

The total number of officered stations (including tablet stations) is 485, of which 331 are equipped with fixed signals, 110 are interlocked, and 44 unequipped.

Twenty-seven signal-repeaters have been installed during the year, making a total of 424 now in use.

*Interlocking of Points and Signals.*—Special locking arrangements for points and signals have been installed at Waharoa and Whakarongo.

Alterations to signalling and interlocking arrangements have been carried out at Whangarei, Auckland, Newmarket, Penrose, Paeroa, Okahukura, Lambton, Ravensbourne, Pelichet Bay, and Dunedin.

Interlocking with tablet system has been installed as follows: Tauraroa Station, Ohirangi Station, Metcalfe Road Station, Puhinui Station, Defence Department's private siding near Ngaruawahia, service siding at 5 miles 26 chains near Karangahake, service siding at 8 miles 43 chains near Waikino, Waihi Gold-mining Company's private siding at Waikino, service siding at 10 miles 8 chains near Waihi, Greymouth Power Board's private siding near Dobson, Greymouth Harbour Board's private siding at Greymouth, and ballast-pit siding at 2 miles 60 chains near Oporo.

Special switch-locks have been provided at Kauri, Portland, Mangapai, Tauraroa, Waitotira, Taipuha, Paparoa, Kaiwaka, Topuni, Kaipara Flats, Ahuroa, Tahekerua, Rotowaro, Pukemiro, Glen Afton, Waharoa, Rotorua, Okahukura, Whakarongo, Methven, Makarewa, and Winton.

Detection of facing-points by fixed signals has been installed at Onoke, Kauri, Portland, Mangapai, Tauraroa, Waitotira, Taipuha, Paparoa, Kaiwaka, Topuni, Kaipara Flats, Ahuroa, Tahekerua, Pukemiro, Waharoa, Okahukura, and Whakarongo.

Mechanical signalling and interlocking has been installed at Brunner.

Special interlocking has been provided at Southdown, Hutt Valley Railway near Lower Hutt, and Palmer's Siding near Dunedin.

Total stations now interlocked, 113; tramway crossings, 7; sidings and flag stations interlocked with tablet, 242; stations where Woods locks are installed, 333.

*Automatic and Power Signalling.*—Double-line automatic signalling between Auckland and Westfield, also between Dunedin and Ravensbourne, has been completed and brought into operation.

Automatic signalling between Westfield and Frankton, and power signalling at Whangarei, Paeroa, Paerata, Papakura, Papatotetoe, and Stillwater Stations is in hand, progressing satisfactorily.

The total mileage equipped with automatic signalling is as follows: Double line, 30 miles 77 chains; single line, 125 miles 51 chains. Total stations equipped with power signalling, 6.

*Block Working and Electric Tablet.*—The tablet system has been installed and brought into use between Whangarei and Kaukapakapa, comprising the following stations: Portland, Mangapai, Tauraroa, Waitotira, Taipuha, Paparoa, Maungaturoto, Kaiwaka, Topuni, Wellsford, Kaipara Flats, Ahuroa, and Tahekerua. Alterations to tablet installations have been made at Whangarei, Kaukapakapa, Penrose, Westfield, Kaiata, Greymouth, and Brunner.

The total mileage equipped is 1,746 miles of single track, out of a total of 3,148 miles of line open for traffic. The number of tablet instruments now in use is 927, at 391 stations. The total number of automatic tablet-exchangers in use is 356.

*Lock and Block.*—5 miles 58 chains of lock-and-block working have been replaced by automatic signalling. The total mileage now equipped with the lock-and-block system is 16½ miles of double line. The number of lock-and-block instruments in use is twenty-six at twelve stations.

*Telegraph and Telephone Facilities.*—42 miles of poles and 456 miles of wire have been erected during the year. Forty-two connections to railway telephone circuits have been provided. Twenty-six new connections to public exchanges have been made and nine connections given up. Thirteen electric bells and four Morse instruments have been installed.

Metallic circuiting has been completed on the following sections: Waitotira to Helensville, Henderson to Auckland, Frankton to Thames, Morrinsville to Putaruru, Taumarunui to Ohakune, New Plymouth to Hawera, Johnsonville to Thorndon, Woodville to Masterton, Ngahere to Reefton, Studholme to Waimate, Oamaru to Palmerston South, Gore to Invercargill.

Totals now in use: Morse sets, 293; telephones, 1,866; electric bells, 365; miles of wires, 9,447; miles of poles, 2,875.

*Electric Lighting.*—Electric-lighting installations have been made in a large number of station buildings, yards, and departmental dwellings.

*Electric-power Installations.*—The following work has been done in connection with the electrification of machinery in locomotive workshops: Newmarket—twelve motors installed, aggregating 260 horse-power; Petone—twenty-three motors aggregating 412 horse-power; Addington—twenty-one motors, aggregating 415 horse-power; Hillside—one 10 horse-power motor.

A motor generator set of 60 horse-power has been installed at Newmarket as a standby plant for the automatic signalling.

Motors, &c., have been installed as follows: Thorndon—one motor, 29 horse-power; Lambton—two motors, 1.5 horse-power; Christchurch—one motor, ¾ horse-power; Rolleston—one motor, 1 horse-power.

The 11,000-volt substation at Petone, of 1,050 kv.a., is nearing completion. This substation is for the direct supply of power for the locomotive workshops from Khandallah Substation.

All workshop distribution panels in shops have been completed and cable work installed.

The general electrification of machinery in locomotive workshops is well in hand.