

### THE BARBER TURBINE.

representative recently had the pleasure of visiting the works of Charles Barber, at Meaford, Ont., where the well-known Barber's Canadian turbine is manufactured. Mr. Barber reports business to be in a prosperous condition. For the past thirty years he has made a special study of the question of turbine manufacture and claims to have perfected his turbine by such improvements as were demonstrated to be necessary by experience. At the present time, he states, he is preparing an article that will meet almost every requirement.

The Barber turbine is purely a Canadian invention, one of the few that has outlived the competition of American apparatus. It is claimed that this turbine has been tested in competition with the leading American makes, and that it has invariably given better results, while at the same time being much lower in cost. Mr. Barber has a complete list of all sizes, right and left hand, for both vertical and horizontal installation. His engineer has perfected an original system of installation which, it is said, entirely overcomes the difficulties of bulk-head, flume and conduit building. Those contemplating the installation of water wheels are referred to the illustrations which appear in his advertisement, and are asked to write Mr. Barber for further catalogues and particulars.

### POWER FOR ELECTRIC LIGHTING.

(1) We have a mill that requires from 35 to 40 horse power, according to the number of machines in use. Our engine is 12 inches by 20 inches, with a boiler suitable for 90 pounds pressure. How much more power will we require to run a dynamo capable of furnishing current for 600 incandescent lamps, and another one for 30 arc lamps?

(2) How much power will it require for 140 lamps on a 110 volt circuit?

The above questions are asked by a writer in Modern Machinery, and the answers given are as follows:

(1) The amount of power required depends on several things that you do not mention; therefore, we cannot attempt an answer. We should advise you, however, to put in another plant to furnish power for the electric light system you mention, for if you attempt to add to your present plant, and drive the varying load in your mill with the same engine that furnishes power for the lights, the service will be unsatisfactory and hence unprofitable. It is customary when making estimates, to calculate that one horse power will be required for 10 incandescent lamps, but this is only an estimate and should be considered as such.

(2) The power actually required to operate your lamps can be determined when the resistance that each one offers is known, and this you do not state. If we assume it to be 50 ohms on a 110 volt circuit, then each lamp will require  $110 \div 50 = 2.2$  amperes, or 308 amperes for 140 lamps. Multiplying the volts and amperes together, and dividing the product by 746, shows that

45.4 electrical horse power will be required. If the efficiency of the dynamo is 85%, the brake power of the engine will be  $45.4 \div 85 = 53.4$  horse power. Assuming that the mechanical efficiency of the engine is 90%, it must indicate 59.3, or say 60 horse power.

We are indebted to numerous contemporaries for complimentary reference to our special Export Number issued in August last.

Special attention is called to the advertisement below of Mr. Chas. Barber, of Meaford, inventor and manufacturer of the famous Canadian turbine.

A Dominion charter has been granted to the Consolidated Pulp & Paper Company, of Toronto, Limited. This company, at the head of which is Mr. John M. Poole, has taken over mills at Newburg, which will be improved and extended.

The Thorold Pulp Company, Limited, has recently been organized, with a paid-up capital stock of \$30,000, for the purpose of erecting a pulp mill on the Welland Canal at Thorold, Ont. The promoters of the enterprise are Messrs. Peterson and Davidge, of Niagara Falls, N.Y., and Messrs. Morse, John Brown and E. E. Rowe, of Warsaw, N.Y. The necessary water privileges have been secured and all other preliminaries arranged. The erection of the mill will be commenced immediately, under the direction of Mr. Vogel, who has had a long experience in this class of work in the United States and who has recently taken up his residence at Thorold. The mill will be constructed of stone and wood and will have a capacity of 10 tons per day.

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We make a Specialty of all kinds  
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... AND SHIPPER ...

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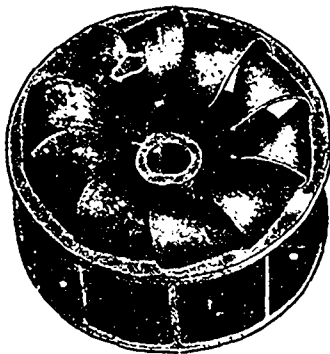


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Can supply any  
pattern.

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Mfrs.  
St. John, N.B.

## THE CANADIAN TURBINE



Presents the most  
points of advantage of  
any turbine made.

Examine these cuts  
carefully.

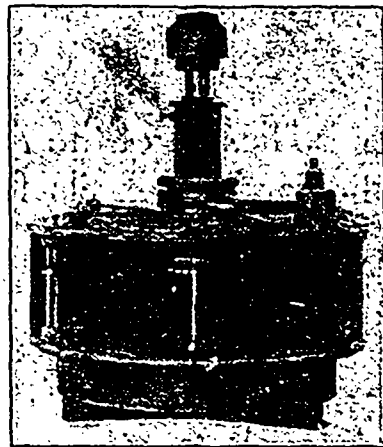
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