total of 273 lbs. The copper to possess conducting power at 75° Fahrenheit, equal to a least 85 per cent. of pure copper by Matthieson's standard, and the insulation tested at 75° Fahrenheit to equal a resistance of not less that one hundred and fifty millions Siemon's units per nautical mile.

All core to be kept under water until made up. This core to be then served with tarred jute yarn (wet), and further served with Stockholm tarred jute yarn to a sufficient thickness to take a covering of twelve No. 1 Birmingham wire gauge "best best" galvanized iron wires laid on spirally, each wire capable of being elongated 7 per cent. without breaking, the whole to be covered with two coatings of Stockholm tarred hemp, and Bright and Clark's compound. The above to compose the shore ends, including two taper ends of 100 fathoms each, to meet the No. 4 wires of the main cable.

And for the main cable 32 nautical miles of the same description of core, to be served with wet tarred jute, and further protected with twelve No. 4 B.W.G. "best best" galvanized iron wire, the whole to be protected with two coatings of tarred hemp and Bright and Clark's compound, as before stated, and kept under water until shipped.

2. For a cable of forty-six nautical miles, containing two insulated conductors similar to the above, two twisted yarns of wet tarred jute, to be laid on longitudinally with the conductors, so as to make a perfectly central bed for the further coating of wet tarred jute; the whole to be sheathed with twelve No. 1, Birmingham wire gauge, "best best" galvanized iron wires, and further protected with hemp, and Bright and Clark's compound, as before stated.

For a cable of forty-six nautical miles, containing three insulated conductors similar to before stated, having three twisted wet tarred jute yarns laid on longitudinally with the conductors, the whole making a central bed for the further coatings of wet tarred yarn, twelve No. 1 "best best" galvanized iron wire, and the two coatings of hemp and Bright and Clark's compound. The sheathing to be commenced, at latest, fourteen days after signing the contract, and the cable to be shipped within sixty days after signing, under penalty of one hundred pounds per day.

The tenderer to include, in each case, the price free on board; including all necessary fittings, to keep the cable in a secure state, both electrically and mechanically, during transit to New Zealand, and ready for submerging on arrival. Also, to add a separate note of the probable cost of all necessary apparatus for laying one of these cables, and also for repairing the same, if requisite. This would be subject to further details on receipt of list and plans, according to the vessel employed for laying the cable, but would have to be supplied by the contractor within the time specified for shipping the cable.

4. The tenderer to add a further note, stating for what sum he would be prepared to ship to New Zealand, submerge, and keep either cable in working order for one year from the date of its being successfully laid; and then to deliver cable in as perfect electrical condition as when accepted by the consulting engineer in England. The vessel containing cable to be ready for sea sixty days after signing contract.

All excess cable to be the property of the New Zealand Government, and landed at Wellington.

I have, &c.,

John Morrison, Esq., 3, Adelaide Place. J. R. France, Acting Engineer.

Enclosure 2 in No. 6.

Cook's Straits Electric Submarine Cable.

Specification and Conditions upon which Manufacturers are invited to tender for a Submarine Cable for the Government of New Zealand.

1. Fourteen nautical miles of cable, containing a single conductor 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 the copper conductor, 166 lbs. to the nautical mile, making a total of 273 lbs.

The copper to possess conducting power at 75° Fahrenheit equal to at least 85 per cent. of pure copper by Mathieson's standard, and the insulator tested at 75° Fahrenheit to equal a resistance of not less than 150 millions of Siemon's units per nautical mile.

All core to be kept under water until made up. This core to be then served with tarred jute yarn (wet) and further served with Stockholm tarred jute yarn to a sufficient thickness to take a covering of twelve No. 1 B.W. gauge "best best" galzanized iron wires laid on spirally, each wire capable of being elongated 7 per cent. without breaking; the whole to be covered with two coatings of Stockholm tarred hemp and Bright and Clark's compound.

The above to compose the shore ends, including two taper ends of 100 fathoms each to meet the No. 4 wires of the main cable.

And for the main cable, thirty-two nautical miles of the same description of core, to be covered with wet tarred jute, and further protected with twelve No. 4 B. W. gauge "best best" galvanized iron wire; the whole to be protected with two coatings of tarred hemp and Bright and Clark's compound, as before stated, and kept under water until shipped.

2nd. For a cable of forty-six nautical miles, containing two insulated conductors similar to the above, two twisted yarns of wet tarred jute to be laid on longitudinally with the conductors, so as to make a perfectly central bed for the further coating of wet tarred jute; the whole to be sheathed with twelve No. 1 B. gauge "best best" galvanized iron wires, and further protected with hemp and Bright and Clark's compound, as before stated.

3rd. For a cable of forty-six nautical miles, containing 3 insulated conductors similar to before stated, having three twisted wet tarred jute yarns, laid on longitudinally with the conductors, the whole making a central bed for the further coatings of wet tarred yarn, twelve No. 1 "best best" galvanized iron wire, and the two coatings of hemp and Bright and Clark's compound.

The sheathing to be commenced at least fourteen days after signing the contract, and the cable to be shipped within sixty days after signing, under penalty of £100 per day. The vessel containing the