

P A P E R S

RELATIVE TO THE

ESTABLISHMENT OF LINES OF ELECTRIC TELEGRAPH.

Presented to both Houses of the General Assembly by command of His Excellency.

AUCKLAND:

1860.

ELECTRIC TELEGRAPH.

COPY OF A CIRCULAR DESPATCH FROM THE RIGHT HON. LORD STANLEY TO GOVERNOR
GORE BROWNE, C.B.

Downing Street,
29th May, 1858.

SIR,—

I transmit for your information, the copy of a Letter for Mr. Lionel Gisborne relative to a project which he has in view for effecting a Telegraph Communication, by way of India with Australia. I also annex copies of a Correspondence between this Department and the India Board, on the subject; and I shall be glad to be favored with any remarks which may occur to you on a question which, it is almost superfluous to add, promises to be of the utmost importance to the interests of the Colony under your Government.

20th March, 1858
Colonial Office,
8th April, 1858
India Board,
24th May, 1858

I have, &c.,

(Signed) STANLEY.

Governor Gore Browne, C.B.,
&c., &c., &c.,
New Zealand.

MR. GISBORNE TO LORD STANLEY.

6 Duke-street, Adelphi, (W.C.),
20th March, 1858.

MY LORD,—

On the 12th of October last, I addressed a Communication to Her Majesty's Colonial Minister upon the question of Telegraphic Communication with Australia. (Enclosure.)

Your Lordship favored me with an interview upon this matter during the course of this morning. The two points I am desirous of calling your Lordship's attention to, are:

1. That the Indian Government should give an assurance that they will execute a Telegraphic line between their possessions in the Continent of India and Singapore.

2nd. That when such an assurance is given, your Lordship will communicate to the Australian Governments the project I have had the honor to submit, and will place me in a position to negotiate the execution of it through the Australian Governments.

I have, &c.,

(Signed) LIONEL GISBORNE.

The Right Honorable
Lord Stanley,
&c., &c., &c.

MR. MERIVALE TO SIR GEORGE CLERK.

Downing Street,
8th April, 1853.

SIR,—

I am directed by Lord Stanley to transmit to you, for the consideration of the Commissioners for the affairs of India, the enclosed copy of a Letter from Mr. L. Gisborne, on the question of a Telegraphic Communication by way of India with Australia. (Enclosure.)

Mr. Gisborne's plan is,—

1st. To endeavour to obtain from the Indian Government a Contract for the Line from Tenneserim (where it could join the Indian Telegraphic system) to Penang and Singapore.

2nd. From thence, with the aid of a subsidy, of which he states that he has already obtained the promise from the Dutch Government, to carry it (without aid from England or from any Colony) to the North Coast of Australia.

3rd. To induce the Governments of the various Australian Colonies to carry it on down the East Coast to Moreton Bay, and thence to Melbourne.

Each part of this plan is dependent for success on the success of the rest.

I am to request that you will express Lord Stanley's opinion, that the execution of this project, if it can be successfully carried into effect, would confer great benefits on Australia and the Empire, and that on this ground His Lordship begs to recommend it to the consideration of the Commissioners for the affairs of India, with whom, however, it must rest to decide on its feasibility, and also its expediency so far as regards India. Should they find sufficient grounds to authorise the execution of the Indian

part of the work, Lord Stanley will be prepared to recommend the plan to the Australian Governments, but without the concession of exclusive privileges or the expectation of assistance from Imperial Funds, neither of which objects, it is to be observed, are asked for in the proposal in the shape in which it is at present submitted.

I am, &c.,

(Signed) H. MERIVALE.

Sir G. Clerk, K.C.B.

SIR GEORGE CLERK TO MR. MERIVALE.

India Board,
24th May, 1858.

SIR,—

(Enclosure.)

The Commissioners for the affairs of India have communicated with the Court of Directors of the East India Company, on the subject of your Letter of the 8th ultimo, recommending by order of the Secretary of State for the Colonies, to the consideration of this Board, a plan proposed by Mr. Lionel Gisborne for a Telegraphic Line to Australia, one portion of the plan being that the Government of India shall, at their own cost, carry the Line from the Continent of India to Singapore; and I am instructed to transmit to you, for the information of Lord Stanley, a copy of a Letter dated the 18th instant, which the Board have received from the India House, and a copy of a Despatch on the subject, which will be sent to the Governor General of India in Council by the Mail of the 25th.

I am, &c.,

(Signed) GEORGE CLERK.

Herman Merivale, Esq.,
&c., &c., &c.

MR. DICKINSON TO THE SECRETARY OF THE INDIAN BOARD.

East India House,
18th May, 1858.

SIR,—

(Enclosure.)

1. The Court of Directors of the East India Company, have had under consideration Sir George Clerk's Letter, of the 13th ultimo, with its enclosed Letter from the Colonial Office, and its accompaniment, regarding a scheme proposed by Mr. Lionel Gisborne for effecting Telegraphic Communication by way of India with Australia, one of the proposals connected with the project being that the Indian Government should give an assurance that they will execute a Telegraph Line between their possessions on the Continent of India and Singapore.

2. In considering this important proposition, the Court have with the Board, assumed that the main object of the undertaking is to connect Australia with *England* by means of the Telegraph. The first obvious step towards the attainment of that object is the completion of Telegraphic Communication between this Country and India, and it appears to the Court that it would be premature to adopt measures in regard to a Line beyond India, while the question as to the manner in which the European Line of Telegraph is to be extended to India, is still undecided.

3. Having made these preliminary observations, the Court desire me to state that it would afford them much pleasure to promote the project now brought to their notice, in such a manner as should be consistent with the interests of India. The Court would observe, however, that the section which it is proposed should be executed by the Government of India, would be an extensive and difficult undertaking, and they are unable to pass a judgment upon its feasibility or cost, without a previous survey of the Coast, and without a report by the Local Authorities upon the question. They accordingly propose at once to invite the consideration of the Government of India to the subject.

I have, &c.,

(Signed) J. D. DICKINSON.

The Secretary of the
India Board.

COPY OF A DESPATCH FROM THE COURT OF DIRECTORS OF THE EAST INDIA COMPANY TO THE GOVERNOR GENERAL OF INDIA IN COUNCIL.

May, 1858.

(Enclosure.)

1. We forward in the Packet, copy of a Letter, and of its enclosures, which has been received from the Board of Commissioners for the affairs of India, and of our reply thereto, regarding a scheme proposed by Mr. Lionel Gisborne for effecting Telegraphic Communication, by way of India with Australia.

2. You will observe that one of the proposals is, that the Government of India should undertake the construction of a Line from the point on the Eastern Coast of the Bay of Bengal, where the Indian system terminates, to Singapore. We desire therefore that you will take such steps as may enable you to form a judgment upon the cost and feasibility of this section, and report your opinion to us as soon as practicable.

COPY OF A MEMORANDUM BY MR. TANCRED.

November 25, 1858.

There can be but one opinion as to the great importance to New Zealand, of a Telegraphic Line of Communication with England and the other parts of the World mentioned in these Papers. But, however earnestly they may wish to see this undertaking accomplished, Ministers have a great difficulty in giving any decided opinion as to the proportion in which New Zealand should be called upon to contribute. It might be that the expense would be greater than they would be justified in incurring. Upon the whole the plan seems not sufficiently matured to warrant the New Zealand Government in entering into any distinct engagement. It appears that the Section of the Line to Singapore would be a most difficult undertaking, and one the cost of which cannot be even approximately estimated without a most careful Survey. It is still less possible to form an estimate, as to the difficulties to be encountered between Singapore and Australia—and it is as yet quite impossible even to conjecture how the Line will be carried on and *maintained* through the unsettled parts of Australia. What obstructions might be met with from Aborigines, or what security there would be against the wires being cut, from a mere wanton love of mischief. Notwithstanding these difficulties, however, Ministers wish to give every assurance of their earnest desire to see Mr. Gisborne's project carried out, and of their wish to the best of their ability to meet a just assessment for the purpose of bringing it to completion.

(Signed) H. J. TANCRED.

COPY OF A CIRCULAR DESPATCH FROM THE RIGHT HON. SIR E. B. LYTTON, BART., TO GOVERNOR GORE BROWNE, C.B.

Downing Street,
27th July 1858.

SIR,—

With reference to my Predecessor's Circular Despatch, of the 29th of May, forwarding for any remarks which might occur to you, copies of Communications which had passed between this Office and the Commissioners of the Affairs of India relative to a plan proposed by Mr. Lionel Gisborne, for laying down a Telegraphic Line of Communication by way of India, between this Country and Australia, I transmit herewith for your information, copies of a further Correspondence which has passed upon the subject.

I have, &c.,

(Signed) E. B. LYTTON.

Governor Gore Browne, C. B.,
&c., &c., &c.

MR. GISBORNE TO THE EARL OF CARNARVON.

6 Duke-street, Adelphi,
8th June, 1858.

MY LORD,—

I have the honor to acknowledge your Lordship's Letter, of the 3rd instant, enclosing Correspondence with the Board of Control and the Honorable East India Company, upon the subject of Telegraphic extension to Australia. (Enclosure.)

Mr. Dickinson, in his Letter of the 18th of May, states, after acknowledging the importance of the project and the desire of the Honorable East India Company to see it carried out,—

“The Court would observe, however, that the section which it is proposed should be executed by the Government of India would be an extensive and difficult undertaking, and they are unable to pass a judgment upon its feasibility or cost, without a previous survey of the Coast, and without a report by the Local Authorities upon the question. They accordingly propose at once to invite the consideration of the Government of India to the subject.”

I would observe that the proposed Communication between the Continent of India and Singapore is not difficult, and that there exists all the information upon the subject, necessary to decide the feasibility and cost. The Chart sent herewith shews that detailed soundings, &c., exist the whole way between Rangoon and Singapore, and there exist at the Hydrographical Office most detailed Charts of the places where it is proposed to land the Cable. My Estimate for the whole line between Tennasserim and Singapore is under £150,000, and I am prepared to find a responsible Contractor to execute it for that sum *at his own risk* as far as laying the Cable, and handing it over to the Honorable East India Company, in an efficient working state.

