

APPENDIX C.

[COPY.]

Department of Electric Telegraph,
(Office of the General Superintendent.)
Melbourne, 22nd September, 1862.

SIR,

I have perused the letter of Mr. Francis Gisborne and accompanying papers, submitting a renewed proposition for the consideration of the Government of this colony with reference to establishing and maintaining a telegraphic communication between the present northern terminal of the Australian lines (Brisbane) and Cape Sedano (E. Java) *via* Cleveland Bay, Cape York, Port Essington, and Coepang (Timor), connecting with the India and China system of telegraphs *via* Batavia and Singapore, and eventually with Europe and Great Britain *via* Kurrachee, Aden, &c.

As the subject under mention has been already discussed at considerable length, in its general bearings, by my report of the 23rd April, 1860 (copy attached), I now address myself directly to the terms of the present proposition as enumerated in Mr. Gisborne's communication.

1. The company seeks for a guaranteed subsidy amounting to a total of £50,000 annually, for thirty years, on an assumed capital of £1,100,000, to be invested in establishing and maintaining telegraphic communication between Brisbane and Cape Sedano, or between Broad Sound and the latter place, should the Queensland Government extend its local line from Brisbane northward to Broad Sound.

The colonies of Victoria and New South Wales are asked to accept primarily the entire responsibility for the full amount of the proposed subsidy on the presumption that the other colonies interested would each contribute rateably in certain proportions in order to make up the gross sum already stated.

I see no objection to such an arrangement; but it should, I think, be first determined how much each of the other colonies might actually be required to pay and the manner in which payment is to be made. The object of the promoters is evidently to confine their dealings strictly to the two (2) colonies above named, with the view, perhaps, of preventing unnecessary complication and avoiding a somewhat divided responsibility, at least on our side of the contract.

Taking the proportions of the existing postal subsidy at present borne by each colony as a fair basis for calculating the proposed telegraphic subsidy, the respective charges would be nearly as follows:—

	£	s.	d.
Victoria	29,156	5	0
New South Wales (including Queensland) ...	11,375	0	0
South Australia	3,625	0	0
New Zealand	2,843	15	0
Tasmania	2,531	5	0
Western Australia	468	15	0
Total	£50,000	0	0

These proportions would, of course, be slightly reduced if the present line to Brisbane were extended (350 miles) to Broad Sound in time to meet the submarine line, but in the present stage of the question I consider that it would be inadvisable to lay much stress on that point, as the cost of such an undertaking would probably prove a serious obstacle to its speedy advancement, bearing in mind that the expenditure would fall entirely on the comparatively young and undeveloped colony of Queensland, the financial resources of which would perhaps better bear a yearly charge of £500 (the proportional cost for the additional length of sea line) than to assume a primary expenditure of some £20,000 in constructing a special line to Broad Sound.

In alluding to this branch of the subject I have assumed that in the event of Victoria and New South Wales undertaking the full responsibility, as already mentioned, the other Australian colonies would each accept its individual liability on the terms stated in the 9th section of Mr. Gisborne's letter. I am of opinion, however, that on more extended consideration, it would be found that the rateable proportions might be more equitably adjusted, especially as between Victoria and New South Wales, where the amount of difference, £17,781 5s., between the relative contributions as proposed, seems to preponderate too greatly against this colony, considering fairly the special interests likely to be most directly benefited on either side by the presence of telegraphic communication with India and Great Britain.

2. The company promises that within two years and a half (2½) after a contract has been entered into (with the colonies), the line between the points before stated shall be completed, and that it shall afterwards be maintained in good working order.

This proposition, I consider, is quite feasible. The period stated would not, under ordinary circumstances, I think, be exceeded in practice, if an opinion may be correctly deduced from the time occupied in carrying out the longest submarine lines already established, making a reasonable allowance for the remote position which the proposed work will to some extent occupy, and for the absence of many facilities favorable to its speedy completion, which are usually available under less difficult conditions.

3. It is proposed that the subsidy shall be proportionably payable only on the actual amount of capital paid up or really invested in the work, and it is stipulated that the manufacture and laying of the cable shall be open to public competition, subject to the approval of competent electricians in England.

In order to determine clearly as to the first portion of this proposition, it would, I conceive, be necessary that statements of account, duly audited and authenticated, should be rendered periodically to some accredited agent in London, who might be authorised by, and on behalf of, the colonies to act as their representative, and by whom reports would be made from time to time as to the general progress or condition of the company's works.

