

(No Model.)

W. E. SYMS.
MANUFACTURE OF PAPER.

No. 309,664.

Patented Dec. 23, 1884.

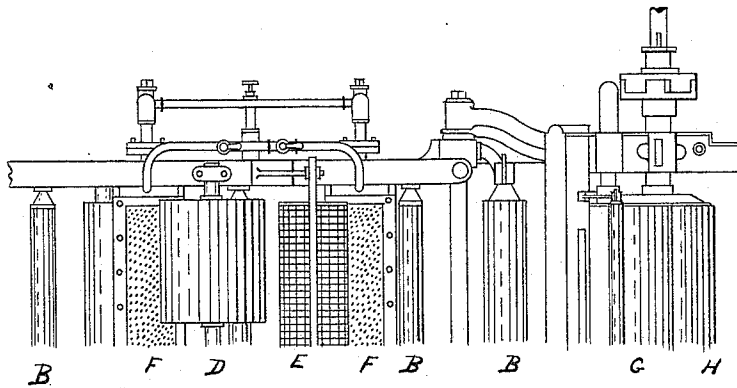
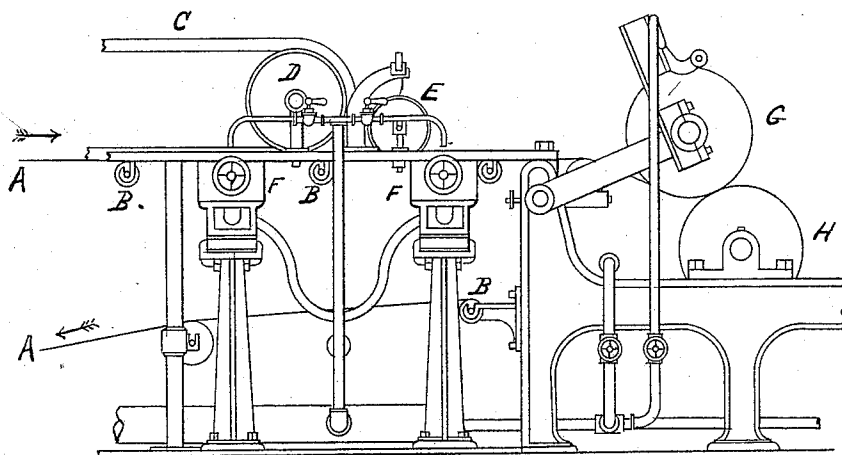


Fig. 1.

Fig. 2.



Witnesses—

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MANUFACTURE OF PAPER.

SPECIFICATION forming part of Letters Patent No. 309,664, dated December 23, 1884.

Application filed July 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. SYMS, a citizen of the United States, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Paper; and I do hereby declare that the following is a full, clear, and exact description of the invention, reference being had to the accompanying drawings, forming a part thereof, and that said description will enable others skilled in the art to make and use the same.

My invention relates, particularly, to the manufacture of colored papers; and the objects of my improvements are to so distribute the coloring-matter as to produce a mottled or wavy appearance for ornamental purposes and the like. I attain these objects in the manner hereinafter described.

In the accompanying drawings is shown a portion of a Fourdrinier paper-machine of ordinary construction, of which Figure 1 is a top or plan view, and Fig. 2 is a side elevation. In the plan view the wire-cloth and other parts running upon the rolls are removed to show the arrangement of the parts below. At the left of the part of the machine shown is the ordinary mechanism for mixing and diluting the "stuff" or material from which the web of paper is to be made, and at the right of the part shown is the ordinary mechanism for drying and finishing the paper after its formation.

At A, Fig. 2, is an endless web of wire-cloth passing over the rollers B B, &c., and traveling in the direction indicated by the arrows. Upon this wire is deposited the stuff, which is prevented from flowing over the edges of the wire by the "deckels" C, which are endless rubber bands running over the roll D and forming a ledge upon each side of the wire-cloth. As the stuff is thus held in place and carried along, a portion of its water falls through the wire and it begins forming into a web. When the material thus begins to assume shape, it passes under the dandy-roll E. Said roll E is formed of wire-cloth upon a suitable supporting-skeleton, and its office is to press the partially-formed web of paper and improve its texture. At F F are suction-boxes designed to extract water from the web

of stuff. Moving onward to the right from this point the web passes between the couch-rolls G and H, and thence to the rolls for pressing, drying, and smoothing the paper.

With all parts arranged as described, my invention is readily explained.

To make the improved colored paper the paper-stock and the coloring-matter of any desired shade are thoroughly mixed in the same manner as for making plain colored paper. The stuff thus prepared is delivered to the machine and passes through it, as described; and the special feature of my invention is the gaging of the proportion of the water in the stuff, so that when the web of paper reaches the dandy-roll E there will be in it more than the ordinary amount of water. The result of this manipulation is that the stuff is displaced in an irregular manner, forming the above-described mottled appearance. This effect is due to the fact that the stuff, when thus irregularly displaced, forms a paper the body of which has more material in certain portions than in others, so that when subjected to the action of the smoothing-rolls the surfaces of the paper are more highly polished in some parts than in others, thus producing a mottled or marbled appearance.

The process described is not limited to any particular color or quality of paper, the principle involved in my invention being capable of general application within its own class of industry.

Having fully described my invention, what I desire to claim and secure by Letters Patent is—

In the manufacture of paper, the process of producing mottled or marbled surfaces thereon by mixing the stuff or pulp in the ordinary manner, and adding to the uniformly-colored mixture an extra quantity of water, thereby insuring an irregular displacement of the material by the dandy-roll as the pulp is formed into the paper bat or web, so that the surfaces of the finished paper will be more highly polished in some places than in others, substantially as set forth.

WM. E. SYMS.

Witnesses:

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