I am unaware of any length of Cable laid in a Sea, where, judging from the Charts and the Reports of Mariners, such remarkable facilities exist as in the reach between Tennaserim and Singapore.

I had the honor of informing Lord Stanley at the interview he favored me with, that the concession granted by the Netherlands Government, was limited in time for carrying out its provisions, and that I am under engagement to that Government, to send without delay to Australia, to negotiate the extension of the Telegraph within that Colony.

A reference of the Singapore Section to the Governor General in India, will delay the question for many months, and I respectfully submit without any practical object being attained towards prosecuting the Australian project.

The Dutch Government, with the same Charts and information before them as the Honorable East India Company have access to, admitted the feasibility and importance of the *whole* question, and gave the necessary facilities for carrying out their Link. It appears that your Lordship's Department are prepared to recommend the same course to the Australian Colonies; all I ask is, that the Honorable East India Company shall, when the whole project is ripe, undertake to carry out the portion which specially comes under their control.

Should the Court consider the Singapore Telegraph of such importance *per se*, as to warrant them to have it carried out at *once*, I am prepared to undertake it through responsible Contractors; but my proposition to Lord Stanley, was that the Court should decide upon doing their Section when the remainder of the Australian Line was finally in hand, his Lordship remarking most truly in his Letter of the 8th April, 1858, that "each part of this plan is dependent for success on the success of the rest."

What, I am desirous of obtaining is an assurance from Her Majesty's Government, or the Honorable Court to the Australian Authorities, that the Singapore Section shall not remain unmade as a Link in the Australian and China Telegraph.

I have, &c.,

(Signed) LIONEL GISBORNE.

The Right Honorable
The Earl of Carnarvon,
&c., &c., &c.

MR. MERIVALE TO SIR GEORGE CLERK.

Downing Street,
22nd June, 1858.

Sir,—

(Enclosure.)

8th June, 1858

With reference to your Letter, of the 24th ultimo, I am directed by Secretary Sir Edward Bulwer Lytton, to transmit to you, for the consideration of the Commissioners for the Affairs of India, the enclosed copy of a Letter from Mr. Lionel Gisborne, submitting some remarks on the subject of the conclusion signified on the subject of that part of his proposed line of Telegraphic Communication from England to Australia, which lies between the Continent of India and Singapore.

I am, &c.,

(Signed) H. MERIVALE.

Sir George Clerk,
&c., &c., &c.

SIR GEORGE CLERK TO MR. MERIVALE.

India Board,
17th July, 1858.

Sir,—

(Enclosure.)

With reference to the Communication which you made to this Board, on the 22nd ultimo. I am desired by the Commissioners for the Affairs of India to transmit, for the information of the Secretary of State for the Colonies, a copy of a Letter, dated the 14th instant, which has been received from the Court of Directors of the East India Company, respecting the plan of Mr. Lionel Gisborne, for a Telegraphic Line between England and Australia, by way of Rangoon and Singapore.

I am, &c.,

(Signed) GEORGE CLERK.

Herman Merivale, Esq.,
&c., &c., &c.

MR. J. D. DICKINSON TO SIR G. CLERK.

East India House,
14th July, 1858.

Sir,—

(Enclosure.)

1. I have laid before the Court of Directors of the East India Company, Sir G. Clerk's Letter of the 26th ultimo, transmitting copy of a Letter which has been addressed by Mr. Lionel Gisborne to the Colonial Office, in consequence of that Department having forwarded to him a copy of my Letter, of the 18th May, regarding his scheme for Electric Telegraphic Communication with Australia by way of Singapore.

2. The Court were given to understand by the enclosures to Sir G. Clerk's Letter of the 13th April, that the main object of Mr. Gisborne's scheme was to establish Telegraphic Communication between Australia and this Country, and that a part of his plan was to "obtain from the Indian Government a Contract for a Line from Tenasserim to Penang and Singapore."

3. The Court desire me to state that, notwithstanding Mr. Gisborne's statement as to the easy nature of that part of the undertaking, they do not feel in a position to enter into arrangements for the execution of a work of this description without a previous Communication with the Government of India, with the view of obtaining the report of their Superintendent of Electric Telegraphs, or of some competent Officer upon the subject, and it did not appear to them that the time employed in obtaining a reply to that reference could delay the completion of a work, which is to form the continuation of one to India, for the construction of which arrangements have not yet been made.

4. As, however, it appears from Mr. Gisborne's Letter, now under notice, that the concession granted to him by the Netherlands Government is limited in time, and is conditional upon an assurance that, the line between Rangoon and Singapore will not be left undone, the Court cannot hesitate to express their opinion that, when measures have been matured for making such remaining portions of the Link as may be required to complete the Telegraphic Communication between this Country and Australia, it would be the duty of the Indian Government to take steps for the simultaneous construction of that part of the Line which lies between its jurisdiction.

I have, &c.,

(Signed) J. D. DICKINSON.

The Secretary,
India Board.

LORD CARNARVON TO MR. GISBORNE.

Downing Street,
30th July, 1858.

SIR—

With reference to my Letter of the 22nd ultimo, in which you were informed that a copy of your further Letter of the 8th of June, relative to the execution of that part of your proposed Line of Telegraphic Communication from England to Australia which lies between the Continent of India and Singapore, had been referred for the consideration of the Commissioners for the Affairs of India, I am directed by Secretary Sir E. Bulwer Lytton, to transmit for your information a copy of the answer which has been returned on the subject by that Board.

I am, &c.,

(Signed) CARNARVON.

Lionel Gisborne, Esq

MR. F. GISBORNE TO GOVERNOR GORE BROWNE, C.B.

Melbourne, 6th July, 1859.

SIR,—

I have the honour to enclose a letter of introduction, given me by Sir E. B. Lytton to you, also copy of a document, dated the 19th of March last, containing the arrangement I made on behalf of the promoters of the Australian Telegraph with the Netherlands Government, for the construction by that Government of a Submarine Line from Singapore to Batavia this year, and other matters also set out in it.

I also enclose the conditions under which Her Majesty's Government granted the Netherlands Government permission to land their Cable and to establish a station at Singapore for the purpose of working the Line; also a Map showing the course of the proposed Australian Telegraph, and Extract out of the prospectus of the Red Sea and India Telegraph Company. I send by Post a sample of the Red Sea Cable.

I am come out on behalf of the promoters of the Australian Telegraph, to make a proposal to the several Colonial Governments to complete the Link of Telegraphic Communication between England and Australia which will still be wanting when the Lines now in course of construction by Her Majesty's, and the Netherlands Governments are completed.

The Indian Line is now laid to Aden, and the remaining portion to Kurrachee is manufactured, and will be laid next December. From Kurrachee there exist Land Lines as far as Rangoon, and the Indian Government has bound itself to complete the Telegraph to Singapore.

The Dutch Cable from Singapore to Batavia is manufactured, and will be laid next October. From Batavia there exists a Land Line to Banjouwangi (East Java), so that my mission is to induce the Australian Governments to extend the Dutch Line from East Java to Moreton Bay, as a submarine Line, and thence to Sydney by Land.

An examination of the Admiralty Charts will show that the submarine Cable will, throughout its course, follow a chain of Islands on the Australian Coast, in very shallow seas, whence it can be easily picked up for repairs, and where intermediate stations can be multiplied at pleasure, and will everywhere lie on a soft bed of sand or mud.

The promoters propose that £800,000 be raised for the Submarine Line between East Java and Moreton Bay (this sum includes a sufficient Reserve Fund), and that the several Colonies contribute towards it in the same proportions as they now contribute towards their moiety of the Postal subsidy. This basis would leave New Zealand, as I am informed, to contribute $5\frac{1}{4}$ per cent. of the capital.

This is, of course, merely a suggestion, but it proceeds upon the supposition that the number of Messages sent and received will be in analogy to the number of Letters sent and received.

The class of Cable on which the estimates have been founded, and the prices, *mutatis mutandis*, are the same as have been approved of in the case of the Indian Telegraph, by Her Majesty's and the Indian Governments.

The Australian Line will be completed in two years at furthest, and will be laid at the risk of the Contractors.

Whether the Line shall be held and worked by the several Colonial Governments as their joint property, or whether a private Company shall hold and work it, are points which the promoters desire to leave entirely to the decision of the Colonies.

If the Line is to belong to the Colonial Governments, the necessary capital will have to be raised, either out of Surplus revenue, or as a public debt by means of bonds.

If a Company is to be formed, a guarantee of 6 per cent. on the capital must be given. In either case there will be a liability, to be apportioned among the Colonies.

I have as yet seen none of the Colonial Authorities, having only arrived to-day from England, and I am ignorant of their views, but I will ask you to communicate on this subject with the other Governors.

I hope to visit New Zealand before returning to England, but from Melbourne I proceed to Sydney.

His Excellency
Governor Gore Browne, C.B.,
&c., &c., &c.

I have, &c.,
(Signed) F. GISBORNE,

LORD CARNARVON, TO GOVERNOR GORE BROWNE, C.B.

Downing Street,
2nd May, 1859.

SIR,—

(Enclosure).

With reference to my predecessor's Circular Despatch of the 29th May, and to mine of the 27th July last, I have to inform you that Mr F. Gisborne, brother of the gentleman whose project of a Telegraphic Communication, by way of India, between this Country and Australia, was then announced to you, is now on his way to New South Wales, and contemplates visiting several of the Australian Colonies.

Mr Gisborne has been represented to me as a gentleman of character and intelligence, and of great experience in all matters of the above description; but I must leave him to explain for himself the object which he has in view, for although I consider that the execution of such a scheme would confer the greatest benefit on the Australian Colonies and the Empire, I cannot undertake to express an opinion on the merits of the particular plans for accomplishing the object.

