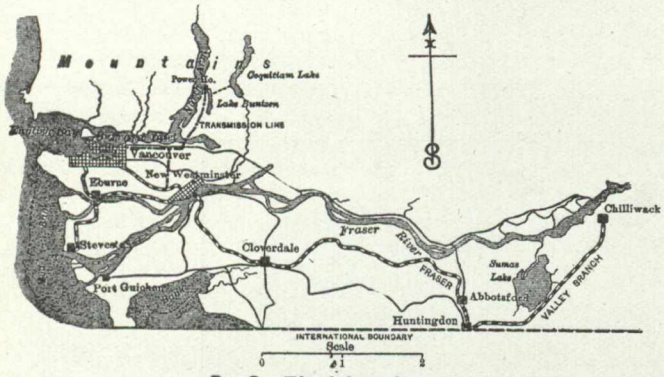
The air for the forced ventilation is obtained by means of a centrifugal blower situated in the centre of the cab (see Fig. 2) and driven by a Dick-Kerr motor. The controller for operating this motor is situated near the right-hand master controller, seen in Fig. 2. In addition to the blower for the motors, there is an electrically-driven air compressors with suitable air reservoirs for the air-brake equipment, the locomotive being fitted with combined straight and automatic air brake. The compressor for the brake equipment is mounted above the motor-driven blower in the cab.

Two current collectors are provided, these being of the straight under-running trolley type, the current being collect-



B. C. Electric Lines.

ed from an overhead trolley line. The trolleys are equipped with retrievers. The following details of the equipment are of interest:—

Number of motors	4
Gear ratio	3.64 to 1
Number of driving wheels	8
Diameter of driving wheels	42-inch
Total wheel base	24 ft. 6 inch
Wheel base of each truck	8 feet
Length overall	35 ft. 7 inch
Length of main cab	16 ft. 5 inch
Height of cab above rail level	14 ft. 1½ in.
Width of cab	9 ft. 8 inch
Total weight of locomotive	50 tons

The Canadian agents for Dick Kerr & Co., are Chapman & Walker, Toronto, Ont.

COMING MEETINGS.

American Railway Bridge and Building Association.—October 19-21. Nineteenth annual convention at Jacksonville, Florida. Secretary, S. F. Patterson, Boston & Maine Railway, Concord, N.H.

National Gas and Gasoline Engine Trades Association. Harry T. Wilson, treasurer, Middleton, Ohio; Albert Stritmatter, Cincinnati, Ohio. Next meeting November 30, December 1, 2, 1909, at Chicago, Ill.

American Gas Institute.—October 20. Annual meeting at Detroit, Mich. Secretary, A. B. Beadle, 29 W. 39th Street, New York City.

National Association of Railway Commissioners.—Nov. 16. Annual meeting at Washington, D.C. Secretary, Martin S. Decker, Albany, N.Y.

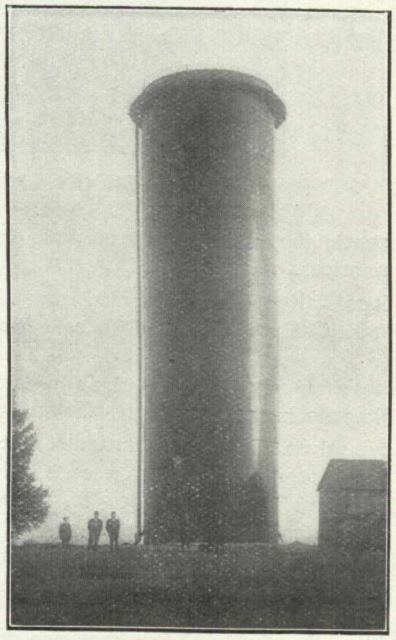
America Railway Association.—Nov. 17. Annual meeting at Chicago, Ill. Secy., W. F.Allen, 24 Park Place, N.Y.

American Society of Municipal Improvements.—Nov. 9-11. Annual convention at Little Rock, Ark. Secy., A. P. Folwell, 239 West 39th St., New York City.

GUELPH'S WATER SUPPLY.

A. E. Oakley, C.E.

The city of Guelph, with a population of 14,000, formally inaugurated its new system of water supply on the 23rd September, the Lieutenant-Governor of the Province, Hon. J. M. Gibson, being the guest of honor. Up till this time the city has derived its supply from the River Speed, from which the water flowed practically direct to pumps. Needless to say, the supply was not of a very wholesome character, due to contamination, and typhoid fever cases were numerous. Several schemes for filtering the water on its course from the river were tried, but with indifferent success; so that in 1907 the Water Commissioners decided to consult Messrs. Davis & Johnston, of Berlin, as to the practicability and cost of collecting springs at Arkell, a distance of four miles east of Guelph, where an abundant supply of pure water could be obtained. The report they received confirmed their idea that this was practicable, and also advised the installation of a storage reservoir, new pumps, and standpipe. The report was adopted, and the citizens voted $125,000 for carrying out the work as outlined. The engineers who reported on this scheme were engaged, and the writer as resident engineer. The satisfactory results following the operation of the system have fully justified the Commissioners in the course they have



Stand Pipe, 500,000 gallons.

taken, and Guelph has now an abundant supply of pure water, sufficient for many years to come.

The intention of the writer in the present article is to describe briefly some of the features of the work of construction in the hope that it will be of interest to engineers.

The springs at Arkell are situated in the valley of the River Speed, and those at present in use are six in number. They vary considerably in flow, that of the largest being 1¼ million, the smallest 56,000 imperial gallons in twenty-four hours. The springs rise on the side of the hill out of a coarse gravelly ground, underneath which is limestone rock. To protect the springs from contamination about 170 acres of land was bought by the city and has been carefully