

section, since the date of the last report, stations have been established at Feilding, Waitotara, Sanson, and Manutahi, the three latter of which are guaranteed stations. Owing to the increasing business on this line it will be necessary during the coming year to run an additional wire between Wellington and Wanganui.

WELLINGTON TO NAPIER.

Between Waipukurau and Wainui on this section a working party has carefully examined the line, removing all decayed poles and arms, and replacing broken insulators. The section throughout is in good working order.

NAPIER TO GRAHAMSTOWN.

No casualties of any importance upon this section have occurred during the year. The line has been carefully examined throughout; and between Tauranga and Opotiki, and Tauranga and Grahamstown Swamp, tracks have been improved and repaired, and culverts renewed on those portions of the track made by the department for the purposes of maintenance. The section is now in good order.

AUCKLAND LINES.

All lines in the Provincial District of Auckland have, during the year, with few exceptions, maintained their usual good working order. On the Manukau Heads line a large swamp has been fascined and rendered passable for linemen. Between Newcastle and Hamilton the insulation has been renewed throughout, and at Rangiriri poles have been strengthened where disturbed by the flooding of the Waikato River. During the year the Onehunga line has been seen to; and the sections between Auckland and Drury, and Drury and Mercer, have been overhauled, all broken insulators being replaced, and any other necessary repairs effected. All other lines in this district have been examined, and repairs and alterations made where found necessary. The turrets at the River Thames have been placed in good repair, one being entirely rebuilt.

On the section between Auckland and Hokianga, at all long spans the wire has been carried on single arms, and fern and scrub cleared away from poles. Crossings at various creeks on this line have been made, swamps fascined, and culverts laid, which measures will now render the whole section easy of inspection. The cost of maintenance of this and other sections throughout the colony is shown in Table G.

COOK STRAIT CABLES.

No. 1 Cable.—Since the date of the last report, this cable has been in constant and uninterrupted working order. On reference to the record of tests shown in Table H, it will be seen that Nos. 1 and 3 wires are in good electrical condition; while No. 2 wire maintains its usual low standard. This wire, however, has never given such good results when tested as the other wires in the cable since it was first submerged.

No. 2 Cable.—This cable, referred to in the last year's report, arrived per ship "Zealandia," in September, 1876. Owing to the absence from Sydney of the cable ship engaged repairing the Port Darwin and Java cable, the cable could not be removed from the "Zealandia" until the arrival of the cable ship "Agnes" early in November, and thus a large liability for demurrage became due. An order was sent to England for an additional $7\frac{1}{2}$ miles "shore end," as the original order had not been adhered to. This arrived per "Adamant" in the latter part of February, 1877. In the meantime that portion which arrived per "Zealandia" had been laid, and the shore end was taken out by the "Agnes" and joined, and the laying completed in March, 1877. This cable gives very satisfactory results, as will be seen on reference to the tests shown in Table I. The original contract for the cable was obtained and also manufactured by the Telegraph Construction and Maintenance Company, London, and that for the additional $7\frac{1}{2}$ miles of heavier type for shore end (subsequently ordered) by Messrs. Siemens Brothers, London. Electrical tests were taken both before and after submergence, and both types gave results considerably above the stipulated electrical standard. The department takes this opportunity of thankfully acknowledging the valuable services and assistance rendered by Mr. W. Grigor Taylor, Electrician and Superintendent of the Australian and New Zealand cable, who tested the cable on behalf of the New Zealand Government, and superintended the laying; of Captain Sims, the commander of the cable ship "Agnes;" and of Pilot Holmes, who navigated the vessel during the laying of the cable.

SCHEDULE OF TABLES.

Table A.	—Cash Revenue and Expenditure, Signals Department.
" B.	—Number of Telegrams sent for every 100 Letters.
" C.	—Number of Telegraph Money Orders issued.
" D.	—Value of Government Telegrams.
" E.	—Comparative Quarterly Return, years ending June 1876 and 1877.
" F.	—Annual Comparative Progress of the Department.
" G.	—Cost of Maintenance of Lines.
" H.	—Insulation Tests, Cook Strait Cable.
" I.	—Insulation Tests, No. 2 Cook Strait Cable.
" K.	—Total Cost of Lines.
" L.	—Debtor and Creditor Statement.