I take this opportunity of calling your attention, in connection with this subject, to two principles which, after considerable recent discussion, have been at length acquiesced in and adopted generally, and on which Her Majesty's Government are prepared to act in cases of a character similar to the present—First, to grant no exclusive privileges; and, Secondly, to provide that any guarantees of interest should only take effect after the Lines are in working order, and for so long only as they continue to remain in that condition.

I have &c.,
(Signed) CARNARVON,
In the absence of Sir E. B. Lytton.

Governor Gore Browne, C.B.,
&c., &c., &c.

UNDER-SECRETARY, NEW ZEALAND, TO MR. F. GISBORNE.

New Zealand, Colonial Secretary's Office,
Auckland, 26th Dec., 1859.

SIR,—

I have the honor, by the direction of Mr. Stafford, to acknowledge the receipt of your Letter to His Excellency the Governor, of the 6th July last, with its enclosures, on the subject of the proposed Telegraphic Communication between England and Australia *via* India.

In reply, I am to inform you that the Government of New Zealand regards the projected establishment of such Communication favourably, and would be prepared to propose a contribution on the part of that Colony to such a work, it being borne in mind that the amount of liability to devolve on that account on New Zealand would be governed by the circumstance whether or not the Telegraphic Line were carried to its Coasts. In the latter case, although the Colony would undoubtedly benefit if the Line terminated at Sydney, its contribution could not be so large as it might be fairly required to be in the former case.

The mode of determining the respective contributions is a question for the consideration of the Governments concerned, and this Government cannot finally decide in the matter until the details of your scheme are fully known, especially as it is understood that some alterations of your original proposition are contemplated.

I have, &c.,
(signed)

W. GIBBORNE,
Under Secretary.

F. Gisborne, Esq.,
Australian Club, Sydney, N.S.W.

MR. F. GIBBORNE TO MR. STAFFORD.

Australian Club,
Sydney, 9th February, 1860.

SIR,—

I have the honor to enclose the Resolutions passed by the Legislative Assembly of New South Wales, subsidising the proposed Telegraph to Java.

Former Papers I have communicated, will have explained that the whole subsidy asked for, is £35,000 per annum, of which New South Wales contributes £9,625, or 27½ per cent, and Victoria the remainder.

Your Letter to me of the 26th December last, stating that your Government will recommend a contribution towards the Telegraph, aided me in my negotiation here.

I proceed immediately to Melbourne to obtain the contribution of Victoria.

That will conclude the matter as far as the Company is concerned.

The contributions of the other Colonies will be obtained by Victoria and New South Wales respectively.

I have, &c.,
(Signed)

F. GIBBORNE.

The Honorable E. W. Stafford,
Colonial Secretary,
&c., &c., &c.

MR. ELYARD TO MR. F. GIBBORNE.

Colonial Secretary's Office,
Sydney, 8th February, 1860.

SIR,—

I am directed by the Colonial Secretary to transmit to you a copy of the Resolutions passed by the Legislative Assembly on the 2nd instant, respecting a Subsidy for a Telegraphic Line from this Colony to East Java, and to state that the Government is prepared to enter into an arrangement for effecting this object upon the basis of these Resolutions. (Enclosure.)

2. I am at the same time desired to intimate to you that the Resolutions appear to the Government, to cast upon you the duty of obtaining the co-operation of the Government of Victoria.

I have, &c.,
(Signed)

W. ELYARD.

F. Gisborne, Esq.,
&c., &c., &c.

RESOLUTIONS OF LEGISLATIVE ASSEMBLY OF NEW SOUTH WALES:

(Adopted 2nd February 1860.)

7. Telegraphic Communication with the United Kingdom :—On the Order of the Day being read, the Speaker left the Chair, and the House resolved itself into a Committee of the whole, further to consider of an Address to His Excellency the Governor General, with reference to a Subsidy towards Telegraphic Communication with the United Kingdom.

The Chairman reported that the following Resolution had been agreed to in the Committee :—

Resolved, That an Address be presented to His Excellency the Governor General, embodying the following Resolutions :—

1. That this House is of opinion that the Government of this Colony should be authorised to grant a subsidy not exceeding £9,625 per annum, for a term not exceeding twenty-one years, to any Company, of the stability of which satisfactory assurance shall be given, to induce such Company to construct and maintain a Telegraphic Line, from this Colony to East Java, upon the following conditions, that is to say :—

(1.) That the Government of Victoria shall make arrangements with such Company, by subsidy or otherwise, for the residue, over and above the annual subsidy of this Colony, necessary for the carrying out of the work.

- (2.) That the period within which the first call of the subscribed capital of the Company shall be made, shall be limited to twelve calendar months from the date of the concurrence of the Colony of Victoria in the preceding condition.
 - (3.) That the whole work shall be completed and in effective operation within three years from the present date ; subject however, to such extension of the time, to meet possible contingencies, as may hereafter be agreed upon.
 - (4.) That the proposed subsidy shall be proportionally payable on the capital of the Company as paid up.
 - (5.) That the payment of the said subsidy shall be conditional on the maintenance of the Line in effective working order, and that no payment shall be made until the Line is completed.
 - (6.) That no tariff of charges shall be established without the concurrence of this Colony.
 - (7.) That in the event of the net profits of the Company exceeding in any year the rate of ten per cent. per annum, such excess shall be rateably applied to reduce the respective contributions of this Colony and of Victoria.
2. That steps be taken without delay to communicate with, and settle the proportionate contributions of the other Colonies, in aid of the respective contributions of New South Wales and Victoria.

And the same having been read at length by the Clerk—

Mr. Forster moved, That the House do now adopt this Resolution.

Debate ensued.

Question put.

The House divided.

Ayes, 23.

Mr. Black,	Mr. Laycock,			
Mr. Samuel,	Mr. Hurley,			
Mr. Piddington,	Mr. Parkes,			
Mr. Clements,	Mr. Hay,			
Mr. Watt,	Mr. Macleay,			
Mr. Wild,	Mr. Plunkett,			
Mr. Hart,	Mr. Robertson,			
Mr. Hamilton,	Rev. Dr. Lang,			
Mr. Hoskins,	Mr. Nott,			
Mr. Wilson,	Mr. Forster,			} Tellers.
Mr. Hyeronimus,	Mr. Morris.			
Mr. Garrett,				

Noes, 5.

Mr. Cooper,	} Tellers.
Mr. G. Lang,	
Mr. Wisdom,	
Mr. Gordon,	
Mr. Atkinson.	

MR. FORSTER TO COLONIAL SECRETARY, NEW ZEALAND.

Colonial Secretary's Office,
Sydney, New South Wales,
10th February, 1860.

SIR,—

I have the honor to transmit to you a Copy of Resolutions passed on the 2nd instant by the Legislative Assembly of this Colony, respecting a subsidy for the construction and maintenance of a Telegraphic Line to East Java ; and to state, that it has been intimated to Mr. F. Gisborne, who has come to Australia for the purpose of furthering the establishment of such a Line, that this Government will be prepared to enter into an arrangement with any Company of approved stability, for carrying out the object in question, upon the basis of the Resolutions.

2. You will observe, that the Resolutions made it a condition that the concurrence of the Colony of Victoria to such an extent as may be necessary for carrying out the proposed work, shall be obtained ; and that the co-operation of the other Colonies interested in such a project shall also be invited.

A Communication has been made by me to the Government of Victoria on the subject ; and I have to request that you will favor me by stating whether New Zealand will co-operate in the way suggested, and, if so, whether your Government would be disposed to leave with the Government of this Colony, the details of such negotiations as may be necessary for completing the arrangement.

3. I enclose, for your information, printed copies of the Papers on this subject, which have been laid before the Legislature of this Colony.

I have, &c.,

(Signed) WILLIAM FORSTER.

The Honorable
The Colonial Secretary,
New Zealand.

MR. STAFFORD TO COLONIAL SECRETARY, NEW SOUTH WALES.

New Zealand,
Colonial Secretary's Office,
Auckland, 19th March, 1860.

SIR,—

I have the honor to acknowledge the receipt of your Letter of the 10th ultimo, transmitting a copy of Resolutions passed by the Legislative Assembly of New South Wales respecting a Subsidy for the construction and maintenance of a Telegraphic Line to East Java, and enquiring whether the Government of New Zealand will co-operate in the way suggested, and, if so, whether it would be disposed to leave with the Government of New South Wales the details of such negotiations as may be necessary for completing the arrangements.

This Government fully recognises the importance of the projected Telegraphic Communication between Europe and Australia, both as a means for the present of greatly accelerating Communication between England and New Zealand, and, especially, as offering an almost certain guarantee, if successfully established, that complete Telegraphic Communication would, at an early period, be secured to this Country.

The Government will accordingly submit the subject to the consideration of the Legislature, with a view to provision being made, in the meantime, for a contribution on the part of New Zealand towards any subsidy paid on account of the proposed Communication, so long as it is maintained. The amount, however, which this Colony may be expected to contribute will manifestly be governed by the circumstance to which I have before referred, viz.,—whether the Telegraphic Line is carried to its Coasts or terminates in Australia. In the latter case, although the Colony would undoubtedly be benefitted, its contribution cannot be so large as it might fairly be required to be in the former case.

I have every confidence that the Government of New South Wales will take all necessary precautions in negotiating the details of the project in question, which is especially a matter for its consideration.

I have, &c.,
(Signed) E. W. STAFFORD.

The Honorable the Colonial Secretary,
Sydney, New South Wales.

MR. BUTCHER TO COLONIAL SECRETARY, NEW ZEALAND.

Hobart Town, Tasmania,
February 3rd, 1859.

SIR,—

Having understood it is the intention of your Government to lay down certain Lines of Electric Telegraph, I do myself the honor to enquire,—

1st. Between what points the Government intend constructing their contemplated Lines of Communication.

2nd. About what time it is the intention of the Government to commence the works referred to.

As I have been engaged for the past ten years in the erection, construction, and general management of Overland and Sub-Marine Telegraphs, both in the Colonies and abroad, I feel assured I should be enabled not only to construct your Telegraph Lines, but to satisfactorily organize and work the same when completed, which latter Service I should be most happy to undertake until such times as I had perfected your own Officers in the science.

