

WOOD PULP ~ ~ DEPARTMENT

MILLS OF THE BELGO-CANADIAN PULP COMPANY.

(Special Correspondence)

Shawinigan Falls is situated on the St. Maurice river, about 120 miles below Montreal, and 25 miles west of the St. Lawrence river, where there is a natural fall of 142 feet, and 50,000 horse power in the season of low water.

In July, 1900, the Belgo-Canadian Pulp Company, of Brussels, Belgium, came to this country to look over some water powers upon which former Consul-General Mr. Ferdinand von Bryssel had secured options. They

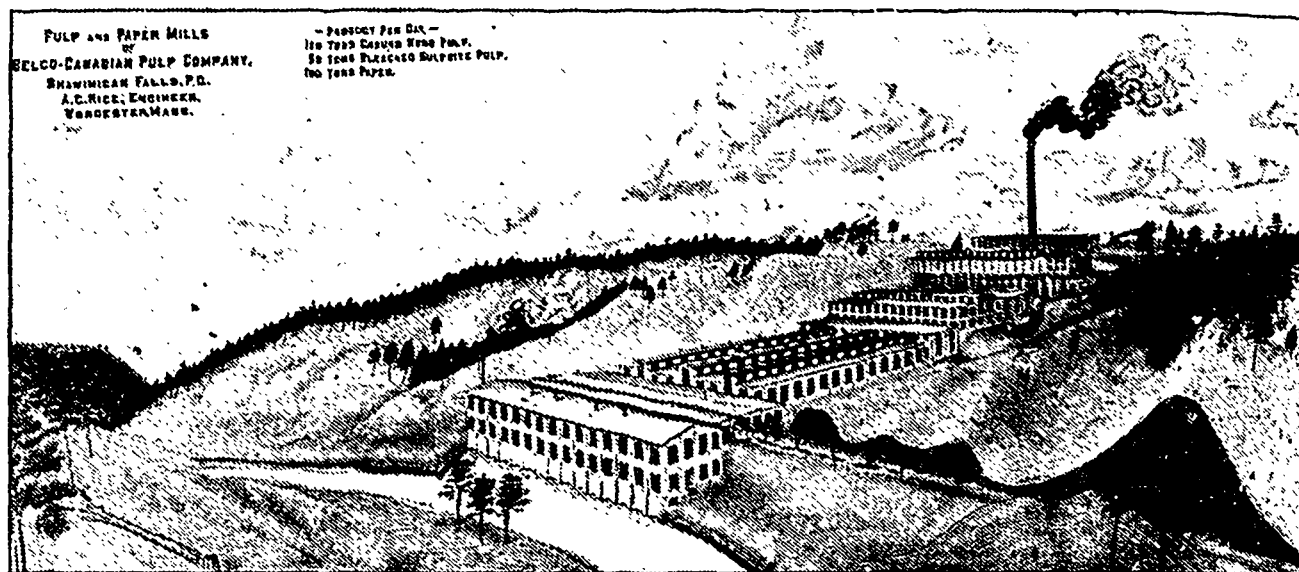
basement, each 18 feet high, and the boiler house 38 x 64 feet, one storey high. These buildings are of the most modern design and built of concrete, brick and steel, with concrete floors and gravel roofs. The mills when completed will use 15,000 horse power of water, taken from the upper bay of the St. Maurice river and conducted to the mills through two steel feeder pipes, 12 feet in diameter, and each about 850 feet long, where it is used through the turbine wheels and discharged into the Shawinigan river, which is at the same elevation as the lower bay of the St. Maurice river.

The wood is taken from the upper bay of the St.

The wood preparing machinery was furnished by Waterous Engine Works Company, of Brantford, the grinders, screens and wet machine presses by the Friction Pulley and Machine Works, Sandy Hook, the drying machines, cutters and Jordan engines by the Black & Clawson Company, Hamilton, Ont.; centrifugal pumps by the Lawrence Machine Company, Lawrence, Mass.; the wheels, feeder gears, hydraulic presses by the Holyoke Machine Company, Holyoke, Mass.; the boilers and steel chimney by the Sterling Company, Chicago, Ill.; the steel structure, steel feeders and draft tubes by the Rice Manufacturing Company, Pittsburgh, Pa.; and the air heating plant by the B. F. Sturtevant Company, Boston, Mass.

The turbine wheels are all of the horizontal type, special design by Mr. Rice, to meet the requirements for the high fall of 142 feet. Between each wheel the main feeder is an hydraulic feeder gate, so that one of the wheels can be removed for repairs without stopping any other part of the mill.

Some of the new and important features in the design of this mill are that twenty-six screens and



also visited some of the modern pulp, sulphite and paper mills, both in the United States and Canada, that had been designed by different engineers, and decided finally to locate at Shawinigan Falls, and to engage Mr. A. C. Rice, the well-known hydraulic and mechanical engineer, of Worcester, Mass., to take location in its natural state, covered with a virgin forest, to furnish all plans, place all contracts, and furnish a managing superintendent to make the product for which the mills were designed.

The work of clearing the forest was begun on September 24th, 1900, and the ground wood mill completed in December of that year, starting off without any delays. It is now making 50 tons of 45 per cent. dry, and 30 tons of 88 per cent. dry pulp per day.

The ground wood mill is 64 x 270 feet, two stories, each 20 feet high. The shipping store house and wood preparing room are 100 x 250 feet, one storey and

Maurice river through a tunnel and down an incline slide to the wood preparing room, where there are two cutting up saws, twelve barkers, two double splitters and necessary conveyors. After the wood is barked it is dropped through the floor into a concrete wood box and trough of running water so that it floats to each of the twenty-four grinders. Two of these grinders are driven by one special wheel of 600 horse power and 225 revolutions per minute. The pulp from these grinders flows by gravity to a large concrete tank, where it is pumped to the 26 screens and thence to the thirteen wet machine presses and two drying machines. The thirteen wet machine presses are intended to press fifty tons, about 45 per cent. dry, and the two drying machines fifty tons, about 88 per cent. dry, every twenty-four hours. This pulp is all pressed into bundles weighing 450 pounds each, and wrapped with jute for foreign shipment.

centrifugal pump are driven without a belt, the engines driven without a belt, drying machines only the cone belts; the line shafting for the machine presses and wood preparing room is without a belt, as also the generator for lighting. In fact, all the belts used through the mill, making tons of pulp per day, cost less than \$1,000, and the stock is handled with only two pumps, all of which is appreciated by both the superintendent, operator and the man that pays the bills for operating expenses. This mill has been inspected by expert engineers and manufacturers, who pronounce it to be one of the modern mills running in Canada or the United States.

The Royal Paper Mills Company, of Eastmain, Que., have completed their new dam and are about to commence work on a new pulp mill.

JOSEPH H. WALLACE, C. E.
MILL AND HYDRAULIC ENGINEER
PULP AND PAPER MILLS.

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