslow-street		117								354	354		
Gray-street		32								95	95		
Arthur-street		51								156½	156½		
George-street		60								182½	182½		
Factory-street		60								182½	182½		
Kendall-street		121								367½	367½		
William-street		113								345½	345½		
Parramatta-street		158								471½	471½		
Union-street		67								201½	201½		
Randall-street		62								188	188		

MAINS LAID, 1890—continued.

District and Street.	No. and Size of Pipes.									Length of each size.	Length of main.	Total length for district.	Total No. of pipes for district.
	3"	4"	6"	9"	12"	15"	18"	20"	24"				
<b>GRANVILLE, NO. 13—contd.</b>													
Waratah-street	...	73	...	...	...	...	...	...	...	3 ds. 219	yds. 219	yds.	
Bennalong-street	...	73	...	...	...	...	...	...	...	218½	218½		
Tringate-street	...	302	...	...	...	...	...	...	...	919½	919½		
Sixth-street	...	157	...	...	...	...	...	...	...	490	490		
Blaxcell-street	...	262	...	...	...	...	...	...	...	792	792		
Charles-street	...	49	...	...	...	...	...	...	...	147	147		
New York-street	...	50	...	...	...	...	...	...	...	148½	148½		
Clyde-street	...	81	...	...	...	...	...	...	...	241	241		
Factory-street	...	28	...	...	...	...	...	...	...	84½	84½		
Hartington-street	...	55	...	...	...	...	...	...	...	167	167		
Queen-street	...	49	...	...	...	...	...	...	...	144½	144½		
Malcolm-street	...	55	...	...	...	...	...	...	...	166½	166½		
Good-street	...	52	...	...	...	...	...	...	...	158	158		
Boundary-street	...	264	...	...	...	...	...	...	...	799	803½		
Do	...	...	1	...	...	...	...	...	...	4½			
Total for year	...	3,189	...	...	...	...	...	...	...	9,658½	10,405½	10,405½	3,434
<b>HURSTVILLE, NO. 14.</b>													
Short-street	...	...	169	...	...	...	...	...	...	513½	525½		
Do	...	4	...	...	...	...	...	...	...	12			
Webber's Road	...	...	36	...	...	...	...	...	...	111½	117½		
Do	...	2	...	...	...	...	...	...	...	6½			
Durham-street	...	42	...	...	...	...	...	...	...	122	122		
Mill street	...	106	...	...	...	...	...	...	...	322	322		
Webber's Road	...	...	54	...	...	...	...	...	...	168	168		
Railway Parade	...	...	80	...	...	...	...	...	...	214½	244½		
Total for Year	...	154	...	...	...	...	...	...	...	462½	1,499½	1,499½	493
<b>KOGARAH, NO. 15.</b>													
Narrow Road	...	92	...	...	...	...	...	...	...	280	280		
Regent-street	...	9	...	...	...	...	...	...	...	28	574		
Do	...	...	180	...	...	...	...	...	...	546			
Riley-street	...	51	...	...	...	...	...	...	...	154½	151½		
Victor-street	...	27	...	...	...	...	...	...	...	81½	81½		
Premier-street	...	103	...	...	...	...	...	...	...	309½	309½		
Railway Parade	...	11	...	...	...	...	...	...	...	35	945½		
Do	...	...	302	...	...	...	...	...	...	910½			
Montgomery-street	...	151	...	...	...	...	...	...	...	460	506		
Do	...	...	15	...	...	...	...	...	...	46			
Keansington-street	...	...	202	...	...	...	...	...	...	615	687		
Do	...	24	...	...	...	...	...	...	...	72			
Gladstone-street	...	70	...	...	...	...	...	...	...	213½	213½		
Gray-street	...	...	62	...	...	...	...	...	...	189½	223½		
Do	...	11	...	...	...	...	...	...	...	34			
Queen's Avenue	...	58	...	...	...	...	...	...	...	171½	171½		
Brown's Road	...	142	...	...	...	...	...	...	...	434½	484½		
Rocky Point Road	...	...	...	429	...	...	...	...	...	1,304½			
Do	...	...	8	...	...	...	...	...	...	27	1,409½		
Do	...	23	...	...	...	...	...	...	...	78			
Kogarah Road	...	...	221	...	...	...	...	...	...	674½	690½		
Do	...	4	...	...	...	...	...	...	...	16½			
Webber's Road	...	...	229	...	...	...	...	...	...	699½	745½		
Do	...	15	...	...	...	...	...	...	...	46			
Belgrave-street	...	110	...	...	...	...	...	...	...	334	334		
Railway Parade	...	38	...	...	...	...	...	...	...	118½	118½		
Junction-street	...	50	...	...	...	...	...	...	...	151½	151½		
Montgomery-street	...	41	...	...	...	...	...	...	...	123	123		
Pulmerston-street	...	77	...	...	...	...	...	...	...	233	233		
Victor-street	...	7	...	...	...	...	...	...	...	21	21		
Stan'oy-street	...	62	...	...	...	...	...	...	...	189	189		
Total for Year	...	1,176	...	...	...	...	...	...	...	3,581½	8,597½	8,597½	2,824
<b>LEICHHARDT, NO. 16.</b>													
Ma'kenzie-street	...	132	...	...	...	...	...	...	...	403	403		
Derbyshire Road	...	...	69	...	...	...	...	...	...	213	219		
Do	...	2	...	...	...	...	...	...	...	6			
Parramatta Road	...	...	...	201	...	...	...	...	...	676	707		
Do	...	...	...	...	...	...	2	...	...	12½			
Do	...	...	...	...	...	...	1	...	...	1			
Do	...	...	3	...	...	...	...	...	...	17½			
Elswick-street	...	...	198	83	(cut pipes.)	...	...	...	...	597	639		
Do	...	...	12	...	...	...	...	...	...	42			
Marian-street	...	...	149	...	...	...	...	...	...	460	460		
Frazier-street	...	76	...	...	...	...	...	...	...	229½	229½		
Edith-street	...	26	...	...	...	...	...	...	...	79½	79½		
Hawthorne-street	...	37	...	...	...	...	...	...	...	115½	115½		
The Boulevard	...	88	...	...	...	...	...	...	...	271½	271½		
Total for year	...	361	...	...	...	...	...	...	...	1,101½	3,123½	3,123½	996
	...	...	233	...	...	...	...	...	...	732½			
	...	...	198	...	...	...	...	...	...	597			
	...	...	...	201	...	...	...	...	...	676			
	...	...	...	...	1	...	...	...	...	1			
	...	...	...	...	...	2	...	...	...	12½			

MAINS LAID, 1890—continued.

District and Street.	No. and Size of Pipes.									Length of each size.	Length of main.	Total length for district	Total No. of pipes for district.
	3"	4"	6"	9"	12"	15"	18"	20"	24"				
<b>MARRICKVILLE, No. 17.</b>													
Gerald-street		100								yds. 304	yds. 304		
Seaview-street		85								254½	254½		
Fairford-street		39								119½	119½		
Sydenham Road			305							926	926		
Cowper-street		51								157½	157½		
Schwebel-street		92								276	276		
Allen's Avenue		72								220½	220½		
Anderlon-street		82								219	249		
Hastings-street		57								174	174		
Despointes-street		89								273	273		
Livingstone Road		120								370½	370½		
Pile-street		69								213½	213½		
Total for year		855	305							2,611½	3,537½	3,537½	1,160
<b>NEWTOWN, No. 18.</b>													
Iredale-street		81								250½	250½		
Nelson-street		37								115½	115½		
Missenden-street				84						257½	287½		
Do			2							12½			
Do			6							17½			
Trade-street			41							131½	131½		
Total for year		123	43	84						383½	781½	781½	250
<b>NORTH SYDNEY No. 19.</b>													
Lind-ay-street			11							38	41		
Do			1							3			
Raymond Road		46								142	142		
Military Road				342						1,051	1,150		
Do			11							33			
Do		24								75			
Bradley's Head Road			80							237	237		
Prince Albert-street			66							187	187		
Walker-street		107								317	317		
M'Laren-street		17								52	52		
Winnie-street		68								210½	210½		
Gerard-street		77								234½	234½		
Sutherland-street		89								272½	272½		
Cowles Road			161							492	492		
Military Road			509							1,542½	1,560		
Do		7								17½			
Belmont-street			37							114	118		
Do		1								4			
Harbour-street		81								245	245		
Walker-street		83								254	254		
Alexander-street			96							295½	325½		
Do		10								30			
Atchison-street		87								263½	263½		
Curraghbeena Road			454							1,392	1,461½		
Do		22								69½			
Avenue Road		209								636½	636½		
Blakesley Road		68								189	189		
Abercrombie-street		34								103½	103½		
Mandelong Road		79								243½	243½		
Raymond Road		161								490	490		
Western Wharf Road		32								102	102		
Glen-street		52								163½	163½		
Aubin-street		59								179½	179½		
Undercliffe-street		178								550	550		
Phillips-street		37								113	113		
Sprinson-street		54								165½	165½		
Carr-street		49								149½	149½		
Upper Hill-street		30								91½	91½		
Blue's Point Road		45								138½	138½		
Lower Hill-street		31								95	95		
Cooper-street			139							417	437½		
Do		6								20½			
Raglan-street		92								281	281		
Total for year		1,931	1,561	342						5,802	11,601½	11,601½	3,837
<b>PADDINGTON No. 20.</b>													
Thorn-street		36								110	110		
High-street		26								79	76		
Selwyn-street			117							362½	362½		
Albion-street		75								246½	246½		
Little Napier-street		26								79	79		
Short-street		13								42½	42½		
Little Selwyn-street		17								53	53		
Hopewell-lane		30								87	87		
Comber-street		18								54	54		
Total for year		241	117							750½	1,113	1,113	358

MAINS LAID, 1890—continued.

District and Street.	No. and Size of Pipes.								Length of each size.	Length of main.	Total length for district.	Total No. of pipes for district.
	3"	4"	6"	9"	12"	15"	18"	20"				
<b>PETERSHAM No. 21.</b>												
Cook-street		68								yds. 208	yds. 208	
Manchester Road		50								150½	150½	
Grove-street		57								172	172	
Hill-street		41								125	125	
Blaigowrie-street		56								173½	173½	
Fisher's Reserve		41								127½	127½	
Carrington-lane		25								76½	76½	
Total for year		338								1,033	1,033	338
<b>PROSPECT &amp; SHERWOOD No. 22</b>												
Woodville Road						21				62½	71½	
Do					1					1½		
Do			2							7½		
Total for year			2		1					71½	71½	24
<b>RANDWICK, No. 23.</b>												
St. Paul's-street		33								97½	97½	
Cowper-street			84							258	258	
Carey-street		37								112½	112½	
Randwick-street		34								106	106	
Wood-street		39								122	122	
Quail-street		29								89	89	
Carr-street		18								52½	52½	
Arden-street		40								122½	122½	
St. Pauls-street		25								78½	78½	
Dudley-street		34								104	104	
Arden-street		87								264	264	
Total for year		376								1,448½	1,406½	460
<b>REDFERN, No. 24.</b>												
Zamin-street		30								92	92	
Marryatt-street		19								58	58	
Turner-street		159								487	487	
Moorehead-street			116							350½	350½	
Cleveland-street						294				1,018½	2,178	
Do				2						2		
Do			370							1,157½		
George-street						27				81	81	
Walker-street			117							356	356	
James-street						46				141	141	
Regent-street						48				143	143	
Castlereagh-street			128							392½	395	
Do		1								2½		
Holden-street						3				9	9	
Phillip-street			69							179½	179½	
Total for year		209								639½	4,480½	1,419
<b>ROCKDALE, No. 25.</b>												
Rocky Point Road		5								16	61	
Do				15						45		
Arncliffe Road		65								196	196	
Bay-street			150							459	465	
Do		3								6		
Railway-street		363								1,124	1,124	
Kimpton-street		105								316½	316½	
Judge-street		137								415½	415½	
Bowman-street		113								343½	343½	
Kimpton-street			43							133½	133½	
Lauff-street		51								155½	155½	
Done-street		21								65	65	
Old Rocky Point Road		131								396½	396½	
Ann-street		83								271	271	
Bay-street			450							1,367½	1,392½	
Do		8								24½		
The Grand Parade			105							322½	338	
Do		5								15½		
Gordon-street		81								245½	245½	
Avenel-street		70								213½	213½	
King-street		168								511½	511½	
Segenhoe street		32								97½	97½	
Bay-street				254						775	836½	
Do			19							61½		
Gipp-street		112								340½	340½	
Frederick-street		303								923	923	
Aboukis-street		62								158½	158½	
Total for year		1923								5,836	9,000	2,964
			767							2,344		
				269						820		

MAINS LAID, 1890—continued.

District and Street.	No. and Size of Mains.										Length of each size.	Length of main.	Total length for Special Contracts.	Total No. of pipes for Special Contracts.						
	9"	12"	15"	18"	20"	24"	30"	33"	36"	42"										
SPECIAL CONTRACT WORK.											yds.	yds.	yds.							
SPECIAL CONTRACTS, No. 26.																				
Connecting Worthington pumps with Woollahra Rising Main at Crown-street Reservoir.....							13				67	67								
Riley-street connection to Worthington pumps at Crown-street Reservoir.....										33	140	176								
36" rising main from Crown-street pumps to Puddington Reservoir, Contract No. 131.....											16		12							
36" trunk main, Park Road, Contract No. 124							2				8									
Do											204	826½	826½							
Do											243	992½	1,094½							
Do							4				18	27½								
Do					2, &c						20	36½								
Total for year .....		6									36½	20	27½	93	12	1,935	140	2,164	2,164	520

District and Street.	No. and Size of Pipes.										Length of each size.	Length of main.	Total length for district.	Total No. of pipes to districts.	
	3"	4"	6"	9"	12"	15"	18"	20"	24"						
ST. PETERS, No. 27.											yds.	yds.	yds.		
Edith-street .....		154									464½	464½			
Total for year .....		154									464½	464½	464½	154	
STRATHFIELD, No. 28.															
Bridge-street .....			40								123	123			
Homebush Crescent .....		131									397½	397½			
Cotswold Road .....		58									176½	176½			
Agnes-street .....		62									187½	187½			
High-street .....		77									233½	233½			
Total for year .....		328	40								995	123	1,118	1,118	368
WATERLOO, No. 29.															
Epsom Road .....		194									587	587			
George-street .....					81						330½	31½	372½		
Do .....			8								10½				
Do .....		2									213	26½	241½		
M'Evoy-street .....					54						2				
Do .....			8								530	12½	551½		
Do .....		1									8½				
Botany Road .....					129						321½	34½	350		
Do .....			1, &c.								229½	8½	238		
Do .....		2									58½		58½		
Morehead-street .....			105								170		170		
Do .....		9									281	13	294		
Wellington-street .....			75								51		51		
Do .....		1, &c.									949½	902½	2,919½	2,919½	754
Kellick-street .....		17									1,073½				
Elizabeth-street .....		55													
Hanover-street .....			92												
Do .....		4													
Beaumont-street .....		16													
Total for year .....		201	289		264										
WAVERLEY, No. 30.															
Woodstock-street .....		48									148	148			
Thomas-street .....		50									154	9	163		
Do .....			3								93½	32½	93½		
Carlton-street .....		30													
Bareilly-street .....		12									428	9	437	437	143
Total for year .....		140	3												

MAINS LAID, 1890--continued.

District and Street.	No. and Size of Pipes.									Length of each size.	Length of main.	Total length for district.	Total No. of pipes for district.
	3"	4"	6"	9"	12"	15"	18"	20"	24"				
WOOLLAHRA. No. 31.										yds.	yds.	yds.	
Junction-street.....		37								113	113		
Bay-street.....		52								159½	159½		
Newcastle-street.....			310							930	930		
New South Head Road.....		114								327	350		
Do.....			8							23			
Toogood-lane.....		70								210½	210½		
Chill-street.....			83							256½	359½		
Do.....		33								102			
Short-street.....		16								53	53		
Russell-street.....		48								147½	147½		
Salisbury-street.....		33								101	101		
Cove-street.....		25								76	76		
New South Head Road.....			1,671							5,063	5,125		
Do.....		10 &c.								62			
Pacific-street.....		73								225½	225½		
Victoria-street.....		81								244	244		
Old South Head Road.....			631							1,906	1,937		
Do.....		10								31			
Total for year.....		602								1,852½	10,030½	10,030½	3,305
			2,703							8,178½			

Work done by Board's Operatives, No. 32.

District and Street.	No. and Size of Pipes.										Length of each size.	Length of main.	Total length of work done.	Total No. of pipes laid.
	3"	4"	6"	9"	15"	20"	24"	30"	42"					
Park Road, City.....						3				yds.	yds.	yds.		
Albion and Crown Streets, City.....									1	17	17			
Fire Service.....			3							13	62			
Meter Testers Supply.....										49				
Crown-street Depot.....		24								49				
Darlington Road, Darlington.....		4								14	14			
Carrington-street, Darlington.....		4								14½	14½			
Bent-street, City.....		1								5½	5½			
Agricultural Society's Ground.....			1							2	2			
Druit-street, City.....		1								4½	4½			
Bourke-street, Waterloo.....	1, &c.									6½	6½			
Herbert-street, Leichhardt.....		1								3	3			
Shepherd-street, Darlington.....		1								1½	1½			
William-street, Granville.....			1							1	1			
Woodville Road, Prospect.....					8					22½	22½			
Crown-street Reservoir.....									12	51½	51½			
Holden-street, Ashfield.....			1							4	13½			
Do.....				3						9½				
Denham-street Waverley.....	1, &c.									6	6			
Phillip-street, Alexandria.....		1								3½	3½			
Wyndham-street, Alexandria.....	1, &c.									4½	4½			
Raglan street, Alexandria.....	1, &c.									3½	3½			
Dowling-street, City.....		3								10½	10½			
Wells-street, Redfern.....				21						64	64			
George-street, Redfern.....			1							2½	2½			
Mitchell-Road, Alexandria.....		2								6	6			
Henderson-Road, Alexandria.....		1								3½	3½			
Rosehill-street, Redfern.....				28						80½	81			
Do.....	1, &c.									3½				
Shepherd-street, Redfern.....		3								10½	10½			
Albion-street, City.....	1									2	2			
Marion-street, City.....		1								1½	1½			
Market and Pitt Streets, City.....			10							21½	21½			
Rose-street, Darlington.....		3								10½	10½			
Forbes-lane, Darlington.....		2								8	8			
Lane off Rose-street, Darlington.....		3								9	9			
Darlington Road, Darlington.....		4								13½	13½			
Moore-street, City.....		3								14	14			
Raglan-street, Darlington.....		5								18	18			
Cooper-street, Waterloo.....		4								6½	6½			
Pitt-street, Redfern.....			1							3	3			
Homebush Crescent, Strathfield.....	3									10½	10½			
Francis-street, City.....	3									9½	9½			
Cleveland-street, City.....					1					2	2			
Douglas-street, Redfern.....		3								10½	10½			
Phillip-street, Redfern.....		9								25½	25½			
Crown-street Reservoir.....							7			82	82			
Total for year.....	10	85	18	52	9	3	7	1	12	38	674½	674½	197	
										251½				
										44½				
										154				
										24½				
										11				
										82				
										17				
										51½				

MAINS CLEANED, 1890.

Street.	Length of different Sizes.					Length of Main.	Total length for district.
	8"	4"	5"	6"	9"		
<b>CITY.</b>							
Park-lane .....	yds. 54					yds. 54	
Francis-street .....	87					87	
Chapman-street .....	113					113	
Bayswater Road .....		35		337		372	
Grantham-street .....	297					297	
Orwell-street .....		219				219	
Phillip-street .....		208		213		421	
Macquarie-street .....			462	330		792	
Bettington-street .....	129			121		250	
Merriman-street .....		180				180	
Victoria-terrace .....		132				132	
Moore's Road .....	312	80				392	
Munn-street .....	116½					116½	
Union-street .....	74½					74½	
Crescent-street .....				73½		73½	
York-lane .....		343½				343½	
Windmill-street .....		315½				315½	
Ferry-lane .....	60½					60½	
Pottinger-street .....		111½				111½	
Gipps-street .....		132				132	
Clarence-street .....					254	254	
Parker-lane .....		177				177	
Parker-street .....		125				125	
Robertson-lane .....	175					175	
Birtley-street .....	66					66	
Roslyn-street .....		407				407	
Clarence-street .....					162	162	
Little Norton-street .....		90				90	
Total for year .....	1,430½	2,609½	462	1,074½	416	5,993	5,993
<b>NEWTOWN.</b>							
King-street .....		630		66		696	
Total for year .....		630		66		696	696
<b>PADDINGTON.</b>							
New South Head Road .....				703		703	
Walter-street .....		122				122	
Renny-street .....		53				53	
Leinster-street .....			230			230	
Total for year .....		175	230	703		1,108	1,108
<b>WATERLOO.</b>							
Cooper-street .....		177½				177½	
Buckland-street .....		70½				70½	
Total for year .....		247½				247½	247½
<b>WOOLLARRA.</b>							
Cross-street .....		509				509	
Ocean-street .....		270				270	
William-street .....		439				439	
New South Head Road .....		1,992				1,992	
Victoria Road .....		711				711	
Louth-street .....		147				147	
Bay-street .....		486				486	
Total for year .....		4,554				4,554	4,554

Grand Total for City and Suburbs, 7 miles 278 yards.

MAINS REMOVED, 1890.

Street and District.	No. of yards for each size removed.					
	3"	4"	5"	6"	9"	12"
<b>CITY.</b>						
Glebe Island Bridge .....		23	295½		313½	
Bayswater Road .....				18		
King's-lane .....		6				
Charlotte-place .....		28		11		
Macquarie-place .....		3		12		
Total, City .....	3	57	295½	41	313½	
<b>RANDFERN.</b>						
Regent-street .....		7½				
Wells-street .....		50			26	20
Regent and Cleveland Streets .....						
Total, Suburbs .....		57½			26	20

Grand Total, City and Suburbs, 813½ yards.

## LIST of Repairs effected to Mains during the year 1890.

District.	Number of repairs.	District.	Number of repairs.
Alexandria .....	3	Petersham .....	6
Ashfield .....	2	Paddington .....	10
Burwood .....	2	Rockdale .....	7
Balmain .....	2	Redfern .....	10
Canterbury .....	2	Randwick .....	4
City .....	78	St. Leonards .....	6
Camperdown .....	1	St. Peters .....	2
Darlington .....	3	Strathfield .....	1
Fivedock .....	1	Woollahra .....	10
Granville .....	3	Waterloo .....	6
Glebe .....	4	Waverley .....	1
Leichhardt .....	5	Watson's Bay .....	2
M'Donaldtown .....	2		
Marrickville .....	7	Grand Total, City and Suburbs .....	178
Newtown .....	8		

## NUMBER of Hydrants fixed.

District.	By Board's operatives.		Under Contract No. 81.		By Contractors for Mains-laying.		Total.
	Ball.	Screw down.	Ball.	Screw down.	Ball.	Screw down.	
City .....	80	218	769	.....	50	187	1,304
Alexandria .....	25	.....	.....	.....	8	.....	33
Ashfield .....	257	.....	.....	.....	42	.....	299
Balmain .....	207	.....	.....	.....	2	.....	209
Burwood .....	130	.....	.....	.....	16	.....	156
Camperdown .....	32	.....	.....	.....	10	.....	42
Canterbury .....	.....	.....	.....	.....	67	.....	67
Campbelltown .....	.....	.....	.....	.....	37	.....	37
Concord .....	.....	.....	.....	.....	23	.....	23
Darlington .....	13	.....	.....	.....	.....	.....	13
Enfield .....	.....	.....	.....	.....	44	.....	44
Fivedock .....	16	.....	.....	.....	63	.....	79
Glebe .....	9	.....	.....	.....	23	.....	32
Granville .....	.....	.....	.....	.....	95	.....	95
Hurstville .....	.....	.....	.....	.....	17	.....	17
Kogarah .....	50	.....	.....	.....	.....	.....	50
Leichhardt .....	156	.....	.....	.....	6	.....	162
Maccdonaldtown .....	3	.....	.....	.....	.....	.....	3
Marrickville .....	315	.....	.....	.....	34	.....	349
North Sydney .....	186	.....	.....	.....	92	.....	278
Newtown .....	121	.....	.....	.....	5	.....	126
Paddington .....	22	.....	.....	.....	12	.....	34
Petersham .....	.....	.....	.....	.....	11	.....	11
Randwick .....	277	.....	.....	.....	8	.....	285
Redfern .....	47	.....	.....	.....	51	.....	98
Rockdale .....	.....	.....	.....	.....	99	.....	99
St. Peters .....	89	.....	.....	.....	.....	.....	89
Strathfield .....	.....	.....	.....	.....	17	.....	17
Waverley .....	183	.....	.....	.....	25	.....	208
Waterloo .....	23	.....	.....	.....	38	.....	61
Woollahra .....	159	.....	.....	.....	81	.....	240
Total for year .....	2,409	218	769	.....	976	187	4,559

Grand Total number for City and Suburbs, 4,559.

## LIST of Branches inserted for large services, and other work paid for by consumers and others for the year 1890.

District.	Number in each district.	District.	Number in each district.
Alexandria .....	7	Paddington .....	3
Balmain .....	2	Redfern .....	7
City .....	26	Strathfield .....	1
Clyde .....	1	St. Leonards .....	1
Darlington .....	11	Waterloo .....	1
Granville .....	1	Waverley .....	1
Homebush .....	1		
Leichhardt .....	4	Grand Total, City and Suburbs .....	63
Newtown .....	1		

Waste Water Inspectors' Annual Report, 1890—continued.

District.	No. of Inspections.	Special Inspections.	Re-inspections where Notices had been served.		Total number of Inspections and Re-inspections.	Notices, &c., Served.								To abate Waste.	Total Notices Served.	List of Informations, Fines, &c.			
			Special Fees, &c.	Abate Waste.		Pollution.			Special Fees.		To fix Meters.					Informa-tion.	Number Fined.	Amount of Fine	
						Baths.	Urinals.	Sinks, &c.	Stock.	Gardens.	Bakeries.	Engines.	Laundries.						Sundries.
Brisbane Ward .....	456	37	10	14	517	.....	.....	.....	4	.....	.....	2	1	1	14	.....	4	1	£ s. d. 1 0 0
Bourke ,, .....	97	97	11	5	113	.....	.....	.....	2	.....	.....	1	.....	8	4	15	1	.....	.....
Cook ,, .....	4,118	198	246	603	5,165	.....	.....	.....	158	1	1	3	1	7	440	611	10	2	0 7 6
Demson ,, .....	3,787	138	302	212	4,409	38	1	.....	153	.....	.....	8	.....	.....	180	380	33	10	2 10 0
Fitzroy ,, .....	3,372	164	486	207	4,229	191	.....	.....	62	1	1	1	2	3	207	468	15	1	0 10 0
Gipps ,, .....	1,644	198	47	122	2,011	8	.....	.....	19	1	.....	.....	6	2	102	138	3	1	0 10 0
Macquarie ,, .....	1,617	110	48	81	1,856	.....	.....	.....	46	.....	.....	5	.....	81	132	8	3	1 0 0	
Phillip ,, .....	2,243	64	219	129	2,655	.....	.....	.....	109	.....	1	2	2	1	128	243	2	.....	.....
Total, City .....	17,207	1,006	1,369	1,373	20,955	237	1	.....	563	3	3	22	12	22	1,156	1,987	76	18	.....
THE SUBURBS.																			
Alexandria .....	1,479	42	53	30	1,564	.....	.....	15	9	.....	.....	.....	1	.....	14	39	20	4	0 17 6
Ashfield .....	86	86	.....	.....	86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	3	1 2 6
Balmain .....	143	143	12	.....	155	.....	.....	.....	21	.....	.....	.....	.....	.....	.....	21	13	4	0 17 6
Burwood .....	62	62	.....	.....	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Camperdown .....	40	40	111	.....	151	.....	.....	.....	26	.....	.....	.....	.....	.....	.....	26	8	2	0 10 0
Concord .....	15	15	.....	.....	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Croydon .....	7	7	.....	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Darlington .....	35	35	7	.....	42	.....	.....	.....	1	.....	1	.....	.....	.....	2	4	.....	.....	.....
Drummoyne .....	10	10	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Enfield .....	4	4	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Five Dock .....	2	2	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glebe .....	227	227	52	.....	279	.....	.....	.....	32	.....	.....	.....	.....	.....	.....	32	20	8	2 10 0
Granville .....	11	11	.....	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kogarah .....	8	8	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leichhardt .....	178	178	38	.....	216	.....	.....	.....	32	.....	.....	.....	.....	.....	.....	32	38	12	3 2 6
Marrickville .....	57	57	7	.....	64	.....	.....	.....	6	.....	.....	.....	.....	.....	6	6	4	4	0 10 0
Macdonaldtown .....	37	37	.....	.....	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	0 2 6
Newtown .....	144	144	4	.....	148	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22	5	3 2 6
Paddington .....	2,920	161	86	23	3,090	.....	.....	1	54	.....	.....	.....	2	.....	29	86	22	6	2 15 0
Petersham .....	50	50	.....	.....	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	2	2	0 10 0
Randwick .....	786	64	108	15	973	.....	.....	2	31	8	.....	.....	.....	.....	15	56	13	1	1 10 0
Redfern .....	4,193	173	610	124	5,110	47	4	51	147	.....	.....	1	.....	4	56	310	39	9	2 12 6
Rockdale .....	4	4	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Strathfield .....	45	45	.....	.....	45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
St. Leonards .....	38	38	4	.....	42	.....	.....	.....	2	.....	.....	.....	.....	.....	2	3	.....	.....	.....
St. Peters .....	27	27	1	.....	28	.....	.....	.....	1	.....	.....	.....	.....	.....	1	1	3	1	0 5 0
Waterloo .....	1,643	81	20	18	1,662	.....	.....	7	27	.....	1	.....	.....	.....	15	50	6	2	0 7 6
Waverley .....	1,668	85	146	16	1,915	5	.....	11	42	6	1	1	.....	3	16	85	13	1	0 10 0
Woollahra .....	1,820	203	337	26	2,386	73	4	21	62	.....	.....	.....	.....	.....	10	170	6	2	1 12 6
Total, Suburbs .....	14,409*	2,039	1,596	252	29,166	125	8	108	493	14	3	2	3	7	157	920	257	67	28 15 0
Grand Total .....	31,616	3,045	2,965	1,625	50,121	362	9	108	1,056	17	6	24	15	29	1,313	2,907	333	85	.....

## SERVICES cut off to prevent waste and non-payment of rates.

District.	To prevent waste.	For non-payment of rates.	District.	To prevent waste.	For non-payment of rates.
City of Sydney .....	955	39	North Sydney .....	21	1
Alexandria .....	46	2	Paddington .....	79	2
Ashfield .....	3	2	Petersham .....	9	...
Balmain .....	15	1	Randwick .....	18	1
Burwood .....	2	2	Rockdale .....	2	...
Camperdown .....	41	3	Redfern .....	138	4
Darlington .....	26	.....	St. Peters .....	9	3
Glebe .....	106	1	Waterloo .....	73	1
Granville .....	1	.....	Waverley .....	11	.....
Leichhardt .....	8	4	Woollahra .....	31	4
Macdonaldtown .....	13	1			
Marrickville .....	13	2	Total .....	1,673	77
Newtown .....	50	4			

## RETURN of Gas-engines and Water-troughs connected to the Water-mains in the City and Suburbs for the Year ending 31st December, 1890.

District.	Gas-engines.	Water-troughs.	District.	Gas engines.	Water-troughs.
<b>CITY.</b>			<b>SUBURBS.</b>		
Bourke Ward .....	7	Nil.	Balmain .....	1	Nil.
Brisbane Ward .....	7	"	Five Dock .....	Nil.	1.
Cook Ward .....	3	"	Leichhardt .....	1	Nil.
Denison Ward .....	7	"	Newtown .....	2	1
Fitzroy Ward .....	1	"	Redfern .....	1	Nil.
Gipps Ward .....	2	"	Rockdale .....	Nil.	3
Macquarie Ward .....	5	"	Woollahra .....	1	Nil.
Phillip Ward .....	1	"			
Total City .....	33	Nil.	Total Suburbs .....	6	5
			Total City and Suburbs..	39	5

## NUMBER of Gully-shafts to which water was laid on during the year ending 31st December, 1890.

<b>CITY.</b>		<b>SUBURBS.</b>	
Brisbane Ward .....	7	Ashfield .....	13
Cook Ward .....	10	Paddington .....	1
Denison Ward .....	2	Redfern .....	18
Fitzroy Ward .....	9	Woollahra .....	1
Phillip Ward .....	9		
Total City .....	37	Total Suburbs .....	33
		Total City and Suburbs .....	70

## RETURN of Main Drillings and Extensions in the City and Suburbs for the year ending 31st December, 1890.

District.	Drillings.	Extensions.	District.	Drillings.	Extensions.
<b>CITY.</b>			<b>SUBURBS.</b>		
Bourke Ward .....	20	59	Glebe .....	88	115
Brisbane Ward .....	44	49	Granville .....	100	22
Cook Ward .....	132	212	Hurstville .....	2	1
Denison Ward .....	76	179	Guildford .....	3	1
Fitzroy Ward .....	80	112	Leichhardt .....	185	275
Gipps Ward .....	35	51	Marrickville .....	201	159
Macquarie Ward .....	40	81	Macdonaldtown .....	12	22
Phillip Ward .....	40	117	Newtown .....	97	143
Total City .....	467	851	Petersham .....	143	171
			Paddington .....	61	117
			Redfern .....	132	175
			Randwick .....	61	82
			Rockdale .....	166	52
			St. Peters .....	58	25
			Strathfield .....	40	46
			North Sydney .....	352	273
			Waverley .....	69	65
			Waterloo .....	61	57
			Woollahra .....	100	155
			Total Suburbs .....	2,766	2,455
			Total City and Suburbs ...	3,233	3,306

D. C. ROBERTSON,  
Inspector.

Sir,

Sir,

The Water-works, Crown-street, 7 January, 1891.

I have the honor to make the following report upon the working of all the pumping-engines, &c., during the year ended 1890.

The main engines (rotation pump) kept up the supply to Paddington reservoir till the beginning of August last, when the Worthington pumps were put on regularly, having been occasionally pumping previously, and were kept on till it was necessary to stop them for the purpose of making some pipe-connections on the 10th December, the pumping being taken up by the old rotation pumps, which was continued till the 14th December, when the defect in crank-shaft caused a fracture in fly-wheel, the work then being taken up by the Worthington pumps. I would recommend that the new crank-shaft be fitted to rotation pumps, in order that it may be in readiness to take up the pumping if required. During the year the quantity pumped to Paddington reservoir by the pumps was 992,457,890 gallons, being an increase of 149,389,740 on the previous year, and on the corresponding quarter of the year previous an increase of 41,637,970 gallons. Tangye pumps were put down to take up the work of the Blakes, which were about to be discarded. The Tangyes started in the month of August; they are limited in capacity to do the work, but were the largest procurable; they consequently have to be driven rather fast, causing great wear and tear and use of coal.

Advantage was taken to do several repairs whilst pumping at the old engine-house whilst making connections. During the year the water pumped to Woollahra reservoir was 367,108,960 gallons, being in excess of the previous year 27,945,810 gallons, and an increase in the corresponding quarter of the previous year of 1,161,300 gallons. The boilers and connections are in good working order.

The pumps at Woollahra reservoir were daily pumping to Waverley reservoir, excepting being laid up in July last for annual overhaul, boiler-flue-cleaning, &c. The engine was fitted with new mortice-wheel, and general overhaul and repairs as far as time would permit, and has since been working satisfactorily. During the year the water pumped by these pumps to Waverley reservoir was 85,113,600 gallons, being an increase of 4,433,820 gallons on the previous year. The pumps at the North Shore works have been working constantly, having pumped for the year 30,420,740 gallons, and for the quarter just ended 11,852,780 gallons, being in excess of similar quarter of the year previous 7,416,600 gallons.

The Botany pumps were worked under steam on the 6th and 7th January, owing to a fracture in the supply main from Potts Hill, and have been turned round by levers every week during the year; a boiler-fire has been kept banked and changed periodically.

I have, &c.,

J. FYFE, E.O.P.

J. Trevor Jones, Esq., Engineer for Water Supply.

RETURN of Water pumped and Coal consumed, January 1st to December 31st, 1890.

From.	To.	Water pumped.	Coal consumed.
		Gallons.	Tons. cwt. qr.
Crown-street .....	Paddington .....	992,457,890	971 16 0
" .....	Woollahra .....	367,108,960	1,384 17 0
Woollahra .....	Waverley .....	85,113,600	228 0 2
North Shore .....	North Shore .....	30,420,740	231 7 0
Botany .....	Sydney .....	9,615,120	49 0 0
			Consumed in keeping fire banked
			20 12 0

To Engineer for Water Supply.

J. FYFE, E.O.P.

Sir,

Crown-street Depot, Meter-tester's Office, 2/1/91.

I have the honor to submit to you the following reports of new and old water-meters for the year ending 31st December, 1890; also the repairing of water-meters, and examining and testing all cocks and water-fittings which came into force on 1st July, 1890. To meet the importers and others that have had large stocks of inferior cocks and fittings on hand, in testing and examining, we have condemned only the very worst of them. Out of the whole number of cocks and fittings that have been passed, not 5 per cent. have been of the best quality.

I have, &c.,

W. J. ADAMS.

Engineer for Water Supply.

New Meters tested before connection, and Old Meters disconnected for adjustment during the year 1890.

Name of Manufacturer.	½"		¾"		1"		1¼"		1½"		2"		2½"		3"		4"		6"		Totals.		Re-turned defective.	Re-paired.
	New.	Old.																						
J. Tylor & Sons .....	1	44	225	53	38	30	11	8	3	4	2	1	3	4	6	2	1	1	1	323	118	13	50	
Siemens & Halske .....		15	154	36	33	6	7	1			1									241	43		19	
Guest & Chrimes .....	1	3	133	21	12	20	12	5		2				2						175	163	6	42	
Davies, Shephard & Co. ....			9	3	2	2								1		1				13	5		4	
R. Laidlaw & Son .....		4	40	4	2		2							1		1				49			11	
Dewrance & Co. ....		1		1		1														1	2		1	
D. R. & Droop .....			16	32	7	10	2	3	3		3			1		2				34	55	21	17	
J. Danks & Son .....			2	1																2	2		1	
Mennecke .....		1	14	3				1	1											17	4		1	
Hersey Meter Co. ....			1																	1				
Valentin .....			1																	1				
Macfarlane, Strang, & Co. Ltd	2																			2				
Total, new .....	4	68	630	94	79	21	20	18	22	10	8	1	8	9	13	7	13	1	2	863	340	43	116	
" old .....			153		79		20		22		8		8		13		13		2	540				
Grand total .....																				1,203				

W. J. ADAMS,  
Meter-tester.

## TAPS TESTED, 1890.

Month.	Class of Taps.										Totals.	
	Bits.	Mains.	Paths.	Balls.	Showers or stops.	Spring.	Lavatory.	Unions.	Wheel-valves.	Stamped.	Defective.	
July .....	Stamped .....	1,685	619	740	383	214	...	2	16	6	3,665	.....
	Defective .....	65	33	48	76	29	...	...	...	...	.....	251
August .....	Stamped .....	2,404	854	954	646	470	...	35	109	...	5,472	.....
	Defective .....	91	46	96	67	39	19	...	...	...	.....	348
September .....	Stamped .....	3,572	922	1,087	589	702	...	5	755	1	7,633	.....
	Defective .....	45	11	261	68	24	...	...	5	...	.....	414
October .....	Stamped .....	2,152	614	1,200	802	410	...	7	643	3	5,831	.....
	Defective .....	31	30	99	34	19	...	...	...	...	.....	213
November .....	Stamped .....	2,252	996	197	771	1,007	...	13	334	...	5,570	.....
	Defective .....	54	83	69	22	39	...	...	17	1	.....	290
December .....	Stamped .....	2,557	459	543	971	1,119	42	109	362	2	6,164	.....
	Defective .....	142	57	23	106	27	8	16	60	1	.....	440
Total, stamped .....											34,335	1,956
Total, defective .....											1,956	
Grand Total .....											36,291	

W. J. ADAMS,  
Meter Tester.

## WATER METERS.

Water Supply and Sewerage Department, Sydney, 5 January, 1891.

The number of Meters fixed during the Year 1890 is as under:—

Sydney and Suburbs	...	...	...	...	...	...	800
Government	...	...	...	...	...	...	26
Total	...	...	...	...	...	...	<u>826</u>

The total from the commencement stands thus:—

Taken over by Board, May 12, 1888	...	...	...	1,625
Issue to December 31, 1888	...	...	...	2,448—year's increase, 823
Do do 1889	...	...	...	3,814— do do 1,366
Do do 1890	...	...	...	4,614— do do 800
Government Bonds, May 12, 1888...	...	99	}	144— do do 45
Do increase to December 31, 1890	45			
				<u>4,758</u>

Number of Meters in operation, according to Meter

Readers' return, December 31, 1890	...	...	3,788 (123 Government.)
Disconnected from commencement	...	...	970
			<u>4,758</u>

The large increase in 1889 was due to the fact of it being compulsory, at that time, to affix a meter in all cases where more than two horses or cows were kept. Since that By-law has been altered many meters have been disconnected and fees paid instead. Gardens and gas engines can be supplied with water also on payment of fee, and this has affected the demand for meters. Otherwise, I hope the progress made will be considered satisfactory.

Meters for building purposes are largely used now, and disconnected, in all cases, as soon as the buildings are completed.

The number of meters which became temporarily inoperative during the year was 385; in nearly all cases they were promptly attended to, and an equitable adjustment made.

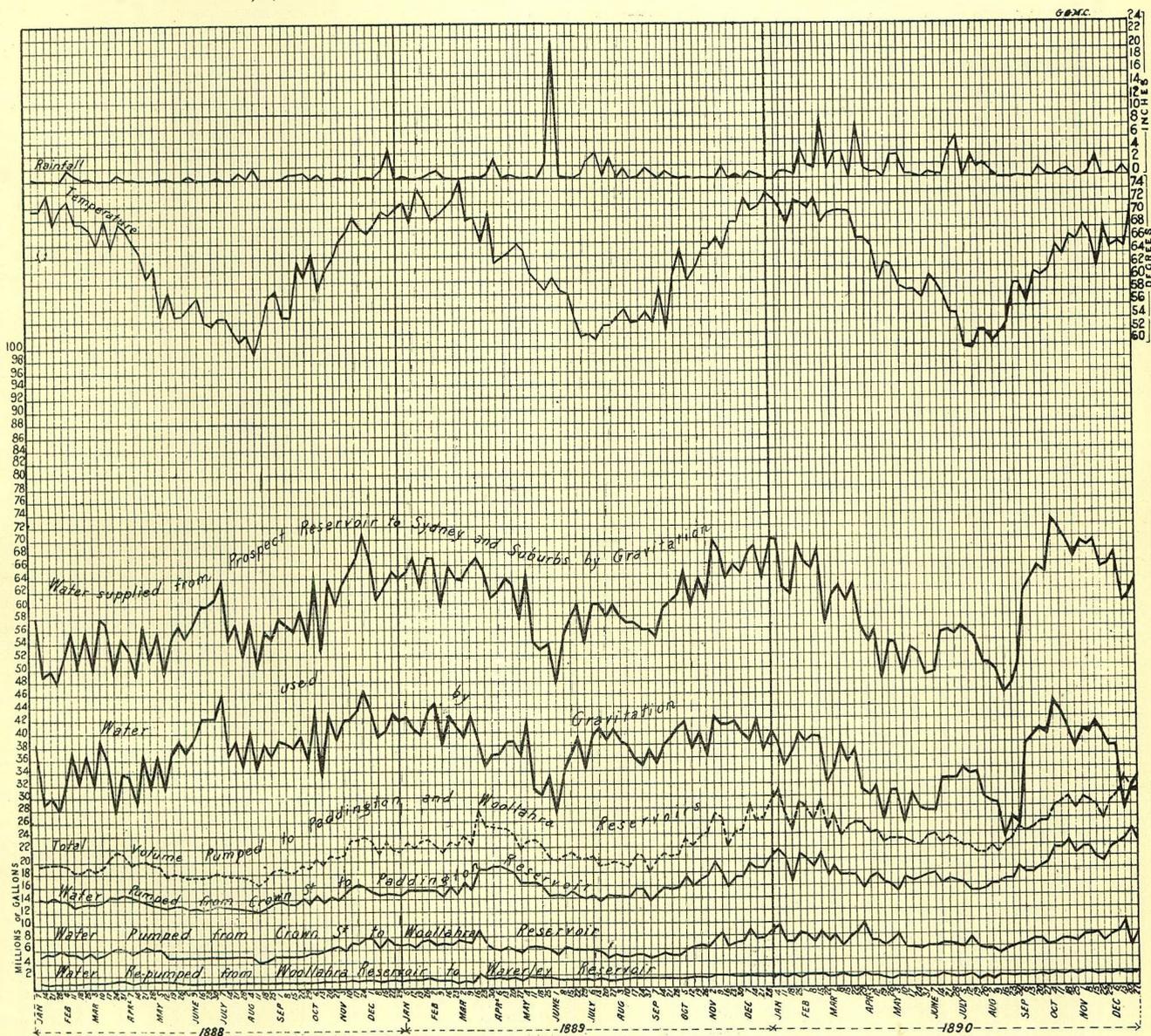
E. R. ABSELL,

Engineer for Water Supply.

Meter Clerk.

# BOARD OF WATER SUPPLY AND SEWERAGE SYDNEY

*Table showing the Volume of Water supplied Weekly from Prospect Reservoir by Gravitation to Sydney and Suburbs during the Years 1888, 1889 and 1890, the distribution of this Water by Gravitation, and by Pumping, the Mean Shade Temperature and the Rainfall for each Week.*



(Sig. 2-)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,  
SYDNEY, NEW SOUTH WALES.

## Board of Water Supply and Sewerage,

Office of Engineer for Sewerage, 5 January, 1891.

Sir,

I have the honor to submit, for the information of the Board, my report on the working of the Sewerage Branch of the Department for the year 1890.

## Transfer of Sewers, &amp;c.

The Metropolitan Water and Sewerage Act Amendment, which transferred the control of the existing city and other systems, as well as the main and subsidiary sewers of new system, carried out under the authority of the Minister for Public Works, under the powers conferred by the Principal Act 43 Vic. No. 32, to the Board, was passed by Parliament on 30th September, 1889. In pursuance of the 13th section of the Amending Act a Proclamation was made on the 18th day of December, 1889, transferring the undermentioned works from the Minister to the Board's jurisdiction, viz. :—

1. Main Northern Out-fall Sewer, from Ben Buckler, on the scaboard, to Oxford-street and Liverpool-street, with the following branches :—
  - (a) Liverpool and Kent Street Branches, and subsidiary sewers.
  - (b) South-western Branch, from Oxford-street to Prince Alfred Hospital, with subsidiary sewers.
  - (c) Western Branch, Carlton-street to Bay-street.
  - (d) Northern Branch, from Oxford-street to Castlereagh-street to Bridge-street to Macquarie-street.
  - (e) Overflow Branch, from Main Northern Out-fall to Rushcutter's Bay.
2. Main Southern Out-fall Sewer, from Sewage Farm to Nobbs-street, Surry Hills, and all subsidiary sewers flowing into same, together with all buildings, machinery, and carrier.
3. That portion of Sewage Farm now being utilized for the filtration and disposal of sewage.
4. All subsidiary sewers constructed by the Government Sewerage Department in the Boroughs of Redfern, Paddington, and Woollahra. [*Vide* Table No. 1.]
5. Stormwater ducts at the undermentioned places :—
  - Wentworth Park.
  - Pymont Bridge Road.
  - Wattle or Darling Street.
  - Baptist Estate.
  - Alexander-street, from Evelcigh Railway Yards to Copeland-street, Alexandria.
  - Park-street, Macdonaldtown.
  - Dowling-street, Redfern.
 [*Vide* Table No. 1.]

In addition to the foregoing, 72,238 lineal feet, or 13·7 miles, of subsidiary sewers, varying in size from 6-inch to 24-inch diameter, have been transferred from the Government to the Board. [*Vide* Table No. 1a.]

## City Sewers transferred.

The length of city sewers, of various sizes, transferred to the Board on the passing of the Amending Act, is 70·27 miles.

## Sewers constructed by the Board.

During the year, surveys and plans have been prepared, and contracts carried out for 50,740 lineal feet, or 9·61 miles, of sewers varying from 6 inches to 24 inches in diameter, and 3 feet by 2 feet 2 inches oviform sections; also, 2,550 feet of storm-water drains, varying from 12-inch to 5 feet 6 inch diameter. [*Vide* Table No. 2.]

## Length of Sewers under Jurisdiction of the Board.

The total length of sewers, comprising the existing and new systems now under the jurisdiction of the Board, is 122·61 miles.

## Contracts Let.

During the year, contracts to the amount of £63,586 have been let, and, with few exceptions, completed. Those unfinished are making good progress, and, in the course of a few months, I hope to see the whole of the reticulation of the immediate boroughs completed. Owing to the inclement weather which prevailed during the last year, and the quantity of subsoil water and bad ground met with, the works have not been carried on without some difficulty.

Reticulation

### Reticulation of the Suburbs.

Surveys are being made and plans prepared for the completion of the reticulation of the Boroughs of Woollahra and Waverley, and for the drainage of the following Boroughs:—Randwick, Alexandria, Macdonaldtown, Newtown, Camperdown, and Glebe. Surveys will be taken in hand early this year for reticulation of the Boroughs draining into the Western Suburbs Scheme. It is desirable that property owners should have drainage facilities without unnecessary delay, and, with this object, the surveys generally are being pushed on, so that the reticulation work can be carried out at same time as the intercepting ducts.

The unsatisfactory manner in which land has been subdivided in some of the suburbs by the omission of accommodation lanes between building blocks, and disregard of drainage levels, renders the work of reticulation somewhat difficult. It is to be regretted that a responsible authority has not jurisdiction over the subdivision of land intended for residential areas.

### New Sewers within the City boundary.

The general character of the buildings in the business centres of the City is undergoing a marked change, and the question of basement accommodation is becoming one of great importance.

The extent of basement accommodation is at present limited by the levels of the existing sewers; the system being on what is termed the "combined," *i.e.*, conveying storm-water as well as sewage, renders basements connected thereto liable to flooding during heavy rainfalls, as the sewers are at such times surcharged and working under considerable pressure.

To meet the growing requirements and to afford the greatest facilities for drainage on sound sanitary principles, the Board has wisely determined to initiate a new system of sewers on modern lines within the city. The sewers will be connected direct with branches of the main Bondi outfall and laid at greater depths than existing ducts. The existing house drains will be disconnected from the old and connected with the new sewers, and provision will be made for thoroughly aerating the public sewer and ventilating the branch drains according to the by-laws of the Board. Surveys and levels have been taken with this object, for sewers in the principal business thoroughfares, *viz.*, George, Pitt, Market, and King Streets, and plans will be ready for contract this month.

### Relief Sewers to Existing System.

With the view of relieving the main outfall sewers, discharging at Fort Macquarie and Blackwattle Bay, during heavy rainfalls the question of constructing overflow sewers has been inquired into, and the necessary levels are being obtained. The construction of the ducts alluded to will be of great service in the low-lying areas, by preventing flooding of cellars and basements by the surcharge water from old sewers.

### Condition of Existing Sewers, City.

In July last I instructed the Assistant Engineer and City Sanitary Inspector to examine some of the main sewers of the city system, and the result of such inspection showed that they were in anything but a satisfactory condition, so much so that it is a matter of surprise that they did not collapse in places. On several sections the invert had entirely disappeared, and sides considerably damaged, on others the arch showed signs of weakness.

The Board instructed that the defective sewer should be put in good condition, and the work was taken in hand at once; up to the 31st December last very good progress had been made. The following sewers have been dealt with:—

		Invert. Feet, super.	Arch. Feet, super.	Pointing. Feet, super.
Northern section	... { Young-street	... 1,435	24	7,424
	... { Phillip-street	... 420	...	1,715
South-western section	... Hay-street	... 1,648	...	21,350
		<u>3,503</u>	<u>24</u>	<u>30,489</u>

The cost of this work up to date, including labour and materials, is £571 2s. 9d.

During the year a few subsidiary sewers were blocked through street *detritus* and other gully matter. These were cleaned and repaired by the maintenance men. In cleaning the sewers the defective condition was clearly seen; the joints in many places were broken, and the jointing material had entirely disappeared. In such a state the liquid sewage, instead of being carried off, finds its way through the open joints into surrounding soil, and the solid matter collects in the pipes, and finally causes a stoppage.

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The foregoing applies to the older sections of subsidiary sewers. Those of later date are constructed on modern lines, and are more easily maintained. The cost of maintenance, however, could be considerably reduced if street gullies were disconnected from them.

The carrying out of the low-level system—*i.e.*, for areas lying between the 40-foot contour and high-water mark which cannot be drained by gravitation into intercepting branches—will afford an opportunity of improving the condition of the sewers before referred to, by constructing new and much smaller ducts for house sewage and roof drainage only, leaving the existing ducts for storm-water disposal. The result will be economy in maintenance and greater facilities for ventilating and aerating the sewers.

During the year the sewer in Pitt-street, south of Bathurst-street, became surcharged on one occasion, and on examining the locality it was found that the storm-water was not distributed as it should have been, the drainage from one zone being carried into the sewer of another, instead of into its own duct. This has been rectified, and the storm-water has now been so distributed that each duct carries off the drainage of the zone through which it passes.

### Outlets of Sewers draining into the Harbour.

The various outlets of sewers discharging into the harbour have been attended to. The large duct through Wentworth Park has been kept clear of silt, and no complaints have been made in connection with same. Through the courtesy of the Engineer for Harbours and Rivers, two outfalls have been dredged, and great improvement has been effected thereby, *viz.*, at Woolloomooloo Bay and King-street. At the latter place the sewer has been extended, and now discharges at end of jetty below low water. A report was received from the Health Board in connection with the insanitary condition of King-street Wharf, and steps were taken by the Board and City Council to remedy the evil. The remedial work is now in hands, and will be shortly completed.

An inspection of the eastern section of the city system, discharging into Woolloomooloo Bay, showed that the sewers in the vicinity of the outfall were silted up to such an extent as to reduce the discharging capacity fully 50 per cent., the sewers had not been cleaned for three years previous to the Board assuming control. The Board directed that they should be attended to, and the work was taken in hand at once, the Harbours and Rivers Department having kindly placed a punt for receiving the sludge at my disposal, also providing towage to reclamation works now being carried out by them.

### OUTFALL AND SUBURBAN SEWERS.

#### Condition of the Main Northern and Southern Outfall Sewers, new system, and Suburban Subsidiary Sewers.

The Sanitary Inspector in charge of the suburban district reports that during the year 673 cubic yards of silt were removed from the Bondi outfall and branches, and 893 cubic yards from the Botany outfall. The silt principally consisted of road *debris* and other gully matter; owing to the gullies, connected to the branches discharging into the intercepting sewer, not being provided with gratings, large substances are carried into the main duct, which considerably assists in the deposit of silt.

He further reports that five (5) stoppages occurred in the branch sewers; these were in connection with the Paddington and Woollahra sections, and are attributed to carelessness of the contractor's men in allowing hardened cement and pieces of timber to pass into the pipes; the stoppages were removed by the maintenance men.

The hydrants laid down by the Water Department for flushing purposes have been useful in keeping sewers clean and free from deposit.

The various penstocks and gas-checks have been examined weekly, kept well oiled, and are in good working order.

During the year all the manholes in Bourke-street main sewer, in the Borough of Waterloo, have been altered from side-chambered ventilators to direct ones; this admits of the sewer being examined without disturbing the surface of the road, and facilitates overhead ventilation.

A thorough inspection of the two main outfalls and branches show that they are in good condition.

When the storm-water sewers proposed to be carried out by the City Council on the southern watershed are completed, the amount of silt which will have to be dealt with in the southern outfall will be reduced to a minimum; it is to be hoped that this important work will not be delayed, as the subsidiary sewers on the lower levels are seriously interfered with at the time when they are required to work freely, by the quantity of storm water discharged into the main duct.

### Storm-water Sewers.

The storm-water sewers at Rushcutter's Bay, Dowling-street, Baptist Estate, and Alexandria have efficiently served the purpose for which they were carried out. Sewage

### Sewage Farm.

The manager of the sewage farm, Mr. J. N. Oxley, reports that the area under cultivation is 4 acres 3 roods, and the crops produced to 31st December, 1890, were 23,500 cabbages, 11 tons turnips, 39 tons lucerne, 5'8 tons sorghum; the total amount received for same being £198 0s. 1d.

The amount of sludge dredged from precipitating chambers at Inlet House was 1,565 cubic yards, in addition to which 50 cubic yards was obtained from filter beds; the whole of the sludge was used on the irrigation beds in growing the above crops.

The quantity of lime used in Inlet House during the year was 21½ tons.

The whole of the screens, travelling gear, grabs, valves, &c., are in good working order. The locomotive is in good running order, the only repairs required during the year being new brasses.

The manager further reports that there is a standing crop, available for purchase, the value of which he estimates at £50.

### Extension of Cultivation Areas.

A contract has been let for levelling and preparing additional irrigation areas; this is making good progress. Plans are nearly completed for an extension of filtering tanks on the Botany Bay side of farm; also for a subsoil drain which will admit of more rapid filtration of water in the tanks.

### Analysis of Effluent Water.

Analysis of the effluent water have been made by Mr. Hamlet, Government Analytical Chemist, with favourable results. The analysis clearly demonstrates the suitability of the site and soil for purifying the city sewage by land filtration. The character and density of the crops raised from the soil, which is raw sand, is ample evidence of the value of liquid sewage when properly applied. Details of analysis by Mr. Hamlet are shown in Appendix marked A.

### House Sanitation (City).

The by-laws under which all premises in the City or Suburbs were to be drained were gazetted on the 30th day of December, 1889.

The number of houses which were connected to the public sewers at the date of transfer of the city system to the control of the Board was, according to the records of the City Council, 18,000.

### House Connections.

During the year the house connections carried out under the Board's by-laws were:—City, 961; Borough of Redfern, 1,047; Borough of Waterloo, 201; Borough of Woollahra, 486; and Borough of Paddington, 2,070. Total, 4,765.

With reference to the number given for the City, a large percentage was for a reconstruction of the house system according to the by-laws.

### Drainage Plans.

In connection with the work of house drainage, 2,184 plans or diagrams were prepared, representing 4,765 houses, and the amount of fees returned to accountant for same was £1,027.

### Unassessed Properties.

A considerable amount of work was done by an officer of this branch, with one from the assessors, in making an inspection of all hitherto unassessed property in the City, which resulted in additional revenue to the amount of nearly £2,372 being obtained.

### Defective Drainage.

The City Sanitary Inspector, Mr. Rhodes, reports having served 345 notices to alter and repair defective drainage. Out of the number, 101 owners complied with the Board's demands; the remainder must be further dealt with, as provided by the by-laws.

The reports of the Inspector of examinations of existing drainage in the City show that the best localities and first-class dwellings are not exempt from the effects of bad drainage and imperfect sanitary arrangements; in many cases the state of the drains, &c., were absolutely dangerous to the occupants.

The Suburban Sanitary Inspector, Mr. McKenzie, reports having served 57 notices to alter defective drainage, out of which 25 have complied with the Board's demands; the remainder will, he states, be attended to when a new sewer is laid by the Department.

Licensed

### Licensed Drainers.

During the year it was found necessary to cancel the licenses of five drainers, and ten others were cautioned by the Board. The system of issuing certificates as to work being carried out according to the by-laws has operated very well during the year; the public are now availing themselves of the protection afforded them by the Board.

Taking the rate of progress made in the year, it is within the bounds of possibility that the immediate suburbs will be in a thorough sanitary state in the course of a few years, and the "cesspits" and "pan" system, with their attendant abominations, will be things of the past.

### Sanitary Plumbing.

In this section of the Department it was considered advisable by the Board that the plumbers, who practically had the lives of their clients in their hands, should prove their fitness to undertake such important work as sanitary plumbing, and with the view of testing the capabilities of the licensed plumbers in sanitary work, the Board ordered that before licenses should be issued it would be necessary for them to undergo an examination in the practical and theoretical branches of the trade. This rule was, however, modified to meet cases where old-established firms had held licenses for years. The limit was restricted to a five years tenure of license, and all plumbers who had not held licenses for that period were called upon to pass an examination, the examination consisting of bench work, sanitary fittings, and hot-water supply by diagrams. The results of examination for the past year are, viz. :—

PLUMBERS HOLDING LICENSES					PLUMBERS ATTENDING				
<i>(a) Under five years.</i>					<i>(b) For the first time.</i>				
Number attended	...	...	...	57	Number attended	...	...	...	73
Passed	...	...	...	23	Passed	...	...	...	42
Failed	...	...	...	34	Failed	...	...	...	31

In *(a)* division, of the number of candidates only 40·35 % passed; in *(b)* division, 57·53 % passed the examination. Examinations are held quarterly, and the fact of a candidate failing at an examination does not bar him from presenting himself again; the object of the Board being to improve the status of the plumber, as well as assuring the public that plumbers licensed by them are capable of undertaking the work entrusted to them. During the past year one plumber's license was cancelled, and five were cautioned by the Board.

The Inspector of Sanitary Plumbing, Mr. Clarke, reports that during the year he served 310 notices to alter defective sanitary fittings. Of the number, 123 properties have been altered in accordance with the by-laws. Others are in progress, and some will have to be dealt with as provided for in the Board's by-laws.

### Inspection of Residential Hotels.

The Inspector has examined twenty-nine residential hotels, and reported on the sanitary condition of same. The reports have at various times been brought before the Board, and the proprietors have been requested to comply with the requirements of the Act.

The reports generally disclose a most unsatisfactory state of things in connection with the sanitary fittings of the hotels inspected. In some instances the proprietors have taken action to remedy the defects pointed out. In others it will be necessary, in the interests of public health, to take measures to enforce the law. Of the many instances of defective sanitary fittings, the following will convey an idea of the sanitation of some of our leading hotels. In one case the top and sides of an indoor water-closet trap was perforated by sewer gas. The closet was situated within 10 feet of the principal dining-room. The soil-pipe was unventilated, and received the exhaust steam from serving-room. In another case the joints of the soil-pipe, which was inside the building, were open, and in several places where it had been cut to clear stoppages the workmen had neglected to close the openings. In another instance the soil-pipe was so badly constructed that the joints were fully 2 inches apart, allowing the soil to flow over the place, and, finally, on to the pathway.

Of the various private residences and office chambers examined, the following examination notes will illustrate the dangerous state of internal fittings, viz. :—In one dwelling the bath waste was found discharging into the soil-pipe; the discharges from latter choked the waste from bath, and on two occasions the Inspector found the faecal discharges from the closet in the bath. In several dwellings the soil-pipes, fixed inside, were found to be perforated by sewer gas.

In two buildings, used as offices and work-rooms, the soil and rain-water pipes were connected together, and the hopper heads of down spouts finished close under a window. The "trap" of a closet in one instance had no seal, and was broken on top.

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The foregoing cases clearly show the necessity for a radical change being made in connection with the sanitary fittings of premises, both public and private, in this city. The danger to health is intensified by the fact that not only are the majority of house-drains not ventilated, but they are connected with an unventilated system without the intervention of a "disconnecting trap." I might here mention that instances have been brought under my notice by the inspectors, of sewers laid under dwellings which were completely stopped by faecal and other matter, the joints being quite open, and in places the pipes were broken. It is obvious, under such conditions, that dwellings could not be otherwise than unhealthy, the sewers, instead of contributing to the healthiness of the premises, became the vehicle of disease by conveying sewer gas into the dwelling.

The carrying out of the by-laws in the earlier part of the year was not effected without considerable trouble and friction, but it is gratifying to be able to report that the medical profession, architects, and general public, are becoming alive to the importance of sanitation. Many buildings, both public and private, have had the house drainage and sanitary fittings entirely reconstructed, without compulsory action of the part of the Board.

The process of reconstruction in the City must necessarily be gradual, as any other course would tend to cause an undue disturbance in the labour market, and be detrimental to the public interests. It would be impossible for even the large number of plumbers licensed by the Board to meet the demands in a reasonable time, considering the amount of work carried out in the suburbs.

### Sanitary and Plumbing Certificates.

The Inspector further reports that 500 certificates were issued to plumbers, that their work was carried out according to by-laws. Many of the jobs were of considerable magnitude and first-class workmanship, and reflected great credit on the plumbers who carried them out.

The Department has been greatly assisted, in dealing with defective drainage in the City, by the City Corporation, through Mr. Seymour, Chief Inspector of Nuisances. Fully eighty cases of defective drainage were reported by that officer, and action was taken by the Board to have same rectified. The reports showed that numerous instances existed where premises were connected with the public sewers without any proper means of flushing.

### Ventilation of Public Sewers.

This important question has been inquired into, in connection with the new system, for some years past. By direction of the late Engineer-in-Chief for Government Sewerage Department, Mr. W. C. Bennett, M. Inst. C.E., exhaustive observations were made in the main outfalls on the movement of air currents in the sewers. The result of such observations clearly showed that the previously accepted rule of air currents travelling in a contrary direction to the sewage flow would not hold good under all conditions. On quick grades it was found that the air current travelled in the direction of the flow; on others, easier grades, it was also found that the wind exercised considerable influence on the direction of the current. Observations have been made at Wimbledon, England, by Mr. Santo Crimp, A.M.I.C.E., with like results. After the completion of the main outfalls and admission of the city sewage complaints were made of the bad smells emitted at certain times from the open ventilating shafts in the roadway. In order to afford relief to the localities affected permission was sought from owners of properties to erect ventilating shafts against their buildings—the Government not having legislative power to attach same to properties—in each case the permit was granted without demur. Permission was also granted by Messrs. Alderson and Sons and the Poudrette and Ammonia Company to connect the branch sewers in vicinity of the works to their chimney stacks. The work was carried out in April, 1889, and the shafts and sewers have been under almost daily observation since. The result has been highly satisfactory, no complaints having since been made.

Tests were also made at various shafts where the old City system was intercepted with test-papers, prepared by steeping sheets of filter-paper in a newly-made solution of 10 per cent. of acetate of lead, and placed in shafts while slightly moist. After exposure, the papers were submitted to the Government Analyst (Mr. Hamlet, F.I.C., F.C.S.), who reported in one case that the test indicated an amount of hydrogen sulphide decidedly dangerous to health. Mr. Hamlet also fixed a scale by which the results could be determined whether the sewer air under test was dangerous to health or not.

When

When the amended Act passed, the Minister or Board were granted powers to attach shafts for ventilation of sewers to buildings, and in the early part of the year the Board instructed that plans be prepared for ventilating the public sewers. The work was taken in hand, and some preliminary tests were made as to the condition of the air in the sewers.

The first section operated upon was the Borough of Darlington and that portion of Borough of Redfern known as Golden Grove, having a population of nearly 10,000. The reticulation of the Darlington Borough and part of Golden Grove was carried out by the local Councils, the former being totally unventilated. Prior to the erection of the shafts, Mr. Dempsey, the officer appointed to supervise this branch of sanitary work, carried out exhaustive tests, in order to ascertain the condition of the sewers to be operated upon as regards "sewer gas." The results verified my previous opinion with regard to one section, viz., Darlington Borough. It was found that hydrogen sulphide was present in a form dangerous to health. During the erection of the shafts, the men employed were often compelled to stop work, being attacked by vomiting and modified forms of tonsillitis, or sewer-air throat, the Inspector also being a sufferer. On one occasion one of the men had to be removed in a semi-unconscious state. The foregoing is of importance, to show the condition of the sewers prior to being systematically ventilated and aerated.

Three months after the erection of ventilating shafts, a marked improvement was noticed in the sewers. The open ventilators, which used previously to emit noxious smells, were changed into fresh-air inducts, through which fresh air was drawn into the sewers to supply the place of the vitiated air drawn out by the exhaust-shafts. A marked decrease in the humidity of the air in the sewers is also noticeable, the range being from 98° at the inception of the work to the mean atmospheric conditions as recorded at the Observatory. This is verified by the reports from the District Sanitary Inspector, who states that since the sewers were ventilated the manholes have become dry, whereas previously they were wet.

#### Surface Air-feeds, not satisfactory.

Observations were made with the view of testing the efficiency of the open gratings of manholes as air-feeds to exhaust shafts. The result was extremely unsatisfactory. It was found that owing to the spaces between the bars of gratings becoming choked with horse manure, road *detritus*, &c., the quantity of air which passed through was small. It was apparent that the gratings could not be depended upon as adjuncts to ventilation, unless at a high cost for maintenance.

#### Overhead Air-feeds.

In lieu of the gratings specially made and tested, induct cowls were attached to shafts at certain points, and the air was thrown into the sewer, by means of the cowls, with a volume equal to 40 per cent of the prevailing wind velocity. This result has been deduced from carefully-made tests with anemometers and Observatory records.