I may state that I have just returned from England where I have been engaged for the past ten months in the superintendence of manufacture, and shipment of a Sub-Marine Cable of two hundred and forty miles in length, which is to connect Victoria with Tasmania, which I hope to have submerged by the first week in March. I may also add that I have constructed all the Lines of Telegraph now at work in this Island, as well as many in the Colony of Victoria.

Should you require any information relative to the organization, or working generally, of Colonial Telegraphs, I should be most happy to communicate with you, and give you the benefit of my experience in these matters. Or should you wish a personal interview I would willingly visit your Colony after the completion of my Sub-Marine Contract.

Trusting you will favor me with an early reply,

I have, &c.,
(Signed) W. H. BUTCHER,
43, Davy Street.

The Honorable the Colonial Secretary,
New Zealand.

UNDER SECRETARY NEW ZEALAND, TO MR. BUTCHER.

Colonial Secretary's Office,
Auckland, 19th March, 1859.

SIR,—

I am directed to acknowledge the receipt of your Letter of 3rd ultimo, offering your Services in connexion with the construction of any Lines of Electric Telegraph which the Government of New Zealand may wish to establish in that Colony.

In reply I am to inform you that the Government have not at present any funds disposable for such an undertaking, but they are anxious, before the next Session of the General Assembly to collect all the information possible upon the whole subject, with a view to making a recommendation respecting it, to the Houses of Legislature.

The two points in this Colony which it would be most desirable to connect by the Electric Telegraph are the Towns of Auckland and Dunedin, which are separated from each other by a distance of from 600 to 700 nautical miles, overland throughout, with the exception of Cook's Straits.

The Government would feel much obliged if you would inform them what you estimate to be the cost of such a work *per mile* for the whole distance, and also furnish them, as you kindly offer to do, with any information, which you may consider desirable respecting the organization and working of Electric Telegraphs generally, and more particularly as regards Colonies inhabited as this is in the Northern Island by a numerous Native population in the interior—a circumstance which probably would make it advisable to adopt for the Line a more circuitous route by the Sea Shore.

A personal interview, as you suggest, between the Government and yourself would be the most satisfactory means of obtaining the desired information, but the Government hesitate to ask you to visit this Colony for the express purpose, because even if the information were of the most satisfactory nature, it might happen that, after all, the Legislature would decline to take any action in the matter, a result, however, which the Government do not anticipate.

I have, &c.,

(Signed)

W. GIBBORNE,

Under-Secretary.

W. H. Butcher, Esq.,
Hobart Town, Tasmania.

MR. BUTCHER TO COLONIAL SECRETARY, NEW ZEALAND.

Hobart Town, Tasmania,

May 15th, 1859.

SIR,—

I do myself the honor to acknowledge the receipt of your Communication, dated the 19th March, asking for certain information relative to the construction, organization and general management of Electric Telegraph Lines in Australia.

With regard to the cost per mile of the Line from Auckland to Dunedin, I do not feel myself competent to give an opinion, being at present totally ignorant of the Country through which the Line would traverse. It would be necessary before offering such opinion to be made acquainted with the facilities for transport, of materials for the construction of the same. The nature of the soil, (whether rock or sand),—the amount of timber required to be cleared, for the preservation of the line; the density of the forest land; the length of plain to be spanned; and a variety of other data, in order to form a correct estimate of the work, which could only be obtained by a personal inspection of the route. I will merely therefore confine myself to giving the actual cost of similar Lines at present complete and working in the Colonies of Victoria, New South Wales, South Australia and Tasmania, which may guide you in forming an approximate estimate of similar work to be performed in your Colony; at the same time I would beg to draw your attention to the fact, that in all cases where Lines have been constructed in the Colonies above referred to, the roads have been of such a nature, as to allow the passage of loaded drays and waggons, and hence the distribution of timber has been a lesser item of expense than would have been the case in the absence of proper roads.

From Melbourne (Victoria) to Sandhurst (Bendigo diggings) one hundred and twenty-three miles (123) forty feet of timber cleared from each side of Line, and about two thirds (2-3rds) of the distance plains, Sixty-five pounds (£65) per mile.

From Geelong, (Victoria) to Ballarat, sixty miles (60) forty feet of timber cleared on either side of line, partly plains, Sixty-five pound (£65) per mile.

From Melbourne (Victoria) to Beechworth, (Ovens diggings) two hundred miles (200) forty feet of timber cleared from each side of line, partly plains, Fifty-nine pounds (£59) per mile.

From Ballarat (Victoria) to Mount Gambia, (boundary of South Australia) via Belfast, Warnambool, Portland, &c., about three hundred miles (300) forty feet of clearing, partly plains, Sixty-four pounds ten shillings (£64 10s.) per mile.

From Adelaide (S. A.) to Mount Gambia, about three hundred miles (300), clearing forty feet of timber, Sixty-pounds (£60) per mile.

From Sydney (N.S.W.) to Albury, about three hundred and fifty miles (350) clearing forty feet of timber on each side, Sixty pounds (£60) per mile.

From Hobart Town (Tasmania) to Launceston, one hundred and twenty miles, (120) no clearing, and a good metalled road, the entire distance, Fifty-two pounds ten shillings (£52 10s.) per mile.

From Launceston (Tasmania) to George Town, forty miles, (40) twenty feet of timber cleared on each side, Sixty-five pounds ten shillings (£65 10s.) per mile.

There are a number of other Branch Lines recently constructed in Victoria and New South Wales, the cost of which do not materially differ in price from the Main Trunk Lines.

You will observe that the three Colonies Victoria, New South Wales, and South Australia, have adopted the same principle of clearing, viz., forty feet on each side of their Lines, while Tasmania only clears for a space of twenty feet. The difference arises from the greater prevalence of bush fires in the three Colonies last named than in Tasmania; the additional number of feet in the one case is to prevent as much as possible the posts coming in contact with the burning timber, as well as to reduce the liability of trees and limbs falling across the line and breaking the continuity of the wire. In America,

however, where Lines of Telegraph are run through wild rough Countries, and where they only care to preserve the insulation of the Wire, and where also Economy is the great desideratum, they do not cut the standing trees, but in many instances attach the wire to them, I would not, however, advise the adoption of the latter principle, as the sap from green trees, very often interferes, destroys the insulating property of the wire-conductor; but I am of opinion, that for a young Colony, where the Line could follow a cleared track, the mere lopping of the limbs, where they are liable to come in contact with the wire, would be quite sufficient for practical purposes, more particularly, when bush fires are not frequent, as it would reduce the cost of construction very materially.

With regard to the interference of the Natives with Telegraph Lines, I am of opinion, very little annoyance would be apprehended, as I find from Mr. O'Shannessy's (the Superintendent of Telegraph for India) report on the construction of Telegraph through India, that scarcely any trouble has been experienced from this cause, although the lines run through many of the most wild districts of that Country, and I cannot believe that New Zealanders are more vicious than their sable Brethren of the East.

After having duly considered the cost of maintenance of Telegraphs in the Australias generally, and comparing notes with the expenditure for similar Service in England, the United States and California, I am thoroughly convinced that this branch of the Service in the Colonies, is far too extravagantly conducted, and this arises from the idea that all Government Clerks should be paid on the same scale whether the branch of the Service with which they are connected require ability or not—young lads from fourteen to sixteen years of age in this case being more efficient than men advanced in years. At Lothbury in the City of London, where some one hundred and sixty miles (160) are constantly kept working, and where there are over two hundred persons employed, young girls from sixteen to twenty-one, send and receive all Telegrams and transact all the ordinary business of the operating rooms of that immense Establishment—there being of course an experienced Electrician, to keep the batteries, wires, instruments, &c., in order, as well as various other male Managers, to superintend general outdoor repairs, &c. Another error the Governments of the Colonies have fallen into with respect to this department of their Service, is in the employment of a plurality of Clerks, line-men, &c., the salaries of which surplus staff would go far towards the declaration of a dividend. In organizing the Telegraph department in Tasmania, I found my ideas to be perfectly correct in this respect, and where the maintenance of a Telegraph Station in Victoria or New South Wales, would cost seven hundred pounds per annum, I performed the Service equally as efficient for three hundred pounds. These are facts not to be disputed, and I would therefore advise your Government in opening a new department to give them your careful consideration.

The expense of maintaining and working Telegraphs entirely depend upon the number of Stations required for the purpose of transacting business, and for a proper protection of the Line in cases of accidents, as well as the number of Clerks necessary to perform the Service efficiently. In thickly wooded Countries where trees are liable frequently to fall across the wire and interrupt Communication, it is not desirable to have a greater distance than eighty miles between each Station, in which case a broken wire could always be repaired within five or six hours of its occurrence, I could form a much better idea upon this point, however, after examining the route. The number of persons required at each Station need not exceed *two*, viz., one labouring man to keep the Line in repair, and a lad to work the instrument. At the principal Towns, where it would be necessary to maintain large batteries, an additional Assistant would be required. The salary of a *Country* Station should not exceed Two Hundred Pounds per annum.

The cost of fitting up each Office with a full set of "Morse's Recording Instruments" (such as are used in the Colonies generally) with batteries, tables, manipulating keys, and all the necessary appurtenances attached, would not exceed Sixty Pounds (£60) and the total expense of maintaining a Line of Telegraph from Auckland to Dunedin, for say twelve Stations, including repairs to instruments, insulators, batteries, posts, accidental interruptions and casualties, acids for resuscitation of batteries, register paper, stationery, fuel, lights, &c., &c., provided the Line did not exceed Seven Hundred and Fifty miles (750) would amount to about Three Thousand Pounds per annum. This estimate, of course, would be exclusive of Clerical labour.

Should your Government deem it desirable, I will be most happy to visit your Colony, and after inspecting the proposed route for the contemplated Line of Telegraph, would furnish you a report shewing a *correct* estimate of the entire work, both as regards the cost of construction, the number of Stations required, the amount *actually* necessary, per annum, for maintenance, and all other matters of detail connected therewith, for which Service I should merely require the Government to pay the necessary travelling expenses, and allow me a certain sum per diem as a fixed remuneration to be hereafter named. The latter contingency to be acted upon, *only*, in case the Government did not employ me as a Contractor in the construction of the Line.

