

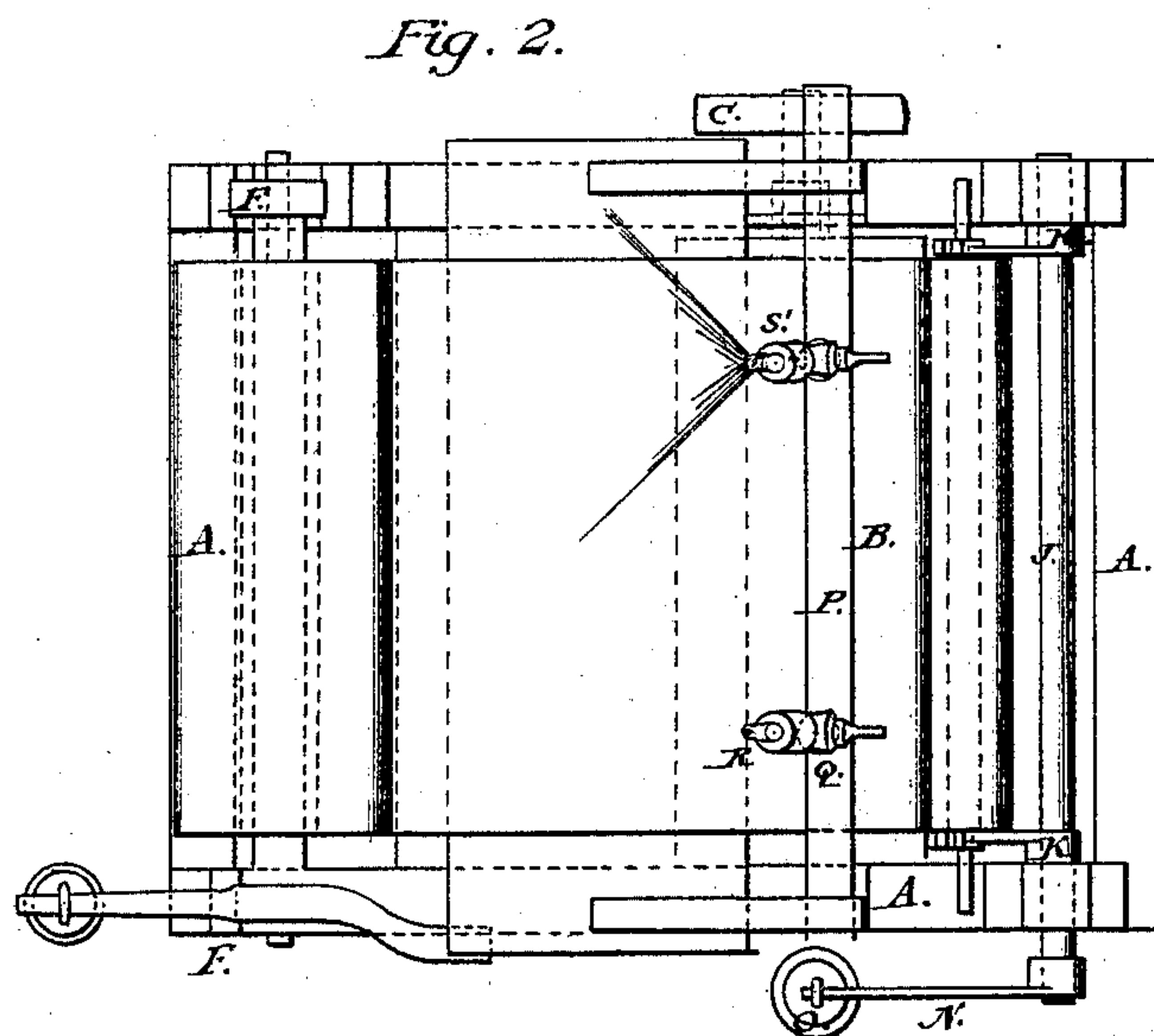
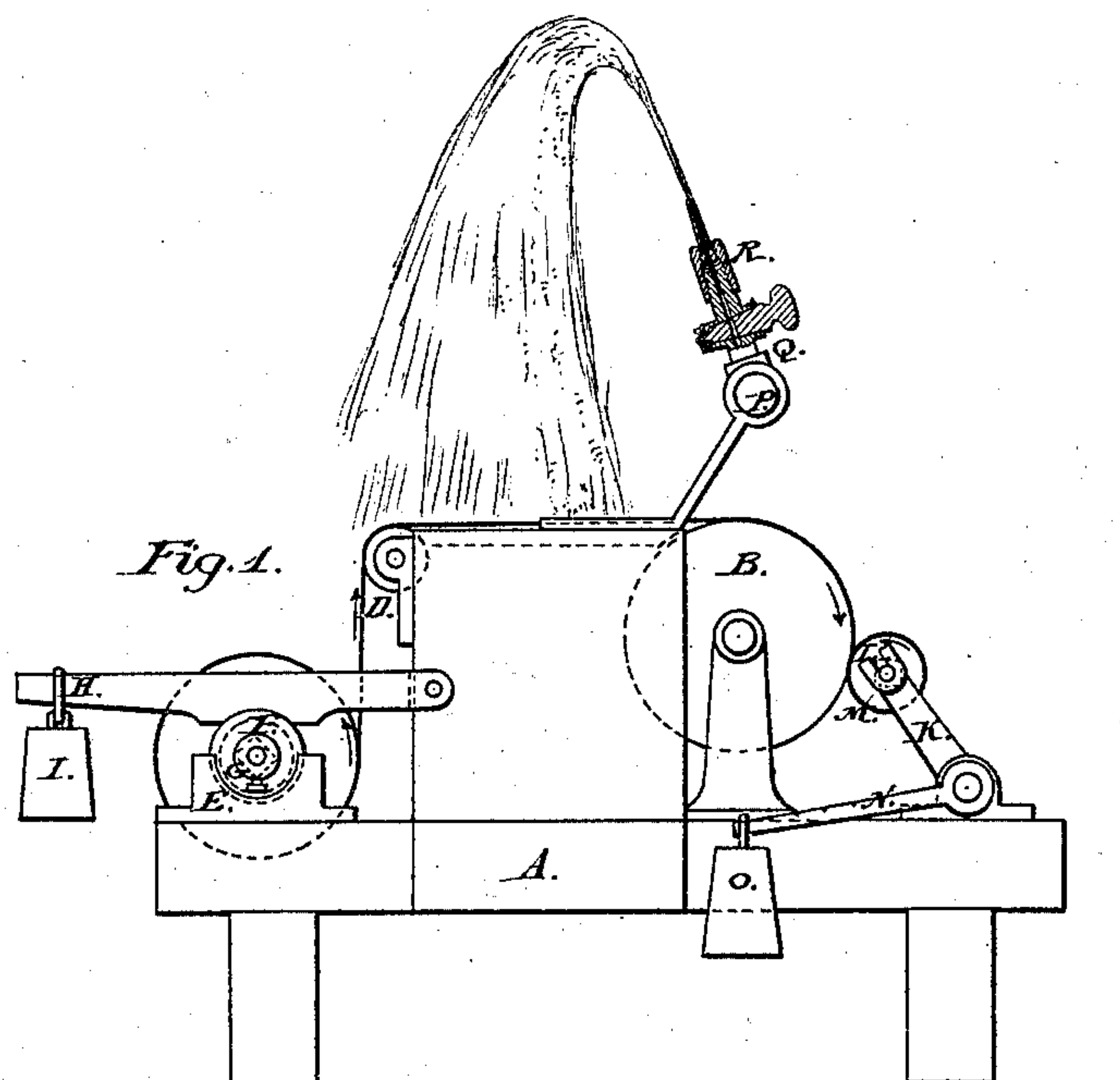
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MACHINE FOR DAMPING PAPER.

