

(No Model.)

A. J. BODKIN.

MACHINE FOR DAMPING AND GIVING PRESS COPIED EFFECTS TO LETTERS.

No. 581,056.

Patented Apr. 20, 1897.

Fig. 1

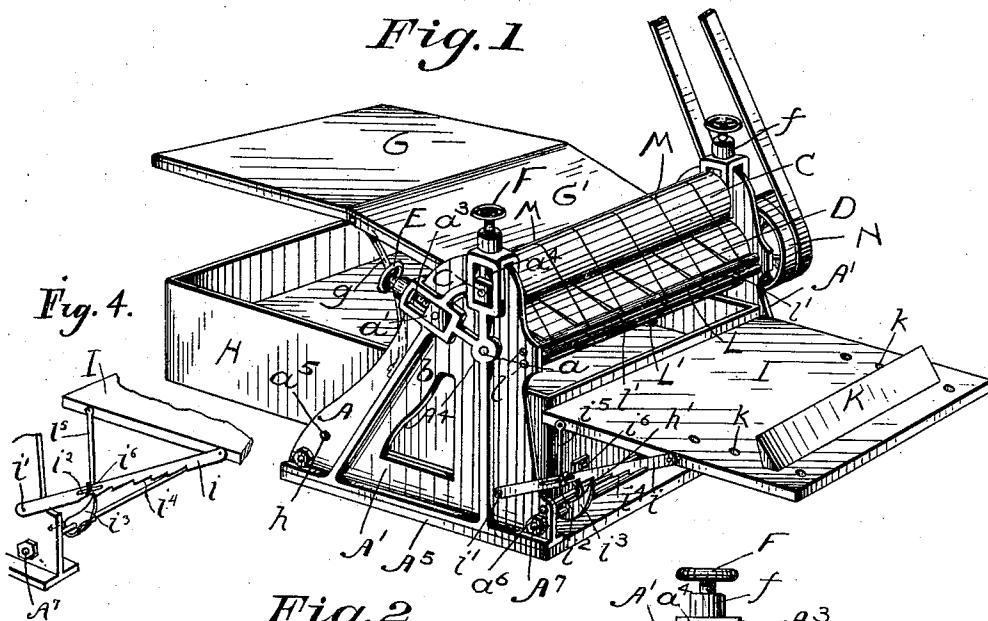


Fig. 2

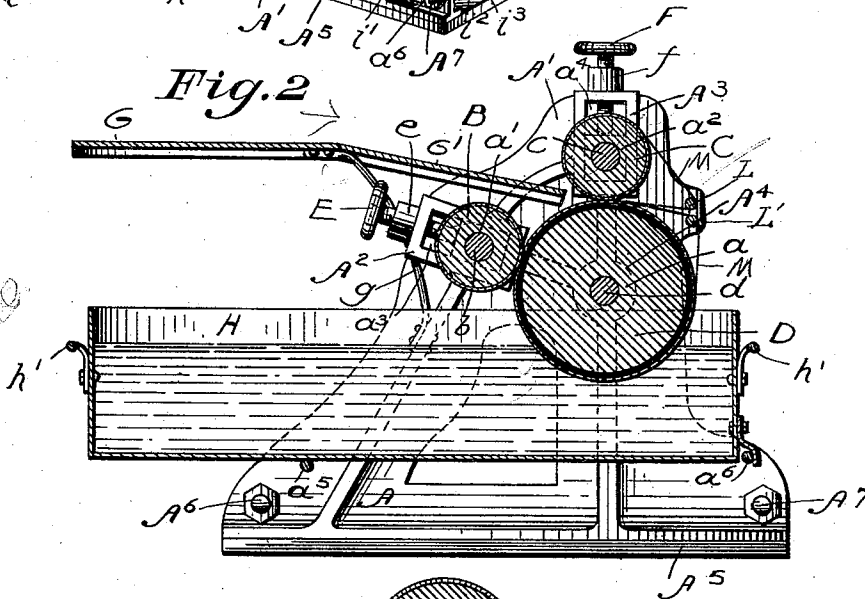
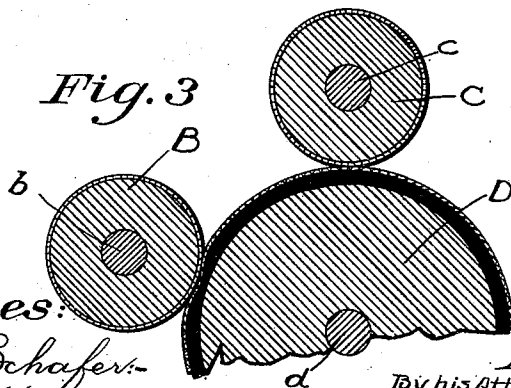


