

*Earthquake.*—An earthquake which occurred on the night of the 5th March, 1934, caused damage in the Wairarapa, Hawke's Bay, Manawatu, and Wanganui districts.

One pier of a bridge near Mauriceville was shifted 1 ft. out of place, and the filling of the approaches at each end of the bridge subsided 1 ft.

The filling in the approaches to the Kopua and Ormondville viaducts subsided about 6 in.

At a point just north of Paraparaumu a bank through a swamp settled a maximum of 2 ft. 6 in. over a length of 3 chains.

Several sidings leading to the wharf at Foxton could not be used for a day owing to subsidences. About two hundred chimneys in the districts mentioned were damaged.

*Cattle and Sheep Yards.*—During the year sheep and cattle yards were provided at Matamata, Whangamarino, Kamahi, Castle Rock, and Ryal Bush Stations.

*Buildings.*—All buildings have been maintained in satisfactory condition. A hut at Te Kuiti, lamp-room at Taumarunui, bus-garage at Hastings, and a small dwelling at Opapa were totally destroyed by fire during the year. The following were also damaged by fire; Engine-sheds at Taumarunui, Hawera, and Wanganui; store-sheds at Frankton Junction and Lambton; and houses at Kaikohe, Mercer, Halcombe, Longburn, Woodville, Karoro, Purakanui Cliffs, and Mosgiel.

*Railway Improvements.*—The principal works carried out during the year were as follow: New turn-tables (55 ft.) were installed at Huntly, Putaruru, Waipukurau, Masterton, and Cross Creek; Bus-garage erected at Hastings; improvements and alterations to locomotive depots at Frankton Junction and Taumarunui; additional sidings provided on breastwork at Lyttelton.

*Wellington New Station.*—Work on the new station-yard was started on 3rd July, 1933. The site for new station building was cleared and drainage laid, a temporary additional platform was constructed at Lambton Station, also temporary wagon-repair shed and temporary carriage standing tracks were provided. Portion of the new goods yard has been constructed and parts of new main lines towards Kaiwarra have been laid.

A contract for the construction of the new station building to be erected near Bunny Street was let to the Fletcher Construction Co., Ltd., in November, 1933. The contract price is £339,173 0s. 11d., and the building is to be completed in February, 1937. The contractors have completed the preliminary work and have started to drive the reinforced-concrete piles for the foundations.

*Bridge-strengthening.*—The work of strengthening and renewing bridges was continued during the year. The strengthening of the Toi Toi Viaduct and the reconstruction of the Wangachu Viaduct were completed. In the South Island the strengthening of the Pareora Bridge was completed and the reconstruction of the North Rangitata Bridge is in hand.

*Welded Rail-joints.*—With a view to reducing maintenance costs, several rail-joints at road crossings have been electrically welded and so far are giving satisfactory service. At present a trial length of one mile of the Lower Hutt suburban line has been laid with "Thermit" welded joints.

It is hoped that in addition to savings in maintenance costs, greater comfort to the travelling public will result. If the anticipated improvements are realized, it is proposed to weld the whole of the new double track between Wellington and Tawa Flat.

By this process as many as five ordinary rail lengths are welded together continuously on straights and shorter lengths on curves according to the radius. In the tunnels all joints will be eliminated.

*Mileage.*—The mileage of track open for traffic on the 31st March, 1933, was 3,278 miles 74 chains.

#### SIGNAL AND ELECTRICAL BRANCH.

The following is a summary of the principal activities of the Signal and Electrical Branch during the year:—

##### SIGNALLING.

*Okahukura.*—A new system of key locking and signalling was completed and brought into use before regular passenger services were inaugurated to New Plymouth. The new system has fulfilled expectations, and has worked satisfactorily.

*Wellington New Station.*—Stage one has been completed. This entailed extensive alterations in the Lambton north signal-box and the complete dismantling of the south box and interlocking. Two additional docks have been provided and interlocked and the new platforms have been flood-lighted. The new down main line between Thorndon and Kaiwarra across the reclamation has been brought into use and the main line connections at Kaiwarra lifted to allow further stages of the new work to proceed.

Tenders for various sections of material for the new yard have been called and those for the interlocking machine and flood-lighting equipment accepted.

The design of the signalling, telephone, lighting, and power reticulation is well in hand.

As the new works have proceeded, temporary alterations to lines, lighting, and signalling have received attention.

*Automatic Signalling, Heathcote-Addington.*—This work has been commenced and further material ordered to allow of its completion in the present year.

*General.*—Alterations and additions to existing signalling and interlocking have been carried out at Whangarei, Kioreroa Bridge (lifted), Morningside, Ellerslie Racecourse Siding (lifted), Ellerslie, Westfield, Horotiu, Stratford, Palmerston North, Paekakariki (shunting indicators), Kaiwarra, and Lambton.

Repeater light signals have been installed at Drury and Ngaruawahia.