(No Model.)

J. H. STONEMETZ.

MACHINE FOR MOISTENING PAPER.

No. 275,957. Patented Apr. 17, 1883.

Fig 1

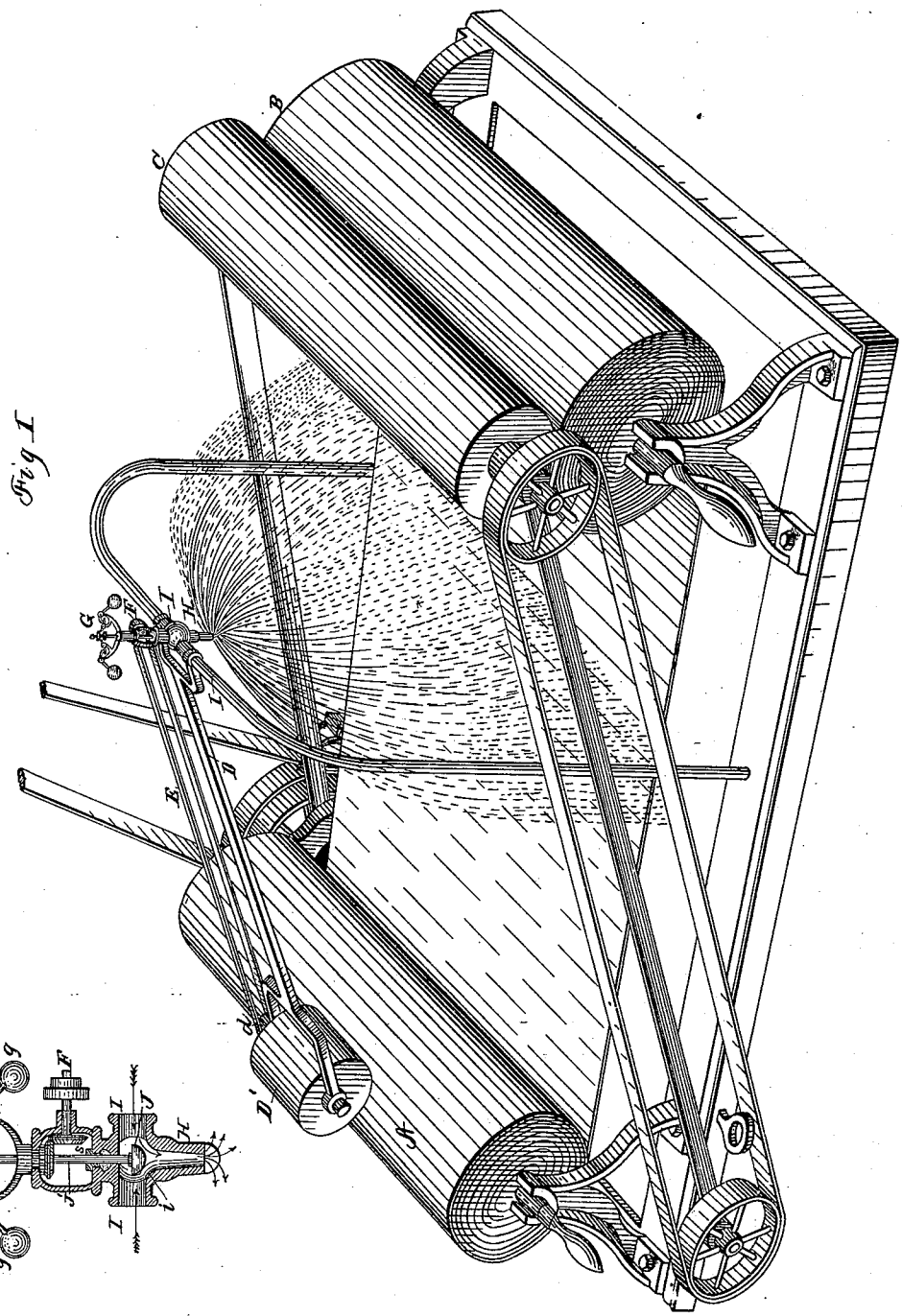


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

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MACHINE FOR MOISTENING PAPER.

SPECIFICATION forming part of Letters Patent No. 275,957, dated April 17, 1883.

Application filed July 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. STONEMETZ, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Moistening Paper, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to machines for moistening webs of paper, cloth, &c.; and it consists in providing means for automatically regulating the supply of water.