With reference to the manufacture of the cable, I think the promoters have adopted a wise precaution in proposing to submit the work to public tender. In an undertaking of such magnitude, it is

reasonable to suppose that one manufacturer of submarine cables (although the number of manufacturers is comparatively limited) would be induced to offer more favorable terms than another, and while admitting the apparent superiority of the description of cable it is proposed to employ, yet other designs of perhaps even greater merit may very probably be brought forward within the period when tenders are actually invited. It would not, therefore, be entirely prudent to say definitively that the exact description of cable now under mention should *only* be employed, but rather that tenderers should be allowed to submit with their offers samples of the manufacture they would propose to supply, subject only to the condition that the weight per mile should not be less than that of the cable already proposed.

4. Payment of the subsidy is not to be considered as having accrued until the "line of telegraph to be constructed" may have been in working order for three consecutive months, and payment is to be made rateably only for the period during which the "line so constructed" is open for the transmission of messages, unless any interruption shall take place in consequence of war.

By the words quoted I presume is meant only the section of line between Brisbane and Cape Sedano; but unless the communication were available between Singapore, Batavia, and Cape Sedano, the remaining connection would be comparatively worthless to these colonies as a means for interchanging intelligence with Europe and England. The extent of "line" referred to is not clearly stated, but under any circumstances it would obviously be necessary that some distinct and reliable assurance should be afforded to the colonies that a perfect communication would be constantly maintained between Cape Sedano, Batavia, and Singapore previous to incurring expenditure on account of the projected line between Brisbane and Cape Sedano (Banjoewangi).

A period of ninety (90) days is mentioned as being required to be granted once in every three (3) years for executing repairs, without any deduction being made from the subsidy; this would amount practically to an addition of two and a half years to the term of the subsidy, involving, of course, payments to the extent of £125,000 more than would otherwise appear to have been required by the previously mentioned terms of the proposed contract.

I cannot recommend that this portion of the scheme should be accepted in its present shape, but would suggest as a modification that, unless in case of war, in the event of the interruptions to the communication between Brisbane and Singapore (in any one year) extending over a period of more than thirty days, either collectively or consecutively, the subsidy should be rateably reduced for the period during which the communication might have been unavailable in excess of the limit above stated.

5. It is stipulated that should "such line" be interrupted, unless by reason of war, or be in a state of inefficiency for eighteen months consecutively, then the contract is to cease.

The extent of the line intended to be embraced in the words above quoted, refers only to the communication between Brisbane and Banjoewangi or Cape Sedano (E. Java), and has no relation to the Singapore section.

I could only recommend that this condition should be accepted provisionally, on the company undertaking some definite responsibility with regard to the Batavia-Singapore connection, and that it should be stated clearly what should or should not constitute injury or interruption "by reason of war"; fully one-fourth of the entire line between Brisbane and Singapore will pass through foreign territory, or will be in possession of a foreign proprietor, and if the war or other risk is only to apply to the colonial portion of the line the proposition can scarcely be considered as fair in its present form.

6. It is proposed that the scale of charges for the transmission of messages should be mutually agreed upon between the several contracting Governments and the company, previous to any contract being entered into; and that such scale or tariff should not afterwards be altered without the concurrence of such Governments; it is also proposed that the maximum rate should not exceed two and sixpence (2s. 6d.) per hundred (100) nautical miles or any less portion, for the transmission of a message not exceeding altogether twenty (20) words.

The adjustment of the rates of charges should, I consider, be determined between the Governments and the company as proposed, but from the absence of any available data I am unable to judge as to the correctness, or otherwise, of the maximum rate now suggested; comparing it, however, with the rates at present authorised on the several colonial lines in this country I find that it is about 94 per cent. higher than our current charges for long distances, *i.e.* for distances of one thousand (1000) miles and upwards.

The mileage rate before stated is of course only intended to apply to the extent of route between Cape Sedano (Banjoewangi) and Brisbane, but estimating the remainder of the proposed communication, *via* Batavia, Singapore, Rangoon, Calcutta, &c., at the same rate and adding the present ascertained charges over the India lines to Bombay or Kurrachee, and the probable rate (at the same estimate) thence to Aden, together with the charge formerly authorised between Aden and England, the cost of despatching a single message (of 20 words) from Melbourne to London would not be much under twelve pounds (£12).

