

paper is carried automatically from one end to the other.

A Marvelous Machine.

The wire part of the paper machine is the most important and the wire cloth is the most expensive item of supply, costing as much as \$800 or \$900 for 160" machines, and lasting from three days to three weeks.

As the stuff flows out on the endless wire it contains about one part of fibre and 200 parts of water. It flows out on the moving wire at nearly the same rate as the latter travels. No sooner does the fluid spread out on the wire than the water starts to go through. Before this has proceeded very far, however, the fibres, in

settling, have had a chance to interweave. The fabric is not of uniform strength in both directions, because the fibres have a tendency to lie in the direction the stream is flowing; therefore the paper is weaker across the machine than parallel to the direction of flow. Hence the paper tears more easily one way than the other. In slower running machines it is possible to make a paper of nearly the same strength in both directions.

Due to the speed of the machine and the limited length of the wire, only a portion of the water can drain through. An additional amount is drawn out by suction, applied through



THE SAW DECK OF A PULP MILL.

Full length logs are seen coming through the doorway, and as they are carried forward by chain conveyors, are cut by the gang of saws into the required lengths, which may be 24, 32 or 48 inches. In the foreground is a man sharpening one of the huge saws with an electrically driven emery wheel. From this point blocks are conveyed to the block pile for storage, or may first be sent through the barking department.

This is a picture of the grinder room of a mill making mechanical pulp. The wood is seen floating to the grinders and in each of the second and third grinders in the first row a pocket is opened ready for wood to be charged. The door is then closed and water pressure forces a piston down against the wood, which is thus held firmly against the rotating stone, the lower edge of which is seen on the second stone. Under this is a pit to catch the fibres as they are ground off the log by the stone and washed from the stone by a stream of water.