Fig. 3



Witnesses:

C. H. Schafer.
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By his Atty

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UNITED STATES PATENT OFFICE.

ALPHA J. BODKIN, OF CHICAGO, ILLINOIS.

MACHINE FOR DAMPING AND GIVING PRESS-COPIED EFFECTS TO LETTERS.

SPECIFICATION forming part of Letters Patent No. 581,056, dated April 20, 1897.

Application filed March 20, 1896. Serial No. 584,040. (No model.)

To all whom it may concern:

Be it known that I, ALPHA J. BODKIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Machines for Dampening and Giving Press-Copied Effects to Letters, of which the following is a specification.

My invention relates to an improved paper-dampening machine especially designed for use in producing a press-copied effect upon letters which have been either type-written or printed by various known processes.

My invention is also well adapted for dampening paper or press-copy blotters for printers or for office use, as it is of strong, light, and simple construction, may be operated with little power and at a high speed, and may be nicely adjusted to thoroughly dampen the paper in a uniform manner to any required degree.

My invention consists, primarily, in a novel combination and arrangement of dampening-roller, squeezing and drying roller, and paper feed and pressing roller, the two last-named rollers being arranged adjustable in a simple manner upon the dampening-roller to first squeeze out the padding of the dampening-roller and then pressing the paper upon it, and also in certain novel details of construction and combinations of parts for holding the paper before and receiving the paper after being dampened, for carrying the dampened sheets from the rollers and delivering them upon an adjustable table, and also in a certain novel construction of dampening-roller to be used especially with a squeeze drying-roller, as will hereinafter appear.

In the accompanying drawings, which illustrate my invention, Figure 1 is a perspective view of a machine constructed in accordance with my invention; Fig. 2, a central longitudinal section thereof; Fig. 3, an enlarged detail in cross-section of the rollers, showing the padding and the action of the rollers one upon the other; and Fig. 4, a detail view in perspective, showing the adjustment of the receiving-table.

The frame A of my machine consists of two side pieces or castings A', which provide housings A² and bearings A⁴, respectively, for the squeeze drying-roller B, the pressing feed-

roller C, and the dampening-roller D. The frame side pieces A' are bolted to a base A⁵ and are connected transversely by tie-bolts A⁶ A⁷ and screw-nuts fitted thereon to securely hold the side pieces together and complete the frame structure.

The shaft *d* of the dampening-roller D is supported at its ends in fixed bearings *a* of the frame, and the shafts *b c*, respectively, of the rollers B and C are supported in adjustable bearings *a'* *a''* of the side pieces A' of the frame, which bearings move in radial guides *a³* and *a⁴*, respectively, and are pressed upon by adjusting-screws E F, fitted in screw-threaded bosses *e f* in the side pieces of the frame to adjust the rollers B and C, respectively, with suitable pressure required for each toward the center or axis of each of said rollers. The roller C is arranged directly above the dampening-roller D, and the squeeze drying-roller B is placed at an angle above the horizontal and also sufficiently near said horizontal line to leave a space for the inclined feed-board G' of a feed-table G, supported upon brackets *g*, secured to the frame. A pan H is supported upon cross-rods *a⁵* *a⁶*, rests upon and is secured to the side pieces of the frame by clips *h*, and is lifted up and removed from the machine by handles *h'*, secured to the ends thereof in any well-known manner.