This must be considered as an approximate estimate only, but after making a liberal allowance for probable reductions, I do not see how the *through* tariff can ever be placed much lower than nine pounds (£9) under existing or prospective circumstances, taking into consideration the vast extent of the route, the large amount of capital which must necessarily be invested, and the generally hazardous nature of the enterprise.

7. It is stipulated that the maximum of profit to the proposed company shall be 15 per cent., inclusive of the 5 per cent. subsidy.

This is an increase of five per cent on the terms of Mr. Gisborne's original proposition in 1859-60. No special reason is given for now demanding the additional per centage, although at the period last referred to it was generally considered that the maximum rate then stated (10 per cent.) would be quite satisfactory.

Circumstances not here detailed may possibly have occurred in the meantime to render such an increase absolutely necessary to the safety of the project; but, assuming such to have been the case, I think that some distinct justification for the increased demand should have been clearly shown.

If a higher rate is to be conceded, I would venture to suggest that 12 per cent. should be stated as the maximum of profit; this, I consider, would afford the colonies a fairer chance of relieving themselves of at least some portion of their annual burden, and, at the same time, would still allow the company a handsome margin of profit.

8. The company desires that the several Australian Governments should establish a local agreement between each other, stipulating that their respective annual contributions towards the subsidy shall be made "in the proportion that the tariff value of their respective telegrams shall bear in every

year to the total tariff value of all the messages transmitted through the subsidised line in the same year."

It is, I presume, intended to be understood by the words quoted that each colony shall contribute its quota towards the subsidy only rateably, according to the actual use it may make of the "subsidised line" in any year, but that in the aggregate a total amount equal to 5 per cent. on the capital invested, must of course be subscribed.

If this view be correct, I think the proposed arrangement might be made to work fairly and equitably; but the matter is obviously one for decision between the colonies themselves, and has no direct reference to the question of responsibility as between the colonies of Victoria and New South Wales toward the company.

9. It is proposed that all telegrams on the service of the Colonial and Home Governments shall be passed free of charge in each year to the full amount of the subsidy, and that should the Home Government not contribute to the subsidy, the value of the messages transmitted on its service shall be credited to the colonies.

This proposition seems fair and reasonable, but it is not to be supposed, unless under extraordinary circumstances, that the communication would require to be employed to so large an extent as the amount of the subsidy during any single year, either on behalf of the colonies or of the Home Government; the arrangement would, however, tend appreciably to lighten the pressure of contributions towards the subsidy in various cases, and on that ground I recommend it for approval.

With reference to the question as to the most desirable route, I have little to add further than has been already stated in my previous communications on the subject generally. I think the coast route *via* Cleveland Bay and Cape York has, at present, superior advantages.

The intended establishments of the company at those points and at Port Essington, would undoubtedly aid the settlement of Northern Australia to a very great extent, and I am of opinion that such aid, through the presence of telegraphic facilities, would be more cheaply and more expeditiously secured to the colonies by adopting the present proposition than by any other course now within our reach.

The undeniable advantages of land lines in many important respects, cannot, of course, be questioned; but in this case, after duly considering the arguments deducible in favor of each view of the subject, I am forced to the conclusion, that the course as proposed by the scheme now under discussion is decidedly preferable, if it be deemed (as I think it may) of paramount importance that the work should be pushed forward with the greatest amount of certainty and despatch.

Intercolonial and local land lines perform most important functions in furthering the development of the resources of this country; but while fully recognising this fact, I submit that it would be better to accept the route indicated by the company's prospectus as the special channel for which it has been designated, and to leave the local communication to develop itself as the requirements or progress of the respective colonies may naturally demand.

It is not necessary that I should make any special allusion to the estimates of probable expenditure as now submitted, or that a comparison should be instituted between them and the estimates previously submitted by Mr. Gisborne, except to remark that the various estimates for the renewed scheme appear to have been most carefully and, so far as I am enabled to form an opinion, correctly prepared; but as it is proposed that the subsidy shall only be computed on the actual expenditure, and that the work shall be given to the lowest tenderer, it is altogether probable that a considerable reduction will eventually be effected in the total cost of the undertaking, as compared with the present estimate.

