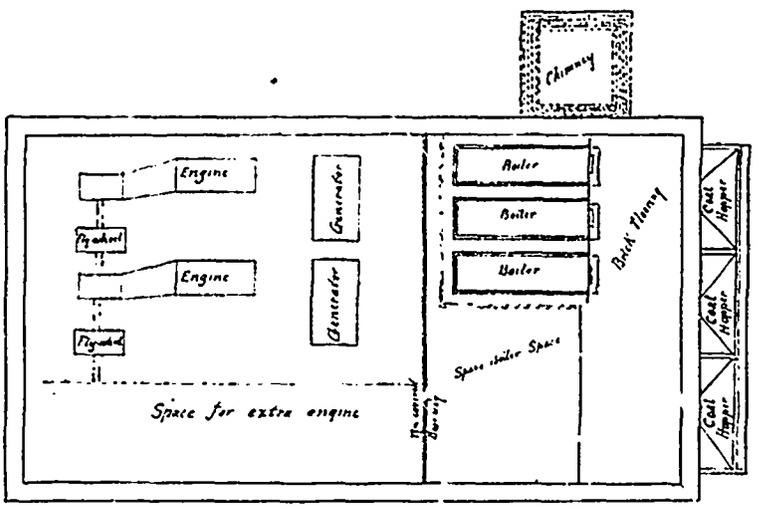
Catharines to Niagara Falls; to the west, reaching out to connect with the Brantford, the Galt, Preston and Hespeler, the Guelph and the Berlin systems, and to the north-east through Burlington and Oakville to a point of connection with the Toronto system, if not into the city itself. The original and more comprehensive scheme of the Hamilton Radial Railway Company, as first incorporated, embraced the construction of a road in each of the three directions named, and complete surveys have been made of the proposed route in each case. The field in the direction of St. Catharines and Niagara Falls, however, has already an occupant in the Hamilton, Beamsville and Grimsby Company, whose road recently extended as far as Beamsville, and now covering a distance of twenty-two miles, has during the past two years built up a large and exceedingly profitable business. It was, therefore, in the direction of Toronto that the present strong and active management of the Radial Company, upon assuming control of the undertaking early last spring, decided to commence operations. The section of the road at present completed reaches from the Hamilton terminus to the village of Burlington, a distance of 11¼ miles. The second section to be built next spring, extending a further distance of twelve miles, will carry the line into Oakville. The construction of a final link, ten miles



HAMILTON RADIAL ELECTRIC RAILWAY, PLAN OF POWER HOUSE.

in length only, will then be sufficient to connect the line at Long Branch with the Municipal extension of the Toronto Railway Company's system. It is, therefore, easily possible that before next autumn the steam lines will have to face in their new electric rival a formidable competitor for passenger and light freight traffic, between the two important cities of Hamilton and Toronto. A valuable feature of the Radial Company's route may be pointed out in this connection. As will be noted, it controls the only practicable entrance remaining into Hamilton from the east or north, while the terminus at the corner of Gore and James streets is in the very heart of the city, within a stone's throw from the City Hall.

The officers of the company are Messrs. A. Turner, President; W. A. Wood (of the firm of Wood Vallance & Co.), Treasurer, and T. E. Leather, of Leather & Watson, Vice-President and Manager, and the directorate comprises as well T. H. Watson, Col. A. Zimmerman, and other gentlemen well known in business and financial circles in the Ambitious City. The actual and laborious work of carrying the enterprise through its initial and constructive stages has devolved upon Messrs. Wood and Leather, and to their unremitting efforts is due the rapid and successful completion of the most difficult portion of the undertaking.

The line, as at present constructed, covers, as has been stated, a distance of 11¼ miles, and is especially well adapted for economical operation at high rates of speed, the maximum gradient being less than two per cent., while the curves, except for a short section within the city limits, are practically negligible. The position of the power-house at Burlington is such as to facilitate the ready handling of coal, either from vessels or by rail, while affording an abundant supply of water for condensing. The placing of the power-house at the end of the line, as at present constructed, is, of course, in view of the extension to Oakville next year. The extreme distance of transmission to the end of the line in Hamilton is 9¼ miles, entailing of course a heavy expenditure for copper at the standard railway pressure of 550 volts. It may be mentioned in passing that the whole question of transmission was thoroughly gone into before a decision was arrived at, on the lines finally adopted, of using one power house, located at Burlington, to supply the two sections of the line, and of putting the necessary money into feeders to carry the current at standard voltage. The alternatives of an additional power-house, of using polyphase transmission apparatus with rotary converters, of employing boosters, or a higher voltage than the standard, were all, however, for the conditions stated, found less advisable, on the paramount grounds of simplicity and economy, than the method adopted.

The equipment of the road is excellent throughout, no effort having been spared to make it up to date in every particular. The track consists of 65-lb. steel T-rails, laid on cedar ties, fastened with angle plates and Goldie patent spikes. All turnouts are provided with automatic safety switches, and are placed one mile apart. The over-head construction work, done under the supervision of Walter Scott for the contractors, McCartney, McIlroy & Co., New York, is of the most modern and substantial description. The trolley lines of No. 00 hard-drawn round copper wire, are suspended, except where cross suspension work is required, from flexible brackets, soldered clips being used throughout. The use of double trolley wires, unusual on a single track road, has the great advantage of dispensing with the switches and frogs which are a continuous source of trouble in high speed service. In this case, of course, the extra trolley wire is as well, supplying the place of its equivalent capacity in an additional feeder. Where the road crosses the Beach Canal, upon the new steel bridge, conveniently erected during the past summer by the Dominion Government, the feeders are carried under the canal in armoured cables. The bridge itself, it may be added, is operated by an electric motor, for which current is supplied from the railway company's circuit at a reasonable rental.

The rolling stock, up to the present, consists of four fifty-foot closed motor cars, built by Patterson & Corbin, mounted on Blackwell trucks. The cars are of the cross-seat type with centre aisle, and are equipped with standard air brakes operated by an axle driven compressor. The electrical equipment of each car consists of two C. G. E. 1,200 motors with K. 21 controllers, manufactured by the Canadian General Electric Co. These motors have given excellent service, being found amply sufficient in power to handle one, or if necessary two loaded cars at full speed.

The power-house is a handsome and well laid out