

THE COOK'S STRAIT TELEGRAPH CABLE.

In my last Annual Report I was only able to announce the arrival of the Cook's Strait Cable in Port Nicholson : but, while the Members of the Houses of Assembly were still in Session, I had the satisfaction of reporting the establishment of telegraphic communication between the two Islands by the successful submergence of the sub-marine cable.

The cable has now lain undisturbed for nearly twelve months, the term over which the responsibility of the contractor was to extend.

The difficulty and expense attending communication with the Cable House at White's Bay, the landing point of the cable on the Middle Island, has been a source of great inconvenience, and has prevented our testing the cable so regularly or so often as we otherwise should have done had greater facilities been afforded.

The tests that have been taken, however, have been sufficient to indicate the character and condition of the cable.

The cable contains three conductors, each of which can be used independently of the others as required.

On the arrival of the cable at this port all the three of these conductors were found to be in excellent condition, and I had hoped to see the cable laid without accident so that the conductors might have been consigned to their resting place as nearly as possible in the condition we then found them.

Two unfortunate accidents, however, occurred ; one, while paying out the cable, owing to the strong tide rip ; and the other, immediately after the completion of the laying of the cable, caused by a piece of coire rope attached to the cable fouling the screw of the "St. Kilda."

These two accidents necessitated the making of three splices in the cable, all of which became doubtful points and sources of apprehension in the future working of the cable.

By recent tests, two of the conductors prove to be in excellent condition ; and, as far as insulation is concerned, they exhibit signs of great improvement since the cable has been submerged, while the insulation tests of the remaining third conductor give results far below the other two.

But, notwithstanding this conductor is not so perfect as the other two, it can be worked with moderate currents without interrupting or interfering with the general working of the lines ; and, while two of the conductors are in such perfect condition, I should doubt the advisability of again cutting the cable to remove the existing fault from the third conductor.

Careful tests will, however, be taken to ascertain the real state of the faulty wire, and if the result of these tests should indicate the existence of the fault at any one of the three splices above referred to, I may then (considering the circumstances of the case) deem it my duty to recommend that the cable be raised and the fault removed ; but should our tests give indications of the existence of this fault at any other point—and that more especially in deep water—I shall certainly recommend that the cable be left intact till the faulty wire becomes so bad that it will work no longer, or till some accident or contingency may arise that will render the raising of the cable necessary.

With careful nursing, and by avoiding the use of strong electric currents, the faulty wire may continue to work for years ; and under these circumstances I deem it imprudent (without very good reasons present themselves for so doing) to risk damaging the two good wires for the sake of this comparatively faulty one.

Should the fault, however, prove at either of the splices—and especially at the one made in White's Bay—the matter will be different ; and, prior to taking further tests, I am disposed to suspect the seat of the evil to be at the splice in White's Bay itself.

DECAY AND RENEWAL OF TELEGRAPH POSTS.

The rapid decay of the saplings used as Telegraph posts in some parts of the Middle Island, has become a matter for serious consideration, and I fear some of the lines will never be worked successfully or satisfactorily till good posts cut from the heart of timber, well-known for its durability, replace the saplings that are now causing such constant interruptions.

Under these circumstances I have recommended the renewal of the whole of the Telegraph posts between Woodend, in the Province of Canterbury, and Blenheim, in the Province of Marlborough—a distance of about one hundred and eighty miles—and I estimate the cost of this work at about six or seven thousand pounds.

It will be better, however, for the Government to sanction this outlay at once, than to perpetuate the injury done to the financial prospects of the Department, to the commercial interests of the Colony, and the public service generally.

The difficulty of communication in many parts of the Colony renders it imperative that every means should be adopted for insuring the strength and permanency of the lines.

It was chiefly on this account that I at first recommended the rejection of the sap-wood, and why I am now yielding to the oft-expressed opinion, that a greater number of posts will insure greater strength and security to the lines.

I nevertheless consider that, under ordinary circumstances, sixteen posts to the mile—posts such as I generally recommend—are ample for purposes of security.

The fewer the number of the posts, the better will be the insulation of the lines ; but, of course, there is a limit beyond which prudence would refuse to go.

In one portion of the Canterbury Province, and that on the Waitaki Plains, ten posts only to the mile are used, and this number is found quite sufficient.

While renewing the poles on the section recommended, I think it would be advisable in some few places to divert the line from its present course, in order to render it more easily accessible to line men, as well as to render it more secure by cutting out certain unnecessary angles.