The promoters estimate that the proposed line would, when completed and in working order, cause an increase to the business of the local lines equivalent to 40,000 messages of twenty words each per annum.

It is not shown on what data this estimate is founded, but from such calculations as I have been enabled to make, based on the amount of business at present performed by the several lines now in existence in Australia, and the probable support likely to be given by the leading mercantile firms, banks, &c., at Sydney, Melbourne, and Adelaide, to the Company's line, in the form of *through* messages, at even £9 each, I am led to conclude that the above estimate has been considerably overstated. I should consider that a satisfactory result had been attained if the colonial lines were to receive an annual increase to the extent of one-half the number of telegrams above mentioned.

In the event of it being decided to treat with the promoters of the Anglo-Australian and China Telegraph as previously discussed, I think it will be clearly obvious that the colonies should have some properly qualified agent to act on their behalf with the company in England. Indeed I do not see how the several details of agreements, &c., which must necessarily be involved during the inception, progress, and general development of such a great and comprehensive work could be properly or satisfactorily conducted without such representation, at least on the part of the two colonial Governments proposed to be made primarily responsible, as special parties to the contract.

I have the honor to be, Sir,

Your obedient servant,

(Signed)

SAML. W. MCGOWAN.

The Honorable the Chief Secretary,
&c., &c., &c.

15th July, 1862,
6 Duke-street, Adelphi, London.

SIR,

I have the honor on behalf of the promoters of the Anglo-Australian and China Telegraph to enclose a printed statement of the objects for which they have associated themselves; also, copy of a document addressed to me and signed by them, dated the 3rd March last; also, copy of a letter dated the 14th instant, addressed to me by Messrs. Forde and Fleming Jenkin, enclosing estimates for the construction, working, and maintenance of the telegraph line between Java and Brisbane; also, a map showing the telegraphic system which they propose to carry out with a view to connecting India with China and Australia. This undertaking comprises, first, a submarine line between India (Rangoon) and Singapore, to be extended to Hong Kong; and, secondly, a submarine line between Singapore or Java and the terminus of the telegraph system of Australia, which at present is at Brisbane; also, a tariff table between London and Alexandria.

The promoters are in negotiation with the Government of India as regards the first portion of the undertaking, and Sir Charles Wood gave a deputation of their body, which waited upon him on the 27th ultimo, the most positive assurance that the link between India and Singapore would be completed either by the Government itself, or by aiding a company contemporaneously with the carrying out of the lines to Australia and China.

The promoters hope also to make arrangements with the Dutch Government to have a cable of their own between Singapore and Batavia, though that Government sent out 40 miles of cable last February to repair their line, and there is no doubt that they will have a permanent interest in keeping up that communication efficiently, once that Singapore is connected by telegraph with India.

The promoters have already the right to have a separate wire through Java and to settle the tariff in conjunction with the Dutch Government as far as Singapore. The same powers are reserved to Her Majesty's Government; indeed, no tariff can be settled anywhere between Malta and Java without the assent of Her Majesty's Government. You well know, Sir, that the soundings between Java and Brisbane along the proposed course have been taken in the greatest detail almost everywhere, and show a soft and uniform sea bottom, seldom exceeding 50 fathoms in depth. The stations also can be so placed as not to be more than 500 or 600 miles apart. The permanent working and maintenance of telegraph cables laid under such conditions does not admit of a doubt.

At this moment more than 3,000 miles of cable, containing upwards of 5,000 miles of insulated wire, are successfully at work in shallow water, say within 100 fathoms, the longest being that laid last year between Malta and Alexandria, parallel to the African coast, over a distance of 1,300 nautical miles. Some of these lines have worked eight or ten years, and a large proportion have cost nothing for repairs. The establishment of telegraph communication between Australia and India will convert the present monthly communication between England and Australia into a weekly communication, and will bring them within, say, 16 days of one another. When telegraphic communication is re-established between Egypt or Turkey in Asia and India, the time will be further reduced to, say, a couple of days, or, under proper arrangements, to a few hours.

