

Other improvements to the plant and equipment used in connection with the toll and telegraph services included the following:—

- The installation of new test-boards at Raurimu, Clyde, and Henley.
- The installation of a toll and telegraph test-board at the Wellington Central automatic exchange.
- The conversion to central battery or omnibus working of several Morse circuits for the purpose of reducing line batteries.
- The modification of toll circuits at the Dannevirke, Stratford, and Hawera Exchanges.
- The installation of an up-to-date toll-board at the Napier Exchange.
- The installation of a central-battery telegraph circuit between Wanganui and Hawera.
- The extension of the toll-board at the Christchurch Automatic Exchange.
- The installation of equipment at the telephone-exchange, Auckland, to provide accommodation for additional toll lines and to facilitate the more expeditious handling of toll traffic.

POLES AND WIRE.

During the year 7 miles of pole-line and 187 miles of wire were erected for telegraph and telephone (toll) purposes, while 42 miles of pole-line and 147 miles of wire were dismantled, or, in localities where no longer required by the Department, sold to settlers for use as private telephone-lines.

The lengths of pole-line and wire in use for telegraph and telephone toll purposes on the 31st March, 1931 and 1932, respectively, were as follow:—

Pole-line and Wire.	Year ended 31st March, 1931.	Year ended 31st March, 1932.
Miles of pole-line	12,593*	12,558
Miles of wire	63,895*	63,934

* Revised figures.

The telegraph and telephone wire in use on the 31st March, 1932—viz., 63,934 miles—is classified as under:—

	Miles.
Used exclusively for telephone toll traffic	5,142
Used exclusively for telegraph traffic	9,035
Used simultaneously and (or) conjointly for telegraph and telephone toll traffic	49,757

The total length of wire that may be used for telephone toll traffic is 54,899 miles; the total length that may be used for the transmission of telegrams, 58,792 miles; and the length of telephone toll-lines over which telegrams may be transmitted by telephone, 23,533 miles. The total length of Morse circuit derived from the superimposing of telephone circuits is 14,185 miles, and the total length of additional telephone toll circuit improvised from the existing wire circuits by the use of subsidiary apparatus associated therewith (so-called phantom working) is 7,353 miles. In addition, 3,682 channel miles of telephone toll circuit have been obtained from the application of the carrier-current telephone system to telephone trunk lines.

NEW ZEALAND SUBMARINE CABLES.

COOK STRAIT CABLES.

In last year's report reference was made to the fact that the cable-steamer "Iris" (now renamed "Recorder") had been commissioned to repair the Department's interrupted cables in Cook Strait. The vessel arrived at Wellington from Melbourne on the 6th April, and immediately commenced the taking-in of cable from the shore tanks in preparation for the restoration of the faulty cables.

At the time the "Iris" was chartered only two cables were affected, these being Nos. 1 and 2, Oterongu Bay—White Bay single-core telegraph cables, each of which developed a break in July, 1929. While the "Iris" was *en route* from Melbourne a break occurred in the Titahi Bay—Picton cable (No. 6), in consequence of which communication over the third circuit was totally interrupted on the 4th April.

The original break in No. 1 cable, as previously recorded, was located at a point $5\frac{1}{2}$ nautical miles from the Oterongu Bay cable hut; while that in No. 2 cable had been found to be $11\frac{1}{4}$ nautical miles from the same place. The break in No. 6 cable was located at a point $6\frac{1}{2}$ nautical miles from the Titahi Bay cable hut or about 3 nautical miles westward from the northern extremity of Mana Island.

It was decided on account of weather conditions that No. 6 cable should be repaired first. Operations were commenced on the 8th April, and repairs, involving the laying in of 4.103 nautical miles of new cable, were completed on the 10th idem.