A paper-receiving table I is supported upon an arm *i*, pivoted at *i'* to the side frames and also to the middle part of the sides thereof at *i''*, and is supported at any required angle by a pawl *i³*, supported upon the tie-bolt A⁷ and engaging with ratchet-teeth *i⁴* upon the under side of the arm *i*, a rod *i⁵*, depending from the rear end of the table I and adjustably secured to the arm *i* by a clamp-bolt *i⁶*, serving to hold the table I at all times in horizontal position.

The table I has holes *k* in each side thereof at equal distances from each other, into which are fitted dowel-pins upon an abutment-plate K, which may be adjusted upon the table at any required point to suit paper of different sizes. The abutment-plate K is inclined forwardly and thus secures an even-edged deposit of the sheets upon the table.

The side frames A' at the delivery end of the machine project somewhat toward the delivery-table and have bearings *l* to receive

rollers L I', placed one above the other and each having grooves I' turned in their peripheries to receive threads M, which pass, respectively, from the upper roller L around the pressing feed-roller C and from the lower roller L' around the lower dampening-roller D, the said threads thus serving to receive the paper from between the pressing feed-roller and the dampening-roller and to deliver it upon the table I in flat sheets. The paper sheets when passed between the smaller upper roller and the larger dampening-roll would tend to curl up and wind around the upper roll were it not for the paper-carrying threads arranged and operating as above described.

The squeezing-roller B and the pressing-roller C are covered with a semi-absorbent fabric, preferably mole-skin, and the dampening-roller is covered with an inner layer of rubber an eighth of an inch, and preferably more, in thickness and an outer layer or cover of plush of at least the same thickness, which will hold or take up a quantity of water sufficient to insure an ample and even saturation and also sufficiently thick to be pressed out thoroughly by the squeeze drying-roller, the rubber inner cover yielding sufficiently to allow the plush to be thoroughly squeezed out, but retain sufficient moisture to dampen the paper to the required degree when brought in contact therewith by the pressing feed-roller. This action is illustrated upon an enlarged scale in Fig. 3, where the surface of the dampening-roller is indented by the squeezing-roller, the action being such, practically, that the said rollers may be driven at a rapid rate of speed and the water thrown down from the dampening-roller by the squeezing-roller in a continuous stream, while the covering of the dampening-roller will only retain sufficient water to moisten slightly the paper passed between the dampening and the pressing feed roller. The rubber inner cover only allows the water to soak into the outer cover of plush or other soft spongy fabric.

The dampening-roller may be driven by hand or by pulleys N on its shaft from any source of power.

I claim as my invention and desire to secure by Letters Patent—

1. A machine for dampening paper, comprising a padded dampening-roller, a squeeze drying-roller and a pressing feed-roller supported in bearings in frame side pieces, the bearings of the said squeeze drying and pressing feed-rollers being adjustable toward the central axis of the dampening-roller in radial lines therewith, substantially as described.

2. A machine for dampening paper, comprising a dampening-roller, a squeeze drying-roller and pressing feed-roller having bearings adjustable in radial lines to the dampening-roller and supported in side frames, two freely-revolving grooved rollers placed one above the other at the front of the machine and carrier-threads fitting in the said grooves to connect respectively the upper grooved roller with the pressing feed-roller and the lower grooved roller with the dampening-roller, substantially as described for the purpose specified.

3. A machine for dampening paper, comprising the frame, the dampening-roller, the adjustable squeeze and feed pressing-rollers, the grooved rollers supported in the frame, the carrier-threads supported thereon and upon the dampening and feed rollers, and the adjustable receiving-table provided with an inclined abutment-plate adjustable upon said table, substantially as described.

4. A machine for dampening paper, comprising a frame, a dampening-roller, a feed pressing-roller and a squeeze drying-roller, the said dampening-roller consisting of a central core of hard material, a rubber sheath fitted thereon and an outer cover of soft textile material, as plush, to allow the squeeze drying-roller to press the outer cover against and into the peripheral line of the soft elastic rubber sheath, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in the presence of two subscribing witnesses.

ALPHA J. BODKIN.

Witnesses:

W. H. ROWE,
R. L. TERRY.