

### CHRISTCHURCH TO HOKITIKA AND GREYMOUTH.

This section has been considerably strengthened, and numerous deviations in the line effected, to insure safety from breakages caused by floods and the peculiar formation of the country through which the line passes. The wires through the Otira Gorge, where the line was swept away in February 1874, have been carried in the most secure and substantial manner over the tops of spurs and precipices, not averaging less than 200 feet above their old position. Considerable bush-clearing through the Teremakau and Otira Valleys has been done, and the whole of the line in that vicinity shifted to a secure position. The encroachment of the Arahura and Kawhaka Creeks will necessitate the immediate abandonment of about 12 miles of line, which distance will be substituted by a loop line of five miles in length to the new line between Greymouth and Hokitika. Poles and wire from former diversions will be utilized in this work; and when the reconstruction of the line between Greymouth and Hokitika is completed, it is hoped that this section will maintain a state of good working order.

### WELLINGTON TO NAPIER.

This line has again been examined, and strengthened where necessary. Advantage was taken of the running of the fourth wire from Wellington to Masterton, and from Napier to Waipukurau, to make such alterations and additions as were deemed necessary. No accident worthy of mention has occurred during the past year. Since the date of the last Report, a line-man's station has been opened at Wainui, and stations on the same line at Upper Hutt and Carterton.

### AUCKLAND LINES.

With the exception of necessary alterations made between the Thames and Piako Rivers, these lines call for no special comment. From the turret at the Thames, a new section has been erected, to connect at the junction with the south line, and that portion of the line for which this was substituted has been dismantled. About three miles of line between Taupiri and Rangiriri have been removed, as the poles were found to interfere with the railway traffic. Owing to the removal into new offices, certain alterations have been effected in the city of Auckland. A slight deviation in the line at Te Awamutu has been made, consequent upon the survey of a new township at that place. The section near Cambridge has been thoroughly strengthened, and at Drury and other railway crossings the wires have been raised. Owing to the extension of the railway works, numerous alterations of minor importance have been effected where found to interfere with traffic, or in the way of works in course of construction.

The thorough strength of the lines throughout the colony have been fairly tested within the last few weeks by the storms which have visited New Zealand; and it is worthy of mention that, with the exception of a breakage caused by snow between Christchurch and Hokitika, communication has not suffered.

### COOK STRAIT CABLE.

As will be seen from the insulation tests in Table H, this portion of the telegraph system in New Zealand still maintains its good working order. It has become a matter for consideration whether an alternate cable should not be laid, so as to avoid total suspension of telegraphic communication in the event of a breakage occurring to the present one—a contingency which although remote is nevertheless possible. It must be obvious that should such a contingency arise, and no alternative cable to fall back upon be at hand, very great loss and inconvenience to the public would ensue. The following memorandum by Mr. C. Lemon, the General Manager of the department, upon this subject, points out the necessity for some action being taken in the direction indicated:—

“The present Cook Strait Cable has now being submerged close upon eight years, and at the date of the last test for insulation (24th March, 1875) gave as good results as when first laid. This state of insulation may continue, so far as comparing previous tests taken monthly during the last six years is a guide, but the cable is liable to interruption from either of the two following causes—First, from a ship on a lee shore, off Cape Terawiti, or in that vicinity, endeavouring to save herself by letting go her anchors and possibly fouling the cable with the same. Second, by an earthquake causing a fissure in the bed of the ocean in a line at right angles to the lay of the cable, and thus causing it to part.

“Both these accidents have happened to cables; and although the chances of the Cook Strait cable receiving injury from either of the above sources is very remote, still they are accidents within the bounds of possibility.

“It is for the Commissioner to consider, in the event of interruption from either of the above sources, whether it would not be prudent to have a second cable laid (containing either one or three wires), as soon as it could be obtained from England, so that telegraphic communication, pending the repair, would not be entirely suspended, which it doubtless would were an accident to happen to the present cable without an alternate one to fall back upon. I estimate the cost of a one-wire cable laid at £10,000.

“From a conversation I have had with Captain Fairchild, I was led by him to understand that there are other approaches, on either side of Cook Strait, equally as good for cable-landing purposes as the present.