

Indian Rubber, Gutta Percha, and Telegraph Works Company, Limited, at first refused to tender, on the ground that the conditions were so exceedingly onerous; on my subsequently modifying them, the Company submitted a tender which involved an increased cost of about seventeen thousand pounds above that of Mr. Henley's contract.

Under these circumstances I conceive that in securing Mr. Henley's contract the interests of the Government have been carefully studied, and at the same time a highly satisfactory contract has been made.

Copy of my letter soliciting tenders, and of Mr. J. R. France's letter to me relative to the best description of cable, also accompany the documents before named.

The Government has already been advised that I had engaged the services of Mr. J. R. France, the Acting Engineer to the Submarine Telegraph Company, to superintend the construction and test the material employed in the manufacture of the cable. I now beg to report that for this service his fee has been fixed at one per centum on the cost of the cable.

Arrangements have been made to insure the cable in the office of the New Zealand Insurance Company, to cover the risk of total loss on the voyage to Wellington, whilst there, and the sea risk attaching to any portion of the cable being on board the ship and lost with the vessel.

Notwithstanding that I am without any instructions from the Government to purchase instruments requisite to effectually test and detect the existence and position of any fault in the cable, yet as these are absolutely essential, I have instructed Mr. France to supply me with a list of the necessary instruments, and the same have been ordered and will accompany the cable, the cost whereof will be about one hundred pounds.

In the letter received from the Government (No. 104.) of 10th June, 1865, it was stated that arrangements would be made without delay for keeping me in funds to meet the cost of procuring this cable; and in a subsequent letter, (No. 156.) dated 12th August, 1865, a remittance, it was stated, was to be made to me shortly for the same object.

As up to this time no remittance has come forward, it is necessary I should state to the Government that on or before the 20th February now ensuing, I am under an obligation to pay to the contractors, and for expenses, insurance, &c., about fourteen thousand three hundred pounds on account of this cable. The ensuing mail will, I trust, bring the anticipated funds. Should this not be so, it will be somewhat embarrassing; but the Government may rely upon my best efforts to meet the emergency.

I have, &c.,

The Hon. the Colonial Secretary, Wellington, N.Z.

JOHN MORRISON.

The Hon. the
Colonial Secretary,
Wellington.

P.S. By the "Black Swan," under the care of Captain White, I forwarded (addressed as in margin) a case containing samples of the Electric Submarine Cable, furnished by Mr. Henley, the contractor, for the service of Government.

Enclosure 1 in No. 6.

MR. J. R. FRANCE TO MR. JOHN MORRISON.

Sub-Marine Telegraph Company between Great Britain and the Continent of Europe,
(Incorporated by Royal Charter), 58, Threadneedle Street, London, E.C.;

SIR,—

Engineer's Department, 8th November, 1865.

I am in receipt of your letter of the 6th instant, and the Enclosures 1, 2, 3, 4, and 5.

After careful perusal of the above, I have come to the conclusion that the form of cable proposed in Mr. McGowan's letter to Mr. Falconer (Enclosure No. 3.) with very slight variation, is the best form adapted for Cook's Straits.

For so short a line the weight of core proposed (380 lbs.) is excessive. I believe so very little would be gained by having it so heavy, that to use it would be waste of money.

I would propose a conductor and insulator weighing together 273 lbs. to the nautical mile.

Mr. Sheath's (Enclosure No. 1.) objections to hot mixtures for the protection of the iron sheathing are right in principle; but as so many improvements have been made in the mode of applying them (Bright and Clark's compound, &c.) I have no hesitation in saying there is no fear of any damage arising from that cause, more especially as wet jute is used next the core.

Since 1861, all the new cable for the Submarine Telegraph Company has been protected with Bright and Clark's compound. The Imperial Government use it for the Persian Gulf Line; and Sweden and Denmark have adopted it also, as being the best system yet brought into practical use.

I believe it would be better to adopt the route Mr. Balfour suggests (Enclosure No. 2.) than to take the shorter and more dangerous ones.

The total length from the points suggested being 37-128 nautical miles, it would only be prudent to order forty-six nautical miles, being rather under 25 per cent. for slack and casualties. All cable left to be landed at Wellington, and stored under water till required for future repairs.

In the case of a cable containing a single conductor being adopted, it would not be necessary to have the same strength across the deeps; but the shore ends, say into twenty-five fathoms depth, should be sheathed with much stouter iron wire.

Should a multiple cable of two or three conductors be chosen, I would propose the same size and section of sheathing for either, and also make either of the same diameter and strength throughout.

Taking into consideration the above remarks, it would be well to invite tenders and specimens from the different manufacturers for the following:—

1. Fourteen nautical miles of cable containing a single conductor composed of seven stranded copper wires, equalling one of No. 14 Birmingham wire gauge, and weighing 107 lbs. to the nautical mile.

The interstices being filled with Chatterton's compound, and then insulated with three alternate coatings of Chatterton's compound and gutta percha, all of the best description, to No. 1 Birmingham wire gauge, and weighing, exclusive of this copper conductor, 166 lbs. to the nautical mile, making a