The results of my visit to Australia in 1860, for the purpose of obtaining subsidies for the line between Java and Queensland may be shortly stated as follows:—New South Wales voted a subsidy of £10,000 a year without requiring the Home Government to contribute; Victoria voted £13,000 a year contingent upon the Home Government contributing something; and the Governments of Tasmania, New Zealand, and Queensland promised proportionate contributions. Subsequently the Government of Victoria made an offer to the Home Government to provide half of the whole subsidy that might be required if the Home Government would also provide half. It was understood at the time that Victoria would take Tasmania, South Australia, and Western Australia as her co-contributors, leaving New South Wales, Queensland and New Zealand as co-contributors with the Home Government, which would practically reduce the contribution of the Home Government to a trifling amount. The whole annual subsidy I then asked for was £35,000, to raise a capital of £800,000, calculated to provide a cable similar to that then recently laid in the Red Sea. The outer iron covering of this cable, however, has since proved very much too light, and liable to corrosion. The greater portion of this cable was laid in deep water, or in over 100 fathoms, where it was impracticable to repair it. The failure of this and other deep sea cables made it impossible for some time to act upon the resolutions passed by the Australian legislators. The public did not at first discriminate between deep and shallow water cables, but the obvious and continued success of all shallow sea lines has revived public confidence in these undertakings.

It is now proposed to lay a cable three and a half times the weight of that laid in the Red Sea, and moreover, protected against corrosion by hard bituminous outer covering, which has been successfully applied to cables in the English and Irish Channels. This cable will be capable of transmitting 70,800 messages of 20 words each per annum. This number of messages could be doubled by adopting the latest improvements in the transmitting instruments. To lay this heavier cable, it will be necessary to increase the capital to one million one hundred thousand pounds (£1,100,000), which includes a sufficient reserve fund for future repairs as appears by the enclosed estimate. The promoters ask that an annual subsidy of fifty thousand pounds (£50,000) be granted to them to raise this amount of capital. This subsidy has been calculated on the basis already adopted in the resolutions passed by the Legislatures of New South Wales and Victoria, in 1860; they also ask that the subsidy shall run for thirty years instead of twenty-one years, and that the surplus net profits over 15 per cent., instead of 10 per cent., as stated in those resolutions, shall belong to the contributing Governments. In return for these additional advantages they now offer to transmit the messages of the Colonial and Home Governments without payment to the extent of the subsidy, and in case the Home Government does not contribute to place the tariff value of their messages to the credit of the subsidy, the colonies only paying the difference. This was not stipulated for in the resolutions. We estimate the additional business which the subsidised line will bring upon the telegraphs in Australia at 40,000 messages of 20 words each per annum. This will prove a considerable source of revenue towards covering the subsidy. With these and a few minor alterations which explain themselves, the resolutions already alluded to would stand as follows, leaving the contribution of the Home Government, if required, to be settled by negotiation.

1st. That the Governments of Victoria and New South Wales shall grant to a company of approved stability, in such proportions as they may agree upon, an annual subsidy, not exceeding in the whole fifty thousand pounds (£50,000), for a period of thirty years, to induce such company to construct and maintain a line of telegraph between Java and Brisbane or Broad Sound in case the Government of Queensland undertakes to extend its telegraphs to that point by the end of 1864.

2nd. That such company shall, within two and a half years after a contract has been entered into, construct such line of telegraph, unless prevented by war, or the dangers or accidents of the seas, and afterwards maintain it in good working order at its own expense.

3rd. That the proposed subsidy shall be proportionably payable on the capital of the company actually paid up and expended, and shall not exceed 5 per cent. on such capital; and the contract for the manufacture and laying of the cable shall be open to public tender, and the lowest tender accepted, the satisfactory nature of which competent electricians in England shall determine.

4th. That no payment of such subsidy shall be made until the line of telegraph to be constructed has been in working order for three consecutive months, and such payments shall be made rateably only for the period during which the line so constructed is open for the transmission of messages, unless any interruption shall take place in consequence of war. A period of ninety days is, however, to be granted in every three years for executing repairs, without any deduction being made from the subsidy.

5th. If such line shall be closed, unless by reason of war, or shall not be in a state of efficiency for the transmission of messages for any consecutive eighteen months, then the contract with such company shall be void.

6th. That a tariff of charges for the transmission of messages over such line shall be agreed to by the several contracting Governments and the company before any contract is entered into, and such tariff shall not afterwards be altered with the concurrence of such Governments. The tariff to be charged on the first opening of the line is not to exceed two shillings and sixpence for every 100 nautical miles, or any portion of such distance in respect of messages containing altogether 20 words.

