PART XI.-TELEPHONES.¹

The telephone is in part a Canadian invention, though its inventor, Alexander Graham Bell, a Scotsman by birth, was at the time of its invention a resident of the United States, having immigrated with his father to Brantford, Ontario, in 1870, and subsequently proceeded to Boston. According to his account, the discovery of the telephone, both as to its main principle and as to the first transmission of the human voice, was made at his father's residence at Tutela Heights, Brantford, in 1876, and the first telephone talk over any distance was conducted between Brantford and Paris, a distance of 8 miles, on Aug. 10, 1876.

Telephone development in Canada dates from the year 1880, when the Bell Telephone Co. was incorporated by Act of Parliament. Although at this time all patents and lines were owned by the Canadian Telephone Co., this was dependent on the Bell Co., to which it sold out in 1882. By 1883 the first submarine telephone cable had been laid between Windsor and Detroit, and during the year the Bell Co. operated in Canada 4,400 rental-earning telephones, 44 exchanges and 40 agencies, with 600 miles of long-distance wire. It controlled development in all the provinces except British Columbia, where the greater part of the system has always been in the hands of the British Columbia Telephone Co., Ltd.

With the rapid growth of private companies in the Maritime Provinces, the lines of the Bell Co. were disposed of in 1888 to the Maritime Telegraph and Telephone Co. in Nova Scotia, and to the New Brunswick Telephone Co. in New Brunswick, an interest in these corporations being retained under the terms of sale. A development of a different kind is seen in the three Prairie Provinces, where wellorganized systems were sold to the Governments of Manitoba and Alberta in 1908 and to Saskatchewan in 1909. The lines in Ontario and Quebec are still largely owned by the Bell Telephone Co.

Telephone Systems.—The 2,399 telephone systems existing in 1931 (Table 72) include the three large provincial systems in Manitoba, Saskatchewan and Alberta, and a smaller governmental system in Ontario, together with the system operated by the National Parks of Canada, Department of the Interior. There were also 138 municipal systems, the largest operated by the cities of Edmonton, Fort William and Port Arthur. Out of the 1,523 co-operative telephone companies, no fewer than 1,172 were in Saskatchewan alone and 204 in Nova Scotia. Besides the above, there were 506 stock companies, 99 partnerships and 126 private systems.

The steady growth of the use of telephones from 1911 is indicated in the summary statistics of Table 71, showing an increase from 302,759 in 1911 to 1,364,-200 in 1931, or from $4 \cdot 2$ to $13 \cdot 1$ telephones per 100 of the population. By provinces, the numbers of telephones in 1931 were as follows: Ontario 621,528, Quebec 300,502, British Columbia 128,646, Saskatchewan 82,875, Alberta 70,427, Manitoba 73,399, Nova Scotia 46,932, New Brunswick 33,950, Prince Edward Island 5,806 and Yukon 135. The numbers of instruments per 100 estimated population were as follows: British Columbia 18.5, Ontario 18.1, Saskatchewan 9.0, Alberta 9.6, Manitoba 10.5, Quebec 10.5, New Brunswick 8.3, Nova Scotia 9.1 and Prince Edward Island 6.6. In the proportion of telephones to population, Canada as a whole, with $13 \cdot 1$ telephones per 100 population, ranks second to the United States which has 16.4 telephones per 100 population.