This system of crating the sewers has been tried in England with success. A small installation was tried at Chelsea by Mr. Strachan, A.M.I.C.E. By adopting the system, which is a combination of the "plenum" and "vacuum" systems, purer air is obtained for crating the sewers, and considerable saving is effected in cost of maintenance.

#### Mean Temperature of Sewers.

Observations have been made during the year on the temperature of the sewers. The depth adopted is 10 feet below the surface, and the site precludes the possibility of returns being influenced by conditions other than connected with ordinary sewage.

On the diagram, marked Appendix B, is shown the result of last year's observations, the mean temperatures of each month being shown, as well as external temperature and humidity of the atmosphere.

Daily observations are being taken of the temperatures at different depths, with the view of determining the aids required for efficient ventilation at all times of the year.

In order to treat that portion of Redfern and Darlington draining into the City system separately for ventilation, the flow of sewer gas from the City system was cut off at Cleveland-street by a special chamber with gas check, and shafts were conducted from same over the roofs of houses on either side. It is worthy of note that in this particular locality, where the openings were sources of continual complaints, the conditions have so much altered that, on inquiries being made at intervals, the same favourable reply is received. The air exhausted from the sewer at the above point is, on the average, 48,000 cubic feet

feet in twenty-four hours. In Darlington, by the aid of 13 induct and 35 exhaust shafts, in the average about 39,000 cubic feet of fresh air per hour is passed into and exhausted from the system. The sewers are literally air-swept by means of the shafts, and thoroughly oxydized. That this accords with the true principle of ventilation of sewers, viz., to have the foul air constantly replaced by the admission of fresh air. The sewers should have a constant current often passing through them, as well as the sewage being in constant motion. In properly constructed sewers there should not be any resting place for either—motion, not stagnation, should be the object aimed at.

In the report on the drainage of Melbourne, by Mr. Mausergh, M. Inst. C.E., he states, *inter alia*, in referring to what is termed the "Harrington" system, that "with such circulation it is practically impossible that any offence can arise, and I am of opinion that power should be taken in the Metropolitan Board Bill to erect ventilators of this or other approved type on private property, of course under proper and reasonable regulations, to prevent offence and disfigurement. Arrangements should also be made to utilize the furnaces and high shafts of works factories, tramway stations, &c., to assist the ventilation of the public sewers."

The results of the system adopted in Redfern and Darlington can be summarised as follows:—Thorough oxydation of the sewer air, reduction of humidity, and consequent prevention of fungoid growth in sides of sewers, between maximum and minimum flow, economy in maintenance, and reducing the water required for flushing to a minimum.

### WORKS IN PROGRESS.

#### For erecting Shafts.

The contractors for erection and manufacture of ventilating shafts are making good progress with their different portions of the work. The district under operation comprises that part of the city draining into Lacrozia Valley on the north, and Bourke-street on the south, Paddington and eastern portion of Redfern. The total length of sewers ventilated during the year is 76,770 lineal feet, comprising an area of 370 acres, details of same are shown on Table V.

Plans and data are in course of preparation for ventilating the branch sewers in Boroughs of Paddington (Eastern and Southern portion), Woollahra, Waterloo, and portions of the city.

The main outfall sewer to Bondi will be dealt early this year. Drawings and calculations are being made as to the necessary requirements.

#### Cowl Testing Station.

In order to test the efficiency of the number of cowls submitted for approval the Board approved of a station being established at Crown-street Reservoir for that purpose.

The method of testing has received the approval of the persons most interested, by the manufacturers, it being thoroughly impartial, at the same time exhaustive.

The station is nearly of same altitude above sea level as Government Observatory, so that the daily meteorological records taken at the latter place are used in connection with the testing work. The testing was carried out by means of 4-inch vertical shafts, each fitted with anemometer chambers. These were attached to a light framing made of wrought-iron piping. The cowls for testing were placed in the shafts and allowed to remain for 24 hours; the anemometers were read every morning at 9 a.m., the cowls were then changed over, and allowed another 24 hours run; the mean of the two readings being taken as the result of the trial in each case. By this arrangement the cowls were placed on equal footing. The cowls which gave the best results were then tested against each other by connecting the two shafts by a  $\perp$  piece. The different results are now being collated, and will shortly be ready.

The above tests were made more for house-drain ventilation, and to ascertain the efficiency of the test cowls in a long draught, as would be required in public sewer ventilation; two lengths of pipes, 250 feet each, were laid and connected with upright shafts fitted with anemometer chambers. This test amply demonstrated that some cowls may be very efficient in short draughts, as house ventilation, but are practically useless for long lengths, such as would be required in public sewer ventilation. Forty cowls have been tested at the station, and I will be in a position shortly to tabulate the different cowls according to merit for public information. I should mention that establishing the station has caused a healthy spirit of rivalry to spring up between manufacturers, the object aimed at being to have the most efficient cowl at moderate cost. Great improvement has been effected in "induct" cowls, and the results of same are being collated, and will form valuable data for dealing with the ventilation question.

I wish to record my thanks for the courtesy and kindness shown by the Government Astronomer, H. C. Russell, Esq., B.A., C.M.G., in supplying me with valuable meteorological data, which has contributed largely to the working out of the results of observations made during the year in connection with public ventilation.

## Annual Death-rate.

The diagram marked Appendix C shows the annual death-rate of the city and suburbs from 1856 to 1889, kindly supplied by the Government Statistician, J. A. Coghlan, Esq., A.M. Inst. C.E.; also death-rate from latest returns of the principal Australian and English cities. It will be seen that the death-rate of the suburbs has been higher than that of the city from 1885 to 1889. The latter compares favourably with the healthiest of the English towns, but is higher than that of Adelaide for a single year. The mean death-rate, however, is given by Government Statistician as—Sydney, 19.1; Adelaide, 19.1. The comparatively high death-rate of the city and suburbs can be accounted for by reference to the latest edition of the *Wealth and Progress of New South Wales*. The Government Statistician shows that for 1889 the proportion of deaths of children under 5 years of age per 1,000 of mean population was—city, 63.42; suburbs, 61.06. Persons over 5 years of age—city, 10.25; suburbs, 9.30. The returns show that during the year 1889 epidemics of whooping cough and dysentery occurred, which might account for so high an infantile mortality.

The return will be useful for future comparison with regard to the extension of the new sewerage system to the suburbs and gradual reconstruction of the old city system.

I have, &c.,

J. M. SMAIL, M. Inst. C.E.,

Engineer for Sewerage.

The Secretary.

## RETURN of Lengths, &amp;c., of Sewers ventilated during the year 1890.

	Ventilated Area.			Sewers ventilated.					Total Length Sewers ventilated.
	Area.	No. of Shafts.	Length of Shafts.	Brick.	18"	16"	12"	9"	
<b>CONTRACT No. 1.</b>	Acres.		lin. ft.			lin. ft.			
Darlington .....	60	54	1,980	.....	470	.....	3,970	5,546	
Redfern .....	62	70	2,840	1,716	.....	.....	.....	22,374	
City .....	8	13	819	900	308	396	.....	.....	
<b>CONTRACT No. 22.</b>									
Redfern .....	67	40	1,400	.....	.....	1,122	.....	10,758	
City .....	173	160	5,600	1,386	.....	.....	.....	27,734	
<b>Totals .....</b>	<b>370</b>	<b>337</b>	<b>12,639</b>	<b>4,092</b>	<b>778</b>	<b>1,518</b>	<b>3,970</b>	<b>66,412</b>	<b>76,770 lineal feet.</b>

12th January, 1891.

T. GRIFFITHS.

## APPENDIX A.

Government Laboratory, Sydney, 15 September, 1890.

ANALYSIS of a Sample of Water received from Sewage Farm, 15th September, 1890. (Labelled.)

	Results expressed in	
	Grains per Gallon	Parts per Million.
Appearance in 2-foot Tube .....	Clear	.....
Odour on heating to 100° Fah. ....	.....	.....
Chlorine as Chlorides. Effluent from well .....	{ A 8.4	.....
.....	{ B 6.4	.....
Phosphoric Acid as Phosphates .....	.....	.....
Nitrogen in Nitrates and Nitrites .....	{ A Excess.	.....
.....	{ B Excess.	.....
Do equivalent in Nitric Acid .....	.....	.....
Do existing as free Ammonia .....	.....	.....
Organic Nitrogen, or ° Albuminoid Ammonia .....	.....	{ A .80
.....	.....	{ B .26
Oxygen absorbed in 15 minutes at 80° Fah .....	.....	{ A 4.0
.....	.....	{ B 2.2
Do do 3 hours do .....	.....	{ A 8.0
.....	.....	{ B 4.0
Hardness in degrees, Clarke's Scale, before boiling .....	.....	.....
Do do do after do .....	.....	.....
Poisonous Metals .....	.....	None.
Total Solid Residue, dried at 220° Fah .....	{ A 40.6	.....
.....	{ B 25.48	.....
Culture Examination for Pathogenic Organisms .....	.....	Present.

*General Observations on the Character of the Water.*—There is a marked difference between these two waters—that from the well B having undergone greater purification than sample A; indeed, the former is no worse in quality than many of the samples of drinking water that frequently come under my notice.

W. H. HAMLET, Government Analyst.

TABLE NO. 1.

Sewers constructed by the Government Sewerage Department before passing of Act, and transferred to Board.

Size of Sewer.	8' x 7' 6"	8' 2" x 7' 2"	7' 10" x 6' 10"	7' 8" x 6' 8"	7' 4" x 6' 4"	7' 2" x 6' 2"	6' 10" x 5' 10"	5' 10" x 4' 10"	5' 6" x 4' 6"	5' 4" x 4' 4"	5' 1" x 4' 1"	4' 6" x 3' 6"	4' 6" x 3'	4' x 3' 11"	3' 9" x 2' 11"	3' 6" x 2' 4"	3' 6" x 2'	3' 3" x 2' 6"	3' 3" x 2' 2"	3' 2" x 2' 2"	3' x 2'	Open Drains and Channels.	Circular.		Pipes.						Total Length.	
																							5' 6"	3' 9"	24"	21"	18"	16"	12"	9"		6"
Length in ft....	5,082	6,354	391	3,127	4,142	2,767	726	2,067	1,918	529	502	436	11,496	3,366	447	4,401	363	378	9,189	2,109	5,828	3,134	13,200	2,437	{ 1,198 } 745	471	3,215	5,446	8,524	34,052	250	138,290 lin. ft.

TABLE NO. 1A.

Sewers constructed by the Government Sewerage Department, and transferred to the Board after passing of Act.

Size of Sewer.	24"	21"	18"	16"	12"	9"	6"	Total Length of Sewers.
Length in feet .....	92.75	6	28	48	3,317	68,456.68	310	72,258.93 lineal feet.

TABLE NO. 1B.

Storm-water Ducts constructed by the Government Sewerage Department before passing of Act, and transferred to Board.

Size of Duct.	12' x 6' 6"	12' x 4' 10"	7' 4" x 4'	5' x 3' 6"	5' x 3' 4"	5' x 3'	4' 6" x 3'	4' 6" x 2' 6"	4' 6" x 3' 6"	4' 2" x 3' 6"	3' 6" x 2' 6"	3' 4" x 3'	Circular.			Pipes.				Total Length.
													4'	3' 6"	2' "	24"	20"	18"	16"	
Length in feet.....	544	1,564	198	280	250	132	76	402	2,387	1,026	442	773	924	359	858	1,889	86	264	42	12,556 lineal feet.

16th January, 1891.

W. D. CAMPBELL,  
Assistant Engineer.

TABLE NO. 2.

Sewers and Storm-water Drains constructed by the Board during the year 1890.

Sewer U shaped.	Circular.			3' 3" x 2' 2"	3' x 2'	Pipes.							Total Lengths.	
	5' 0"	4'	2' 0"			24"	21"	18"	16"	12"	9"	6"		
...	696	822	...	1,220	660	1,227	342	1,024	1,559	2,359	30,850	961	{ 47,342 Pipe sewers } { 3,398 Concrete do }	50,740
Storm-water Drains.														
298	...	..	924	...	...	782	...	47	260	239	.....	...	{ 1,328 1,222 }	2,550
Total lineal feet.....														53,290

SUMMARY.

New Sewers ..... 49.43 miles.  
 Storm-water Drains ..... 2.86 "  
 Existing City Sewers ..... 70.27 "

Grand total ..... 122.61 "

W. D. CAMPBELL,  
 Assistant Engineer.

10th January, 1891.

The following are the rates and charges for water and sewerage :—

WATER RATES.

1. The following rates and charges are those which the owners and occupiers of houses, tenements, and lands shall pay in respect of water supplied by the Board, that is to say :—

*(For water supplied for domestic purposes otherwise than by measure.)*

- (I.) On every house, tenement, or land of twenty pounds assessed annual value and under, ten shillings per annum.
- (II.) On every house, tenement, or land above the assessed annual value of twenty pounds, a rate of sixpence for each pound sterling on the amount of the valuation up to three hundred pounds inclusive; fivepence for each pound on the amount of the valuation in excess of three hundred pounds up to seven hundred pounds; fourpence for each pound on the amount of the valuation in excess of seven hundred pounds up to one thousand pounds; threepence for each pound on the amount of the valuation in excess of one thousand pounds up to four thousand pounds; and twopence for each pound on the amount of the valuation in excess of four thousand pounds.
- (III.) Vacant lands of the assessed value of sixty pounds and over shall be subject to a rate of twopence for each pound sterling on the amount of the valuation.
- (IV.) The like rates as those abovementioned shall be charged on all lands, tenements, and hereditaments not included in any valuation by the Municipal Council of the City of Sydney or Redfern, or of any Borough or Municipal District, and on all lands for the time being valued by the said Municipal Council of the City of Sydney or Redfern, or by such Borough or Municipal District, at a sum less than the true value thereof.

*(For water supplied by measure.)*

- (V.) The charge for water supplied from stand-pipes shall be one shilling and sixpence per 1,000 gallons.
- (VI.) The charge for water supplied from the mains by measure shall be one shilling and sixpence per 1,000 gallons.
- (VII.) The charge for water supplied to shipping will be one shilling and sixpence per 1,000 gallons. Her Majesty's Navy will be supplied free of charge.

*(For water for other than domestic purposes otherwise than by measure.)*

- (VIII.) The charge for water-troughs shall be twenty shillings per annum each.
- (IX.) The charge for gas-engines shall be five shillings per annum for each engine of two-horse power and under, and for every additional horse power beyond two-horse power an additional charge of one shilling per annum for each horse power.
- (X.) The charge for steam engines shall be one pound per annum up to three-horse power. No steam engine of more than three-horse power shall be supplied with water unless through meter.
- (XI.) The charge for organs and such like shall be two pounds per annum up to one-half horse power. No organ or such like instrument of more than one-half horse power shall be supplied with water unless through meter.
- (XII.) The charge for water used in the process of photography or any like process shall be two pounds per annum in each case.
- (XIII.) The charge for water used in the business of cleansing tripe shall be ten shillings per annum in each case.
- (XIV.) The charge for water used for tiring purposes shall be ten shillings per annum in each case.
- (XV.) The charge for water used for ventilators and refrigerators shall be—For trade purposes, two pounds per annum; and for private purposes, one pound per annum in each case.
- (XVI.) The charge for water used for dentists' lathes shall be one pound per annum in each case.
- (XVII.) The charge for water used for the business of a laundry shall be ten shillings per annum. This shall only apply in cases where not more than three persons are employed.

The Board reserve to themselves the right of insisting upon a meter being fixed at any time, notwithstanding the fact that the special fee may have been paid.

2. Assessed rates shall be paid half-yearly in advance, whether a meter is used or not. In the case when a meter is used, the meter account will be rendered only when it is in excess of the assessment. Cheques and post office orders will be received in payment of rates; but if the cheque tendered by any person as payment for rates due is dishonoured, the Board may cut off his service, and proceed for the recovery of the amount by warrant for distress or otherwise. Cheques and post office orders must be crossed in favour of the Board.

3. The minimum charge for water, whether supplied through meter or otherwise, for domestic purposes and for purposes other than domestic, is the assessed annual rate. If the water is supplied by meter, and the meter account exceeds the assessment (calculated at the rate of one shilling and sixpence per 1,000 gallons), then such excess shall be charged in addition to the assessment.

4. One meter may be allowed to supply several tenements when such tenements are occupied by one person or firm as a place of business or abode, and the meter account will be credited with the assessments of all such tenements. One service only will be allowed under these conditions, upon which the meter will be fixed, and all the water for such tenements must pass through such meter. Where peculiar circumstances entail a departure from the above, and two services are absolutely necessary, then there shall be a meter on each service pipe.

5. The Board may supply water for building purposes at the rate of five shillings per room, or by meter at one shilling and sixpence per 1,000 gallons; and the minimum charge by meter shall be ten shillings and sixpence for each work, which charge must be paid in advance. The Board may supply water for plastering rooms at two shillings and sixpence per room, and for the building of washhouses, water-closets, coppers, and chimneys, at five shillings each. The Board may supply water for the making and mixing of concrete for foundations of wooden blocks, stone cubes, or other form of permanent roadway or pavement, at the rate of one pound ten shillings per 1,000 square yards, by superficial measurement of road surface; and for all other concrete, brickwork, or masonry, at the rate of threepence per cubic yard, as measured on the work.

6. Any person who maintains horses or cows may be supplied with water, without meter, from the domestic service for the sum of five shillings per annum for each animal, in addition to the assessed annual rate of the premises on which such animal is maintained or supplied with water.

7. All lands or premises on which any one or more head of horses or cattle shall be kept or maintained, whether such lands or premises are actually supplied with water from any main water-pipe of the Board, or are otherwise rateable or not, shall be liable to an extra rate or charge (beyond and in addition to the assessed annual rate of the premises) of five shillings per head for each head of horses or cattle kept or maintained on such lands or premises.

8. The Board may supply water for gardens (and for such purpose may permit a hose and standpipe to be used) without meter, at the rate of ten shillings per annum for every 750 square feet superficial area, or part thereof, in addition to the assessed annual rate of the premises to which such garden belongs or is attached.

9. The Board may permit a supply of water for water-fountains or waterfalls of a size, construction, and form, and in a position previously approved by the Board, without meter, from the domestic service, for the sum of five shillings per annum for each such fountain or waterfall, in addition to the assessed annual rate of the premises on which such fountain or waterfall is maintained.

#### SEWERAGE RATES.

The following rates and charges are those which the owners and occupiers of houses, tenements, and lands shall pay in respect of sewerage, that is to say:—

- (I.) On every house, tenement, or land of seventeen pounds assessed annual value and under, ten shillings per annum.
- (II.) On every house, tenement, or land above the assessed annual value of seventeen pounds, a rate of sevenpence for each pound sterling on the amount of the valuation.
- (III.) Vacant lands of the assessed annual value of forty pounds and over shall be subject to a rate of threepence for each pound sterling on the amount of the valuation.

#### DESCRIPTION OF SYDNEY WATER WORKS AT END OF 1890.

The supply of water is taken from the Nepean River, and two of its tributaries, the Cordeaux and Cataract Rivers, having a catchment area of 354 square miles; across the Nepean River is thrown a concrete dam 10 feet high, which is designed to divert the stream only, and lift it to level of crown of tunnel; the water is then taken by a tunnel  $4\frac{1}{2}$  miles in length to the Cataract River; a masonry dam is thrown across this river just below the outlet of the tunnel from the Nepean, and is thence conveyed by a tunnel for about  $1\frac{3}{4}$  mile, and then a series of open canals and tunnels, making a total distance from the source of about  $40\frac{1}{2}$  miles to the Prospect Reservoir; there are  $11\frac{3}{4}$  miles of tunnels, and about  $28\frac{1}{2}$  miles of open canal from the catchment to the Prospect Reservoir.

##### *Prospect Reservoir.*

This reservoir covers an area, when full, of 1,261 acres, and has a capacity of 10,812,313,000 gallons.

The dam is earth with a clay puddle core, and is 7,300 feet long, maximum height 84 feet, with slopes of 3 to 1 on the water side, and  $2\frac{1}{2}$  to 1, and two 15-foot berms on the outer side, and is 30 feet wide on the top; the water face is covered with heavy bluestone pitching; when quite full there will be 6,744,343,000 gallons available by gravitation.

The water is drawn off from the reservoir through a valve tower into pipes placed in a brick tunnel, carried outside and round the northern end of embankment, and is discharged through controlling valves into a basin, from which it then proceeds by an open canal for 5 miles to the Pipe Head Basin, situated  $16\frac{1}{2}$  miles from Sydney, and is then conveyed by a wrought-iron pipe 6 feet in diameter to Potts' Hill, a distance of 5 miles, where the screening tank is placed, the water has to percolate through copper gauze screens of 840 mesh to the inch, and then proceeds through a 48-inch cast-iron pipe to Leichhardt, where it is reduced to 42-inch to Crown-street Reservoir. At Lewisham a 48-inch branch is taken off to supply Petersham Reservoir.

##### *Crown-street Reservoir.*

Crown-street Reservoir top water level is 141 feet above high-water mark, and is built of brick, and contains 3,250,000 gallons. At this place is situated the main pumping plant, consisting of a compound high-duty Worthington engine capable of raising 500,000 gallons per hour to Paddington with very great economy: it was designed to work against a head of 100 feet, but with the last main recently laid it only has a pressure of 80 feet to work against, while pumping into the present reservoir at Paddington. The pumps are larger than are necessary for the present supply, and owing to the small storage capacity at Paddington the engine is not being worked to its greatest advantage, as it can only be worked for about three hours at a time.

Three 142-h.p. Babcock and Wilcox boilers.

Two Tangye duplex pumps (non-compound) capable of delivering 105,000 gallons per hour to Woollahra Reservoir; the duty of these pumps is very low, and they are only for temporary use.

*Paddington Reservoir.*

Paddington Reservoir top water level, of which is 214 feet above high-water mark or 73 feet above Crown street, is built of brick, and contains 2,000,000 gallons, and is supplied by a 36-inch cast-iron main from Crown-street pumps, and distributes the water through a 24-inch cast-iron main, *via* Begg-street, and a 36-inch, *via* Park Road.

*Woollahra Reservoir.*

Woollahra Reservoir top water level of which is 282 feet above high water mark or 141 feet above Crown-street, is built of brick and contains 1,000,000 gallons, and is supplied by a cast-iron main from Crown-street, part of which is 30-inch and part 20-inch diameter, and distributes the water through a 20-inch main.

At this Reservoir is an engine which pumps the water to Waverley, through an 18-inch cast-iron pipe, a distance of 1 mile. The engine is a geared rotative Tangye engine fitted with Meyers "cut off" slide valve.

*Waverley Reservoir.*

Waverley Reservoir top water level is 360 feet above the high-water mark, and 73 feet above Woollahra, is built of brick-work, and contains 1,087,000 gallons; it distributes the water through a 15-inch main.

*Petersham Reservoir.*

This reservoir is built of brick and contains 2,157,000 gallons, the top water level is 166 feet above high-water mark, and receives its supply by gravitation through a 48-inch cast-iron main, which branches off the 48-inch main at Lewisham, and distributes the water through two 18-inch outlets.

*North Sydney.*

North Sydney is supplied from the Paddington Reservoir by a 9-inch cast-iron main, which is laid under the harbour from Dawes' Point to Milson's Point, and serves the low level by gravitation. A pumping station is situated at 125 feet above high-water mark, which contains a pair of Blake duplex direct acting pumps, capable of forcing 10,000 gallons per hour through a 6-inch rising main up to two 20,000 gallons elevated wrought-iron tanks, situated at St. Thomas' Church, the top water level being about 325 feet above the high-water mark. From these tanks the high levels are supplied.

The scheme for the supply by gravitation from Potts' Hill to Ryde, and thence by pumping to Chatswood, is very nearly completed, and will command the whole of northern shores of the Parramatta River and Port Jackson. When this extension is finished the present mode of supplying North Sydney will be disused.

*Campbelltown.*

Campbelltown is supplied direct from the main canal by gravitation, a 6-inch pipe from the canal at 16 miles 40 chains being laid to the town, a distance of  $2\frac{1}{2}$  miles, and the reticulation consisting chiefly of 4-inch mains.

*Granville.*

Granville is supplied by gravitation through a 15-inch main laid along Woodville Road, a distance of  $2\frac{3}{4}$  miles, from the 72-inch wrought-iron trunk main.

*Ashfield.*

A part of Ashfield is too elevated to receive a supply by gravitation from Potts' Hill level, therefore, the loftier parts are supplied from the Woollahra Reservoir by the Petersham trunk main, which is isolated thrice per week from the reticulation and charged with Woollahra water which, it conveys to a 100,000-gallon tank of wrought-iron erected on a brick circular support, at an elevation of 223 feet above high-water mark.

Four plans.]

**SERVICE RESERVOIRS**

No	Name of Reservoir	Reduced Level of surface of Top Water over H.W.M.	Depth	Capacity in Gallons	Diameter of inlet pipe	Diameter of outlet pipe
1	Crown Street	141.00	15'6"	3,250,000	42"	2'-20" 2'-24"
2	Paddington	214.00	16'6"	2,000,000	36"	1'-36" 1'-24"
3	Woollahra	282.00	18'0"	1,000,000	20"	20"
4	Waverley	360.00	20'0"	1,087,000	18"	15"
5	Petersham	166.00	27'0"	2,157,000	48"	42" 18"
6	Ryde Hill	234.00	22'0"	1,000,000	24"	18"
7	Chatswood No1	370.00	32'6"	1,500,000	24"	20"
8	do No2	370.00	32'6"	1,500,000	24"	

**Board of Water Supply & Sewerage, Sydney, N.S.W.**

**PLAN SHOWING THE LINE OF CONDUIT FROM THE CATCHMENT AREA TO THE CITY AND THE VARIOUS RESERVOIRS.**

**Prospect Reservoir**  
 Catchment Area above embankment 2400 acres  
 Area of Surface of Water when full 1261 acres  
 Total Contents (185 Contour) 10,812,513,000 gallons  
 " " (170 " " ) 4,067,970,000 " "  
 Total Quantity available for supply to Canal 6,744,343,000 gallons

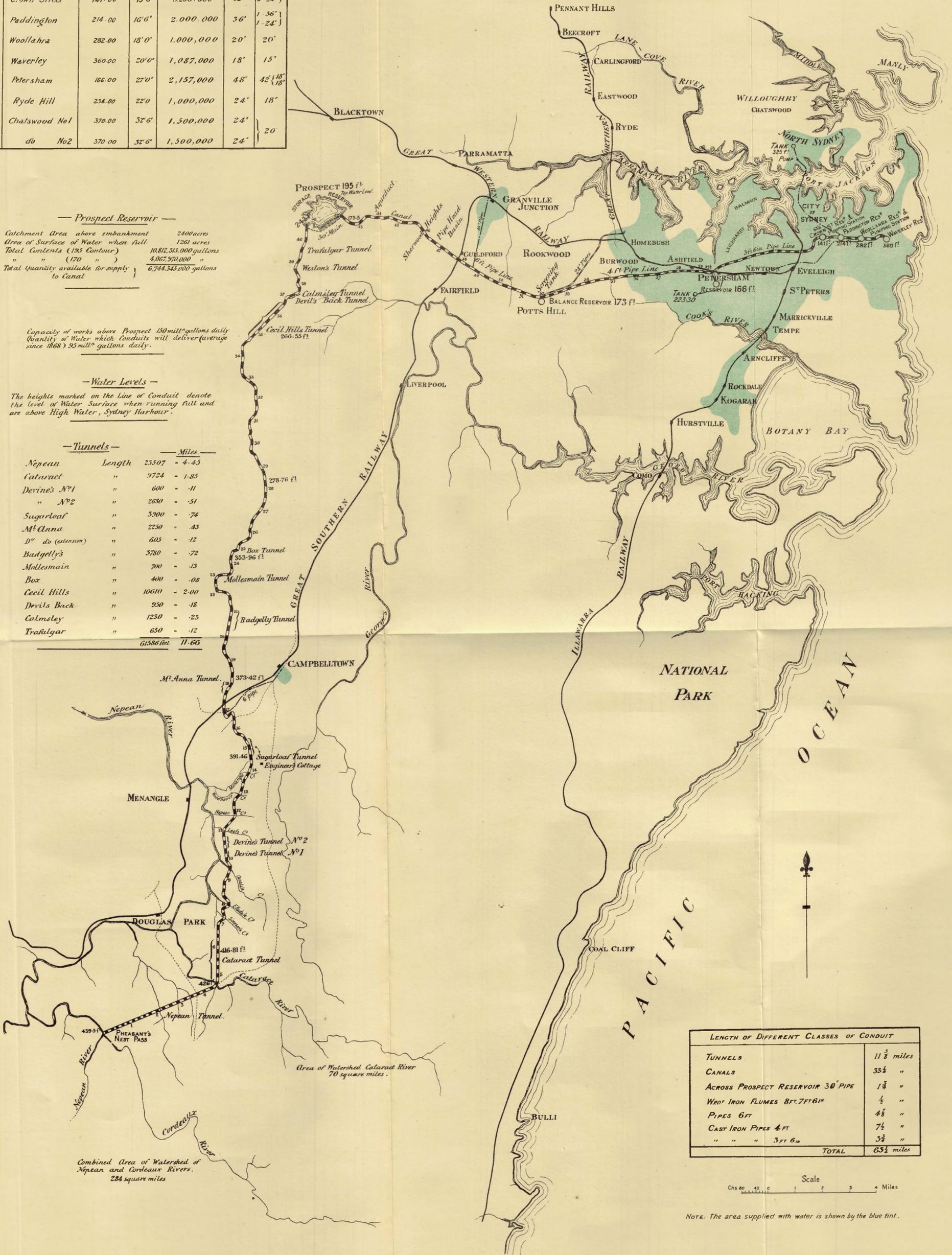
Capacity of works above Prospect 150 mill. gallons daily  
 Quantity of Water which Conduits will deliver (average since 1868) 95 mill. gallons daily.

**Water Levels**

The heights marked on the Line of Conduit denote the level of Water Surface when running full and are above High Water, Sydney Harbour.

**Tunnels**

Name	Length	Miles
Nepean	23507	4.45
Cataract	9724	1.85
Devine's N <sup>o</sup> 1	600	.11
" N <sup>o</sup> 2	2680	.51
Sugarloaf	5900	.74
M <sup>t</sup> Anna	2250	.43
D <sup>o</sup> do (extension)	603	.12
Badgelly's	5780	.72
Mollesmain	700	.13
Box	400	.08
Cecil Hills	10610	2.00
Devils Back	950	.18
Calmsley	1250	.25
Trafalgar	650	.12
<b>Total</b>	<b>61586 feet</b>	<b>11.66</b>



**LENGTH OF DIFFERENT CLASSES OF CONDUIT**

TUNNELS	11 <sup>5</sup> / <sub>8</sub> miles
CANALS	33 <sup>1</sup> / <sub>2</sub> "
ACROSS PROSPECT RESERVOIR 30" PIPE	1 <sup>3</sup> / <sub>4</sub> "
WRO <sup>t</sup> IRON FLUMES 8 FT. 7 IN.	4 <sup>1</sup> / <sub>2</sub> "
PIPES 6 FT	4 <sup>1</sup> / <sub>2</sub> "
CAST IRON PIPES 4 FT	7 <sup>1</sup> / <sub>2</sub> "
" " " 3 FT 6 IN	5 <sup>1</sup> / <sub>2</sub> "
<b>TOTAL</b>	<b>63 <sup>1</sup>/<sub>2</sub> miles</b>

Scale  
 Chs 0 1 2 3 4 Miles

Note: The area supplied with water is shown by the blue tint.

# DIAGRAM

APPENDIX B.

Showing means of external temperature, temperature in sewer 10 ft deep  
and humidity for the year 1888

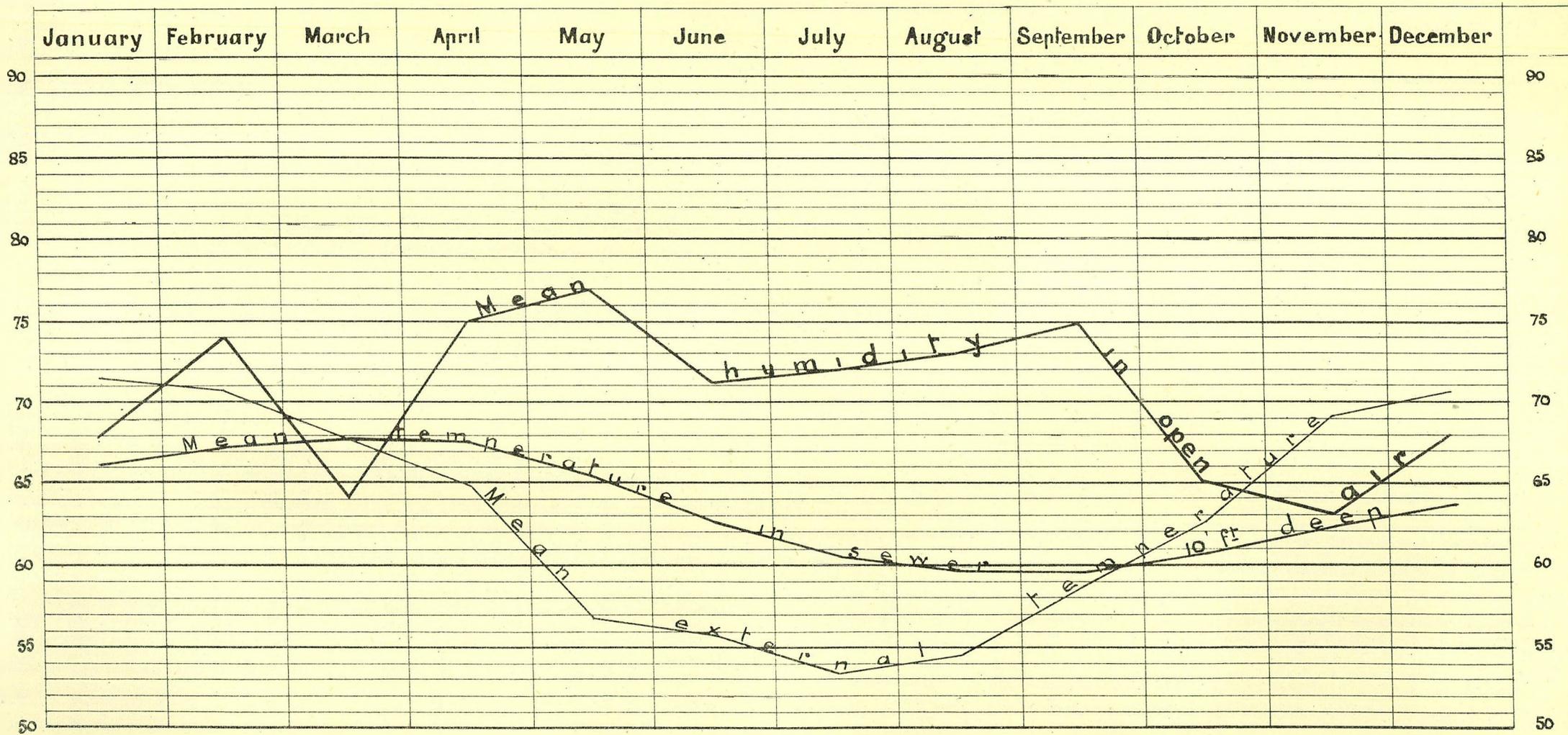
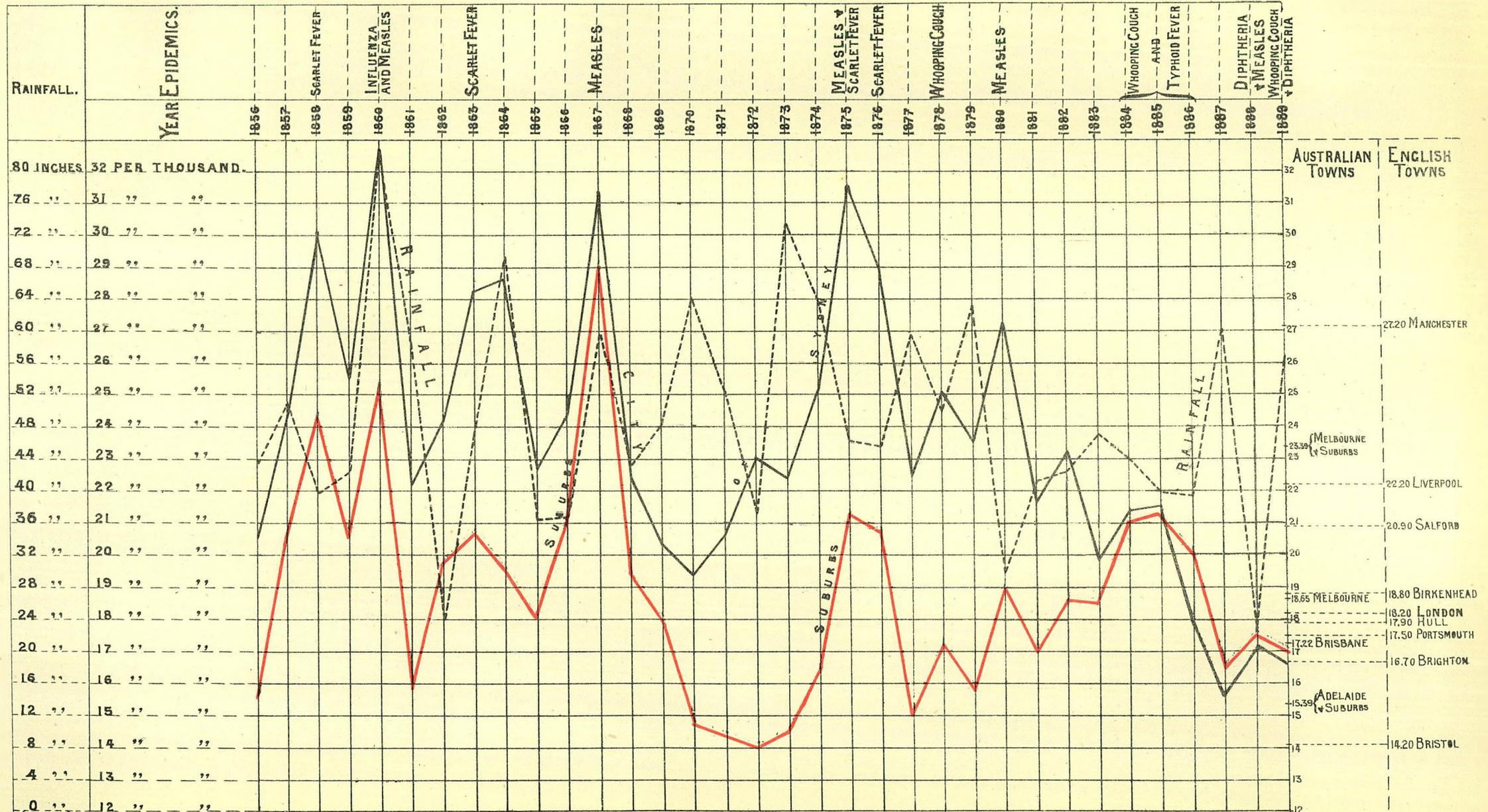


PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,  
SYDNEY, NEW SOUTH WALES.

(Sig 2)

H.R.

# DIAGRAM SHEWING DEATH RATE OF CITY OF SYDNEY AND SUBURBS.



(Sig 2)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES.

1891.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## SEWAGE PURIFICATION.

(REPORT TO THE HONORABLE THE MINISTER FOR PUBLIC WORKS UPON THE QUESTIONS OF SEWAGE PURIFICATION AND SEWER VENTILATION NOW IN USE IN GREAT BRITAIN, BY GEORGE H. STAYTON, M. INST. C.E.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

Sir,

In accordance with the instructions which I received from you prior to my departure for Europe, in July, 1889, I have the honor to submit the following Report and accompanying plans, being the result of various inspections of works and inquiries into the questions of sewage purification as now practiced in Great Britain.

During my prolonged absence from this country, I inspected the sewerage arrangements of the following cities and towns in Great Britain, viz:—London, Birmingham, Manchester, Salford, Glasgow, Edinburgh, Brighton, Eastbourne, Portsmouth, Plymouth, Bristol, Southampton, Ryde, Folkestone, Bournemouth, Coventry, Croydon, Acton, Tunbridge Wells, Reigate, Norwood, Wimbledon, Kingston-on-Thames, Dorking, Edmonton, Llandudno, Knutsford, and other places. I also inspected various sanitary works and arrangements, and procured much valuable information, at the same time making myself acquainted with the administration of works of water supply, sewerage, and sanitation generally.

While in London I had frequent opportunities of conversing with Sir Robert Rawlinson, K.C.B., who for many years was Engineer-in-Chief to the Local Government Board; Professor Robinson, M. Inst. C.E.; Mr. Alexander Binnie, M. Inst. C.E., the Engineer to the London County Council, and many of the leading sanitary engineers of the day. I also attended an important discussion on the sewage question at the Royal Society of Arts.

Of the various systems of sewage discharge or purification in use in the before-mentioned cities and towns, nine have a direct discharge into the sea, four have adopted broad irrigation, six have adopted precipitation alone, and six use precipitation combined with irrigation or earth filtration for the effluent. Manchester is about to adopt precipitation on a large scale, and Glasgow is contemplating the adoption of irrigation and the establishment of a sewage farm of some 4,500 acres in extent. The purification of sewage by electrical treatment, which created such a *furor* in the scientific world two years ago, does not appear to have made great headway, as beyond certain limited experiments at London, Salford, and Bradford (now discontinued), no practical demonstration has been effected on an important scale or for any lengthy period.

It may be convenient to divide the processes chiefly adopted into four divisions, viz:—

1. Purification by Land (Irrigation).
2. Chemical Purification (Precipitation).
3. Precipitation combined with land filtration.
4. Purification by Land (Intermittent—downward filtration).

As practical examples of the above-named processes, I have selected the following places for the purpose of this Report. I venture to think that the information which has thus been obtained cannot fail to be of interest and real service to the Department over which you preside, which must obviously have an intimate acquaintance with the question under consideration.

The cities and towns referred to in the following remarks under the first classification are Croydon, Edinburgh, Edmonton, and Berlin; the places under the second heading are London, Acton, Kingston-on-Thames, and Salford; those under the third class are Birmingham, Coventry, and Dorking; and under the fourth class the Wimbledon works are referred to. I have also described the electrical system as tried at Crossness, Salford, and Bradford; and have briefly referred to the "Amines" process, which I saw on trial at Wimbledon in 1889, in company with Sir Saul Samuel, K.C.M.G., the Agent-General for this Colony.

In discussing the merits of the various systems, it must be understood that no one system can be laid down as a hard and fast rule. The local conditions of every place requiring sewage disposal must be taken into consideration. Although my instructions were to report fully upon *three only* of the most successful systems in operation in Great Britain, it will be seen that I have dealt with several other towns and systems; indeed, it became necessary to see a number of places before I could determine which, in my opinion, were the most successful systems in use.

I had, however, no difficulty in arriving at the conclusion that the best arranged and managed sewage farms are those of Croydon and Birmingham, and that the three most successful systems of sewage purification by precipitation which I saw are the "International" process, the "A.B.C." process, and the "Coventry" system. I have, therefore, fully described the works and processes in each of these instances, and have procured, and herewith submit, twelve plans and sections of various works and arrangements for sewage purification.

SEWAGE

## SEWAGE IRRIGATION.

Sewage irrigation has been pursued for ages in the ancient Eastern Cities of Europe, and it has been carried on in England and Scotland for a sufficient length of time to show that it is a cheap and effective mode of treating sewage, where land is obtainable at agricultural prices, and where the sewage can flow to the land by gravitation. In discussing the question with Sir Robert Rawlinson, he said that "town sewage, in which there is the largest mixture of human excreta and the least mixture of solid detritus, is the richest in manurial properties, and its disposal will cost the least when applied to land in broad irrigation." He also contended that "crude sewage put on the land while it is fresh, and without storage, is the best system; that chemicals alone will not destroy the salts, but that land will do so." He further said, "Do not drain clay soil or a sandy soil for the purpose of sewage irrigation, as the land cracks under those conditions or becomes so opened that unpurified sewage passes through and creates a nuisance."

There are some thirty or more places in England where sewage irrigation has been in use for a number of years with more or less satisfactory results, as at Banbury, Barking, Bedford, Birmingham, Blackburn, Cheltenham, Chorley, Croydon, Edinburgh, Doncaster, Harrogate, Leamington, Merthyr Tydvil, Oxford, Rugby, Tunbridge Wells, Warwick, West Derby, Wolverhampton, and Wrexham. Paris has appropriated land for sewage irrigation for some years at Gennevilliers and some other places to the extent of 12,350 acres. Steam-pumping power is used, and the river Seine is crossed. The Municipality is so satisfied with this work that the late engineer is to have a statue erected to his memory.

## Croydon Sewage Farms.

The Croydon Sewage Farm is well known to all sanitarians as one of the most successful instances where broad irrigation has been adopted. The Beddington Farm has been established since 1860. It now contains 550 acres and serves a population of 75,000 persons. The South Norwood Farm, which I also visited in May last, has an area of about 100 acres.

The capital outlay incurred in the main sewerage and outfall works, the acquisition of land for the sewage farms, and the erection of buildings thereon, has amounted to £375,000; and the management of the farms is a matter requiring considerable skill and experience. The sewage gravitates to the farms, only a very small amount of pumping being necessary. The subsoil of the Beddington Farm is sandy and gravelly, that at Norwood being a stiff clay. At neither farm is there any subsoil drainage. The Croydon sewage passes through "extractors," but the Norwood sewage is received on the farm in a filter-house, in which there are regulating tanks with galvanized iron gratings, and which intercept a large portion of the grosser matters in the sewage. The tanks are worked alternately and are cleared out by an arrangement with buckets like a dredger. From these tanks the crude sewage, without any further treatment, flows on to the land by open carriers, which are so arranged as to wet the surface gradually. The sewage frequently passes three times over the land before it reaches the river, and the effluent on the occasion of my visit was clear and odourless. For the small amount of pumping at the South Norwood Farm, an "Atkinson's" Cycle gas-engine and a "Waller's" pump are provided.

The lithographed plan accompanying this Report [*vide* Appendix, Drawing A] shows the arrangements of the carriers on the farms. The land on the Beddington Farm, owing to the excellent management, has remained sweet for a period of over thirty years; but there is little doubt that had the management been inefficient it would not have remained so for many months.

The working expenditure of the Beddington Farm for 1889 amounted to £1,091, and for 1890 to £4,244. These amounts do not include any provision for interest or repayment of capital outlay. The receipts for 1889 amounted to £1,403, and for 1890 to £3,505.

The South Norwood expenditure for 1889 was £1,263, and for 1890 £1,480; the receipts being £955 for the former, and £916 for the latter year.

The following statement shows the particulars of the sums received under the various items, and gives some idea as to the value of the crops realized in 1889 and 1890, viz. :—

	1889.			1890.		
	£	s.	d.	£	s.	d.
Grass ... ..	1,576	8	6	1,341	8	5
Turnips ... ..	65	0	0	.....	.....	.....
Stock-keep ... ..	567	7	11	481	5	4
Oats ... ..	39	13	6	.....	.....	.....
Cabbage ... ..	433	10	8	205	14	9
Manure ... ..	3	4	0	3	13	0
Firewood ... ..	7	15	8	1	15	0
Rent of gardens ... ..	2	13	0	4	10	8
Potatoes ... ..	216	1	10	271	11.	11
Horse hire ... ..	0	14	0	.....	.....	.....
Mangolds ... ..	1,077	11	3	889	1	4
Hay and straw ... ..	300	15	6	133	0	9
Right of shooting ... ..	20	0	0	20	0	0
Wheat ... ..	54	12	9	117	7	0
Celery ... ..	36	7	6	1	19	6
Parsnips ... ..	1	13	6	12	15	2
Chaff ... ..	0	8	9	.....	.....	.....
Sale of horse ... ..	.....	.....	.....	2	15	0
Osiers ... ..	.....	.....	.....	18	16	0
Veterinary certificates ... ..	.....	.....	.....	0	5	0
<b>Total ... ..</b>	<b>4,403</b>	<b>18</b>	<b>4</b>	<b>3,505</b>	<b>18</b>	<b>10</b>

The accounts show that the charges for rates and taxes on the two farms amount to about £800 per annum, which sums are included in the before-mentioned expenditure. The Croydon Corporation do not now keep any stock on the farms, but they derive a considerable income from what is called "summering"

“summering” cattle—that is, allowing animals to graze on different parts of the farm. The charge for cattle is from 1s. 6d. to 2s., and for horses 4s. per week. Rye-grass is the principal crop grown; but, as will be seen, mangolds, potatoes, cabbages, turnips, celery, &c., are also raised to a large extent. The whole of the grass, except what is required for the farm horses, is sold to dairy-keepers in the neighbourhood and finds a good market.

The Beddington Farm has a considerable number of good residences in its vicinity, and one side of South Norwood Farm abuts upon a populous suburb of the metropolis.

### Edinburgh Sewage Farm.

The Craightenny Sewage Farm has been carried on for over 200 years, and the sewage of Edinburgh has been successfully utilized thereon for irrigating the grass land. I was particularly struck with the simplicity of the manner in which the crude sewage is applied to the land, without even straining, the open water courses and ditches being utilized in a great measure to convey the sewage to the land, which is done entirely by gravitation.

The City Council merely deliver the sewage at the farm, and the lessee, who has a long term, sells the luxuriant crops of grass to dairymen and others. He has an admittedly valuable concession, out of which I learn that fortunes have been amassed. The authorities are endeavouring to arrange with him for the construction of improved conduits and carriers; but I understand that the lessee is so suspicious that any alterations may prejudice his profits, that at present they have not been able to come to terms.

The farm is in the suburbs of Edinburgh, and it has been so often alluded to in reports presented to the Department of Public Works, that I scarcely think it necessary to make more than a passing reference to it. I had an interview with Dr. Littlejohn, the well known Medical Officer of Health at Edinburgh, and he informed me that he had never been able to ascertain that the operations at the farm had caused sickness to the local residents. During the time of the cholera visitation many years since, a number of houses which are in the midst of the farm were at that time supplied with drinking water from wells, and some sickness occurred; but since the city water supply has been laid on to these premises and the wells closed, the occupants of the houses have enjoyed ordinary health, clearly showing that sewage-farm operations may be safely carried on in the vicinity of dwelling-houses.

### Edmonton Sewage Farm.

The sewage of Edmonton and Southgate, on the north side of London, is discharged upon a farm of some 200 acres in extent. The dry-weather flow from a population of 40,000 persons is about one and a half million gallons per day.

Until quite recently the lime process was used, followed up by irrigation, at an annual cost of £2,000. In consequence of the great expense thus incurred, the Engineer discontinued the use of lime, and reverted to broad irrigation only, by which the annual cost was reduced to £750, and a good effluent obtained.

The whole of the sewage is pumped into concrete settling tanks, which have been built above the surface of the ground, the tanks commanding the entire farm. The buildings and works have been constructed very economically. The engines are 70-horse power, and consume 2 lb. of coal per I.H.P. The sewage is pumped to a height of about 26 feet. The sludge from the tanks is conveyed by gravitation to the lower parts of the farm through a 2-foot cast-iron main.

There are some 40 or 50 acres of watercress beds, for which the growers pay the Local Board an annual rent of £12 per acre. The crops sold from the farm realise over £1,000 per annum.

### Berlin Sewage Farm.

At Berlin the sewage of the city is lifted by steam-power to a height of 130 feet, at a cost of £12,000 per annum. Upwards of 2,000 acres of land have been purchased at a cost of £400,000, and this land is laid out and cultivated under sewage. Berlin is the first large continental city where sewage irrigation has been recently adopted on a gigantic scale. When the drainage works are completed, not a particle of sewage will find its way into the river that flows through the city. The area of Berlin comprises 24 square miles, with a length of streets equal to 233 English miles. Its population now amounts to one and a half millions, it having increased during the last few years at the rate of  $3\frac{1}{2}$  per cent. per annum. The river Spree flows through the town, and divides it into the northern and southern city, the land rising on either side of the Spree. At an average water-level, the Spree discharges about 1,500 cubic feet per second, but carries as much as 5,700 cubic feet in flood time. The annual rainfall amounts to a little over 23 inches on an average, but the city is subject to very heavy thunderstorms. Berlin is divided into twelve separate drainage systems, called “radial systems,” seven lying north and five south of the Spree. Each system is entirely independent of the other, and the name “radial system” was, no doubt, given them, as all sewers radiate from the circumference of the system towards the centre of it, where the pumping station is situated. From here the sewage is forced through large pumping mains on to the farm. These radial systems vary in size from about 556 acres to 2,130 acres, and average about 1,150 acres, with a population, in those districts that are entirely built upon, of nearly 200,000. Only the storm-overflow sewers have a direct connection with the river, and the city authorities have to obtain the sanction of the Government to all such connections. The systems north of the river have their farms on that side, and the farms for the southern radial systems are on the south side, so that, practically speaking, no sewage finds its way across the Spree. The farms to the north are about 6 miles distant from the heart of the city, and those in the south about 12 miles. The total acreage of all the farms has now reached 16,477 acres, or about 26 square miles, out of which total about 7,900 were, at the end of 1887, specially prepared for irrigation, and every year more land is dealt with in this way. The total dry-weather sewage flow in twenty-four hours amounts to about 27,000,000 gallons, equal to about  $21\frac{1}{2}$  gallons of sewage per head, the water supply only amounting to 14 gallons. To pump 1,000 gallons of drinking water into the city costs about 7-49d.; to convey the same quantity to the pumping station, to force it from there on to the farm, and to purify it there, costs another 7-52d. The health of the

the labourers on the farms is very good, and the death-rate was only eleven per 1,000 during the last year; and it is rather a remarkable fact that, although there was a severe epidemic of typhoid during the first months of 1888 in the city, yet no case of disease occurred on any of the farms. The effluent from the farms goes into little streams in places not wider than 10 feet, and that from the northern farms joins the Spree above Berlin. No complaints are now made respecting the condition of the streams, and the chemical analysis during the last year has given satisfactory results. The authorities of Berlin have spent £2,794,196 in sewage works, and £1,149,206 in sewage disposal works, or a total of £3,943,402 in the two undertakings. The income from the farms amounted, during the last year, to £95,027, the expenditure to £86,570, leaving a surplus of £8,457, which is equal to one-seventh part of the total amount repayable for capital and interest. The cost of the sewage disposal is, therefore, about 10d. per head of the population.

### PRECIPITATION.

It is now generally admitted that sewage is not purified by chemicals, but only clarified; and that the sludge separated by precipitation, in itself, has no commercial value, wet or dry. The only purification of sewage with which I am acquainted (says Sir Robert Rawlinson) is when it is used in broad irrigation on a light porous soil, in summer weather; when the entire volume of water disappears in absorption and evaporation, the soil and the sun having effectually purified it. This, and this alone, is sewage purification.

The system of sewage disposal by precipitation has certainly been adopted in England to a very considerable extent during the past six or seven years. The principle consists in the addition of certain chemicals to the sewage, which causes the suspended matters to subside and to precipitate a great part of the organic matter in solution. Settling tanks are provided for this purpose. After the clarified liquid is drawn off, there remains the sludge at the bottom of the tanks for subsequent disposal.

The lime process, which up to a few years since was considered sufficient to clarify sewage, is now very generally condemned. It consisted in the use of fresh lime reduced to a fine powder, made into milk of lime, and introduced into and thoroughly mixed with the crude sewage. For many years this process was in operation; but where the effluent was discharged into a river or watercourse it gave most unsatisfactory results, and it will be readily understood that where 10 to 12 grains of lime were used for every gallon of sewage, it greatly increased the bulk of sludge which required to be dealt with. It is, however, in use in a more or less modified manner at Birmingham, Sheffield, Chiswick, Ealing, Leeds, and other places; but it has been abandoned at Coventry, Wimbledon, Dorking, Hendon, Salford, Reigate, Edmonton, and other towns; in fact, the Borough Engineer of Salford informed me that they found lime utterly useless at their works as a satisfactory purifier of sewage.

The other precipitation processes in use in the most modern arrangements for the purification of sewage are the "International" System, the "A.B.C." process, and the "Sulphate of Alumina and Lime" process followed up by irrigation, as in use at Coventry. There is also the "Lime and Iron" process which has been adopted for the London sewage at the outfalls at Barking and Crossness.

### The London Sewage Outfall Works.

London has now expended some £7,000,000 sterling upon main sewerage and outfall works. The County Council have practically completed the new works at the Barking and Crossness outfalls, and have commenced to purify the sewage of the metropolis upon the process which was recommended by their chemist and several eminent men some three years ago. A large number of tanks, each 1,000 feet by 31 feet, covering an area of 11 acres in all, have been constructed at the outfalls, and I had an opportunity of inspecting these works in November last. The cost of the works, machinery, ships and plant is about £1,000,000 sterling. It is intended to use lime and proto-sulphate of iron to clarify the sewage. These chemicals will be added to the sewage in the proportion of 4 grains of lime and 1 grain of iron to each gallon of sewage, the treated sewage being allowed to settle, and the effluent drained off to the river Thames at certain states of the tide. In hot weather, permanganate of potash will be further added to deodorize the effluent. The daily volume of sewage is nearly 200,000,000 gallons, and the sludge is estimated at the enormous quantity of 3,000 tons per day, or over 1,000,000 tons per annum. It is to be pumped into steamers, which have been specially built for that purpose, each vessel holding 1,000 tons of sludge, and taken out to sea 12 miles beyond the "Nore," and deposited over an area of 20 miles of water. The Council have recently ordered another sludge-ship to be built at a cost of £28,000.

At the time of my inspection, only about 15,000,000 gallons per day were being so treated. This volume produced about 2,000 tons of drained sludge per week. It costs about 6d. per ton to pump the sludge from the tanks to the steamers and dispose of it. It is anticipated that to treat 70,000,000 gallons per day at Crossness will cost from 18s. to £1 per million gallons, irrespective of the disposal of the sludge.

The authorities find that it will be cheaper to take the sludge out to sea than to press it into cakes by means of filter presses. They estimated, after making exhaustive experiments, that the total cost of pressing would amount to about 4s. 6d. per ton; the item for filter cloths alone amounting to no less than 1s. 1d. per ton. After allowing the sludge to drain off for sixteen hours, its moisture was found to have been reduced to 41 per cent. The Council therefore decided that it is more economical to take it to sea without further treatment.

### The International System.

The International system of sewage purification has been adopted at Acton, Hendon, Southall, Swinton, and Finchley. It is being largely adopted in Lancashire, at populous places like Hyde, Sale, Pendlebury, Radcliffe, Bury, and Turton, and the Local Government Board has sanctioned its use at Tottenham, Sutton, Crompton, and Royton. I learn on high authority that the process is likely to be adopted at Salford on a very extensive scale, in which case there is little doubt that the numerous towns which now drain into the river Irwell will also adopt the International system during the present year, in consequence of the action which will be taken by the Manchester Ship Canal Company to compel these authorities to discharge a satisfactory effluent into the canal waters. In

In the report of the Royal Commission on the London Sewage Discharge in November, 1884, precipitation and deodorization followed by filtration were recommended. Scientists and sanitarians subsequently discovered means to effectively and economically attain these objects, and in 1887 the International Company was established to carry them out.

The system was first adopted at Acton, where the sewage works are situated upon the boundary of the metropolis. The process has been in use since July, 1887, and it is carried out in two stages, viz. :—

1. By precipitating and deodorising the sewage in settling tanks by the aid of a magnetic precipitant and deodorant called "ferozone."
2. By passing the partly purified sewage-effluent from the settling tanks through "polarite" filter beds, which arrest any solids remaining in suspension, and oxidise and render innocuous any putrescible matters held in solution.

I learn from the Company's pamphlets that "ferozone" is the trade name of the material so successfully used in deodorising sewage and precipitating the solids therefrom. It is a cheap preparation, containing salts of iron and alumina, acknowledged to be the best and most powerful precipitants and deodorants for sewage purification. It is rich in ferrous iron, alumina, magnesia, and magnetic oxide of iron, in a very spongy and absorbent condition. By virtue of its soluble iron, alumina, and magnesia salts, it soon causes subsidence of the suspended solids. The iron oxide being porous and magnetic, parts with its polarised oxygen and thereby helps to disinfect and deodorise the sewage and sludge. It attacks the molecular constitution of that portion of the organic matters in solution which cannot be removed by precipitation in the settling tanks. It so alters the constitution of these putrescible matters that further oxidation thereof by filtration through polarite becomes certain and under complete control at all times. The sludge precipitated is said to be richer in ammonia than that produced by the lime process, and is therefore of considerable value as a fertiliser.

"Polarite" is the name of the material used for filtering and further purifying the ferozoned sewage water. The Company state that "it is a specially prepared rustless and magnetic oxide of iron, insoluble in water, non-poisonous and practically everlasting; that it is very hard, porous, and absorbent; and that it is the only permanent oxidiser sufficiently cheap and durable for practical use in filter beds on a large scale for the purification of sewage effluent. It is a powerful deodoriser and decoloriser by virtue of the polarised oxygen contained within its microscopic pores. Although it consists chiefly of iron it does not rust and is therefore much superior to spongy iron. It supplies a long felt want for sanitary purposes, and is cheap enough to bring it into general use where good drinking water or a satisfactory sewage effluent is required. The polarite filter-beds at the Acton Sewage Works are now as good and effective, after continuous use for over three years, as when they were laid down."

Both these materials are manufactured from natural deposits which are found in the anthracite coal formation in South Wales. The London price of the polarite is £4 per ton, and of the ferozone £2 per ton.

It appears that the company are now purifying the sewage of a population of 11,000 persons by passing the tank effluent through polarite filter beds having an area of one-ninth of an acre only, and are obtaining much better results than when the sewage was put over a large quantity of land.

In carrying out the process of purification at Acton, where the sewage works had not been originally constructed to carry out the polarite process; the sewage, on reaching the outfall works, is run through strainers to arrest the floating solids, such as corks, rags, &c., and it then flows through a floating trough, in which there are a series of baffling plates to thoroughly incorporate the ferozone with the sewage, into a settling tank, the floor of which inclines towards the centre so that a gutter may convey the sludge to the outlet valve. Before entering the tank, which has a capacity of 130,000 gallons, and of which there are three, side by side, the crude sewage receives a dose of the ferozone, which costs about one farthing for every 1,000 gallons of sewage treated. This can be added automatically by placing baskets of ferozone in the flowing sewage, or by using "Beloe's" patent automatic sewage-mixing machine. In places where the sewage does not flow by gravitation, but has to be pumped, and steam-power is therefore available, the ferozone may be ground with water or sewage in a small edge-runner mill and added automatically to the crude sewage in a liquid state. This is done at Acton, but the company desire it to be distinctly understood that no mechanical power is necessary for adding and mixing the ferozone. The flow of sewage into the tanks is effected by means of a floating inlet board, and the flow through the tanks is not continuous. Quiescent tanks are better for precipitation purposes, whatever kind of precipitant be used. When a tank is full its contents are left standing for about two hours, so that the ferozone may have time to act thoroughly. As towns differ in the quality of their sewage, the needful period of quiescence will vary in different places. The ferozone causes deodorization and precipitation to take place in the sewage, and a considerable part of the albumenoids in solution congregate and are precipitated with the solids. The supernatant sewage-water thus clarified is then drawn off by means of floating outlets with scum-shields attached, and run through polarite filter-beds, which are said to produce a higher degree of purification at less cost than can be obtained by any other known process.

The polarite filter-beds consist of 6 inches of broken stone, in which 4-inch agricultural drain-pipes are embedded, 3 inches of gravel, 6 inches of sand, 12 inches of polarite and sand mixed in equal proportions, and at the top a layer of 9 inches of fine sand, making a total depth of 3 feet of filtering material. Polarite filters purify tank effluents which have been treated with ferozone at the rate of 1,000 gallons per square yard in twenty-four hours. They give better results than those frequently produced by land filtration, and at less cost and without nuisance. Land-filters pass about 1½ gallon per square yard in twenty-four hours. It is therefore asserted that 1 acre of polarite filter-bed will do as effective work as 666 acres of land.

The polarite filter-bed only requires a few hours rest occasionally for aeration and for cleansing the surface sand, which is done automatically at a nominal cost. The polarite does not require to be removed or replaced, hence it is better to lay down several small beds rather than one or two large ones, so that they may rest a few hours alternately for aeration and cleansing.

After the needful time has elapsed for precipitation of the solids in the ferozone tank, the supernatant sewage-water is drawn off through a floating arm, surrounded by a floating sill to prevent any solid matters from passing into it. It flows from the tank through an iron pipe to the polarite beds for filtration.

tion. After passing through the polarite, the effluent is neither acid nor alkaline. It will not decompose in hot seasons, but remains inodorous, non-putrescible, clear, and tasteless. The higher forms of green aquatic vegetation thrive in it. It will not kill fish, but rather help to purify a river by discharging into it water free from any tendency to undergo secondary decomposition. I can personally testify that the effluent is tasteless, having drunk a tumbler of it as it came out of the tanks at the Acton works.

The sludge deposited in the settling tanks having been deodorised by ferozone, is comparatively inoffensive—unlike that produced by lime and other processes. The quantity, too, is less, being only about one-half that produced by the lime process; hence it is rich in manurial value, and requires less labour and machinery to treat it. In many places it may be drained into sludge-pits, covered by a light roof and arranged so as to send the surface liquor back to the tanks for further ferozone treatment. The sludge can then be mixed with house refuse and street sweepings, and sold to farmers. In large works it is probably better to press it by improved sludge-pressing machinery. The pressed ferozone sludge will dry spontaneously if placed under cover, and can be easily and cheaply ground to powder. In this state it can be kept, without nuisance, in a dry store until the season comes round for selling it as a fertiliser. The sewage manure produced by the International process is shown by analysis to contain nitrogen equal to from 1 to 2 per cent. of ammonia, according to the quality of the sewage, besides phosphates. At Acton it is sold in a fine powder at 30s. per ton, whereas at some sewage works, where lime is the precipitant, the sludge actually costs over 4s. per ton to press.

The International Company claim that their system is better adapted for the purification of sewage than any other known process, because—

- (1.) It is more effective and less costly than any other system.
- (2.) Existing sewage-works could generally be utilised, the cost of acquiring additional land avoided, and capital thereby saved.
- (3.) Purification would be effected to an extent which fulfils all the requirements of the "Rivers' Pollution and Thames Conservancy Acts."

That the International process of precipitation, deodorisation, and filtration meets the requirements of sanitarians is established beyond doubt by the actual experience of the sanitary authorities who are using it, and by the reports of such well-known authorities as Professor Sir Henry Roscoe, M.P., F.R.S., Dr. Dupre, F.R.S., Professor Frankland, F.R.S., Dr. Chancellor, State Director, Board of Health, Baltimore, U.S., Professor Robinson, M. Inst. C.E., Mr. Baldwin Latham, M. Inst. C.E., and many other eminent engineers and scientists who have examined the process and testified in its favour.

I visited the sewage works at Salford, where the sewage of a population of 250,000 persons is discharged. The Borough Engineer, Mr. Arthur Jacob, M. Inst. C.E., expressed satisfaction with the experiments which his Corporation have carried out themselves with the International Company's process, and Dr. Carter Bell (the Borough Analyst) has certified that "the effluent was a first-class one, and that many well-waters in the country were not so good." The result of the analysis of Sir Henry Roscoe of the sewage treated by the Company's process gives remarkably good results. In the report of the Medical Officer of Health to the Corporation of Leicester, who have adopted the treatment by ferozone, it is stated that fish lived for weeks in the effluent, and that portions of it were kept for weeks at a temperature of 90 degrees Fahrenheit and did not decompose, but remained perfectly clear and inoffensive. A polarite filter would act automatically night and day, and independently of the weather. Dr. Angell, analyst to the Borough of Southampton, in explaining the action of the ferozone as a precipitant and deodorant, stated "that its effect was to render the sludge more valuable. The polarite was an extremely porous substance, containing excluded oxygen, or oxygen in its most active form. This was the agent that effected the ultimate purification of sewage. The process was used largely in this country, in India, Malta, and some of the Colonies, for the purification of water. The filters made of polarite were, humanly speaking, indestructible, the polarite not requiring renewal for many years. This was on account of the polarite being absolutely insoluble, and never rusting as spongy iron did. The polarite in use at Acton had been examined and found to be entirely unchanged."

