



SCALE MODEL PAPER MACHINE

By Ralph C. Erskine, Jr.

There is probably no one who has worked on the paper machines at Ecusta who would not like to see a Fourdrinier machine so small that the stock could be regulated with one hand and a sample torn from the reel with the other without moving. There is actually such a machine, and it can be seen in operation at the Franklin Institute in Philadelphia.

It is the only scale model Fourdrinier ever built. There are many small paper machines in existence, but this particular one was built to scale for the purpose of demonstrating how paper is made. It was designed for museums and educational institutions by the Rice Barton Corporation of Worcester, Massachusetts.

When visitors to the Franklin Institute inquire where they can see the paper-making exhibit, a guard shows them the way, but before they actually reach the "machine room" they can tell where it is by the unmistakable odors and sounds particular to paper-making. As the visitors enter the room they see the operator pacing back and forth beside a machine so small that in a very few steps he has gone all the way from the beaters to the dry end.

The room reverberates with sounds characteristic of paper machines; the howl of suction pumps, the hiss of water, and the whirl of leather belts on cone pulleys. The air is heavy with the smell of steam and hot paper and the clean odor of

bleached pulp. The suction pump seems to make a great deal of noise for its size, but to anyone who has worked around paper machines, the sound is like music to his ears.

The operator, Mr. William Saxton, is 71 years old and has worked in paper mills since he was 14, so he is well qualified for the job of demonstrating how paper is made. As he stands beside the machine explaining the process to visitors, he is continually cleaning the machine, flicking a piece of stock off the edge of a pint-sized dryer, guiding the wire, mopping a puddle of water from the table that supports the machine.

Papermakers visiting the exhibit will be surprised to see that things they do every working hour are also done on this machine, only in miniature. Mr. Saxton tears a sample from the moving sheet with his thumb and forefinger as though he was sampling on a full-sized job. His sample, however, is only the size of a calling card.

Generally speaking, the machine is an exact reproduction of a large Fourdrinier. It differs from our Fourdrinier in that there is no suction on the couch; instead there is a roll that runs on top of the wire over the couch which presses water out of the sheet before it passes over to the wet felt.

Other minor differences from our machines are the flat plate diaphragm screen instead of the rotary screen, and where we use a non-deckle device this machine has movable rubble deckles that run the full length of the table from the pond to the dandy roll.

Aside from these differences, papermakers will