7th. That in the event of the net profits of the company exceeding in any year the rate of 15 per cent. per annum, whether derived from subsidy or other services, such excess shall be rateably applied to reduce the respective contributions of the contracting Governments.

8th. That an agreement be entered into between the Australian Governments (to which the company shall not be a party) providing that each of the parties thereto shall contribute annually towards the whole subsidy that is to be paid to the company in the proportion that the tariff value of their respective messages shall bear in every year to the total tariff value of all the messages transmitted through the subsidised line in the same year.

9th. That the company shall transmit all the messages of the Colonial and Home Governments without payment of the full extent of the subsidy in each year, calculated at the tariff rate that are to be paid for such messages as are not covered by the subsidy. Should the Home Government not contribute to the subsidy, the tariff value of the messages sent by them will be placed to the credit of the subsidy, and the difference only will have to be paid by the colonies.

The substitution of Broad Sound for Brisbane will save 350 miles of sea line, but will not reduce the number of stations or the total working expenses. It will reduce the actual outlay by £70,000, which will bring it under £1,000,000 (*vide* estimate), and will effect a saving in the subsidy under the terms of the third resolution.

It is impossible to attract capital for investment in long submarine lines, without the expectation of large dividends; and I trust, Sir, that the terms asked for will not be altered. The names of the promoters are a sufficient guarantee that the best opinions have been taken.

They will select a board of directors out of their number, so soon as they are informed that their proposition is entertained, and will raise the capital, and be in a condition to let the contract within, say two months of their obtaining the subsidy. It will be made a condition with the contractors, that the work be completed within two years.

When I was out in Australia, the necessity for appointing a colonial agent in England to act in this matter seemed to be well understood. It is indeed evident that his services will be useful to obtain the concurrence of the Home Government, if that is required, also to carry out the precise intentions of the colonies in the agreement with the company, and to act on the company's board, at least until the work is completed, as the official director representing the colonial interest.

I would beg to suggest, in conclusion, that such agent have power to conclude the agreement with the company, without waiting for the concurrence of the Home Government; or, in case of refusal, having to refer that refusal back to Australia. Only one-fifth ($\frac{1}{5}$) of the section between Java and Timor will be outside Australian waters, and Her Majesty's Government has undertaken to complete the line as far as Singapore. Her Majesty's Government will, no doubt, assist with ships to take additional soundings, and to pilot the cable expedition.

The whole subject of telegraphic communication with England was thoroughly discussed in all bearings for a whole year during my visit to Australia, and I feel it is unnecessary for me to enter more fully into the subject.

I will from time to time inform you of the progress of our measures to lay a cable between India and Singapore, and a new one thence to Java.

I have the honor to be,

Sir,

Your most obedient Servant,

(Signed)

F. GISBORNE.

His Excellency Sir Henry Barkly, K.C.B.,
&c., &c., &c.

Refer to the Honorable the Chief Secretary in the absence of the Postmaster-General, with a view to the consideration of the fresh proposal of the promoters of the Anglo-Australian Telegraph, which serve to show, at any rate, that the colonies were wise in not accepting the previous proposals.

(Signed)

H. B.

11 | 9 | 62

Referred accordingly.

(Signed)

O. F. TIMINS.

[Copy.]

W. | 6113.

DEAR SIR,

We enclose you an estimate of the first cost and maintenance expenses of the proposed cable between Java and Brisbane.

You will see by the specification that we recommend the adoption of a heavy and somewhat expensive cable. Small and cheap cables have seldom proved permanently successful, and we think it bad policy to spare money on this part of the expenditure. The core will transmit, with the usual Morse instrument, seven to eight words per minute between the proposed stations.

With new improved instruments this number of words could be doubled.

The outer covering of heavy iron wires is suitable to the depth of water along the proposed route. These wires are, moreover, to be protected from corrosion by hard bituminous coating. We believe that the sum named as the cost of this cable free on board in England will agree well with the tenders to be obtained from first-class makers by public competition.

Contractors have hitherto been generally employed for the transport and submerging of cables, but we think that in a line like the present, where there really is no risk of failure, the large sums

14th July, 1853.
6, Duke street, Adelphi.

usually paid under this head can be saved, and we have framed the estimates on the supposition that the company will transport and lay the cable by means of its own officers.

