

one line, that to Back River, extends seven and one-half miles from the city limits. The Company own eleven closed motor cars, seven open motor cars, and seven open trail cars. Nine of the closed cars were built by N. & A. C. Lariviere: the open cars by other Canadian manufacturers. The motors for these cars were furnished by Ahearn & Soper and the Royal Electric Co. The boiler, of 300 horse power capacity, and the Corliss engine of 150 horse power capacity, were built by Messrs. Cowan & Co., Galt, Ont.

The street railway system of Toronto was originally established in 1861: in 1891 the city purchased the lines, and in that year a contract was entered into with the Toronto Railway Company, by which the latter was given the exclusive right of operation within the city limits for thirty years. Upon the execution of this contract the Company went immediately to work to reconstruct the old horse railway lines, and to make extensions into new territory; and the main system of the Company now extends to and connects with the two suburban lines which have been built in the same interest, but under separate organizations, to wit, the Toronto and Mimico Electric Railway Company, and the Toronto and Scarboro' Electric Railway Company. The backbone of the entire Toronto system is the Queen Street line, which extends from the extreme eastern to the extreme western part of the city, a distance of over eight miles, and, including the Mimico road, over thirteen miles.

A great advantage which the Toronto Railway Company enjoys over the principal systems in other cities lies in its freedom from competition, the exclusive right for street car operation being granted to it by the municipality; and it is thus enabled to avoid the over building of lines which is so painfully evident in other cities. The arrangement of the lines in Toronto shows the effect of this lack of competition, in that there is no paralleling of tracks in the business section, while the distance between the parallel lines which actually exist is such as to make a short walk to the cars frequently necessary but not unduly burdensome. In the power house of the Company is a 3000 horse power plant, consisting of five Armington & Sims cross compound condensing engines, direct belted to nine 200 K. W. and one 100 K. W. bi-polar generators built by the Canadian General Electric Co. Another section of the station contains two direct connected 1200 horse power units, the engines of which were built by the Laurie Engine Co., Montreal, and the Bertram Engine Co., Toronto. The Company build their own cars. A special feature of the rolling stock is the admirable manner in which the cars are kept bright and fresh; and they are never allowed to degenerate into such a state of bad repair as causes unfavorable comment in other cities. Most of them are extra well lighted with a double lighting circuit, and in winter comfortably heated. The motors in use were furnished by Ahearn & Soper, representing the Westinghouse Company, and by the Canadian General Electric Co. Farr insulating compound is used in armatures and motors. In 1884, when the horse car system was in vogue in Toronto, the number of passengers carried by the street car company was at the rate of 56 rides per capita; in 1891, the year in which the present company took possession and adopted electricity as motive power, passengers were carried at the rate of 88 rides per capita, and in 1894 at the rate of 130 rides per capita.

OTTAWA. —The Ottawa Electric Street Railway Company is

a recent consolidation of the Ottawa Street Passenger Railway Company, that originally operated a horse railway through the principal streets of Ottawa, and the Ottawa Electric Street Railway Co., a more recent concern. This company give excellent service to all parts of the city with its thirty miles of track. The power station building is 100x50 feet, built near the Chaudiere Falls, from which the power is obtained. The power plant consists of five water wheels of 500 horse power capacity, and one of 175 horse power capacity, each wheel operating under a twenty-five foot head. The electric plant consists of one 700 horse power, two 400 horse power, and three 100 horse power Westinghouse multipolar generators. This railway plant is one of five electric generating plants operated from Chaudiere Falls by the Ottawa Electric Railway Co., and the Ottawa Electric Co., both of which are controlled in the same interest. The company own fifty-seven motor cars, three mail cars and five sweepers. Nearly all the cars were manufactured by the Ottawa Car Co., and no trail cars are used. The cars and also the offices of the company are heated by electric heaters of a novel pattern manufactured by Messrs. Ahearn & Soper of that city. The Company have adopted the practice of providing buttonhole bouquets to all of their conductors and motor men each morning, believing that these little points mean increase of traffic to them. The officers of the Company are J. W. McRae, president, W. Y. Soper, vice-president, J. D. Fraser, secretary and treasurer, Thomas Ahearn, managing director. Messrs. Ahearn & Soper are the well-known electrical engineers and contractors, and are one of the most important individual firms in this particular line in Canada.

HAMILTON, Ont.—This city is small in area and thickly settled. Its entire local street railway system is but 11 miles in length, single track basis, and its longest line is but three miles. The franchise of the Hamilton Street Railway Co., expires in the year 1914. The company have the exclusive right to operate street railways within the city limits, except the rights already granted upon certain streets to two suburban lines. The engine plant consists of three Wheelock tandem compound condensing engines of 260 horse power each, built by the Goldie & McCullough Co., Galt, Ont., and one Corliss tandem compound condensing engine of the same size built at Toronto. These are belted direct to four Westinghouse 250 horse power multipolar generators. Westinghouse appliances are used throughout. Mr. E. Martin is general manager, and J. B. Griffiths, electrical engineer.

The Hamilton, Grimsby and Beamsville Electrical Railway whose route extends over a distance of eighteen miles from the centre of Hamilton, is in many respects unique among the electric railroads of the country. Several of the cars are combination passenger and baggage, and a large proportion of the traffic consists in package of fruit, etc. The cars stop at every farm house along the way when desired, and in some cases milk stands have been erected along its tracks, a profitable portion of its business being the conveyance of milk from farms along the route into Hamilton. Trips are made every hour throughout the day, and special excursion trips are frequently arranged for. The three 150 horse power boilers in the power house of this company, as well as the two 150 horse power Corliss engines, are of Canadian manufacture. There are two 150 horse power Westinghouse generators, eight double truck cars, equipped with Westinghouse motors, and 22 trail cars