The following abstract from a report by Professor Frankland (one of Her Majesty's Commissioners to inquire into the pollution of rivers) to Major Tulloch, R.E., the Chief Engineering Inspector of the Local Government Board, on the results of his investigation of the process as carried out at Acton, is of such importance that I give it at length:—

"The results show that the raw sewage contained a very large proportion of highly-polluting suspended matter, and an unusually large amount of foul organic matter in solution; and further, that the effluents from the subsidence tank and filter were derived from sewage of about equal polluting powers as regards dissolved organic matter. In the subsidence tank the suspended matter was reduced from 240.80 parts per 100,000 of raw sewage to 5.92 parts per 100,000 of tank effluent, whilst the effluent from the filter was free from suspended matter. It was clear and transparent. This is a satisfactory result. The effect upon the dissolved organic matter in the subsidence tank is very remarkable, its amount being reduced to little more than one-tenth of that present in the original sewage. In its subsequent passage through the filter, the dissolved organic matter is still further reduced to nearly one-sixteenth of that present in the original sewage. It is now in a state of purity greatly exceeding that prescribed by the standards of the Rivers' Pollution Commissioners. No chemical process of purifying sewage has ever, in my experience, approached this efficiency; and if the results obtained at Acton can be accomplished in other places, a most important advance will be made in the purification of the sewage of towns. I need scarcely add that the effluent from the filter is not only clear but inodorous and inoffensive. It is of course not fit for dietetic purposes; but it may be admitted in large volumes into running water without creating any nuisance."

I should state that Dr. Frankland's investigation was made, unknown to the Company, for Major Tulloch, and not for or at the request of the International Company.

In an account of the Acton Works, Mr. G. H. Underwood, Chairman of the Gorton Sewage Committee, states that the ferozone acts with great rapidity both as a disinfectant and a precipitant. It runs into the sewage in a creamy state. The sewage is from a water-closet system, and the odour is most offensive; but immediately the ferozone comes into contact with it, deodorization appears to follow, and the

the sewage appears to be full of a flocculent precipitate, which immediately begins to subside upon entering the tanks. This he attributes to the decomposition of a ferro-aluminous salt in the ferozone; and as it falls, it carries with it much insoluble organic matter held in suspension, and, unlike the use of lime, it fixes all the ammonia in place of evolving it, thus reducing the nuisance to a minimum. From his observation, the ferozone appears to be the most economical of any product used for sewage purposes. It is calculated that eight grains per gallon is sufficient to effect the desired object.

Mr. Underwood proceeds—"As all sewage treatment must be of a chemical nature, this ferozone appears the best agent for the purpose I have met with, as well as the most economical. Precipitation of the sludge is quicker by this process than by the lime process, for in about three hours the precipitation is perfect. The clear liquor—the effluent from the tanks—is then run upon a filter capable of filtering 1,000 gallons per square yard in twenty-four hours. This filter is the "Eureka" of sewage purification. The passage of the tank effluent through the filter produces a wonderful change. You see it flow from the filter bed in a pure sparkling state, perfectly free from matter in suspension and from any odour. It contains no trace of sulphureted hydrogen or free sulphide. It is neutral, contains a quantity of soluble chlorides and sulphates, and is bright and sparkling—enough so to tempt one to drink. The mysterious part of the Acton Works is this filter. Its power is hidden and secret, and the result marvellous. You have on its surface a dark unsightly fluid, and, flowing from it, a beautiful pellucid stream. This magical transformation is owing to the use of a natural ore called 'polarite.' It is highly magnetic, and is microscopically porous. Though an iron compound, it does not rust or oxidise whilst in use. The soluble organic matter of the tank effluent is putrescible; but when it is passed through the polarite filter, this soluble matter is consumed (oxidised) by the oxygen contained in the pores or cells of the polarite, and the effluent becomes almost free from soluble organic matter, and is in a fit state to run into the river. It is said that this polarite gives up some of its oxygen of composition, and possesses the power of recuperation, and that to ensure this effectually the filter is allowed to cease work at intervals. It is also said that this filter is indestructible, that the polarite never requires renewing, and that a rest of a few hours revives its peculiar action. This would appear true of the Acton filter, as it is as energetic in its action as when first used. It is the best system of sewage purification that I have seen."

Professor Robinson, M. Inst. C.E., the eminent sanitary engineer, in a recent report, says:—"Since my inspection of the sewage works at Acton, in 1887 and 1888, for the purpose of observing the process of the International Company, I have again visited the work, and found that the 'polarite' filter continued its purifying effect upon the effluent water from the tanks in which the sewage had been previously treated by the ferozone, the precipitating material employed in this process. During this month I have inspected the Sewage Outfall Works of the Hendon Local Board, which the International Company has now the sole management of, in consequence of the lime and land process, which had been in operation there before, not proving satisfactory. A population of 10,500 contributes to the sewage, which arrived at the tanks on the occasion of my visit in an exceedingly foul condition. I am informed that the Board acquired 40 acres of land, of which 21 are occupied by the works, and about 6 are laid out as an earth filter, consisting of 12 inches of alluvial soil laid over 18 inches of burnt ballast, the whole underdrained by 4-inch drain pipes. The remainder of the land was not laid out, although used at times for sewage treatment. Before the Company undertook the management of the Outfall Works, the system employed was that of precipitating by lime (about 16 grains per gallon, or 1 ton per 1,000,000 gallons), and passing the effluent through the earth beds. On the works being taken over by the Company, the lime process was abandoned, and their precipitant, 'ferozone,' was employed instead. They also discontinued the use of the earth and ballast filter-beds, and laid out a small area (525 yards) into two 'polarite' filters, consisting of 6 in. of polarite mixed with 6 in. of sand above it and 6 in. of sand beneath it, with underdrains laid in ballast. With this small filtering area as an adjunct to the precipitation works, the effluent produced is very satisfactory, and confirms the favourable opinion I had formed of the process as I had seen it at Acton. The sludge is smaller in bulk than in the processes employing lime as the chief precipitant, and it is free from the enfeebling action which is produced through the presence of lime in large quantities in sludge, from a manurial point of view. I consider the effect produced by this small filter of 525 yards is very remarkable, and the fact that it accomplishes a purification which the large area previously employed failed to do, indicates a great advance in dealing with sewage, especially on limited outfall areas."

I venture to submit, therefore, that the foregoing opinions are emphatically in favour of the international system. It is certainly a strong recommendation that not only do the Local Government Board and many of the leading sanitary engineers approve the process, but the various sanitary authorities who have adopted it are decidedly impressed by the results which have been achieved. No doubt there have been many failures in the attempts hitherto made to treat sewage by precipitation only, and for several reasons. Improper chemicals have been used; the tank effluents have not been properly purified by filtration; and many of the chemical processes have been promoted by companies who hoped to make money of the materials extracted from the sewage. Although beautifully clear effluents were produced, the financial part of the process did not succeed, and, when the work had to be carried on at a loss, it soon came to an end. Chemical science has made great strides during the last few years, and it would appear that, in the question of sewage treatment, the introduction of the precipitant and deodorant above referred to is a decided advance.

When I visited the works at Acton, in August last, I had an opportunity to see and examine the entire process. I saw the manner in which the foul sewage was deodorised before it entered the tanks, how it passed into the polarite filter-beds, and not only saw the purified effluent as it came away, but, as I have previously stated, drank a tumbler of it. At the time of my visit there was not the slightest suspicion of any foul smell, and, although the works are in a populous district, I could not learn that any complaint had been made as to the manner in which the operations are carried on.

The quantity of ferozone used per million gallons of sewage varies from 7 to 10 cwt., according to the nature of the sewage treated—whether it is in a state of decomposition, or whether it is delivered at the sewage works in a fresh condition. In various instances the ferozone has been successfully used as a sewage deodorant during the summer months, without the use of polarite filters, and with beneficial results. At Leicester, some 9,000,000 gallons are so treated daily, and at several towns, asylums, and public institutions the sewage is thus deodorised before being used for irrigation.

Polarite

Polarite beds for filtering the ferozoned sewage water, cost in England from £2 5s. to £3 per square yard, including brick or concrete construction and all materials as well as the polarite. Six beds of 200 yards each are sufficient for purifying 1,000,000 gallons per 24 hours, the only cost being interest on construction, and a small sum (calculated at 4s. per 1,000,000 gallons), for cleansing the surface sand of the filter beds. This can be done automatically. The polarite beds do not require changing or removing, a slight rest only of a few hours occasionally being all that is needed to effect revivification. The engineer's estimate for altering and adapting the sewage tanks at Salford, and constructing polarite beds for 10,000,000 gallons of sewage per day, amounted to £17,000; and the working expenses, including 912 tons of ferrozene, were estimated at £3,840 per annum.

Accompanying this Report are plans and sections (*vide* Appendix, Drawing B) of the most modern works in England in course of construction for the international sewage process; also, a sketch plan (Drawing C) of the Acton sewage works and section of the polarite filter beds, and plan and sections (Drawing D) illustrating an ideal arrangement for this system of sewage purification, together with sketch plan (Drawing E) of an arrangement suitable for a small town or public institution. The first named plans have recently been designed for a town near London, and for a prospective population of 25,000 persons. The engineer for these works states, that it would be an advantage to place a light corrugated iron roof over the tanks, as he did at Southall, in Middlesex.

I venture to submit that for such a district as North Sydney or other suburban or country towns where land is not easily available for irrigation or earth filtration, the process is obviously worthy of every consideration; and, supported by the before-mentioned professional opinions and experiences, I have every confidence in asserting that if such works were well designed, and the process properly looked after, the result would certainly give satisfaction.

### The "A. B. C." Process.

The "A. B. C." process of sewage purification is in operation at Kingston-on-Thames, Aylesbury, and Wellington College. The process has been in use at Aylesbury since 1882, and at Kingston-on-Thames since June, 1889. It has also been satisfactorily working at Wellington College for some time. These three places may be said to be representative ones, and demonstrate the efficacy of the process for a large town, for a small one, and for a public institution.

I inspected the works and process at Kingston-on-Thames, in September last, with the Chairman of the Drainage Committee of that Borough, and with Mr. W. C. Sillar, the Managing Director of the Native Guano Company, who carry on the process of purification at these works under an agreement with the Kingston Corporation. The works are situated within a few hundred yards of the market place, and there are houses and mansions in close proximity. There is also a newly formed promenade with ornamental gardens along the river front of the works. It may, therefore, be said that the process at Kingston is subjected to a very severe test as regards the questions of nuisance and annoyance.

It is generally admitted that the Company have fought an exceedingly hard battle for many years in their endeavours to get their precipitation system adopted. The process has produced one of the best effluents of any chemical system which does not employ filtration in aid of chemicals. The expense is a serious consideration, and it can only be justified on the assumption that the dried sludge or native-guano manufactured therefrom realises the price of £3 10s per ton, which it is stated to be worth.

It is claimed for the "A. B. C." process that it successfully fulfils the demands of the sewage purification problem, and:—

1. That the effluent water is sufficiently purified to be admissible into any river within the requirements of the Rivers' Pollution Prevention Act, and without injury to fish.
2. That this is effected without nuisance.
3. That the materials used do not injure or destroy the manurial qualities of the sewage, which are consequently preserved for agricultural use, in a dry, portable, and inoffensive form.

Accompanying this Report will be found plans and sections of the works and buildings (*vide* Appendix, Drawings F, G, and H), together with a small lithographed plan (Drawing I) illustrating various arrangements.

The site of the works is about 800 feet in length and 250 feet in breadth. The approach is by a gateway, near which are the offices, and a tramway winding up an incline for the conveyance of coals and the guano produced. The existing main sewer of the town is intercepted, and the Kingston sewage, on reaching the works, passes into the screening chamber and through a grating which intercepts coarse matter likely to choke or injure the pumps, and thence through a culvert to a pump well 25 feet deep by 14 feet in diameter under the main building, where it receives the "B C" or deodorizing and purifying mixture. The sewage thus partially treated is raised about 12 feet into the main building by centrifugal pumps, of which there are three, each driven by a 15-horse power engine, and capable of lifting 1,650 gallons per minute. The pumps discharge into a meter chamber, where the sewage is measured and the quantity registered. On leaving the meter the sewage flows along an open channel to the settling tanks, receiving on its way the precipitating agents. These pumps are driven by three "Willan's" triple expansion central valve engines, coupled direct to the pump spindles, and mounted on the same bed-plate.

The main building is built of yellow stocks and red bricks, with stone dressings, and presents a very sightly river frontage. The end views are also simple and neat. The chimney stack is done away with, being replaced by a block of flues like those of an ordinary residence. In this building are also placed, near to the sump well, the steam engines for driving the shafting and working the mixing and other machinery. These engines are also of the latest "Willan's" type, and will be each capable of indicating 40-horse power. Close by, also, on a raised floor, are the mills which mix the clay and charcoal. This mixture is ejected into the conduit, and acts chemically upon the organic matter of the sewage. Further on are the alum mixers, the alum mixture flowing along a saw-toothed gutter at right angles to the conduit and running over it into the sewage stream in drops and rills.

The chemically-treated sewage still flows on in the conduit until it reaches the settling tanks, which are eight in number, or may rather be described as two sets of four tanks. The conduit flows past all these, the sewage being admitted by sluices into one or more, or any, as may be required. The tanks are each 85 feet long by 50 feet broad, and 6 feet average working depth, holding 150,000 gallons, or 1,200,000 gallons

gallons in the aggregate, and are partially divided in the middle longitudinally by a wall, about three-quarters the distance of the entire length. The tanks are deeper at the near ends and shallower at their rears, so that the tendency of the sludge deposited is to gravitate towards the front wall, whilst the dividing wall tends to cause the fluid portion to circulate round into the second half of the tank, giving it more time to settle before the surplus water runs off by a trumpet-mouthed vertical pipe, secured to the wall. Attached also to the same front wall of each tank is a jointed pipe, to which a floating valve is attached for draining off the remainder of the water, nearly to the surface of the sludge beneath. The water so drawn off is conveyed by an iron pipe to the same place of discharge as the effluent which constantly flows off from the trumpet-mouthed pipes.

The treated sewage thus flows in a continuous stream through the tanks, precipitating as it flows, and passes clear, bright, and odourless into a covered channel, discharging into the Thames. The tanks are cleaned periodically, the deposit or "sludge" being pumped into the sludge-well by a "Tangye-Holman" double-action pump, at the rate of 500 gallons per minute. Another jointed pipe in the same wall can be let down into a sump-hole and the sludge drawn into four sludge vessels, or accumulators, by the creation of a vacuum, and it is then forced by air pressure, at 100 lb. on the square inch, into filter presses on the first floor of the building, from which it is removed in hard cakes. There are two "Scott's" air-pumps and eleven of the Native Guano Company's filter presses. To prevent these accumulators from becoming too full, a floating ball is raised by the inflowing sludge until it closes the air passage, when the exhaust, of course, ceases. The air at three or four atmospheres of pressure is then turned on, and the contents of the accumulators are forced up to the first floor of the building, and there into mechanical presses, which express the fluid and mould the solid residue into cakes. The expressed water runs back to the sump-well, and the pressed cakes are dried in a Borwick's drying cylinder (with fan and condensing apparatus attached), ground into powder, bagged, and sold to farmers and gardeners as native guano, at £3 10s. per ton.

To prevent any escape of foul emanations in this operation, the reek from the revolving cylinder is forced off by a fan, and carried by iron pipes first to a closed chamber, in which it is subjected to the absorbing action of water spray amid layers of brushwood. It then passes on in stoneware pipes to a cooling tank placed at the top of the building; thence again by pipes to a second chamber, and finally passes into the external atmosphere by a flue in the boiler-stack. The condensed fluid flows from the pipes to the drain.

The Surbiton sewage is separately received and screened, and is pumped by centrifugal pumps through a meter into the Kingston pump well. There are three pumps, each driven by an 8-horse power engine, and capable of lifting 750 gallons per minute.

The boilers are of the locomotive multitubular type, working at a pressure of 150 lb. per square inch—one of 80-horse power, and two of 60-horse power each.

Two mortar mills are used for grinding the chemicals, which are then mixed in vats and discharged into the pump well; and there are two vats for dissolving the precipitating agents. A small centrifugal pump supplies water from the river for the boilers, mixing the chemicals, &c.

The upper floors of the main building are devoted to the storage of this material. Welsh coal is burnt to avoid smoke and its annoyances. The effluent is discharged from the works down a brick slope into an open trough, where it can be sampled and examined. From this spot the effluent flows in a covered-way to the limit of the property into the down stream of the River Thames.

At the present time the sewage being treated is that of Kingston and Surbiton, having a population of nearly 40,000 persons. In a short time Hampton Wick will also send its sewage over the railway bridge to these works by one of Shone's ejectors. The works are constructed for an average of 45 gallons of sewage per head per day, and their capacity could be easily increased if fully developed for double the before-mentioned population.

In the report of Dr. Tidy and Professor Dewar, F.R.S., on the experiments carried out by them at the Aylesbury works for the purpose of determining the conditions and efficiency of the "A B C" process, they briefly gave a description of the *modus operandi* of the process as follows:—"The sewage is delivered at the works into a small oblong space, about 4 feet wide by 6 feet long, paved with bricks. Across this space, and about 1 yard from the sewer mouth, a wooden V shaped trough is placed, into which the 'B C' mixture is run, even distribution into the sewage being effected by means of numerous notches cut on the side of the trough. By this means the sewage is completely and immediately deodorised, no escape of offensive odours from the sewage into the surrounding air taking place. The entire works are, in our experience, free from any objectionable smell whatsoever."

"After being mixed with the "B C" mixture, the sewage passes through an iron grid for the purpose of catching paper, straw, and similar floating materials. It then passes along a brick-paved channel for about 12 feet, the channel afterwards narrowing to 2 feet in width. Here the alum solution flows in from a wooden trough in the same manner as we have described in the case of the "B C" mixture. The alum, it will be noted, is added some short time after the "B C" mixture. The addition of the precipitating ingredients separately, we are informed, is found to afford better results than when they are run in together."

"The treated sewage flows along the channel for about 40 yards, in order to facilitate mixture before it is allowed to run into the first subsiding tank. There are three subsiding tanks, each holding 42,000 gallons, through which the treated sewage successively flows before finally passing through a fourth and last tank, which is about double the size of the other three. On leaving the tanks the effluent, now practically free from suspended matter (as will be seen from the tables), and devoid of smell, passes for several hundred yards along an open brick channel, before finally discharging itself into the brook."

"The materials used for the precipitation of the sewage matters are clay, carbon, blood, and alum, and they are manipulated as follows:—"Weighed quantities of the clay and carbon are ground together in a mill with a certain small proportion of blood and some water. When thoroughly incorporated, the mixture is run into a reservoir placed beneath the mill, where a considerable proportion of the heavier clay particles subside, whilst the lighter particles of clay and carbon are added to the sewage as above described. The sulphate of alumina is dissolved in a separate tank, and is run directly from this into the sewage. The solution of alum used was found to contain, on an average, from 1 to 2 per cent. of sulphate."

The investigation of Dr. Tidy and Professor Dewar extended over a period of three months, and in order to arrive at a satisfactory conclusion, systematic and continuous experimental observations were needed, and accordingly consecutive half-hourly samples of sewage and effluent were taken for twenty-four hours, on separate occasions, and subjected to chemical examination, the results being, in their opinion, satisfactory.

The report they submit establishes the following facts:—

1. That the "A B C" process produces a clear effluent, free from suspended matter and devoid of smell.
2. That the effluent is uniform, notwithstanding the very varied nature and concentration of the sewage.
3. That, as the strength of the sewage increases, the precipitation is more complete.
4. That the process removes over 80 per cent. of the total oxidizable organic matter.
5. That it precipitates 60 per cent. of the organic matter in solution, and of the residue left in the effluent, at least two-thirds are non-albuminous, and therefore of a nature less liable to putrefactive and other changes.
6. That the process is carried on without nuisance, the sewage being immediately and completely deodorised and the entire works free from any objectionable smell.
7. That it produces a manure containing an average of 3.8 per cent. of ammonia, calculated on the perfectly dry manure, or if with 20 per cent. of water, 3 per cent. of available ammonia, and also 5 per cent. of phosphates, reckoned as tri-calcic phosphate of lime.

I ascertained that the Kingston works and buildings involved an expenditure of £26,000. Of the 20 acres of land originally required by the Corporation, only 3 acres have been used for the works and buildings.

The terms on which the Company purify the sewage are equivalent to a rate of 3d. in the £ per annum; or, taking into consideration the interest on the capital outlay, it amounts to a 5½d. rate. The Company find that the cost of manual labour is very great, amounting to some £40 per week for wages, coals, and chemicals. Measures are therefore now being taken by the Corporation to so modify the arrangements of the process as to dispense with a considerable amount of the manual labour.

At the inauguration of the works a very distinguished company of scientific and professional men were present, and on a day when the heat was almost tropical, the eminent men and experts who were present very closely criticised the process. Mr. Thomas Hawksley, M. Inst., C.E., F.R.S., who has had more than forty years experience in sewage disposal, told the company "that Kingston-on-Thames was getting its sewage purified at a cost of only one-third of what many other towns had to pay. He had very much faith in the ultimate results of the system, and was very agreeably surprised at the perfection of the arrangements. He had seen the raw sewage as it had approached the works, and had seen the effluent as it left them. The change in the condition of the water, which at the commencement was black and disagreeable, and in too many respects an objectionable fluid, was remarkable, for it was turned out of these works a smell-less and wholly unobjectionable water."

The Medical Officer of Health to the Kingston Corporation in his annual report stated that he had visited the works, and walked around the neighbourhood on frequent occasions, and had questioned a good many people living in the vicinity, and concluded by saying, "I can vouch for the completely unobjectionable nature of the process. There is neither smell nor anything else which would indicate to a stranger passing by that sewage was being dealt with at the spot, and I certainly consider that Kingston has pioneered the way for other towns labouring under similar sewage difficulties."

The Aylesbury Local Board also expressed their entire satisfaction at the success of the process, and the authorities of Wellington College were equally emphatic as to the satisfactory results of the system. Mr. Baldwin Latham, M. Inst. C.E., has also testified to the great success of the process since 1878, and knew of none so satisfactory.

Since the Native Guano Company first commenced the process, they have sold more than 10,000 tons of native guano for the sum of £34,335. They have received an immense number of testimonials from farmers and gardeners, showing the valuable results of its practical application in the farm and the garden.

I certainly was greatly impressed with the process and the completeness of the works. Doubtless the working cost of the system will be reduced before long. I can testify that I saw the foul sewage enter the works, that the operations were carried on without the smallest annoyance, and that the degree of purification of the effluent which was discharged into the Thames was such, that numbers of fish were present in the river at the outlet, and anglers were busily engaged close by. It must not be lost sight of that in this, as in all successful processes, the sewage must come straight from the main sewer to the works, and be treated before there is time for decomposition to set in. In the *London Daily Telegraph* of 10th November, 1890, in a report of the rejoicings at Kingston-on-Thames, on the occasion of the opening of the Pleasure Gardens, Sir Whittaker Ellis, Bart., M.P., asserted that "the event would be highly interesting to all municipal authorities. They had, in the first place, solved one of the greatest problems of the day, and shown that the current belief that the sewage of towns must be taken a long distance away for purification was entirely a mistake. In Kingston it had been proved that the treatment and disposal of sewage could be performed in the midst of a crowded population, although in other places the great difficulty had been to find a spot which was right away from everybody. In the second place, they had provided a magnificent garden, having 1,000 feet of frontage to the Surrey bank of the river, which in a few years would be one of the most charming spots in England."

### Salford Sewage Works.

At the time of my inspection in September last, I found that crude sewage was being discharged from these works into the river Irwell, at a point where it joins and forms part of the Manchester Ship Canal. The sewage was black and turbid, and created an abominable stench. Some years since the Corporation incurred an outlay of £100,000 in providing a series of tanks, together with powerful engines to raise the sewage from the low-level sewer into the tanks, a lift of 48 feet; and for some years these works

works have been in operation, the lime process being used. During the past year the Corporation have been carrying on a series of experiments with various precipitation systems, and with the electrical process hereinafter referred to. Since these experiments were concluded, the Corporation deemed it advisable to revert to the lime process, the consequence is that crude sewage is discharged into the river for the time being, and its condition is certainly the most unsatisfactory of any I saw in England. In addition to Salford there are a number of small towns draining into the Irwell; but the whole of these places will be immediately required to satisfactorily purify their sewage, prior to the completion of the Ship Canal.

The result of the experiments is being awaited with much interest, and doubtless the system selected by the Salford Corporation will be followed by most of the other authorities referred to.

### Birmingham Sewage Farm.

The Birmingham Outfall Works and Sewage Farm are upon a somewhat extensive scale. When I visited them I had interviews with the City Engineer and the farm manager, from whom I obtained much interesting information.

It appears that the Birmingham, Tame, and Rea District Drainage Board is formed by eleven constituent authorities, viz., the City of Birmingham, the Borough of Sutton-Coldfield, and the Local Government Districts of Aston Manor, Balsall Heath, Smethwick, Saltley, Harborne, and Handsworth; also, the contributory places of King's Norton, Aston, and Perry Barr. The total area of the drainage district is 47,275 acres. The population is estimated at 650,000 persons, and the ratable value at £2,450,000.

Practically, the whole of the sewage of the Drainage District, amounting to 20,000,000 gallons per day, dry-weather flow, flows by gravitation to the outfall works. Only a very small area requires its sewage lifted by pumping, the cost of such pumping being £104 per annum.

The method of treating the sewage as now carried on is as follows:—

The sewage, on arriving near the liming sheds at the upper end of the works, is mixed with lime, 11 tons 6 cwt. being used every twenty-four hours, both to neutralise the acids (present to an unusual extent in Birmingham sewage), and also to assist precipitation. The sewage then passes through the large or roughing tanks, where the grosser impurities are precipitated, and from thence it is conveyed by the main conduit to the land and disposed of by ordinary irrigation. The sixteen small tanks which were required at one time for completing the precipitation process are still used under certain circumstances, and are a valuable auxiliary when the rainfall has increased the normal quantity of sewage.

The sludge from the tanks is raised by bucket dredgers and pumps into elevated movable wooden carriers, and flows into beds formed in the land at Saltley at the western end of the farm. The sludge contains about 90 per cent. of water as it comes from the tanks, but after lying on the ground for about fourteen days, much of this water drains away or is evaporated, leaving the sludge in a layer about 10 inches thick and of a consistency that admits of its being trenched into the land. Crops are then planted, and after a time the sludge becomes pulverised and capable of being irrigated. Forty-five and a half acres were required for the sludge last year, and the same land may receive a coating of sludge every two or three years.

The sewage is conveyed to the land by means of a conduit 8 feet in diameter, and about 2½ miles long, capable of discharging 38,000,000 gallons per day when running half full, or double that quantity when running full, the fall being 2 feet per mile. This conduit commences at the outlet end of the large tanks at Saltley, and terminates at Tyburn, valves being placed at suitable intervals for discharging the sewage on the land passed through. Below Tyburn a conduit 3 feet 6 inches in diameter has been constructed, which is sufficient for the remainder of the farm. The sewage is drawn from these conduits into open brick carriers, which again discharge into secondary carriers of earth, and thence into the flooding carriers.

The total area of the farm is 1,227 acres. The nature of the land is very favourable for the purification of sewage, the surface of the land (after levelling) being even, and the natural level such as to admit of the irrigation of the whole by gravitation, with the exception of about 100 acres. The subsoil is gravel and sand, varying from 6 feet to 10 feet in thickness. The land is drained to a minimum depth of 4 feet 6 inches, but in many cases, owing to the level nature of some of the land, a greater depth has been found necessary at the lower end of the drains. The subsoil drainage consists of 3-inch and 4-inch agricultural drain-pipes, placed half a chain apart, and discharging into main drains of 9, 12, 15, and 18 inch stoneware socket pipes, which in turn discharge into the outfall channels.

The total cost of the land and works up to the present has been £410,033; the rent of the leasehold land is at the rate of £4 per acre; and the cost of the freehold, including timber, buildings, mill-rights, tenants' compensation, law charges, &c., amounted to £152 per acre.

The quantity of mud arrested in the large tanks last year was 129,783 cubic yards, and in the small tanks 16,685 yards; the total being 146,468 yards as against 147,952 yards the previous year. Of this quantity, 142,710 yards were raised by the elevators and dug into the land, 45½ acres being used for this purpose, whilst the remaining 3,758 yards were removed by the steam crane, thirty loads being sold, and the rest applied to the Tyburn lands. About 1 acre of land is thus required for the sludge per week.

The following details as to the lime used, the crops grown, milk sold, live stock disposed of, &c., are practical instances of what can be produced on a properly organised sewage farm.

The quantity of lime used for precipitation purposes was 4,013 tons, or an average of 11 tons 1 cwt. 2 qrs. per day, as against 4,123 tons, or an average of 11 tons 6 cwt. per day, the preceding year. The material costs 12s. 9d. per ton delivered at the works.

Forty acres of wheat were grown, producing 30 bushels per acre and 30 cwt. straw; 70 acres of oats, 56 bushels per acre, and 25 cwt. straw; 9 acres of peas, part picked for market and the remainder consumed by the stock; 90 acres of mangolds, weighing 2,970 tons, or an average of 33 tons per acre; 56 acres of Swedes—those grown at Tyburn yielded 20 tons and at Saltley 15 tons per acre; 28 acres kohlrabi, 23 tons per acre.

Sixty-eight acres potatoes produced about 8 tons per acre; 156 acres cabbages, viz., 58 acres, maiden, 71½ savoy, 22 drumhead, and 4½ acres red; 2 acres onions, 8 carrots, 6 kidney beans, 5 celerly, 5½ cauliflower, 10 parsnips, 6 Brussel sprouts, 8 curled greens, and 1 lettuce.

The total proceeds from the vegetable and other crops amounted to £5,984 5s. 4d.

One

One hundred and ten acres rye-grass; of this, 52 acres were grown at Saltley, which produced 943 tons, or an average of 20 tons per acre. Of this quantity, 343 tons were sold at an average price of 14s. 5d. per ton, realising £251 15s.; 104 tons were made into ensilage, and the remainder consumed by the farm stock. The remaining 58 acres were grown at Tyburn, and produced 1,856 tons, or an average of 32 tons per acre; 54 tons were sold, realising £53 13s. 9d., 40 tons were made into ensilage, and the remainder consumed by the farm stock. Two hundred acres of grass were mown, which produced about 350 tons of hay, 16 acres vetches, 10 rape, 12 lucerne, and 14½ acres of rye.

The yield of milk for the year was 133,787 gallons, realising £4,092; as against 130,628 gallons, realising £3,868 3s. 9d. the previous year. The yearly average per cow exceeded 850 gallons.

#### SUMMARY OF ANNUAL INCOME AND EXPENDITURE.

		<i>Expenditure.</i>		£	s.	d.
Wages	...	...	...	11,708	7	4
Lime for precipitation	...	...	...	2,512	4	8
Horse and cattle keep, veterinary attendance, &c.	...	...	...	5,106	11	4
Timber, ironwork, bricks, tools, coals, coke, and repairs to machinery	...	...	...	1,225	3	9
Horse hire, tonnage, &c.	...	...	...	31	17	2
Live stock purchased	...	...	...	8,053	17	6
Miscellaneous expenses, including tools	...	...	...	1,004	3	10
Rent	...	...	...	2,947	12	9
Rates and taxes	...	...	...	1,097	6	7
Gas and water	...	...	...	278	4	2
Seeds, plants, &c.	...	...	...	582	12	5
			Total...	£ 34,548	1	6
<i>Income.</i>						
Sale of crops...	...	...	...	5,964	7	3
"    milk	...	...	...	4,092	18	6
"    live stock	...	...	...	10,359	6	9
"    manure	...	...	...	12	14	0
Pumping sewage	...	...	...	104	0	0
			Total	£ 20,538	6	6

The works and operations have so far satisfied the complaints from the riparian owners, and have stopped various law suits. The City Engineer states that since the opening out of the irrigation land, the expenses at the outfall works have undergone some reduction, and there is every prospect, not only of a further reduction in the future, but also of a gradual increase in the receipts from the irrigation land, as the demand for the farm produce is developed; but bearing in mind the large initial outlay in purchase of land and the construction of the works, and the annual working expenses in disposing of so large a volume of sewage, it is not to be expected that assistance from the rates can be dispensed with until, in the somewhat distant future, the large annual sum now required for interest and repayment of loans shall cease. It should, however, be remembered in dealing with sewage farm accounts, that after all, the great item on the credit side of the balance-sheet (although it is one that cannot be represented by a money value) is the satisfactory disposal of the sewage.

There are still some 36,000 pans or pails in the city for the reception of excreta. The latter is mixed with ashes at various wharfs, and treated in "dryers." The house refuse is burned in Fryer's four-celled destructors, thereby reducing the refuse to one-sixth of its original bulk. The collection of ashes and faecal matter costs £45,000 per annum, less £10,000 for the sale of the manure so produced. At the recent annual meeting of the National Society of Medical Officers of Health, which was held in Birmingham, the "pan" system was severely condemned, but the water-carriage system was highly approved by the various speakers.

Accompanying this Report will be found a Plan (*Vide* Appendix, Drawing J) of the sewage farm, main conduits, and sewage carriers; also, the dimensions and capacity of the nineteen tanks, showing the general arrangements which have been adopted, and which are managed in a highly efficient manner.

The effluent was beautifully clear when I saw it leaving the farm. It falls over white glazed bricks into the river Tame, and had attained a high degree of purification.

#### Coventry Sewage Works.

After many years experience of the lime process, which failed to give a satisfactory effluent, and caused the principal landowners to be at variance with the Corporation on account of the pollution of the river, the City Council entered into an arrangement with the Rivers' Purification Association to treat the sewage under their alumina and lime system, when new outfall works and tanks were constructed at a cost of £14,000, plans of which I procured. The population of the city is 50,000, and the nature of the sewage to be treated, of which the daily volume is upwards of 2,000,000 gallons, is exceptionally foul, in consequence of the large amount of discharge from the dye-works, and other manufacturing refuse, which finds its way into the main sewers.

The Company carried on the works for several years for a subsidy of £2,000 per annum, but did so at a loss; and when a re-arrangement of the terms became necessary, it was decided that the Corporation should carry on the operation themselves. This they now do at a cost of about £3,200 per annum.

The quantity of alumina actually used is from 5½ to 7 grains per gallon, according to the varying qualities of the sewage to be treated. The alumina consists of shale treated with sulphuric acid, the price paid by the Corporation for the alumina being about £2 13s. per ton. The manager of the works informed me that about half-a-ton per day would be required for the ordinary sewage of a town having a population of 25,000 persons.

The

The effluent from the subsiding tanks is conducted to a filtration area, or to the irrigation area as the case may be, and as it finally issues into the river it contains only 0.061 of albuminoid ammonia per 100,000 gallons, or 3.60 per cent. of its original proportion, a very striking result. It has been asserted that during the holiday seasons at Coventry, when manufacturing refuse is absent from the sewage, that the amount of chemicals necessary to purify the sewage is only about two-thirds of that which is requisite when the dyes and other manufacturing refuse are present. The Corporation annually dispose of some 4,000 or 5,000 tons of dried sludge to farmers and gardeners, for which they receive 1s. per ton.

I can testify that the effluent I examined in long test tubes appeared to be perfectly pure and bright, and that it was entirely free from odour. Indeed, chemical analysis has proved that the effect of this double system is to secure an effluent of a very high quality.

### Dorking Sewage Works.

The Dorking Sewage Works are quite modern, having been completed only a short time before my visit to England. They are well designed and the works are so conveniently arranged that I procured a copy of the plan and sections to accompany this Report (*vide* Appendix, Drawings K and L).

The Dorking district is in the County of Surrey, and contains a population of about 7,000 persons. The outfall works are situated about 1 mile from the centre of the town, and the sewage flows there by gravitation. The sewers are on the "separate" system, but the total exclusion of rain-water from roofs and yards caused considerable trouble to the working of the house-drains and pipe-drains at first. This has now been remedied by admitting part of such rainfall.

The volume of sewage is about 100,000 gallons per day. It is discharged into the straining tanks, passing from thence into an automatic-mixing machine, where lime is added, and beyond which a wooden trough is filled with cakes of alum, over which the sewage passes on its way to a series of four settling tanks. Each tank contains about 50,000 gallons and is provided with a galvanized iron wire cage, 3 feet square, where any foreign matter escaping from the first straining tank is arrested.

The effluent rises over the weir of the first tank and follows a channel leading to the second, and so on until it has reached the fourth tank, at which point it discharges into conduits leading to rye-grass and osier beds.

By means of the sluice gates, the settling tanks may be used separately or altogether, and upon other sluices being opened, the effluent is drawn off through floating arms to within 18 inches of the floor of each tank. In emptying a tank, the contents flow upon the beds, covering about 2½ acres, upon which a prolific crop of osiers is growing. The ordinary overflow of the effluent is discharged upon the rye-grass beds which are about 3½ acres in extent, or it may be poured upon the osier beds at pleasure.

Around all these beds are open-jointed drains, varying from 9 to 15 inches in diameter, and about 8 feet deep, all converging at one inspection chamber, where the effluent runs over a marble weir in a white brick basin, and from thence into the River Mole.

After the effluent is drawn off to within 18 inches of the bottom of each tank, there remains the residuum sludge, which finds its way by gravitation into the wells, flowing through a 12-inch drain underneath the tanks.

By means of a 6-inch "Invincible" centrifugal steam pump, the contents (6,000 gallons) of the wells are raised, in less than an hour, to receptacles constructed above the roadway, and from thence the sludge gravitates to the rams and is forced into the presses.

The sludge rams, of which there are two, are constructed, as is the whole of the machinery, so that all may easily be taken to pieces and examined at any time. The steam-engine in the press-house is made to drive the air-compressor, and is well balanced to prevent vibration, and the air-receiver itself forms a substantial foundation. An automatic gear is fixed to regulate the supply of steam in proportion to the amount of air required for pressing. The filter presses, which are in duplicate, are constructed to stand a great many tons pressure between the plates, and the labour of opening and closing is accomplished by mechanical means, which is an important advantage in the manipulation of sewage sludge.

The method of working this apparatus is exceedingly simple. The sludge passes by gravitation direct from the high-level receptacles into the rams, and when these are full the inlet valve is shut off and the compressed air supply turned on, which immediately acts upon the mass of sludge and drives it with enormous force into the filter press. The press is composed of a series of plates placed vertically and resting by means of lugs on two horizontal shafts, upon which they easily slide. At one end of the shaft a strong frame is fixed to support them and withstand the great power exerted during the operation; at the other end is a heavy movable frame which, by means of the same accumulated air-pressure for filtering, is forced and brought to bear on the whole set of (twenty-five) plates in each press. Therefore, when the press is closed, there is a series of vertical chambers, with filter-cloths on either side, forming a filtering area equal to the size (2 feet square) and number of the plates in the press.

The sludge is made to pass through the centre of the fixed end and into these chambers, where the separation of the solid particles from water takes place. The liquid, or water, runs through the filtering surface and flows out by openings at the lower edge of the plates into a trough and finally to the wells. The pressure is kept on till the liquid ceases to flow, indicating that the press is full of solid matter, weighing 8½ cwt. Ninety pressure gives the best results. The hand-wheels are then loosened, and the end frame is moved by a piston acted upon by compressed air, and the plates are separated one from another by sliding along the horizontal shafts.

The cakes of solid sewage are allowed to fall into the waggon underneath, and the press is again closed automatically. Pressed sludge has realised 10s. per ton at the works, but it is all taken away now at 5s. per ton.

The cost of the works was as follows, viz. :—

Land (11 acres) ... ..	£4,200	0	0
Formation of beds, roads, paths, and fencing ... ..	3,100	0	0
Buildings ... ..	1,200	0	0
Tanks ... ..	2,000	0	0
Machinery ... ..	1,000	0	0
Total ... ..	£11,500	0	0

Two men are regularly engaged at the outfall works, their wages being 26s. and 18s. weekly. Additional labour is occasionally required on the beds. Pressing is carried on daily, except Saturdays. I procured drawings and full particulars of the filter-press machinery and arrangements.]

The subsoil on the lower plateau (osier beds) may be described as follows:—The first layer met with is a stratum of light vegetable earth, about 1 foot in thickness. The greater part of the remainder is composed of sandy loam, becoming more stiff and clayey towards the bottom. Near and underneath the cross barrow-path, however, is found the commencement of a stratum of gray gault; between this and the sandy loam is found a thin layer of gravel, containing a small amount of water.

The upper plateau (rye-grass beds) contains a similar layer of vegetable earth on the surface to that on the lower plateau. The bed of gravel becomes thicker and contains more water. The light gray gault which lies below the gravel on the lower beds is hardly touched upon, but the blue gault is cut into and becomes more tenacious towards the settling-tanks.

I observed the nature of the effluent which was discharged into the river, and as it flowed out through the glazed white-brick bottom of the open man-hole, it appeared to be perfectly clear and purified.

#### INTERMITTENT-DOWNWARD FILTRATION.

The intermittent-downward system of sewage purification is another process of land filtration. It necessitates a very much smaller area of land than is required for broad irrigation. This system was originally brought forward by Mr. Bailey-Denton, and it necessitates a special preparation of land, to enable it to purify a larger quantity of sewage than it would naturally be capable of doing. Where suitable gravelly and sandy subsoil exists, a system of drains 6 to 8 feet deep and 2 or 3 yards apart is required; or plots may be made up of burnt ballast or other loose material or soil, the surface being arranged in ridges or furrows, along which the sewage flows, vegetables and plants being grown thereon.

Among the first places at which the process was carried out were Merthyr and Kendal. From the experience gained at a number of small towns it would appear that the sewage of at least 500 persons per acre may be dealt with in this way. Even where broad irrigation is adopted, it is frequently the case that a few acres are laid out for filtration, so as to provide a safety-valve in case of necessity.

The sewage farm at Wimbledon, consisting of 47 acres of stiff clay and serving a population of 25,000 persons, was laid out and under-drained as a filtration area somewhat on this principle, but it failed miserably, and in consequence of the fouled discharge, an injunction was obtained against the local authorities, who, under skilful management very soon wrought a wonderful change. The old drains were filled up with clay, and the sewage after clarification by different chemicals, was allowed to flow over the surface of the land only. This it does three or four times, before reaching the outlet culvert leading to the river.

I am not acquainted with any new feature in this system of sewage purification, and I think it may be asserted that the process is not making any particular advance in England.

#### THE ELECTRICAL TREATMENT OF SEWAGE.

Since the question of the electrical treatment of sewage was before the Department of Public Works, and was subsequently inquired into and considered by the Parliamentary Standing Committee on Public Works in 1888 and 1889, I think it cannot be said that the results obtained by the experiments which were conducted at the London Sewage Outfall Works at Crossness, or more recently at Salford and Bradford, have materially tended to advance the process in the eyes of scientists and sanitarians.

The principles of the electrical treatment were described by Professor Threlfall in his report and evidence in 1889. Since then some modifications have been made, and a description of the details will be observed in the remarks which follow. The Electrical Purification Association (Limited), which has been formed in London to work Webster's Electrical process for the purification of sewage, states that "the success of the laboratory experiments was such that Mr. Webster asked for and obtained permission to set up plant at Crossness, near the southern outfall of the Metropolitan sewage into the Thames, for the purposes of demonstrating on a practical scale the advantages of the process. A few gentlemen asked to join him in bearing the expenditure, to which he agreed, and the association was then formed for the purpose of making the necessary experiments as to the best mechanical and other arrangements for carrying out the process on a working scale, with a view to bringing it before the attention of public bodies, as the solution of the sewage problem." After the experiments were carried out at Crossness, the association asserted "that the question had been finally settled," and further that it had conclusively proved that cast-iron plates of the commonest quality employed as electrodes give the best results. They added that the process is very simple, inasmuch as for treating sewage or impure water, the fluid is allowed to flow through suitably constructed channels containing iron plates set longitudinally, the alternate plates being connected respectively with the positive and negative terminals of a dynamo. The sewage or other impure liquid in its passage through these channels becomes entirely split up by the electric action. The matters in suspension in sewage and part of the organic matter are not only removed by precipitation, but the soluble organic matter is oxidised and burnt up by the nascent oxygen and chlorine oxides evolved, and this oxidation may be carried to any extent, according to the amount of purification required.

On visiting the Crossness outfall works in September and November last, I found that the experimental works had been abandoned, and that the temporary buildings and other plant erected had not been removed, but were left standing. It appears that the electrical treatment of sewage did not exceed 36,000 gallons per day, instead of 1,000,000 gallons as stated beforehand; nor for a longer period than eighteen days. I was also informed by the Superintendent that in July, 1889 (usually the hottest of summer months in England), the effluent from the electrical process had not only an offensive scum on the surface, but that it smelt badly; so much so, in fact, that the London County Council were obliged to disuse it for the boilers.

In December, 1889, the analytical chemist to the County Council (Mr. Dibdin) reported at length on the results obtained. By his courtesy I was allowed to see the report, together with the reply of the Electrical Purification Association thereto; but, as the documents are still before the Drainage Committee of the London County Council, they must be considered as privileged. I am therefore unable to quote from them.

Sir

Sir Henry Roscoe, F.R.S., M.P., reported on the experiments in October, 1889, as follows, viz. :—

“The reduction of organic matter in solution is the crucial test of the value of a purifying agent, for unless the organic matter is reduced the effluent will putrefy and rapidly become offensive. I have not observed in any of the unfiltered effluents from this process which I have examined, any signs of putrefaction, but on the contrary, a tendency to oxidise. The absence of sulphuretted hydrogen in samples of unfiltered effluent which have been kept for about six weeks in stoppered bottles is also a fact of importance. The settled sewage was not in this condition, as it rapidly underwent putrefaction, even when in contact with air, in two or three days. The effluents as collected from the tanks were found to contain a small amount of iron in solution in the ferrous state, and on exposure to air ferric hydrate was precipitated. In order to remove this iron, it was arranged to pass the effluent from the precipitating tank over and through a filter of sand, and by this means oxidation and precipitation of the soluble ferrous salt was brought about, and effluents were obtained, free from iron, of bright appearance, but in no degree chemically purer, as regards organic matter, than in the unfiltered effluent. The results of this chemical investigation show that the chief advantages of this system of purification are:—(1.) The active agent, hydrated ferrous oxide, is prepared within the sewage itself as a flocculent precipitate. (It is scarcely necessary to add that the inorganic salts in solution are not increased, as in the case where chemicals in solution are added to the sewage.) Not only does it act as a mechanical precipitant, but it possesses the property of combining chemically with some of the soluble organic matter and carrying it down in an insoluble form. (2.) Hydrated ferrous oxide is a deodoriser. (3.) By this process the soluble organic matter is reduced to a condition favourable to the further and complete purification by natural agencies. (4.) The effluent is not liable to secondary putrefaction.”

Mr. Alfred B. Fletcher, F.C.S., Inspector under the Rivers Pollution Act, also reported in November, 1889, as follows, viz. :—

“At Crossness, near the southern outfall of the metropolitan sewage into the Thames, an experimental plant has been erected for showing the working of the above process. An arrangement is made for drawing from the main culvert a portion of the sewage as it arrives from the metropolis. This is caused to flow through a wooden shoot measuring 18 inches in breadth internally and 2 feet in depth. The length is 400 feet, and leads to a tank 3 feet 4 inches deep, capable of holding 25,000 gallons. The long wooden shoot is filled with wrought-iron plates  $\frac{1}{2}$  inch thick and 1 inch apart. These are connected alternately with the positive and negative conductors from an electric generator driven by a steam-engine. Samples of the raw sewage as it entered the long shoot were taken every 10 minutes, and also samples of the sewage after having passed between the iron plates in the long trough. A portion of the samples thus collected was taken as an average both of the raw and of the treated sewage. A sample of the upper portion of the treated sewage was taken from the tank after it had been filled and had been allowed to subside during two hours, also a sample after three hours' settling. A portion of this treated sewage was allowed to filter through a bed of sand about 6 inches deep, and a specimen of the clarified liquor was taken. These various samples, brought away in stoppered bottles, were submitted to chemical analysis. Of these it should be said that as all the analyses could not be commenced immediately, it is probable that the determination of ammonia may have been somewhat affected by the changes which take place rapidly in sewage. It was noticed that while the raw sewage filters very slowly, so that 500 c.c. required 96 hours to pass through a paper filter, the electrically treated sewage settled well and filtered rapidly. Samples of the raw sewage having but little smell when fresh, stank strongly on the third day. The treated samples, however, had no smell originally, and remained sweet, without putrefactive change. The treatment causes a reduction in the oxidisable matter in the sewage varying from 60 to 80 per cent. The practical result of the process is a very rapid and complete clarification of the sewage which enables the sludge to separate freely. After the treated sewage has been allowed to settle for two hours, the effluent may be passed through a filter of sand, &c., and discharged bright in appearance, and free from offensive smell. In producing this result two agencies are at work, there is the action of electrolysis and the formation of an hydrated oxide of iron. It is not possible perhaps to define the exact action, but as the formation of an iron oxide is part of it, it seemed desirable to ascertain whether the simple addition of a salt of iron, with lime sufficient to neutralise the acid of the salt, would produce results similar to those attained by Webster's process. There was a difficulty in carrying out these experiments fully, owing to the impossibility of obtaining fresh samples of raw sewage identical with those which had been treated by Webster's process. That which had been kept for a few days was no longer available. In order to make these experiments, samples of fresh raw sewage were taken at Crossness, at intervals of one hour during the day. As much as 10 grains of different salts of iron were added per gallon, plus 15.7 grains of lime in some cases, and 125 grains of lime in another, and the treated sewage was allowed to settle twenty-four hours; the results obtained were not nearly so good as by the electrical method. The result of my examination of this process has been to convince me of its efficiency in clarifying sewage, of removing smell, and in preventing putrefaction of the effluent. I am of opinion that such an effluent as I saw at Crossness can be discharged into a river, or, after passing through a thin layer of sand, even into a stream without causing any nuisance.”

The Electrical Purification Association further state, that “after submitting Webster's process to the severest tests, they have proved that by its means sewage is effectually purified, clarified, the smell removed, and secondary putrefaction prevented, the bulk of sludge being reduced to a minimum. That these results cannot be obtained by chemical precipitation is now an established fact generally admitted. Doubts have been expressed as to cost, but it may be unhesitatingly affirmed that for dealing with sewage, there exists no other known process which will bear comparison with the electrical treatment, either for simplicity or for economy, assuming of course that efficiency be a consideration. The necessary plant consists of electrolytic channels, containing the iron plates, the copper conductors and measuring instruments, dynamos, engines, and boilers. Thirty effective horse-power should be provided for treating one million gallons of sewage in twenty-four hours (representing a town of 30,000 inhabitants), assuming that about 450 tons of iron are laid down. This is estimated as ten years' supply, the iron consumed having been ascertained to be about 45 tons per million gallons per annum. But as the amount of iron laid down is in inverse proportion to the horse-power required, these two factors can be varied to suit the special requirements of each case. It should, however, be borne in mind that the larger the quantity of iron laid down, the longer it will last, and the cheaper it will be in the long run. For one million gallons of sewage in twenty-four hours, the cost of above plant (not including iron) would be about £2,000; this would

would allow for three engines and dynamos (direct driving) and two boilers, any two engines and dynamos and one boiler being capable of doing the full load. For dealing with larger quantities of sewage, the cost of plant is proportionately less; for instance, for ten million gallons, the cost of electrolytic channels, dynamos, engines, and boilers, would be about £10,000. With modern machinery, the coal consumption may be taken as not exceeding 2 lb. per indicated horse-power. The annual cost of maintenance would comprise only coal, iron consumed, and labour. Two shifts of two men each would suffice for one million gallons. To this must be added interest on capital and depreciation of machinery. For ten million gallons the coal and iron consumed would be in proportion to the amount of sewage treated, but the labour required would but little exceed that for one million gallons, two shifts of three men each being sufficient."

Notwithstanding what the Association say, I have good reason to believe that the result of the electrical trials at Crossness does not appear to have been satisfactory to the late Metropolitan Board of Works, or to the London County Council and their advisers, otherwise the experiments would probably not have been abandoned. The length of durability of the iron electrodes is altogether too problematical to justify any considerable outlay in what can only be regarded as a costly experiment.

The *Sanitary Record* of February, 1890, refers to the question, and states that "some interesting facts and figures as to the electrical treatment of sewage at the Crossness pumping station are brought to light in the report of Mr. Dibdin, the chemist, and Mr. Shoolbred, the electrician, made at the request of the London County Council. Mr. Dibdin sets forth the details of each experiment and the results of the analyses, as well as a full description of the plant employed. Mr. Dibdin finds the process is capable of removing practically the whole of the matters in suspension, and an average of 22 per cent. of the oxidisable organic matters in solution, at a cost of £1 15s. per million gallons of sewage, or £102,200 per annum for the whole of the daily flow of the London sewage, exclusive of labour, interest of capital, wear and tear, &c., and the cost of disposing of the sludge. The most important point to ascertain in this process, after the consumption of coal, seems to be the loss of iron in the plates used, as the electrodes, by the passage of the electric current through them, and the experiments so far made, afford no reliable data."

At the Annual Congress of the British Medical Association held at Birmingham last year, a discussion took place on the electrical treatment of sewage, and I noted that the Medical Officer of Health for Bradford, in describing the electrical process, said that it reduced the putrescent and noxious qualities of the sewage dealt with by 70 per cent., and the Bradford experiments showed that no living organisms were found in the effluent. The only objection to the system was its costliness, certainly not its efficiency. Dr. Bostock Hill said he feared that there was enough iron left in the effluent to discolour the streams into which it flowed, by the formation of sulphide of iron. Was it true, he asked, that the cost of the electrical process increased as it went on? Dr. Carpenter expressed dissatisfaction with the results of the trials, and while he desired to see further experiments of the process, he attached great importance to the working of sewage farms, such as that of Birmingham. The President said the effluent of the electrical process was unsatisfactory, whereas at the Birmingham farm the effluent was purer than the stream it ran into.

Since I left London, Mr. Webster submitted a paper on the system to the Chemical Society, in December last, in which he dealt more particularly with the Salford experiments. The quantity of sewage to be dealt with at Salford is 10,000,000 gallons per day, and for this it was calculated that 400 indicated horse-power would be requisite. He estimated that the annual cost of running the process would be £2,500—with an additional sum of £2,500 for the deterioration of 5,000 tons of iron electrodes. If a clear effluent were necessary, a further charge of £1,200 to £1,500 per annum would have to be met. Mr. Webster said that the practice now consists of passing the sewage through a brick channel, containing a large number of iron electrodes connected in parallel; the cast-iron plates being from  $\frac{1}{2}$  inch to 1 inch thick and 6 feet long, placed in a shoot 18 inches deep, 2 feet wide, and 200 feet long. It is also stated that a period of three hours is required for subsidence. The Salford estimate was taken for a consumption of 2 lb. of coal per indicated horse-power, the price of coal being estimated at 10s. per ton. During the discussion which followed, Mr. Webster's figures were attacked, and it was asserted that the full cost of the treatment would be from £21,000 to £24,000 per annum, or four times as much as the estimate Mr. Webster had given. The *Electrician*, in an article on the paper, stated that "the question suffered from the absence of actual figures relating both to treatment and cost, owing to the delay in the publication of the official report on the experiments at Salford. But while the subject is one of vital importance to the country, the question of cost must remain as the leading factor in any comparison with other systems." The article proceeded to say, that "the figures given by the author need some further explanation. It is not clear how 400 indicated horse-power can be generated, continuously we presume, for £2,500 per annum. Taking the volts at 1·8, this 400 horse-power for ten million gallons corresponds fairly well with '37 ampere-hour per gallon, and is equivalent to 6,600 kilowatt-hours per day. At 1½d. per kilowatt, this amounts to about £41 per day. One penny per horse-power hour, as suggested in the discussion, comes to £40 per day, or £14,600 per annum. It is very remarkable that if an attempt be made to imitate an electrolytic action by chemical decomposition, the action is not so great. It has been shown that a certain quantity of chlorine given off by the decomposition of common salt by an acid is not so efficient as the same quantity produced by electrolysis. Similarly, attempts have been made to treat sewage by the salts of iron which Mr. Webster's process produces, but the results are not so good."

In a further criticism of the question, the writer stated that having witnessed the Salford experiments he was particularly struck by the extreme simplicity of the International Company's plant as compared with that required by the Electrical Company. On the one hand a sluice, into which "Ferozone" was automatically fed and mixed with the flowing sewage, precipitating tanks, and polarite filters; on the other, engines and boilers, dynamos and copper leads to the electrolytic conduit and sand filters. The writer estimated that the cost of producing the required electrical energy alone, under the conditions stated, to be something like £9,000 per annum. Also that the consumption of iron at the rate of 3 grains per gallon claimed by the Company (1 grain only per gallon was the basis of the 1888 calculations) would make the cost, at £4 per ton, amount to £2,500 per annum. He further contended that "the most important point is that the plates could not be used up to the last grain, because, as they got thinner, the electrical resistance of the conduit would be much increased, and not only would more power be required, but

but the state of things would be aggravated by some of the more liquid sewage flowing past, owing to the increased space between the plates, without being properly treated. Further, that as cast iron at £4 per ton cannot be relied on as being very homogeneous in its texture, it is not unreasonable to suppose that the plates would not wear uniformly, but would tend to wear in holes. Thus it would appear that another item, frequency of renewals, has been overlooked."

In November last the Electrical Purification Association furnished me with an estimate of the cost of treating sewage by the electrical process at various places, that for Salford being as follows, viz.:—For capital expenditure.—Engines, dynamos, boilers, electric channels, copper connections, and iron plates (at £4 per ton) to be £31,000. For annual expenditure.—Including coal, labour, iron consumed, and maintenance, £5,250.

I am of opinion that the annual cost of treating the Salford Sewage, 10,000,000 gallons per day, by the electrical process may fairly be put at nearly £20,000, inclusive of the cost of power, iron, renewals and supervision. The coals are taken at the current rates of 18s. per ton, and not 10s., as stated in Mr. Webster's paper. It must also be borne in mind that a very extensive series of tanks are already in existence, and interest on their cost is not included in the calculation. Taking these figures as fairly correct, it would show that the cost of treatment would be nearly £6 per 1,000,000 gallons. When the question was before the Parliamentary Works Committee in December, 1888, and July, 1889, the evidence shows that I estimated the cost of such treatment at £7 13s. 9d. for 1,000,000 gallons, or £4 7s. 5d. for 20,000,000 gallons per day, as against Mr. Webster's 13s. and Professor Trelfall's £1 per 1,000,000 gallons.

The official report of Salford experiments will be very interesting. The Engineer has promised to furnish me with a copy when it is issued. As far as I could gather, there is a strong impression amongst engineers in England that the inventor is a clever enthusiast, but that he has not succeeded in demonstrating that the process can be carried out in a thoroughly practical, convenient, and economical manner. It certainly appears to be much more costly, as regards original outlay and continuous expense, than the International or "Polarite" system for instance, neither does it appear to do such sound work.

### The "Amines" Process.

In September, 1889, I witnessed a demonstration of the "Amines" process at Wimbledon, in the presence of an influential and representative company. The sewage works and farm are situated on the outskirts of Wimbledon, and the promoters of the new process having obtained the sanction of the Wimbledon Local Board, carried on their experiments for several months. The materials employed are certain organic bases which are found in the chemical group of "Amines" (ammonia compounds) in combination with lime. The effect which is claimed for this process is that the effluent therefrom is sterile as regards the presence of living organisms, as the re-agent which is formed by the chemicals is completely destructive to organic life. At the trial of the process, "herring brine" mixed with milk of lime was used, and it evolves a soluble gaseous reagent, having a briny odour. This when applied to the sewage is said to produce a rapid deodorisation and deposition of flocculent matter. Dr. Klein, F.R.S., has examined the process, and confirms the sterilising of the effluent which is claimed.

Compared with the most expensive summer treatment at the Wimbledon works, where clarification is not effected under one and a half hours, the "Amines" process occupies less than half that time, and the promoters maintain that, instead of having to pay £4 10s. to £5 per million gallons for the summer treatment of sewage by chemicals alone, the cost by their process would not be more than £2 10s. to £3, according to the magnitude of the volume. The inventors also claimed that as the process admits of the sludge being dried on land, thereby reducing its bulk, a considerable expense is saved.

I must say that I was not particularly impressed with the value of the process, neither were the majority of the engineers and scientists who were present on the occasion. The day was in every way favourable for such an experiment, the temperature of the atmosphere being high; there was no question, however, that the smells experienced were anything but pleasant. Indeed, Professor Robinson remarked to me that, "instead of the smell of the 'briny ocean' which we had been led to expect, what we actually experienced was more like a sniff from a somewhat neglected railway-station lavatory."

The fact that the treatment of sewage under this process depends so largely upon the use of "herring brine" is in itself sufficient to prevent its adoption to any considerable extent. Apart from this, such a large quantity of lime was used that the bulk of sewage sludge would be greatly increased. I understand that the experiments were continued for some few weeks, but I have heard nothing more of the process for over a year. My impression is that it has ended in a "fizzle."

### SEWER VENTILATION.

I inspected the arrangements for sewer ventilation in several of the metropolitan districts, and in Croydon, Eastbourne, Southsea, Bournemouth, Dorking, and other towns. It is now generally recognised in England that the means hitherto resorted to for permitting sewer gases to escape by street gratings alone are frequently thoroughly insanitary; and, in many cases where such gratings have been retained, it was done with a view to converting them into down-take shafts as inlets for fresh air.

The Sanitary Committee of the late Metropolitan Board of Works, after ascertaining what measures had been taken for sewer ventilation in the principal cities and towns of the United Kingdom, and in the various districts of the metropolis, reported that any system of sewer ventilation can only be successful to the extent that it is in accordance with natural laws.

### Various Systems of Ventilation.

The three practical methods of ventilating sewers are:—(1) By open ventilators at the surface of the carriage-ways; (2) by shafts without heat; (3) by shafts in which heat is the motive power. Surface ventilators, as at present existing, are more or less a serious cause of nuisance. Shafts, without heat, is a method of ventilating sewers coming much into use, notwithstanding that householders sometimes object to pipes being placed against their houses. The shaft has practically the same effect on a sewer as an open surface grating, and if pipes are placed in proper position above the roofs, they are not

of such danger as surface ventilation; if placed in improper position, however, the danger is greater. It is not surprising, therefore, that it is still debated in some quarters whether upcast pipes carried up to the tops of houses are best, and whether they are really free from the danger of bringing foul air into the upper windows. On the other hand, it must be remembered that, as a rule, the sewer gases would be so diluted with air as to be comparatively harmless. It is clear, however, that such ventilators can be used in aid of existing sewers with advantage. Cowls and other contrivances to "exhaust" or "extract" air from sewers have been found to be useless, and little faith can be placed in them. Shafts, with heat, give benefit within 50 or 60 yards only of the shaft, and entail an enormous expenditure in first cost and maintenance. Where sewers can be connected to tall chimney-stacks, as in manufacturing districts, the benefits are equal to the expense incurred. The system of utilising street lamp-posts as ventilating shafts, with gas to burn and exhaust the sewer-gas, even if desirable, is scarcely practicable, by reason of the cost of maintenance. The London County Council, however, have recently closed an open ventilator in the carriage-way of the Chelsea Embankment, on account of the offensive smells which emanated from the main sewer at that spot, and have carried up a pipe inside the nearest lamp-post, in which there is an arrangement by which a gas jet is constantly at work purifying more or less of the sewer gas as it rises. This has stopped the cause of complaint, but as the Council have not extended the system, they do not apparently consider this means of ventilation very efficacious, or probably it has been found too expensive.

### Shaft Ventilators.

The before-mentioned Committee recorded their opinion that the existing system of ventilating sewers, by means of shafts leading to gratings in the centre of carriage-ways, has not proved satisfactory, and has been the cause of much complaint. They have further expressed the opinion that one of the best means of remedying such complaints is in the erection of pipe ventilators by the side of buildings, in the immediate locality of the shafts complained of.

It is somewhat disappointing that, after thirteen years' consideration, the metropolitan authorities have found no better remedy than simply transferring sewer-gas from the street level to the tops of the adjacent houses. If it is proposed merely to substitute "upcast" shafts, it must be remembered that they have very little or no power of themselves to produce ventilation, but are only extensions of the sewer to enable offensive gases to be discharged at a higher level. It must be borne in mind that the efficiency of a shaft is in proportion to the square root of its height. Taking, for instance, the area of the better form of London sewer ventilating-grating, which is about 90 square inches, and assuming an existing shaft to be 25 feet in height, it would theoretically require a sectional area of 45 inches to do the same amount of work at a height of 75 feet. The Committee finally decided that pipe ventilators of large section, and constructed with bends, but without angles, can be used with great advantage in addition to, and not in substitution for, surface ventilators, wherever the consent of owners and occupiers can be obtained to such ventilators being fixed. They therefore recommended that the sewers of the metropolis should be improved by altering the construction of many of the surface ventilators, and by carrying up large pipe ventilators wherever practicable.

In the West-end metropolitan districts, the authorities are providing iron shafts to a large extent, and in Kensington they endeavour to arrange with the builders of new houses and premises to build large ventilating flues, for sewer ventilation, alongside the chimneys wherever practicable, that is, when the outlets can be satisfactorily placed.

### Vertical Shafts.

Cast-iron vertical ventilating shafts have been erected at Portsmouth, Eastbourne, Croydon, Bournemouth, Dorking, and many other places, in lieu of open gratings in the streets. The practice is becoming general for local authorities to pass by-laws and regulations as to this mode of ventilating sewers and house drains, including "disconnection" for the latter.

At Croydon, which is a populous borough, the Corporation have erected about 500 iron shafts in lieu of street gratings, having in each case previously obtained the consent of the property owners. When requested, the Corporation agreed to pay compensation to the extent of 5s. in each case; but, out of the whole number, only *ten* owners have asked for this. In all cases the Corporation undertake to remove the shaft and to restore all damage within twenty-four hours of the receipt of a notice objecting to the existence of such shafts. The engineer considers that the best form of shaft is an 8 in. x 6 in. cast-iron pipe, and that the next best is a 6 in. or 8 in. circular iron pipe.

At Sydenham, Lewisham, Beckenham, Bournemouth, and other towns, the authorities have, in numerous instances, closed the street gratings and erected a number of "combined ventilating columns and street lamps" instead, each column being fitted with a revolving cowl and a door for testing the current with an anemometer. The columns are 16 feet in height, and, as will be seen by the accompanying sketch, are somewhat ornamental. The cost, including the sewer connection, averages about £10 each.

### Harrington's Patent System.

The London County Council subsequently directed their attention to a system which combines "upcast and downcast" shafts, and which is known as "Harrington's patent," and which I constructed in Jubilee Place, Chelsea, in 1884. According to the official reports which have been made, the system has acted with the very best results, and it costs nothing to maintain. The use of "cowls" has been very largely considered in connection with pipe ventilation. It has been claimed for exhaust ventilators and other special contrivances intended to be placed at the top of ventilating pipes, that the wind so acts upon such appliances as to *exhaust* the air from the pipes to which they are attached, but the almost invariable experience has been that they are useless. The Chelsea system consists of cowls to *force* the air into the sewers. The result of the tests at Chelsea proved that the gaseous contents of the sewer were changed every 31½ minutes during forty-four days, by the force of the wind on a self-acting cowl. The method in which the shafts are erected at the sides of houses, resembling brickwork or stone-work,

work, is certainly worthy of note; as, instead of being an eyesore, like ordinary shafts, they present a somewhat pleasing feature, and have given every satisfaction. The sewer was formerly ventilated by open gratings in the centre of the carriage-way, but these gratings, from which offensive smells frequently issued and caused complaint, are now closed. I certainly consider that this system of ventilation, embracing, as it does, the sound principles of "isolation" and "downcast and upcast" shafts is exceedingly simple and effective, and that it ventilates the sewer thoroughly and without offence to anyone.

### Ford and Wright's Patent System.

I examined the new system of sewer ventilation which is in use at Portsmouth, on the low-level main sewer at Southsea, under the superintendence of the inventors, Messrs. Ford and Wright. The invention consists in the provision, at or near the top of the sewer or drain, of a "special air passage" in conjunction with a "downcast" and an "upcast" shaft and a current of fresh external air, which can be induced by a proper arrangement of shafts, or the current of fresh air can be secured at very little cost by a finely divided jet of water, supplied from the nearest water-main, and arranged in the downcast shaft, which is connected with the air passage. The water, after having induced the air-current, can, with great advantage to the cleanliness of a sewer, be utilised for flushing by means of automatic flush-tanks arranged in, or adjoining, the man-holes. The inventors submit:—

- (1.) That the great advantages secured are that the present imperfect system of permitting foul gases from sewers to discharge at road surfaces can be abandoned, and that existing surface ventilators as foul air outlets can be closed, some of them being used as "downtake" shafts for fresh air. The "uptake" shafts for the diluted sewer air may be of iron or other material, carried up the fronts or backs of adjoining buildings, or other places adapted for the purpose.
- (2.) That fresh atmospheric air is continually forced through the air passage, which is made to act as a fresh-air distributor all along the sewer, and mixes the fresh air with the ascending sewer gases at each break formed in the air passage.
- (3.) That as the current of air travels in a separate passage from the sewage flowing along the sewer, the friction of the water on the air current in the air passage is obviated, and the air current is easily brought under absolute control as to its direction.
- (4.) That the system of sectional ventilation of sewers is easily carried out by simply partitioning the air passage and the sewer, the latter by floating valves or other means above the sewage flow, into such sections as are required to be separately ventilated.