It is scarcely necessary for me here to exult upon the benefits derivable from Electric Communication, it speaks for itself. Within the past three years nearly three thousand miles of the Electric wire have been erected in the Australian Colonies. By a recent report of Mr. S. W. McGowan's (Superintendent of Telegraphs for Victoria) I have observed that Lines in that Colony are earning sufficient were they in private hands, to declare a dividend of nine (9) per cent., notwithstanding the Department is conducted upon the most expensive scale. In New South Wales and South Australia the same results have been produced, and the trio are extending their Lines to every "nook and corner" of their respective Colonies. Tasmania too has felt its vast benefits, and those who were the first to condemn its introduction in the Legislature, now cry out *most* loudly for its extension. And so it is, and so it has been, wherever it has gained a footing, its effects are irresistible,—the Governments use it to an immense extent for the transaction of their most important business—the Police use

it for the detection of crime,—the Press use it for the reception of quick intelligence,—and the Community use it for all the ordinary transaction of business with their neighbours in the surrounding Towns and Villages, and I feel assured the New Zealanders would not be slow in appreciating its advantages.

Our Sub-Marine Cable has not yet arrived, but is expected daily, I shall therefore doubtless be at liberty to visit you by the middle of July should you desire it.

Please acknowledge the above as early as convenient.

I have, &c.,
(Signed) W. H. BUTCHER.

The Honorable
The Colonial Secretary,
Auckland.

UNDER SECRETARY NEW ZEALAND, TO MR. BUTCHER.

New Zealand,
Colonial Secretary's Office,
Auckland, 6th July, 1859.

Sir —

I am directed to acknowledge the receipt of your Letter of the 15th May last, and to return you the thanks of this Government for the very complete information which you have afforded on the subject of the cost of constructing and maintaining Electric Telegraphs in Australia and Tasmania.

As was stated in my Letter of the 19th March last, the Government do not feel at liberty to take any steps in the establishment of Electric Telegraphs in New Zealand, until after the meeting of the General Assembly, which will probably take place in March or April next, when it is intended to make a proposal for that purpose.

Should such a proposal be sanctioned, the Government will then communicate with you on the subject, if you are still in a position to assist them.

I have, &c.,
W. GISBORNE,
Under Secretary.

W. H. Butcher, Esq.,
Hobart Town, Tasmania

MR. BUTCHER, TO COLONIAL SECRETARY, NEW ZEALAND.

Tasmania,
Hobart Town, Oct. 18th, 1859.

Sir,—

At this late period I do myself the honor to acknowledge the receipt of your communication dated July 6th. Having been engaged for the past two months in repairing the Submarine Cable now laid across Bass' Straits will account for my apparent neglect.

I would beg to suggest to your Government, in submitting plans to the Parliament for the construction of Telegraph Lines in New Zealand, that a short Line (say one or two hundred miles) be at first erected as an experiment. This course has been invariably adopted on its introduction by the other Colonies. Its benefits have been so universally felt and acknowledged that little trouble has been experienced in obtaining the means for its extension.

I have, &c.,
W. H. BUTCHER,
Telegraph Engineer.

The Honorable
the Colonial Secretary, Auckland.

UNDER SECRETARY NEW ZEALAND, TO MR. BUTCHER.

New Zealand,
Colonial Secretary's Office,
Auckland, 10th January, 1860.

Sir,—

With reference to your Letter of the 18th October last, respecting the establishment of Electric Telegraphs in New Zealand, I am directed by Mr. Stafford to inform you that this question will be brought before the Legislature in its next Session, and no action will be taken in the matter until the wishes of the Legislature on the subject have been ascertained.

I have, &c.,
W. GISBORNE,
Under Secretary.

W. H. Butcher, Esq.,
Hobart Town, Tasmania.

MR. STAFFORD TO COLONIAL SECRETARY TASMANIA, NEW SOUTH WALES, SOUTH AUSTRALIA,
AND VICTORIA.

Colonial Secretary's Office,
Auckland, 26th January, 1860.

SIR,—

As this Government is anxious to obtain information with a view to the establishment of Lines (Circular.) of Electric Telegraph in New Zealand, I should feel obliged by your informing me, 1st. Upon what system lines of Telegraph are established in Tasmania. 2nd. At what cost per mile Land and Sub-Marine Lines respectively have been completed. 3rd. At what cost they are maintained. 4th. How the working expenses are provided for. 5th. By what authority the rates for Messages are determined. 6th. What laws are in force with respect to Telegraphs, and generally such other information as will place this Government in possession of all important questions relating to this subject. Apologizing for the trouble I am about to occasion.

I have, &c.,
(Signed) E. W. STAFFORD.

The Honorable
The Colonial Secretary,
Tasmania.

COLONIAL TREASURER, TASMANIA, TO COLONIAL SECRETARY, NEW ZEALAND.

Colonial Treasury,
Hobart Town, 22nd February, 1860.

SIR,—

I have the honor to acknowledge your Letter of the 26th ultimo, in which you make several enquiries on the subject of Electric Telegraphs in this Colony, and I beg, in compliance with your wish, to forward a report which I have had prepared for your information. Should it fail to give all the intelligence you require, I shall be happy, as far as it lies in my power, to supply the omission.

I have, &c.,
(Signed) FREDK. McINNES.

The Honorable
The Colonial Secretary,
New Zealand.

Establishment of Lines of Electric Telegraph in New Zealand.

Electric Telegraph Department,
Tasmania, 21st February, 1860.

In accordance with the instructions of the Hon. the Colonial Treasurer I have the honor to submit the following statement, and other papers, with the view of affording the information requested by the Hon. the Colonial Secretary of New Zealand in his Letter of the 26th January, with regard to the establishment of the Electric Telegraph in this Colony.

I regret that, in so doing, I shall be prevented by other pressing business from entering as fully into the matter as I could wish, but still hope that the information given may prove of some service to the Government of New Zealand when the subject of the establishment of the projected Lines in that Colony is under consideration.

The first subject on which information is requested in the Letter referred to is "upon what system, Lines of Electric Telegraph are established in Tasmania"?

In reply to this question, I beg to state that the system is identically the same as that now universal in the neighbouring Colonies of New South Wales, Victoria, and South Australia, as also on most of the European Lines, *i.e.*, the recording Telegraph of Morse. At present the amount of traffic on these Lines has not rendered it necessary to adopt any other than the *single* recording Instruments of this system which were supplied to this Government on the establishment of these Lines, nearly three years ago, at a cost of £45 per set—but, I believe these Instruments can now be obtained from Melbourne at from £30 10s. per set. The Instruments first supplied to this Government are still in use here, and none could work better, but great improvements have recently been made in their working by means of which a Message can be transmitted and received from and to opposite Stations at the same moment, it would be highly advisable to adopt this description of Instrument at the Termini, and at important Town Stations, where the business would likely be large.

Of the various Batteries used for Telegraph purposes I decidedly prefer that of "Chester," which we have lately adopted on these Lines with much success. We used the Groves Battery for some two years, and found it very steady and effective—but the very clean and constant nature of the "Chester" gives it great advantages over all others. We work the Chester at present for "Main" with a Groves or Daniells for "Local" Battery. We have also tried the Daniells, but found it required much labour and constant attention. There are many other Batteries but most of them are mere modifications of those I have mentioned, that of Bunsen for instance is very similar to the Groves, differing only in the substitution of the Charcoal for the Platinum element, the Chester again is very similar to that of Smee. Most of these Batteries are to be obtained in Melbourne, or some of them could be constructed on the spot, but, from the excellence of all Telegraph stores hitherto obtained from Mel-

System of Telegraph established in Tasmania.

Description of Instruments.

Batteries.