A large saving will thus be effected, and the company's officers will have a thorough control over the execution of this part of the work, which has hitherto frequently not been the case.

The proposed arrangement will also enable a large number of firms to tender for the outer covering.

We propose to use sailing vessels for the conveyance of the cable in wrought iron watertight tanks from England to Australia.

The adoption of this plan, without any sensible increase of risk or delay, still further diminishes the estimate below the sum which would be required if the cable were carried (as formerly estimated) in steamers specially built or chartered for the purpose.

The proposed plan entails the purchase of two large and powerful steamers, which would, however, in all probability, be used to lay the Rangoon, Singapore, the Singapore-Hong Kong, and a new efficient Singapore-Batavia cable. In any case these steamers would be sold and replaced by one or two smaller and less expensive boats for repairs. One boat would be sufficient for the Java-Brisbane section, but two would be required for the whole Eastern system. The Java-Brisbane section is, at the end of the estimate, credited with a portion of the purchase money of the large steamers, either on account of their sale or as part of their first cost, which would be charged against the other sections.

Total cost of each of the four sections, if carried out with the same steamers and staff within three years and a half, would be as follows:—

Rangoon-Singapore	...	...	...	£450,000
Singapore-Batavia	...	...	...	170,000
Java-Brisbane	...	...	...	1,100,000
Singapore-Hong Kong	...	...	...	530,000
Total	...	...	...	£2,250,000

You perceive that, while nothing has been spared to secure a strong and sufficient cable, the utmost possible economy has been studied in the plans for carrying out the work, and the estimates are, consequently, very little higher than those laid by you before the Australian Legislature for a cable of less than one-third the weight of that now proposed.

The cost of working and maintenance may appear high, but we are convinced, by experience, that it is desirable to have a very ample staff of first-class men for the superintendence of a submarine line, and that, moreover, it is desirable to use a very superior class of telegraph clerks to those employed on land lines.

We also consider it absolutely necessary to provide an efficient steamer, to be maintained constantly on the line in readiness to effect any necessary repairs. Interruptions, which need not have lasted more than a few days, have, on some lines, been prolonged for months for want of such a steamer. This boat will also visit the stations periodically.

The estimate for home management and engineering is reasonable, and the sum put down for the sinking fund is small, but we believed it to be sufficient. £1,500 per annum is allowed for repairing steamer. This sum, with the 320 knots of spare cable provided at the outset, will meet all the expenses of repairs during, say, the first (15) fifteen years. At the end of that time the sinking fund of £12,000, at 4 per cent. compound interest, will amount to over £240,000, which, with the revenue of £100,000, will make an available fund of £340,000 for the complete renewal of any section or sections, or for the extension of the lines.

The duration of the cable has hitherto depended on the time during which the outer iron wires remained sound. In some seas iron decays very slowly, in others more rapidly; but it is believed that the bituminous covering will ensure the permanency of the cable. We therefore are far from anticipating that any section will require renewal at the end of 15 years, but it is certainly desirable that a considerable sinking fund should be provided to meet emergencies.

The Malta-Alexandria cable, only 1,300 knots long, and situated near England, cost the Imperial Government nearly £500,000. This fact alone will show our estimate of £1,100,000 for a stronger cable 3,024 knots long, to be laid in Australian waters, is framed in the most economical manner. This estimate is, however, the result of careful consideration, and we are convinced that the work can be efficiently carried out for the above sum in from (2) two to two years and a half (2½).

We enclose a small map of proposed lines, and remain,

Your obedient servants,

(Signed) FORDE & FLEMING JENKIN.

INDIAN, AUSTRALIAN, AND CHINA TELEGRAPHS.

Abstract of a specification for a cable between Java and Brisbane:—

Main Cable.

7 copper wires in a strand, weighing, per knot	...	...	150 lbs.
3 coverings of gutta percha, and 3 of Chatterton's compound	...	...	230 "
Total weight of core	...	...	380 lbs. = 3.40 cwt.
Jute and tar	...	...	4.20 "
10 best selected charcoal iron wires, No. 6, B. W. G.	...	...	52.40 "
Outer protection, Latimer Clark's patent	...	...	14.00 "
Total weight per knot of main cable	...	...	74.00 cwt.

Shore Ends.

