

*Interlocking of Points and Signals.*—Alterations to signalling and interlocking were carried out at Palmerston North, Invercargill, Woodville, Marton, and Lyttelton. Power interlocking with three position coloured-light signals was installed at Westfield, Otahuhu, Whangarei, Papakura, Paerata, and Stillwater. There are now thirteen stations connected to power interlocking and signalling.

Automatic signalling was brought into use between Westfield and Otahuhu, and the equipment of the line from Otahuhu to Mercer, and the Hutt Valley Branch, is in hand. The mileage of track equipped with automatic signalling is now—Double line,  $32\frac{1}{2}$  miles; single line,  $125\frac{3}{4}$  miles.

*Block Working and Electric Tablet.*—During the year a number of stations were made switch-out stations.

A new tablet station was opened at Kopaki.

The number of tablet instruments now in use amounts to 935 at 391 stations. The total mileage of track which has been equipped with tablet is now 1,744 miles single line out of a total of 3,176.

The total mileage equipped with the lock-and-block system is 16 miles of double line, and instruments in use are twenty-six at twelve stations.

*Telegraph and Telephone Facilities.*—38 miles of poles have been erected and 550 miles of wire during the year. Fifty-nine connections to railway telephone circuits have been provided, and the Head Office has been equipped with an automatic telephone exchange. Metallic circuiting has been completed on the following sections: Westfield–Otahuhu, Paeroa–Waihi, Frankton Junction–Taumarunui, Ohakune–Marton, Te Roti–Opunake, Masterton–Upper Hutt, Mosgiel–Gore. The telephone and Morse lines between Whangarei and Waiotira have been converted into a telephone circuit with Morse superimposed. The total number of Morse instruments in use is 293; telephones, 1925; electric bells, 379; miles of wire, 9,997; miles of poles, 2,913. The installation of train-control between Christchurch–Oamaru and Wellington–Marton is in hand.

*Electric Light.*—During the year electric light was installed in eighteen yards, eighteen stations, and 396 houses.

Improvements in the lighting were made in a number of yards and stations which were already equipped with electric light.

During the year it was decided to install flood-lighting in a number of railway-yards. This is a new development, and designs have been proceeded with, and the work is in course of installation at Auckland, Otahuhu, Westfield, Frankton Junction, Thorndon, Timaru, and Greymouth. The work will be brought into use shortly, and it is anticipated that the lighting of yards generally will show a great improvement by the use of flood-lighting over the best that can be obtained by the older methods of individual lights.

*Electric-power Installations.*—The work in connection with electric-power installations during the year has been very heavy, and the following work has been carried out: The electrical designs for the new workshops at Hutt Valley, Otahuhu, Addington, and Dunedin, and existing shops at East Town and Invercargill, have been completed. Specifications have been drawn up and tenders have been received and accepted for the above. In addition the temporary electrification of the existing workshops has been proceeded with and the work done is as follows: Newmarket—thirty-four motors have been installed, aggregating 262 h.p.; Petone—ninety-five motors have been installed, aggregating 1,145 h.p.; Hillside—forty-five motors have been installed, aggregating 420 h.p.; Addington—sixty-five motors have been installed, aggregating 752 h.p.; East Town—two motors have been installed, aggregating 10 h.p.; Invercargill—one motor has been installed, aggregating 35 h.p.

The sub-station at Petone Locomotive Workshops has also been completed. This sub-station has a capacity of 1,150 k.v.a.

Other power installations are as follows: A battery rail-car charging-set of 69 h.p. has been installed at Christchurch. Motors have been installed in the car and wagon depots at Christchurch and Dunedin; Advertising Branch, Wellington; Queenstown; and in the Head Office. Electric pumps have been installed at Thorndon, Papanui, Christchurch, and Opunake.

*Rail Electrification.*—During the year the scheme for the electrification from Christchurch to Lyttelton has been proceeded with, drawings prepared, specifications drafted, and tenders called. The tender for poles has been closed, and a proposition is now in hand for commencing the work as soon as materials are available.

Electrification schemes for other sections have been investigated during the year.

*Level-crossing Automatic Warning-devices.*—Seventeen level-crossings have been equipped with alarm signals. The number of crossings now equipped is eighty-eight.

*Expenditure on Signals.*—Capital expenditure for the year for signals was £100,309, of which £73,890 was on signals, interlocking, electric lighting, &c., and £26,419 on electrification of locomotive workshops. The maintenance expenditure chargeable against revenue was £104,794.

## LOCOMOTIVE.

Mr. G. S. Lynde, A.M.I.Mech.E., M.I.Loco.E., Chief Mechanical Engineer, reports as follows:—

The plant, locomotives, tenders, carriages, brakes vans, wagons, machinery, and tools have been maintained in good working-order during the year.

*Locomotives.*—On the 31st March, 1927, there were 698 engines. During the year four Class AB and eight Class WAB were built in the Government Railway workshops; three Class WAB and three Class Ws were built by Messrs. A. and G. Price, Ltd., Thames. Three Class F engines (taken over with the Cape Foulwind line) were added to the stock. Twenty-three old engines were written off, and four engines were sold.