- bourne by this Government, I should advise that the Batteries in their complete state should be procured either from Messrs. Oppenheimer & Co. of Melbourne, or from England. The prices of these Batteries vary—the charges in their complete state would be about as follows: Chester's Main Battery 10s per cell, Grove's 7s. per cell, Daniell's 6s. 6d. per cell. The prices of the ingredients taken singly would be about as follows: Sulphuric Acid 7d. per lb., Nitric Acid 1s. 6d. to 2s., Sulphate of Copper 9d. per lb., Platinum Foil 40s. per oz., Platinum Wire ditto, Glasses 1s. 3d. each to 2s., Porcelain Cups 1s. to 2s. each., Zincs 2s. 3d. to 3s.
- Wire.** The Main conducting Wire should be of the best "No. 6" Galvanized Iron, in half mile lengths manufactured expressly for Telegraph purposes; the quality of this Wire should be carefully attended to, or else in Atmospheric changes, it will be liable to constant breakage. It should weigh not less than from 560lbs. to 600lbs. per mile, and be stretched so that the deflection should not exceed two feet in any 60 feet length of wire.
- The Main Wire must be securely fastened to the Insulators with annealed Charcoal Wire (commonly called "tie" Wire) of No. 15 or 16 gauge.
- The Local or Office Wires must be of Copper, having an insulating covering of Gutta Percha, or of Cotton and Shell Lac, but of these two Insulators I decidedly prefer the former—though the *quality* of the Gutta Percha must be carefully looked to as some is porous and consequently defective and comparatively useless as an Insulator. The price of Main "No. 6" Galvanized Wire is from about 30s. to 40s. per cwt., Annealed Charcoal Wire, No. 16, 40s. per cwt., Gutta Percha Insulated Copper Wire £15 per mile.
- Posts.** The Posts used in the construction of Telegraph Lines should be set at distances of from 58½ to 60 yards apart, constituting about thirty Posts to the mile—firmly placed perpendicularly in the ground, at a depth of not less than five feet, the Posts on these Lines are mostly of Blue Gum or Stringy Bark, but other woods such as Box (not Bastard Box) Blackwood, Iron Bark, or Swamp Oak are also adapted for the purpose. The Post should be 25 feet in length, 9 inches in diameter at the base, and not less than five inches at the top, our Posts are of 6 inches diameter at the base, but I prefer the 9 inches in preference to the lesser diameter, six feet from the base of the Post should be thoroughly well charred (though care must be taken not to burn the post too much for I have known many posts break in high winds, &c. from this cause)—and also be coated with Coal Tar. The top should be firmly bound at one inch from its extremity with strong hoop iron, not less than one inch wide, and a hole be vertically bored in the top of the Post to a depth of 5 or 5½ inches to receive the Insulating Pin. The holes for the Posts are bored with an earth auger (as in fencing) to a depth of 5 feet, the Posts being in readiness along the Line, ten workmen could erect two miles of Telegraph per day.
- Square painted Posts are used throughout the chief Towns in this Colony, and round Posts on the remainder of these Lines—similar to those already described.
- In some cases Forest Trees might be admitted in place of regular Posts, all such Trees should have the Bark removed for at least three feet below the point of attachment of the Insulators, and must be trimmed of all overhanging branches.
- Clearing Line.** All Trees and Branches calculated in the least to endanger the Lines should be removed, and all Brush, Underwood, and Grass cleared away for a space of 25 feet on each side of the Lines.
- Insulators.** The Insulators should be of the "Bell" shape, and of well baked and highly glazed earthenware: but I would strongly submit for the consideration of the Government of New Zealand the advisability of departing from the system of Insulation at present adopted in these Colonies, and of following that used on the English Lines, viz., to pass the wire through an insulated groove in the Post. One of the chief expenses of maintaining these Lines has been, and still is, the replacement of these Insulators which are destroyed in great numbers by stones, persons shooting at them, and in many cases I think by the wooden pins put up in dry weather expanding in the wet season and forcing the Insulator apart; I think the system suggested would prevent much of the damage, inconvenience, and expense which I mention, I may add that the suggestion has met with much approval from other Telegraphists, and I believe has lately been adopted, on my suggestion, on an extensive Colonial Line now in course of completion in another Colony.
- The next question I come to is, "At what cost per mile Land and Submarine Lines respectively have been completed." (in Tasmania).
- Cost Tasmanian Land Lines.** The Line from Hobart Town to Launceston (120 miles in length) was completed at a cost of £52 per mile, exclusive of Instruments and Office fittings, this price may appear low when compared with charges made in other Colonies, New South Wales for instance, where £57 10s per mile was paid, but the great facilities offered here for obtaining timber available for the work close to the proposed Lines must not be lost sight of, much also depends on the nature of the Country through which the Line passes, and as far as practicable, Country of a very hilly nature should be avoided.
- Cost Tasmanian Submarine Cable.** The Tasmanian Submarine Cable was contracted for at £45,000 inclusive of Land Lines, Cable, and Instruments, from Cape Otway to George Town. The construction of a Submarine Line of course depends much on the description of Cable required, and that again on the nature of the Sea bottom on which it will be deposited, and the nature of the shore at the various landing places.
- I presume the chief points in procuring a Cable would be,—
1. The description of Cable required.
 2. The exact length of Cable, allowance being made for a surplus in order at any future time to repair defects.
 3. The description of shore ends required (and their extent) to prevent abrasion on the rocks, or otherwise.
- Wire.** The conducting wire should be of the best quality of Copper, No. 16, annealed, expressly manufactured for Submarine Telegraph purposes, in complete lengths of not less than 700 yards.

The Gutta Percha of the best and purest description free from all extraneous substances Gutta Percha.
whatever.

The outer Iron Guard Wire, of No. 8, full guage measurement, manufactured of Swedish Iron, Guard Wire.
(annealed), free from all defects whatever, such as cracks, brittleness, &c.

After the conducting wire has been well cleansed and pronounced free from all defects the first coating of Gutta Percha should be applied, after which it must be submerged in water for ten consecutive days in 20 mile lengths, the Insulation should then be well tested by the application of a Insulation of Cable.
powerful Galvanic Battery, and any defective portion discovered be immediately rejected. The second Gutta Percha coating should then be applied, and the same process repeated, a covering of tarred hemp yarn, &c., then laid on to the thickness of $\frac{1}{8}$ of an inch. The outer Guard Wires to be firmly bound and the whole coated with the best Stockholm tar. All joints made in the wire must be carefully brightened. The Cable, in its entirety, should then be submerged in water for ten consecutive days, and the tests before mentioned again be applied.

The above are the chief matters of importance with regard to the manufacture of Submarine Cables, of course the effectual performance of the conditions mentioned, and many other matters of detail must be entrusted to the Superintendence of some competent Engineer thoroughly conversant with such matters.

I send herewith a portion of the Tasmanian Cable for the inspection of the Government of New Zealand.

I see that Messrs. Silver & Co., of London, have recently been engaged in some interesting and New Insulation by Silver & Co.
valuable experiments, displaying the great advantages gained by substituting India Rubber for Gutta Percha as an Insulator in Submarine Cables. These experiments appear to have been most eminently successful, and have proved that the India Rubber coating is capable of withstanding great heat and pressure, in a measure far superior to Gutta Percha, and even at the highest prices of India Rubber it is found that Wires can be coated with that substance at little more than half the price charged for Gutta Percha. Some Wire thus coated was subjected in a Hydraulic Machine for a considerable time to a pressure of $7\frac{1}{2}$ tons on the circular inch, and though tested in this state with one of Mr. Henley's very delicate Galvanometers, the insulation was found to be most perfect. The heat tests were equally successful, a considerable portion of Wire insulated with two coats of India Rubber was boiled in a large copper till the outside covering became almost white, the insulation Silver's mode of Cable Insulation.
still remaining perfect; Gutta Percha insulated Wire subjected in a like manner would be destroyed and rendered completely useless as an Insulator.

I should think therefore that the adoption of the India Rubber Insulation would be advisable in Cables destined for any of these Colonies having on the voyage out to encounter the great heat of the tropics, which is calculated to do much injury to some Cables, especially those portions packed close in Ship's holds; I believe it has been found necessary to cut out and entirely discard portions of Cables so stowed away, in consequence of the Copper Wire having pressed itself through the soft Gutta Percha covering, the Insulation of the entire Cable being rendered imperfect from this cause.

I merely draw the attention of the New Zealand Government to these matters in case these recent improvements should have escaped their observation.

The next question is "At what cost Land and Submarine Lines are maintained, and how the working expenses are provided for?"

Provision is made for the working of the Lines by sums voted by Parliament—

1st. Salaries of Officers.

2nd. Repairs, &c., to Line, Stationery, Stores, Fuel, and Light.

The Salaries of the Officers of the Department vary according to their several duties.

The Inspector of Telegraphs before the consolidation of his Office with that of Director of Public Works received £400 per annum. The salary of operators at chief Stations is £250 per annum. Clerks £200. Operators at Country Stations receive £150 per annum. Assistants £80 to £100. Town Messenger and Line Man £120 per annum. Country Messengers £50 per annum.

The reasons for difference in salary between those employed at Town and Country Stations will be obvious.

But these rates are those fixed when the Land Lines only were in operation, and when the hours of employment and general duties of all connected with the Lines were much less than at present, the completion of the Intercolonial Line will of course necessitate an alteration in excess of the rates which I mention, in consideration of the greatly extended duties of all employed.

I should estimate the cost of establishing a Telegraphic Station at from about £55 to £60, and Cost establishing Stations.
the maintenance at from £30 to £50 per annum, but much depends on the position of the Station, whether intermediate or terminal, the latter being the most expensive. Cost of maintenance.

To work an important Telegraph Station efficiently, I think the following Staff would be requisite:—1 Chief Operator, 1 Assistant Operator, 1 Clerk, 1 or more Messengers as might be Staff required to work Station.
required.

The attempt has been made to unite the duties of Clerk with those of Assistant Operator, but so far as Town Stations are concerned, I cannot say with good effect—for I have always found that Officers.
one person's time was fully occupied in attending to the clerical duties of the Office entirely exclusive of operating, of course at Country Stations such consolidation is very advisable, indeed I think on Lines of any extent a saving might be effected in appointing the various Postmasters from the Telegraph Department (not *vice versa* unless under special circumstances) and I think the concentration of two Offices of so similar a nature would be found beneficial both to the convenience of the Public and the revenue derived from the Telegraph.

Should the Government of New Zealand require any information on any subjects omitted in these papers, or require any further information on any matters contained herein, I shall be most happy to afford it, so far as lays in my power, and regret that an unusual press of special business has prevented this statement from being as complete as I could wish.

FREDERICK A. PACKER.

Laws in force
and Tariff estab-
lished in Tas-
mania.

P.S.—Full information in reply to questions 5 and 6 will be found in the various papers annexed.*
F. A. P.

MR. MOORE, TO COLONIAL SECRETARY, NEW ZEALAND.

Victoria,

Chief Secretary's Office,
Melbourne, 9th March, 1860.

SIR,—

With reference to your Letter of the 26th January, I have the honor, by desire of the Chief Secretary, to forward certain documents received from the Department of the Postmaster-General of this Colony, which it is believed will be found to contain all the information desired by the New Zealand Government respecting the system on which the Lines of Electric Telegraph in Victoria are established. I am, however, to state that should any further enquiries be considered necessary they shall be promptly answered.

I have, &c.,

J. MOORE,
Under Secretary.

The Honorable
the Colonial Secretary,
New Zealand.

VICTORIA, 1860.

STATEMENT shewing particulars relative to the Establishment and Maintenance of Lines of Electric Telegraph in the Colony of Victoria.

SYSTEM.	Cost per mile.		Cost of Maintenance per mile.		How working expenses are provided for.	Authority for establishing rates.	Laws in force relating to Telegraphs.	REMARKS.
	Land.	Submarine.	Land.	Submarine.				
MORSE'S Electro-Magnetic Recording Telegraph (description attached.)	£62 0 0 per mile.	£200 0 0 per mile.	30s. per mile.	Sufficient experience has not yet been gained to afford any definite results under this head.	Out of the General Revenue Fund of the Colony.	His Excellency the Governor in Council.	17 Victoria No. 22, 11th April 1854.	A copy of the working specification according to which Lines of Electric Telegraph are constructed, is attached hereto, and also a copy of the rules for the observance of the Officers and others engaged in conducting the working and general business of the Electric Telegraph in Victoria. Description sheets of the mode of Book-keeping employed will also be furnished if required.

