

The wilful breakage of insulators has for some time been a matter of concern to the Department in its efforts to maintain a high standard of communication, and during the year some thousands of insulators were broken by acts of vandalism, involving the Department in considerable expenditure in replacements. The Department views very seriously the wilful breakage of insulators, and actively co-operates with the police with a view to obtaining convictions in every possible case.

Due to motor-vehicles colliding with telegraph and telephone poles an increasing number of interruptions to the communication service, in some cases serious, occurred throughout the Dominion during the year. Most of these collisions are caused by negligence on the part of motorists, and in such cases the Department claims from the responsible parties the cost of restoring communication.

#### MACHINE-PRINTING TELEGRAPHS.

The start-stop machine-printing telegraph apparatus has continued to give very satisfactory service. During the year the system was extended by the opening of teleprinter circuits between Gisborne and Napier, Gisborne and Wellington, and between Hastings and Wellington. The benefits of the greater traffic-carrying capacity of the system were evident during the Christmas period, when the traffic was dealt with expeditiously, and it was unnecessary to take over for telegraph purposes wires which are normally used for telephone toll traffic.

Machine-printing apparatus is now installed at the following offices: Auckland, Christchurch, Dunedin, Gisborne, Hastings, Napier, New Plymouth, Palmerston North, Wanganui, and Wellington.

#### BATTERY MAINTENANCE.

During the year the universal battery system, operated on the full-float principle, was installed in the telegraph offices at Gisborne, Napier, and Westport, resulting in greater efficiency and a substantial reduction in the cost of maintenance. A similar system operating direct from small motor-generators was installed at Hastings.

#### SUNDAY TELEGRAPH ATTENDANCE.

With a view to better providing for the public convenience on Sunday evenings it was decided during the year to alter to 6.30–7.30 p.m. the evening attendance at telegraph offices opening on Sundays. The change took effect from Sunday, the 16th October, and has proved to be satisfactory in operation.

Previous to the change the hour of opening was 5–6 p.m., an extension of the 5–5.30 p.m. opening which applied from the early days of Sunday telegraph attendance.

#### TOLL SERVICE: IMPROVED METHODS OF OPERATION.

The existing facilities for the direct dialling of toll-calls by operators have functioned excellently during the year, and toll-dialling circuits have been provided between a number of additional exchanges. The provision of toll-dialling facilities enables a much more rapid and efficient toll service to be given, and, by lightening traffic loads formerly handled on a wholly manual basis, tends to reduce the operating staff required. In addition, toll-dialling circuits facilitate the use of the "Demand" method of operating referred to in the next paragraph.

Increasing use is being made of the "Demand" method of operating, the aim of which is to complete as many toll calls as possible while the calling subscriber remains at the telephone. Concurrently with the opening of the Lower Hutt automatic-telephone exchange, this method of operating was brought into use between Wellington and Eastbourne, Upper Hutt, Plimmerton, Porirua, Paekakariki, and *vice versa*. The "Demand" method has also been applied initially or its use increased at various other exchanges.

#### CARRIER-CURRENT TELEPHONE SYSTEMS AND VOICE-FREQUENCY TOLL REPEATERS.

In last year's report it was stated that voice-frequency repeaters would probably be installed on a number of open aerial trunk-lines in various parts of the Dominion during 1932–33. Equipment of this type can be used to considerable advantage for increasing the speech volume on certain sections of the long-distance telephone network, but lack of funds prevented the Department from giving effect to any proposals for improvements in that direction during the year. It is proposed, however, to extend the application of the toll repeater and the carrier-current system as soon as circumstances permit, so that subscribers connected with the smaller exchanges in such districts as North Auckland, Central Otago, Southland, and the West Coast of the South Island will obtain a greater share in the benefits derivable from the use of this equipment.

The precise determination of the full extent to which the Cook Strait single-core unloaded telegraph cables will lend themselves to the application of modern methods for the establishment of additional telephone outlets between the North and South Islands is a subject which has been referred to in previous reports, and one which has occupied the attention of the Department's Engineers over various periods during the past two or three years. It is now seven years since the Cook Strait telephone cable was laid, and, in view of the uncertainty as to the duration of the further period of uninterrupted service that might reasonably be expected of it, the Department considers it desirable that provision be made in the way of standby facilities, using the single-core cables, so that the inter-Island toll service