

WOOD PULP ~ ~ DEPARTMENT

THE SAULT STE. MARIE PULP MILLS.

The pulp mills of the Sault Ste. Marie Pulp and Paper Company at Sault Ste. Marie, Ont., are capable of turning out 170 tons of dry pulp every twenty-four hours, the operators working in two shifts. The mills are exceedingly handsome buildings, of mottled sandstone blasted out in the construction of the power canal. Mill No. 1 is 600 x 80 feet, and Mill No. 2 300 x 100 feet. Somewhere around \$2,000,000 was expended in the construction of the two buildings and in equipment. A view of the grinder room is shown on this page, and below is given some particulars of the process of manufacturing mechanical pulp there adopted.

The wood is cut along the line of the Algoma Central Railway, brought to the Soo on cars and thrown into the bay beside the mill. Here it is ready for the sawyers, who drag it out of the water, saw it into lengths of twenty-four inches, which are thrown into a tank that extends half the length of the mill, and from this the men who run the barking machines pick out the blocks. They strip the wood of its covering, which is immediately blown by an ingenious device to the boiler room. The stripped blocks are then thrown into endless carrying channels and these convey the blocks to the floor above, where they are piled on little cars which run to all parts of the building. From these cars the men running the grinding machines help themselves.

The grinder is an iron case containing an ordinary grindstone fifty-four inches in diameter and twenty-six inches wide. On each side of the grindstone is an iron wheel clamped to the stone to keep it from flying to pieces when it gets hot. To overcome this difficulty a stream of water is also kept going on the stone. Hydraulic cylinders, adjusted in position about the circumference of the grindstone, press the blocks of wood against the surface of the stone, which is revolved at the rate of 2,300 revolutions a minute by a turbine wheel. Each grinder requires the enormous power of 350 horses. A grinder will produce about five tons of pulp per day. There are thirty-two now in operation, and preparations are now being made to double the capacity of No. 2 mill, which has a dozen at the present time. From the grinders the pulp passes over a series of screens, from which it emerges free from all impurities. Up to this period the process has been by gravity, but as the screens are situated on the ground floor it becomes necessary to pump it back to the pulp machines, which are situated upstairs. To this end huge pumps are brought into requisition. The pumps convey the pulp to the pulp machines, of which there are twenty-four in operation, each having a capacity of six tons per day.

These machine are the acme of perfection, and were invented and manufactured in the company's works. The wet pulp passes into a metal receptacle, and is in turn caught up and evenly distributed on a revolving blanket, from which it passes between huge metal rollers, which subject it to a pressure of 500 pounds to the square inch. After emerging from the rollers it is 50 per cent. water and 50 per cent. pulp. It then passes



GRINDER ROOM OF THE SAULT STE. MARIE PULP AND PAPER COMPANY.

over a large steam heated metal drum, and is in turn rolled on a spindle, a continuous sheet of thin, dry, pressed pulp, resembling a grade of coarse wrapping paper. The pulp dryer is considered the ne plus ultra of pulp machinery. It solved the water problem, and made the manufacture of dry pulp a possibility.

balance from common laborers, we think the results exceed any ever before produced in Canada, if not in the United States.

The mill was designed by the well known engineer, A. C. Rice, State Mutual Building, Worcester, Mass., and was built under the personal supervision of Mr. C. A. Ring, who is also general superintendent.

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

WATER POWER DEVELOPMENTS

Surveys, Examinations, Reports,
Preliminary Estimates, Plans,
Specifications, Consultation.

DREWSSEN COMPANY
CHEMISTS AND MILL EXPERTS
SULPHITE PULP MILLS

Drewsen Acid System
Drewsen Reclaiming System
Richards-Drewsen Chip Separator
Herrshoff Pyrites Furnace

The above are associated in the furnishing of expert services for industrial development.

OFFICES: Temple Court Building, Beekman and Nassau Sts., NEW YORK. - WEBBWOOD, Ont.