

It was also pointed out that the Ontario Power Company generates 17 h.p. for every cubic foot of water per second that is used, whereas the Niagara Falls Power Company is able to generate only about  $11\frac{1}{2}$  h.p. for every second-foot of water used.

### NEW BUILDINGS OF THE CANADA FORGE COMPANY.

The Canada Forge Company, Limited, Welland, Ont., are rushing to completion a temporary building to replace the one recently burned, and will positively have a part of their forge department in operation within a week, which is record time. This quick work will enable them to satisfactorily care for the delivery requirements of their many customers.

This building will be covered within ninety days by a modern fireproof steel construction forge shop of the most advanced type, contract for which has been placed with the Standard Steel Construction Company, and especially designed for the manufacture of forgings up to 40,000 pounds in weight each.

The general dimensions of this building will be 100 feet by 200 feet, with centre bay equipped with 20-ton electric crane 60-foot span, with two bays each to be served with five-ton electric crane, 20-foot span.

At the end of this building and continuing a distance of 100 feet, there will be constructed a 60-foot span electric crane runway 20-ton capacity for handling raw materials and shipping.

This will not only insure the company against further interruptions in their production, on account of fire, but will greatly increase the scope of their work; and equipped as it will be with steam hammers, hydraulic forging presses, annealing and heat treating furnaces, it will be one of the finest forge shops on this continent.

### WANT SHIPBUILDING ENCOURAGED.

A deputation, representing shipbuilding interests from coast to coast, has waited on Premier Borden. They state that the Canadian shipbuilding industry, in which twenty million dollars are now invested, will go out of business unless protected against British and United States competition, and encouraged by way of a government subsidy or bonus on a tonnage basis.

The government were asked to take prompt action to prevent the practical disappearance of the industry in Canada, and the deputation maintained that under existing conditions of competition with Great Britain a government encouragement to the extent of about 20 per cent. of the cost of building iron and steel vessels in Canada should be given either by way of subsidy or by way of tariff protection.

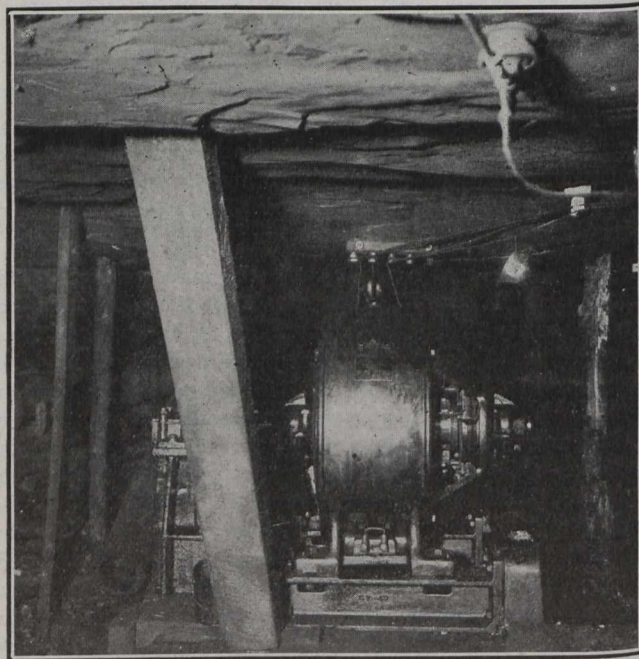
Premier Borden promised careful consideration of the written brief submitted by the deputation, coupled with a suggestion that the government might well adopt a policy of having all government vessels built in Canada, even if the cost was a little more than if the orders were placed in Great Britain.

The English shipbuilding firm of Swan, Hunter and Wigham Richardson are considering entering the Canadian shipbuilding trade, according to the statement of Mr. Clarence I. DeSota, Canadian director of the firm.

### SELF-STARTING DIRECT-CURRENT MOTORS FOR DRIVING MINE PUMPS AND FANS.

The electric motor has proved so thoroughly satisfactory for driving mine pumps and fans that it seems almost impossible to improve it. It can be placed wherever a pump or fan can be located; a couple of wires supply it with the power it needs; and when running it requires no attention whatever beyond occasional inspection and oiling. In fact, motors have proved themselves so useful and economical that they are rapidly displacing all other forms of power for fan and pump service wherever electricity is available.

An improvement has, however, been recently developed which greatly increases the value of motors for mine work. This improvement consists in making the direct current motors self-starting.



Heretofore, while it has been possible under some conditions to start them from the power house, most motors driving mine pumps and fans had to be started by hand. Hence, if the power went off temporarily for any reason, the motors stopped, necessitating an attendant to go to each station to start them again.

With the new self-starting D.C. motors, this inconvenience is done away with. When the power fails, the motors stop, it is true, but as soon as the power comes on again, the motors start automatically and settle down to work as though nothing had happened. Moreover, starting boxes are rendered unnecessary, and the wiring is of the simplest possible character. An occasional visit of inspection is now all the motors require. Otherwise they can be left entirely to themselves.

These motors have been thoroughly tried out in practical service and their uses are commending them highly, as is shown by the number of repeat orders the manufacturers are obtaining.

The electrical characteristics of the self-starting motor differ but little from those of the usual type, the only alteration being in the use of a heavier compounding winding which reduces the flow of current when starting. Mechanically, there is no change.

Self-starting motors are made by the Westinghouse Electric and Manufacturing Company, East Pittsburg, Pa., in ratings up to 20 horse-power for the voltage usually employed in mine work. They can be supplied for all kinds of pump and fan service.