In a recent report to the Drainage Committee of Portsmouth, the Borough Engineer described the nature of the galvanised steel tubes and other fittings as fixed in the 4-feet sewer experimented upon. He also stated that when he took his first records in February last the atmosphere was very still and hazy, and the anemometer in the uptake remained perfectly still, showing that no air was passing out of the sewer. But almost immediately that the water in the downtake was turned on, the anemometer commenced to revolve at the rate of 105 revolutions per minute; which, according to the calculation, gave over 2,700 cubic feet of air per hour passing out of the sewer. Taking the actual capacity of the air space in that section of the sewer—with 18 inches of sewage running through it—at 3,500 cubic feet, it is obvious that the sewer gas would not be allowed to stagnate. The Engineer further stated that before completing his observations and after the water-spray in the downtake had been turned off, a breeze sprang up, which caused the anemometer to revolve rapidly and showed that a strong current of air was passing through the sewer without the aid of the water-spray. He further made very satisfactory tests with smoke rockets, and came to the conclusion that when the atmosphere is heavy and still, this method of sewer ventilation is advantageous, inasmuch as the water-spray induces a current of air to pass into the sewer, the gratings of which would otherwise be acting as outlets for foul air.

I procured full details and records of the experiments which had been continued from January to August last year, also drawings illustrating the arrangements. When I inspected the working of the system and tested its efficiency by means of anemometers, I was greatly struck with the advantages it possesses, and am of opinion that a trial of the system by the Department of Public Works would be found not only satisfactory, but would demonstrate that the system is infinitely superior to the method of ventilation now in operation in Sydney. The records show that the consumption of water as registered by the water meter, amounted to an average of 525 gallons per day, the cost of which was about 3d.; and that for every cubic foot of water consumed, over 1,400 cubic feet of fresh air was passed into the sewer. Also that on no single occasion did the system fail, notwithstanding the force or direction of the wind nor the atmospheric conditions which prevailed. Even in the calmest weather, the air in the sewer was changed on the average 35 times in 24 hours.

In conclusion, permit me to express a hope that the information which I have thus been enabled to procure and place before you, will be of practical use to your Department, more especially in connection with the great works of Sewerage which you have to carry out in this country.

Mercantile Mutual Chambers,  
118 Pitt-street, Sydney,  
26th February, 1891.

I have, &c.,  
GEORGE H. SPAYTON,  
M. Inst. C.E.

[12 plans.]

[5s.]



CORPORATION OF CROYDON

PLAN OF

BEDDINGTON IRRIGATION FARM.

- Concrete Carriers.
- - - Underground Carriers.
- Open Carriers.
- - - Pipe Drains.
- • • Manholes on Drains.

DRAWING "A"

26.2.91

CARRS H A L T O N P A R I S H

C R O Y D O N P A R I S H

B E D D I N G T O N P A R I S H

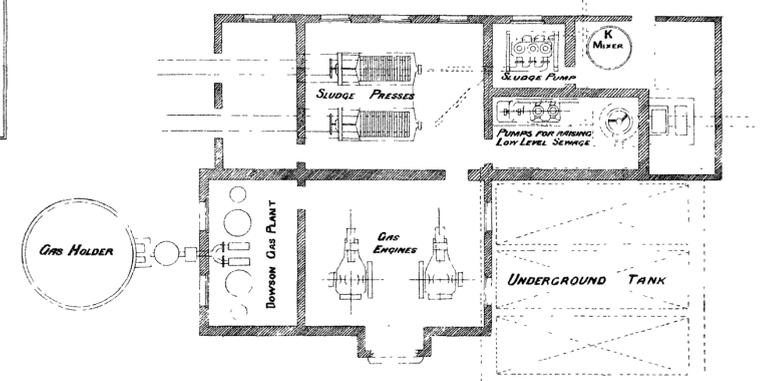
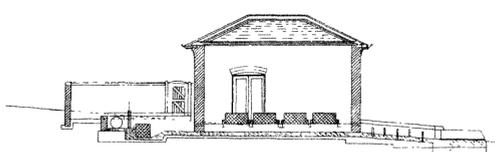
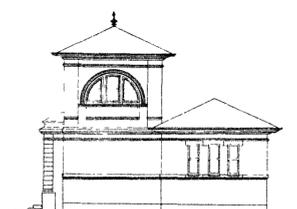
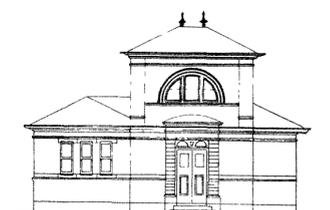
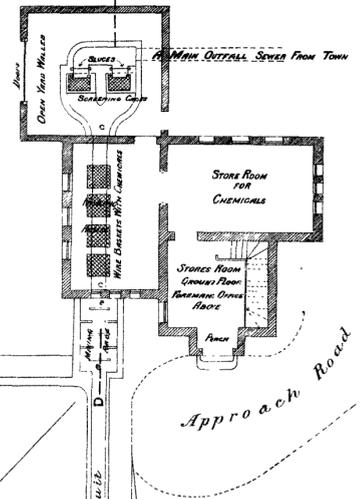
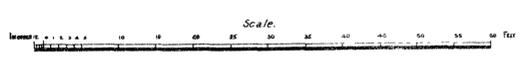
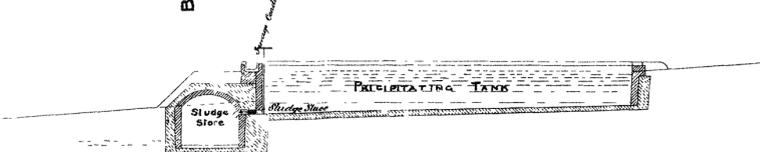
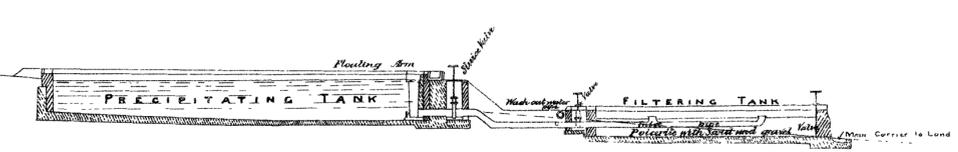
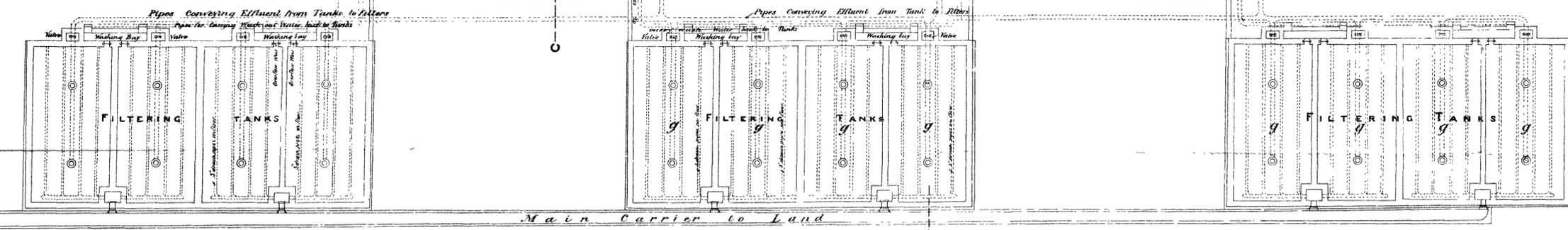
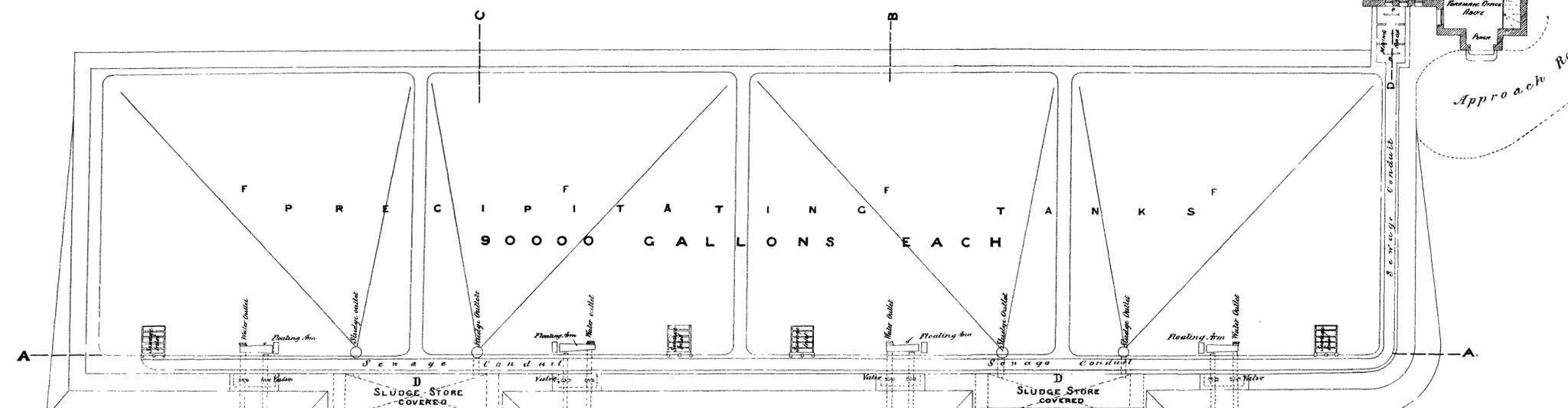
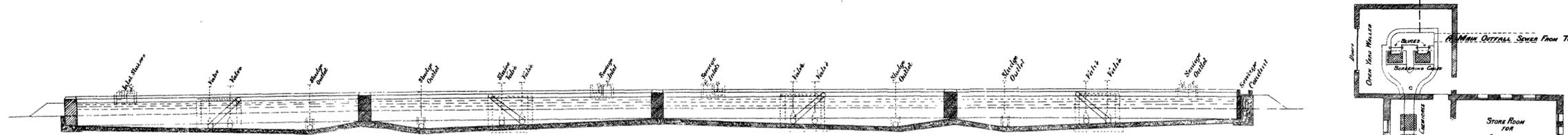


PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, STONEY, NEW SOUTH WALES.

# MAIN DRAINAGE AND SEWAGE DISPOSAL.

WORKS PROPOSED FOR TREATMENT OF SEWAGE  
DESIGNED FOR CARRYING OUT THE INTERNATIONAL PROCESS OF SEWAGE PURIFICATION.

— DRAWING B —



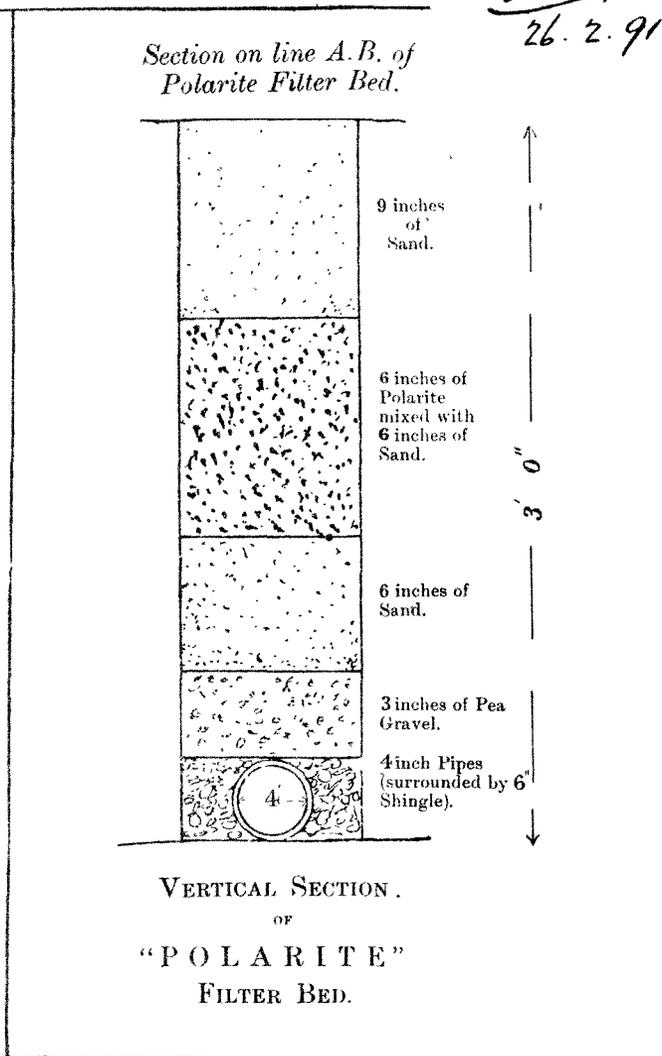
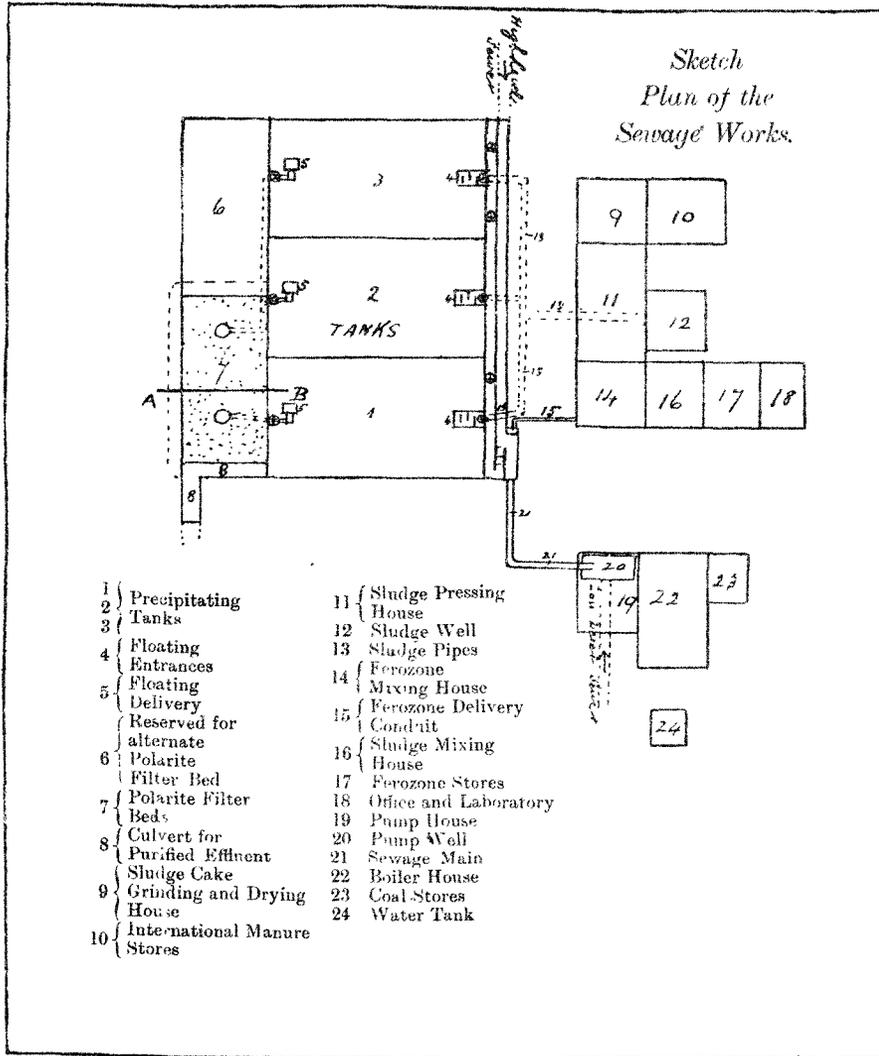
*G. W. Clayton*  
Feb. 26. 1891

# ACTON SEWAGE WORKS

DRAWING "C"

Sketch Plan of the Acton Sewage Works, and Section of the Polarite Filter Beds.

*W.H.P.*  
26.2.91.

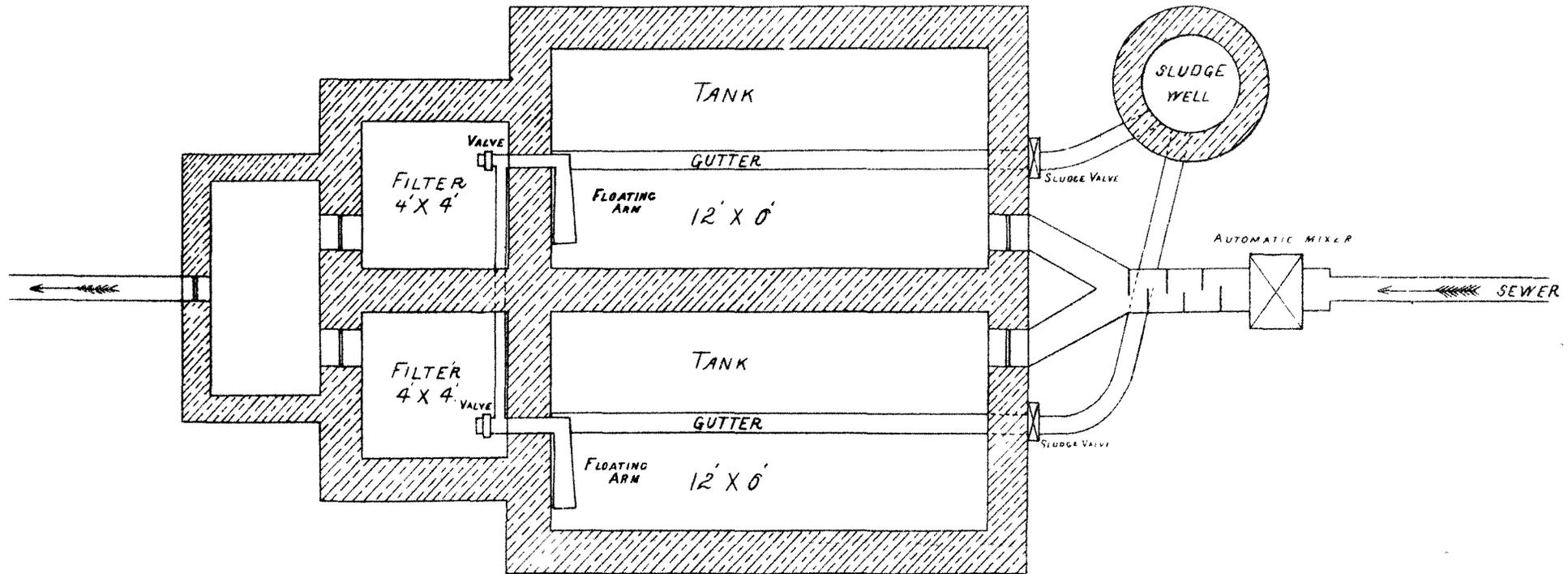


# THE "INTERNATIONAL" SEWAGE PROCESS.

## PLAN OF TANKS SUITABLE FOR A SMALL TOWN OR PUBLIC INSTITUTION

— DRAWING "E" —

*W.H.S.*  
26. 2. 91.

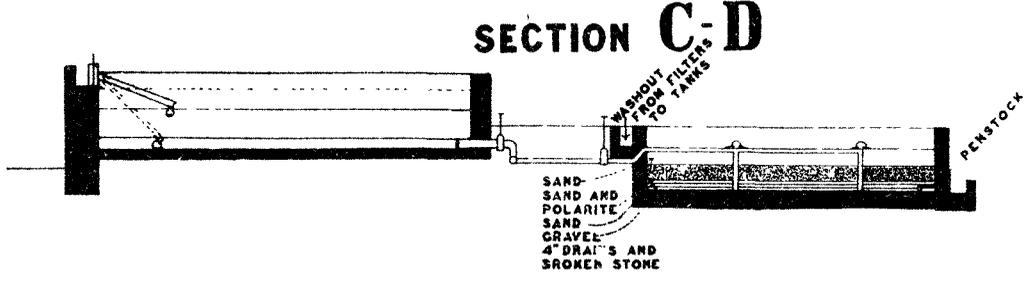
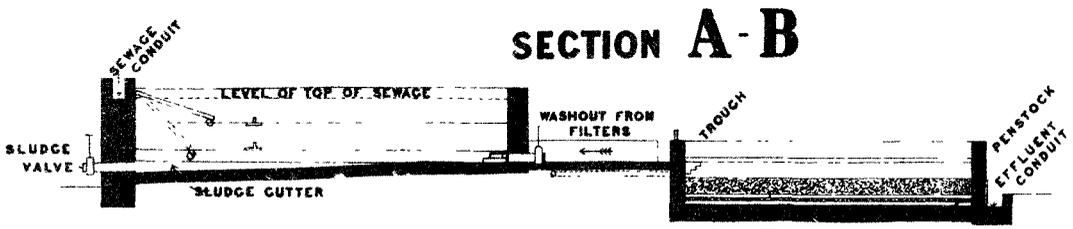
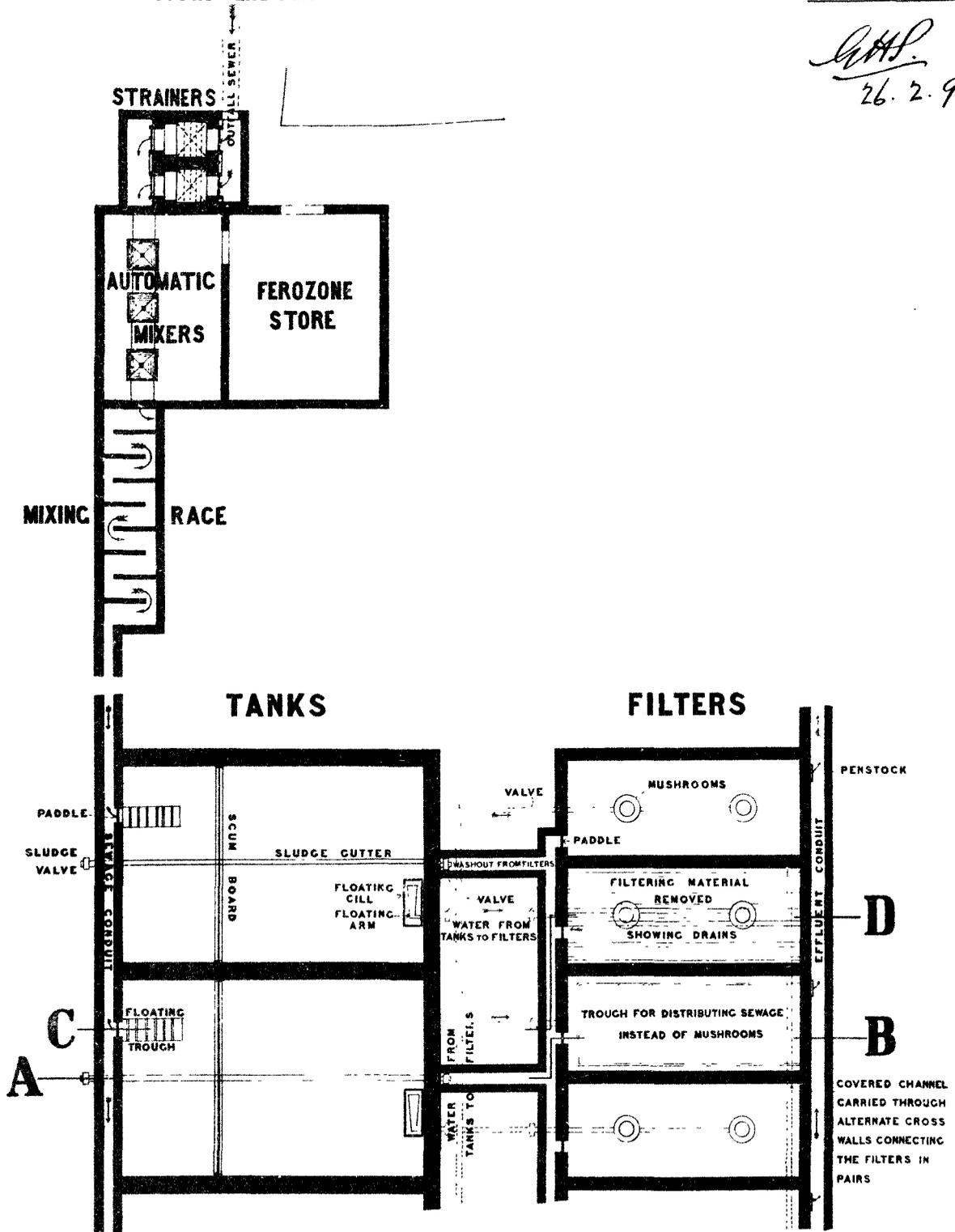


# THE "INTERNATIONAL" SEWAGE PROCESS.

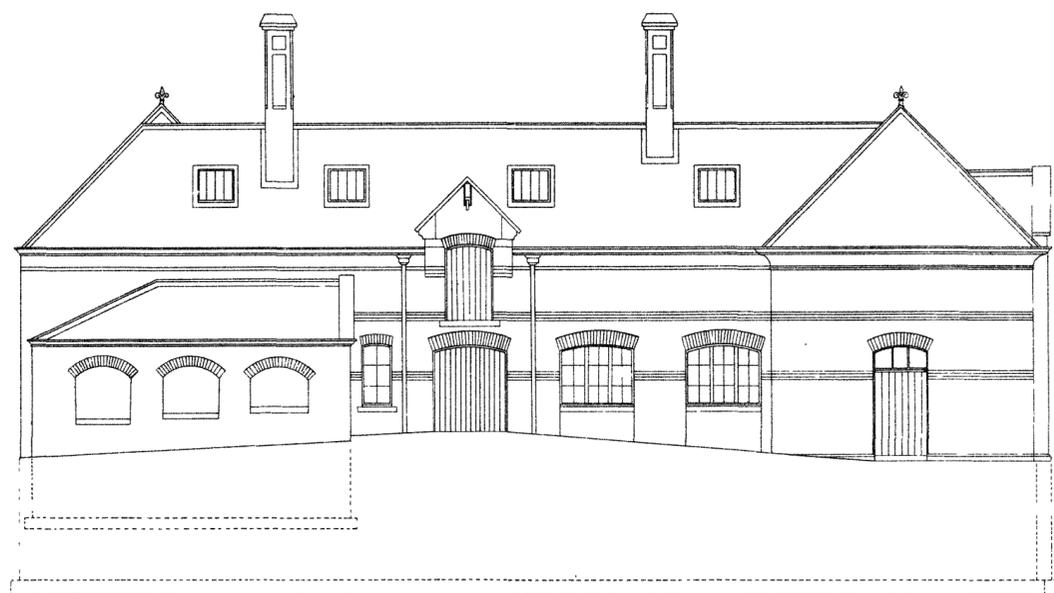
## PLAN OF "IDEAL" WORKS

DRAWING "D"

*G.H.P.*  
26.2.91.



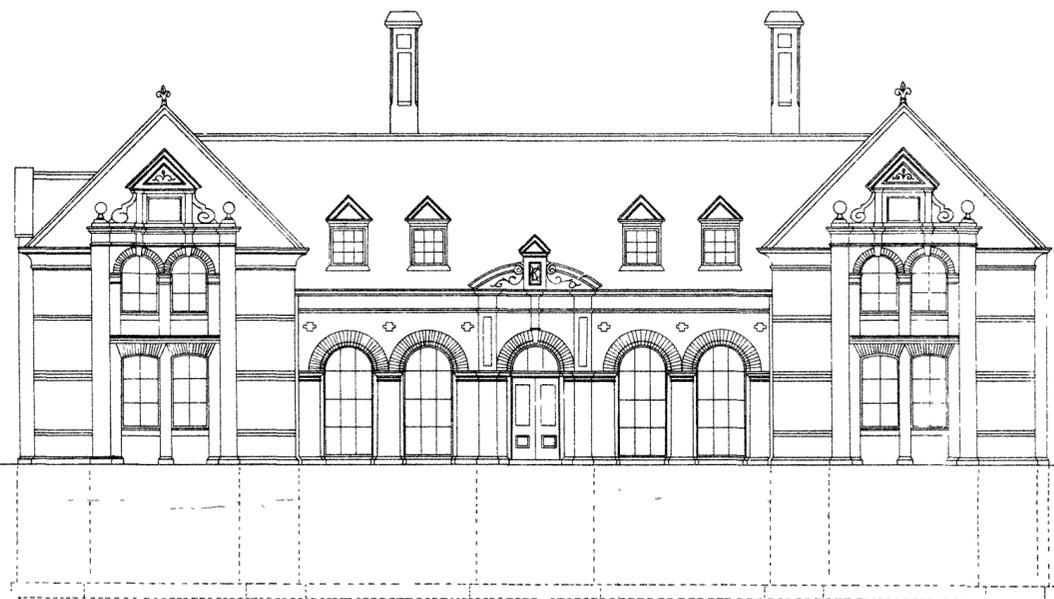
# KINGSTON ON THAMES SEWAGE WORKS.



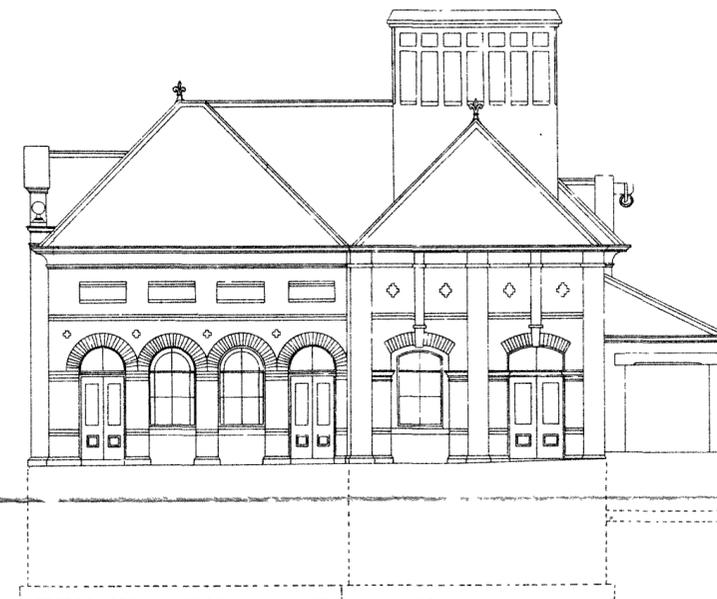
BACK ELEVATION



NORTH ELEVATION



FRONT ELEVATION TO RIVER

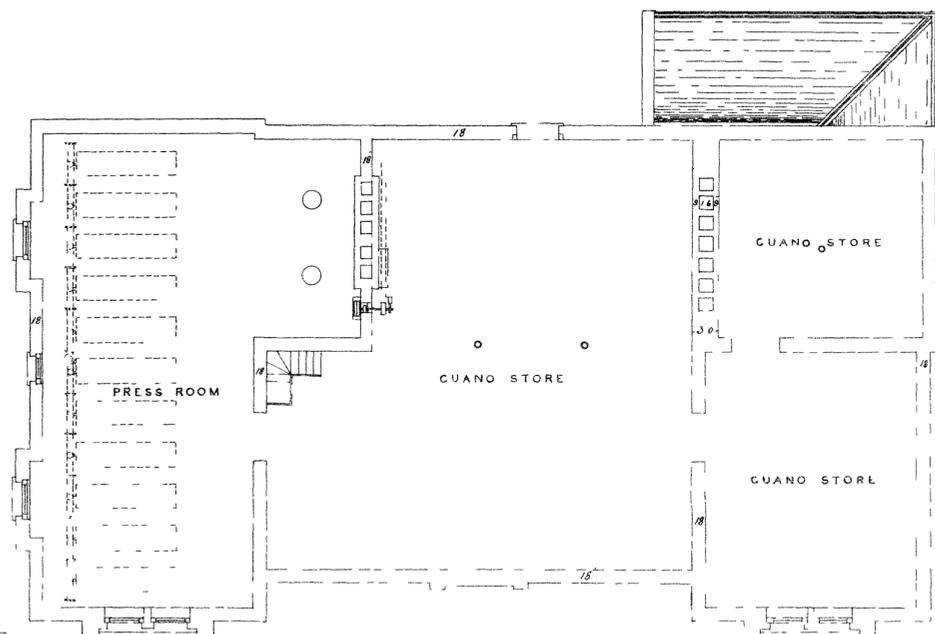


SOUTH ELEVATION

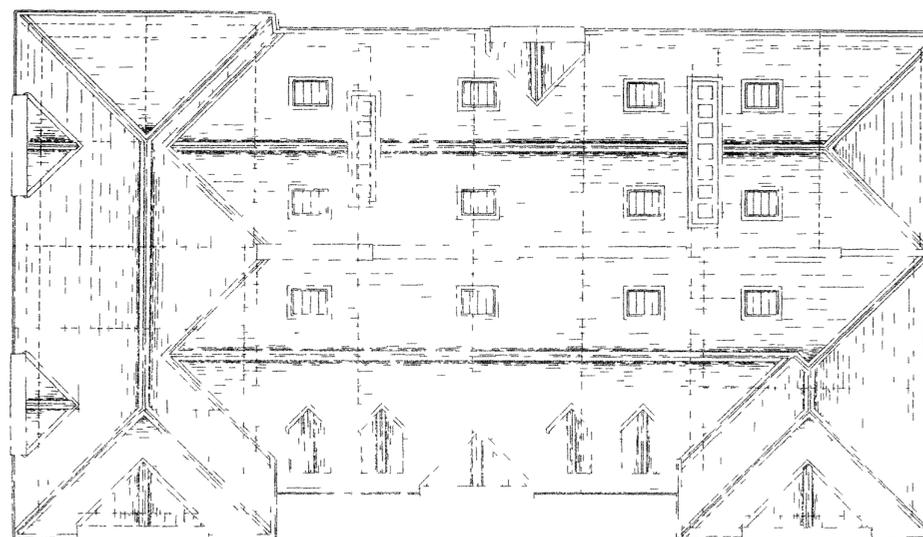
*Geo. H. Rayten*  
26 Feb 1891.

# KINGSTON SEWAGE WORKS.

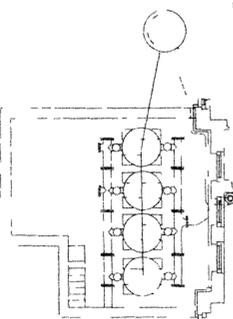
DRAWING C



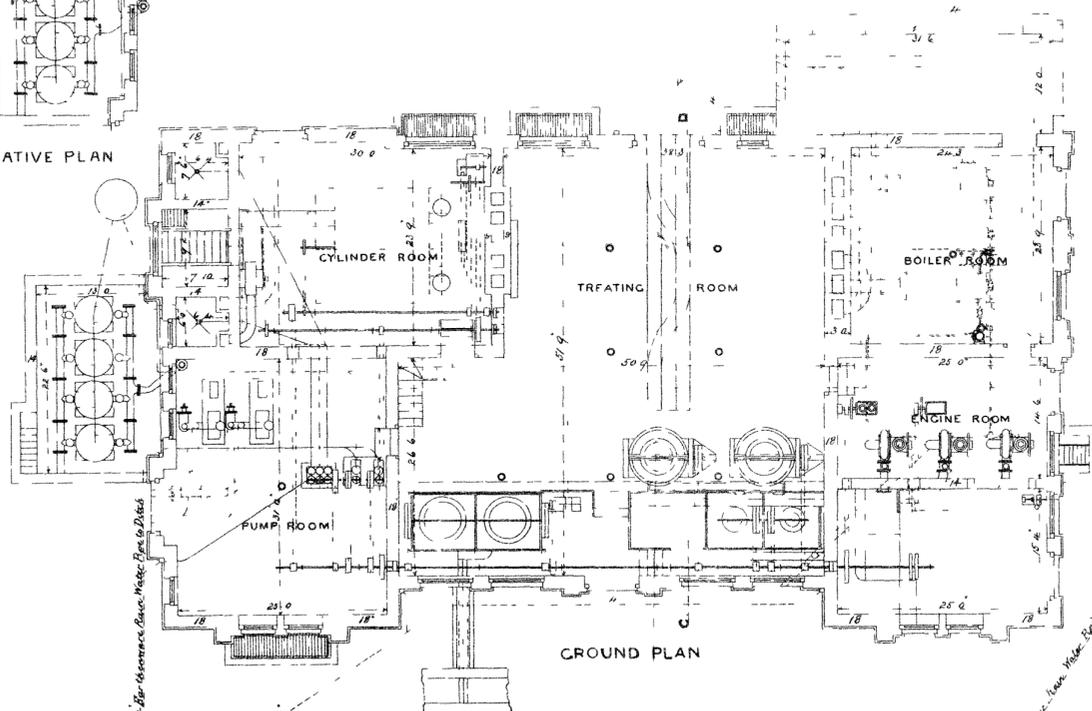
FIRST FLOOR PLAN



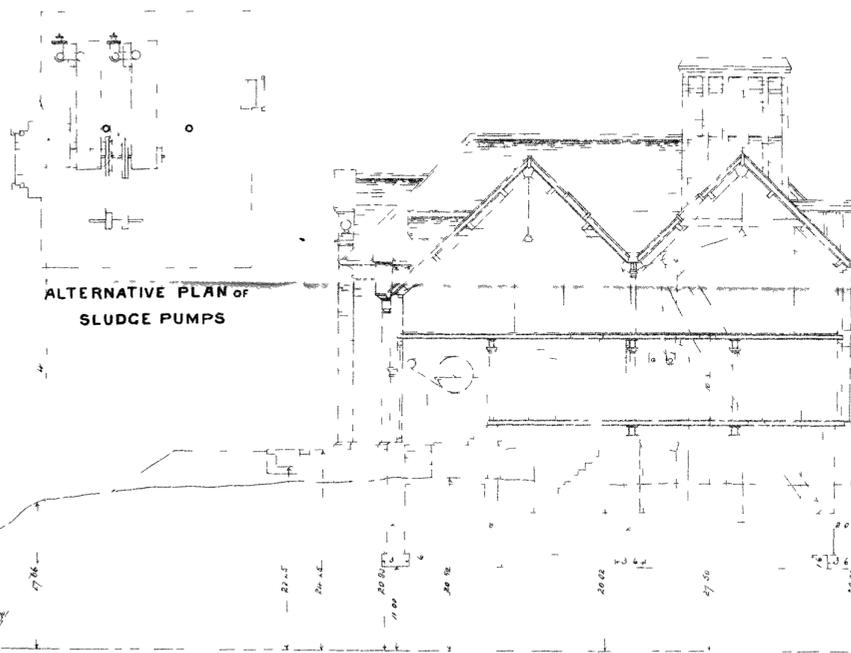
ROOF PLAN



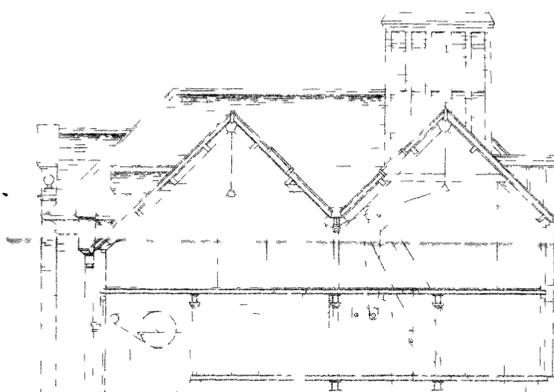
ALTERNATIVE PLAN



GROUND PLAN



ALTERNATIVE PLAN OF SLUDGE PUMPS



SECTION AT C D



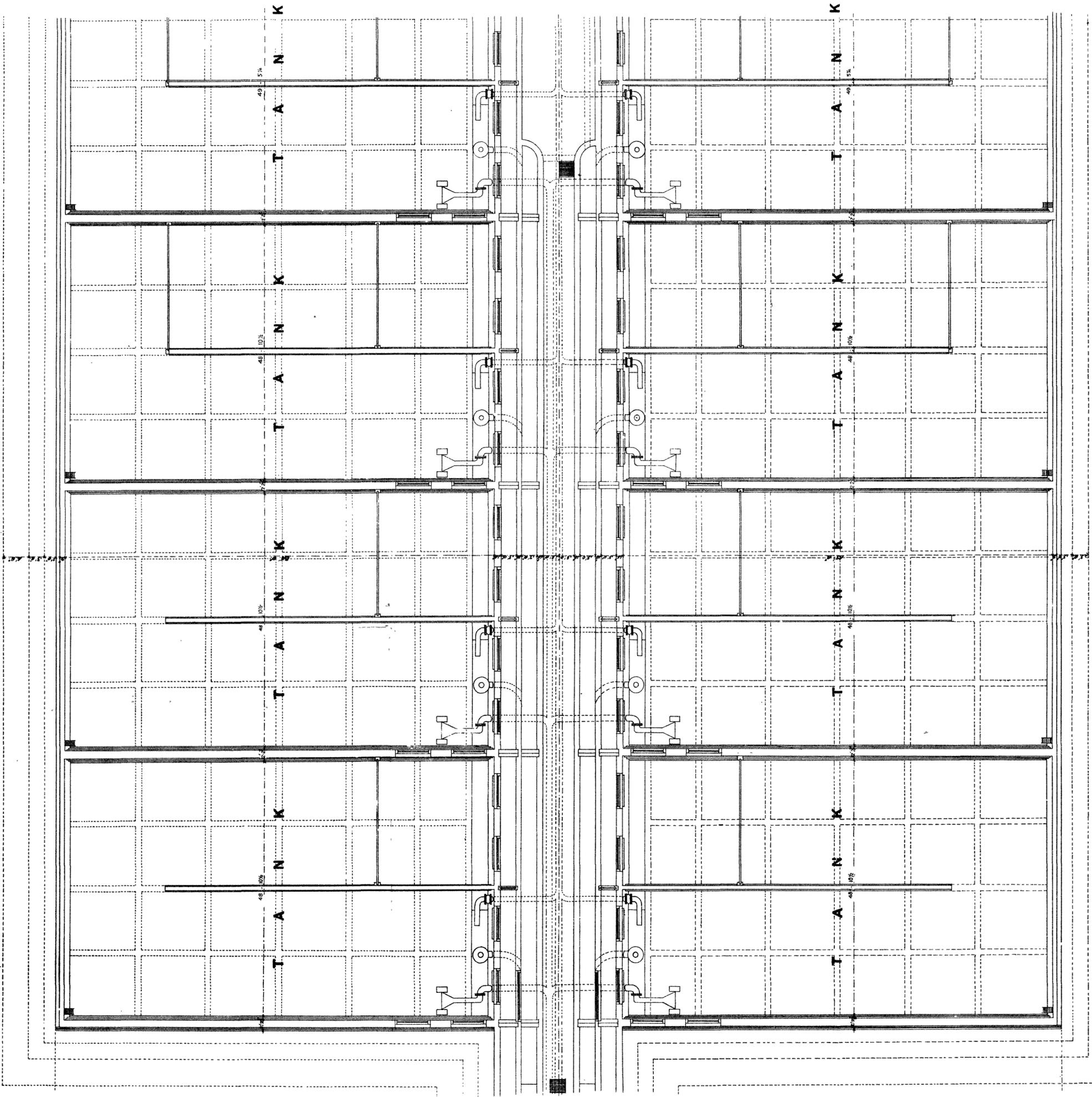
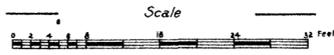
*W.S.*  
26 2 91.

# KINGSTON

# SEWAGE

# WORKS

DRAWING H



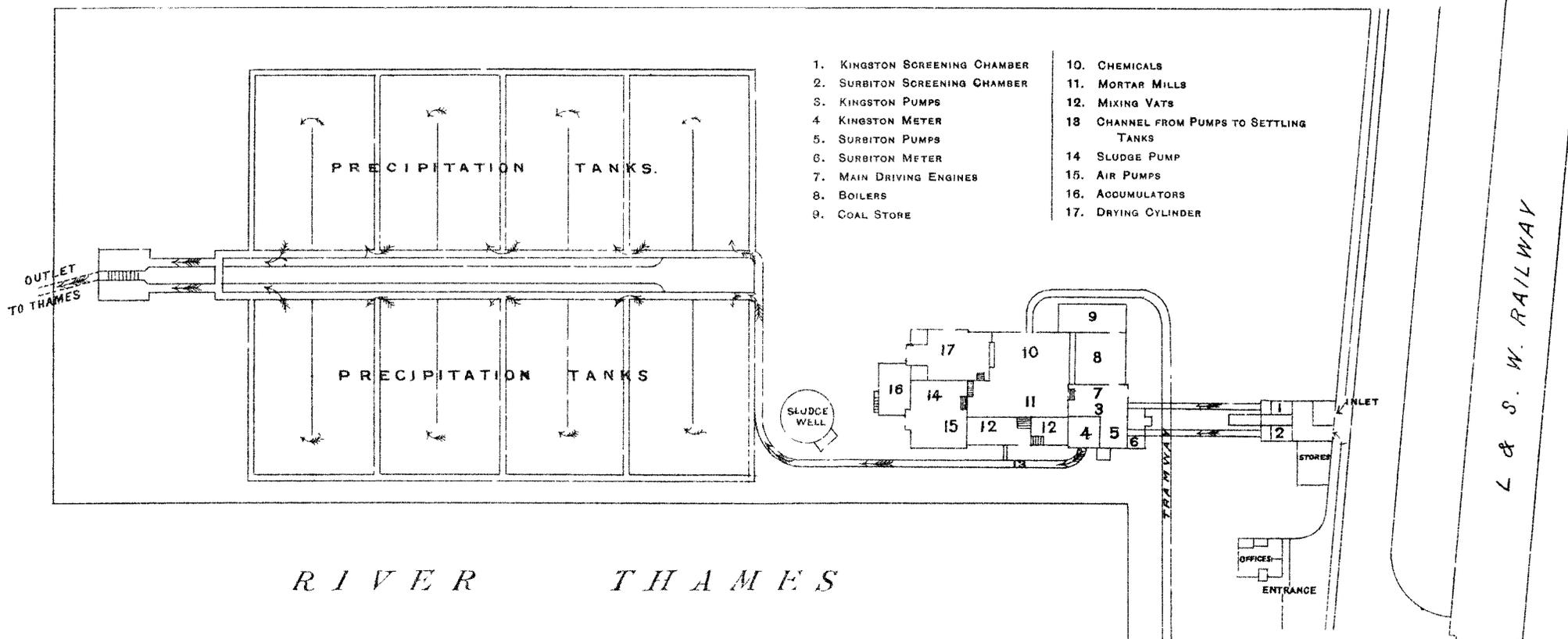
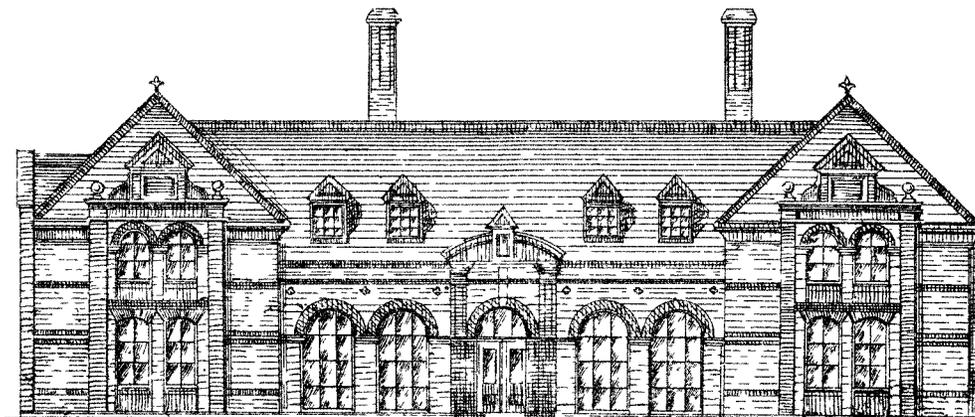
*G.H.*  
26.2.91

# KINGSTON SEWAGE WORKS.

— DRAWING "I." —

*W.H.P.*  
26.2.91.

ELEVATION AND PLAN  
OF PUMPING STATION



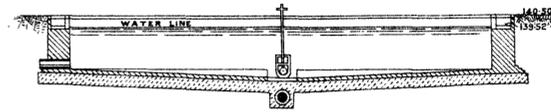
# — DORKING SEWAGE WORKS. —

— DRAWING "K". —

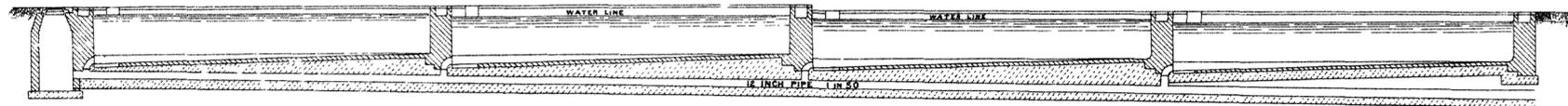
## — SETTLING TANKS - PLAN AND SECTIONS. —



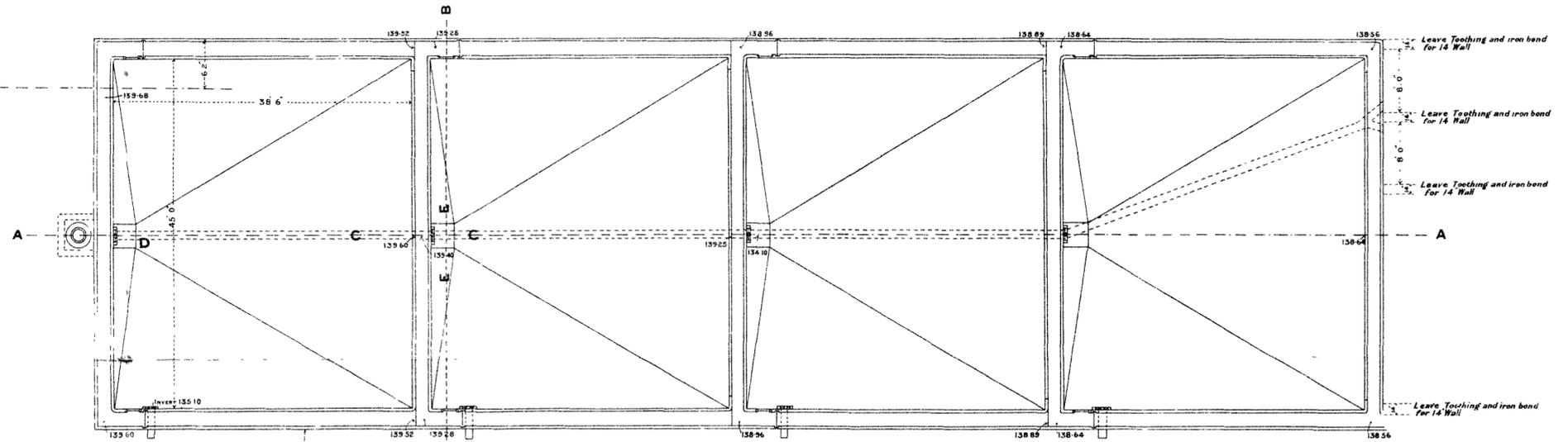
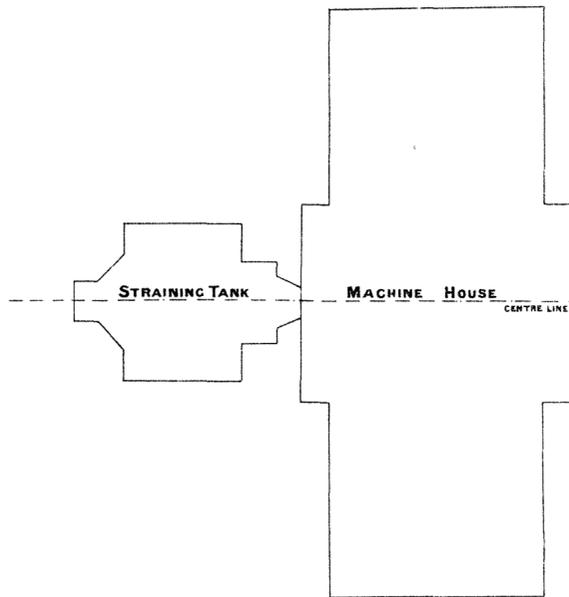
Cement Concrete shewn thus   
Brick shewn thus 



— SECTION ON LINE B.B. —



— SECTION ON LINE A.A. —



— PLAN —

Top of Turf Slope

*W.H.P.*  
26. 2. 91.

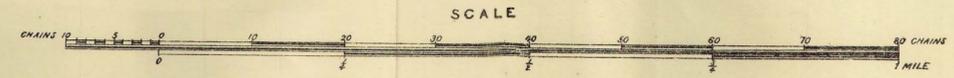
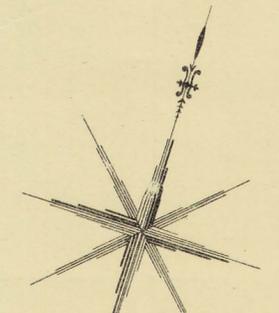
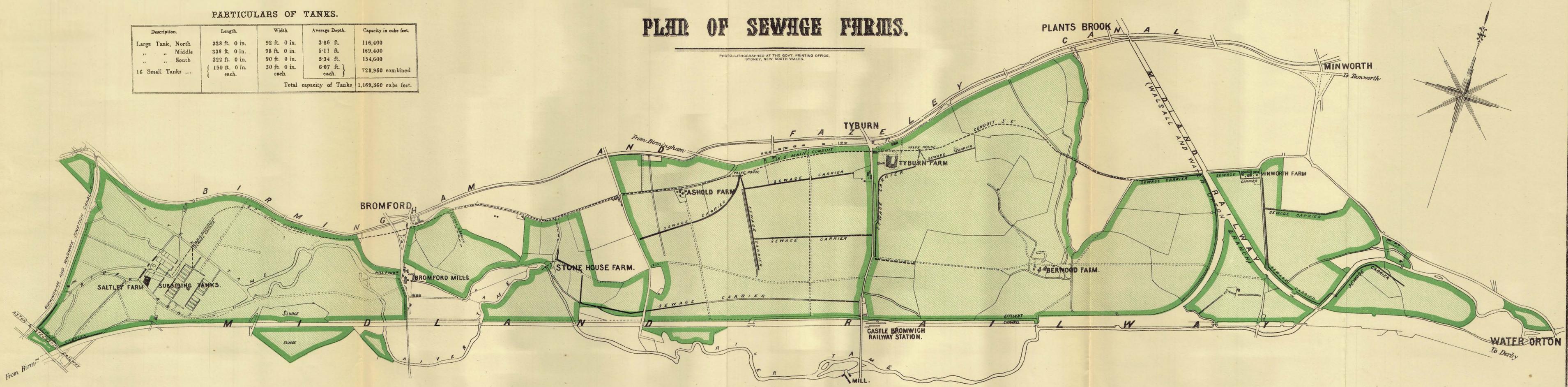


**NOTE.** Area of Sewage Farms coloured Green { Freehold ... .. 888 acres.  
 Long Leasehold ... .. 219 "  
 Short Leasehold ... .. 120 "  
 Total ... 1,227 acres.  
 Dry weather Sewage volume ... .. 16 million gallons per day.

# BIRMINGHAM TYNE AND REA DISTRICT DRAINAGE BOARD. PLAN OF SEWAGE FARMS.

**PARTICULARS OF TANKS.**

Description.	Length.	Width.	Average Depth.	Capacity in cube feet.
Large Tank, North	328 ft. 0 in.	92 ft. 0 in.	3.86 ft.	116,400
" " Middle	338 ft. 0 in.	98 ft. 0 in.	5.11 ft.	169,400
" " South	322 ft. 0 in.	90 ft. 0 in.	5.34 ft.	154,600
16 Small Tanks ...	{ 150 ft. 0 in. each.	{ 50 ft. 0 in. each.	{ 6.07 ft. each.	{ 728,960 combined.
Total capacity of Tanks				1,169,360 cube feet.



*W. H. Bayly*  
 Feb 26. 1891

1891.

## NEW SOUTH WALES.

## METROPOLITAN WATER AND SEWERAGE ACT.

(PROCLAMATION AND NOTIFICATION OF THE TRANSFER OF THE HARRINGTON BRANCH SEWER TO THE BOARD OF WATER SUPPLY AND SEWERAGE.)

Presented to Parliament, pursuant to Acts 43 Vic. No. 32 and 53 Vic. No. 16.

NEW SOUTH WALES, } Proclamation by His Excellency The Right Honourable VICTOR ALBERT GEORGE,  
to wit. } EARL OF JERSEY, a Member of Her Majesty's Most Honorable Privy Council,  
(L.S.) } Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint  
JERSEY, } George, Governor and Commander-in-Chief of the Colony of New South Wales  
Governor. } and its Dependencies.

IN pursuance of the provisions of the "Metropolitan Water and Sewerage Act Amendment Act of 1889," I, VICTOR ALBERT GEORGE, EARL OF JERSEY, Governor aforesaid, do hereby proclaim and declare that the provisions of the 13th section of the "Metropolitan Water and Sewerage Act Amendment Act of 1889" aforesaid, shall, from the date hereof, come into force in respect of the work hereinafter mentioned, which has been reported complete to me by the Minister for Public Works:—

The Harrington-street Branch Sewer, which commences in Moore-street near its junction with Castlereagh-street, and extends in a westerly direction along Moore-street into George-street; thence along George-street and under private property to Harrington-street, and terminating in Argyle-street,—being a total length of 62·14 chains.

Given under my hand and Seal, at Government House, Sydney, this sixth day of March, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's reign.

By His Excellency's command,  
W. McMILLAN.

GOD SAVE THE QUEEN!

Department of Public Works, Sydney, 17th March, 1891.

NOTIFICATION OF TRANSFER OF WORKS UNDER METROPOLITAN WATER AND SEWERAGE ACT AMENDMENT ACT OF 1889.

It is hereby notified, for public information, that, pursuant to the provisions of the abovementioned Act, the portions of work constructed under the authority of the Minister for Public Works, hereinafter described, are hereby transferred to the Board of Water Supply and Sewerage.

BRUCE SMITH.

## DESCRIPTION OF WORK TRANSFERRED.

THE Harrington-street Branch Sewer, which commences in Moore-street near its junction with Castlereagh-street, and extends in a westerly direction along Moore-street into George-street; thence along George-street and under private property to Harrington-street, and terminating in Argyle-street,—being a total length of 62·14 chains.



1891.

## NEW SOUTH WALES.

**PUBLIC WORKS ACT OF 1888.**(RESUMPTION OF LAND IN CONNECTION WITH THE SUPPLY OF WATER TO THE TOWN OF LIVERPOOL,  
PARISH OF CABRAMATTA, COUNTY OF CUMBERLAND.)

Presented to Parliament, pursuant to Act 51 Vic. No. 37.

**NOTIFICATION OF RESUMPTION OF LAND UNDER  
THE "PUBLIC WORKS ACT OF 1888," 51 VICTORIA  
No. 37.**

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable VICTOR ALBERT  
GEORGE, EARL OF JERSEY, a Member  
(L.S.) } of Her Majesty's Most Honourable  
Privy Council, Knight Grand Cross  
of the Most Distinguished Order of  
Saint Michael and Saint George,  
JERSEY, } Governor and Commander-in-Chief of  
Governor. } the Colony of New South Wales and  
its Dependencies.

WHEREAS the Minister for Public Works of the said Colony is desirous of acquiring the land described in the Schedule at the foot hereof, for the purpose of a certain Public Work, that is to say, the Supply of Water to the town of Liverpool, in the said Colony: And whereas it is estimated that the cost of completing such work will not exceed the sum of twenty thousand pounds: And whereas the land described in the said Schedule is in my opinion required for carrying out the said work: Now, therefore, I, VICTOR ALBERT GEORGE, EARL OF JERSEY, the Governor aforesaid, with the advice of the Executive Council, in pursuance of the "Public Works Act of 1888," do hereby direct that the said work shall be carried out under the "Public Works Act of 1888," by the Minister for Public Works aforesaid, who, in respect of the said work, shall be deemed to be the Constraining Authority: And in further pursuance of the said Act, I do hereby direct that the land described in the Schedule hereto shall be acquired and taken for the purpose aforesaid, under the "Lands for Public Purposes Acquisition Act," and I do declare by this notification, to be published in the Government Gazette and in one or more newspapers published or circulated in the Police District wherein is situated the said land, that the said land described in the said Schedule has been resumed for the public purpose hereinbefore expressed, that is to say, for and in connection with the Supply of Water to the town of Liverpool, in the said Colony, to the intent that upon the publication of this notification in the Gazette, the said land described in the said Schedule hereto shall forthwith be vested in the said Constructing Authority, on behalf of Her Majesty, for the purposes of the

said Public Works Act of 1888, for an estate in fee simple in possession, freed and discharged from all trusts, obligations, estates, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever; and to the intent that the legal estate therein, together with all powers incident thereto or conferred by that Act, shall be vested in such Authority as a trustee: And I declare that the following is the Schedule of land hereinbefore referred to:—

**SCHEDULE.**

All that piece or parcel of land situate in the parish of Cabramatta, county of Cumberland, and Colony of New South Wales: Commencing at an angle in the eastern boundary of the Sydney Water Supply Canal Reserve, being a point bearing south 89 degrees 46 minutes 30 seconds east 5½ chains and 95·6 links and north 5 degrees 50 minutes east 18 chains 78 links from the south-west corner of John Wylde's portion of land containing 2,000 acres; and bounded thence on the south-west by a line bearing south 43 degrees 15 minutes east 1 chain 4 links; thence on the south-east by a line bearing north 44 degrees 45 minutes east 9 chains 12 links; thence on the north-east by a line bearing north 45 degrees 15 minutes west 12 chains 97 links; thence on the north-west by a line bearing south 81 degrees 42 minutes west 4 chains 92 links to the eastern boundary of the Canal Reserve; and thence on the west by that boundary, being lines bearing south 15 degrees 41 minutes east 2 chains 90 links, south 21 degrees 22 minutes east 1 chain 59 links, south 32 degrees 46 minutes east 1 chain 59 links, south 33 degrees 29 minutes east 6 chains 47 links, and south 9 degrees 35 minutes east 3 chains 60 links, to the point of commencement,—containing 10 acres, and said to be in the possession of the Trustees of Sir John Wylde, and occupation of J R. Firth.

In witness whereof I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this second day of April, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

## NEW SOUTH WALES.

## PUBLIC WORKS ACT OF 1888.

(RESUMPTION OF LAND IN CONNECTION WITH THE ERECTION OF OFFICES FOR THE ACCOMMODATION OF THE BOARD OF WATER SUPPLY AND SEWERAGE, CITY OF SYDNEY, PARISH OF ST. LAWRENCE, COUNTY OF CUMBERLAND.)

Presented to Parliament, pursuant to Act 51 Vic. No. 37.

NEW SOUTH WALES, } Proclamation by His Excellency Sir  
to wit. } ALFRED STEPHEN, Knight Grand Cross  
of the Most Distinguished Order of  
(L.S.) Saint Michael and Saint George, a  
ALFRED STEPHEN, Companion of the Most Honourable  
*Lieutenant-Governor,* Order of the Bath, Lieutenant-Governor,  
*Administering* of the Colony of New South Wales and  
*the Government.* its Dependencies.

WHEREAS the construction of a certain Public Work, that is to say, the erection of Offices for the accommodation of the Board of Water Supply and Sewerage, has been duly authorised under the provisions of the "Board of Water Supply and Sewerage Offices Erection Act of 1890": And whereas the lands described in Schedule A hereto are necessary and required for the purpose of the said authorised work: Now, therefore, I, the Lieutenant-Governor aforesaid, with the advice of the Executive Council of the said Colony, under and by virtue of the powers and authority vested in me by the Public Works Act of 1888, hereby direct that the said lands shall be acquired for the purpose aforesaid under the provisions of the said last-mentioned Act:—

## SCHEDULE A.

All that piece or parcel of land, situate in the City of Sydney, parish of St. Lawrence, county of Cumberland, and Colony of New South Wales: Commencing at the intersection of the north side of Wilmott-street with the west side of Pitt-street; and bounded thence on the east by Pitt-street bearing northerly 72 feet; thence on the north by a line bearing westerly 81 feet 5½ inches to Stewart-lane; thence on the west by that lane bearing southerly in all 72 feet 2½ inches to its intersection with Wilmott-street; and thence on the south by Wilmott-street bearing easterly 83 feet 8¼ inches, to the point of commencement,—containing 22 perches, and said to be in possession of Donald Manson.

Given under my Hand and the Seal of the said Colony, at Government House, Sydney, this fifth day of January, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!

150—

NOTIFICATION OF RESUMPTION OF LAND UNDER THE PUBLIC WORKS ACT OF 1888, 51 VICTORIA No. 37

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable VICTOR ALBERT  
GEORGE, EARL OF JERSEY, a Member  
of Her Majesty's Most Honourable  
(L.S.) Privy Council, Knight Grand Cross  
of the Most Distinguished Order of  
JERSEY, Saint Michael and Saint George,  
*Governor.* Governor and Commander-in-Chief  
of the Colony of New South Wales and  
its Dependencies.

WHEREAS by an Act of the Parliament of the said Colony, 54 Victoria No. 22, intituled the "Board of Water Supply and Sewerage Offices Erection Act of 1890," it is enacted that the Public Work more particularly described in the Schedule thereto should be carried out by the Secretary for Public Works or the Member of the Executive Council for the time being charged with the duties of the said Minister, and such Minister or Member should for the purposes of that Act and the Public Works Act of 1888, be deemed and taken to be the Constructing Authority authorised to enter into contracts, and to exercise all powers, do all acts and things, and be responsible in respect of all obligations and liabilities which could be done or incurred by a Constructing Authority under or pursuant to that Act, or the said Public Works Act, so far as might be necessary for the carrying out of the work thereby sanctioned: And whereas the land described in the Schedule hereto is required for the purpose of erecting thereon the public work authorised to be carried out under the said Act 54 Victoria No. 22, that is to say, Offices for the accommodation of the Board of Water Supply and Sewerage: And whereas by a Proclamation dated the fifth day of January last, and under the Hand of His Excellency the Lieutenant-Governor administering the Government of the said Colony, and the Seal of the said Colony, it is directed that the said land should be acquired for the purpose aforesaid under the provisions of the said "Public Works Act of 1888": Now, therefore, I VICTOR ALBERT GEORGE, EARL OF JERSEY, the Governor aforesaid, with the advice of the Executive Council, in pursuance of the provisions of the said last mentioned Act, do hereby direct that the land described in the Schedule hereto, which in my opinion is required for the said authorised work, shall be acquired and taken under the "Lands for Public Purposes Acquisition Act." And I do declare by this notification, to be published in the Government Gazette and in one or more newspapers published or circulated in the Police District wherein is situated the said land, that the said land described in the said Schedule hereto has been resumed for the public purpose hereinbefore expressed, that is to say, for the purpose of the

erection thereon of Offices for the accommodation of the Board of Water Supply and Sewerage, to the intent that upon the publication of this notification in the Gazette, the land described in the said Schedule hereto shall forthwith be vested in the said Minister as the Constructing Authority, on behalf of Her Majesty, for the purposes of the said Act, for an estate in fee simple in possession, freed and discharged from all trusts, obligations, estates, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever, and to the intent that the legal estate therein, together with all powers incident thereto so conferred by that Act, shall be vested in such Authority as a Trustee. And I declare that the following is the Schedule of land hereinbefore referred to :—

SCHEDULE.

All that piece or parcel of land, situate in the City of Sydney, parish of St. Lawrence, county of Cumberland, and Colony of New South Wales : Commencing at the intersection of the north side of Wilmott-street with the west side of Pitt-street ; and bounded thence on the east by Pitt-street bearing northerly 72 feet ; thence on the north by a line bearing westerly 81 feet 5½

inches to Stewart-lane ; thence on the west by that lane bearing southerly in all 72 feet 2½ inches to its intersection with Wilmott-street ; and thence on the south by Wilmott-street bearing easterly 83 feet 8¼ inches, to the point of commencement,—containing 22 perches, and said to be in the possession of Donald Manson.

NOTE.—This notification is in correction of that published in the Government Gazette, No. 26, of the 13th January, 1891.

Given under my Hand and the Seal of the said Colony, at Government House, Sydney, this seventeenth day of March, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH,

GOD SAVE THE QUEEN!

1891.

## NEW SOUTH WALES.

## LANDS FOR PUBLIC PURPOSES ACQUISITION ACT.

(RESUMPTION OF LAND IN CONNECTION WITH THE SUPPLY OF WATER TO THE TOWN OF HILLGROVE,  
PARISH OF METZ, COUNTY OF SANDON.)

Presented to Parliament pursuant, to Act 44 Vic. No. 16, sec. 6.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
44 VICTORIA No. 16.

NEW SOUTH WALES, } By His Excellency The Right Honour-  
to wit. } able VICTOR ALBERT GEORGE, MARQUESS OF  
JERSEY, a Member of Her Majesty's  
(L.S.) } Most Honourable Privy Council, Knight  
Grand Cross of the Most Distinguished  
Order of Saint Michael and Saint  
George, Governor and Commander-  
in-Chief of the Colony of New South  
Wales and its Dependencies.