(Signed) SAM. W. MCGOWAN,
General Superintendent of Electric Telegraphs.

DESCRIPTION OF INSTRUMENT USED ON LINES OF ELECTRIC TELEGRAPH IN VICTORIA.

The system adopted and the method of constructing the Lines in this Colony are essentially the same as have been employed in establishing Lines throughout the Continent of Europe, the Provinces of Canada, and the greater portion of America; their simplicity and peculiar adaptability to a new Country having influenced me in introducing a like system and method here.

* The papers referred to are a copy of the Rules for the observance of the Officers and others engaged in conducting the working and general business of the Electric Telegraph in Tasmania,—a Gazette of the Regulations, and a Scale of Charges for the transmission of Messages, as established and approved by the Governor in Council,—and a Copy of an Act of Tasmania, 20 Victoria, No. 22, 5th June, 1857, intitled "The Electric Telegraph Act."

The Instrument I have adopted, is known as Morse's Electro Magnetic Recording Telegraph.

Preparatory to a description of the apparatus it may be advisable to say a few words respecting the construction and application of the battery, which is composed as follows:—A pint glass tumbler is filled to about two-thirds of its capacity with a solution of diluted sulphuric acid; within the tumbler is placed a stout cylinder of cast zinc, having at the upper end a projecting arm about three inches in length: within the zinc cylinder is placed a small porous cup made of unglazed earthenware; this cup is nearly filled with nitric acid; a narrow strip of thin platina is soldered to a conducting wire, and the platina immersed in the nitric acid; another conducting wire is attached to the arm of the zinc, and a single cell, as it is termed of Grove's battery, is thus complete. When it is desirable to increase the battery, additional cells are added by soldering a slip of platina to the projecting zinc arm; the platina then dips into the porous cup of the adjoining cell, and so the arrangement may be increased to any desired number of cells, one conducting wire being attached to the first platina in the series, and the other conducting wire being attached to the last projecting zinc arm. In working this form of telegraph, two distinct batteries are used; one is known as the Main battery, consisting of a series of cells, greater or less in number, according to the extent of wire to be traversed, or the resisting force to be overcome; the other, the Local battery, consisting of only one or two cells, is used for operating the pen lever of the registering Instrument.

Each complete Instrument consists of three distinct parts, combined in two galvanic circuits—the Signal, or transmitting key; the Relay, or receiving magnet; and the Register, or recording apparatus.

The Key is simply a small horizontal brass lever, about four inches in length, having near its centre a blunt point, below which is placed a similar point called the anvil. The lever is maintained in a slightly raised position by means of a spring, so that, upon moderately pressing the ivory knob attached to the end of the lever, the two points are brought into contact: upon removing the pressure, the spring instantly raises the lever to its former position. By the use of this portion of the apparatus the main circuit between each office is completed, or broken at pleasure—one termination of the main wire being attached to the lever itself, and the other to the anvil, it follows that when the two points are apart, the current passing on the main wire is interrupted; and when the contact is made by pressing them together, the circuit is once more completed. By thus interrupting and completing the circuit at certain intervals, and making contacts of varied duration, letters, words, and sentences are formed by the aid of the relay and the register, with its fillet of recording paper.

The relay is a small Instrument, consisting of an electro magnet, the coils of which are formed of fine copper wire (No. 35), insulated by a silk covering; the armature of the magnet is attached to an upright lever, at the back of which is fastened a sensitive adjusting spring; the helices or coils containing cores of soft iron, being placed horizontally, and the upright lever with the armature being placed opposite to the faces of the helices. The lever is attracted by the temporary magnetism inducted into the cores by the passing of a galvanic current through the coils, the passage of which current is entirely regulated by the motion of the Signal, or transmitting key. The upper end of the lever carries a connecting point, opposite to which (and so placed that they may come into contact on the armature being attached, and again separated on the back spring of the lever withdrawing the armature), another connecting point is placed. To each of these points is attached the terminations of a single conducting wire from either pole of the local battery, its continuation being attached to the magnet of the register, through which the local current passes back by a return wire to the battery.

The Register, or recording Instrument, is a simple arrangement of a few clockwork wheels, which regulate the motion of two rollers slightly pressed together by a spring. The upper roller has a small groove around its centre, to admit the indentation of the point of the pen lever. A weight or spring is employed to move the wheels at a uniform rate, and a narrow slip of white paper is drawn through between the rollers. Nearly on a level with the lower side of the upper-roller is placed a horizontal spring-balanced-lever, carrying at its end next the roller a small upright steel point, or pricker corresponding to the groove, and at its other extremity the armature of an electro magnet, below which is placed the electro magnet itself to which reference was made in describing the relay.

One of the conducting wires of the main battery having now been connected with the earth, the other is attached to the anvil of the key, continuing on from the lever to one side of the relay and passing out at the other to the main conducting wire on the tops of the posts, it reaches the distant station, enters at one side of the relay, passes through it to the key, thence again to the earth for its return current. The Signal key being now pressed and released at either station, an effect is instantly produced, for the circuit being completed through the Signal keys and coils of the relays, they, in turn, complete the local circuits through the magnets of the registers, which acting upon the armatures attached to their pen levers, immediately produce an impression upon that portion of the paper pressed into the groove in the upper roller of the point of the steel pricker. A line may be made by a moderately lengthened pressure upon the key; a dot by a single touch, or instant closing and breaking of the circuit; and a space by a brief pause. Many forms of alphabet are employed, but the one most generally adopted, and at present in use upon the Victorian Lines, is as follows:—

ALPHABET.

a . —	h	o . — . —	v . . . —
b — . . .	i . .	p	w . — —
c . — — . .	j — . — .	q . . — .	x . — . .
d — . .	k — . —	r . . . — . —	y
e .	l — — —	s	z
f . — .	m — —	t —	&
g — — .	n — .	u . . —	&c.

NUMERALS.

1	. . . . .	6	. . . . .
2	. . . . .	7	. . . . .
3	. . . . .	8	. . . . .
4	. . . . .	9	. . . . .
5	. . . . .	0	. . . . .

PUNCTUATION.

, Comma	. . . . .	? Interrogation	. . . . .
; Semicolou	. . . . .	! Exclamation	. . . . .
: Colon	. . . . .	( ) Parenthesis	. . . . .
. Period	. . . . .	" " Quotation	begin { } end

It will be observed from the arrangement of these characters that simplicity of combination has been much regarded, and they may readily be committed to memory after a little attention; but of course much depends upon the mutual inclination and taste in acquiring the method of working the instruments. Some have become moderately proficient after a few days study and practice: others again have occupied weeks and months before properly attaining even a medium degree of efficiency in this branch. The usual speed of transmission is about thirty words per minute; but messages are often passed with much greater rapidity by using the code of abbreviations in forwarding press intelligence.

The object of the instrument called the relay is to cause the weak and partially exhausted current of the *main* battery to bring into action the more energetic current of the local battery, operating on the pen lever of the recording instrument; for the strength of current from the main battery, after it had traversed the sinuosities of the conducting wire, and perhaps had overcome the resistance offered in passing through several intervening *relay* magnets, would not retain sufficient strength, if applied *directly*, to work the pen lever and indent the register paper; therefore, the employment of the delicate relay magnet and the local battery, which perform their work with the utmost efficiency. This is known as Morse's combination of circuits.

In working the instruments, the pen lever, by its motion in striking firmly upon a small brass sounding pillar, at the same time that it marks the paper, gives out one or more clear distinct raps as each letter or word is being transmitted. These noises are quite intelligent to persons thoroughly conversant with the system, and *reading* by sound, as it is termed, is not an uncommon accomplishment of the expert telegraphist. Each office has a distinguishing call or signal of one or more letters, by which attention is attracted through the Signal key of any other office. The long narrow ribbon of white paper upon which the messages are recorded is dated every morning, in order to facilitate the re-transcribing of messages to which reference might at any future period be desirable. When the register paper has been quite filled up it is labelled and filed away.

In other Countries it has frequently happened that in cases of dispute, a record of this permanent character, containing the daily register of telegraphic correspondence, exactly written by the instrument itself, perhaps years previously, has rendered important service in effecting decisions where the original despatch had been either lost or destroyed.

Communication by means of private cypher codes is often adopted, not only for the purpose of economising expense, but also to avoid the necessity of admitting the telegraphist to the secrecy of a special message. I need only observe, however, that the latter objection may readily be obviated, when I state that plainly written despatches may be transmitted correctly in any language using the Roman letters, without it being at all necessary that the manipulators who transmit or receive the messages should be familiar with the various languages employed.

In constructing the lines I have been careful in making a selection of the most durable descriptions of native timber for posts, and having ascertained, after considerable investigation, that the woods commonly known as blue gum, red gum, white gum, stringy bark and iron bark, were the best adapted for the purpose, I have used these woods exclusively, excepting in the short line between Melbourne and Sandridge, the posts of which are all of Baltic deal.

The measurement of each post is usually twenty-five feet in length, by six inches square at the base, tapered to five inches at the top; the base of the post is thoroughly charred over five feet six inches of its length, and covered with a preparation of hot coal tar as a preservative; holes for the posts are excavated to a depth of five feet, by means of earth augers of such size as to leave merely sufficient space around the post after it has been placed in position to wedge it firmly, the surrounding earth not having been disturbed in excavating with the auger, the use of this instrument being on this account greatly superior to the ordinary means, besides being much more economical in point of time. The posts are set out at distances of fifty eight and two thirds yards apart, constituting thirty to the mile.

