

One point, however, was frankly conceded by the experts of these successful organizations—viz., that no telegraph system, however efficient, could be made to pay its way at a rate of 9d. for twelve words (including address and signature) over any part of a territory approximating one thousand miles from north to south. In this criticism I am forced to concur.

In the most successful telegraph and telephone organizations which I was able to inspect it was clear that the efficiency and economic success attained were not due to salary reductions, but rather to efficiency of organization and the creation of a commendable spirit of co-operation and friendly interest and rivalry among the various units of these extensive services.

TELEGRAPH-OFFICES VISITED.

Instructive visits were paid to the Central Telegraph Office, London, the main offices of the Western Union at New York and Chicago, and that of the Commercial and Postal Telegraphs at the latter place. In these stations large volumes of telegraph traffic are handled, and the methods adopted in these large and efficient services were noted with the greatest interest.

RADIO-TELEGRAPHS AND TELEPHONES.

GENERAL.

While in England I embraced the opportunity afforded of visiting the Rugby International Valve Transmitting-station, from which press is daily received in New Zealand, and which is the transmitting-station for the Transatlantic telephone speech having its terminus in the vicinity of New York.

At Grimsby I saw the beam transmitting-station responsible for the outward communication to Australia and India, and in the vicinity of London was courteously shown through the Continental transmitting and receiving stations of the Marconi Company. All the stations referred to above possess novel and interesting features, the inspection of which furnished clear evidence of the advances being made in the transmission and reception of radio signals to and from all parts of the globe.

In the United States visits were paid to the Rocky Point and River Head transmitting and receiving stations respectively of the Radio Corporation of America. These stations are in constant communication with all parts of Europe, Asia, and South America. Few modern developments of wireless telegraphy and telephony were missing from these giant stations, which are a striking testimony to the progress of international commercial radio signalling, and where, as in the United Kingdom, important experimental work is being carried on.

While in New York I was permitted to speak to London over the transatlantic radio-telephone service. The results were in every way satisfactory, and conversation as good as over any normal telephone toll circuit. The difficulties due to diurnal variations of signal strength and to atmospheric influences have been to a large extent combated, and are still the subject of important investigations and experiment.

A development which is of comparatively recent origin, and which has now assumed commercial importance, is the transmission of pictures of subjects or of general commercial matter by land line and by radio. The processes employed are somewhat too complex for general application at this stage, but there are great possibilities that this new phase of the communication art will ultimately revolutionize present-day methods.

INTERNATIONAL RADIO-TELEGRAPH CONFERENCE, 1927.

The general effect of the recent wireless legislation of the International Radio-telegraph Conference has already been referred to in a previous report. The gathering of so many experts in the various phases of radio communication furnished a unique opportunity for obtaining information as to the practice and policy of wireless administrations in different parts of the world not visited by me.

BEACON AND DIRECTION-FINDING STATIONS.

A few miles south of New York, visits were paid to two of a chain of beacon and direction-finding stations which guard the approach to the New York harbour, and by means of which, in times of fog, navigation is carried on in a manner unknown prior to the advent of radio navigational methods. The stations visited are respectively named Seagirt and Manasquan. The actual operation of these stations was followed with interest, and data collected which will prove useful in considering the further development in New Zealand of these aids to the navigation of difficult coast-lines.

MARINE RADIO INSTALLATIONS.

This subject was discussed in its various ramifications with manufacturers and others, and every opportunity taken to view the latest developments in connection therewith.

One of the most notable advances is the successful introduction of an automatic signalling device whereby a ship's operator may automatically be warned that details of a distress signal are about to be transmitted by a ship in distress. The British Board of Trade has approved of the use of such a device, and the Radio Convention has recognized its suitability to replace the wireless watcher on board certain ships hitherto required by regulation to maintain such an officer for the interception of distress signals during the absence from duty of the ship's regular radio-telegraphist.

Another important movement is the growing use of radio-telephony on board small ships not required to engage in public correspondence with other ships or coast stations, and connected with private services of limited range. Technical and operating particulars of these installations have been obtained. Several of the larger steamers of different administrations carry radio-telephone equipment for communication with other ships and in anticipation of developments whereby telephone speech with subscribers to telephone exchanges will later be placed on a practicable basis.

The ultimate elimination of spark methods of signalling has been referred to in a separate report upon the Radio Conference.