WHEREAS I, the Governor of the said Colony, with the advice of the Executive Council of the said Colony, have duly sanctioned the carrying out of certain works for and in connection with the supply of water to the town of Hillgrove, for and towards the completion of which said works public funds are available: And whereas the lands hereinafter described are required for the construction of the said works: Now, I, the Governor aforesaid, with the advice of the Executive Council of the said Colony, in pursuance of the powers in this behalf given to or vested in me by the "Lands for Public Purposes Acquisition Act," do, by this notification, published in the Gazette, and in a newspaper, that is to say, in the "Hillgrove Guardian," circulated in the Police District wherein the said land is situated, declare that the lands hereinafter described have been resumed for the public purposes hereinafter mentioned, that is to say, for and in connection with the supply of water to the town of Hillgrove, to the intent that, upon the publication of this notification in the Gazette, the legal estate in the said lands shall forthwith be vested in the Minister for Public Works and his successors, on behalf of Her Majesty, for the purpose of the said last-mentioned Act, for an estate of inheritance in fee simple in possession, freed and discharged from all trusts, obligations, estate, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever; and to the intent, further, that the legal estate therein, together with all powers incident thereto, or conferred by the said Act, shall be vested in the said Minister as a trustee, with the powers stated in the said last-mentioned Act: And I declare that the following are the descriptions of the land hereinbefore referred to, that is to say:—

1st. All that piece or parcel of land situate in the parish of Metz, county of Sandon, and Colony of New South Wales, being

portion 169, containing 40 acres, and said to be in the possession and occupation of William Rischhoff.

2nd. All that piece or parcel of land situate in the parish of Metz, county of Sandon, and Colony of New South Wales, being water reserve 1,436, containing 39 acres 1 rood, exclusive of a road 1 chain 50 links wide passing through the said portion in a south-easterly direction.

3rd. All that piece or parcel of land situate in the parish of Metz, county of Sandon, and Colony of New South Wales, being portion 23, containing 60 acres, and said to be in the possession and occupation of Richard Hargrave.

4th. All that piece or parcel of land situate in the parish of Metz, county of Sandon, and Colony of New South Wales, being part of portion 15: Commencing at the south-east corner of portion 28; and bounded thence by its south boundary bearing west 24 chains 49 links; thence by part of the west boundary of portion 15 bearing south 10 chains; thence by a line parallel to the south boundary of portion 28 bearing east 24 chains 49 links; thence by part of the east boundary of portion 15 bearing north 10 chains, to the point of commencement, containing 24 acres 2 roods, and said to be in the possession and occupation of R. Hargrave.

5th. All that piece or parcel of land situate in the parish of Metz, county of Sandon, and Colony of New South Wales, being part of portion 17: Commencing on the east boundary of the aforesaid portion 17, at a point bearing north and distant 10 chains from the south-east corner of the aforesaid portion 17; and bounded thence by a line bearing west 8 chains; thence by a line bearing north 5 chain; thence by a line bearing east 8 chains; thence by the east boundary of portion 17 aforesaid bearing south 5 chains, to the point of commencement, containing 4 acres, and said to be in the possession and occupation of R. Hargrave.

In witness whereof, I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this seventeenth day of February, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

## NEW SOUTH WALES.

## LANDS FOR PUBLIC PURPOSES ACQUISITION ACT.

(RESUMPTION OF LAND IN CONNECTION WITH THE SUPPLY OF WATER TO THE WESTERN SUBURBS OF SYDNEY AND DISTRICTS NORTH OF THE PARRAMATTA RIVER, PARISH OF HUNTER'S HILL, COUNTY OF CUMBERLAND.)

Presented to Parliament, pursuant to Act 44 Vic. No. 16, sec. 6.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
41 VICTORIA No. 16.

NEW SOUTH WALES, } By His Excellency Sir ALFRED STEPHEN,  
to wit. } Knight Grand Cross of the Most Dis-  
(LS) } tinguished Order of Saint Michael and  
ALFRED STEPHEN, Saint George, a Companion of the  
Lieutenant-Governor, Most Honourable Order of the Bath,  
Administering Lieutenant-Governor of the Colony of  
the Government. New South Wales and its Dependencies.

WHEREAS I, the Lieutenant-Governor aforesaid, with the advice of the Executive Council of the said Colony, have duly sanctioned the carrying out of certain works for and in connection with the supply of water to the western suburbs of Sydney and districts north of the Parramatta River, for and towards the completion of which said works public funds are available under the provisions of the "Appropriation Act of 1887;" and whereas the land hereinafter described is required for the construction of the said works: Now I, the Lieutenant-Governor of the said Colony, with the advice of the Executive Council of the said Colony, in pursuance of the powers in this behalf given to or vested in me by the "Lands for Public Purposes Acquisition Act," do, by this notification published in the Gazette, and in a newspaper, that is to say, in the "Sydney Morning Herald," circulated in the Police District wherein the said land is situated, declare that the land hereinafter described has been resumed for the public purposes hereinafter mentioned, that is to say, for and in connection with the supply of water to the said western suburbs of Sydney and districts north of the Parramatta River, to the intent that upon the publication of this notification in the Gazette, the legal estate in the said land shall forthwith be vested in the Minister for Public Works and his successors, on behalf of Her Majesty, for the purpose of the said last-mentioned Act, for an estate of inheritance in fee-simple in possession, freed and discharged from all trusts, obligations,

estate, interests, contracts, charges, rates, rights-of-way, or other encumbrances whatsoever; and to the intent, further, that the legal estate therein, together with all powers incident thereto or conferred by the said Act, shall be vested in the said Minister as a Trustee, with the powers stated in the said last-mentioned Act: And I declare that the following is the description of the land hereinbefore referred to, that is to say:—

All that piece or parcel of land situated in the parish of Hunter's Hill, county of Cumberland, being part of a grant of 55 acres to Archibald Morrison and also part of lots 3 and 6 of a subdivision of the said grant: Commencing on the southern side of a road one chain wide at a point bearing easterly and distant 3 chains 58 links from the north-western corner of the said grant; and bounded thence on the north by the said southern side of a road bearing easterly 30 links; thence on the east by other part of the said grant bearing southerly 10 chains 91 links to the north-eastern corner of a lane 30 links wide; thence on the south by the northern extremity of that lane bearing westerly 30 links to the eastern boundary of lot 5 of the said subdivision; thence on the west by lots 5 and 2 bearing northerly 10 chains 91 links, to the point of commencement,—containing 1 rood 12½ perches or thereabouts and said to be in the possession and occupation of the Trustees of the estate of the late Hon. James Squire Farnell.

In witness whereof I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this third day of January, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

## NEW SOUTH WALES.

## PUBLIC WORKS ACT OF 1888.

(RESUMPTION OF LAND IN CONNECTION WITH THE SUPPLY OF WATER TO THE TOWN OF COBAR,  
PARISH OF COBAR, COUNTY OF ROBINSON.)

Presented to Parliament, pursuant to Act 51 Vic. No. 37.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
THE "PUBLIC WORKS ACT OF 1888," 51 VICTORIA  
No. 37.

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable VICTOR ALBERT  
GEORGE, EARL OF JERSEY, a Member  
(L.S.) } of Her Majesty's Most Honourable  
Privy Council, Knight Grand Cross  
of the Most Distinguished Order of  
Saint Michael and Saint George,  
JERSEY, } Governor and Commander-in-Chief of  
Governor. } the Colony of New South Wales and  
its Dependencies.

WHEREAS the Minister for Public Works of the said Colony is desirous of acquiring the land described in the Schedule at the foot hereof, for the purpose of a certain Public Work, that is to say, the Supply of Water to the Town of Cobar, in the said Colony: And whereas it is estimated that the cost of completing such work will not exceed the sum of twenty thousand pounds: And whereas the lands described in the said Schedule are in my opinion required for carrying out the said work: Now, therefore, I, VICTOR ALBERT GEORGE, EARL OF JERSEY, the Governor aforesaid, with the advice of the Executive Council, in pursuance of the "Public Works Act of 1888," do hereby direct that the said work shall be carried out under the "Public Works Act of 1888," by the Minister for Public Works aforesaid, who, in respect of the said work, shall be deemed to be the Constructing Authority: And in further pursuance of the said Act, I do hereby direct that the lands described in the Schedule hereto shall be acquired and taken for the purpose aforesaid, under the "Lands for Public Purposes Acquisition Act," and I do declare by this notification, to be published in the Government Gazette and in one or more newspapers published or circulated in the Police District wherein are situated the said lands, that the said lands described in the said Schedule have been resumed for the public purpose hereinbefore expressed, that is to say, for and in connection with the Water Supply to the Town of Cobar, in the said Colony, to the intent that upon the publication of this notification in the Gazette, the said lands described in the said Schedule hereto shall forthwith be vested in the said Constructing Authority, on behalf of Her Majesty, for the purposes of the said Public Works Act of 1888, for an estate in fee simple in possession, freed and discharged from all trusts, obligations, estates, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever; and to the intent that the legal estate therein, together with all powers incident

thereto or conferred by that Act, shall be vested in such Authority as a trustee: And I declare that the following is the Schedule of lands hereinbefore referred to:—

## SCHEDULE.

All that piece or parcel of land situate in the parish of Cobar county of Robinson, and Colony of New South Wales, being part of portions 59 and 60: Commencing on the east boundary of portion 60, at a point distant 9 chains  $75\frac{7}{10}$  links from its south-east corner; and bounded thence on the south-east by lines bearing south 70 degrees 33 minutes west 9 chains  $46\frac{4}{10}$  links and south 73 degrees 55 minutes west 11 chains  $56\frac{7}{10}$  links; thence on the south by a line bearing west 3 chains  $27\frac{1}{10}$  links; on the south-west by the north-eastern boundary of a road bearing north 44 degrees 50 minutes west 32 links; on the north by a line bearing east 3 chains  $46\frac{7}{10}$  links; on the north-west by lines bearing north 73 degrees 55 minutes east 11 chains  $52\frac{8}{10}$  links and north 70 degrees 33 minutes east 9 chains 54 links; on the east by the east boundary of portion 60 aforesaid bearing south  $24\frac{1}{10}$  links, to the point of commencement,—containing 2 roods  $8\frac{1}{10}$  perches and said to be in the possession and occupation of the Great Cobar Copper-mining Co. and the North Cobar Copper-mining Co.

All that piece or parcel of land situate in the parish, county, and Colony aforesaid, being part of portions 69 and 70: Commencing on the north boundary of portion 70, at a point distant 4 chains  $41\frac{8}{10}$  links from its north-east corner; and bounded thence on the south-east by a line bearing south 27 degrees 16 minutes west 43 chains  $10\frac{2}{10}$  links; on the east by a line bearing south 4 chains  $75\frac{3}{10}$  links; on the south by the south boundary of portion 69 bearing west  $22\frac{2}{10}$  links; on the west by a line bearing north 4 chains  $80\frac{8}{10}$  links; on the north-west by a line bearing north 27 degrees 16 minutes east 43 chains  $15\frac{7}{10}$  links; and on the north by the north boundary of portion 70 bearing east  $25\frac{9}{10}$  links, to the point of commencement,—containing 1 acre and  $14\frac{7}{10}$  perches and said to be in the possession and occupation of the Crown.

In witness whereof, I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this fourteenth day of April, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

## NEW SOUTH WALES.

**LANDS FOR PUBLIC PURPOSES ACQUISITION ACT.**  
(RESUMPTION OF LAND IN CONNECTION WITH THE SUPPLY OF WATER TO THE DISTRICT OF  
HURSTVILLE, PARISH OF ST. GEORGE, COUNTY OF CUMBERLAND.)

Presented to Parliament, pursuant to Act 44 Vic. No. 16, sec. 6.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
44 VICTORIA No. 16.

NEW SOUTH WALES, } By His Excellency The Right Honour-  
to wit. } able VICTOR ALBERT GEORGE, EARL OF  
(L.S.) } JERSEY, a Member of Her Majesty's  
Most Honourable Privy Council, Knight  
Grand Cross of the Most Distinguished  
Order of Saint Michael and Saint  
Jersey, } George, Governor and Commander-  
Governor. } in-Chief of the Colony of New South  
Wales and its Dependencies.

WHEREAS I, the Governor of the said Colony, with the advice of the Executive Council of the said Colony, have duly sanctioned the carrying out of certain works for and in connection with the supply of water to the district of Hurstville, for and towards the completion of which said works public funds are available: And whereas the land hereinafter described is required for the construction of the said works: Now, I, the Governor aforesaid, with the advice of the Executive Council of the said Colony, in pursuance of the powers in this behalf given to or vested in me by the "Lands for Public Purposes Acquisition Act," do by this notification, published in the Gazette, and in a newspaper, that is to say, in the "Daily Telegraph," circulated in the Police District wherein the said land is situated, declare that the land hereinafter described has been resumed for the public purposes hereinafter mentioned, that is to say, for and in connection with the supply of water to the district of Hurstville, to the intent that, upon the publication of this notification in the Gazette, the legal estate in the said land shall forthwith be vested in the Minister for Public Works and his successors, on behalf of Her Majesty, for the purpose of the said last-mentioned Act, for an estate of inheritance in fee simple in possession, freed and discharged from all trusts, obligations, estate, interests, contracts, charges, rates, rights-of-way, or other encumbrances whatsoever; and to the intent, further, that the legal estate therein, together with

all powers incident thereto or conferred by the said Act, shall be vested in the said Minister as a trustee with the powers stated in the said last-mentioned Act: And I declare that the following is the description of the land hereinbefore referred to, that is to say:—

All that piece or parcel of land situate at Conneli's Bush, in the parish of St. George, county of Cumberland, and Colony of New South Wales, containing 2 acres 2 roods or thereabouts: Commencing on the north-eastern side of a road 1 chain wide, at the south-western corner of G. Parkes' 3 acres 1 rood 6 perches; and bounded thence on the south-west by that road bearing south-easterly 2 chains 50 links; on the south-east by a line bearing north-easterly 10 chains to M. Byron's 6 acres; on the north-east by part of that land bearing north-westerly 2 chains 50 links to E. Sweeney's 15 acres; and on the north-west by part of that land and G. Parkes' 3 acres 1 rood 6 perches aforesaid, in all bearing south-westerly 10 chains, to the point of commencement,—being part of lot O on a plan deposited in the Land Titles Office, Sydney, numbered 53, and also part of 1,605 acres delineated in the public map of the said parish, deposited in the office of the Surveyor General, originally granted to Robert Townson by Crown grant dated the 1st day of January, 1810; and which piece or parcel of land is said to be in the possession of Andrew Menzies.

In witness whereof I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this ninth day of March, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

## NEW SOUTH WALES.

## PUBLIC WORKS ACT OF 1888.

(RESUMPTION OF LAND IN CONNECTION WITH THE SEWERAGE OF THE TOWN OF PARRAMATTA,  
PARISH OF ST. JOHN, COUNTY OF CUMBERLAND.)

Presented to Parliament, pursuant to Act 51 Vic. No. 37.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
THE "PUBLIC WORKS ACT OF 1888," 51 VICTORIA  
No. 37.

NEW SOUTH WALES, ) Proclamation by His Excellency The  
to wit. ) Right Honourable VICTOR ALBERT  
GEORGE, EARL OF JERSEY, a Member  
of Her Majesty's Most Honourable  
(L.S.) Privy Council, Knight Grand Cross  
of the Most Distinguished Order of  
Saint Michael and Saint George,  
JERSEY, Governor and Commander-in-Chief of  
the Colony of New South Wales and  
its Dependencies.

WHEREAS the Minister for Public Works of the said Colony is desirous of acquiring the land described in the Schedule at the foot hereof, for the purpose of a certain Public Work, that is to say, the Sewerage of the Town of Parramatta, in the said Colony; and whereas it is estimated that the cost of completing such work will not exceed the sum of twenty thousand pounds: And whereas the land described in the said Schedule is in my opinion required for carrying out the said work: Now, therefore, I, VICTOR ALBERT GEORGE, EARL OF JERSEY, the Governor aforesaid, with the advice of the Executive Council, in pursuance of the "Public Works Act of 1888," do hereby direct that the said work shall be carried out under the "Public Works Act of 1888," by the Minister for Public Works aforesaid, who, in respect of the said work, shall be deemed to be the Constructing Authority: And in further pursuance of the said Act, I do hereby direct that the land described in the Schedule hereto shall be acquired and taken for the purpose aforesaid, under the "Lands for Public Purposes Acquisition Act," and I do declare by this notification, to be published in the Government Gazette and in one or more newspapers published or circulated in the Police District wherein is situated the said land, that the said land described in the said Schedule has been resumed for the public purposes hereinbefore expressed, that is to say, for and in connection with the Sewerage of the town of Parramatta, in the said Colony, to the intent that upon the publication of this notification in the Gazette, the said land described in the said Schedule hereto shall forthwith be vested in the said

Constructing Authority, on behalf of Her Majesty, for the purposes of the said Act, for an estate in fee simple in possession, freed and discharged from all trusts, obligations, estates, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever; and to the intent that the legal estate therein, together with all powers incident thereto so conferred by that Act, shall be vested in such Authority as a trustee: And I declare that the following is the Schedule of land hereinbefore referred to:—

## SCHEDULE.

All that piece or parcel of land situate in the parish of St. John, county of Cumberland, and Colony of New South Wales, being part of the land comprised in certificate of title registered volume 902, folio 135: Commencing on the southern boundary of Tramway Avenue, at a point bearing south 7 degrees 1 minute west 2 chains  $1\frac{1}{10}$  links from the junction of the northern boundary of Tramway Avenue with the western boundary of Thackray-street; and bounded thence by lines bearing south 7 degrees 1 minute west 23 chains 27 links, south 82 degrees 59 minutes east 31 chains 92 links, north 23 degrees 31 minutes east 8 chains  $95\frac{1}{10}$  links, north 53 degrees 2 minutes west 20 chains 19 links, north 26 degrees 58 minutes east 2 chains  $49\frac{1}{10}$  links, north 62 degrees 53 minutes west 6 chains  $74\frac{3}{10}$  links, north 74 degrees 29 minutes west 5 chains  $7\frac{1}{10}$  links, north 83 degrees 1 minute west 3 chains  $53\frac{1}{10}$  links, south 6 degrees 6 minutes west 50 links, north 88 degrees 3 minutes west 1 chain  $95\frac{1}{10}$  links, and south 89 degrees 40 minutes west 1 chain and  $\frac{1}{10}$  of a link, to the point of commencement,—containing 62 acres 1 rood  $13\frac{1}{2}$  perches, and said to be in the possession of Septimus A. Stephen.

In witness whereof I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this seventeenth day of March, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

## NEW SOUTH WALES.

## LANDS FOR PUBLIC PURPOSES ACQUISITION ACT.

(RESUMPTION OF LAND IN CONNECTION WITH THE SEWERAGE OF THE CITY OF SYDNEY AND ITS SUBURBS, PARISH OF ALEXANDRIA, COUNTY OF CUMBERLAND.)

Presented to Parliament, pursuant to Act 44 Vic. No. 16, sec. 6.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
44 VICTORIA No. 16.

NEW SOUTH WALES, } By His Excellency The Right Honour-  
to wit. { able VICTOR ALBERT GEORGE, EARL OF  
JERSEY, a Member of Her Majesty's  
(L.S.) Most Honourable Privy Council, Knight  
Grand Cross of the Most Distinguished  
Order of Saint Michael and Saint  
JERSEY, George, Governor and Commander-  
Governor. in-Chief of the Colony of New South  
Wales and its Dependencies.

WHEREAS I, the Governor of the said Colony, with the advice of the Executive Council of the said Colony, have duly sanctioned the carrying out of certain works for and in connection with the Sewerage of the City of Sydney and its Suburbs, for and towards the completion of which said works public funds are available: And whereas the land hereinafter described is required for the construction of the said works: Now, I, the Governor aforesaid, with the advice of the Executive Council of the said Colony, in pursuance of the powers in this behalf given to or vested in me by the "Lands for Public Purposes Acquisition Act," do, by this notification, published in the Gazette, and in a newspaper, that is to say, in the "Sydney Morning Herald," circulated in the Police District wherein the said land is situated, declare that the land hereinafter described has been resumed for the public purpose hereinafter mentioned, that is to say, for and in connection with the sewerage of the said City of Sydney and its Suburbs, to the intent that, upon the publication of this notification in the Gazette, the legal estate in the said lands shall forthwith be vested in the Minister for Public Works and his successors, on behalf of Her Majesty, for the purpose of the said last-mentioned Act, for an estate of inheritance in fee simple in possession, freed and discharged from all trusts, obligations, estate, interests, contracts, charges, rates, rights-of-

way, or other easements whatsoever; and to the intent further, that the legal estate therein, together with all powers incident thereto or conferred by the said Act, shall be vested in the said Minister as a trustee, with the powers stated in the said last-mentioned Act: And I declare that the following is the description of the land hereinbefore referred to, that is to say:—

All that piece or parcel of land, situate in the parish of Alexandria, county of Cumberland, and Colony of New South Wales: Commencing at a point on the north-east side of a lane generally about 20 feet wide, leading from Edgecliffe Road and distant from its junction with that road about 397 links, such point being 13,281.92 links south and 17,820.41 links east from Trig. Station "E." Sydney Observatory; bounded thence on the north-west by a boundary fence on the Hawthornden Estate bearing north 78 degrees 27 minutes 38 seconds east 96.95 links; thence on the north-east by a line bearing south 11 degrees 32 minutes 22 seconds east 68.56 links; thence on the south-east by a line bearing south 57 degrees 7 minutes 52 seconds west 52.44 links to the aforesaid lane leading to Edgecliffe Road; and thence on the south-west by that lane bearing north 40 degrees 16 minutes west 100 links, to the point of commencement,—containing 9½ perches and said to be the property of Daniel Cooper and under lease to Edward A. Macpherson.

In witness whereof I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this twentieth day of February, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

## NEW SOUTH WALES.

## LANDS FOR PUBLIC PURPOSES ACQUISITION ACT.

(RESUMPTION OF LAND IN CONNECTION WITH THE SEWERAGE OF THE CITY OF SYDNEY AND ITS SUBURBS, PARISH OF ALEXANDRIA, COUNTY OF CUMBERLAND.)

Presented to Parliament pursuant, to Act 44 Vic. No. 16, sec. 6.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
44 VICTORIA No. 16.

NEW SOUTH WALES, } By His Excellency The Right Honour-  
to wit. } able VICTOR ALBERT GEORGE, EARL OF  
JERSEY, a Member of Her Majesty's  
(L.S.) Most Honourable Privy Council, Knight  
Grand Cross of the Most Distinguished  
JERSEY, Order of Saint Michael and Saint  
Governor. George, Governor and Commander-in-  
Chief of the Colony of New South  
Wales and its Dependencies.

WHEREAS I, the Governor of the said Colony, with the advice of the Executive Council of the said Colony, have duly sanctioned the carrying out of certain works for and in connection with the Sewerage of the City of Sydney and its Suburbs, for and towards the completion of which said works public funds are available: And whereas the land hereinafter described is required for the construction of the said works: Now, I, the Governor aforesaid, with the advice of the Executive Council of the said Colony, in pursuance of the powers in this behalf given to or vested in me by the "Lands for Public Purposes Acquisition Act," do, by this notification published in the Gazette, and in a newspaper, that is to say, in the "Sydney Morning Herald," circulated in the Police District wherein the said land is situated, declare that the land hereinafter described has been resumed for the public purpose hereinafter mentioned, that is to say, for and in connection with the sewerage of the said City of Sydney and its Suburbs, to the intent that upon the publication of this notification in the Gazette, the legal estate in the said lands shall forthwith be vested in the Minister for Public Works and his successors, on behalf of Her Majesty, for the purpose of the said last-mentioned Act, for an estate of inheritance in fee simple in possession, freed and discharged from all trusts, obligations, estate, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever; and to the intent further, that the legal estate therein, together with all powers incident

thereto or conferred by the said Act, shall be vested in the said Minister as a Trustee, with the powers stated in the said last-mentioned Act: And I declare that the following is the description of the land hereinbefore referred to, that is to say:—

All that piece or parcel of land, situate in the parish of Alexandria, county of Cumberland, and Colony of New South Wales: Commencing on the western boundary of the Old South Head Road, at a point bearing north 29 degrees 34 minutes 30 seconds west and distant 1 chain 80 67 links from an alignment post situate south 11,063.05 links and east 30,350.5 links from Trig. Station "B," Sydney Observatory; and bounded thence by the said boundary of the Old South Head Road bearing 357 degrees 26 minutes 50 seconds 54.1 links; thence by lines bearing 289 degrees 51 minutes 20 seconds 27 chains 14.9 links, 307 degrees 43 minutes 20 seconds 7 chains 41.9 links, 327 degrees 39 minutes 40 seconds 5 chains 20 links, 332 degrees 47 minutes 20 seconds 3 chains 1.5 links, 32 degrees 1 minute 20 seconds 8 chains 75 links, 338 degrees 5 minutes 30 seconds 2 chains 40.8 links, 372 degrees 31 minutes 1 chain, 30 degrees 23 minutes 30 seconds 3 chains 2.4 links, 43 degrees 9 minutes 2 chains 86.7 links; thence by the south-western boundary of the New South Head Road bearing 292 degrees 33 minutes 53.4 links; thence by lines bearing 223 degrees 9 minutes 2 chains 58.7 links, 244 degrees 34 minutes 1 chain 32.7 links, 192 degrees 31 minutes 3 chains 55.9 links, 158 degrees 5 minutes 30 seconds 2 chains 61.6 links, 146 degrees 1 minute 20 seconds 8 chains 77.4 links, 152 degrees 47 minutes 20 seconds 3 chains 0.96 links, 147 degrees 39 minutes 40 seconds 5 chains 31.2 links, 127 degrees 43 minutes 20 seconds 7 chains 58.6 links, 109 degrees 51 minutes 20 seconds 27 chains 43.4 links, to the point of commencement,—containing 8 acres and 29 perches, said to be in the possession of Daniel Cooper and occupation of Tong Sing, Lee Sue, Lee Young Sue, W. Oliver, Buck Sing, Ah Tong, Gooey Chun, and John Ryan.

In witness whereof, I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this ninth day of February, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

## NEW SOUTH WALES.

## LANDS FOR PUBLIC PURPOSES ACQUISITION ACT.

(RESUMPTION OF LAND IN CONNECTION WITH SEWERAGE, TOWNS OF WALLSEND AND PLATTSBURG PARISHES OF KAHLIBAH AND HEXHAM, COUNTY OF NORTHUMBERLAND.)

Presented to Parliament, pursuant to Act 44 Vic. No. 16, sec. 6.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
44 VICTORIA No. 16.

NEW SOUTH WALES, } By His Excellency The Right Honourable VICTOR ALBERT GEORGE, EARL OF  
to wit. } JERSEY, a Member of Her Majesty's  
(L.S.) } Most Honourable Privy Council, Knight  
Grand Cross of the Most Distinguished  
Order of Saint Michael and Saint  
JERSEY, } George, Governor and Commander-  
Governor. } in-Chief of the Colony of New South  
Wales and its Dependencies.

WHEREAS I, the Governor of the said Colony, with the advice of the Executive Council of the said Colony, have duly sanctioned the carrying out of certain works for and in connection with the Sewerage of the towns of Wallsend and Plattsburg, for and towards the completion of which said works public funds are available: And whereas the lands hereinafter described are required for the construction of the said works: Now, I, the Governor aforesaid, with the advice of the Executive Council of the said Colony, in pursuance of the powers in this behalf given to or vested in me by the "Lands for Public Purposes Acquisition Act," do, by this notification, published in the Gazette, and in a newspaper, that is to say, in the "Newcastle Herald," circulated in the Police District wherein the said lands are situated, declare that the lands hereinafter described have been resumed for the public purpose hereinafter mentioned, that is to say, for and in connection with the sewerage of the said towns of Wallsend and Plattsburg, to the intent that upon the publication of this notification in the Gazette, the legal estate in the said lands shall forthwith be vested in the Minister for Public Works and his successors, on behalf of Her Majesty, for the purpose of the said last-mentioned Act, for an estate of inheritance in fee simple in possession, freed and discharged from all trusts, obligations, estate, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever; and to the intent further that the legal estate therein, together with all powers incident thereto or conferred by the said Act, shall be vested in the said Minister as a Trustee, with the powers stated in the said last-mentioned Act: And I declare that the following are the descriptions of the lands hereinbefore referred to, that is to say:—

1st. All that piece or parcel of land situate in the parish of Kahlabah, county of Northumberland, and Colony of New South Wales, being part of the Wallsend Coal Company's property: Commencing at the south-eastern corner of allot-

ment 7 of section BA of the town of Plattsburg; and bounded thence by a curved line of 4 chains 52 links radius, 1 chain 89 links; thence by a line bearing 159 degrees 35 minutes 7 chains 82 links; thence by the northern boundary of Kemp-street bearing 232 degrees 1 chain 5 links; thence by a line bearing 339 degrees 35 minutes 8 chains 14 links; thence by a curved line of 5 chains 52 links radius, 2 chains 31 links; thence by the southern boundary of allotments 8 and 7 of section BA of the town of Plattsburg bearing 93 degrees 31 minutes 1 chain, to the point of commencement,—containing 1 acre and 1 perch, and said to be in the possession of the Wallsend Coal Company.

2nd. All that piece or parcel of land situate in the parish of Hexham, county of Northumberland, and Colony of New South Wales, being allotments 8 of section BA, 6 of section A1, and 6 of section A of the town of Plattsburg,—containing 1 rood and 11 perches, and said to be in the possession of the Council of Plattsburg.

3rd. All that piece or parcel of land situate in the parish of Hexham, county of Northumberland, and Colony of New South Wales, being allotment 7 of section BA of the town of Plattsburg,—containing 15 perches, and said to be in the possession of the Trustees of the Baptist Church.

4th. All that piece or parcel of land situate in the parish of Hexham, county of Northumberland, and Colony of New South Wales, being allotment 5 of section A1 of the town of Plattsburg, containing 19 perches, and said to be in the possession of C. Nichols.

5th. All that piece or parcel of land situate in the parish of Hexham, county of Northumberland, and Colony of New South Wales, being allotment 7 of section A of the town of Plattsburg, containing 15 perches, and said to be in the possession of S. Hall.

6th. All that piece or parcel of land situate in the parish of Hexham, county of Northumberland, and Colony of New South Wales, being part of allotment 8 of section A of the town of Plattsburg: Commencing at the south-western corner of the aforesaid allotment; and bounded thence by its western boundary bearing 26 degrees 41 minutes 70 links; thence by a line bearing 186 degrees 46 minutes 74 links; thence by the northern boundary of Council-street bearing 295 degrees 32 minutes 25 links, to the point of commencement,—containing 13 perches, and said to be in the possession of H. Wicken.

7th. All that piece or parcel of land situate in the parish of Hexham, county of Northumberland, and Colony of New South Wales, being part of C. B. Ranclaud's property: Commencing on the boundary-line dividing the properties of C. B. Ranclaud

and J. W. Brooks, at a point bearing 2 degrees 53 minutes and distant 2 chains 77 links from the intersection of the northern boundary of Charles-street with the western boundary of a lane; and bounded thence by lines bearing 2 degrees 25 minutes 12 chains 97 links, 309 degrees 2 minutes 1 chain 52 links, 182 degrees 25 minutes 10 chains 21 links; thence by a curved line of 2 chains 36 links radius, 3 chains 87 links; thence by lines bearing 276 degrees 19 minutes 6 chains 95 links, 181 degrees 58 minutes 1 chain 6 links, 96 degrees 19 minutes 10 chains 69 links, to the point of commencement,—containing 2 acres 2 roods 39 perches, and said to be in the possession of C. B. Ranclaud.

8th. All that piece or parcel of land situate in the parish of Hexham, county of Northumberland, and Colony of New South Wales: Commencing at the intersection of the northern boundary of Charles-street with the western boundary of a lane; and bounded thence by the said boundary of lane bearing 2 degrees 53 minutes 2 chains 77 links; thence by lines bearing 276 degrees 19 minutes 50 links, 182 degrees 53 minutes 2 chains 79 links; thence by the northern boundary of Charles-street bearing 93 degrees 30 minutes 50 links, to the point of commencement,—containing 22 perches, and said to be in the possession of Messrs. House and Abel.

9th. All that piece or parcel of land situate in the parish of Hexham, county of Northumberland, and Colony of New South Wales: Commencing at the intersection of the southern boundary of Charles-street with the western boundary of a lane; and bounded thence by the said boundary of lane bearing 182 degrees 53 minutes 2 chains 11 links; thence by the north-western boundary of John-street bearing 233 degrees 20 minutes 55 links; thence by a line bearing 2 degrees 53 minutes 2 chains 53 links; thence by the southern boundary of Charles-street bearing 93 degrees 30 minutes 50 links, to the point of commencement,—containing 18 perches, and said to be in the possession of E. Evans.

10th. All that piece or parcel of land situate in the parish of Hexham, county of Northumberland, and Colony of New South Wales, being part of the Wallsend and Plattsburg Gas Company's property: Commencing on the northern boundary of Kemp-street, at a point bearing 52 degrees and distant 46 links from the south-western corner of the Wallsend and Plattsburg Gas Company's property; and bounded thence by the said boundary of Kemp-street bearing 52 degrees 43 links; thence by a curved line of 6 chains 7 links radius, 2 chains 3 links; thence by the southern boundary of John-street bearing 233 degrees 20 minutes 11 links; thence by a line

bearing 181 degrees 39 minutes 1 chain 47 links; thence by a curved line of 5 chains 73 links radius, 76 links, to the point of commencement,—containing 10 perches, and said to be in the possession of the Wallsend and Plattsburg Gas Company.

11th. All that piece or parcel of land situate in the parish of Hexham, county of Northumberland, and Colony of New South Wales, being part of J. W. Brooks' property: Commencing at the intersection of the dividing lines of the properties of J. W. Brooks and C. B. Ranclaud; and bounded thence by a line bearing 2 degrees 25 minutes 91 links; thence by a curved line of 7 chains 72 links radius, 2 chains 14 links; thence by another curved line of 6 chains 50 links radius, 1 chain 81 links; thence by a line bearing 2 degrees 25 minutes 1 chain; thence by the southern boundary of the Co-operative Coal Company's railway bearing 304 degrees 1 chain 43 links; thence by a line bearing 182 degrees 25 minutes 1 chain 75 links; thence by a curved line of 7 chains 72 links radius, 2 chains 14 links; thence by another curved line of 6 chains 50 links radius, 1 chain 81 links; thence by a line bearing 129 degrees 2 minutes 1 chain 52 links, to the point of commencement,—containing 2 roods 30 perches, and said to be in the possession of J. W. Brooks.

12th. All that piece or parcel of land situate in the parish of Hexham, county of Northumberland, and Colony of New South Wales, being part of C. B. Ranclaud's property: Commencing on the northern side of Nelson-street, at a point bearing 26 degrees 41 minutes and distant 1 chain from the north-eastern corner of allotment 7 of section A of the town of Plattsburg; and bounded thence by a line bearing 26 degrees 41 minutes 70 links; thence by a curved line of 2 chains 89 links radius, 3 chains 10 links; thence by lines bearing 1 degree 58 minutes 70 links, 290 degrees 83 links; thence by a curved line of 3 chains 87 links radius, 3 chains 41 links; thence by a line bearing 206 degrees 41 minutes 80 links; thence by the northern boundary of Nelson-street bearing 115 degrees 32 minutes 1 chain, to the point of commencement,—containing 1 rood 31 perches, and said to be in the possession of C. B. Ranclaud.

In witness whereof, I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this ninth day of February, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!

1891.

## NEW SOUTH WALES.

## PUBLIC WORKS ACT OF 1888.

(RESUMPTION OF LAND IN CONNECTION WITH A NEW ROAD FROM LITHGOW TO THE HERMITAGE, PARISHES OF MARANGAROO AND LETT, COUNTY OF COOK.)

Presented to Parliament, pursuant to Act 51 Vic. No. 37.

## NOTIFICATION OF RESUMPTION OF LAND UNDER THE "PUBLIC WORKS ACT OF 1888," 51 VICTORIA No. 37.

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable VICTOR ALBERT  
 } GEORGE, EARL OF JERSEY, a Member  
 } of Her Majesty's Most Honourable  
(L.S.) } Privy Council, Knight Grand Cross  
 } of the Most Distinguished Order of  
JERSEY, } Saint Michael and Saint George,  
Governor. } Governor and Commander-in-Chief of  
 } the Colony of New South Wales and  
 } its Dependencies.

WHEREAS the Minister for Public Works of the said Colony is desirous of acquiring the lands described in the Schedule at the foot hereof, for the purpose of a certain Public Work, that is to say, a new Road from Lithgow to The Hermitage, in the said Colony: And whereas it is estimated that the cost of completing such work will not exceed the sum of twenty thousand pounds: And whereas the lands described in the said Schedule are in my opinion required for carrying out the said work: Now, therefore, I, VICTOR ALBERT GEORGE, EARL OF JERSEY, the Governor aforesaid, with the advice of the Executive Council, in the pursuance of the "Public Works Act of 1888," do hereby direct that the said work shall be carried out under the "Public Works Act of 1888," by the Minister for Public Works aforesaid, who, in respect of the said work, shall be deemed to be the Constructing Authority: And in further pursuance of the said Act, I do hereby direct that the lands described in the Schedule hereto shall be acquired and taken for the purpose aforesaid, under the "Lands for Public Purposes Acquisition Act," and I do declare by this notification, to be published in the Government Gazette and in one or more newspapers published or circulated in the Police District wherein are situated the said lands, that the said lands described in the said Schedule have been resumed for the public purpose hereinbefore expressed, that is to say, for and in connection with a new Road from Lithgow to The Hermitage, in the said Colony, to the intent that upon the publication of this notification in the Gazette, the said lands described in the said Schedule hereto shall forthwith be vested in the said Constructing Authority, on behalf of Her Majesty, for the purposes of the said Public Works Act of 1888, for an estate in fee simple in possession, freed and discharged from all trusts, obligations, estates, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever; and to the intent that the legal estate therein, together with all powers incident thereto or conferred by that Act, shall be vested in such Authority as a trustee: And I declare that the following is the Schedule of lands hereinbefore referred to:—

## SCHEDULE.

1st. All that piece or parcel of land situate in the parish of Marangaroo, county of Cook, and Colony of New South Wales: Commencing at a point bearing north 57 minutes east 13 chains and 43 links from the south-west corner of portion 6; and

bounded on the north by a line bearing north 30 degrees 53 minutes east 5 chains and 14 links; thence north 69 degrees 33 minutes east 6 chains and 10 links; thence south 82 degrees 3 minutes east 13 chains and 20 links; thence south 65 degrees 15 minutes east 6 chains and 64 links; thence south 69 degrees 37 minutes east 2 chains and 96 links; thence south 78 degrees 40 minutes east 3 chains and 14 links; thence on the east by a line bearing south 29 degrees 19 minutes east 1 chain and 17 links; on the south by lines bearing north 78 degrees 40 minutes west 3 chains 86 links; thence north 69 degrees 37 minutes west 3 chains and 4 links; thence north 65 degrees 15 minutes west 6 chains and 54 links; thence north 82 degrees 3 minutes west 12 chains and 80 links; thence south 69 degrees 33 minutes west 5 chains and 50 links; thence south 30 degrees 53 minutes west 6 chains and 52 links, to the west boundary of aforesaid portion 6; and on the west by that boundary bearing north 57 minutes east 2 chains, to the point of commencement,—containing 3 acres 3 roods and 3 perches, said to be in the possession of T. S. Mort and R. Pitt.

2nd. All that piece or parcel of land situate in the parish of Lett, county of Cook, and Colony of New South Wales: Commencing at the north-west corner of portion 53 on parish map; and bounded on the east by part of the west boundary of that portion being a line bearing south 57 minutes west 18 chains and 38 links; thence on the south by a line bearing north 57 degrees 50 minutes west 1 chain and 17 links; thence on the west by a line bearing north 57 minutes east 17 chains and 70 links to Farmer's Creek; and on the north by that creek upwards, to the point of commencement,—containing 1 acre 3 roods 8 perches, and said to be in the possession of A. Brown.

3rd. All that piece or parcel of land situate in the town of Lithgow, parish of Lett, county of Cook, and Colony of New South Wales: Commencing at a point bearing south 59 degrees 6 minutes 30 seconds west 1 chain 22½ links from the junction of the north-western boundary of Main-street with the south-western boundary of Station-street; and bounded on the north-east by a line bearing north 31 degrees 19 minutes west 2 chains and 35 links to a lane; thence on the north-west by said lane south 65 degrees 26 minutes west 70 links; on the south-west by a line bearing south 29 degrees 53 minutes east 2 chains and 42 links to Main-street; and on the south-east by that street bearing north 59 degrees 6 minutes 30 seconds east, to the point of commencement,—containing 27·8 perches, owner and occupier unknown.

4th. All that piece or parcel of land situate in the parish of Lett, county of Cook, and Colony of New South Wales: Commencing at a point south 57 minutes west and 17 chains 20 links from the north-west corner of portion 53 on parish map; and bounded on the north-east by a line bearing south 57 degrees 50 minutes east 5 chains and 2 links; again on the north-east by a line bearing south 57 degrees 18 minutes east 3 chains and 13 links; again on the north-east by a line bearing south 31 degrees 55 minutes east 1 chain and 47 links to the railway fence; on the south-east by the said railway fence bearing south 67 degrees 16 minutes west 1 chain and 4

links; on the south-west by a line bearing north 31 degrees 55 minutes west 1 chain and 13 links; again on the south-west by a line bearing north 57 degrees 18 minutes west 2 chains and 87 links; again on the south-west by a line bearing north 57 degrees 50 minutes west 4 chains and 37 links to the west boundary of said portion 53; thence on the west by that boundary bearing north 57 minutes east 1 chain and 18 links, to the point of commencement,—containing 3 roods 24 perches and said to be in the possession of Eskbank Iron Company.

5th. All that piece or parcel of land situate in the parish of Marangaroo, county of Cook, and Colony of New South Wales: Commencing at the south-west corner of portion 6 on parish map; and bounded on the east by the west boundary of that portion being a line bearing north 57 minutes east 13 chains and 43 links; on the north-west by a line bearing south

30 degrees 53 minutes west 1 chain 99 links; on the west by a line bearing south 57 minutes west 11 chains and 85 links to Farmer's Creek; and on the south by that creek upwards, to the point of commencement,—containing 1 acre 24 perches and said to be in the possession of A. Brown.

Given under my Hand and Seal of the said Colony, at Government House, Sydney, this second day of April, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!

1891.

## NEW SOUTH WALES.

## PUBLIC WORKS ACT OF 1888.

(RESUMPTION OF LAND IN CONNECTION WITH THE WIDENING OF RICKETTY-STREET, ST. PETERS, PARISHES OF PETERSHAM AND BOTANY, COUNTY OF CUMBERLAND.)

Presented to Parliament, pursuant to Act 51 Vic. No. 37.

## NOTIFICATION OF RESUMPTION OF LAND UNDER THE "PUBLIC WORKS ACT OF 1888," 51 VICTORIA NO. 37.

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. { Right Honourable VICTOR ALBERT  
GEORGE, EARL OF JERSEY, a Member  
(U.S.) of Her Majesty's Most Honourable  
Privy Council, Knight Grand Cross  
of the Most Distinguished Order of  
Saint Michael and Saint George,  
JERSEY, Governor and Commander-in-Chief of  
Governor. the Colony of New South Wales and  
its Dependencies.

WHEREAS the Minister for Public Works of the said Colony is desirous of acquiring the lands described in the Schedule at the foot hereof, for the purpose of a certain Public Work, that is to say, the widening of Ricketty-street, St. Peters, in the said Colony: And whereas it is estimated that the cost of completing such work will not exceed the sum of twenty thousand pounds: And whereas the lands described in the said Schedule are in my opinion required for carrying out the said work: Now, therefore, I, VICTOR ALBERT GEORGE, EARL OF JERSEY, the Governor aforesaid, with the advice of the Executive Council, in pursuance of the "Public Works Act of 1888," do hereby direct that the said work shall be carried out under the "Public Works Act of 1888," by the Minister for Public Works aforesaid, who, in respect of the said work, shall be deemed to be the Constructing Authority: And in further pursuance of the said Act, I do hereby direct that the lands described in the Schedule hereto shall be acquired and taken for the purpose aforesaid, under the "Lands for Public Purposes Acquisition Act," and I do declare by this notification, to be published in the Government Gazette and in one or more newspapers published or circulated in the Police District wherein is situated the said lands, that the said lands described in the said Schedule have been resumed for the public purpose hereinbefore expressed, that is to say, for and in connection with the widening of Ricketty-street, St. Peters, in the said Colony, to the intent that upon the publication of this notification in the Gazette, the said lands described in the said Schedule hereto shall forthwith be vested in the said Constructing Authority, on behalf of Her Majesty, for the purposes of the said Public Works Act of 1888, for an estate in fee simple in possession, freed and discharged from all trusts, obligations, estates, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever; and to the intent that the legal estate therein, together with all powers incident thereto or conferred by that Act, shall be vested in such Authority as a trustee: And I declare that the following is the Schedule of lands hereinbefore referred to:—

## SCHEDULE.

1st. All that piece or parcel of land, situate in the parish of Petersham, county of Cumberland, and Colony of New South Wales: Commencing at the intersection of Ricketty-street, St.

Peters, with the Cook's River Road; and bounded on the north-west by that road bearing north 52 degrees 38 minutes east 59 links; on the north-east by a line bearing south 46 degrees 35 minutes east 15 chains 17 links to land owned by D. Cooper; on the south-east by that land bearing south 37 degrees 45 minutes west 50 links to Ricketty-street; and on the south-west by that street bearing north 46 degrees 35 minutes west 15 chains 30 links, to the point of commencement,—containing 3 roods 1·8 perches, and said to be in the possession of Mrs. Burns.

2nd. All that piece or parcel of land, situate in the parish of Petersham, county of Cumberland, and Colony of New South Wales: Commencing at a point bearing south 46 degrees 35 minutes east and distant 15 chains 30 links from the north-eastern intersection of Cook's River Road with Ricketty-street; and bounded on the north-west by land owned by Mrs. Burns, being a line bearing north 37 degrees 45 minutes east 50 links; on the north-east by a line bearing south 46 degrees 5 minutes east 12 chains 87 links to land resumed by the Government; on the south-east by that land, being a line bearing south 24 degrees 8 minutes west 50 links to Ricketty-street; and on the south-west by that street bearing north 46 degrees 5 minutes west 13 chains, to the point of commencement,—containing 2 roods 23·4 perches, and said to be in the possession of D. Cooper.

3rd. All that piece or parcel of land, situate in the parish of Botany, county of Cumberland, and Colony of New South Wales: Commencing at the intersection of Ricketty-street with Kent Road; and bounded on the south by Ricketty-street bearing north 85 degrees 5 minutes west 5 chains 33 links; thence north 82 degrees 39 minutes west 13 chains 84 links; thence north 78 degrees 21 minutes west 76 links to land resumed by the Government; on the west by the said land, being a line bearing north 24 degrees east 52 links; on the north by lines bearing south 78 degrees 21 minutes east 63 links, south 82 degrees 39 minutes east 13 chains 82 links, and south 85 degrees 5 minutes east 5 chains 30 links to Kent Road; and on the east by that road bearing south 18 degrees 23 minutes east 50 links, to the point of commencement,—containing 3 roods 38 perches and said to be in the possession of S. Keep.

In witness whereof I have herunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this second day of April, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

## NEW SOUTH WALES.

## PUBLIC WORKS ACT OF 1888.

(RESUMPTION OF LAND IN CONNECTION WITH A BRIDGE OVER BECKETT'S CREEK, NEAR GRANVILLE, PARISH OF ST. JOHN, COUNTY OF CUMBERLAND.)

Presented to Parliament, pursuant to Act 51 Vic. No. 37.

## NOTIFICATION OF RESUMPTION OF LAND UNDER THE "PUBLIC WORKS ACT OF 1888."

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable VICTOR ALBERT  
GEORGE, EARL OF JERSEY, a Member  
(L.S.) } of Her Majesty's Most Honourable  
Privy Council, Knight Grand Cross  
of the Most Distinguished Order of  
JERSEY, } Saint Michael and Saint George,  
Governor. } Governor and Commander-in-Chief of  
the Colony of New South Wales and  
its Dependencies.

WHEREAS the Minister for Public Works of the said Colony is desirous of acquiring the land described in the Schedule at the foot hereof for the purpose of a certain Public Work, that is to say, a Bridge over Beckett's Creek, near Granville, in the said Colony, and the approaches thereto: And whereas it is estimated that the cost of completing such work will not exceed the sum of twenty thousand pounds: And whereas the land described in the said Schedule is, in my opinion, required for carrying out the said work: Now, therefore, I VICTOR ALBERT GEORGE, EARL OF JERSEY, the Governor aforesaid, with the advice of the Executive Council, in pursuance of the "Public Works Act of 1888," do hereby direct that the said work shall be carried out under the "Public Works Act of 1888," by the Minister for Public Works aforesaid, who, in respect of the said work shall be deemed to be the Constructing Authority; and in further pursuance of the said Act, I do hereby direct that the land described in the Schedule hereto shall be acquired and taken for the purpose aforesaid under the "Lands for Public Purposes Acquisition Act": And I do declare by this notification, to be published in the Government Gazette and in one or more newspapers published or circulated in the Police District wherein is situated the said land, that the said land described in the said Schedule has been resumed for the public purposes hereinbefore expressed, that is to say, the construction of a Bridge over Beckett's Creek, near Granville, in the said Colony and approaches thereto, to the intent that upon the publication of this notification in the Gazette, the said land described in

the said Schedule hereto shall forthwith be vested in the said Constructing Authority on behalf of Her Majesty for the purposes of the said Act, for an estate in fee simple in possession, freed and discharged from all trusts, obligations, estates, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever, and to the intent that the legal estate therein, together with all powers incident thereto so conferred by that Act, shall be vested in such authority as a Trustee: And I declare that the following is the Schedule of land hereinbefore referred to:—

## SCHEDULE.

All that piece or parcel of land, situate in the parish of St. John, county of Cumberland, and Colony of New South Wales, being a part of lot 10 of section 1 in the original subdivision of Sir Henry Parkes' land, containing 8 perches: Commencing at a point on the southern side of Beckett's Creek at its intersection with the Sydney Road 80 feet wide; and bounded thence on the west by that road bearing south 8 degrees 23 minutes east 107 feet 6 inches to a corner of that road; thence on the south again by that road bearing south 63 degrees 27 minutes 32 seconds east 50 feet; thence on part of the east by a line bearing north 47 degrees 8 minutes west 36 feet 9 inches; thence on the remainder of the east by a line bearing north 8 degrees 28 minutes west 107 feet 6 inches to Beckett's Creek aforesaid; thence on the north by that creek upwards 18 feet to the point of commencement; and which parcel of land is said to be in the possession of William Cock.

In witness whereof, I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this sixth day of April, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN



1891.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## PROPOSED BRIDGE OVER THE RIVER MURRAY AT TOCUMWAL.

(REPORT OF MR. STANLEY ALEXANDER.)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

## Mr. S. Alexander to The Under Secretary for Public Works.

Sydney, 31 March, 1891.

TOCUMWAL occupies a high position at the extreme north end of an extensive bend in the River Murray. The main line of road that skirts the river from its upper waters diverges from it here north-west along the Tuppal Creek to Deniliquin, 45 miles distant. Mulwala is 32 miles to the east, and Jerilderie 35 miles to the north. A travelling stock route a mile wide from Jerilderie meets the river at Tocumwal. This is a very important route, being the central of three of the principal routes for travelling stock from New South Wales into Victoria.

2. The township of Cobram is in Victoria, about 8½ miles in a direct line south-east from Tocumwal. It is situated on the south bank of the river Murray. It is the terminus of the railway line at 155 miles from Melbourne, through Mangalore up the Goulburn valley. This direction is straight for Tocumwal. The railway survey was carried to the border opposite the town of Tocumwal, but a deviation was eventually decided upon taking the line due east to Cobram. This line was opened for traffic in October, 1888. The railway terminus is over a mile from the river bank, and a resumption of land 4 chains wide has been made to a point suitable for crossing.

3. The course of the river and lagoons is shown very imperfectly on the maps of both colonies, so the exact position of the various places with relation to one another can hardly be accurately defined.

4. The site selected for the village of Barooga, on the New South Wales side of the Murray, is on water reserve No. 108—area about 1000 acres. This is a good elevated site, level and suitable in every way, on the bank of the Bullinginya lagoon. This lagoon and the bend between it and the Murray is forest reserve No. 3215, of 2560 acres, called the Barooga State Forest.

5. The Bullinginya lagoon opposite the village site has two branches. The middle one of these is the larger. They join at about opposite the boundary fence of reserve No. 108, at a quarter of a mile or so from where the track enters the lagoon. Water was seen flowing in this lagoon while the level of the river at Tocumwal was at 9 feet. According to a rough section shown by Mr. McFarland the bed of this middle arm is 22 feet 7 inches below the ground surface at a peg on the right bank at Barooga village. Mr. F. R. Mahoney, Engineer to the Yarrowonga shire, states in his evidence, that he believes that a deck level for a bridge over these lagoons of 22 feet above the bed of the middle arm will be raised above all floods, and that he has ascertained that level to be 2 feet 10 inches above the high flood mark of 1889, as shown at Cobram, and that he is designing for Mr. McFarland, a bridge, 11 chains in length, which he considers will suffice to bridge both lagoons, and be a permanent crossing under all conditions of flood.

5a. The track now in use across the lagoons and over the land intervening between them and the Cobram punt, winds considerably between the Barooga village site, where it strikes the lagoon and the north bank of the Murray. It then follows this north bank right up to the punt. Depressions in this bank, by which flood water passed over into the lagoons, have been filled in by the proprietors of the punt. The greater part of this north bank, as now levelled, is stated by Mr. McFarland to be above the level of all but such extraordinary floods as those of 1867, 1870, and 1878; but Mr. Mahoney said that he had not yet confirmed this by levelling. The general character of the surface of the land west of the track between the Bullinginya lagoon and the river is tolerably level, though intersected by shallow water-courses formed by the overflow from the Murray, and gradually falling away in level from the river bank over which the track passes. Mr. McFarland gives the measured distance from the north bank of the Murray at the punt to the point on the bank of the lagoon where the fence of reserve No. 108 meets the lagoon at 40 chains, and from the same point on the Murray to the point on the bank of the lagoon at which he would commence his bridge at a little over 60 chains. The distance along the track was measured to be 64 chains.

6. A Mr. Hulbard proposed at one time to place a punt on the Murray nearer to Cobram, at the head of a long straight reach of the river, but he could not obtain the necessary authority. The banks here are very high and well defined, and quite out of reach of any floods, but the access to this punt from the New South Wales side could only have been along the right bank of the river past the existing punt site, and along the existing track to Barooga village. The Barooga private property adjoins west of reserve No. 108. Over this there is no right of way, even if a practicable track across the lagoons could be formed.

7. The Murray River, opposite Cobram, is confined to well defined banks. It spreads out over the Bullinginya lagoon and the intervening land only, but does not overflow those limits. Some miles down the river on the Victorian side an overflow takes place, forming the Koonoomoo lagoon, and farther west again a number of extensive overflows from the Sheep-wash Creek. Still farther on the Dairy Creek flows out of a lagoon and the three or more heads of the Sapling Creek and the Jump-up Creek also leave the river. The water from these over-flows covers nearly the whole of the country west of Cobram and north of the railway line, and to some extent to the south of the line also. The railway embankment has been raised above all flood level, but the openings left in it have not been sufficient to allow of the flood water passing across freely, though the embankment does not appear to have been breached anywhere. The flood was all over the Yarroweyah township, and surrounded the principal buildings. Some of the low parts of Cobram township were also invaded.

8. On the New South Wales side the flood passes out of the river limits at about a mile and a half west of the Barooga homestead, near the irrigation works, and passes over a considerable extent of country generally as a shallow overflow, around Tocumwal. The general effect of this extensive flooding on the New South Wales, and more especially on the Victorian lands is, however, insignificant, being no more, in fact, than would be caused temporarily by excessively prolonged rainfall.

9. There is, it seems from this, an extensive dispersment of flood waters, to the relief of the main channel of the river, taking effect some distance below Cobram, and the inference is that the rise of floods must be greater within the confined limits of the channel opposite Cobram, or the velocity of discharge must be considerably higher than at Tocumwal.

10. The highest recorded flood at Tocumwal was registered at 17 feet 9½ inches on the gauge on September 16th, 1889. The heights of all preceding floods are known only by tradition, as a gauge had not been fixed when they occurred, but they are said to have been a few inches higher only. The record shows that this flood, 1889, endured for some time, as the water remained over 16 feet on the gauge from September 3rd to 30th, and above 17 feet from the 4th to the 25th.

11. It has been stated that the Sheep-wash and Sapling Creeks commence to flow only when the water in the river has risen to 15 feet 3 inches on the gauge at Tocumwal, but even so the condition of things during September 1889 and November 1890 would seem to show that considerable areas of the country on the south side of the river were under water for the greater part of the month.

12. During the high floods the whole of the south bank of the Murray opposite Tocumwal is submerged. The Sapling and Jump-up Creeks, which intersect the land enclosed by the river, result from several overflows over the river bank that take place within the first mile and a-half measured in a straight line immediately above Tocumwal, a considerable extent of the river bank between these overflows is said to have been out of water during the flood of 1889. The Bouchier's property boundary has been laid out taking the contour line of the southern edge of the flood water so formed, but the Zig-Zag form of this boundary is also said to have been adopted to exclude all red-gum timber growth. South of this boundary Mr. R. Bouchier says that 500 acres of land are quite above all flood level. They have been in occupation of this land since before the flood of 1878, so he can speak with authority on the matter.

13. A narrow winding ribbon of water called Dairy Creek traverses the Bouchier's land from east to west communicating just on the Geodetic line, the boundary road between the parishes Yarrowonga and Strathmerton, and of the shires Yarrowonga and Numurkah, with a wide "depression" shown on the maps. This "depression" is one of the serious obstacles to traffic during times of flood. It communicates within a mile and a-half of the Geodetic line with the Ulupna Creek, near the point at which this creek is joined by the Sapling Creek. The Dairy Creek takes its rise in an overflow from a lagoon on the Murray. It is there dammed and provided with a rough gate by the Bouchier's in order to retain the water in the creek.

14. The Sheep-wash Creek is formed by the confluence of numerous overflows from the Murray, not shown on the map, as the whole of a very large blank area therein is forest reserve. Somewhere about the Geodetic line the Creek bed becomes well defined. It also flows into the Ulupna Creek. A considerable extent of land on both sides of the Sheep-wash Creek is low, and swept by floods.

15. Commencing from the Tocumwal punt the road to Strathmerton now in use crosses the Sapling Creek below the confluence of the several overflows by which it is formed. The creek is here as a wide hollow only. The track then passes west along Bouchier's boundary as far as the Geodetic line of road. This road is then followed southwards across the "depression" and then crosses a piece of land which is known to be above the level of all floods, and enters upon the waters of Sheep-wash Creek. This Creek was securely bridged above flood level some years ago by the Numurkah Shire Council. The road passes through about a quarter of a mile of flood, approaching it from the north, and fully a mile on the south of the Creek. The greater part of this flood will be found to be shallow, but there are numerous hollows in which the current will be flowing, as the surface of the ground is evidently falling westwards. The evidence of current is also shown by the deposits of timber all over this open ground which have every sign of having been drifted there. The north boundary of Mr. Copes' land is out of all flood, and from this point to Strathmerton (a distance of 5 miles) the road is formed and safe at all times. Some flood waters pass across it in places, but these have been provided for, and the country all along is generally high. The whole of it is in occupation and much of it cultivated.

16. This is in fact correct of all land on the Victorian side of the Murray, in this neighbourhood. Every part of it, excepting only a few leaseholds and the forest reserves of red-gum timber, has been taken up in small holdings, on which non-residents are in a minority. Some portions of this country being within the reach of the lower floods are not fit for cultivation, not only because of their frequent submergence, but from the character of the soil; but such areas bear but a small portion of the whole tract outside of the reserves which is within the reach of very high floods. Over such level land a few inches of rise of flood covers a very large area with water.

17. The track from Tocumwal to Yarroweyah and Cobram follows the route described above to the Bouchier's boundary, crossing this land by a formed road, shown on the map, and entering on the open forest reserve. The numerous water courses forming the heads of the Sheep-wash Creek here cover a large area with flood water annually, and form an obstacle to road making, which will probably not be overcome for a very long time, but outside the limits of the reserves the shallow water encountered presents no difficulty.

18. The surveyed line of railway from Strathmerton to the river opposite Tocumwal is shown approximately on the map. The real difficulties on the route are the crossing of the Sheepwash Creek and its overflows, and on the length between the Bouchier's high land and the river. The floodwater crossed between Strathmerton, and the Sheep-wash creek water is comparatively unimportant shallow overflow. According to the information available, the cost of constructing this length of 9 miles was estimated by the Victorian department at £60,000. In the face of the fact that the line has already been built to Cobram, and that this length will probably be reported on the Victorian Public Works Committee, an opinion as to the sufficiency of that sum is not called for in this report, but as the construction of this length seems to have been taken to have an important bearing on the bridge question, the following assumptions as to the reasons that may have led to the deviation of the line to Cobram may be ventured.

19. Of the whole of the 9 miles, the line would cross fully 3 miles of water between Strath-Merton and the Bouchier's high land and 1½ miles from that land to the river. Though, as shown, this would not necessarily be very expensive to construct, yet the excision of such a large tract of country leaves but a small hope that the remainder may be productive of sufficient revenue. This of itself would be enough to stop the construction of the line at Strathmerton, pending a decision as to the point at which the river is to be crossed, but for continuing the line to another point on the border, another sufficient reason may be found in the fact of there being but a small area of dry land available, viz., on the Bouchier's property, for a terminal township. This site is isolated by floods, and would entail great expense, in the long run, in making and maintaining approaches from the adjoining country.

20. For the present inquiry the question of the practicability of the roads from Tocumwal to the existing railway is of more importance than that of the cost of the railway branch, since a decision on the lines within Riverina has yet to be formed. On this matter, inspection of the country and the facts elicited in evidence show that floods in the Murray, caused by melting of snow on the mountains, raise the surface to a height sufficient to fill the overflow channels, and maintain them in a flowing condition annually. That the addition of a heavy rainfall or abnormally warm weather raising the surface a few more inches very materially adds to the strength and volume of the overflowing water, and inundates extensive tracts of country. Four occurrences of the maximum floods have been known, viz., during 1867, 1870, 1878, and 1889; but minor floods, rising to within a few inches of these, have been very frequent, sometimes being caused by rainfall only. The condition of things on the road during the periodical floods is that the passage of sheep from Tocumwal over 3½ miles of it is impossible, and traffic of any sort at such times is difficult; that during the continuance of many of the minor floods, which are of almost annual or bi-annual occurrence, the regular road is impassable, the track followed being on sufferance across Mr. Bouchier's land; and that, during the occasional extraordinary floods, all traffic is stopped.

21. It appears that the remedy for this state of things is in the hands of the Shire councils. Of the road to Strathmerton, about 1½ miles is in the Yarrawonga Shire, and the rest in the Numurkah Shire. The whole of the road to Yarroweyah and Cobram is in the Yarrawonga Shire. A redistribution of the ridings in the Numurkah Shire is being agitated, in order to bring about better representation in the Council of the interests of the northern part of the Shire, the construction of this road to Tocumwal being one of the objects to be attained; but, as some part of it is in the Yarrawonga Shire\*, it seems that considerable difficulties lie in the way of the whole work being carried out. It may be added that a road from Tocumwal to Strathmerton can be made at no great cost, so as to be *passable* in all conditions of flood, but to make one high and dry above flood-level could only be done at a cost beyond the resources of the Shire.

22. The township of Tocumwal has been in existence for a very long time, the punt having been at work since the year 1862. The stock route to this place has also been in use from an early date. Eastward up the river the next crossing-place is at Mulwala, 32 miles distant, where a bridge is being built. East of this again is Corrowa, 24 miles distant. Westwards of Tocumwal the Tuppal Creek and the broken ground south of it cuts off all access to the river as far as Moama. The only route into Victoria is *via* Deniliquin. This place is 45 miles from Tocumwal. The population of Tocumwal is given at 357, the number of dwellings being 56. It has grown up alongside the only crossing-place on the river available for a large extent of country, and has become the centre of trade. This country would by now have become overspread with farms and populous had the land been available. The pastoral properties surrounding Tocumwal are Belubla on the west, the Murray run, and the Barooga on the east. North-eastward there is a large property, Tuppal, of 159,295 acres of freehold land, which is shortly to be sold in five blocks, ranging from 8,040 to 53,337 acres in each. There is a considerable area of Crown land on this property,† but the sum total in the whole district is but a small proportion. Development must be looked to from subdivision of properties, and all experience goes to show that expansion of an agricultural community depending on such conditions is not a rapid process.

The operations at the port of Tocumwal are given in the following figures:—

	1888.	1889.	1890.
Cattle ... ..	1,276	1,189	1,312
Horses ... ..	36	11	34
Sheep ... ..	194,908	32,213	72,609
Wool (bales) ... ..	2,686	3,754	3,974
Duty collected ... ..	£1,756	£2,009	£1,778
Value, imports ... ..	£20,602	£29,601	£22,380
„ exports ... ..	£106,371	£89,939	£83,494

This return includes shipments made some miles down the river at the Belubla wool-shed, amounting to about 1,800 bales. During 1889, about 3,600 bales, and during 1890, 3,472 bales were shipped to Echuca; so the quantity carried to the railway through Tocumwal is but a small proportion of the whole. The very large number of sheep that were crossed over in 1888 was owing to the dry season during which stock were sent over to grass in Victoria.

23. The trade of the place is carried on in communication with the railway stations at Yarroweyah and Strathmerton, and with Echuca by the river. There is no constant service, but during the wool season, and for timber, steamers traverse the river and are freely used whenever available, and they carry by far, the greater portion of the wool dispatched. The difficulties on the road to the railway at Strathmerton during the wool season are the obstacles to the free use of the rail, though Melbourne is 10 miles nearer to

\* See Appendix K.

† This property was offered for sale in Melbourne on March 19, but no sales were effected.

to Strathmerton than Echuca, and the steamer carriage 20s. per ton, and the insurance 7s. 6d. to 10s. per hundred pounds are additional to the rail charges from Echuca. As an instance, the Tuppal wool, 2,500 bales, has been regularly taken 30 miles to Deniliquin, which is 201 miles from Melbourne, at a cost of about 1s. per ton per mile for road carriage, whereas, Tocumwal is distant 15 miles and Strathmerton 25½ miles from the shed, and 145 miles from Melbourne. Were the roads of even quality, the cost by the several routes should be approximately as follows:—

From Tuppal <i>via</i> Deniliquin ... ..	75s. per ton.
"    " <i>via</i> Strathmerton ... ..	60s.    "
"    "    Tocumwal and Echuca ... ..	65s.    "

Wool taken from Echuca enjoys special rates not granted at Cobram or Strathmerton. It will be noticed in the evidence that the difficulty of crossing by the punt is given as the reason for adopting the expensive route.

24. Importations into Tocumwal for consumption in the town and district (irrespective of what may be brought in by the settlers themselves) amount to about 150 tons per annum from the railway, and about 80 tons per annum by the river. The latter tonnage consists chiefly of flour, bran, and pollard, the return of wheat sold in bond to Echuca millers from Tocumwal and Moana.

25. The crossing place over the river at Barooga is 8 miles up the river from Tocumwal. This has been chosen as the village site, as being opposite Cobram, not for accommodation of neighbouring settlement, for of this there is none for 15 miles back from the river, nor for many miles along the road either way, excepting the run homesteads. The township of Berrigan, around which settlement has taken place, is 19 miles distant. The land lately sold at Barooga is 15 miles due north from the site, and the block, which is next to be offered, adjoins it, extending back along the Berrigan road for about 15 miles\*. As the place has no history, and there are no statistics of settlement or production, excepting those of the runs, the interests to be served by adoption of this as a crossing place must be sought for outside of the immediate neighbourhood.

26. The township of Cobram owes its origin to the site having been made the terminus of the railway, so it dates from about 1888 only. It has, however, within this space of time become considerable. The return gives the number of dwellings at 147. The population taken at the usual average would be 735, or say under 800. The whole country surrounding it is taken up in farm holdings. There are two trains daily to and from Melbourne carrying a good traffic, though perhaps not as yet enough to justify such a service. The town is well laid out, and for the most part solidly built. Its rapid rise is attributable perhaps to speculation on its advantageous position on the border, rather than to the commercial importance of the surrounding country, which is exceptionally well served by railway lines, but it is nevertheless a fact, and its future may be safely predicted. Postal communication has not, as yet, been opened across the border from Cobram. The centres of trade in these districts are, Yarrowonga, 22 miles distant up the river, and Numurkah, 22 miles on the railway line towards Melbourne. Echuca is 52 miles away in a direct line. The terminus of a branch line at Katamatite is 12 miles due south from Cobram.