Core as above	...	...	3.40 cwt.
Jute and tar	...	...	9.50 "
10 best selected charcoal iron wires, No. 1, B. W. G.	...	...	121.10 "
Outer protection, Latimer Clark's patent	...	...	20.10 "
Total weight of shore end	...	...	154.00 cwt.

LENGTH OF CABLE REQUIRED.

	Knots.
Cape Sedano (E. Java) to Coepang (Timor)	590
Coepang to Essington	525
Port Essington to Cape York	635
Cape York to Cape Cleveland	619
Cape Cleveland to Moreton Bay	655
Total direct distance ...	3,024
5 per cent. slack probably used	151
	3,175
10 per cent. spare cable for subsequent repairs	317
Total cable required ...	3,492
of which, main cable	2,970 knots.
shore ends ...	522 "
	3,492 knots.

MAINTENANCE PER ANNUM.

	£	s.	d.
Six stations, including general superintendence	18,000	0	0
Annual cost of steamer and store	15,000	0	0
Direction and home expenses with engineers	5,500	0	0
Renewal fund	12,000	0	0
Total	£50,500	0	0

ESTIMATED COST OF LINES TO BE CARRIED OUT IN TWO YEARS FROM THE SIGNING OF THE CONTRACT.

	£	s.	d.	£	s.	d.
2,970 knots of main cable at £151 per knot	448,470	0	0			
522 " shore ends at £244 "	127,368	0	0			
Insurance, at 5 per cent., on £575,838	28,792	0	0			
Total cost of cable, f. o. b., in England ...				604,630	0	0
13,000 tons of cable conveyed to Melbourne in sailing vessels specially chartered and fitted with wrought iron watertight cable tanks, pumps, &c.				98,450	0	0
Two steamers for laying the cable, each 1,800 tons register, fitted with large watertight cable tanks, with picking up and paying out machinery	70,000	0	0			
(N.B.—These steamers will take out 2,000 tons cable.)						
Coals for the two ships during the outward voyage and laying the cable, in all 600 days at 25 tons per day = 15,000 tons at an average of 50s.	37,500	0	0			
Wages, stores, provisions, insurance, special stores, and contingencies ...	59,920	0	0			
Total, first cost and working expenses of steamers				167,420	0	0
Six stations, with furniture, instruments, land line, and salaries of clerks during the construction of line	43,780	0	0			
Engineering and electrical staff employed to superintend the manufacture in England, to lay the cable in Australia	39,866	0	0			
Expense of management in England	13,750	0	0			
Total stations, salaries, and management ...				97,396	0	0
Interest during construction				62,500	0	0
Reserve fund				100,000	0	0
Total cost of line				1,130,396	0	0
CB.						
By part of first cost of steamer charged to other sections, or by sale of steamers				30,396	0	0
Total capital required				£1,100,000	0	0

[COPY.]

London, 3rd March, 1862.

The undersigned will use their best efforts to carry out, through the medium of a private company, a line of telegraph between Rangoon, the present terminus of the Indian telegraphs, and Singapore, in the event of Her Majesty's Government granting an annual subsidy calculated to pay for the working and maintenance expenses of the line.

The payment of the subsidy to be contingent upon the successful working of the cable.

(Signed as follows ; the description in brackets have been added) :—

THE PENINSULAR AND ORIENTAL STEAM COMPANY,
Per C. W. Howell, Secretary.

R. CAMPBELL,
[Director of the Union Bank of Australia.]

JAMES ED. COLEMAN,
[Public Accountant to the Bank of England.]

D. Q. HENRIQUES,
[Director of the Bank of Australasia.]

GEORGE G. NICOL,
[Chairman, Chartered Mercantile Bank of India, London, and
China.]

GEORGE MAY,
Of May, Mathieson and Co.

H. W. EATON,
[83, Old Bond street.]

CHARLES E. MANGLES,
[Chairman of the Royal Mail Steam Packet Company, and
Director of the Union Bank of Australia.]

CHARLES MORRIS,
[Director of the Bank of Australasia.]

JAS. J. CUMMINS,
[Chairman of the Union Bank of Australia.]

F. H. DUTTON,
[45, Dover street.]

H. A. HANKEY,
[Lane, Hankey and Co.]

W. W. CARGILL,
[Director of the Oriental Bank Corporation.]

PEAR BROTHERS and Co.,
And Twenty-six others.