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CENTRAL STATION OF THE PETERBOROUGH LIGHT & POWER COMPANY.

THE Peterborough Electric Light & Power Co., a view of the interior of whose station is herewith presented to our readers, was organized under the name of "The Peterborough Electric Light Co." in the year 1884, the first lights going into operation on May 24th of that year. The original management of the company consisted of: T. G. Hazlitt, President and General Manager; Messrs. Richard Hall, Wm. Walsh, A. P. Poursett, Directors. The Royal Electric Co., which installed the plant, placed one of their electrical engineers in charge for the first year. The second year Mr. A. Brown had charge. Since 1886 Mr. H. O. Fisk, who obtained his electrical education in the Royal Electric Company's works in Montreal, has satisfactorily filled the position.

In April, 1890, the company was amalgamated with the Gas Company, under the title of the "Peterborough Light & Power Co.," the officers of

which are: T. G. Hazlitt, President; T. E. Bradburn, Vice-President; A. Stevenson, Secretary and General Manager, the Directorate being the same as before.

The building occupied by the company as their station was originally erected for the purpose of a pulp mill. It is located on the banks of the Otonabee river, the size being 40 x 70 ft., 2 stories, frame. The station is operated entirely by water power. There are used for this purpose five Leffel water wheels, four 52 in. and one 40 in., working under 11 ft. head. No trouble has been experienced in getting all the power required, nor has there been any perceptible variation of the power. The only difficulty which has been met with has arisen from the wheels becoming sheeted with ice on one or two occasions in the months of April and November. This seems to have resulted in consequence of the temperature of the atmosphere becoming suddenly lower than that of the water. When this occurred, the wheels would gradually become sheeted with ice until the bucket openings were entirely filled up and the wheels became perfect cylinders, when of course their usefulness was temporarily gone. The stoppages from this cause have only amounted, however, to about five hours

in all, so that it is not a matter of much moment. Two of the wheels are coupled to one shaft, driving a 650 light alternator; each of the other wheels run two dynamos on an independent shaft. The 40 in. wheel runs a 40 light machine.

The dynamos are placed on the second floor, and consist of one 650 light alternating machine, with exciter, three 40 light, two 25 and one 12 arc light machine. The first mentioned machine is at present carrying 700 16 c. p. lamps. The wires from the dynamos are carried beneath the floor to the switchboard. There are behind the switchboard two folding doors, giving

access at any time to the connections at the back of the board, also allowing of the potential of the different circuits being taken at any time by means of a bank of high resistance incandescent lamps in series and a Weston voltmeter, as well as insulation tests in daytime with Wheatstone bridge and galvanometer. These tests are made during all kinds of weather, and



INTERIOR OF CENTRAL STATION, PETERBOROUGH LIGHT & POWER COMPANY.

a record is kept of the results for future reference. Not only is a record kept of insulation tests, but also of each machine, and of the circuit on which it is working, the voltage between dynamo terminals, number of watts, electrical horse power, speed of the machine, and the load on each machine at time of test, the highest and lowest insulation test for the previous month, also the condition of the weather for the previous six hours, inside and outside temperature at time of test, with such other data as may be considered likely to be of value. These tests are made by means of a Weston ammeter and voltmeter, and one of Queen & Co.'s testing sets, and are all conducted by Mr. Fisk.

The company operate three street circuits, embracing about twenty miles of wire, two commercial circuits, each containing about four miles of wire, and an incandescent circuit covering the central portion of the town, and which is being extended to all parts of the town as fast as the circuits can be constructed.

The company have been using exclusively for more than a year past carbons made by the local manufactory of the town the Brooks Mfg. Co., and with the most satisfactory results.

There are in operation about 100 65 c. p. T & H series