27. As to the practicability and probable cost of bridging the Murray River between Cobram and Barooga there is no information other than that collected by Mr. M'Farland for his own guidance, which, however, he has made no secret of. Over and above the cost of the bridge proper, there is a tract of land from 40 to 60 chains in extent to be overcome in some way. The site spanned by the lesser of these must certainly be bridged throughout, but on the line proposed by Mr. M'Farland a proper instrumental survey may lead to adoption of his suggestion—viz., to bridge the lagoons only at a cost of about £3,000 or £4,000 and to embank the rest. These schemes differ so greatly in cost as to justify the expense of an investigation and also, in case of a bridge over the whole being decided upon, that of an examination of a site lower down crossing the river at the head of a long straight reach where the banks are high and well defined. The whole cost of this approach to the main bridge over the Murray must be borne by New South Wales.

28. The punt at Cobram is the property of a company. It is worked under an annual license granted by Victoria, and a Customs license by both colonies. There is a regulation scale of charges which, however, is not fully exacted. These punts are very profitable concerns. At Tocumwal the annual takings have amounted to from £500 to £700. The average of the last three years gives 96,577 sheep as having crossed there at 25s. per thousand. This traffic alone realised over £120 yearly. The whole of the profits belong to the proprietor. The traffic will certainly keep pace with expansion on both sides of the river and improvements in the communications. At Cobram, however, the punt may be said to have worked for a few months only, as the lagoons were impassable during half of last year. The operations for 1890 were as follows:—

Exports, total value ... ..	£1,020
Imports " " ... ..	3,007
Duty Collected ... ..	335

A small portion of this traffic was for Berrigan, and the rest for the Barooga station. As pointed out by Mr. M'Farland these figures give no test of the importance of this crossing place. His own wool could not be passed over last season, and traffic will not be brought from a distance to an uncertain crossing.

29. The statistics supplied by Tocumwal and Berrigan in support of their railway proposals give the whole of the settlement that has taken place in this part of Riverina. Dividing them as best possible, it is found that on the west side of the stock route from Jerilderie to Tocumwal there are forty-one farms aggregating 57,993 acres. Here also are four of the sub-divisions of the Tuppal estate comprising severally 8,040, 48,090, 34,352, and 53,337 acres, some part of which may possibly, now that the property has been broken up as a whole, become settled. In addition there are on this side of the stock route about 20,000 acres of Crown lands of all kinds, a large part of which will be available for settlement. The areas of many of the holdings are large, the average of the whole being 1,407 acres, so a further sub-division of the large ones may be anticipated. The Belubla run of 23,000 acres, but all purchased land, fronts on the river below Tocumwal. The land on this property is generally of an inferior quality, but north of this the whole extent of country is good agricultural land for 10 or 15 miles west of the stock route where the "plains" commence. The distance from Tocumwal to Strathmerton is 11 miles, and to Cobram over the proposed crossing *via* Barooga would be 13½ miles. 30.

\* See appendix M for details of reserves.

30. East of the stock route, extending about half way to Berrigan and from the extreme north, within 7 or 8 miles of Jerilderie, down to Tocumwal, the number of holdings is 33 aggregating 38,226 acres. One of the subdivisions of the Tuppal estate comprising 15,475 acres lies surrounding Murray Hut. This is Booraboonilly, referred to in the evidence as being one that will probably be settled by farmers. The Crown lands available are unimportant in extent. The Murray run lies immediately around Tocumwal. (The sale of the Tuppal estate is reported to have been a failure. For the Booraboonilly portion £2 12s. 6d. per acre was the highest bid. The whole property was withdrawn from sale.)

31. These two divisions of the country, extending along both sides of the stock route from Jerilderie comprise the whole area to which Tocumwal is the centre of the trade. The aggregate of existing settlement is 74 farms covering 96,219 acres, and carrying a population, including that of Tocumwal, of about 1,000 persons. Great extension of settlement may be anticipated within a few years on the large tracts of land now being brought into the market and an increase in population from further subdivision of the farm holdings. The whole of this area has hitherto drawn their supplies from Tocumwal and for all communications to or from Victoria the route will ever be *via* Tocumwal to the great majority of settlers in these districts.

32. The statistics supplied by Berrigan cover the country from half way to Murray Hut 6 miles to the East, northwards 6 or 7 miles towards the Billabong and eastwards 14 or 15 miles to Savernake, and for 5 or 6 miles southward. From this point to the Murray there is no settlement on the direct line to Cobram. The statistics comprise 51 farms aggregating 77,316 acres occupied by a population of 448 persons including those in the township of Berrigan. This place, however, is but newly established and is, without connections or communications, practically isolated. A portion of the acreage given lies so far to the east as hardly to be included as having any interest in the location of the bridge under enquiry, as the crossing at Mulwala is already open to them, but the district as a whole is very important, and its future progress is dependent upon the communications to it.

33. It occupies a high back-bone of country dividing the Bilbalong waters from those of the Murray, extending from Bull Plain through Savernake, Berrigan and Murray Hut, and north of Tuppal, merging into the "Plains land." A portion only of this extent of country is covered by the Berrigan statistics, given above. This tract, comprising a considerable part of the acreage included in the Tocumwal statistics, represents the best stretch of good land in this part of Riverina and the large areas that are now proposed to be brought into the market. From the Berrigan district the outlet for produce is through Jerilderie and the road for supplies through Corrowa and Jerilderie, but the bridge being built at Mulwala will open another route from Victoria.

34. All the available land has been taken up by farmers to whom now communications are of the utmost importance. The distances from Berrigan are:—

To Jerilderie ... ..	25 miles
„ Mulwala ... ..	28 „
„ Yarrawonga ... ..	30 „
„ Corrowa ... ..	60 „
„ Barooga ... ..	19 „
„ Cobram ... ..	21 „
„ Tocumwal ... ..	20 to 25 „

(The doubt as to this last distance seems insoluble, there being no regular road. The direct distance is only 17 miles). The plan attached shows the positions of the district described with relation to the proposed crossing places over the River Murray and the railways in Victoria. The land soon to be brought into the market is also approximately shown.

35. A review of the whole of these particulars shows that a bridge spanning the river between Barooga and Cobram will not be inconvenient to the settlement along the stock route between Jerilderie and Tocumwal, since the extra distance to be travelled thence to a railway is but 2½ miles, and the road is, and probably ever will be, greatly superior to the road to Strathmerton; and, in comparing the positions of the two sites with relation to the neighbouring country in Riverina, that the Barooga-Cobram site serves a larger extent of country. Taking Murray Hut and Berrigan, 13 miles apart, as about the centres of the important routes and of the settlement, the distances to the accessible points on the Victorian railway are:—

From Murray Hut to Strathmerton ... ..	25 miles.
„ „ „ Cobram ... ..	27½ „
„ Berrigan to Strathmerton ... ..	31 to 36 „
„ „ „ Cobram ... ..	21 „

Since Yarrawonga *via* Mulwala is but 30 miles from Berrigan, an access to Strathmerton, which is from 31 to 36 miles away, can be of no service to the Berrigan district.

36. Nothing less than the construction of the branch line from Strathmerton to the border opposite Tocumwal can give that place a commanding position. From the Victorian point of view the construction of this branch cannot be recommended on any grounds, except, on an understanding between the Governments of both colonies that a junction of railways shall be made at the border at Tocumwal. It is very improbable that Victoria will consent to an arrangement involving expenditure of a large sum of money upon a length of line that of itself can bring no additional revenue and will be in addition to expenditure already incurred in reaching the border. The interests involved in the town of Cobram, which have been created by the railway, will be inflexibly opposed to the branch to Tocumwal.

37. The enquiry into the subject of railways for development of Riverina, now reported on, has led to recommendation of a trunk line traversing this part of the country parallel with the border and does not include branches to the border being undertaken in the near future. Adoption of this principle will delay for many years consideration of the question as to whether the branch line from Strathmerton shall be built or not, but in the mean time the necessities of the traffic across the river will be increasing in urgency.

38. Intimacy with the subject convinces me that the interests at stake on the adoption of Tocumwal as the site for the bridge, as also for the connecting point for the railway systems, are those of the property holders and business people of Numurkah and Tocumwal, and not of the agricultural population.

population and users of the road. The interests at stake in Tocumwal are vastly more dependent upon the railway being taken that way than upon the road bridge being built there, for even if it is built at Cobram, Tocumwal will not cease to be on the route for all the country to the north and west and the centre of its trade.

39. The present size and importance of Tocumwal are quite inconsiderable in view of the future of the country in one corner of which it is situated. There is room for many towns, and another town at Barooga will not necessarily mean ruin to Tocumwal, but the interests of the districts should not be subordinated to the claims of Tocumwal to being made the headquarters of trade.

40. On the Victorian side the towns of Yarrowonga, Cobram and Numurkah, aggregating 3,500 to 4,000 inhabitants are but 22 miles apart, and in the country between them there are in addition four other townships, viz.:—Katunga, Katamatite, Strathmerton and Yarroweyah. A township has been laid out at Barooga, and a punt has been authorised and is at work connecting with Cobram; if these preliminaries are followed up by sale of the township lands, the first steps will have been taken in creation of interests on this site which will rapidly grow in power, whether the river be bridged here or not.

STANLEY ALEXANDER.

[2 Plans.]

[Is. 6d.]

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Sydney: George Stephen Chapman, Acting Government Printer.—1891.

# SITE OF NEW VILLAGE OF BOROOGA AND PROPOSED BRIDGE

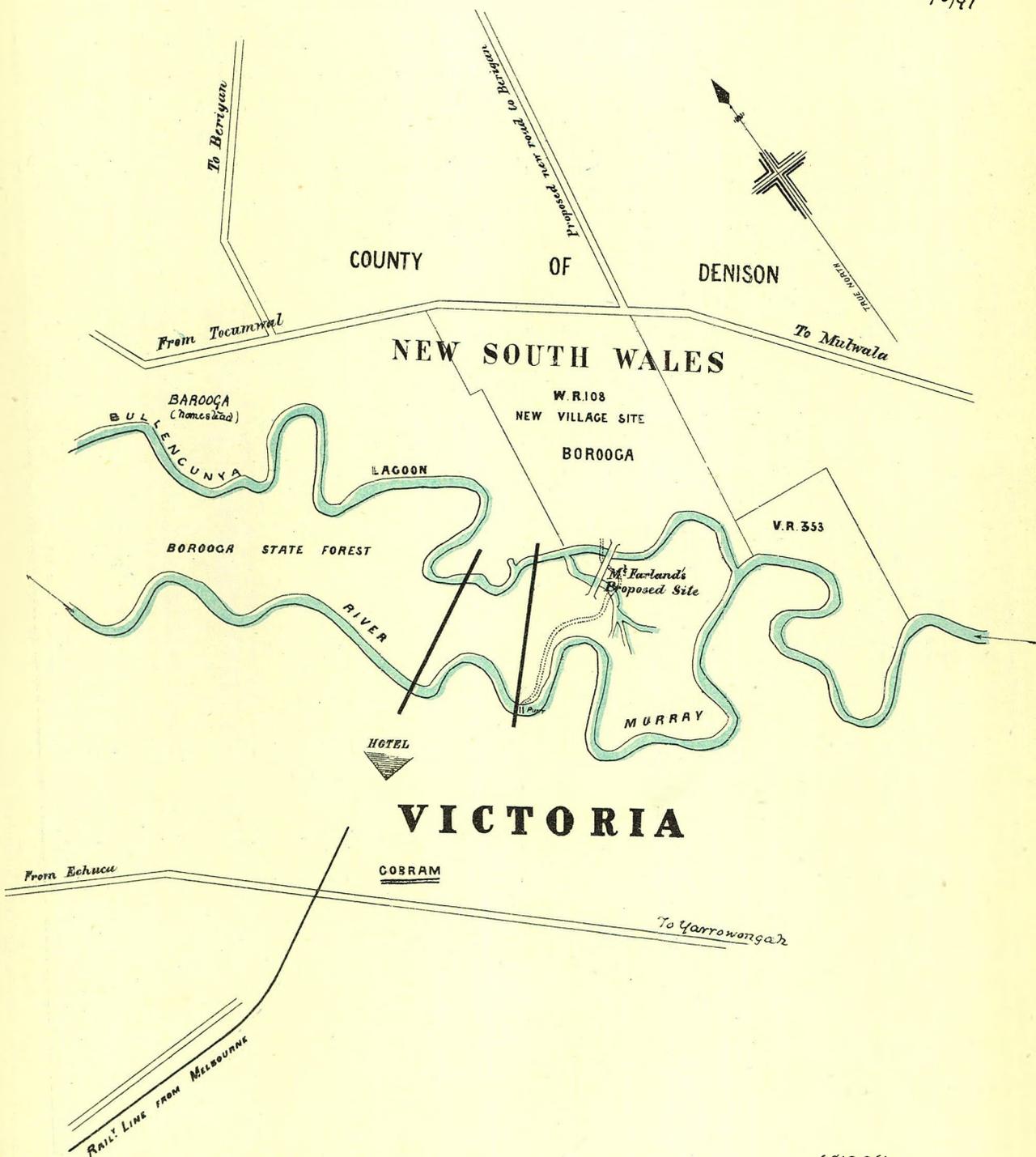
Scale

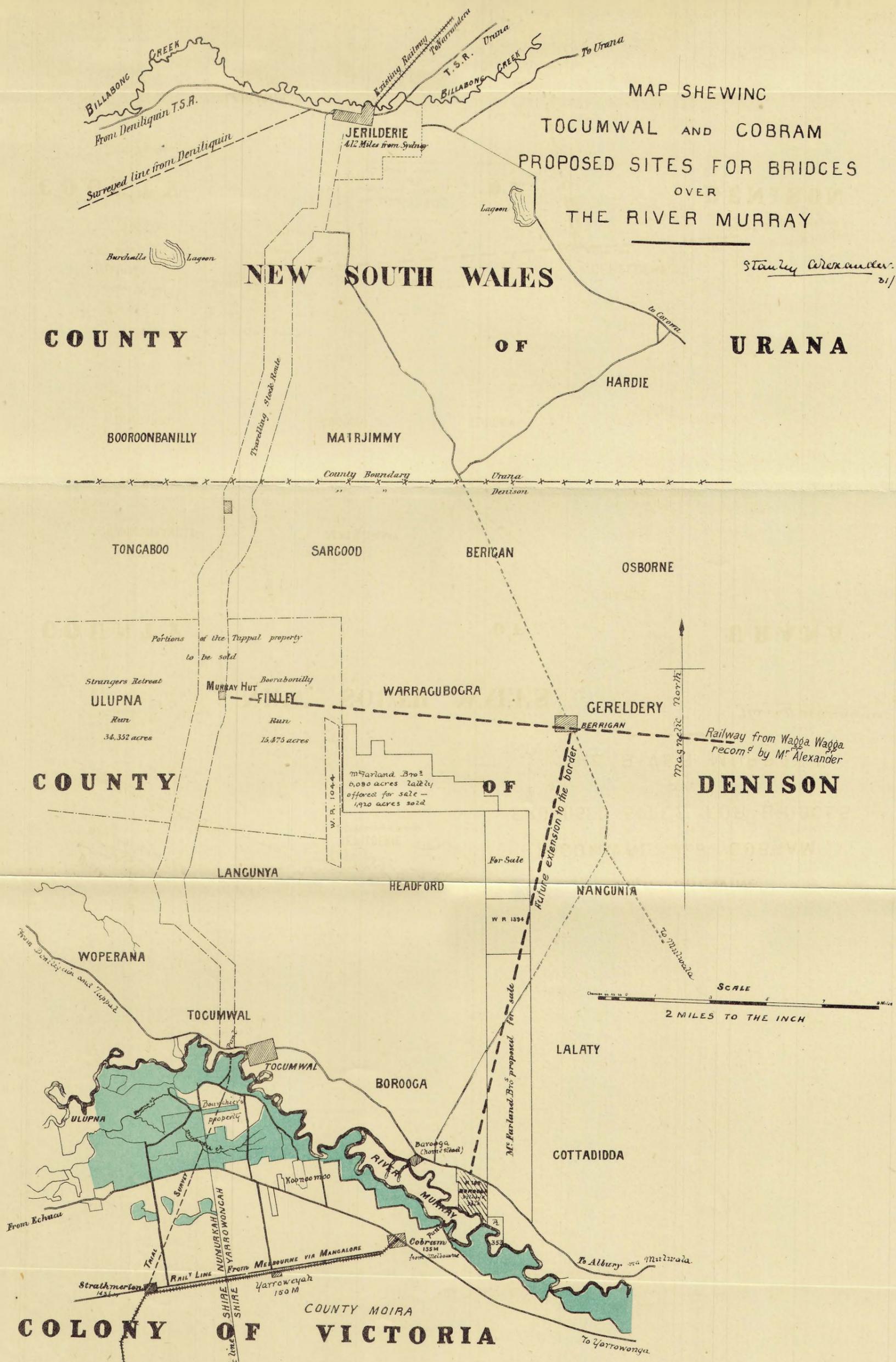


2 INCHES TO THE MILE

Bridge Sites marked thus   
should be thoroughly examined  
S.H.A.

*Stanley Alexander, M.I.C.E.*  
3/3/91





MAP SHEWING  
 TOCUMWAL AND COBRAM  
 PROPOSED SITES FOR BRIDGES  
 OVER  
 THE RIVER MURRAY

Stanley Alexander, M. J. C. E.  
 21/2/91

(31 of 86)

Note - The area colored blue is approximately the forest reserves and leased lands subject to inundation from the Murray River floods.

1891.

## NEW SOUTH WALES.

## LANDS FOR PUBLIC PURPOSES ACQUISITION ACT.

(RESUMPTION OF LAND IN CONNECTION WITH THE ESTABLISHMENT AND CONSTRUCTION OF A PUBLIC CEMETERY AT BOWRAL, PARISH OF MITTAGONG, COUNTY OF CAMDEN.)

Presented to Parliament, pursuant to Act 44 Vic. No. 16, sec. 6.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
44 VICTORIA No. 16.

NEW SOUTH WALES, } By His Excellency The Right Honour-  
to wit. } able VICTOR ALBERT GEORGE, EARL OF  
(L.S.) } JERSEY, a Member of Her Majesty's  
Most Honourable Privy Council, Knight  
Grand Cross of the Most Distinguished  
Order of Saint Michael and Saint  
George, Governor and Commander-  
in-Chief of the Colony of New South  
Wales and its Dependencies.

WHEREAS I, the Governor of the said Colony, with the advice of the Executive Council of the said Colony, have duly sanctioned the carrying out of certain works for and in connection with the establishment and construction of a General Cemetery at Bowral, for and towards the completion of which said works public funds are available; and whereas the land hereinafter described is required for the construction of the said works: Now I, the Governor aforesaid, with the advice of the Executive Council of the said Colony, in pursuance of the powers in this behalf given to or vested in me by the "Lands for Public Purposes Acquisition Act," do by this notification, published in the Gazette, and in a newspaper, that is to say, in the "Bowral Free Press," circulated in the Police District wherein the said land is situated, declare that the land hereinafter described has been resumed for the public purpose hereinafter mentioned, that is to say, for and in connection with the establishment and construction of a General Cemetery at Bowral, to the intent that, upon the publication of this notification in the Gazette, the legal estate in the said land shall forthwith be vested in the Minister for Public Works and his successors, on behalf of Her Majesty, for the purpose of the said last-mentioned Act, for an estate of inheritance in fee simple in possession, freed and dis-

charged from all trusts, obligations, estates, interest, contracts charges, rates, rights-of-way, or other easements whatsoever; and to the intent, further, that the legal estate therein, together with all powers incident thereto or conferred by the said Act, shall be vested in the said Minister as a trustee with the powers stated in the said last-mentioned Act. And I declare that the following is the description of the land hereinbefore referred to, that is to say:—

All that piece or parcel of land situate at Bowral, parish of Mittagong, county of Camden, and Colony of New South Wales: Commencing at a point bearing north 47 degrees 4 minutes west and distant 7 chains 93 links from the intersection of the south western side of the road from Bowral to Kangaloon with the northern side of the road from Burradoo to Kangaloon, said intersection being a point on the south boundary line of J. N. Oxley and H. M. Oxley's grant of 4,200 acres; and bounded thence on the south by a line bearing west 14 chains 50 links; on the west by a line bearing north 8 chains 46 links; on the north by a line bearing east 9 chains 16 links to the south-western side of the road from Bowral to Kangaloon first mentioned; and thence by part of that side of that road, being a line bearing south 32 degrees 16 minutes east 10 chains, to the point of commencement,—containing 10 acres, and said to be in the possession of Edward Carter.

In witness whereof I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this twentieth day of February, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,  
BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

## NEW SOUTH WALES.

## LANDS FOR PUBLIC PURPOSES ACQUISITION ACT.

(RESUMPTION OF LAND IN CONNECTION WITH THE ESTABLISHMENT AND CONSTRUCTION OF A PUBLIC CEMETERY AT TERALBA, PARISH OF TERALBA, COUNTY OF NORTHUMBERLAND.)

Presented to Parliament, pursuant to Act 44 Vic. No. 16, sec. 6.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
44 VICTORIA No. 16.

NEW SOUTH WALES, } By His Excellency The Right Honour-  
to wit. } able VICTOR ALBERT GEORGE, EARL OF  
JERSEY, a Member of Her Majesty's  
(L.S.) Most Honourable Privy Council, Knight  
Grand Cross of the Most Distinguished  
JERSEY, Order of Saint Michael and Saint  
Governor. George, Governor and Commander-in-  
Chief of the Colony of New South  
Wales and its Dependencies.

WHEREAS I, the Governor of the said Colony, with the advice of the Executive Council of the said Colony, have duly sanctioned the carrying out of certain works for and in connection with the establishment and construction of a General Cemetery at Teralba, for and towards the completion of which said works public funds are available; and whereas the land hereinafter described is required for the construction of the said works: Now I, the Governor aforesaid, with the advice of the Executive Council of the said Colony, in pursuance of the powers in this behalf given to or vested in me by the "Lands for Public Purposes Acquisition Act," do, by this notification published in the Gazette, and in a newspaper, that is to say, in the "Newcastle Morning Herald," circulated in the Police District wherein the said land is situated, declare that the land hereinafter described has been resumed for the public purpose hereinafter mentioned, that is to say, for and in connection with the establishment and construction of a General Cemetery at Teralba, to the intent that upon the publication of this notification in the Gazette, the legal estate in the said land shall forthwith be vested in the Minister for Public Works and his successors, on behalf of Her Majesty, for the purpose of the said last-mentioned Act, for an estate of inheritance in fee-simple in possession, freed and discharged from all trusts, obligations, estates, interest, contracts, charges, rates, rights-of-way, or other easements whatsoever, and to the intent further that the legal estate therein, together with all powers incident thereto or conferred by the said Act, shall be vested in the said

Minister as a trustee, with the powers stated in the said last-mentioned Act: And I declare that the following is the description of the land hereinbefore referred to, that is to say:—

All that piece or parcel of land situate in the parish of Teralba, county of Northumberland, and Colony of New South Wales, containing 20 acres and 3½ perches: Commencing on the eastern boundary of portion 13, A. L. Donaldson's 305 acres, at a point bearing south 14 minutes east and 1 chain distant from its north-east corner; and bounded thence on the west by part of the eastern boundary of that portion bearing south 14 minutes east 14 chains 15 links; thence on the south by a line bearing north 89 degrees 46 minutes east 14 chains 15 links; thence on the east by a line bearing north 14 minutes west 14 chains 15 links; and thence on the north by a line bearing south 89 degrees 46 minutes west 14 chains 15 links, to the point of commencement, and said to be in the possession of John Black.

NOTE.—The description in the above notification is in correction of that in the notification published in the Government Gazette No. 714, of the 12th December, 1890. The corrections are as follows:—The 5th line, as it appeared in the Gazette above referred to, read "bearing south 14 degrees east and 1 chain distant from its north," but instead of which now reads "bearing south 14 minutes east and 1 chain distant from its north." Also, the 7th line, as it appeared in the Gazette above referred to, read "eastern boundary of that portion bearing south 14 degrees east," but instead of which now reads "eastern boundary of that portion bearing south 14 minutes east." ¶

In witness whereof, I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this fourth day of March, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,  
BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

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LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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**EARLY CLOSING OF SHOPS.**  
(PETITION FROM CERTAIN HOUSEHOLDERS AND OTHERS.)

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*Received by the Legislative Assembly, 27 May, 1891.*

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To the Honorable the Speaker and the Honorable the Members of the Legislative Assembly of New South Wales, in Parliament assembled.

The Petition of the undersigned Householders and others,—

HUMBLY SHOWETH :—

That your Petitioners, believing that the closing of drapers, grocers, mercers, butchers, and other shops, should be regulated by Act of Parliament, which would supply a public want without detriment to the public welfare, humbly pray for the passing into law of a measure to give effect thereto.

And your Petitioners, as in duty bound, will ever pray.

[*Here follow 2,600 signatures.*]

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A similar Petition was received on 27th May, 1891, from certain shop employees ; 1,300 signatures.

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1891.

## NEW SOUTH WALES.

**IMMIGRATION.**

(REPORT FROM AGENT FOR.)

Presented to Parliament by Command.

The Agent for Immigration to The Principal Under Secretary.

Sir,

Immigration Office, Sydney, 25 February, 1891.

I have the honor to submit, for the information of the Colonial Secretary, my Report on Immigration for the year ending 31st December, 1890.

Operations under the Regulations have been confined to the nominations of wives and their children by husbands, being residents in the Colony, who have obtained certificates of good character from either a clergyman or a Magistrate.

Of the total of 376 immigrants who arrived during the year all were nominated in the Colony; none were selected by the Agent-General.

They consisted of 187 individuals above 12 years of age, and of 189 under 12 years of age.

No births nor deaths occurred during the voyage.

The appendices herewith annexed give full detailed information relative to immigration during the past year:—

- A.—General Statistical Information.
- B.—Nationality of Immigrants.
- C.—Educational Attainments.
- D.—Religious Persuasions.
- E.—Distribution into Country Districts.

I have, &amp;c.,

GEORGE F. WISE,

Agent for Immigration.

APPENDIX A.  
RETURN of Assisted Immigration to New South Wales, 1890.

Name of Vessel.	Date of Departure	Date of Arrival.	Number of days on voyage.	Number landed.				Nominated in the Colony.	Selected by the Agent-General.	Total number of individuals landed.	Equal to statute adults.	Contract price per statute adult.	Amount paid by Immigrants on account of cost of their passages.	
				Above 12 years.		Under 12 years.							Amount paid in the Colony.	Amount paid in London to the Agent-General.
				M.	F.	M.	F.							
	1889.	1890.										£ s. d.	£ s. d.	
S.S. "Oroya" .....	13 December	21 January ..	39	11	22	18	10	61	.....	61	47	} £15 per statute adult.	164 0 0	.....
„ "Ormuz" .....	1890. 24 January ...	3 March .....	37	10	19	18	11	58	.....	58	43		139 0 0	2 0 0
„ "Cuzco" .....	1 March .....	14 April .....	44	7	20	16	14	57	.....	57	41½		96 0 0	2 0 0
„ "Oroya" .....	12 April .....	26 May .....	44	2	13	16	5	36	.....	36	25½		63 0 0	.....
„ "Ormuz" .....	24 May .....	7 July .....	44	6	12	8	11	37	.....	37	27		65 0 0	5 0 0
„ "Oruba" .....	6 July .....	15 August .....	40	2	12	10	6	30	.....	30	22		61 0 0	2 0 0
„ "Orizaba" .....	30 August ...	14 October ..	44	8	8	9	3	28	.....	28	22		62 0 0	2 0 0
„ "Ormuz" .....	28 September	11 November	44	4	18	6	16	44	.....	44	32		115 0 0	13 0 0
„ "Oruba" .....	9 November	22 December	43	5	8	9	3	25	.....	25	19		62 0 0	3 0 0
			*	55	132	110	79	376	.....	376	279		847 0 0	29 0 0
													£876 0 0	

\* Average length of passage, 41 days.

Single men .....	55
Wives and single women .....	132
Children under 12 years .....	189
Total .....	376

Immigration Office,  
Sydney, 25th February, 1891.

GEORGE F. WISE,  
Agent for Immigration.

## 3

## APPENDIX B.

RETURN showing the Native Countries of the Assisted Immigrants who arrived in 1890:—

From England and Wales .....	255
„ Scotland .....	88
„ Ireland .....	19
„ Other Countries .....	14
	376

Immigration Office,  
Sydney, 25th February, 1891.GEORGE F. WISE,  
Agent for Immigration.

## APPENDIX C.

## RELIGIOUS PERSUASIONS.

Nationality.	Classification of Religion.						Total.
	Church of England.	Church of Scotland.	Wesleyan Methodist.	Other Protestants.	Roman Catholics.	Jews.	
English .....	149	8	64	31	2	1	255
Scotch .....	5	73	.....	3	7	.....	88
Irish .....	3	.....	1	.....	14	1	19
Other Countries .....	.....	.....	.....	2	3	9	14
	157	81	65	36	26	11	376

Immigration Office,  
Sydney, 25th February, 1891.GEORGE F. WISE,  
Agent for Immigration.

## APPENDIX D.

## EDUCATIONAL ATTAINMENTS.

Nationality.	Classification of Education.						Total.
	Under 12 years.			12 years and over.			
	Cannot read.	Read and write.	Read only.	Cannot read.	Read and write.	Read only.	
English .....	67	53	.....	4	131	.....	255
Scotch .....	31	16	.....	1	40	.....	88
Irish .....	3	8	.....	1	7	.....	19
From other Countries .....	8	3	.....	3	.....	.....	14
	109	80	.....	9	178	.....	376

Immigration Office,  
Sydney, 25th February, 1891.GEORGE F. WISE,  
Agent for Immigration.

## APPENDIX E.

RETURN showing the Number of Assisted Immigrants who, at their own request, were forwarded to the Country Districts by Rail.

Destination.	Wives.	Children.	Destination.	Wives.	Children.
Bathurst .....	2	6	Mossvale .....	1	8
Broad Meadow .....	1	4	Newcastle .....	18	64
Cardiff .....	1	2	Riverstone .....	1	5
Bulli .....	2	5	Rydal .....	1	2
Culcairn .....	.....	2	Teralba .....	1	5
Eskbank .....	1	1	Unanderra .....	1	1
Glen Innes .....	2	6	Wallsend .....	1	5
Greta .....	8	40	Wollongong .....	3	10
Hamilton .....	1	9			
Honeysuckle Point .....	1	5			
Helensburgh .....	1	.....			
Lithgow .....	2	4			
				40	184
				233	

Immigration Office,  
Sydney, 25th February, 1891.GEORGE F. WISE,  
Agent for Immigration.



1891.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

**MACLEAY RIVER.**

(REPORT BY SIR JOHN COODE, K.C.M.G., ON ENTRANCE TO)

*Ordered by the Legislative Assembly to be printed, 26 May, 1891.*

Sir John Coode to The Secretary for Public Works.

Sir,  
Westminster Chambers, 9, Victoria-street, London, S.W., 18 December, 1890.

Having carefully considered the several plans and documents relating to the Macleay River Entrance, prepared in accordance with the memoranda framed by me when in the Colony, I have now the honor to submit my report thereon, with especial reference to the works which I have to recommend for its improvement.

I should here remark that the results of the survey and investigation, embodied in the plans, sections, diagrams, and descriptive notes, upon which this report and the accompanying drawings are based, have been obtained and prepared by Captain Howard in a very skilful and complete manner, enabling me to fully comprehend the physical conditions of the case, and to devise, with confidence, the works for the improvement of the entrance which I now put forward for adoption.

Captain Howard has prepared for my information a description of the Macleay from Belgrave Falls (where the tidal influence ends) about 43 miles above the entrance to the sea, wherein he touches on all the salient features of the river, the condition of its banks, the general character of the wharfage, and the navigable depths available, and also the particulars of the townships. It will not, therefore, be necessary that I should add anything by way of description, except in connection with the entrance and its channels, inasmuch as I append to this Report a copy of Captain Howard's memorandum, from which full details of the present condition of the Macleay throughout the length of its tidal compartment can be ascertained and referred to. Description of river.

This Report is accompanied by two drawings. No. 1 is a plan of the river, at a scale of 2 inches to the statute mile from Bungay Creek, just above Belgrave Falls, to the sea; it shows also the coast-line from the North Head, near the entrance of the Macleay, around to the southward of Korogoro Point. For that length of the river between Rainbow Reach and North Head, this plan has been compiled from the special survey made by Captain Howard in 1887, the remaining portions having been taken from parish maps supplied to me by the Harbours and Rivers Department of the Colony. Drawings.

Drawing No. 2, prepared from Captain Howard's special survey of 1887, shows in full detail, and in a convenient form, the results then obtained for the purpose of my study and investigation, to which reference has been made above. This drawing has been plotted to a scale of 500 feet to an inch, and shows that portion of the river which calls for treatment in connection with the improvement of the entrance, and also the coast-line from North Head to South-west Rocks, together with the soundings, borings, and other observations, which were taken with a view to the consideration of alternative sites, viz., for an entrance near its present position, just to the south-west of the North Head, as compared with a possible site involving a channel of considerably-reduced length, which channel would pass to the northward of Ruddor's Hill, and the range of rocks adjacent thereto, discharging into the sea near the South-west Rocks.

The river in its present state, and under the most favourable conditions, cannot be considered as navigable for craft drawing over 9 feet—in fact, vessels of 8 feet draught have to wait for high-water to get up to Kempsey, about 32 miles from the entrance. Available depth in the river.

Captain Howard remarks that the Macleay Bar may be regarded as a smooth one, compared with other bars on the coast of New South Wales. During strong south winds it is frequently smooth on the bar when a high sea is running in the offing. It is only when the wind gets round to south-east that the sea breaks heavily on the bar. With west winds, Captain Howard has seen the bar free of breakers for some days continuously, during both flood and ebb. Entrance and bar.

The position of the entrance varies considerably, dependent upon the force and direction of the sea, and the existence of more or less "fresh" in the river. There is still an old beacon, rather more than a mile to the southward of the North Head, which marks the site of a former channel. It has also been stated that since 1864 channels have been formed in several positions between the North Head and a point distant nearly 2 statute miles to the southward thereof. It is important to note that the entrance has been much deeper and more constant in direction when the channel has been either under or near to the North Head than in any other position.

Under existing conditions, the fluctuations which occur in the entrance necessitate the frequent changing of the leading-marks. Towards the end of 1887, during a period of three months, these marks were moved northward nearly 1,000 feet.

In a memorandum, dated September, 1889, Captain Howard states that the entrance was, at that date, about a quarter of a mile to the northward of its position during the survey of 1887, which last-named position is that indicated on the accompanying drawings. He also observes that it seemed then only to require time (probably not more than two or three years), or the occurrence of a heavy flood, to sweep away the North Spit and bring the fairway out under the North Head, somewhat on the line which it occupied in 1864, or practically in the position which I have selected as the best site and aspect for the improved entrance, shown on the accompanying drawings.

Under the present untrained condition of the entrance, the depth on the bar fluctuates considerably. In September, 1887, during Captain Howard's stay in the locality, there was a good bar, having a depth over it of 10 feet at low-water of spring tides, with a straight run in. About a month later, in consequence of the occurrence of heavy north-east winds, this depth was reduced to 3 feet 6 inches at low water, or 8 feet at high water.

During freshes, discoloured water can be seen to trend around to the northward, well outside the bar; it has also been observed that wreckage from Trial Bay, or South-west Rocks, is deposited on the beach close to the North Head, or on the sands northward thereof. These circumstances point to the existence of a northerly eddy, shoreward of the constant south-going current which sets along the coast outside the capes. This eddy is an important feature as affecting the direction and aspect of an improved entrance, which clearly should conform with this northerly set, and thus have a slight "bias" in the same direction, rather than point directly seaward at a right angle to the shore-line.

At the time of my visit, Pilot Jamieson informed me that the least depth available at ordinary high water was 5 feet, but that these unfavourable conditions only existed for two or three days concurrently; the greatest depth he had experienced was 14 to 15 feet at high water over a month's duration, but only after the occurrence of a fresh. The average depth on the bar generally was from 8 to 9 feet at high water.

The sources of the Macleay run through a very broken country, consequently the river is subject to sudden freshes of short duration.

The information with reference to floods is very contradictory. That which occurred in March, 1875, appears to have been the highest on record, when at Gladstone Wharf the flood then rose 14 feet 6 inches, or thereabouts, above ordinary high-water level. Such works of improvement as may be undertaken with a view to fix the entrance, and the channels adjacent thereto, cannot fail to exercise a beneficial effect on the discharge of the flood-waters. I do not propose to consider further, in this Report, the effects of flooding, or the mitigation thereof, beyond the influence of the entrance works above referred to—in fact, the data available here are not sufficient to enable me fully to enter upon this matter, neither is it clear that inconvenience and loss have been thereby occasioned to an extent that would justify the construction of works having for their special object the prevention of flooding in the upper reaches, more particularly in view of the pressing need of expenditure on the river entrance. Having regard to the presence of such immense masses of easily-moved sand, works for the effectual treatment of the bar and entrance must of necessity be of considerable magnitude, and entail proportionate outlay.

Before describing the works for the improvement of the entrance which appear to me to be best adapted to meet the requirements of the case, it is desirable that I should here refer, in general terms, to the four possible projects which I have deemed it right to consider, and to some extent work out, in connection with this investigation. They are marked Nos. 1, 2, 3, and 4 respectively, on drawing No. 1, upon referring to which it will be seen that proposal No. 1 contemplates the formation and fixing of the entrance close to the North Head, about half a mile northward of the fairway surveyed in 1887, and shown on the accompanying drawings. The position and aspect of the entrance as contemplated under this proposal, taken in conjunction with the extent and character of the moles and training-works as designed and shown in red, would ensure, *with certainty*, the attainment of satisfactory results, as to the provision and maintenance of a sufficient navigable depth, and would also provide for the free discharge of all the flood-waters of the district. Moreover, as before stated, experience has shown that when the entrance fairway has hitherto been in about the position of No. 1, the depth over the bar has been greater for a longer period than at any other site. Again, the North Head, or thereabouts, having regard to the northerly drift of the sand, would appear to be a specially advantageous position for the entrance to the Macleay, because sand passing the entrance would readily travel unimpeded to the northward, along the length of coast embayed between the North Head and Scott's Head.

Entrance No. 2 would also provide for the discharge of the whole of the flood-waters of the district; but, in consequence of the northerly drift of the sand, there is an element of uncertainty associated with this design, from which No. 1 is free, as regards the lengths of the sea moles, which would be eventually required for the maintenance of the requisite depth, having regard to the accumulations which would inevitably occur to the southward of the South Mole. Moreover, the diversion of a river of this magnitude, from its existing course into a new channel such as that leading to No. 2 entrance, would be a work attended with much difficulty. Again, the extent and cost of the works required, including the formation of the new channel from the moles to the point where it would join the river to the westward of Shark Island, would be fully equal to that of project No. 1.

Each of the projects 3 and 4 contemplates the formation of an entrance near the South-west Rocks. Either of those positions would be partially sheltered by Lager's Point, but each is associated with the grave defect of not providing for the discharge of the whole of the drainage from the district, inasmuch as the considerable volume of water now passing through Clybucca Creek, including also that which flows into the latter from the Macleay during floods, as described by Captain Howard, could not, unless at very great cost, be diverted through the new fairway. Further, bearing in mind the excavation and dredging of the new channel, it is not improbable that the cost of either of these undertakings would be fully as great as that of No. 1.

Line No. 4 has been set out on the ground, and carefully bored and examined. In the position indicated on drawing No. 1 a sufficient depth would be available over the rock surface on this line, but the curves of the channel would of necessity be inconveniently sharp, and the works generally partake of an experimental character.

For the reasons above given, I entertain an undoubted preference for project No. 1, which, as I have before stated, is associated with no element of uncertainty as to the production of satisfactory results. Moreover, to ensure the maximum scouring effect, it is of the utmost importance that the whole of the discharge, including that contributed by the Clybucca Creek, should pass seawards through one entrance, which would be impracticable if either of the partially-sheltered projects Nos. 3 and 4 was adopted.

*Proposed*

Floods and freshes.

Alternative projects.

*Proposed Works.*

The works which appear to me to be best adapted to fulfil the requirements of the case are those coloured red on drawing No. 2; they may be briefly described as follows:—

This work would commence at the north-west angle of the South Spit, and extend therefrom in a north and easterly direction for a length of 4,000 feet. The termination in the first instance is indicated on the plan by the letter X; hereafter, when funds are available, it is proposed to extend this Breakwater 500 feet, making its total length 4,500 feet, as shown. It would consist throughout of a rubble mound, the inner portion, as far as practicable—probably for a length of 2,500 feet—being formed as an “end-and-side” tipped embankment, the remainder being deposited from a temporary stage.

This work would commence on the southern face of the North Head, and extend therefrom in a south and easterly direction for a length of 1,000 feet, terminating, in the first instance, at the point marked Y, and forming, with the South Breakwater, an entrance of 700 feet in width at low water. It is believed that this width will be sufficiently restricted to produce the requisite scour necessary for the maintenance of a navigable depth of about 12 feet at low water, or 16 feet 6 inches at high water of ordinary spring tide, the latter being equal to the navigation (allowing for “scend,” or undulation) of vessels drawing say 12 feet.

The lines of the moles have been so arranged that the proposed width of entrance, viz., 700 feet, may be varied by modifying the curve of the North Breakwater, should experience show, during progress, that an alteration is necessary with a view either to increase the scour, or, conversely, to prevent a throttle in the discharge of the flood-waters.

Like the South Breakwater, this mole would consist of a rubble mound, but in this case it will be advisable to deposit the stone from a stage throughout the entire length of the work.

Although it is probable that the improved entrance, with the moles carried to the points X and Y respectively, would meet all the requirements of the navigation for a considerable period, the changes which would be produced thereby, in the configuration and disposition of the existing sandbanks, might possibly render an extension desirable, when each mole should be simultaneously and equally prolonged, say 500 feet, thus rendering the total length of the North Mole 1,500 feet.

With a South Mole of 4,500 feet and a North Mole of 1,500 feet there can be no question as to the entirely satisfactory character of the results produced, nor as to the permanent maintenance of a navigable depth of from 12 feet to 15 feet at low water.

To obviate the escape of water through the old channel between Shark and Fisherman's Islands, and at the same time to prevent the river from breaking through the Sandspit during floods, and thus outflanking the new entrance, I propose, on the right or eastern side of the channel, to form a turn-water training-bank for a length of 11,000 feet, commencing to the north-west of Shark Island, and terminating opposite the coal-store of the Clarence and Richmond Steam-boat Company. The formation of this bank would render the breaking through of the Sandspit during floods, or the formation of subsidiary channels, an impossibility, thus ensuring the fixing of the entrance in the position shown, and the utilisation to the utmost extent of the scour produced by the flood discharges.

The proposed bank would consist of rubble deposited from barges, the top being 8 feet in width, and at the level of high-water spring tides.

It is very important that the old channel which skirts the west side of Shark Island should be effectually closed. I have, therefore, shown a training-bank of 5,600 feet in length to effect this object, and at the same time to guide the current into its proper course, viz., to the western bank of the river near the outfall of Clybucca Creek. The construction of the work would correspond in character with that of the bank proposed at Fisherman's Reach.

Leading-lights would be provided for the new entrance as shown on drawing No. 2. The lower reaches would also be effectually buoyed.

The effect of the currents passing in and out through the new fairway, unaided by the West Training-bank, would be to create a channel on about the line shown on the plans; the sand accumulating to the north-west of the said channel would assist to some extent in training these currents. During floods and gales, and in the absence of the training-bank, disturbance of this sand would inevitably arise, causing consequent fluctuations, but not to a very serious extent, in the depth of the channel.

Were the funds available for the execution of the West Training-bank, the work might with advantage be carried out simultaneously with the execution of the sea-moles, but, looking at the large outlay required on the more important structures, the execution of this bank could, if desired, remain in abeyance for a time, without material prejudice to the success of the undertaking.

As will be seen from drawing No. 2, the bank would be 7,000 feet in length, the seaward end being 300 feet distant from the river slope of the North Breakwater, thus forming a wave-trap, or spending-beach, of a valuable character. The bank should be of rubble stone, the outer portion being 4 feet above high water of spring tides, and 10 feet wide, whilst the inner length would be of the width and at the level described for the other training-banks.

*First instalment of the works.*

South Breakwater, 4,000 feet in length ... ..	£133,000
North Breakwater, 1,000 feet in length ... ..	48,700
Training-bank at Fisherman's Reach, 11,000 feet in length ... ..	62,800
Training-bank at Shark Island, 5,600 feet in length ... ..	21,800
Buoying and Lighting Channel ... ..	2,000
<b>Total expenditure for first instalment of works ... ..</b>	<b>£268,300</b>

*Extension works required to complete design as before described.*

West Training-bank at entrance, 7,000 feet in length ... ..	£48,400
South Breakwater, additional length, 500 feet ... ..	39,000
North Breakwater, additional length, 500 feet ... ..	27,000
<b>Cost of extension works ... ..</b>	<b>£114,400</b>

The

The foregoing estimates are based upon what are believed to be liberal rates, and they cover contingencies and engineering charges.

Order of  
procedure.

The South Breakwater should first be proceeded with until reaching the point X. The construction of the North Breakwater should then be taken in hand, and simultaneously therewith the training-bank at Fisherman's Reach, to be followed by the bank at the south end of Shark Island.

Materials.

There would appear to be an abundant supply of material for the work at the North Head and in vicinity thereof, and at Rudder's Hill and the adjacent ridges. Before finally determining on the works, these sites should be carefully examined, and the precise character of the material available fully investigated.

Borings on site  
of entrance.

No borings have been made on the site of the proposed entrance. It is more than probable that rock does not exist within the proposed fairway at a depth which would interfere with the navigation. This question, however, should be definitely set at rest, by fully boring the site, more especially along the line of proposed channel, before arrangements are made for the execution of the works.

Conclusion.

It may possibly be considered that the sum required for the completion of the first instalment of the works, viz., £268,300, is altogether disproportionate to the extent and character of the trade carried on at present in connection with the Macleay. I have no means of judging of this point, nor does it, in fact, fall within my province to do so; I may, however, state, very emphatically, that works of a more limited character and extent than those contemplated under this expenditure would not suffice to fix the entrance and to train the currents under the unfavourable conditions which prevail at the Macleay. As previously pointed out, to render the undertaking complete, the extension works are desirable, and until funds are available for their execution the small fluctuations in depth in the entrance channel, which will in all probability be experienced, must be borne with.

I have indicated by red dotted lines on the plans the approximate line of a future deep-water channel, but of course do not now contemplate any expenditure on dredging or artificial deepening, the means for which will not, I presume, be available, in view of the large outlay required on the structures herein described. The training and guiding of the currents by the proposed banks at Fisherman's Reach and the south end of Shark Island cannot, however, fail to produce very beneficial effects, although the 12 feet navigation, for which the entrance is adapted, as described, cannot be fully utilised until the improved scour has been aided to some extent by dredging. To what extent, however, the proposed aid will be required it is impossible now to predict.

I have, &c.,  
JNO. COODE.

## NEW SOUTH WALES HARBOURS AND RIVERS.

### MACLEAY RIVER.

#### General description of the Macleay River, by Captain Howard, R.N.

*Appendix to Sir John Coode's Report, dated 18th December, 1890.*

The Macleay River entrance is (1888) about  $\frac{1}{2}$  mile south of a smooth grassy headland, which lies north-west (mag.) 6 sea miles from Laggars Point, the outer extreme of Trial Bay.

This headland, known as the North Head, is a rocky peninsula, joined to the mainland by a low sandy isthmus 500 feet across, and covered with Banksia scrub. The headland, which is 1,000 feet in extent east and west, and 800 feet north and south, is precipitous on its three sides facing the sea, and 140 feet above low water near its south-eastern corner, where the old signal-staff, in use when the channel was immediately south of the head, still stands.

Southward from the head is a flat of drift-sand about 1,000 feet wide, known as North Spit, which extends to the present channel, the centre of which is 3,000 feet south from the old signal-staff.

Near the south-west corner of the head the north-east wind has heaped up a quantity of sand in a pyramidal form, the apex of which is 60 feet above low water. This sand-drift is a good mark for making out the North Head from seaward, showing like a white triangle against the dark cliffs of the head.

Westward of the North Head the sandy shore curves round to a small rocky point, the extreme of a narrow rocky ridge which runs eastward from Yarrahapini Hill. This point, known locally as Razorback, is 1,200 feet west-south-west (true) from the nearest part of North Head.

What was formerly the river channel is now a pool of quiet water between the North Spit and the western shore, the action of the tidal streams having thrown up sandbanks westward from the south end of North Spit, leaving only a narrow winding boat-channel, nearly dry at low water.

I have not been supplied with a plan showing the soundings obtained during former surveys, but have been informed that the old fairway was close past Razorback Point; from thence straight across to North Head, and along its southern side; that in this portion of the channel there were no outlying rocks, and after freshes a depth of 20 feet at low water, over a sandy bottom. There is, however, one pinnacle rock about 100 feet east of the end of shelving rocks at Razorback Point. This rock is very small, and at low-water springs its summit is within a few inches of the surface. The pilot informed me that it is quite isolated, very steep too, and that there are no rocks whatever outside it above a depth of 20 feet at low-water; also, that he has sounded all round it, and obtained 25 feet at low water. In the event of this rock being in the way of a fixed channel it could easily be removed.

The pilot-station, with the houses of the pilot and his crew, are on the flat between Razorback and the North Head. Attached to the pilot's house is the Post and Telegraph Office. A few hundred feet westward the land rises to the thickly-timbered spurs of Yarrahapini.

At the river entrance the distance between the high water of the North and South Spits is nearly 2,000 feet, but a sandspit projects northward from the South Spit, which contracts the navigable entrance to a width of 300 feet, and depth of 22 feet. Further out, where the navigable water is broader, the depth becomes uneven, with from 8 $\frac{1}{2}$  to 10 feet at low water, right to the bar, which is 3,000 feet outside the point of North Spit. The bottom throughout this space is very uneven, in ridges like waves.

Outside the bar the water deepens to over 30 feet very quickly.

The

The South Spit is the northern end of the long narrow tongue of land separating the Macleay River from the sea. Its outer side is one gradual curve to South-west Rocks, Trial Bay, a distance of nearly 6 English miles. The South Spit is about 1,200 feet wide near the entrance, but further up the river the tongue of land gets very narrow, and in several places is under 200 feet from high-water inside to the sea. For nearly a mile from the entrance the spit is drift-sand and low hummocks nearly bare, but above Stewart's Point thick vegetation commences.

Stewart's Point is a sandy point, projecting slightly from the western shore. It is the first stopping-place inside the river for sea-going vessels. There are two saw-mills, a Post and Telegraph Office, a good Government wharf, and a number of weatherboard houses at Stewart's Point. This place was the head-quarters of numerous fishing-boats: here the fish netted in the river were packed in ice, and sent by steamer to Sydney, but during the stay of the survey party this industry seemed to fail, and most of the fishermen left the river.

The Stewart's Point Government wharf is 9,000 feet south of Razorback Point; the foreshore between these places is a steep sandy bank or cliff about 20 feet above low water, inside which the land is flat, or in slightly-undulating ridges parallel to the coast, and covered with thick scrub, or, where cleared, with fern. From abreast the entrance southwards for nearly 3,000 feet the sea at high water dashes against the foot of this bank, a considerable quantity of which, with the timber growing at its edge, was washed down whilst the survey was in progress.

The river at Stewart's Point is 1,400 feet wide, and from 8 to 12 feet deep, over a clear sandy bottom, the fairway channel being well on the eastern side. Above Stewart's Point the river trends about south by east  $\frac{1}{4}$  east (true), the western shore being low and swampy, with a growth of thick mangroves, and fronted with extensive sand and mud flats. The eastern shore is a nearly-straight sandy beach; the narrow strip of land inside being covered with thick scrub.

The Clarence and Richmond Steamship Company, whose steamers run to the Macleay River, have a coal-store on the north-east end of a mangrove island, 7,000 feet above and on the same side as Stewart's Point. Directly opposite this store, on the eastern side of the river, is the hull of a small iron steamer—I believe, the "Atlas."

All soundings above the coal-store on the plan are reduced to low water at No. 2 tide-gauge, or 8 inches above low water at the entrance.

Above the coal-store 4,600 feet is Fisherman's Island, of low alluvial soil, and covered with swamp oak and grass. The greater part of the island, which is 800 feet east and west, and 1,500 feet north and south, is awash at high water. Here the sea-reach of the Macleay may be said to end, the river forking round Fisherman's Island, and the much larger Shark Island.

Until quite lately the ship channel was round the east side of Fisherman's Island, and along the north side of Shark Island, till close under the bank on the west side of the river; but a cutting has now been dredged westward of Fisherman's Island, and more in a direct line up and down the stream.

This cutting is about 5,000 feet in length, and was said to be 60 feet wide, but according to our soundings was of very irregular width and depth.

After the soundings shown on the plan were obtained, the dredge was again working here, cutting off some of the corners. The depth in the cutting was from 7 to 10 feet at low water, and the bottom very uneven. The Dredge-master was working entirely by eye, having no plan of the proposed work or of the river. The sea-going steamers rarely passed through without grounding, either in the cutting or on the shoals formed in the river northward of the coal-store, where the silt from the cutting was deposited. As the cutting is on a curve, there are two sets of leading-marks—one over on the eastern side, near wreck of "Atlas," for entering or leaving the northern end; and the other on western bank above the cutting for the southern end.

The southern end of the cutting is near the south-west end of the old channel, and at certain times of tide, when the flood streams from each channel meet, an eddy is formed, which, I believe, will leave a deposit of sand across the end of the cutting.

The former ship channel between Fisherman and Shark Islands is said to be gradually shoaling up. There are leading-beacons on the eastern shore to lead through it; but the deepest water is well to the northward of the leading-line. The ruling depth in the channel is  $5\frac{1}{2}$  feet at low-water springs.

Shark Island is about 1 land mile in extent east and west near its north end, and  $2\frac{1}{2}$  miles north and south, tapering off gradually to a sharp point at its southern end. The north end is either covered with mangroves or extensive grass or swamp oak flats, and no part of it is more than a few feet above high-water mark. The middle portion of the island along the western side is occupied by several farmers, and is said to grow very good maize crops.

The channel north-west of Shark Island is about 800 feet wide, and from 8 to 18 feet deep at low water above the cutting.

The western shore of the river is a sandy bank or cliff from 12 to 20 feet high, with flat sandy land thickly timbered behind. This country is marked on the parish maps as a reserve, but there are several families living on it, and it has lately been surveyed. From abreast Fisherman's Island, southward for 10,000 feet, the western shore continues of the same character to the mouth of the Clybucca Creek, a large opening over 700 feet wide at its mouth and opening out inside to a large lagoon. The Clybucca Creek runs into the eastern side of this lagoon. For about 4 miles from its mouth the Clybucca Creek is about 200 feet wide, and from 10 to 15 feet deep, with low swampy land on its eastern side, and thick forest of gum-trees on its western side. Its course is nearly parallel to the Macleay River, and, according to the parish maps, after a length of 12 miles, it ends in large swamps.

I am informed that during floods a large quantity of water makes its way across from the Macleay River, and down the Clybucca Creek. A portion of this creek is included in the area marked by Sir John Coode for survey, but could not be done in the time allowed.

Northward of the mouth of Clybucca Creek the Macleay is contracted by two islands, both thickly wooded, low, and of alluvial soil. The fairway is between them and Shark Island, and above them, close over to the western bank, it is in places not more than 200 feet wide, with from  $8\frac{1}{2}$  to 20 feet water.

Southward of the two above-mentioned islands is a large sand and mud bank, which dries at low water, and extends nearly across the river, which is here 2,000 feet wide. The ship channel is round the western end of this bank. A cutting has been dredged along its southern side across to Shark Island, in an east-south-east (true) direction for about 3,000 feet.

This

This cutting has a depth of from 12 to 7½ feet at low water. The fairway through is marked by leading-beacons at each end.

Towards the close of the survey the sea-going steamers were continually grounding here, the marks leading too close to the southern side of the channel, which is gradually shoaling.

I may here remark that although most of the dredged channels in this river appear to be cut across, yet the tidal streams set fair up and down them.

At the south end of Shark Island, looking up, the river presents a pleasing aspect; the grassy and wooded slopes of Rudder's Hill appear quite close to the shore, and both banks in Rainbow Reach are cleared, cultivated, and studded with farm buildings.

The channel eastward of Shark Island is narrow, and was at one time the outer part of Spencer's Creek, Shark Island being, twenty-five years back, a peninsula.

I am informed that a Mr. Salmon, seeing that the isthmus near Rudder's Hill was low and narrow, made a small cutting through it to admit his boats to the main river. The times of high and low water in the creek being earlier than in the river, caused a great scour in this opening, and now, in 1888, it is 1,800 feet wide, and what twenty-five years ago was dry land is now the middle of the ship channel, with 15 to 17 feet at low water.

The channel on the east side of Shark Island is of the average width of 700 feet; it is full of shoals, and only navigable by boats, some parts of it being less than 1 foot deep at low-water springs.

I am informed that this channel was at one time navigated by schooners, but having been constantly used as a depositing-place for the silt dredged from the main channel, is now nearly blocked up. The sides of the channel are generally fronted with belts of thick mangrove, and the Shark Island side densely wooded with large timber. On the eastern side there are four shallow inlets running to within a short distance of the sea-beach, giving the impression that at some time the river has run through them into the sea. The southern of these inlets which I call here South-west Creek starts from the eastern channel of Macleay River, at a point 5,000 feet below the southern point of Shark Island; it is 9,000 feet in length, and from 200 to 500 feet broad, running through swamps; its banks are mostly belts of thick mangroves, except in two places, where the points of rocky spurs of Rudder's Hill come to the water's edge.

This creek during the survey flowed into the sea, but it has not always done so. The first time I saw it, in the year 1885, the water of the creek did not reach high water on the sea-beach by 300 or 400 feet, but since then, in March, 1887, I am informed, the creek and surrounding swamps being full of flood-water, a gutter was dug through to the sea-beach to run it off, and this quickly became a wide gap forming a good entrance. In September, 1887, it was over 200 feet wide, and 2 to 3 feet deep at low-water springs, and although during the survey it once or twice nearly silted up, it never entirely did so, and was wider in July, 1888, than during the preceding summer.

A cutting through the mangroves was made about twenty years back, 1,000 feet inside the entrance; this at the time was 200 feet long and 10 feet wide, with a depth of 18 inches; it is now 30 feet wide, and over 5 feet deep at low-water springs. In September, 1887, the tidal stream rushed through this place at the rate of 4 to 5 knots per hour.

At the western end of South-west Creek two small islands have formed outside the entrance, and, with the shoals surrounding them, nearly block the creek, which can only be entered between three-quarter flood and one-quarter ebb. The water in the creek at low-water springs is from 3 feet at the western end to 2 feet at the eastern above low-water springs outside.

South-west Rocks Point is a double rocky head, east of South-west Creek, the bar of which is at its extreme north-west point. It rises to a height of 6½ feet above low water, and is grassy, with open Banksia scrub. This point is a favourite camping-ground for the Macleay River farmers, who, with their families, camp here from Christmas to the end of January. There must have been nearly 200 people camped here in January, 1888.

There are only two houses at South-west Rocks Point—one a two-story stone house, the other a weatherboard cottage. The stone used in building, a soft freestone, was obtained from the summit of the wooded ridge, a short distance southward of the point. The rock cropping out at the point is either conglomerate or a hard slaty rock of a blue colour.

The South-west Rocks are a cluster of large granite boulders lying about 400 feet east of the Point, and mostly surrounded by shelving rocks; awash in patches at low water.

The largest and most eastern is 15 feet above low-water springs, and can be reached by wading at low-water springs in fine weather.

The water deepens quickly outside these rocks, the 5-fathom line being only from 400 to 500 feet north of them, over a clear sandy bottom. Westward of South-west Rocks Point the 5-fathom line is from 1,200 to 1,500 feet off the low-water line.

Only one detached rocky patch was discovered, the least water on it being 21 feet; it lies north of the western side of the Point about 700 feet, and can be seen from the shore in very fine clear weather only.

As the surrounding sea has been closely watched from the Point for many years by fishermen and others, and the above is the only rocky patch that has ever been seen off it to seaward, it is fair to suppose that no other outlying patches exist.

Eastward of South-west Rocks is the beach of Trial Bay, extending round to the Labour Prison, at Lager's Point.

On a small knoll near the north-east extreme of the Point is an obelisk to the memory of a number of people drowned from wrecks on South-west Rocks and on the Point during easterly gales.

The ridge of the South-west Rocks Point extends in a southerly direction until it meets one of the spurs of Rudder's Hill; it is about 1,200 feet wide of thick forest, the land on each side being a grassy swamp.

The only boring-tool with the survey party was a 16-foot pricker, and with this I one day took some probings off the two rocky points jutting into south-west creek. The pricker went down easily to its end, through sand and ooze, without coming to rock. Mr. Pilot Jamison, however, made a statement to me that "there is granite under all the swamps between South-west Creek and Macleay River." He says, "I have seen it and felt it when using sounding-pole."

All the land about South-west Creek inside the line of sand hummocks is under water during heavy freshes in the river, or after a high spring tide. Most of it is covered with grass, and there are extensive forests of swamp oak, which in places grow to a great height. A great number of the trees appeared to be dying, or were already dead, in July, 1888.

Rudder's

Rudder's Hill, on the east bank of the Macleay, is a grassy hill, thickly timbered near its summit, which is 248 feet above low water. The summit is about 2,000 feet from the river, and from thence it runs nearly level to the south-eastward, along the right bank of Spencer's Creek, and gradually falls to the northward towards South-west Creek. The soil of the hill seems poor and stony, but there is a flat of alluvial soil of a sandy nature between the west side of the hill and Macleay River; this flat is for the most part a swamp, part grassy and part covered with thick forest of ti-tree, swamp-oak, and mangrove. Along the river-bank the land is higher, and cultivated with maize and vegetables.

The foot of the slope of Rudder's Hill facing west, right round to South-west Creek, was evidently at one time the coast-line of a bay or estuary, the rock with which it is lined being in places covered with oyster and other shells.

The bottom of the river, generally about Shark Island, is soft dark sand and ooze, but abreast the entrance to South-west Creek it is hard and full of shells.

Southward of the south point of Shark Island the main river was surveyed for 11,000 feet, to where it curves round to the eastward in Rainbow Reach. The average width of this part of the river is from 1,000 to 800 feet, with a depth of from 9 to 17 feet in the straight reach, and as much as 25 feet rounding the bight of Rainbow Reach.

The left bank of the river in this reach is cultivated nearly to the water's edge. The bank itself is perpendicular, and in the bights, or where steep, is continually falling away. The land on the point in Rainbow Reach is at the same time encroaching.

Spencer's Creek runs into the river on the eastern side, southward of Rudder's Hill. It is at present about 300 feet wide at its mouth, but gets wider inside, and after a course of about 18,000 feet joins the main river again at Pelican Island. The tidal water that flows into Spencer's Creek, however, runs into a large lagoon 18,000 feet above the lower entrance. This lagoon is filled by the flood-tide from both ends of the creek at the same time, and during the ebb is emptied in the same manner. There is a range of low stony hills running along the east side of Spencer's Creek and the lagoon, apparently a continuation of Rudder's Hill range.

The land between Spencer's Creek and the Macleay is an alluvial flat, and where not swamp all under maize cultivation.

There is a depth of 8 to 10 feet water at the lower end of Spencer's Creek, but where it widens out it becomes much shallower. The flat-bottomed steam-droghers, however, ascend the creek as far as the bridge, 10,500 feet from its mouth. Between the lagoon and the Pelican Island end of Spencer's Creek there is not more than 6 inches water at low-water springs.

Pelican Island divides the river  $11\frac{1}{2}$  English miles from the entrance. It is a low alluvial island, densely wooded, especially at the upper end. This island is set apart for the use of the Aborigines, who have cleared a considerable area, and cultivate maize. The island is about 3,500 feet long, north and south, of oval shape, and its greatest breadth is 1,300 feet.

Just below Pelican Island, on the right bank of the river, is a Government wharf, known on the river as Pelican Island or Robertson's Wharf. There is a punt and a ferry across the river a short distance above the wharf. All sea-borne heavy goods for the prison or Trial Bay breakwater works are landed on this wharf and taken overland to Trial Bay.

During the survey a quantity of rails which had been landed caused it to droop, and nearly brought the wharf bodily down. The jetty at Trial Bay is useless as a landing-place.

The fairway is along the west side of Pelican Island, and after passing it there is a shoal water of not more than 7 feet at low water turning into Long Reach. The channel east of Pelican Island is only used by boats, being blocked by shoals about its upper end.

Long Reach runs in a south-westerly direction for  $3\frac{1}{2}$  miles, with an average width of 1,000 feet. The middle of the reach broadens to 1,300 or 1,400 feet, and the centre is occupied by a shoal, dry in places at low water.

The fairway is on the right side of the river until after passing the above shoal, where a cutting has been dredged across to the left bank, the least water in which is 7 feet at low-water springs. This cutting is marked by leading-beacons at each end.

There is a Government wharf on the left or western side of Long Reach, about  $2\frac{1}{2}$  miles above Pelican Island.

The shores of Long Reach are cleared and cultivated from end to end, and present a pleasing appearance, with numerous farm-houses along the banks.

During floods the water flows over the western bank, which is low in places, and finds its way into the Clybucca Creek.

Above Long Reach the river gets narrow for a time, and takes a winding southerly course to Kinchela Creek, which joins the river from the south-eastward, about 2 miles above Long Reach.

The soundings in these narrow reaches are from 16 to 25 feet in the fairway, or centre of river, over a dark sandy or oozy bottom.

Half-a-mile down the river from Kinchela Creek, and on the right bank, is Kinchela Government wharf, and a quarter of a mile further down, on the left bank, is Summer Island Government wharf. The horse-punt and ferry is midway between these wharves. The Government township of Kinchela is on a point 1 mile below the creek. Apparently, very little of this township is in private hands, and is at present occupied by Aborigines.

The houses are mostly along the river-bank, towards and close to the creek.

Kinchela Creek, after a very winding course of 9 miles, ends in extensive swamps, southward of Korogoro Head. Its banks are under cultivation of maize, and it is navigated by steam-droghers for about 5 or 6 miles. There is a punt and ferry across the creek, near its mouth.

The banks of Kinchela Creek gradually decrease in height as it is ascended, and in time of flood the water runs up the creek from the river, and spreads over the swamps.

An extensive shoal lies off the upper side of the entrance to Kinchela Creek, the entrance fairway being close round the lower point. A cutting has been dredged through the tail of the above shoal for the navigation of the main river. It is marked by sets of leading-beacons above and below, on the right bank. The least water on the leading-line is  $7\frac{1}{2}$  feet at low-water springs.

There is a small Government wharf, locally known as Ross's Wharf, about 500 feet below the creek.

Above

Above Kinchela Creek the river bends gradually to the westward for nearly 2 miles, with an average width of 1,000 feet, and depth of water in the fairway of  $9\frac{1}{2}$  to 23 feet. It then sweeps round in a southerly reach to the mouth of the Belmore River.

In the bend are the two Fatorini Islands, which extend along 4,000 feet of the channel.

These islands are thickly wooded at their southern ends, the northern portions being cultivated and occupied by the Aborigines.

There is a Government wharf on the right bank of the river, 4,000 feet above Kinchela Creek, locally known as Partridge's. The "Teredo navalis" is very destructive to timber in the brackish water of the Macleay River, and at the time of our survey this wharf was very shaky through some of the unsheathed piles being nearly eaten through.

The town of Gladstone is on the right bank of the Macleay and Belmore Rivers, and the mouth of the latter. This is a Government township, with Court-house, post and telegraph office, &c., and is 22 land miles from the entrance. There is a Government wharf here, and punt and ferry across the Belmore, about  $\frac{1}{2}$  mile up that river.

The Belmore River is more often called the Darkwater Creek, its first name. It runs in a southerly direction, and its first reach is directly in line with the Macleay River. After a winding course of about 12 miles, it ends in swamps near the coast. It is navigated by steam-droghers a long way up.

Like Kinchela Creek, the banks of Belmore River, which are about 15 feet above low water at Gladstone, gradually decrease in height as the river is ascended, until they are level with the surrounding country.

In floods the stream sets up this river.

At Gladstone the Macleay River takes a very sharp turn north-west round a peninsula, on which is the private township of Smithtown.

The Smithtown Government wharf, on the left bank of the river, is nearly three-quarters of a mile below Gladstone wharf, and immediately above it is a punt and ferry across the Macleay.

At Smithtown is the first station (telegraph) above Stewart's Point.

