

and liquid rosin, which is used to "size" the paper so that the printing ink will not be absorbed and thus cause the impressions to become blurred. Red and blue aniline dyes are added, when obtainable, to make the paper white. Alum is also added to precipitate the rosin and the coloring matter upon the fibres.

After the beating process has been completed, the pulp, very much diluted with water, is run into a so-called stuff chest, in which it is kept in constant motion to prevent the pulp from settling to the bottom. From this chest the pulp or slush passes through a strainer and into a long narrow box placed at the head of, and across the full width of, the paper machine. Thence it overflows onto a wire screen belt consisting of fine copper wires, woven with 60 or 70 meshes to the inch. The length of this screen is often 75 feet and the width 150 or more inches. This belt moves forward on a series of rolls, and also has a lateral shaking motion. The pulp settles down upon this screen in the form of a wet sheet, much of the water draining through the mesh of the screen. Toward the farther end of the screen it passes over several vacuum boxes, which cause still more moisture to be sucked out through the screen. The speed at which the screen is run is as high in some cases, as 680 feet per minute.

At the end of the screen the sheet passes between two rolls called the couch rolls, the upper one of which is covered with a felt jacket. From the screen belt the sheet runs on to a woolen felt. Thence it passes between a series of so-called press rolls, the purpose of which is to squeeze out further quantities of water. Finally, the sheet is run over several large hollow cast-iron cylinders 4 or 5 feet in diameter, heated internally by steam. These rolls dry the paper thoroughly. The sheet then passes through the calender rolls, which polish the surface, and is wound upon a roll. The rolls of paper later are removed and rewound upon cores, the paper being trimmed and cut to the proper width at the same time. They are then removed to the finishing room, where they are wound with