The form of insulator employed is that known as the "bell pattern;" the insulators are manufactured of the best quality of hard-baked and highly glazed earthenware, and the principle of action is exactly similar to that of an umbrella while upheld by the hand during a shower of rain, the handle, or supporting pin of the insulator being preserved quite dry under the projecting lip or flange, thus affording as nearly perfect an insulation against the escape of current from the wire to the posts as I have ever known to be used.

A single conducting wire only of number six (6) galvanized iron is employed, and in the present stage of the department I find this to be quite sufficient to meet all ordinary requirements. In connection with this branch of my subject I may mention that two of the latest improved double-acting Morse instruments, manufactured by Siemens and Halske of Berlin have been provided, the peculiarity of their arrangement consisting in their capability for transmitting simultaneously two distinct messages in contrary directions upon a single wire. As these instruments, however, are only really valuable between important terminal stations, where no intermediate station occurs, or where such stations are excluded from the circuit, I do not contemplate introducing them immediately, except in a single acting form.

Having now described the means I have adopted in constructing and working the Lines, I propose to exhibit by a financial statement the practical benefits which are derived from the establishment of the Electric Telegraph; and also to afford a comparative view of the results which may be naturally anticipated upon the greater extension of this invaluable adjunct to commercial intercourse.

(Signed) SAML. W. MCGOWAN.

Department of Electric Telegraph,
Office of the General Superintendent,
Melbourne, 185 .

SPECIFICATION for MATERIAL and Work in the construction of a line of ELECTRIC TELEGRAPH between

MATERIAL.

Posts.

1. To be provided of straight sound hardwood, saplings, stringy bark, red or blue gum, iron bark or boxwood, dimensions to be twenty five (25) feet in length, ten to twelve (10 to 12) inches in diameter at the base, and not less than six (6) inches in diameter at the top, the bark to be entirely removed the base to be thoroughly charred over a space of five feet six inches (5 ft. 6 in.), the top to be firmly bound round and rivetted at one inch (1 inch) below its extremity with good hoop iron not less than one inch (1 inch) wide. A hole of proper size bored with one and one eighth inch ($1\frac{1}{8}$ inch), auger to receive the insulating pin to be bored vertically into the centre of the top of the post to the depth of five (5) inches. On portions of the route where round posts cannot be properly supplied, squared, sawed, or smooth hewed timber full cut and prepared as described may be substituted at the option of the Officer superintending the work, the dimensions of squared posts to be twenty five (25) feet in length by eight (8) inches square at the base, tapering to six inches (6 inches) square, at the top (8 x 8) (6 x 6).

Insulators and Insulating Pins.

2. Insulators to be formed of good bottle glass, or well baked and highly glazed earthenware, moulded in shape as the pattern exhibited at this Office. Insulating pins ten inches (10 inches) in length to be formed of well seasoned wattle tree, or blackwood of the size and shape herewith exhibited, to be boiled for the period of one hour in a mixture of equal parts of gum, shellac, resin, and Venice turpentine.

Wire.

3. The wire to be employed to be number six (No. 6) galvanized iron, well annealed, weighing not less than six hundred pounds (600 lbs.) to the mile, and manufactured expressly for Electric Telegraphs.

Work.

4. The posts are to be set out at a distance of fifty eight and two thirds ($58\frac{2}{3}$) yards apart, constituting thirty (30) posts to the mile, according to marks laid down by the Surveyors, or according to renewed marks or positions to be indicated to the Contractor by the General Superintendent of Electric Telegraphs, or by the Clerk of Works in charge.

5. The excavations for the posts to be effected (in earthy formations) by earth augers boring holes not less than twelve inches (12) in diameter and five feet (5) deep, or by bar and shovel, excavation not to exceed sixteen inches (16) diameter, the base of each post to be firmly wedged and imbedded to that depth in its position perpendicularly, and the displaced soil to be well packed around it—with a heavy rammer, no wood chips or refuse to be used in packing. In rocky formations, the excavations may be made by blasting or other available means, the depth in cases where the posts may rest in rock to be reduced to four (4) feet, but angular struts or braces of either iron or wood or of both are in such cases to be well and sufficiently placed fixed and attached as stays at the lower portion of the posts in such a manner as to render the work firm and substantial, and to maintain the posts in a perpendicular position. All angle posts are to be well and sufficiently stayed by bottom struts or

braces, so as to maintain such posts perpendicularly, and to prevent any inclination on account of the strain exerted by the wire. At points where the line may traverse or cross streets, roadways, creeks, rivers, watercourses, or any other declivities, or acclivities, the posts are to be of sufficient height to keep the wire at an elevation of at least eighteen feet (18 feet) above the ground, or twenty five feet (25 feet) above the water as the case may be.

6. Posts erected in passing through the streets or suburban roads of Towns or Villages are to be plained and afterwards painted with three (3) coats of white paint to within six feet of the earth, the remaining portion to be painted black.

7. The insulating pins and the insulators to be firmly fitted to the tops of the posts in the manner shewn by the model exhibited at this Office. No portion of the insulator to remain nearer than within one (1) inch of the wood work of the post or of any iron work connected therewith.

8. The main conducting wire is to be drawn to a tension, leaving not more than (2) two feet, nor less than sixteen (16) inches of deflection between any two (2) posts, and this wire is to be securely fastened to the insulator by binders of annealed charcoal wire number fifteen (No. 15) galvanized according to the pattern shown at this Office.

9. The metallic connections or jointings of the main wire are to be most carefully effected and made and soldered in the form exhibited at this Office.

10. In timbered Country through which the line may pass, the trees and branches are to be cut down for a distance of forty (40) feet on each side of the main wire, and any felled timber, brush, or dead wood is to be entirely cleared away from about the base of the post for a radius of the same space, this portion of the work to be so performed as to leave no obstacle in the way of the usual road traffic, such timber as may have been felled into the road to be drawn within the line of the trees felled, the trunks laid as much as possible in the same direction as the road. On one (1) chain roads no felled tree to be left within less than forty (40) feet from the opposite boundary line of the road, and damages done to post and rail fences to be made good, and if in the execution of this work any damage be done to the mettaling, water tables, bridges, culverts, or any other works whatever of the department of roads and bridges, the same shall be made good by the contractor for this work, or failing his doing so after notice shall have been given to him, then the Department of Roads and Bridges shall have power to execute all necessary repairs and the whole costs of such repairs will be charged to the Contractor, and deducted from any monies due or that may become due to him.

11. Insulating brackets, angle insulators, and terminals, according to patterns exhibited, are to be provided where required for digressions, intermediate stations, or other purposes on the Line.

12. The insulation and continuity of the Line must be guaranteed and maintained for the period of two (2) months after the wire shall have been tested, for which a reserve of £5 per cent. shall be retained from the balance of the contract.

13. All the materials supplied are to be the best of their respective kinds, and the whole of the work and labor is to be performed in a substantial and workman-like manner to the entire satisfaction and subject to the approval of the Honorable the Commissioner of Public Works, the General Superintendent of Electric Telegraph, or other Officer appointed to inspect and supervise the work, and is to be fully completed within two (2) months from the date of signing this Specification, under a penalty of fifteen pounds (£15) for every week that the work remains incompleted from such date.

14. In the event of any unnecessary delay or failure on the part of the Contractor to proceed with the work when called upon to do so, it will be in the power of the Government to terminate the Contract, or procure the work to be performed by other persons, and the extra expense (if any) charged to the Contractor.

The Contractor to state in his tender a price per mile for wire, insulators, pins, side brackets, (according to pattern exhibited) including fixings for such portions as may be required to run the wire, on posts already set, or to run a second wire on posts which may be set, under this Specification.

Witness to Signature,

COPY OF A DESPATCH FROM THE DUKE OF NEWCASTLE TO GOVERNOR GORE BROWNE, C.B.

Downing Street,
17th February, 1860.

SIR,—I transmit herewith for your information the copy of a note from the Netherlands Minister at this Court, which has been received through the Foreign Office, announcing the completion of the Telegraphic Cable between Singapore and Batavia and communicating the desire of his Government to see this line placed in communication with the British Telegraphic Lines in the East Indies as well as with those which are intended to be laid down to China and Australia.

I have &c.,
(Signed) NEWCASTLE.

Governor Gore Browne, C.B.,
&c., &c., &c.
New Zealand.

MR. MURRAY TO MR. MERIVALE.

Foreign Office,
6th February, 1860.

SIR,—I am directed by Lord John Russell to transmit to you, to be laid before His Grace the Duke of Newcastle, a copy of a note from the Netherlands Minister at this Court, announcing the completion of the Telegraphic Cable between Singapore and Batavia, and communicating the desire of the Netherlands Government to see this Line placed in communication with the British Telegraphic Lines in the East Indies as well as those which are intended to be laid down to China and Australia. (Enclosure.) 4th Feb., 1860.

I have &c.,
(Signed) JAMES MURRAY.

Herman Merivale, Esq.,
&c., &c., &c.

HIS EXCELLENCY BARON BENTINCK TO LORD JOHN RUSSELL.

Londres,
Le 4 Fevrier, 1860.

My Lord,—

V.E. aura sans doute appris avec intérêt que le Cable Télégraphique destiné à relier Singapore à Batavia vient d'être posé avec un heureux succès. Le Gouvernement du Roi tout en appréciant l'utilité de ce nouveau moyen de communication, est cependant persuadé que l'importance de cette mesure ne sera complétée que lorsque cette ligne aura été reliée au Réseau Télégraphique dans les Indes Britanniques et plus particulièrement lorsque la Chine et l'Australie seront unis également en communication avec l'Europe. Je viens d'être chargé par mon Gouvernement de fixer l'attention de V.E. sur ce sujet et de lui témoigner combien le Cabinet de la Haye serait heureux de voir le Gouvernement Britannique procéder dans le délai le plus brèf possible à cette jonction si désirable, maintenant surtout que de son côté le Gouvernement du Pays Bas a réussi dans la pose du Cable Télégraphique reliant ses possessions à celles de Sa Majesté Britannique. (Enclosure.)

J' ai l'honneur, &c.,
(Signed) BENTINCK.

Lord John Russell,
&c., &c., &c.