The fairway is between Fatorini Islands and the left bank. The channel is narrow, but deep, until south of the northern island, when, for nearly 1,200 feet, there is a flat with only  $7\frac{1}{2}$  feet at low water in places; the depth then gradually increases till off Gladstone Wharf there is a depth of 34 feet in mid-stream, with a dark sandy bottom.

Passing the North Fatorini Island, the lead showed a bottom of soft yellow clay for a few casts, and the same bottom was observed off Partridge's Wharf.

Above Gladstone the river trends about north-west for  $2\frac{1}{2}$  miles to Seven Oaks bend, with deep water throughout.

There is a Government wharf on the left bank of the river, about half a mile below the bend, called Seven Oaks Wharf.

The width of the river between Smithtown and Gladstone wharves is from 600 to 400 feet, but above Gladstone it widens again to 700 or 800 feet. I may here remark that the widths above the limit of our survey are estimates by eye. The parish maps are not to be trusted, and no two of them agree. They are marked only "approximately correct."

At Seven Oaks bend the river turns sharply round to about south by west, and then runs in one long reach, curving westward for 4 miles to the town of Frederickton.

At the Seven Oaks bend great changes have taken place; the concave left bank is continually washing away, and the opposite point growing out. I am informed that what is now the ship channel was once dry land.

The bank is low about the middle of the bend, and during floods great quantities of water flow over it and strike across the low swampy ground to the Clybueca Creek.

Just above Seven Oaks bend is a shoal in mid-channel nearly awash at very low tides. A cutting has been dredged through the shoal water surrounding it, the fairway being on its west side, and marked by a buoy and leading-beacons at each end. The least water in this cutting is 8 feet,  $\frac{1}{2}$  mile above the buoy.

On the peninsula between Seven Oaks and Smithtown, the flat country is relieved by two or three rocky mounds, apparently from 30 to 50 feet high, grassy, and about  $\frac{1}{2}$  mile inland. These rise abruptly from the plain.

The reach between Seven Oaks and Frederickton is about 1,000 feet wide; the western bank is fronted with a weedy shoal nearly the whole way, and the fairway on the eastern side has from 11 to 14 feet water, with a dark sandy and oozy bottom. There is a channel for small craft east of the shoal at Seven Oaks, leading close round the point.

Frederickton is a conspicuous town on the left bank of the river, immediately below Christmas Creek, a narrow stream which runs a long distance into the hilly country, but is apparently not navigable.

A spur of the hills coming down to the river at Frederickton, and a number of buildings being on its slopes, the town shows to more advantage than those built on the alluvial banks below. As seen from the river, the most conspicuous places are the churches and cemetery.

Here houses of brick may be seen, those lower down the river being all of wood, with the exception of one or two at Seven Oaks and Gladstone. There is a saw-mill at Frederickton, which, however, was not working when we left. A short distance below the creek is the Government wharf, and another opposite on the right bank. Close to the wharf, and below it, is the usual punt and ferry.

From Frederickton the Macleay River runs in one curving reach to Kempsey, a distance of 4 miles in a south-south-west direction.

Kempsey is the principal town on the Macleay River; nearly all the Government officials reside and have their offices there, and the public buildings are large and numerous.

The town is very much scattered, the Government townships of East and West Kempsey being on opposite sides of the river, nearly north and south of each other. The principal business is done at Central Kempsey, a private township on the left bank of the river. There is a good Government wharf at Central Kempsey, and another on the opposite side of the river; a punt and ferry cross just above the wharves.

The Central Kempsey Government wharf is the terminus of the Clarence and Richmond S. S. Co.'s steamers, which, plying weekly, carry the larger portion of the produce of the district to Sydney.

The

The Central Kempsey Government wharf is 32 land miles from the entrance. The river-bank above the wharf is about 20 feet above low water. At West Kempsey the land is much higher, and some parts must be nearly 100 feet above the water. The right bank of the river is also very high and steep to between East Kempsey wharf and the Government township, which is a mile further up the river. The Macleay River here takes a wide bend to the westward and north-west.

Between Frederickton and Kempsey the fairway is close to the left bank for  $2\frac{1}{2}$  miles, the opposite side having shoal water stretching a long way into the river. The soundings vary from 8 feet off the mouth of Christmas Creek to 30 feet,  $1\frac{1}{2}$  mile above it, with a dark sandy bottom.

Within a mile and a half of Kempsey wharf the fairway has been dredged across to the right bank, and then between two wooded islets, which have been formed by floods, and lie near the right bank, between  $\frac{1}{2}$  mile and 1 mile below Kempsey wharf. The channel is then cut between the upper islet and the right bank close in shore, and is about 70 feet wide.

The cuttings are marked by sets of leading-beacons at each end, and a red buoy in mid-stream. A vessel coming up the river steers on the lower line until abreast the red buoy, and then turning sharply westward gets on the upper line of beacons, which leads between the islets mentioned above. The ruling depth in these cuttings is 8 feet, and I should imagine they would silt up partially after every heavy fresh.

Above the islets the water deepens quickly, and above the Government wharves under the high steep bank on the right side of the river, there is as much as 52 feet water over a dark sandy bottom.

There is another wooded islet near the right bank, 2,000 above Kempsey wharf, and a set of leading-beacons for a crossing immediately below it. The least water on the line of beacons is 6 feet.

West Kempsey Government wharf is on the left bank below the rounding point, and about  $\frac{1}{4}$  mile above Kempsey wharf. During the time of our survey the approach to this wharf was silted up, and boats could not reach it or float alongside at low-water.

About 900 feet above West Kempsey wharf is a slip for hauling up the hopper punts used with the Government dredge. The dredge herself is constantly at work on the different cuttings and approaches to wharves. There is a Government dry dock at East Kempsey, about 700 feet below East Kempsey wharf. This dock is intended to take in the dredge for repairs, and has been in use for that purpose. It is merely a trench dug in the bank here, from 40 to 50 feet high, and with a very steep slope from the surface of ground to the bottom of the dock. The boiler and pump are fixed on the slope about half-way up. Every flood fills the dock to high-water mark with silt; and at the time I saw it (March, 1888) a considerable portion of the soil on the lower side loosened by heavy rains had fallen into the dock, leaving a perpendicular side, and more seemed likely to follow.

The Euroka Creek (only navigable by boats for a short distance) enters the river on its right side  $1\frac{1}{2}$  mile above Kempsey wharf, and runs nearly parallel with the river for  $\frac{1}{2}$  mile. On the point made by the creek entering the river is a Government wharf, and just above it a punt and ferry across the Macleay to West Kempsey.

About  $\frac{1}{2}$  mile north-west of the above ferry is a shoal patch covered with weeds, in the centre of the channel. Of the leading-beacons at one time in position to mark the fairway between this shoal and the left bank, only one remained in June, 1888. The least water passing this shoal was 9 feet.

Greenhill's Government wharf, at the end of the north-westerly reach before mentioned, is  $3\frac{1}{2}$  miles above Kempsey wharf, on the left or northern bank of the river. This bank is very high and steep, the slope being thickly covered with scrub. The opposite side is low, gradually rising to a well-cultivated plain. There is a punt and ferry immediately above Greenhill's wharf.

The river at Greenhill's is about 400 feet wide, and the depth in the reach between Euroka Creek and Greenhills from 9 to 25 feet.

Above Greenhill's the river curves round to the southward. A little more than half-a-mile above the wharf is a dredged crossing, with only 6 feet water on it, marked by leading-beacons on each side. Abreast the upper beacon on the left side of the river is the first large shingle-bank. It is now covered with vegetation. From here upwards the river is much encumbered by shingle, which forms large banks on either side, sometimes covered with vegetation. These banks are all liable to change their form and position during floods or heavy freshes, and most of the soundings were over a shingle bottom.

One and a quarter miles above Greenhill's Wharf, on the left side of the river, on a high, steep bank, is the hamlet of Warneton.

The fairway crosses again to the left side of the river, and there is as much as 30 feet of water under Warneton.

Still, on the left bank of the river, three-quarters of a mile above Warneton, at a place where the land slopes gradually to the river, is another Government wharf, with only enough water alongside it to allow droghers to lie there.

The river here has entirely lost its alluvial character. The banks are high on both sides, and in places rocky, and the points all shingles and boulders.

Just above the last-mentioned Government wharf, on the right or east side of the river, is a rocky, isolated hill, its cliffy side towering over the river, and 50 feet of water over a rocky bottom abreast of it. The river here takes a sharp turn to the westward, and about a mile above the rocky hill occur the first rapids, locally called falls.

Navigation by droghers drawing 4 feet ends a quarter of a mile below the rapids, or 39 miles above the entrance. A vessel drawing 6 feet can come as far, taking the bad places at high water.

The rapids are formed by banks of shingle, which nearly block up the river; at high-water a light boat will float over them, but within 2 miles are four others, known as the Belgrave Falls, each only a few inches in height. Above these, or 43 miles from the entrance, tidal influence ceases.

The river was seen by the surveyor for only a few miles above Belgrave Falls, as far as Yarravale. It continued to be of the same character.

The Upper Macleay is not yet properly charted, the Government plans only showing portions of the river here and there. The country through which it runs, however, looks very wild and broken, as viewed from the Macleay Valley.

The Macleay River cannot be deemed navigable for vessels of over 9 feet draught, and drawing 8 feet would have to wait for high water to get up to Kempsey. The Company's steamers sometimes load up to  $8\frac{1}{2}$  feet draught, but part of the cargo is put on board at Stewart's Point, below all the cuttings.

Sometimes, in very fine weather, when the bar has shoaled up to 8 feet, at high water the tender goes outside and discharges her cargo into the Sydney steamer in the open sea.

The Macleay River produces a large quantity of maize, but during the survey its price was so little

little that not much was exported. A quantity of hardwood timber, sawn and in logs, is also exported. There is no pine or cedar on the river. At one time a quantity of sugar-cane was grown, and there are still several old-fashioned mills to be seen; but this industry died out, and the only crop seen was at Smithtown. It appeared to be doing well until the winter frosts completely killed it.

The ranges north and west of the Macleay are reported to be rich in gold, silver, lead, and other metals, and numerous prospecting parties have been exploring them lately, but nothing very valuable appears to have been discovered.

The metal-bearing country is too much broken to contain continuous payable reefs. The ores are found in small veins and pockets, and contain a great mixture of metals.

Early in 1888 the greater part of the grassy North Head was pegged out in gold claims, traces of that metal having been found there.

A small quantity of gold has also been obtained from the sides of Smoky Cape peaks on the coast.

#### *Entrance and Bar.*

The entrance to the Macleay River was close round the south side of the North Head, as shown on Mr. Baron's plan, dated November, 1861, until the heavy flood of August, 1864. This flood came down during a heavy east-south-east gale.

My informant states that a great quantity of land on each side of the river had just been cleared, the timber lying on the ground till the flood swept it away down the river.

On reaching the bar all this timber was met by the heavy breakers outside and forced back, until such a mass had accumulated that the entrance was completely blocked, and the river broke through the narrow neck of land between itself and the sea in several places, whilst the old entrance quickly sanded up. One of the new channels was about 10,000 feet above the old entrance, and above Stewart's Point.

At various times since the channel into the river has shifted north and south, but has never gone back to its former site under the North Head.

A shipmaster of one of the trading schooners informed me that in July, 1876, being at anchor on the north side of Stewart's Point during an easterly gale, the sea broke through the sand abreast his vessel, and the flood-water quickly scoured a deep channel, so that the heavy sea came right into the river and broke over his vessel, obliging him to weigh and run up stream.

There is still an old beacon on the outer part of South Spit marking the edge of the former channel, which must have been over half-a-mile southward of the present one.

I am informed that the bar was much deeper and more permanent in direction when the channel was under the headland.

Now the leading-marks have to be shifted nearly every spring tide; and during the last three months of the year 1887 were moved nearly 1,000 feet northward of their position in September of that year. During these months there was a good opportunity of observing the action of the wind and sea on the formation of the spits and bar. In September there was a good bar with 10 feet at low-water springs, and a straight run in. The Pilot informed me that the bar had not altered since March, 1887, when there was a heavy fresh in the river. Early in October some heavy north-east winds occurred, the effect of which was to alter the shape of the North Spit, which began to form across the bar outside the extreme of the South Spit. By the middle of December, the strong north-east winds had brought so much sand across the entrance that there was for some time only 8 feet at high water over the bar, North Spit then quite overlapping the South Spit, the fairway being from the southward, in a north-westerly direction until inside the break; and two sets of leading-beacons being necessary for entering. This state of things lasted until a strong fresh broke through the North Spit, and the fairway was nearly, as in September, 1887, viz., straight out. Afterwards the bar altered continually. Several days strong north-east winds, shoaling up the depth of water 2 or 3 feet, and westerly winds, deepening it.

During the winter, the Pilot informed me that at one time a channel seemed likely to form in the old position under the Head, the sea coming in and making a gutter in the sand to within 30 feet of the inside water. If it had once broken through there was every probability of a deep channel being scoured out, as the water was high, and the river in fresh at the time.

The Macleay bar may be considered in comparison with others on this coast as a smooth one. It is in a large bight, and sheltered from the southward round to south-east by Trial Bay and Smoky Cape. During strong south winds it is frequently smooth on the bar when a high sea is running in the offing. It is only when the wind gets round to south-east that the bar breaks heavily. In moderate north-east winds there is little break during the flood stream, and with continued west winds I have seen the bar free of breakers for days on both ebb and flow.

The wreck of the "Agnes Irving," an iron steamer, has been lying in 11 feet of water outside the South Spit, and over a cable's length south of the fairway, since December, 1879. It is partially sanded up with 9 to 11 feet at low water inside the hull, but amidships some ironwork stands above the sand, and one piece has a depth of only 5½ feet over it. A spar buoy was placed outside this wreck in October, 1887, but it was repeatedly washed away, and sometimes found miles up the river.

No perceptible current was observed immediately outside the soundings obtained, but the flood stream was observed to set towards the entrance from either side.

During freshes the discoloured water could be seen when well outside the bar to trend round to the northward and inshore.

The Pilot informs me that all wreckage from Trial Bay or South-west Rocks is deposited on the beach, either close to North Head or along the beaches north of it, which would seem to indicate a northerly eddy inside the constant southerly current which sets along the coast outside the Capes.

#### *Of Floods and Freshes.*

The Macleay River having its sources in the New England Range, 80 or 90 miles inland, runs through very broken country for the first part of its course, and is joined by many mountain creeks, consequently it is subject to sudden freshes of short duration.

Very heavy rains along the coast do not affect the river much, and I am informed that the only floods known have been during gales between south-east and north-east, when the rain clouds, being driven inland against the mountain barrier, discharge their contents there, and fill up the numerous creeks which feed the river.

All information regarding floods was very contradictory; the river-banks and all landmarks of the old times seem to have changed or have been removed. The buildings on the lower part of the river being all of

of timber have decayed, or been swept away and replaced by others. I was given no time to make inquiries above Kempsey, but at Central Kempsey I was shown a flood-mark said to have been levelled to by a surveyor, and 25 feet above the ordinary high water. This was in the flood of 1875; the mark has since been built over.

The best information as to frequency and duration of floods and freshes was obtained from some old diaries kept by Mr. Croad, of Smithtown, who kindly allowed extracts to be made. He appears to have noted down all freshes of consequence.

Unfortunately, his house, which was a chain from the river-bank, was pulled down some years since, and his later journals mislaid or lost. The following extracts extend over a period of fifteen years:—

- 1863.
- 26 January ... River rose 4 feet.  
 27 January ... River bank high (14 feet above datum).  
 28 January ... River falling.  
 14 February ... River rising; wind south-east to north-east, very strong.  
 15 February ... River running over bank.  
 16 February ... River over sleepers of house.  
 17 February ... River falling, but still bank high.  
 18 February ... River fell 3 feet.  
 19 February ... River falling fast; ten men drowned up river.  
 3 April ... River bank high; southerly gale.
- 1864.
- 10 February ... River rising; wind south, heavy rain.  
 11 February ... River rising; wind south-east, heavy rain.  
 12 February ... At 10 a.m. over banks, and soon after falling.  
 1 March ... River rising; strong north-east wind and heavy rain.  
 2 March ... River bank high.  
 3 March ... River bank high all day.  
 4 March ... Fresh abated slowly till 12th March, when river was not yet at ordinary level.  
 19 March ... River rising again; strong southerly winds and heavy rains. The river was again very high on 30th and 31st March.  
 2 May ... Strong fresh in river; wind south-east.  
 3 May ... Strong fresh in river; wind strong.  
 4 May ... Fresh abating.  
 4 June ... River running bank high; south-east wind strong.  
 20 June ... A high fresh in river.  
 14 July ... Heavy rain and gale from north-east; river rising fast.  
 15 July ... River over banks at 8 a.m., and still rising at 9 p.m.; wind north-east to south-west.  
 16 July ... 1 p.m., river falling slowly.  
 20 July ... River still falling; wind north-west.  
 6 August ... Continuous heavy rain.  
 7 August ... Continuous heavy rain.  
 8 August ... Heavy rain; east-south-east gale all night and day.  
 9 August ... Flood over sleepers of house; strong south-east gale.  
 10 August ... Eight inches of water in house (17 feet above datum).  
 11 August ... Water falling; light south-west wind.  
 13 August ... Water had fallen 2 feet.
- 1866.
- 13 July ... River in fresh over bank; strong south-east gale.  
 14 July ... River in fresh over bank; strong south-east gale.
- 1867.
- 11 April ... River rising; strong north-east wind.  
 24 April ... River rising; strong north-east wind shifting to east.  
 25 April ... River up to stump (16½ feet above datum).  
 26 April ... River falling; strong south-east wind.  
 27 April ... River falling; strong south-east wind.  
 28 April ... River rising.  
 29 April ... River rising; over bank.  
 30 April ... River falling.
- 1869.
- 19 March ... River rising, in strong south-east gale.  
 19 April ... River rising, in strong south-east gale.
- 1870.
- 9 March ... River rising; strong north-east wind.  
 10 March ... River falling.  
 13 March ... River rising; heavy rain and south-east gale.  
 14 March ... River rising; heavy rain and south-east gale.  
 15 March ... River rising; heavy rain and south-east gale.  
 16 March ... River rising; heavy rain and south-east gale.  
 17 March ... River rising; heavy rain; wind south.  
 18 March ... River bank high.  
 19 March ... River bank high; gale from south.  
 20 March ... Black Sunday. River running over banks; all sugar torn up by roots and corn submerged.  
 21 March ... River over banks; fine north-east wind.  
 22 March ... River slowly falling; fine north-west wind. The water continued to fall and reached ordinary level on 27th March.  
 12 May ... River rising; wind north-east to south-east. 1872.

1872.  
22 December ... River rose 6 feet ; wind south-south-west, with rain.
1873.  
25 February ... River bank high ; south-east gale.  
26 February ... River bank high ; falling.  
15 June ... River rising ; wind east, with rain.  
16 June ... River rising ; gale from north-east.  
17 June ... River bank high at 7 a.m. ; north-east gale. After that the flood-water fell slowly till the 20th, with fine weather and west winds.  
29 December ... Fresh in river ; heavy gale from north-east, with rain.  
30 December ... River rising ; heavy gale from south-east.  
31 December ... River falling.
1874.  
27 January ... River rising ; south-east gale and heavy rain.  
28 January ... River rising ; south-east gale and heavy rain.  
29 January ... River rising ; south-east gale and heavy rain.  
30 January ... River rising ; south-east gale and heavy rain.  
31 January ... River falling.
1875.  
25 February ... River rising ; strong south-east and rain.  
26 February ... River rising ; strong south-east and rain.  
27 February ... River rising ; strong south-east and rain.  
28 February ... Flood water in house ; south-east gale, blowing barn, outhouses, and trees down. This is the most disastrous flood known on river.  
1 March ... Water 18 inches in house (18 feet above datum) ; south-east gale still blowing.  
2 March ... Flood water slowly falling ; south-east gale.  
3 March ... Flood water slowly falling ; north-east showers. The river continued to fall till the 7th March, with north-easterly weather.
1876.  
11 April ... Heavy rain and south-south-east wind till 14th.  
14 April ... River rising fast.  
26 June ... River rising ; strong south-east wind.  
27 June ... River falling.  
14 July ... Heavy rain : south-east gale.  
15 July ... River rising ; easterly gale.  
16 July ... River rising ; easterly gale ; heavy rain, ended 7 p.m.  
17 July ... River up to top of bank ; south-westerly wind.  
18 July ... River falling ; south-east gale.  
19 July ... River rising ; south-west gale.  
20 July ... River falling slowly ; south-west gale.  
21 July ... River falling slowly ; south-west gale.  
22 July ... River falling slowly ; south-west gale.  
23 July ... River falling slowly ; less wind
1877.  
21 December ... Very heavy rain and hail south-east ; strong fresh in river.
1878.  
7 February ... River up 8 feet ; north-east wind.  
9 February ... River falling.  
16 February ... River rising ; south-east gale.  
17 February ... River up 8 feet ; south-east gale.

From the above date the books containing the entries were not to be found.

During the survey the river was in fresh more or less from the 26th December, 1887, to the end of April, 1888.

Early in January, 1888, the flood-water was over the Government wharf (about 6 feet rise) for some days at Smithtown, and frequently afterwards 1 or 2 feet above ordinary level, but nothing that could be called a flood took place.

No rainfall has been noted at the Macleay Heads, the nearest meteorological station being West Kempsey, where the rainfall has been registered since 1882. The average for five years has been a fall of 37.75 inches, which would be about two-thirds of the rainfall at the Heads.

I was unable to obtain any information as to the winds during the last ten years, and any records from West Kempsey would fail to show how the winds blew at the entrance.

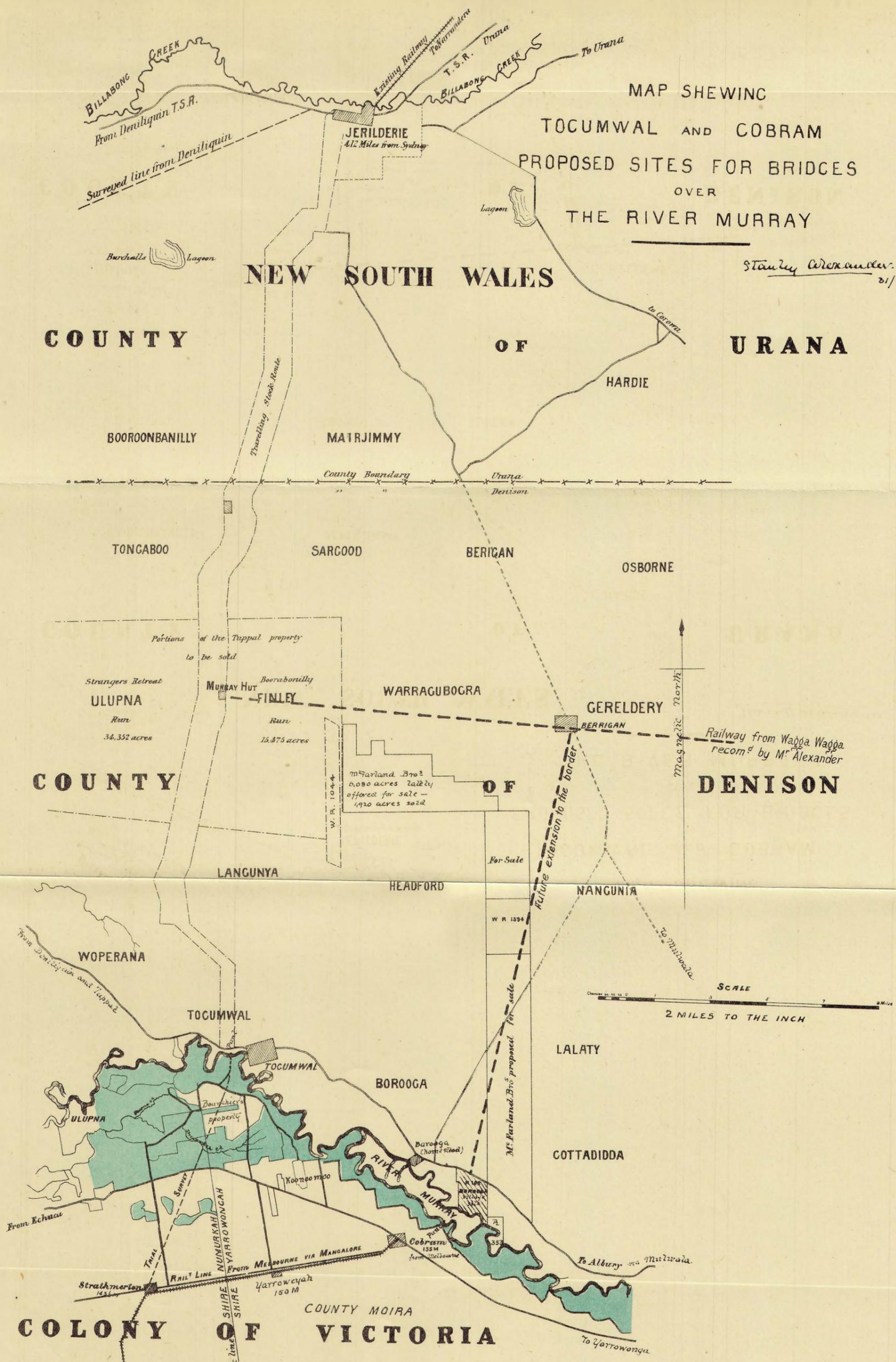
On February 8th, 1888, a strong north-east wind was blowing at the entrance and some distance up the river ; at Kempsey it was calm till about 1 p.m., when a very heavy rain squall came from the westward. This met the north-east wind at Seven Oaks, and from thence to Kinchela Creek caused a cyclone, which levelled all crops along the river banks, tore up trees, barns, &c., and unroofed or otherwise damaged most of the houses at Smithtown.

The works on the Macleay River carried out by the Harbours and Rivers Department are the Government wharves, dry dock, and dredged cuttings, and I doubt the existence of any plans of these works. I am informed that a breakwater is to be run from Logger's Point across Trial Bay by prison labour, but the plans have not been made public. A large quantity of rails, trucks, &c., for this work was landed at Pelican Island wharf during the survey.

With regard to materials, prices, &c., there has been a Resident Engineer of the Harbours and Rivers Department at Trial Bay for many years who can best furnish that information.

COMMANDER F. HOWARD, R.N.,  
Hydrographical Surveyor,  
Harbours and Rivers Branch,  
Department of Public Works.

[Two Plans.]



MAP SHEWING  
 TOCUMWAL AND COBRAM  
 PROPOSED SITES FOR BRIDGES  
 OVER  
 THE RIVER MURRAY

Stanley Alexander, M. J. C. E.  
 21/2/91

(81 of 86)

Note - The area colored blue is approximately the forest reserves and leased lands subject to inundation from the Murray River floods.

1891.

## NEW SOUTH WALES.

NEW ZEALAND AND SOUTH SEAS EXHIBITION, 1889-90.  
(REPORT OF THE COMMISSIONER FOR NEW SOUTH WALES.)

Presented to Parliament by Command.

New Zealand and South Seas Exhibition, held at Dunedin, 1889-90.—Report of  
Oscar Meyer, Esq., Commissioner for New South Wales.

To His Excellency the Right Honorable CHARLES ROBERT, BARON CARRINGTON, a Member of Her Majesty's Most Honorable Privy Council, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

In accordance with the terms of the Commission issued to me on the 5th August, 1889 (*Appendix A*), in which I was authorised to report my proceedings in connection with the Exhibition held at Dunedin, I have the honor to submit for your Excellency's consideration, the following statement as to the steps taken by me in the performance of such duties. The experiment, tried in this case for the first time, of confiding an Exhibition to the charge of a single representative, threw upon myself, as the sole Commissioner, the entire responsibility of the success or failure of the undertaking; and, conscious of a sincere desire that the Colony should sustain no loss through error or deficiency on my part, I have devoted myself to the work with all the energy I possess, and, as I trust, not without a satisfactory result.

The enterprise which ultimately grew into the New Zealand and South Seas Exhibition, was originally suggested by a private citizen of Dunedin, who deemed it a fitting mode of celebrating the Jubilee of the Colony. Somewhat coldly received at first, the project secured, after a time, the support of some of the leading capitalists in that city; and, with such a guarantee of success, was finally taken up with considerable enthusiasm throughout New Zealand, and especially in the southern provinces of the Middle Island. As there appeared at the time little prospect of obtaining aid from the Government in any shape, the promoters resolved to form a Company to carry out the proposed work, not as a matter of profitable commercial speculation, but as a patriotic undertaking for the general benefit. No difficulty was experienced in obtaining the stipulated amount of capital necessary for the successful working out of the scheme; and the Government, seeing the energy displayed by the shareholders, and the readiness with which they risked capital to the extent of over £15,000, at length consented to assist with a grant of £10,000. At this stage, other countries and colonies were invited to take part in the Exhibition, and to join in making such a display of their respective products, natural and manufactured, as would bring their resources and capabilities distinctly into notice. Responses were received from New South Wales, Victoria, and South Australia, which were the only colonies from which Commissioners were appointed by their respective Governments.

Out of a large number of sites offered for the erection of the Exhibition buildings, the Executive chose a level piece of ground containing about 12½ acres, and situated in a part of the city easy of access from all quarters, and as nearly central as the distribution of population would allow. It is a significant fact that this site had but a few years previously formed portion of an unreclaimed area covered at high water by the sea; and, irrespective of other considerations, there was a singular appropriateness in utilising it for the purposes of an Exhibition that would supply evidence of the industrial progress of the Colony.

As, for the most part, the buildings were designed to be of a temporary character only, they were chiefly constructed of wood and iron. In shape they consisted of an irregular four-sided figure about 1,100 ft. in length and 400 ft. in width, of which the two longer sides only were parallel, and having transverse bays connecting those sides and octagonal spaces at the angles and in the middle of the longer sides. A broad passage, "The Avenue of Nations," passed through each side of the quadrilateral, having on either hand bays for the display of exhibits. On the western side of the block were located the Victorian and New South Wales Courts; a portion of the northern was occupied by the exhibits of British contributors; and the remainder was allotted to the various provinces and districts of New Zealand and the South Sea Islands. In the transverse bays were placed Art Galleries, the New South Wales mineral collection, Victorian exhibits, French, German, and other foreign exhibits, and machinery.

In preparing the New South Wales Court for the reception of exhibits, some difficulties had to be encountered, arising chiefly from the peculiar shape of the space allotted for the purpose. After determining the exact positions in which the several classes of exhibits should be placed, the arrangement and decoration of the Court were rapidly proceeded with, and the most strenuous efforts were made to ensure the completion of all these works prior to the day set apart for the opening of the Exhibition. In connection with this subject, I cannot forbear to remark that the unanimous verdict of the press and of visitors places the Court first in order of merit on these grounds. Some apprehension was felt as to the possible non-arrival of exhibits in time for display by the opening day. Irregularity of communication by steamer between Sydney and Dunedin, and the almost total impossibility of shipping direct to the latter port, precluded any precise calculation of the dates of arrival. Anxiety was particularly felt on account of the large quantity and great variety of mineral exhibits expected, and it was foreseen that the landing and arrangement of these would require all the time at our disposal, even when the men employed were working twelve and thirteen hours a day. Still greater cause for anxiety was occasioned with regard to the paintings sent by the Art Society of Sydney. In the absence of sufficient means of direct communication with Dunedin, these paintings were forwarded by way of Melbourne, and it was feared that even then they might not arrive until after the opening day. Although the vessel did not enter the port till late on the day preceding the opening, and the pictures could not be obtained until night, arrangements were made in advance for their reception, and by next morning all were properly hung in their places in the Art Gallery. Fortunately, all other exhibits, with few and inconsiderable exceptions, arrived in time, and were displayed in the places assigned to them prior to the appointed day.

The ceremony of opening the Exhibition took place on the day selected for the purpose, 26th November, 1889, His Excellency the Earl of Onslow, Governor of the Colony, having, at the request of the Executive, been present to perform the office of declaring the building open to the public. Extensive preparations had been made with a view to render the ceremony impressive, and the exertions of the Executive to that end were cordially seconded by the public. In the main the example set at the Centennial Exhibition in Melbourne was followed. Outside of the building there was military display, followed by processions of Friendly and Trade Societies and Fire Brigades. Within, a large audience consisting of leading citizens, official persons connected with the Exhibition, and ladies, were assembled in the Concert Hall to witness the proceedings, and to hear from the Governor the declaration that the Exhibition was formally opened. After prayer by the President of the Exhibition a "Song of Praise" was performed by a choir and orchestra, and the President having addressed the Governor in a speech that contained many interesting particulars, His Excellency replied, eliciting warm applause from the audience. Having then made the official announcement as to the opening of the Exhibition, His Excellency was conducted through the different courts, and was pleased to speak in complimentary terms of the appearance of that belonging to New South Wales. The whole ceremony was most successfully managed, and appeared to give universal satisfaction.

There can be no doubt that the general arrangement of the building was judicious, and such as would enable visitors to note the principal exhibits to the greatest advantage. A continuous avenue passing round the entire building, and of moderate width, was perhaps the form best adapted to assist spectators in making a close examination of the object displayed on their right hand and on their left, while none could be overlooked by persons who cared to exercise their powers of observation. In the transverse bays a similar arrangement was adopted; and among the advantages gained thereby not the least was the fact that mineral exhibits belonging to New South Wales were open to inspection from two broad avenues.

Before describing the exhibits displayed in the New South Wales Court, it may be desirable to note a few brief remarks upon those supplied by other colonies and countries; for the limitation placed upon the articles eligible for exhibition in my instructions requires that the position of New South Wales in the competition should be defined; and this will probably best be effected by a comparison of exhibits, or by the contrast which would naturally be suggested to an intelligent observer. It will readily be admitted that, in New Zealand, the Exhibition, as a mode of celebrating the Jubilee of the foundation of the Colony, would be regarded in a different light from that in which it would be viewed elsewhere. *There* it seemed to be an essential part of the programme that steps should be taken to evince the progress made by the colony in all the arts of civilized life during the fifty years of its existence; and as a consequence exhibits exemplifying that progress would not only be welcome, but would be considered necessary. Hence such exhibits as are produced in what are frequently termed domestic manufactures, those, namely, intended for home consumption in contradistinction to those designed for export, and of which boots and shoes, clothing, furniture, vehicles, and articles of daily consumption are familiar examples, were provided for in the schedule of classification, and were supplied in considerable numbers. They fully answered the purpose intended, and showed that, in all such manufactures, New Zealand is fully abreast of the other colonies, notwithstanding its brief period of existence. But no such necessity lay upon the other colonies which desired to show such goods only as would form the material for an export trade. Even in this design, the fiscal system of New Zealand gives little encouragement to producers in other colonies, except in a few articles upon which the customs duty is not distinctly prohibitive. The resolution of the Government of New South Wales, to restrict the exhibits from that Colony, mainly, to minerals, timbers, wines, and wools, was therefore fully in accord with the spirit of the Exhibition itself, and with all the surroundings of the case, although the effect was to limit in appearance the number of exhibits belonging to the various classes of manufacture carried on in New South Wales. That this Colony suffered, however, from the absence of such exhibits there is no evidence to show, while there is abundant proof that the restrictions above mentioned have led to a high degree of success in making widely known the most important natural products of New South Wales.

Omitting the exhibits in the Armament Court as not specially distinctive of New Zealand, it may be remarked, in the first place, that not only each provincial district, but, in some instances, each county, had secured for itself a separate bay. As a consequence, while it was easy to ascertain, so far as the exhibits shown were concerned, what the products of such districts were, some difficulty would be felt in forming a general idea of the resources of the country as a whole, and of the comparative value of different districts with respect to any special product. This was shown most pointedly in the case of minerals; for, though there was an excellent collection of ores, and similar products shown by the Government in a separate bay, there were others scattered among the exhibits of the various districts where

where they were to a considerable extent unnoticed in the crowd of miscellaneous articles. Had all these been collected into one spot, together with those exhibited by the Government, a display would have resulted that, in some respects, would have challenged comparison with that contained in the New South Wales Mineral Court.

Among the articles which may be considered to be characteristic of New Zealand, and of which specimens are not generally produced in other colonies, it may be said that the Auckland Court showed limestone, building stone, and antimony ore; Kauri timber, flax, rope, twine, and matting; leather, and boots and shoes, and Kauri gum. From Hawkes' Bay, the most noteworthy exhibits were specimens of timbers, agricultural produce (including hops), beers, wines, and spirits. Portland cement, woollen manufactures, flax, wool, beers, and preserved meats were furnished by the Wellington district; coal was sent from Nelson; wheat from Wanganui; and flax, beers, and preserved meats from Marlborough. From the great mineral region lying on the west coast of the Middle Island, a collection of minerals was shown that included gold in sand and in quartz, coal of various qualities, and greenstone. Timbers and ferns, chalybeate water, and New Zealand wines were also sent from that province. Though not so fully represented as regards its special products as might have been expected, the large agricultural and pastoral district of Canterbury appeared to considerable advantage. Its principal exhibits were lignite coal, pottery, timbers and articles made therefrom, grass seeds, barley and malt, hams and bacons, flour and oatmeal, wines and beers, agricultural implements, and wools. Otago supplied pottery, lime and cement, textile fabrics (principally from the Mossiel Woollen Company and the Rosslyn Worsted and Woollen Mills), timbers and articles constructed thereof, flax, ropes and cordage, vegetable and grass seeds, beers, cheese, bacon, hams, and lard, preserved meats, flour, maize, rye, and oatmeal, biscuits and confectionery, leather, and agricultural machinery. In separate bays, under the names of the counties or towns from which they were supplied, were also shown gold, antimony, cinnabar, coal and lignite, manganese, lime and cement, wheat, oats, flour, oatmeal, flax, linsced and grass seeds, hams, bacon, butter and cheese, timbers, beers, fruits, wools, and textile fabrics. From the district of Southland the following exhibits were received:—Building stones, tin ore, coal lignite, fire-clay, kaolin, pottery, timbers, flax, oats, wheat, barley, grass seeds, turnips, potatoes, beers, cheese, bacon, hams, lard, canned fish, biscuits, and agricultural implements. From the foregoing detail a fairly correct estimate of the resources of New Zealand, as at present developed, may be formed. The Mineral Court, however, arranged by the direction of Sir James Hector, shows that there are other resources not as yet fully availed of, but nevertheless likely at no distant period to be turned to useful account. Among the specimens of minerals shown were arsenic, copper, gold, iron, lead, silver, tin and zinc, asbestos, chalk, jasper, graphite, barytes, sulphur, and marble. Coal of different kinds was also shown in great variety. In the Early History, the Natural History, and Fisheries Courts, the New Zealand Government have shown collections, not only intrinsically interesting, but of great value and utility to all who desire to understand the true history of the country and of its former possessors. The anthropological collection includes contributions from various of the island groups in the South Seas.

It appears to have occurred to the Exhibition Executive that the display would be incomplete in the absence of exhibits showing the progress made in the schools conducted under the educational system of the colony. Accordingly a large number of articles was obtained from different schools, and shown in an Educational Court. These were generally of a very creditable character, and with few exceptions, were obviously genuine. So far as bookwork, drawing, and needlework can attest the efficiency of the instruction given in schools, these exhibits bear most favourable witness. "In the hope that such a display would prove of great educative benefit and pleasure to the people at large, and be the means of fostering and encouraging a desire for art and artistic study among the younger members of the population," the Executive undertook to display in a brick building, specially erected for the purpose, a collection of engravings, lithographs, and pictures, examples of the work of artists of standing, British, foreign, and colonial. Of this collection, it may be said, in general terms, that it was not only adapted to be of service to the art student, but that it was of equal value in enabling the general public to discern the excellent in art from that which is merely false and pretentious.

On the whole, the New Zealand Courts were calculated to impress the visitor with the idea that the country itself possesses vast natural wealth in the fertility of its soil, in its indigenous timbers, and in its varied mineral products. Not less decided would be the conviction that the people are gifted with energy and enterprise to avail themselves of the treasures within their reach, while the educational system established throughout the land is a guarantee that nothing will be wanting to the due development of its capabilities through lack of knowledge. In its relation to other colonies, New Zealand would also be in a position by means of these exhibits to show that it is capable of meeting many wants and supplying many articles of commercial value with advantage to both producer and consumer. The intercourse which would be developed by intimate commercial exchange would doubtless tend to benefit both parties, in other than merely material points of view.

The Victorian Court under the charge of a Commission appointed by the Government of that colony, was situated next to that of New South Wales and in a line therewith. With the exception of the exhibits supplied by different departments of the Government, inconsiderable in number and consequence, all the goods displayed in the Court belonged to private individuals. Most of these exhibits may be included under the designation of manufactures. Among these the following appeared to be deserving of special mention, by reason either of their intrinsic importance or of their excellent qualities:—Glassware, pottery, furniture, textile fabrics, carriages, boats, and machinery. In addition to these, there were a few exhibits of agricultural produce, including wheat, maize, oats, peas, beans, barley, and hops. Wines were largely represented, there being thirty-five exhibitors in this class, and a few samples of beer were also shown. Biscuits and jams with allied products were exhibited, but in small quantities; but leather, boots, and shoes, and saddlery were represented by fifteen exhibitors. A few exhibits of wool, though of excellent quality, very inadequately represented this important branch of Victorian productive industry. Some agricultural machinery completes the list of exhibits of the economical classes shown by private persons. Among the Government exhibits of those classes may be mentioned a mineral collection, carpalogical specimens and fibres, and wine. In the Educational section, including Art, were a collection of specimens from the Educational Department, Melbourne; copies of the Victorian Year Book by the Government Statist; maps from the Survey and Mines Departments; a large collection of paintings in  
oil

oil and water colours by various artists, resident in Victoria; and photographs. A special gallery within the Victorian Court was devoted to the exhibition of a loan collection of paintings by artists of eminence, including 167 separate pictures. This added greatly to the attractions of the Victorian Court.

Although represented by a Commissioner, South Australia displayed but few exhibits, and of these only the wines require special notice. A large number of different kinds of wine were shown by twelve growers, including all who had succeeded in establishing a reputation for the high quality of their products. Judging from the number and class of awards obtained from the jurors, these wines must, on the whole, have been of superior quality and in excellent condition. Another characteristic industry of the colony was also represented, but to no great extent—the manufacture of currants, raisins, dried fruits, preserved fruits, jams, and olive oil, which bids fair, at no distant date, to become an important branch of production in South Australia, as, in fact, it might be in most of the other Australian Colonies.

To British exhibitors, represented by Mr. Arthur Day, space was allotted in the northern side of the building. Other British exhibits were shown in another portion of the building, the separation having been caused by the fact that the British Government had not appointed a Commissioner, and that, in consequence, each exhibitor had to arrange as he best could for the display of his goods. The natural result of this lack of arrangement was that a visitor would find it difficult to discover some of the exhibits, and that the impression which a large collection is calculated to produce was to a considerable extent lost. The great bulk of these exhibits consisted of manufactured goods in various branches of industry. An exception to this was Sutton and Sons' display of seeds, which was of great value in an educational as well as in an economic sense. A duplicate of this exhibit would form a most useful feature in the museum of an Agricultural College. This remark applies with especial force to the case containing a collection of cereals and pulse. Exhibits of candles, soaps, oils, pickles, sauces, coffee, cocoa, chocolate, condiments, and medicaments were displayed in ornamental show cases judiciously arranged in the Court; and specimens of woollen cloths from the west of England afforded an excellent opportunity for making comparisons with the best samples of the same class of goods produced in the New Zealand factories. It need scarcely be remarked that the specimens of British manufacture exhibited were all of the high class usually found in such articles.

American and foreign exhibitors were accommodated with space in the transverse avenue leading from the octagonal area between the Victorian and New South Wales Courts to the similar area in the New Zealand Courts. Among their exhibits one of the most conspicuous was that of the Messrs. Cameron—tobacco in various forms, including the growing plant. An interesting exhibit was also shown of tobacco from Fiji. Agricultural machinery from American makers occupied a considerable space. With the exception of French wines, Indian and Ceylon teas, statuary and pianos, the remainder of the exhibits in this Court were of a miscellaneous character, difficult to classify. As a representation of national resources or industries, they were wholly inadequate, and in this sense were probably the least effective portion of the whole exhibition. In the same avenue exhibits from France were shown under the direction of Mons. V. Laruelle, representative agent. Excepting wines and spirits, of which there were numerous specimens, the French exhibits were, generally speaking, not examples of great staple manufactures, but rather of those works in which delicate taste, excellent workmanship, and high finish enable the French to excel other nations. Such, for example, were the different specimens of glassware shown in this Court, the porcelain exhibits, ladies' and children's dresses and shoes, jewellery, and even the toys and trinkets. Although characteristically French, however, such exhibits could not be considered as properly representative of the great French industries; and it may indeed be doubted whether the majority of the exhibitors had any definite motive in displaying their goods beyond the hope of profit from immediate sales in the building.

Adverting now to the New South Wales Court, it may be mentioned that it commenced at the octagonal space in the middle of the western side of the building. The whole octagon was divided between New South Wales and Victoria; and the portion allotted to this Colony was occupied by the exhibits of the *Sydney Morning Herald*, being handsomely fitted up for the display of Messrs. Fairfax & Sons' specimens of typography and engraving. Adjoining this, were the office of the Commissioner and the Reception Room, in which it has been the custom to receive visitors to the Court, especially such as came from New South Wales. There is reason to believe that the existence of such a convenience has been highly appreciated by a large number of persons who had spent time in inspecting exhibits. Next to the Reception Room on the same side of the main avenue, was a fernery in which specimens of ferns of various genera were planted, and which afforded relief to the spectator when fatigued with long continued close examination of the goods displayed in the Court. Passing a small bay in which the exhibits of the *Bulletin* Newspaper Company were shown, comprising files of that paper and humorous drawings and cartoons by leading artists in that branch, the next division of space was occupied by an Art Gallery in which was hung a valuable collection of paintings by members of the Art Society of New South Wales, and which has attracted a large amount of attention. Natural History specimens prepared by the experts of the Australian Museum in Sydney came next; and in the same bay were shown cases containing coins of various ages and different countries exhibited by Mr. A. A. Simpson, of Tumut. In close contiguity was the space set apart for the representation of the Jenolan Caves which, from the first, formed a highly popular portion of our exhibits and was visited by many thousands of persons. By means of paintings and photographs and the aid of powerful lenses, the artist, Mr. W. J. Wilson, of Sydney, whom I employed for the purpose, succeeded in producing a more effective representation than had been previously exhibited of these magnificent caves; and competent judges who had personally visited these natural wonders have borne witness to the truthfulness of the reproduction. By the local press equally favourable testimony was given to the vividness and apparent truth to nature of the scenes exhibited. In an adjoining bay there were shown exhibits of scientific instruments, constructed by Mr. Wiesener, of Sydney. These instruments, made in the Colony of New South Wales, and in many instances of original design, attracted attention, not only on account of their obvious utility, but also because of their merits in point of workmanship, and of their cheapness. On these grounds they obtained a first-class award. Some very superior samples of horse-shoes were placed in the same bay, and were also honoured with a similar award. Specimens of compressed leather and samples of preserved fish were likewise exhibited in this bay, both being pronounced excellent of their kind.

Crossing the main avenue at this point, the New South Wales wine bar next presented itself. Originally included by the Exhibition Executive in their programme, the installation of colonial wine bars was at once adopted as part of their policy by the Commissioners from the other Australian Colonies; and

after

after some consideration, I resolved to follow the same course. The reason which influenced me in arriving at this decision was principally the desirableness of making known in New Zealand the existence of the numerous varieties of high-class wines produced in New South Wales, and, if possible, of creating a taste that might ultimately lead to a constant demand for these beverages. At the same time it appeared to me that, under careful management, this could be effected without trenching upon the funds granted by the Government for the purposes of the Exhibition; and all the subsidiary arrangements were accordingly made with a due regard to this consideration. The bar itself was constructed on a novel principle, the external portion being formed of representations of vines intertwined and covered with foliage, and it was thus relieved of the character of a mere wine-shop. From the time of the opening of the bar it has continued to pay all the expenses incurred; the making of a profit upon sales was not contemplated. Although less numerous than could have been wished, the wine exhibits were fairly representative of the several wine-producing districts; and a considerable proportion possessed great merit, a fact duly recognised by the judges, as will be seen from the subsequent statements as to the awards.

It may be mentioned here, however, that, in proportion to the number of exhibitors, the wines of New South Wales secured a larger number of the higher classes of awards than any other colony. The following table shows the proportion of awards of the higher classes to each exhibitor:—

Colony.	Proportion of the 1st and 2nd class Awards gained by each Colony.		
	1st class.	2nd class.	Total.
New South Wales .....	3.00	1.04	4.04
Victoria .....	0.93	0.71	1.64
South Australia .....	1.03	1.00	2.03

Proceeding northward from the wine-bar, and on the same side of the main avenue, the bay was reached in which wool exhibits and cocoa-nut matting were shown. In the class of wools, also, it were much to be desired that a more fully representative collection of samples had been procured; but the lateness of the period at which it was decided to take part in this Exhibition precluded the possibility of effectually canvassing many important wool-growing districts in New South Wales. It is gratifying to know, however, that the samples which came to hand were of excellent quality, and that, besides various other awards of the highest class, the International Grand Champion Prize for Wool was secured by a New South Wales exhibit, that of the Collaroy Company. The wool shown by Messrs. Traill Brothers also received a high encomium from the judges, who pronounced it to be the finest spinning wool shown in the Exhibition.

The mats and matting from Darlinghurst Gaol are admittedly of high class, both as regards material and workmanship.

The exhibits from the Technological Museum, forwarded by the Curator, Mr. J. H. Maiden, were both interesting and instructive, and they have secured much careful scrutiny on the part of the public and favourable comment from the press. They included an educational collection of wools, each specimen being accurately labelled and described so as to present means of comparison with regard to all essential qualities of wool; and also a series of samples of colonial wools to illustrate the different stages of clothing manufacture. This was followed by a collection of barks useful for tanning, and comprised, besides those in actual use, those not hitherto employed for the purpose. Such a collection, properly studied, should prove of great value in countries where the raw materials of leather are so abundant as in Australia and New Zealand, and where the leather industry must eventually become one of the highest importance. As the Curator properly points out, "many of these barks are but little known, and are shown for two reasons: A bark is usually the most easily observed, and often the most characteristic portion of a tree. Examination of these will bring about a more intelligent interest in our forest wealth. Also much ignorance prevails in regard to the economic value of our commonest species. This is partly accounted for by the fact that our wealth of indigenous vegetable products is so great that only those most readily converted into money are known." To a considerable extent the foregoing remarks apply to the "Collection of Fibres and Fibre-barks from Indigenous Australian Plants," for while those of great excellence are scarce, fibres of less value are abundant, and are likely in the future to be extensively used for economic purposes. Although the next exhibit, instructive as it may be, was perhaps more curious than useful, the "Indigenous Australian Vegetable Products chiefly used as food by the Aborigines," might be found to include specimens that hereafter would prove to be of some utility. So, with regard to the "Indigenous Vegetable Substances reputed to possess Medicinal Properties," it is not improbable that new curative agents of great value may be discovered among these plants, a consideration that invested the collection with much interest. Next followed a collection of "Australian Gums, Resins, and Kinols," and another of "Insect Galls," both of which possess scientific interest as well as affording the promise of future economic value. The list of exhibits from the Technological Museum closes with a "Collection of Exhibits to illustrate the utilisation of some of the most useful timbers of New South Wales." Attention is called by the Curator to the fact that "these timbers have not been worked into their present forms at random. The timbers are actually used, for the purposes shown, within the Colony of New South Wales." It will be evident that the whole of this series of exhibits were worthy of careful study, both on account of their bearing upon productive industries, and also the admirable manner in which they have been selected and displayed. That such was the opinion of the jurors is evident from the high award adjudged to them by the Exhibition authorities.

A loan Collection of Works of Art, consisting of oil paintings, statuary, and bronzes, occupied the adjoining bay. The paintings, for the most part, were by old masters, and afforded visitors a profitable opportunity of comparing their style and treatment with those adopted by living artists, as shown in the pictures displayed in the Art Gallery on the opposite side of the main avenue. This collection has proved highly attractive, though being non-competitive, it did not come within the purview of the jurors in the Art section.

The exhibits from the Government Printing Office, Sydney, including specimens of printing, bookbinding, and photographs, are so well known for their high qualities as to need but brief mention in this report; and it may suffice to state that, while they have secured from the general public a large amount of attention, they have also obtained from the jurors an award of the first-class.

Occupying

Occupying a rectangular space 12,000 feet in area, and possessing frontages to both the main and transverse avenues, the position of our Mineral Court was not surpassed by any in the building, and the facilities for observing in detail the great variety of specimens contained within its bounds were absolutely unrestricted. Trophies of copper and tin were erected on the frontage to the main avenue; gold and gems were placed at the intersection of the two avenues; timbers were effectively displayed on the line of the transverse avenue; the various mineral specimens were arranged in parallel rows, with wide gangways between, so as to admit of close inspection on every side; the samples of coal occupied the eastern portion of the bay; and the whole display was bounded on that side by a wool trophy of great size and ornamental appearance. In the arrangement of the Mineral Court I was ably assisted by Mr. J. E. Carne, Curator of the Geological Museum in Sydney, who, at my request, was spared for the purpose, by the Honorable the Minister for Mines, from his immediate duties. Besides the ordinary labels attached to exhibits for the purpose of technical description, it seemed to me that some more striking means of directing attention to exhibits individually might be devised; and accordingly, banners variously coloured and with appropriate lettering were affixed to the principal specimens. Still further, to relieve the somewhat sombre and uninteresting appearance presented to the ordinary visitor by so large a collection of mineral ores, boards painted in different colours, and inscribed with the names of the chief mining localities in New South Wales, were suspended at some height above the various gangways, so that, while easily read, they in no way interfered with the general view of the whole Court. Special arrangements were made for the lighting of the Court at night, in order that the exhibits might be as effectively displayed then as by day. Thus arranged and decorated, the Court presented an appearance so light and attractive that great numbers of visitors, for whom mineral exhibits would of themselves possess no interest, paused in their circuit round the building to read and examine, while practical miners found themselves at once directed to the specimens they wished to inspect, and provided with information as to locality, specific character, and value, ready at hand. As regards the general effect of this display of mineral wealth, a few points are deserving of special notice. In the first place, there can be no doubt as to the deep impression created in the minds of visitors generally by this evidence of the value and variety of the natural resources of New South Wales. It was obvious that a country possessed of such wealth must occupy a high position among the family of nations, notwithstanding temporary checks and reverses arising from unpropitious seasons or other drawbacks to general prosperity. Secondly, some practical benefit has resulted from the examination of the mineral specimens by miners and other persons interested in mining pursuits. By comparison of geological conditions, methods of working, and difficulties in the treatment of ores, an impulse has been given to mining in New Zealand, and new processes may hereafter be elaborated that will prove advantageous to both colonies. In support of these opinions, the various articles upon the Exhibition contained in the different issues of the local journals may be referred to, the views expressed in them being those of writers free from bias in favour of any particular colony or country. If the timbers shown in the New South Wales Court attracted less attention than the minerals, the fact may be explained from the abundance and value of the indigenous timbers produced in New Zealand, which, in some cases possess the same qualities, and are useful for the same purposes, as those found in New South Wales. In the latter colony, however, the varieties are more numerous, and consequently it is easier to find timbers more exactly suited for special needs. It is unnecessary to institute comparisons with regard to the exhibits displayed by different colonies and countries, and it is with no such intention that I allude to the fact that, looking upon the mineral exhibits as constituting the chief feature of our Court, the inference is obvious that it was also unique as respects the whole Exhibition. Owing mainly to this fact, the New South Wales Court has throughout borne a character wholly distinct from that of any other, and was in reality the outcome of a conception of the objects of an Exhibition entirely different from that ordinarily entertained. This difference was speedily recognised by the public, and was, without doubt, one source of the popularity of the New South Wales Court.

In the important matter of judging exhibits, great difficulties had to be encountered in the selection of jurors to represent the interests of New South Wales. This was especially the case with regard to mineral exhibits. In view of the supreme importance of this class, it seemed imperatively necessary that a thorough expert should be chosen for this duty, and accordingly the Honorable the Minister for Mines was appealed to for the assistance of one of the officers of his Department. As none of these could be spared at the time, recourse was had to geologists and mining experts resident in New Zealand. Even these, however, were found to be in some way so engaged that they were unable to render the assistance required, though ultimately I was fortunate enough to secure, on the recommendation of Professor Ulrich, the services of Mr. Donald Henderson, a gentleman well qualified for the task. On the whole, the awards of the jurors have been received with favour as justly indicating the merits of the exhibits judged; and, in cases of appeal against the decision of jurors, the result has been held to be satisfactory. A complete list of awards to New South Wales exhibitors is appended to this Report (*Appendix B*), but a summary may be usefully given here to show the extent to which the excellence of New South Wales exhibits was recognised:—

Summary of Awards to New South Wales Exhibitors.						
First-class Award with Special Mention	...	...	...	...	...	1
First-class Awards	...	...	...	...	...	106
Second-class	..	...	...	...	...	24
Third-class	..	...	...	...	...	9
Highly Commended	...	...	...	...	...	6
Total of Awards						146

From this statement, it appears that, of the total number of awards to New South Wales Exhibitors, 73 per cent. were of the highest class, 16 per cent. of the second class, 6 per cent. of the third class, and the remainder belonged to the class of "highly commended."

In order to provide for the due care of the exhibits and the proper keeping of the Court, seven attendants were appointed from among the persons previously employed in the fitting up of the Court and the arrangement of the exhibits. Being on this account, well acquainted with the different exhibits, they were able to perform all the necessary work of sweeping, dusting, and polishing, and thus to preserve everything in a fit state to meet the public scrutiny. They were also required to keep guard over the valuable specimens of minerals which might prove tempting to the dishonest, and also over the works of art which might easily be injured by careless or mischievous visitors. As, for these purposes, it was necessary

necessary that their right to interfere for the protection of exhibits should be easily recognisable, they were provided with a distinctive dress which, while thoroughly plain and simple, was sufficiently marked to indicate their position. I am glad to be able to report that the duties assigned to these attendants were effectively discharged, and that neither loss nor damage occurred through any lack of vigilance on their part. The expense of their uniform was consequently well bestowed in providing for the safety and preservation of the exhibits. In justice to the visiting public, it should be explicitly stated that the order and decorum generally observed were most noteworthy, and that no trouble was occasioned through misconduct of any kind. Better order, or greater self-respect I have never seen maintained in any other Exhibition in which I have taken part. Even on gala days, when the attendance was largest and the visitors of a more mixed character than usual, nothing occurred to call for interference on the part of the persons in charge of the Court.

The Exhibition was closed on the 19th April, 1890. Intimation had previously been received of the decision of the Government that New South Wales should be represented at the International Exhibition of Mining and Metallurgy to be held in London in the month of July following; and I was instructed to forward the minerals shown in our Court to that city for exhibition. In view of the necessity for using the utmost expedition in order that these exhibits might be despatched in time to reach their destination prior to the opening of that Exhibition, such preparations were made in advance that within four days from the closing of the Dunedin Exhibition, all the goods in the Court were repacked and ready for shipment. The mineral exhibits, packed in cases, were forwarded to Lyttleton for shipment by the steamship "Doric," which left that port for London on 1st May. The remainder were despatched to Sydney by the Union Steamship Company's vessels by which they had been brought to Dunedin.

It is satisfactory to be able to place on record the fact that all the exhibits, amounting to 300 tons, arrived at the Exhibition in excellent order and returned in the like condition, and that no serious claims have occurred for loss or damage to exhibits. Adequate insurances, it should be mentioned, were effected upon all exhibits in transit, through the United Insurance Company of Sydney.

A statement of receipts and disbursements on account of the New South Wales Court at the Exhibition is appended to this report (*Appendix C*), and shows that the total amount expended was £9,377 Os. 6d.

I cannot more fittingly close this report than by stating my conviction that the hope expressed by His Excellency Lord Onslow, in his reply to the President's address at the opening of the Exhibition, has been abundantly fulfilled. On that occasion His Excellency said,—“I join with you, sir, in the expression of a hope that this gathering may be instructive and beneficial, both to ourselves and to those who are entering into competition with us; that we may find it the means of interchange of thought as well as of merchandise; that it will give us the opportunity of dispelling all jealousies which rival enterprise may engender, and enable us to cultivate those friendly sentiments and that mutual esteem which alone can bring peace and goodwill among the nations of the earth.”

I have the honor to be,  
Your Excellency's most obedient servant,  
OSCAR MEYER,  
Commissioner.

## APPENDIX A.

### Commission.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith, and so forth,—

To our trusty and well-beloved—  
OSCAR MEYER, Esquire,—

Greeting:—

WHEREAS an International Exhibition is to be held in the City of Dunedin, in Our Colony of New Zealand, in the year one thousand eight hundred and eighty-nine: And whereas it has been represented to Us that it is desirable that a Commissioner should be appointed to devise and carry out the details necessary for the collection and transmission to Dunedin of all articles the produce or manufacture of Our Colony of New South Wales, intended for exposition at the said International Exhibition, for their due display thereat, and for their subsequent disposal or careful return to their owners: Now know ye that We, reposing especial trust and confidence in your knowledge, integrity, and ability, do by these presents authorise and appoint you to be such Commissioner accordingly: And We do authorise you to duly report your proceedings from time to time to Our Governor of Our said Colony of New South Wales, until the business of this Commission shall have been brought to a conclusion: And We do also empower you to expend the moneys appropriated or to be appropriated by the Parliament of Our said Colony of New South Wales in this regard, in the payment of the expenses of the representation of Our said Colony at the said Exhibition.

In testimony whereof, We have caused these Our Letters to be made Patent, and the Great Seal of Our said Colony of New South Wales to be hereunto affixed.

Witness, Our Right Trusty and Well-beloved Councillor, CHARLES ROBERT, BARON CARRINGTON, Knight Grand Cross of Our Most Distinguished Order of Saint Michael and Saint George, Our Governor and Commander-in-Chief of Our Colony of New South Wales and its Dependencies, at Government House, Sydney, in New South Wales aforesaid, this fifth day of August, in the fifty-third Year of Our Reign, and in the year of Our Lord one thousand eight hundred and eighty-nine.

[L.S.] CARRINGTON.  
By His Excellency's Command,  
HENRY PARKES.

ENTERED on record by me, in REGISTER OF PATENTS, No. 13, pages 409-10, this sixth day of August, one thousand eight hundred and eighty-nine.

For the Colonial Secretary and Registrar of Records,  
CRITCHETT WALKER,  
Principal Under Secretary.

APPENDIX

## APPENDIX B.

## NEW ZEALAND AND SOUTH SEAS EXHIBITION.

## LIST OF AWARDS TO NEW SOUTH WALES EXHIBITORS.

## International Champion Prize for Wool.

Collaroy Company.

## First Order of Merit.

Amos, W. J. ... ..	Engraving on metals, Die sinking.
Arnold, A. P. ... ..	Compressed leather for brake blocks.
Australian Oil and Mineral Co. ... ..	Shale products.
Australian Kerosene Oil and Mineral Co. ... ..	Oil shale.
Australian Fish Preserving Co. ... ..	Smoked mullet.
Australian Museum ... ..	Natural history specimens.
Balfour, J., and Sons ... ..	Wool.
Bell, H. C. ... ..	Cedar log and boards.
Brown, J. and A. ... ..	Coal.
Brown, E. ... ..	Leaf tobacco.
Do ... ..	Maize.
Bruce, J. ... ..	Calligraphy.
<i>Bulletin</i> Newspaper Company ... ..	Drawings.
Bullock, J. ... ..	Auriferous lodestone.
Burwood Extended Coal Co. ... ..	Coal.
Caldwell, J. T. ... ..	Auriferous lodestone.
Centenary Coke and Coal Co. ... ..	Coal.
Collaroy Co. ... ..	Wool.
Collingridge, A. ... ..	Wood engraving.
Co-operative Coal and Coke Co. ... ..	Coke.
Crompton Electric Supply Co. ... ..	Electric light exhibits.
Cunningar Gold-mining Co. ... ..	Auriferous lodestone.
Fairfax, J., and Sons ... ..	Engraving on wood.
Fallon, J. and J. ... ..	Wine, "Tokay."
Do ... ..	do "Burgundy."
Do ... ..	do "Reisling."
Do ... ..	do "Claret."
Ferndale Coal-mining Co. ... ..	Coal.
Fiaschi, T. ... ..	Wine, "Hermitage."
Fullwood, A. H. ... ..	Painting.
Glencross, C. ... ..	Doors for hansom cab.
Governor, Darlinghurst Gaol ... ..	Door mats.
Green, W. C. ... ..	Wine, "Reisling."
Do ... ..	do "White."
Greville, E. ... ..	Year Book of Australia.
Do ... ..	Mineral map.
Heintz, J. ... ..	Auriferous lodestone.
Herbert Park Gold-mining Syndicate ... ..	do
Hetton Coal-mining Co. ... ..	Coal.
Hocking, H. & Co. ... ..	Wine, "Burgundy."
Do ... ..	do "Rousella."
Do ... ..	do "Port."
Do ... ..	do "Madeira."
Do ... ..	do "Muscat."
Do ... ..	do "Burgundy."
Do ... ..	do "Claret."
Do ... ..	do do
Do ... ..	do do
Katoomba Coal and Shale Manufacturing Co. ... ..	Oil shale.
Kelman, J. ... ..	Wine, "Hock."
Do ... ..	do "Hermitage."
Do ... ..	do "Verdeilho."
Do ... ..	do "Hermitage."
Lawrence, P. ... ..	Fur rugs, &c.
Lanwood Coal-mining Co. ... ..	Coal.
Ludowici, J. C., & Son ... ..	Link belting.
Do ... ..	Leather, &c.
Maiden, J. H. ... ..	Fodder and plant specimens.
Mather, T. R. ... ..	Wine, "Hermitage."
New South Wales Government ... ..	Collection of fossils.
Minister for Mines ... ..	Silver ores.
Do ... ..	Collection of coal.
Do ... ..	Lead ingots.
Do ... ..	Tin.
Do ... ..	Iron.
Do ... ..	Collection of gums and resins.
Do ... ..	Tanning materials.
Do ... ..	Timbers.
Do ... ..	Engraving timbers.

[Minister

Minister for Mines	...	...	...	...	Parquetry.
Do	...	...	...	...	Turnery.
Do	...	...	...	...	Veneering timbers.
Do	...	...	...	...	Collection of clays.
Do	...	...	...	...	Asbestos.
Do	...	...	...	...	Iron, manganese, &c., ores.
Do	...	...	...	...	Auriferous lodestone.
Do	...	...	...	...	Tin ore.
Do	...	...	...	...	Cut and uncut gems.
Do	...	...	...	...	Silver and silver lead ores.
Do	...	...	...	...	Bismuth, &c.
Do	...	...	...	...	Auriferous specimens.
Do	...	...	...	...	Antimony ores.
Do	...	...	...	...	Samples of gold.
Do	...	...	...	...	Copper ore.
Do	...	...	...	...	Iron, cobalt, &c.
Do	...	...	...	...	Copper ore.
Do	...	...	...	...	Star antimony.
Do	...	...	...	...	Commercial timbers.
Do	...	...	...	...	Mineral maps.
Meyer, O....	...	...	...	...	Paintings.
Do	...	...	...	...	Services rendered.
New South Wales Government	...	...	...	...	Inlaid table.
Nambucca Mining Co.	...	...	...	...	Auriferous lodestone.
Nerli, G. ...	...	...	...	...	Painting.
Palmer Bros.	...	...	...	...	Brushware.
Piguenit, W. C. ...	...	...	...	...	Painting.
Pitman, W. P. ...	...	...	...	...	Horse shoes.
Potter, Charles	...	...	...	...	Printed books, &c.
Do	...	...	...	...	Letterpress bookbinding.
Do	...	...	...	...	Photo. printing.
Do	...	...	...	...	Landscape, &c., views.
Rowan, A. & Co....	...	...	...	...	Sharpening-stones.
Sergeant, J. A. ...	...	...	...	...	Weghing-machine.
Simmers, J. ...	...	...	...	...	Maize and wheat.
Smith, G....	...	...	...	...	Antimony ore.
Spiers and Rigg ...	...	...	...	...	Tin ore.
Sunlight Gold-mining Co.	...	...	...	...	Auriferous lodestone.
Suttor, G. and H.	...	...	...	...	Wool.
Sydney Fluid Carbon Co.	...	...	...	...	Lighting apparatus.
<i>Sydney Morning Herald</i>	...	...	...	...	Newspaper printing.
Technological Museum ...	...	...	...	...	Collection of wools and timbers.
Traill Bros.	...	...	...	...	Wool.
West Wallsend Coal-mining Co.	...	...	...	...	Coal.
Wiesner, T. F. ...	...	...	...	...	Scientific instruments.
Wooller and Main	...	...	...	...	Graphites.
Yung, Schollenberger, & Co.	...	...	...	...	Leather.