No. 171,093.

Patented Dec. 14, 1875.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN MACHINES FOR DAMPENING PAPER.

Specification forming part of Letters Patent No. **171,093**, dated December 14, 1875; application filed June 26, 1866.

To all whom it may concern:

Be it known that WILLIAM BULLOCK, late of Philadelphia, in the State of Pennsylvania, did in his life-time invent a certain new and useful Machine for Dampening Paper; and that the following, taken in connection with the drawing, is a full, clear, and exact description of the same.

In the drawings, Figure 1 is a side elevation of the machine in its preferred form, showing the spray-pipes in section; and Fig. 2 is a plan of the same.

The machine was designed for dampening paper in long lengths, which was afterward to be printed in a machine; and the machine consists, essentially, of a spool upon which the paper is wound, of spray or jet pipes or apparatus for sprinkling the paper, and of apparatus for winding up the paper upon a spool after it has been dampened.

None of the parts of the machine, considered separately and by themselves, are new. The novelty consists only in the combination of old parts, and, in fact, the whole apparatus for winding up the dampened paper was patented by the said BULLOCK and others in Letters Patent granted to WILLIAM BULLOCK, Calvin Adams, and George S. Selden, dated April 14, 1863, No. 38,200; but this apparatus was applied, in the machine described in that patent, to the delivery of dampened paper to a printing-press.

In the drawings, the frame of the machine is shown at A A. At one end of this frame there are boxes E E, which support rollers or wheels F F. These rollers have holes through them at their centers, and in these holes is to be introduced a shaft on which the spool containing the dry paper is sustained. These rollers are provided with set screws G G, so that the shaft may be fastened therein so that the rollers and spools will turn together. Levers H H, pivoted at one end and having hung from them weights I I, rest upon these rollers, and by means of the weights friction may be applied so as to regulate the tension upon the paper in its passage from the delivery to the winding-up apparatus. In consequence of this construction the friction is applied upon the

parts detachable from the spool, and therefore different spools may be applied one after the other, while the same friction apparatus answers for all the spools. This was the preferred construction of BULLOCK; but it is evident that the friction might be applied to some disk permanently fastened to the spool. From this delivery-spool the paper passes over a roller, D, this roller being used merely because the delivery-roll lies below the table or platform of the machine. As the paper passes over this table it is sprinkled with spray of water jetted out through nozzles R. These nozzles are like those of an ordinary gas-burner, are provided with cocks Q Q to regulate the amount of water which is supplied to them through the pipe P, and are also movable on a sort of ball-and-socket joint, so that the direction of the jet may be varied. The table or platform is a flat or nearly flat surface, and sustains the paper, if it should tend to drop when wet. The spool upon which the wet paper is wound is shown at L M. Its shaft rests in slots formed in the ends of arms K K, which are secured upon a rock-shaft, J, and this shaft is pivoted in such position, with reference to the driving-roller B, that the weight of the spool of paper is borne partly by the journals of the shaft J and partly by the driving-roller B, which is a roller driven by the pulley C. The paper is wound up, owing to the fact that the surface of the paper on the spool is in contact with the surface of this driving-roller, and it is clear that, as the quantity of paper upon the winding-up spool increases, so will the proportion of its weight resting upon roller B diminish, and this is an important feature of the contrivance. It is further clear that, owing to the fact that both arms K are secured to the same shaft, neither arm can move away without the other moving with it, and this feature causes the two ends of the shaft of the spool upon which the damp paper is wound, and consequently the spool, to move parallel to itself.

In order to regulate, if desired, the pressure upon the roller B of the spool upon which the damp paper is wound, BULLOCK applied to the rock-shaft J other arms N N, with weights O, and it is evident that by adjusting those weights

on the arms the amount of pressure of the paper-spool upon the driving-roller B may be varied.

What is claimed as of BULLOCK'S invention is—

1. The combination of a spool for holding dry paper with a driving-roller and a spool for winding up damp paper; but this combination is claimed only when the axes of the arms which support the latter spool are mounted with reference to the driving-roller, substantially as described.

2. The combination of a delivering-spool, a driving-roller, and a winding-up spool mounted on arms whose axes are arranged with reference to the driving-roll, as described, with an apparatus for throwing a spray of water upon the paper in its passage from the delivering spool to the winding-up spool, the combination being and acting substantially as set forth.

3. The combination of a delivering-spool, a driving-roller, and a winding-up spool mounted on arms whose axes are arranged with reference to the driving-roll, as described, with a table or platform located between the delivery-spool and the winding-up spool, the combination being substantially such as set forth.

4. The combination, substantially as described, of a delivering-spool, a table, a jet-

nozzle, a driving-roll, and winding-up spool mounted on arms whose axes are arranged with reference to the driving-roll, as described.

5. The combination of these elements, viz., a winding-up roll, weights to regulate the pressure thereof upon a driving-roll, and a delivery-roll, the combination being substantially such as described.

6. The combination of the following elements, viz., a winding-up roll, weights to regulate the pressure thereof upon a driving-roll, a delivery-roll, and nozzles or jet-pipes, the combination being substantially such as described.

7. The combination, substantially as described, of these elements, viz., a winding-up spool, a driving-roll, a delivery-roll, and weights to regulate the pressure of the winding-up spool on the driving-roll; but this combination is claimed only when the bearings of the arms for supporting the winding-up spool are arranged with reference to the driving-roll, as described.

WM. BULLOCK.

Witnesses:

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