The class of machines to which my invention relates are provided with means for journaling the roll of dry material; also the roll or mandrel of the roll of dampened material, together with means for moving these rolls upon their axes; and, finally, a sprinkling apparatus for sprinkling the material as it runs from one roll to the other. In case anything occurs which causes a stoppage of the mechanism, or makes it necessary, the water has to be shut off at once, or the material lying between the two rolls will become too wet or "drowned," as it is called in the trade, which, if the material is paper, is sure to cause a break in the web.

The object of my invention is to provide means whereby the flow of water is instantly and automatically stopped as soon as the machinery stops. In fact, I so construct and arrange the device that the flow of water is stopped whenever the dry roll stops, whether the other machinery is in movement or not. I also adjust my device so that the amount of water flowing through the sprinkler is regulated according to the speed at which the paper passes under it, for in some machines the paper passes the sprinkler at one stage of the operation faster than at another on account of the constantly-varying size of the two rolls. However, in the machine I here illustrate this is not the case; but this machine forms no part of the present invention, being the subject of another application for a patent, the present invention being applicable to any moistening-machine.

My invention is illustrated in the accompanying drawings as follows:

Figure 1 is a perspective view of a moistening-machine with my device applied thereto. Fig. 2 is a vertical section through the water-valve, and an elevation of the governing or regulating apparatus.

The letters of reference indicate parts as follows:

A is the dry roll. B is the wet roll. C is the friction-roll by which the wet roll is operated. I is the water-pipe leading to the sprinkling-jet N. The above parts form no part of this invention, and may be variously constructed. D is an arm pivoted to the pipe I, and carrying at its outer end a friction-roller, D′. G is a governing apparatus connected to the water-valve J. E is a belt running from a pulley, *d*, on the shaft or roller D′ to a pulley, F, on the governing apparatus.

The essential feature of my invention consists in connecting with the water-throttle of a moistening-machine a governing apparatus which is operated from some of the moving parts of the machine, and which will operate to close the said throttle whenever the said moving part stops. The governing apparatus may receive its motion from the dry roll, as shown, or from the wet one, or from the main shaft of the machine, or from the roller C, or any other moving part of the machine; but it is preferable that it receive its motion from the dry roll, for the reason that if any break is found or should occur in the web that roll will stop, and it is better that the water be then shut off, as it would be thus prevented flooding the floor until the machine be stopped.

The point at which the valve and governor are located is not essential, but it is preferable that it be near the jet, and thus prevent dripping after the water is shut off.

The exact construction of the governing apparatus as shown is not a material part of this invention, for various forms and styles of governing devices may be applied without difficulty.

The construction shown in the accompanying drawings fully illustrates my invention, and from it a mechanic will see how it may be applied to the various styles of moistening-machines. As the material runs off the dry roll A the roller D′ is rotated, and the governor-belt E communicates this motion to the governor-balls *g g*, as in many forms of steam-engine governors. The arm D being pivoted to the pipe I, the roller D′ will continue to run upon the roll

A as it diminishes in size. Whenever the roll A revolves, the balls *g g* revolve and rise by centrifugal action. The inner ends of the arms of the balls act upon small levers *g' g'*, which in turn act upon the spindle J' and lift it, which lifts the valve J and admits water to the jet N. The operation of the balls upon the valve is the opposite of that in a steam-governor—that is, the more rapid the movement of the balls the wider the valve is opened. Thus it is that the more rapidly the paper runs off roll A under the jet the more water is supplied.

If the machine should be stopped, or a break should occur or be found in the web, the roll A will stop, and this will stop the governor-balls, and they will drop, and the valve J will instantly close and shut off the flow of water.

What I claim as new is—

1. In a moistening-machine, the combination, with the water-supply pipe, of a throttle which is opened by the movement of a governing apparatus which receives its motion from some of the moving parts of said machine, in a manner substantially as shown, whereby the flow of water through said throttle is dependent upon the movement of the part to which said governing apparatus is connected.

2. In a moistening-machine, the combination, substantially as shown, of the following elements: a throttle in the water-supply pipe having connected therewith a governing apparatus by which it is regulated, a pressure-roller adjusted to be operated by contact with the dry roll of the material being moistened, and, finally, gearing for operating said governing apparatus from said pressure-roller.

3. In a moistening-machine, the combination, in the relation substantially as shown, of the following elements: water-supply pipe I, sprinkling-jet H, valve J, stem J', governor G, belt E, pulley *d*, and roller D'.

4. In a moistening-machine, the combination, in the relation substantially as shown, of the following elements: the water-supply pipe I, sprinkling-jet H, valve J, stem J', and governing apparatus G.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. STONEMETZ.

Witnesses:
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