## Second Order of Merit.

Atkinson, R. ...	...	...	...	...	Painting.
Australian Kerosene Oil and Mineral Co.	...	...	...	...	Paraffin exhibits.
Do Fish-preserving Co.	...	...	...	...	Mullet, smoked.
Do do	...	...	...	...	Fresh whiting and bream.
Do Museum	...	...	...	...	Stuffed animals, &c.
Bambach and Sons, J. ...	...	...	...	...	Wine, "Malaga."
Bertozzi, A. ...	...	...	...	...	Marbles, statuary.
Castlerag Silver-mining Co.	...	...	...	...	Silver ores.
Collingridge, A. ...	...	...	...	...	Wood engraving.
Doyle, J. F. ...	...	...	...	...	Wine, "Verdeilho."
Hockings, H. & Co.	...	...	...	...	do "Hock."
Do	...	...	...	...	do "Tokay."
Do	...	...	...	...	do "Reisling."
Do	...	...	...	...	do "Madeira."
Do	...	...	...	...	do "Claret."
Howard, J. & C. ...	...	...	...	...	Portable rolling stock.
Hunt, C. H. ...	...	...	...	...	Painting.
Kelman, J. ...	...	...	...	...	Wine, "Claret."
Do	...	...	...	...	do "Hock."
Last Chance Gold-mining Syndicate	...	...	...	...	Auriferous lodestone.
Lester, L....	...	...	...	...	Painting.
Marshall, W. H. & Co. ...	...	...	...	...	Disinfectants.
Roth, Mdme. ...	...	...	...	...	Oil painting.
Simpson, A. A. ...	...	...	...	...	Collection of coins.
Sloane, A. ...	...	...	...	...	Wool.
Do	...	...	...	...	do
Do	...	...	...	...	do
Spence, P. F. S. ...	...	...	...	...	Painting.
Steffani, A. ...	...	...	...	...	do
Wyndham, E. ...	...	...	...	...	Wine, "Muscat."

## Third Order of Merit.

Bambach, J., & Sons	...	...	...	...	Wine, "Claret."
Busby, A....	...	...	...	...	Wool.
Fallon, J. and J....	...	...	...	...	Wine, "Verdeilho."
Fiaschi, T.	...	...	...	...	do "Claret."
Hockings, H., & Co.	...	...	...	...	do "Muscat."
Do	...	...	...	...	do "Hermitage."
Hume, H. R. F. ...	...	...	...	...	Wool.
Kelman, J.	...	...	...	...	Wine, "Reisling."
Sloane, A.	...	...	...	...	Wool.
Wallah Wallah Silver-mining Co.	...	...	...	...	Silver ore.

## Highly Commended.

Featherstonhaugh, C.	...	...	...	...	Wool.
Hume, H. R. F. ...	...	...	...	...	do
Spiers and Rigg	...	...	...	...	Cut and uncut gems.

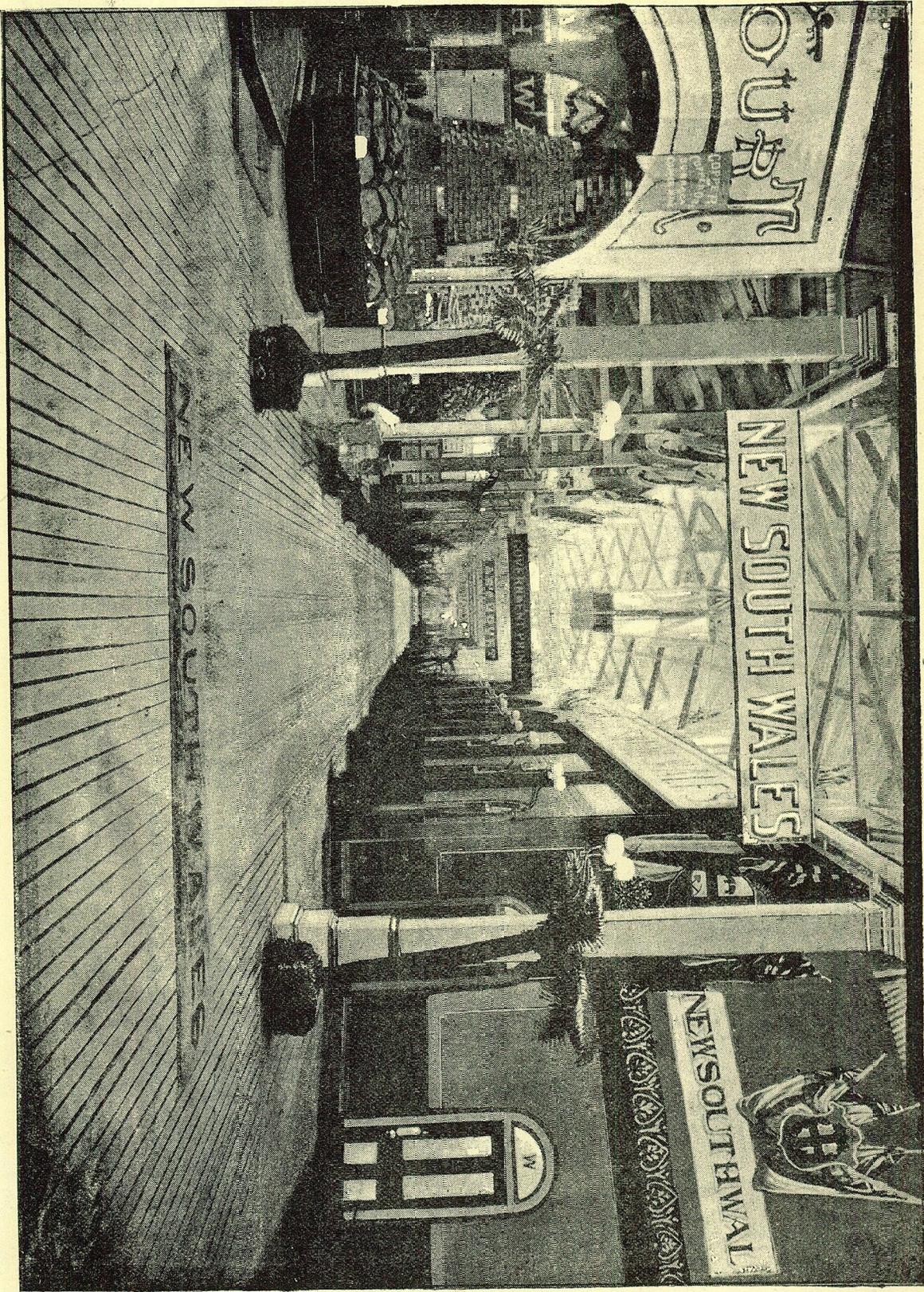
## Commended.

Gagliardi, T.	...	...	...	...	Brooms.
Wyndham, E.	...	...	...	...	Wine, "Pineau."

## APPENDIX C.

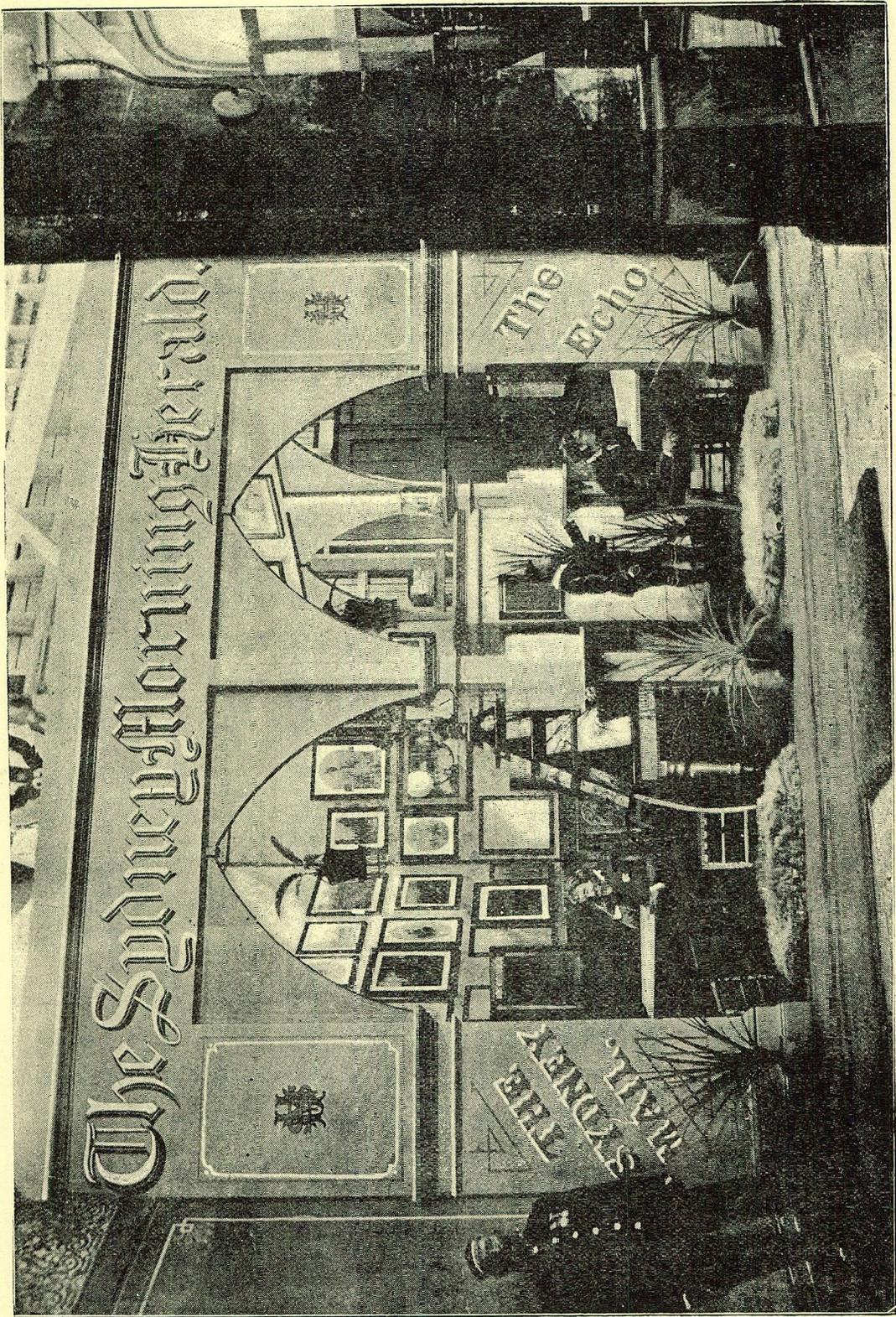
RECEIPTS and EXPENDITURE of the New South Wales Commissioner for the New Zealand and South Seas Exhibition, Dunedin, 1889.

Dr.				Cr.				
1889.		£	s.	d.	£	s.	d.	
15 Aug.	To Colonial Treasurer .....	300	0	0	By space account .....	1,024	11	4
16 "	" " .....	500	0	0	" purchase and preparation of exhibits.....	418	6	9
19 Oct.	" " .....	1,000	0	0	" materials for fitting and decorating of Court	2,717	3	1
28 Nov.	" " .....	1,000	0	0	" freight and cartage .....	663	2	11
1890.					" insurance .....	126	14	7
11 Jan.	" " .....	1,000	0	0	" salaries, wages, and allowances .....	3,002	7	4
11 Feb.	" " .....	1,287	19	6	" travelling expenses—cavassers and em-			
14 Mar.	" " .....	1,000	0	0	ployés .....	400	5	2
19 April	" " .....	1,000	0	0	" advertising .....	89	3	6
24 "	" " .....	52	8	7	" stationery.....	42	16	8
23 May	" " .....	300	0	0	" packing and cases .....	87	15	4
25 June	" " .....	500	0	0	" addenda to catalogue.....	126	6	6
	" amounts paid by Treasury direct	1,102	19	2	" petty cash ..	246	3	11
	" proceeds of sales .....	193	8	8	" wine bar .....	147	1	2
	" returns of wine bar .....	140	4	7	" banquet account.....	261	9	0
					" exchange .....	23	13	3
		£9,377	0	6		£9,377	0	6



No. 1.





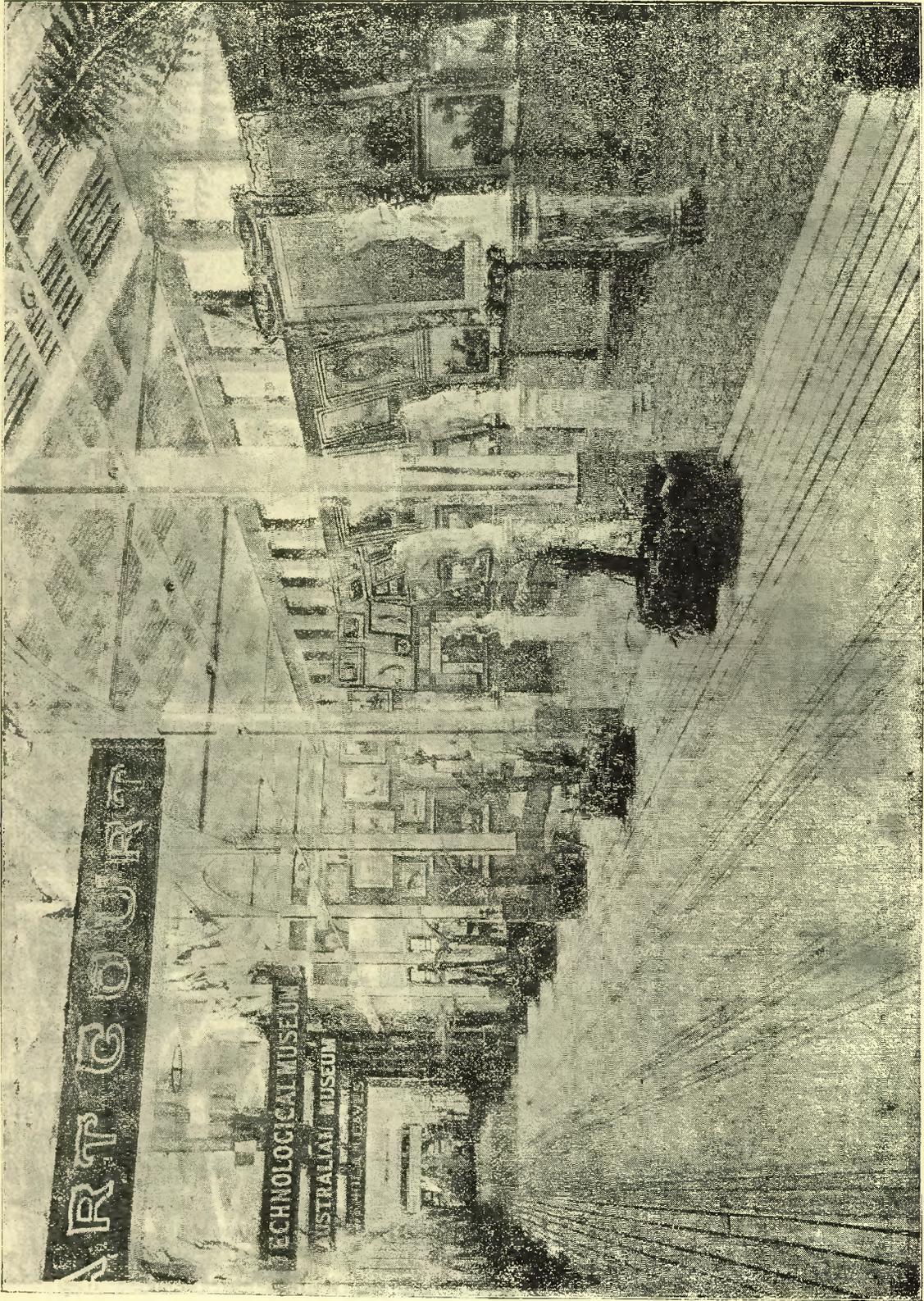
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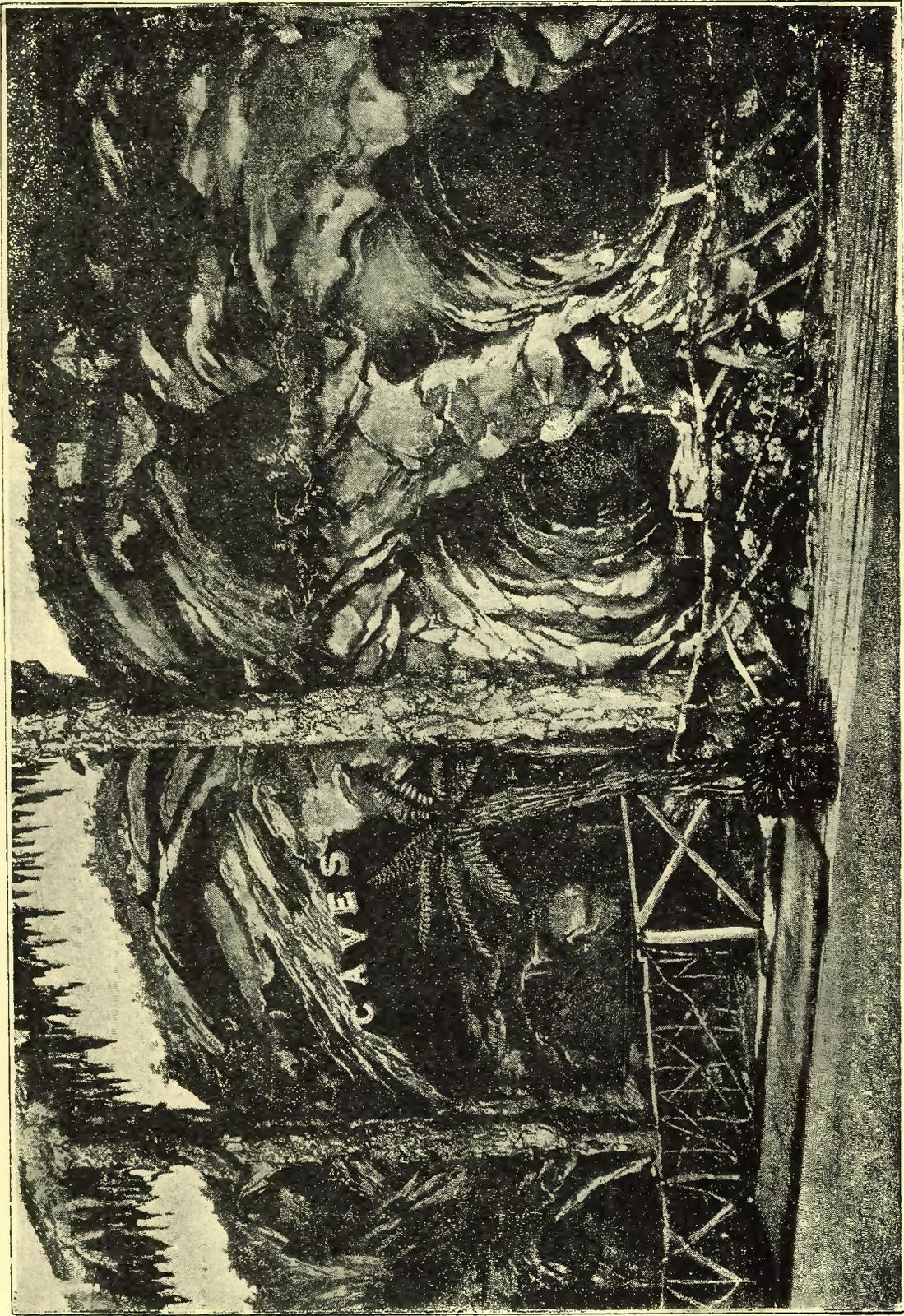






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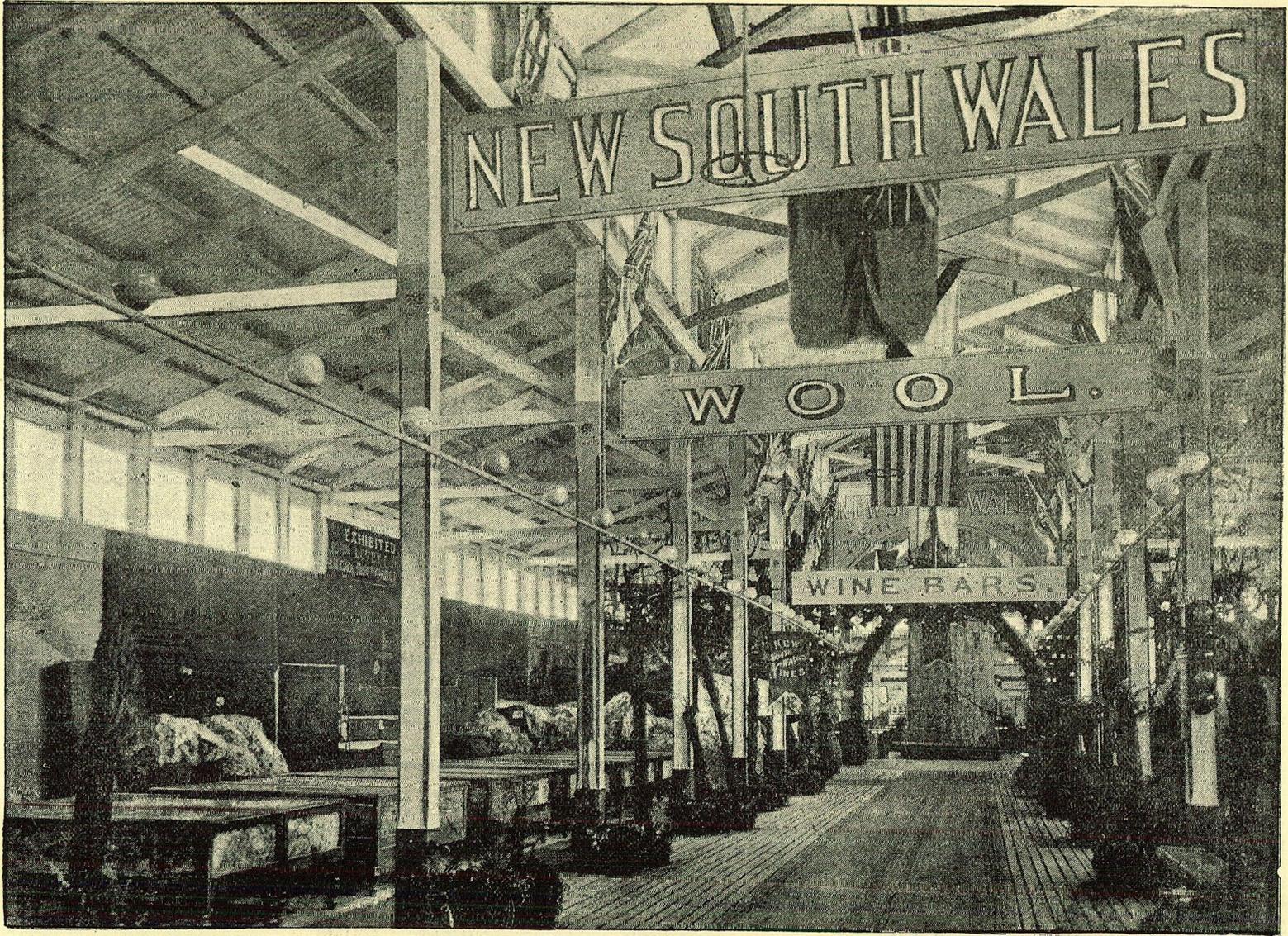
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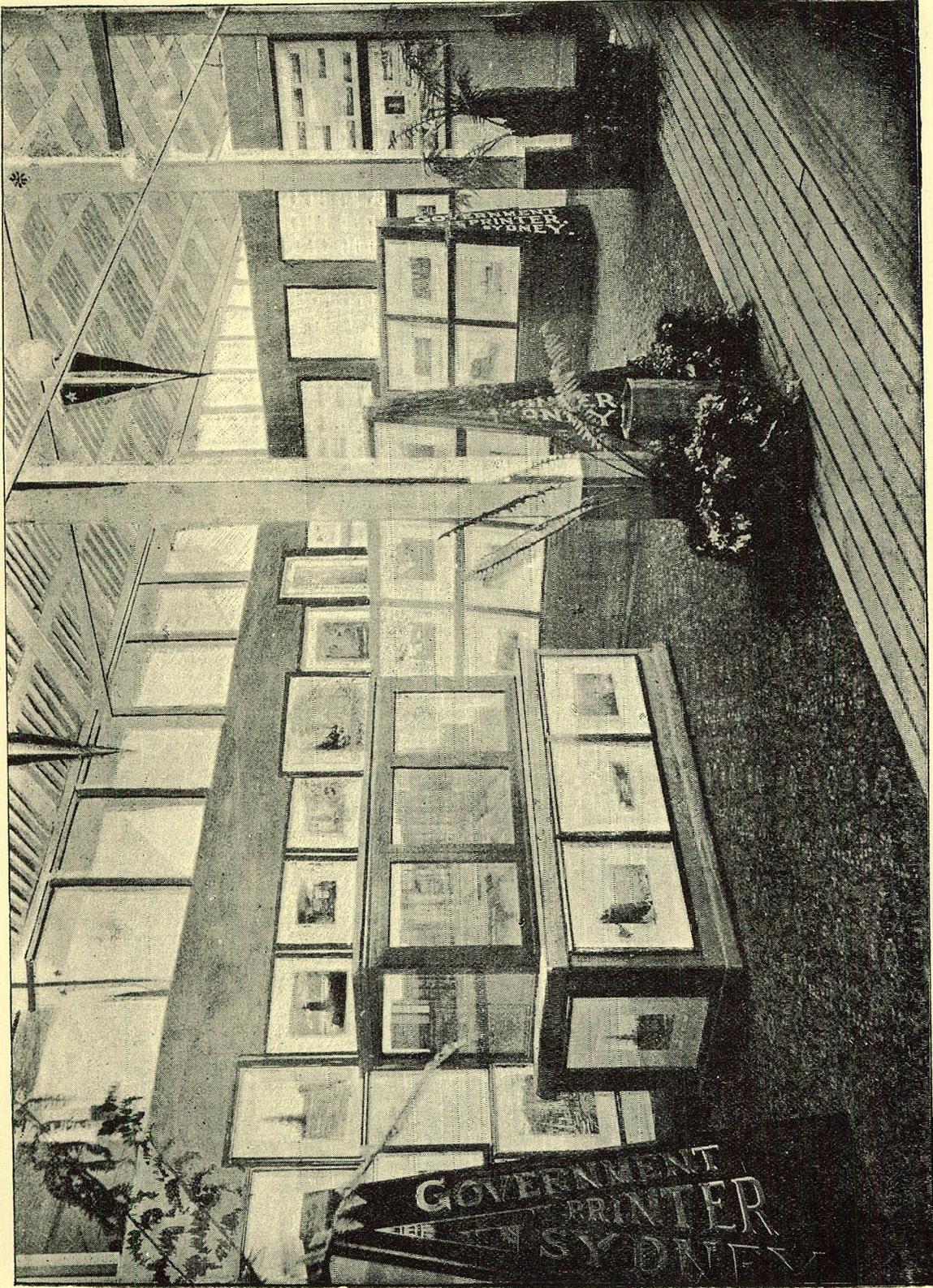
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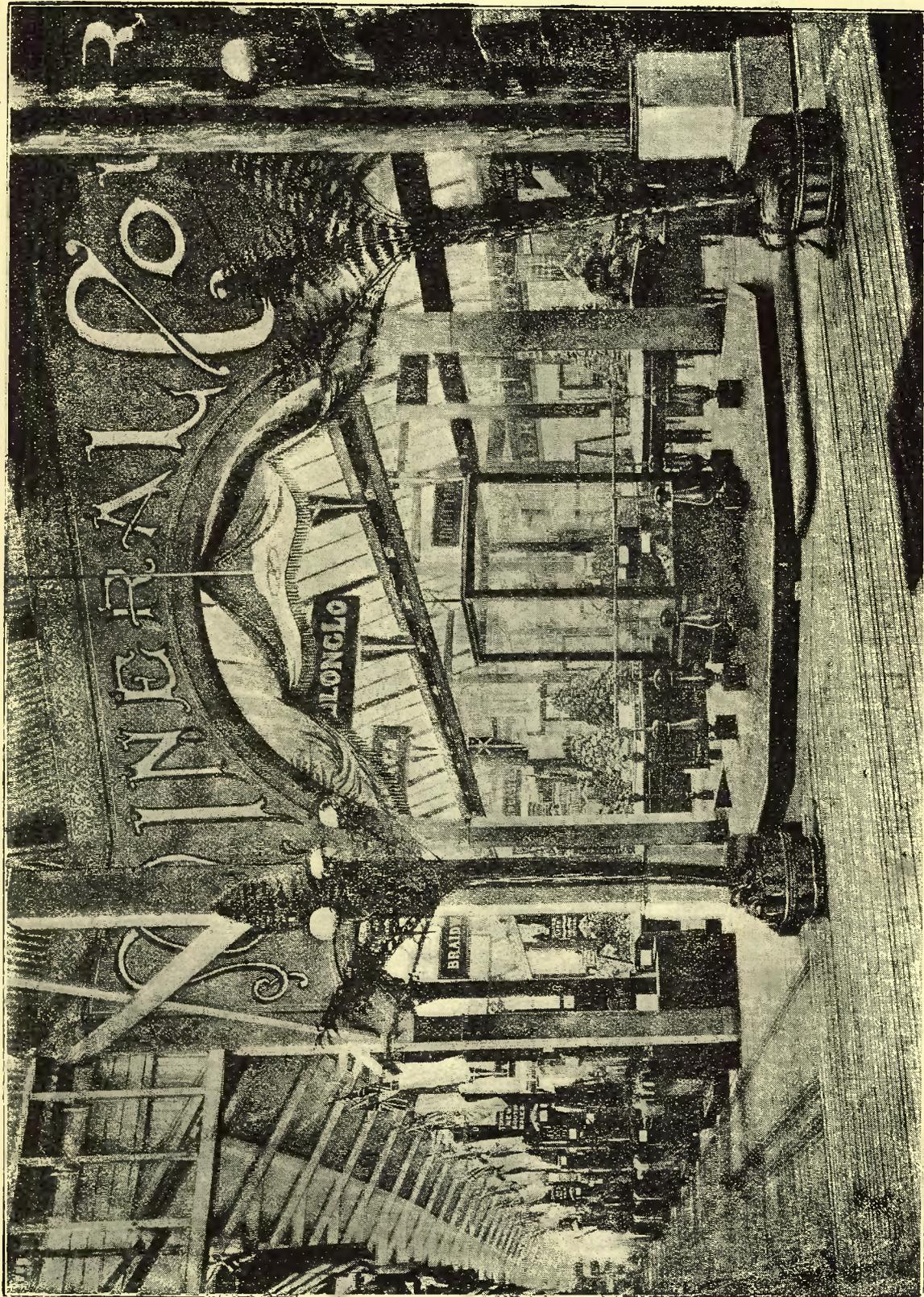
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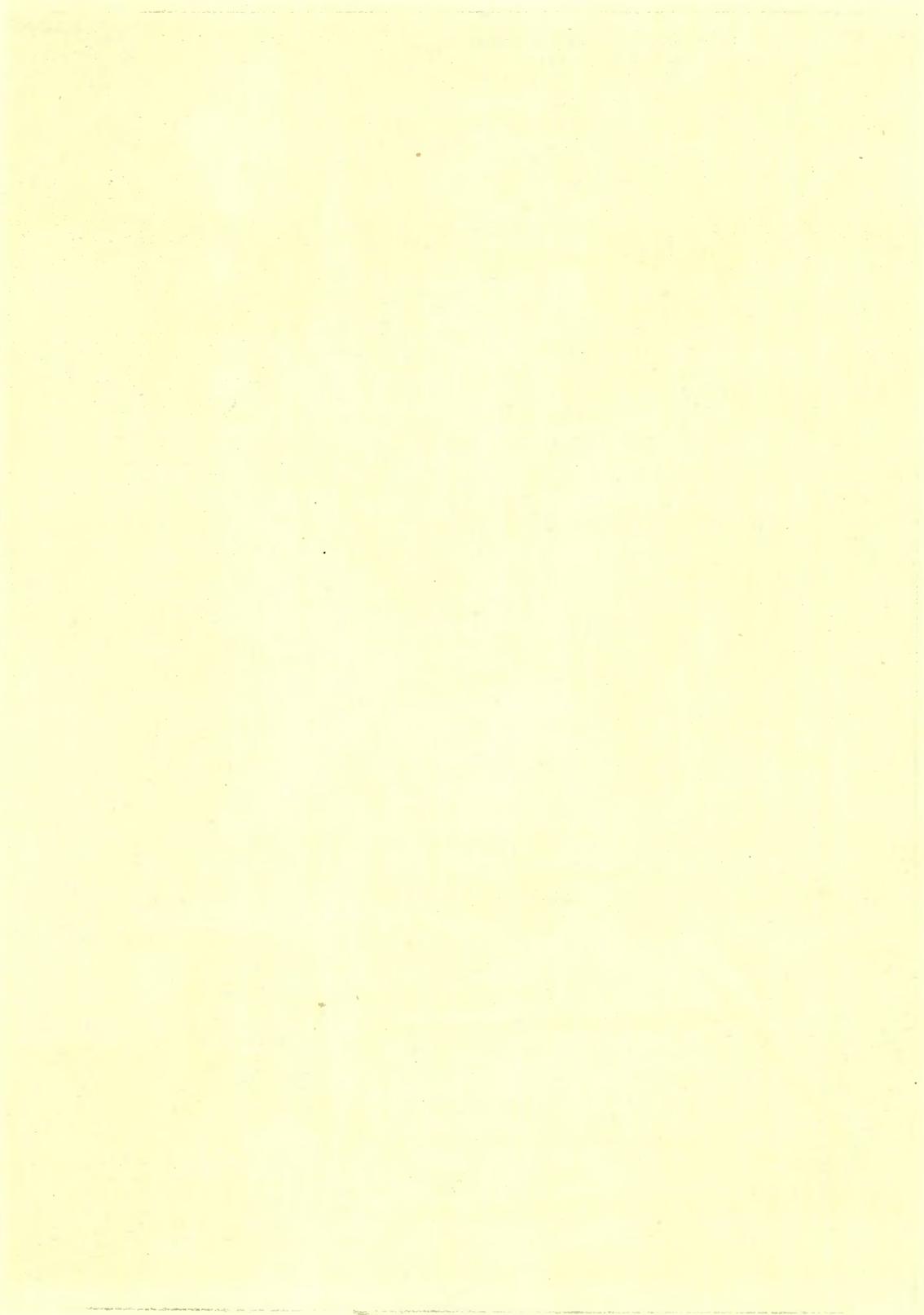


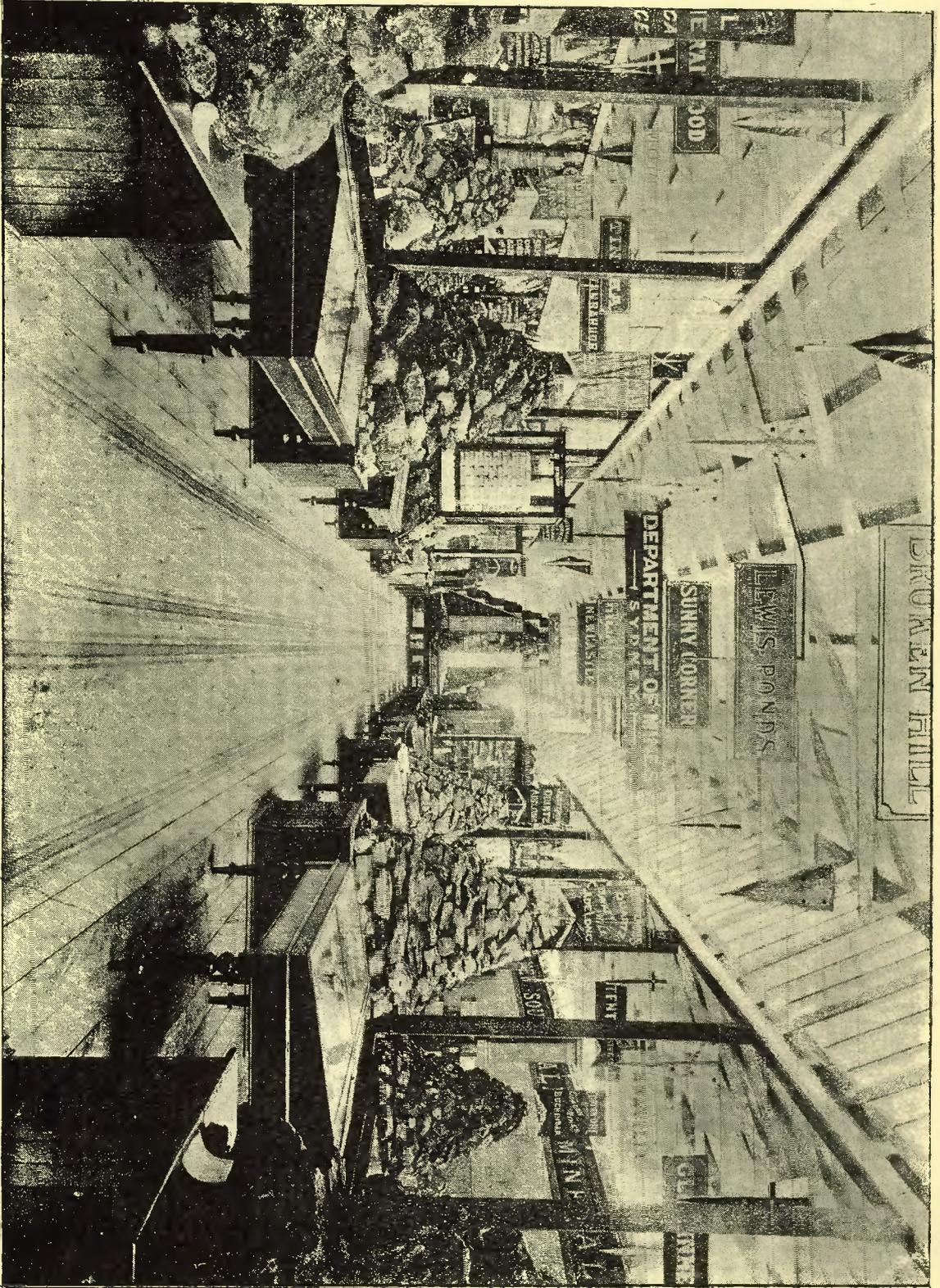
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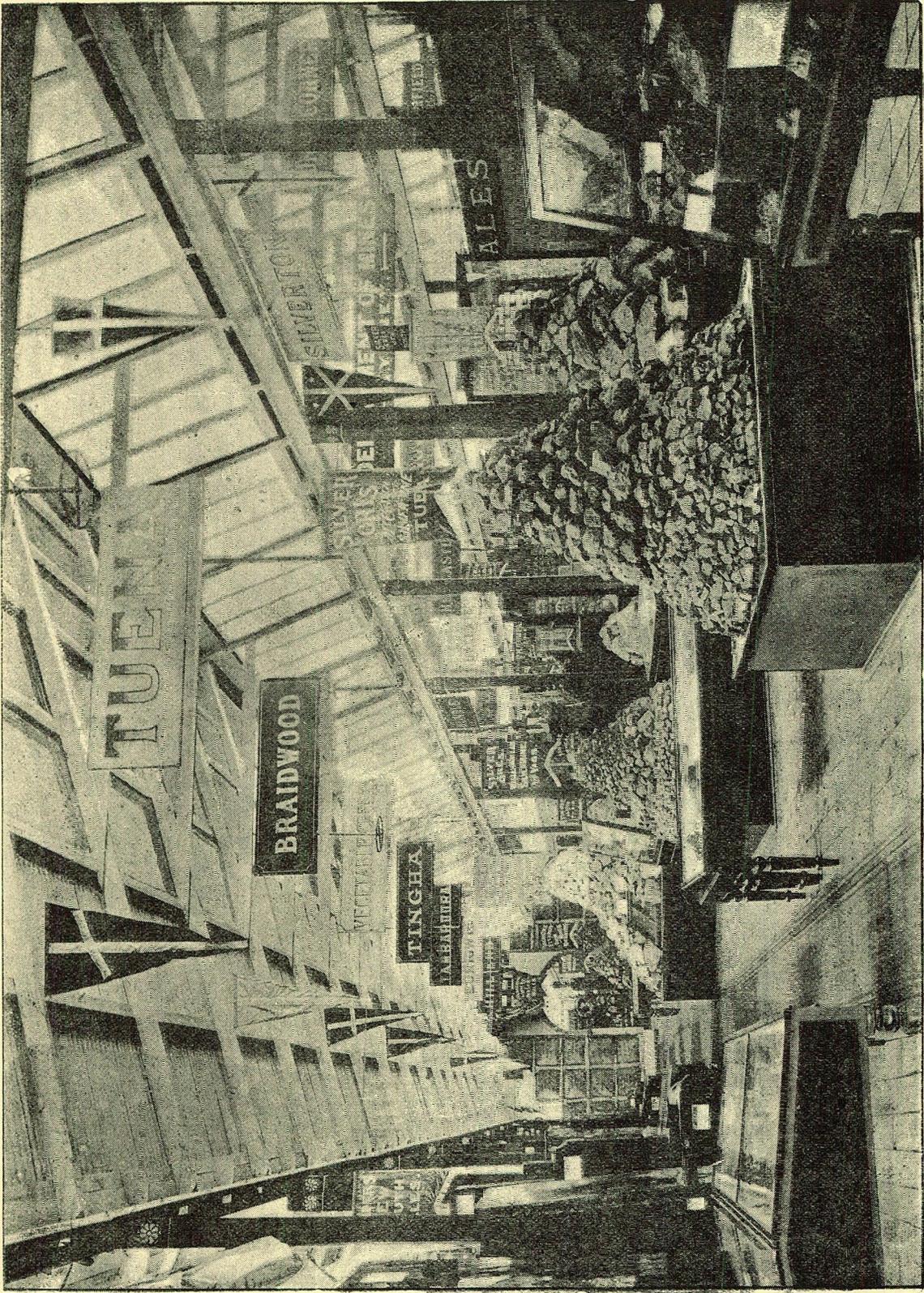
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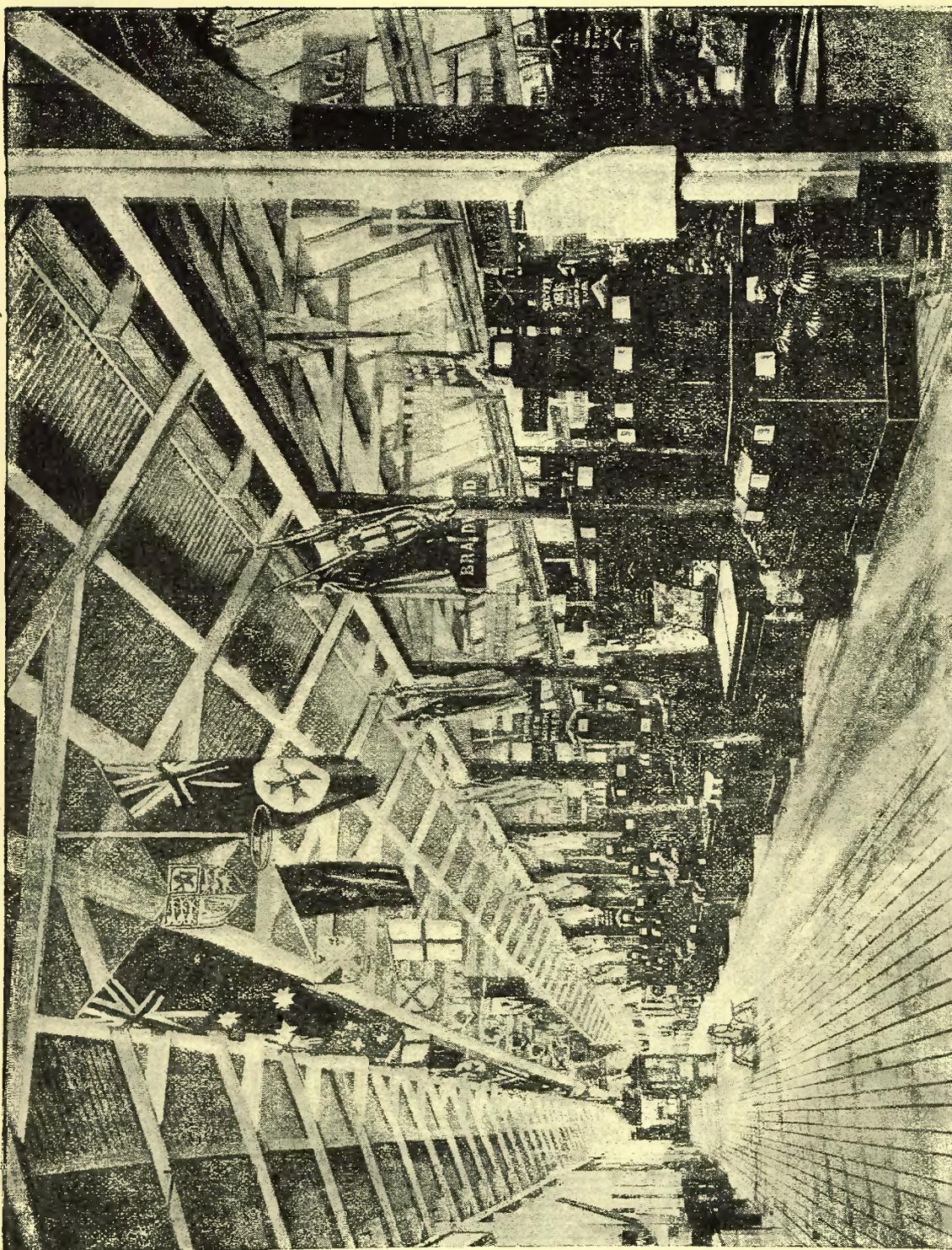
No. 11.





No. 12.





No. 13.

[2s. 6d.]

Sydney: George Stephen Chapman, Acting Government Printer.--1891.

133—I



1891.

## NEW SOUTH WALES.

**PUBLIC WORKS ACT OF 1888.**

(RESUMPTION OF LAND FOR POST AND TELEGRAPH OFFICE AT RANDWICK, PARISH OF ALEXANDRIA, COUNTY OF CUMBERLAND.)

Presented to Parliament, pursuant to Act 51 Vic. No. 37.

**NOTIFICATION OF RESUMPTION OF LAND UNDER THE "PUBLIC WORKS ACT OF 1888," 51 VICTORIA No. 37.**

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable VICTOR ALBERT  
GEORGE, EARL OF JERSEY, a Member  
(L.S.) } of Her Majesty's Most Honourable  
Privy Council, Knight Grand Cross  
of the Most Distinguished Order of  
JERSEY, } Saint Michael and Saint George,  
Governor. } Governor and Commander-in-Chief of  
the Colony of New South Wales and  
its Dependencies.

WHEREAS the Minister for Public Works of the said Colony is desirous of acquiring the land described in the Schedule at the foot hereof for the purpose of a certain Public Work, that is to say, a Post and Telegraph Office at Randwick, in the said Colony: And whereas it is estimated that the cost of completing such work will not exceed the sum of twenty thousand pounds: And whereas the land described in the said Schedule is, in my opinion, required for carrying out the said work: Now, therefore, I, VICTOR ALBERT GEORGE, EARL OF JERSEY, the Governor aforesaid, with the advice of the Executive Council, in pursuance of the "Public Works Act of 1888," do hereby direct that the said work shall be carried out under the "Public Works Act of 1888," by the Minister for Public Works aforesaid, in respect of the said work shall be deemed to be the Constructing Authority; and in further pursuance of the said Act, I do hereby direct that the land described in the Schedule hereto shall be acquired and taken for the purpose aforesaid under the "Lands for Public Purposes Acquisition Act": And I do declare by this notification, to be published in the Government Gazette and in one or more newspapers published or circulated in the Police District wherein is situated the said land, that the said land described in the said Schedule has been resumed for the public purpose hereinbefore expressed, that is to say, the erection of a Post and Telegraph Office at Randwick, to the intent that upon the publication of this notification in the Gazette, the said land described in the said Schedule hereto shall forthwith be vested in the said Constructing Authority on behalf of Her Majesty,

for the purposes of the said Public Works Act of 1888, for an estate in fee simple in possession, freed and discharged from all trusts, obligations, estates, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever, and to the intent that the legal estate therein, together with all powers incident thereto or conferred by that Act, shall be vested in such Authority as a trustee: And I do declare that the following is the Schedule of land hereinbefore referred to:—

## SCHEDULE.

All that piece or parcel of land containing by admeasurement 2 roods, be the same more or less, situate in the county of Cumberland, parish of Alexandria, at Randwick, near Coogee: Commencing at the intersection of Allison Road, one chain wide, with the Frenchman's Road, at a point distant one chain north from the north-east corner of S. Hebblewhite's 5 acres 1 rood 39 perches; and bounded thence on the south by Allison Road, bearing west 1 chain 81 links, dividing it from part of that land; on the west by a line dividing it from part of 3 acres 3 roods 37 perches granted for Church of England Burial Ground bearing north 2 chains 77 links; on the north-east by the south-west boundary line of the 2 roods granted for Church of England Parsonage bearing east 71 degrees 30 minutes south 2 chains 70 links to the Frenchman's Road aforesaid; and on the south-east by that road south-westerly 1 chain 91 links to its intersection with Allison Road aforesaid, advertised in the Government notice dated 4th March, 1858; and which piece or parcel of land is said to be in the possession of the Trustees of the Church of England.

In witness whereof, I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this second day of April, in the year of our Lord one thousand eight hundred and ninety-one, and in the fifty-fourth year of Her Majesty's Reign.

By His Excellency's Command,

BRUCE SMITH.

GOD SAVE THE QUEEN!



1891.

## NEW SOUTH WALES.

## RABBIT ACT OF 1890.

(REGULATIONS.)

Presented to Parliament, pursuant to Act 54 Vic. No. 29, sec. 49.

Department of Lands,  
Sydney, 10th February, 1891.

### RABBIT ACT OF 1890.

It is hereby notified, for public information, that His Excellency the Governor, with the advice of the Executive Council, has, in pursuance of the "Rabbit Act of 1890," made the Regulations hereinafter set forth, for the purpose of carrying into effect the objects of the said Act.

JAMES N. BRUNKER,

#### REGULATIONS MADE IN PURSUANCE OF THE "RABBIT ACT OF 1890."

1. In these Regulations the expression "the Act" means the "Rabbit Act of 1890"; "the Form," with a number added means the Form of that number appended to these Regulations; expressions defined in the Act have the same meaning in these Regulations unless the context otherwise requires.

2. Whenever by the Act or these Regulations, any application, notice, document, or communication is directed to be sent or forwarded to the Minister, the same shall be addressed to the Under Secretary for Lands, who shall have authority to correspond with all persons and otherwise act under the direction of the Minister.

3. The Rules and the Regulations made for the purposes of the Crown Lands Acts shall, as far as possible, be applied in all proceedings before the Land Court or a Board under this Act, except that any notice given under or for the purposes of the Act shall be given in manner directed by the 43rd section of the Act. Forms provided for the purposes of the Crown Lands Acts shall be used for the purposes of the Act if no special form is provided in these Regulations, and shall be altered as may be necessary.

4. Any reference by the Minister to the Land Court of the decision or report of a Board, in any case, shall be made by giving a written notice thereof to the Registrar of the Land Court within two months from the date of the receipt of such decision or report; and when any such reference is made, the Minister, or some authorised officer on his behalf, shall forward to the Registrar all papers connected with the case.

5. Inspectors appointed under the Act shall in all respects be subject to the authority of the Minister, and shall be authorised agents of the Minister for the purpose of destroying the rabbits on any public lands.

6. In any case in which an Inspector becomes aware of the commission of an offence under the 28th section of the Act it shall be his duty to prosecute the offender.

7. Any Inspector, or person authorised by an Inspector, shall, upon laying poison on any public lands, exhibit, in a prominent position near the place where such poison has been laid, a notice cautioning the public as to the laying of such poison.

8. Rabbit-proof fences shall conform to the following requirements:—

- (i) The posts shall be thoroughly substantial, and of durable material, not less than 4 feet 8 inches long, and shall, where practicable, be firmly set in the ground to a depth of not less than 22 inches.
- (ii) The wire netting shall be securely fastened to the posts and rails, or posts and wires with staples, or staples and binding wires as may be necessary, and shall be sunk to a depth of not less than 6 inches perpendicularly, in the ground.
- (iii) The fence and netting shall be sufficiently rigid to stand all ordinary wear and tear.
- (iv) The Minister, before approving of the erection of any rabbit-proof fence, in respect of which he will be liable as a contributory or otherwise, may insist upon any further requirements which he may deem to be reasonably necessary or expedient.
- (v) All gateways or gates shall be such as are in the opinion of the Board thoroughly rabbit-proof.

9. Applications to the Minister for his approval of the inclusion of any public lands within a proposed group shall be made in the Form 1, and with any such application shall be furnished a plan of the whole of the lands proposed to be grouped, showing the position of the proposed ring-fence, and also the position of any other public lands in the immediate neighbourhood of the group. With such plan shall also be furnished particulars of the lands within the proposed ring-fence, distinguishing those which will, and those which will not, form part of the group.

10. Applications to the Minister for his approval of the erection of a rabbit-proof fence, in respect of which he will become liable as a contributory, shall be made in Form 2, and with such application shall be furnished a plan showing the position of the proposed fence.

11. In any case in which the Minister grants permission to a person in any city, town, or village to keep live rabbits in any cage or similar enclosure, a license in the Form 3 shall be issued upon payment of a fee of ten shillings. Every such license shall be in force for such period as may be determined, and shall not be transferable, and shall be subject to all such reasonable conditions as the Minister may think fit to insert therein, and may at any time be withdrawn. No person shall be deemed to have the permission of the Minister to keep rabbits, unless he is the holder of such license as aforesaid.

12. A special permit entitling the holder thereof to kill or capture any such natural enemy of the rabbit, as may be specified in such permit, may upon application be issued by the Minister. A permit shall be in force for such period as may be determined, and shall not be transferable, and shall be subject to all such reasonable conditions as the Minister may think fit to insert therein, and may at any time be withdrawn.

13. Applications to the Board to apportion the amounts payable by the respective owners within a group shall be in Form 4, and shall be forwarded or delivered to the Chairman of such Board.

14. Applications to the Board—

- (i) To assess the amount payable as a contribution by any person or group under the 20th or 25th section of the Act;
- (ii) For permission to detach a holding from a group;
- (iii) For its authorisation of the subdivision of a group;
- (iv) For permission to carry a rabbit-proof fence across a road, travelling stock reserve or route, or any public lands, and for a dispensation (if any sought) from the erection of any required rabbit-proof gate;
- (v) For the settlement of any dispute in reference to the erection or maintenance and repair of a rabbit-proof fence;
- (vi) For an extension of time for the erection of a rabbit-proof fence;
- (vii) For obtaining the sanction of the Board to any proposed variation from the statutory requirements as to a rabbit-proof fence;
- (viii) As to any other matter in which it is desired that the Board take action;—

shall be made on Form 5, and shall be forwarded or delivered to the Chairman of such Board.

15. When the Minister is the moving party in any proceeding within the last two regulations, the proceeding before the Board may be originated by a reference by the Minister to the Board.

16. At the Head Office of the Board a register shall be kept for each Land Board District of all holdings within the same, upon which any moneys have become charged in accordance with the provisions of the Act, and in such register shall be specified the date of the order or declaration in virtue of which such moneys have become charged, and the respective persons by whom and to whom such moneys are payable. Upon the production of a receipt, signed by the person to whom such moneys are payable, and attested by a Justice of the Peace or Commissioner for Affidavits, an entry that such charge has been satisfied wholly or in part, as the case may require, shall be made, and the correctness of such entry shall be certified to by the Chairman or some person authorised by him in that behalf. With such register shall be kept an index, in alphabetical order, of the names of the persons originally liable to pay any moneys charged as aforesaid.

17. Any person may search the said register and index upon payment of a search fee of two shillings and sixpence; and the Chairman, if so required, shall upon payment of the like fee furnish a certified copy of any entry therein.

18. Notice by the owner of a holding, which consists wholly or in part of Crown Lands held under occupation license or annual lease, that he intends to make such holding rabbit-proof, or that it is intended to include such lands within a group, shall be given to the Chairman of the Board in the Form 6, and the particulars required by such Form shall also be furnished therewith. Copies of every such notice shall, on the receipt thereof, be exhibited outside the Head Office of the Board and at the office of the Land Agent of the District.

19. Notice that the intention to make any such holding as aforesaid rabbit-proof, or to include any such lands as aforesaid within a group, has been abandoned, shall be given to the Chairman on Form 7, and copies of such notice shall in like manner be exhibited.

20. The appointment of the Secretary of any group shall be made by an instrument in the Form 8. A copy of such instrument shall be filed with the Chairman of the Board.

**Form 1.**

Rabbit Act of 1890: Regulation No. 9.

*Application to the Minister for the inclusion of Public Lands within a proposed Group.*

I, [name in full] hereby apply that the Minister for Lands will approve of the inclusion of the Public Lands described in the First Schedule hereto within a group proposed to be formed, which group will include the lands described in the Second Schedule hereto.

With this application are forwarded the plan and particulars required by the Regulations.

Dated this            day of            189 .

(Signature.)  
(Address and nearest Post Town.)

**SCHEDULE 1.**

Description of Public Lands.	Area.

The Under Secretary for Lands.

**SCHEDULE 2.**

Description of Lands.	Area.	Name of Owners.

**Form 2.**

Rabbit Act of 1890: Regulation No. 10.

*Application to the Minister for his Approval of the position of Rabbit-proof fence.*

I, [name in full], hereby apply that the Minister for Lands will approve of the erection of a rabbit-proof fence in the position described hereunder, and shown by the plan which is herewith.

Dated the            day of            189 .

(Signature.)  
(Address and nearest Post Town.)

DESCRIPTION of fence proposed to be erected and of existing fences:—

The Under Secretary for Lands.

**Form 3.**

Rabbit Act of 1890: Regulation No. 11.

*License to keep Rabbits.*

Subject to the provisions of the Rabbit Act of 1890, and to the conditions hereinafter specified, of is hereby licensed to keep live rabbits, for the period beginning the            day of            189 , and ending the            day of            189 .

CONDITIONS:—

Given under my hand this            day of            189 .

Minister for Lands.

**Form 4.**

Rabbit Act of 1890: Regulation No. 13.

*Application to the Local Land Board to Apportion Expenditure between the Owners within a Group.*

I, [name in full] being the ["secretary of," or "owner of a holding within"] the group of holdings set out in the first Schedule hereto, hereby apply that the Local Land Board will apportion the amounts payable by the respective owners within such group in connection with [here state the occasion of the expense]

Dated the            day of            189 .

(Signature.)  
(Address and nearest Post Town.)

The Chairman of the Local Land Board at

**SCHEDULE.**

Description of Holding.	Area.	Name of owner.	Address of owner.

**Form 5.**

Rabbit Act of 1890: Regulation No. 14.

*General Form of Application to the Local Land Board.*

I, [name in full] hereby apply to the Local Land Board at that it will [here state the objects of the application] This application is made under the following circumstances: [here state any circumstances which may assist the Board to understand the case]

The names and addresses of the parties other than myself concerned herein are given in the Schedule hereto.

Dated the            day of            189 .  
 (Signature.)  
 (Address and nearest Post Town.)

The Chairman of the Local Land Board at

**SCHEDULE.**

Name of Party.	Address and nearest Post Town.

**Form 6.**

Rabbit Act of 1890: Regulation No. 12.

*Notice of the intention to make Lands held under Occupation License or Annual Lease Rabbit Proof, or to include the same within a Group.*

I, [name in full] being the owner of the Crown Lands specified in the Schedule hereunder, which are held by me under ["Occupation License" or "Annual Lease"] hereby give you notice that it is my intention to ["make the same rabbit proof," or "include the same within a group"] by means of a rabbit proof fence, to be created [here generally describe the position of the intended fence, and the dimensions of the wire netting.]

Dated the            day of            189 .  
 (Signature.)  
 (Address and nearest Post Town.)

The Chairman of the Local Land Board at

**SCHEDULE.**

Land District  
 No. of ("annual lease" or "occupation license")  
 Area  
 Name of Holding (if occupation license)  
 Date of commencement of lease or license

**Form 7.**

Rabbit Act of 1890: Regulation No. 19.

*Notice of the Abandonment of the Intention to make Lands under Occupation License or Annual Lease Rabbit Proof, or to include the same within a Group.*

I, [name in full], having on the            day of            , 189 , give notice that it was my intention to ["Make rabbit proof," or "include within a group."] the Crown Lands specified in the Schedule hereunder, hereby give you notice that I have abandoned such intention.

Dated the            day of            189 .  
 (Signature.)  
 (Address and nearest Post Town.)

The Chairman of the Local Land Board at

**SCHEDULE.**

Land District  
 No. of "annual lease" or "occupation license"  
 Area  
 Name of Holding (if occupation license)  
 Date of commencement of lease or license

**Form 8.**

Rabbit Act of 1890: Regulation No. 20.

*Appointment of Secretary of a Group.*

WHEREAS the lands which, together with the names of the owners thereof, are specified in the first schedule hereto have been duly grouped, and do now constitute a group within the meaning of the "Rabbit Act of 1890;" and whereas such of the said owners as are specified in the second schedule hereto form a majority in number of the aforesaid owners: Now, therefore, we, the owners specified in the said second schedule, do hereby appoint            of            to be the Secretary of the aforesaid group.

Given under our hands this            day of            189 .

**FIRST SCHEDULE.**

Description of Lands.	Name of Owner.

**SECOND SCHEDULE.**

Name and Occupation of Owner.	Address.



1891.

NEW SOUTH WALES.

REAL PROPERTY ACT.

(RETURNS UNDER, FOR 1890)

Presented to Parliament by Command.

RETURN of the Number of Crown Grants registered under the Real Property Act, from 1st January to 31st December, 1890.

Months.	No. of Grants.	Area.				Value.			Assurance.				
		Town and Suburban.		Country.		£	s.	d.	£	s.	d.		
		a.	r.	p.	a.	r.	p.						
January	159	130	0	10½	8,220	0	29	14,946	3	10	31	3	9
February	198	115	3	7½	11,420	2	30	17,858	0	10	37	5	9
March	406	310	0	35½	15,852	1	7	25,083	12	11	52	9	1
April	353	422	3	26½	8,571	1	2½	20,836	2	1	43	11	6
May	231	312	3	20½	7,104	2	9	15,830	9	5	33	1	8
June	203	171	3	36¾	10,302	1	13	15,017	13	3	31	7	4
July	237	250	1	32¾	12,178	3	36	19,114	5	11	39	18	5
August	455	359	2	6½	23,433	3	34½	34,129	6	3	71	5	3
September	542	414	3	6	32,817	1	27	46,796	7	11	97	13	5
October	617	537	2	8¾	25,245	0	8	62,731	3	0	130	19	0
November	525	485	0	30½	17,691	1	24½	35,348	8	1	73	8	0
December	426	326	1	23½	18,239	1	9	28,677	7	0	50	18	10
Totals	4,455	3,871	3	6½	191,081	2	13	336,369	6	6	702	2	0

NOTE.—Amount of consideration-money for Transfers under the Act for the year .. .. . £3,600,392 0 0  
 Amount secured by Mortgage under the Act for the year .. .. . 8,559,662 0 0  
 Total area under the Act—16,587,476 acres 3 roods 23½ perches.  
 Total value of land under the Act at end of 1890 .. .. . £32,400,622 14 6

CHARLES PINHEY,  
 Registrar-General.

RETURN of the Number of Applications, with amount of Fees, &c., under the Real Property Act, from 1st January to 31st December, 1890.

Months.	No of Applications.	No of Properties.	Area.				Value.	Fees.															
			Town and Suburban.		Country.			Assurance.	Com-missioners.	Certificates and other Dealings.	Total.												
			a.	r.	p.	a.	r.	p.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.			
January	23	38	18	1	23½	4,772	0	27	128,432	0	0	267	11	4	50	0	0	1,733	0	0	2,050	11	4
February	35	34	109	2	22½	14,786	3	7	97,791	0	0	203	14	11	63	10	0	1,555	0	8	1,822	5	7
March	19	31	111	2	32½	41	1	8	50,821	0	0	105	13	5	42	10	0	1,658	7	0	1,806	10	5
April	22	28	81	2	38½	3,508	3	32	70,525	0	0	146	18	7	43	0	0	1,373	12	4	1,563	10	11
May	23	25	38	2	19½	1,587	0	4	91,576	0	0	190	15	10	46	0	0	1,680	0	4	1,916	16	2
June	25	36	13	2	23½	3,854	2	37½	99,874	0	0	208	1	5	41	0	0	1,697	0	4	1,949	1	9
July	36	41	33	1	37	6,585	1	2	104,471	0	0	217	13	0	76	0	0	1,977	19	0	2,271	12	0
August	18	22	20	1	6½	3,652	1	29	42,349	0	0	88	4	7	30	0	0	1,446	15	8	1,665	0	3
September	33	49	37	3	36½	23,795	1	11½	119,381	0	0	248	14	3	66	0	0	1,822	1	0	2,136	15	3
October	36	52	185	3	36	606	2	4½	102,383	7	6	213	6	1	73	10	0	1,586	4	8	1,873	0	9
November	25	40	24	0	37½	4,174	3	25	83,383	10	0	173	14	5	56	0	0	1,555	16	8	1,785	11	1
December	85	62	62	0	6	6,572	2	22½	77,358	0	0	161	3	3	64	0	0	1,403	14	8	1,628	17	11
Totals	330	448	737	2	38½	78,937	1	30	1,068,347	17	6	2,226	11	1	654	10	0	19,489	12	4	22,369	13	5

The above Return is exclusive of four applications which have been withdrawn.

CHARLES PINNEY,  
 Registrar-General.

RETURN of Memorials registered under the Real Property Act for the year ending 31st December, 1890.

[87.]

Printed by George Stephen Chapman, Acting Government Printer—1891.

Date.	Transfers.	Consideration of Transfers.	Mortgages.	Consideration of Mortgages.	Discharges.	Consideration of Discharges.	Transfers of Mortgage.	Foreclosures of Mortgage.	Encumbrances.	Consideration of Encumbrances.	Transfers of Encumbrance.	Leases.	Transfers of Lease.	Surrenders of Lease.	Re-entry of Lease.	Conve.	Withdrawal of Conveat.	Writs or Warrants.	Satisfaction of Writs or Warrants.	Notices of Death.	Notices of Marriage.	Notices of Resumption.	Vesting Orders.	Powers of Attorney.	Registered Proprietor (Official Assignee).	Transmissions by Endorsement.	Miscellaneous Endorsements.	Total.
January .....	695	£ 209,793	398	£ 711,781	218	£ 375,593	12	2	...	...	...	11	6	2	...	38	20	5	...	10	1	2	2	1	4	36	6	1,459
February .....	692	221,278	279	729,926	187	355,459	15	...	1	...	...	17	4	2	2	27	23	4	1	14	1	4	...	1	3	21	9	1,307
March .....	723	237,616	395	602,015	248	528,459	22	1	1	...	...	18	0	2	1	43	39	3	1	4	2	5	1	2	2	18	12	1,542
April .....	676	307,697	354	432,266	207	180,806	11	...	...	...	...	15	5	3	...	41	22	4	...	11	1	1	2	1	4	38	9	1,405
May .....	632	412,668	377	1,070,004	211	394,849	11	1	...	...	...	18	8	2	...	45	21	4	1	19	1	...	...	1	33	...	1,385	
June .....	742	289,055	433	596,730	218	226,801	15	4	1	...	...	15	1	4	...	34	30	5	...	9	...	2	4	1	2	27	1	1,548
July .....	816	593,460	508	712,881	222	190,748	11	1	2	...	...	19	2	3	...	40	20	6	1	19	1	3	3	1	1	49	2	1,739
August .....	709	164,343	417	789,522	224	402,449	16	5	...	...	...	15	9	6	...	40	35	3	1	8	2	2	...	...	2	43	6	1,544
September .....	779	313,015	413	816,936	256	309,107	26	2	...	...	...	9	9	...	...	34	30	5	...	20	...	1	2	...	3	39	7	1,635
October .....	723	450,093	402	584,920	215	505,082	12	...	2	...	...	21	15	3	1	33	39	11	1	15	...	2	...	3	38	2	1,538	
November .....	604	176,163	369	817,809	168	534,275	9	3	1	...	...	11	4	2	1	35	22	2	1	13	...	4	1	...	3	32	2	1,287
December .....	635	225,211	372	694,872	185	166,544	20	1	1	...	...	11	13	1	2	37	14	7	2	15	...	2	2	1	3	40	1	1,305
Totals .....	8,426	3,600,392	4,697	8,559,662	2,559	4,230,172	180	20	9	...	...	180	85	30	7	456	316	69	9	157	9	28	17	8	31	414	57	17,754

Total number of extra Endorsements during the year . . . . . 31,024  
 Total number of New Certificates issued during the year . . . . . 5,978

CHARLES PINHEY,  
 Registrar-General.