Wm. McKenzie, Fred. Nicholls and other Canadian capitalists have been negotiating for the street railway franchise in Havana, Cuba.

Galt, Ont., voted down the by-law devoting $67,750 to the purchase of the gas and electric light plants from the private company operating them.

The Eagle Knitting Co., Hamilton, Ont., has installed in its factory a 30-h.p. S.K.C. two-phase induction motor, which drives their knitting machinery, and has replaced their steam plant.

The Montreal Street Railway Co. has, it is stated, decided to build all its own cars at its Hochelaga workshops, and will add brass and iron foundries to the present plant. Cars will also be built for the Toronto and other lines.

The directors of the Hamilton, Chedoke and Ancaster Electric Railway have decided to apply for an amended charter to build a line to Brantford, Ont., to change the name to the Hamilton, Ancaster and Brantford Electric Railway Company, and to increase the capital stock from $100,000 to $200,000.

The plant for the town of Norwood, Ont., recently installed by the W. A. Johnson Electric Company, is giving much satisfaction to the purchaser. The machine is of the single-phase inductor alternator type of machines, which the company claims are practically indestructible, and have the excellent advantage of a very low speed.

The Alliston Electric Light Co., Alliston, Ont., is making changes in its lighting station, and has decided on increasing its incandescent light capacity, and for this purpose has placed an order with the Royal Electric Co., for one of its 60 k.w. S.K.C. two-phase machines, from which it will serve both arc and incandescent lights as well as power, which has heretofore been served by two machines.

Beeton, Ont., recently decided to install an electric light plant and are now highly pleased with it. The plant was installed about two months ago, and since then the number of lights have increased to nearly the capacity of their present machine, which is one of the W. A. Johnson Electric Company's inductor type of alternator, which are claimed to be so suitable for a plant where a repair shop is not near by.

The Wallaceburg Electric Light Co., Wallaceburg, Ont., which has been supplying arc lights for the town of Wallaceburg for a number of years, has decided to go into the incandescent lighting business, and has placed an order with the Royal Electric Co., for a 30 k.w. alternator, and 900 light capacity in S.K.C. transformers and material. It expects to have the lights in operation by the first of the new year.

The Hamilton Electric Light & Power Co. is installing in its lighting station two 240 k.w., and one 350 k.w. S.K.C. synchronous motors. These are to drive the shafting from which is operated the arc machines and the motor power service. The current for these motors is to be supplied by the Cataract Power Co. It is expected that the steam plant will be entirely shut down by the first of February. The incandescent light has been furnished from the Cataract Power Co.'s current for the past three months, and has been very satisfactory.

We are advised that since the purchase by the Westinghouse Manufacturing Company, of Pittsburgh, of the Walker Company, the Canadian representatives of the latter company, W. A. Johnson Electric Company, of Toronto, will continue to represent the combined interests of those companies in Western Canada. The advantages of this arrangement are quite plain, as the Westinghouse Company manufactures a most complete line of apparatus for long distance power transmission, including A.C. D.C. generators, rotary transformers, induction and revolving field generators.

In referring to the fire at the Greenshields warehouse on Victoria Square, Montreal, The Witness stated that the fire gave proof of the underground system of the Lachine Rapids Company being superior to overhead mains. The poles carrying the lighting mains of this company were broken and fell to the ground, together with the Street Railway and other companies' wires, which lay in a mass on the ground, but notwithstanding this, the Lachine Rapids Hydraulic & Land Company were enabled to give every customer on their system light long before daylight, owing to the fact that they have an underground system. Before giving their customers light, broken wires and poles had to be replaced.

The Montreal Gazette recently stated that the Graburn and Blaney Canadian patent of the Graburn electrical thawing process has been sold by the inventor, Nelson Graburn, of Montreal, to the Electrical Thawing Syndicate, Ltd., London, Eng., for £7,000, and one-quarter interest in the company. The patent is intended to be used in countries like the Klondyke, where mining is carried on with the ground being frozen to a considerable depth. It provides for specially constructed dynamos and electrodes, the latter being placed against the walls of the shaft, with a space of from five to six feet of ground intervening; so that when the current is turned on, it has to cross the face of this space to complete the circuit and the ground contained therein, forming a resistance to the motion of the electricity, heat is generated and the ground thawed.

The Niagara Falls Power and Electric Company has won in the suit against the Niagara Falls Park Commissioners. The Park Commissioners claimed that the company had forfeited its charter because one clause, which said that by Nov. 1 it should have completed water connection for 25,000 horse-power and have ready for transmission 10,000 developed horse-power, had not been fulfilled. A series of questions were asked the Court of Common Pleas, and to-day the judgment of that court was: (1) That the agreement is not void by reason of the failure of the works by Nov. 1, 1898; (2) the Government or Commissioners may not, by reason of the non-generation of electricity by that date, declare the agreement void; (3) the Government and Commissioners are not relieved from the agreement not to grant any other company the right to take or use the waters of Niagara river.

W. A. Johnson, of the W. A. Johnson Electric Company, reports the recent sale of Westinghouse apparatus to the Metropolitan Railway Company, Toronto, for the extension of the present railway to Lake Simcoe. In the power house at Bond Lake will be installed two 60 cycle three-phase, A.C., D.C., generators, each of about 400 h.p., and a full complement of switchboard apparatus, step up transformers, lightning protection, etc., will be provided. The transmission voltage will be 16,500. There will be two rotary transformers, 60 cycles, three-phase, giving 570 volts on direct current side, these will be located in sub-stations about 14 miles from the generating stations, step-down static transformers being provided to reduce the voltage to that suitable for the rotaries. The generator switchboard will consist of eight marble panels, the sub-station switchboards of five marble panels with non-arcing and tank lightning arresters. In addition to the above there will be passenger and freight car equipments, including one quadruple equipment for heavy freight car and double equipments for two light freight cars; two double equipment for ordinary passenger cars and two quadruple equipments for heavy passenger coaches; the motors being used in these will be 38 B 50 h.p. each. The sale includes one 45 ton Baldwin-Westinghouse electric locomotor.

## Marine News.

A Government engineer is examining the breakwater at Richibucto. If trade warrants it the entrance to the harbor will be deepened to 19 or 20 feet on the bar.

P. C. Jones, Belleville, Ont., has ordered from the Davis Dry Dock Company, of Kingston, a 16 h.p. fore and aft compound engine for a new steam launch to be completed by April next.

It is proposed to organize a local company at St. John's, Que., to build a steamer of a speed of 15 miles per hour and a capacity for 450 passengers, as an excursion boat on the Richelieu river.

Nagle & Hislop, traders of Fort Resolution and Fort Rae, have purchased the steamer "Sparrow," now in winter quarters at Grand Rapids. They will take her below Smith rapids in the spring and will run her from Smith rapids to the Arctic Ocean. This is the best built of all the steamers put on the Athabasca last summer.—Edmonton Bulletin.