H. VOIRIN.

DAMPING ATTACHMENT FOR LITHOGRAPHIC PRESSES.

No. 170,693. Patented Dec. 7, 1875.

Fig. 1

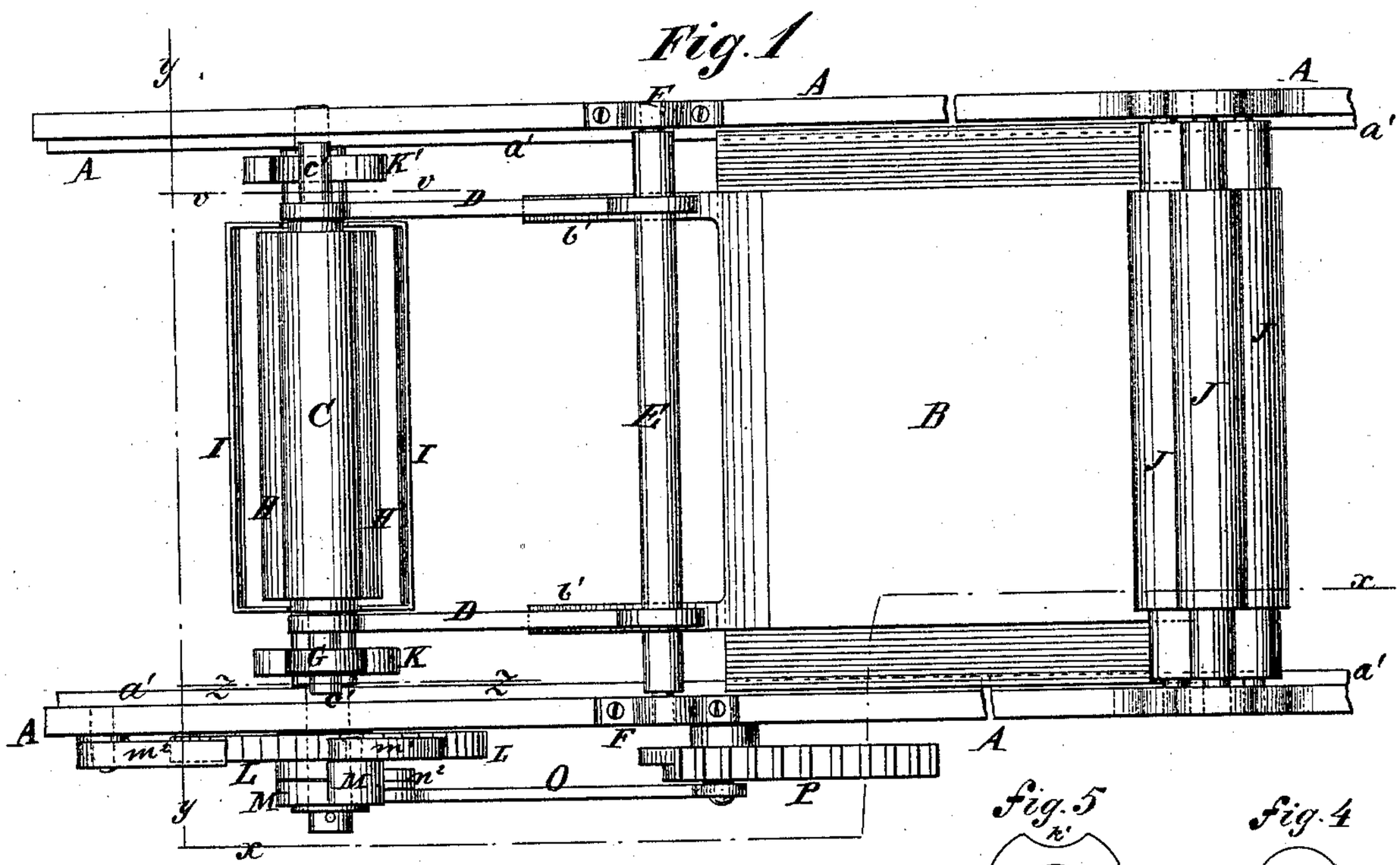


Fig. 5

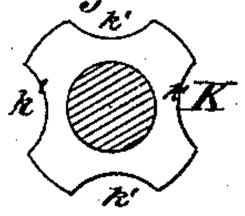


Fig. 4

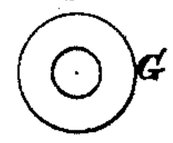


Fig. 6

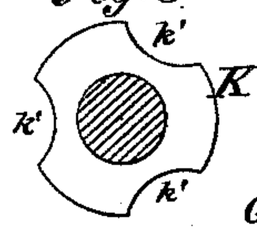
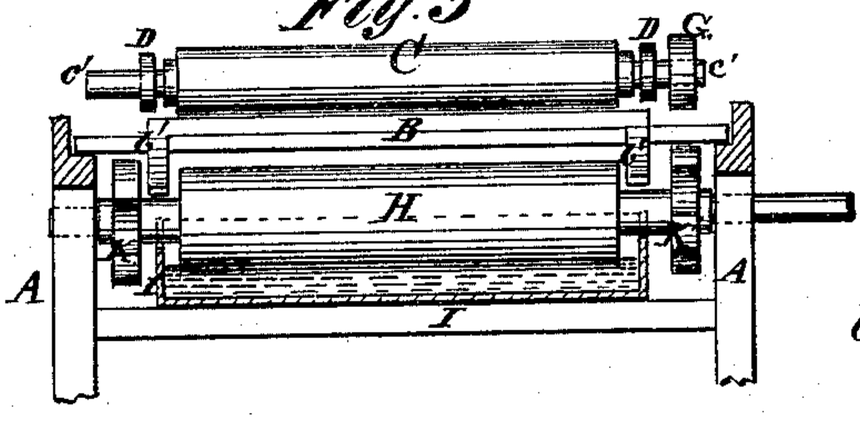


Fig. 2

Fig. 3



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UNITED STATES PATENT OFFICE.

HENRI VOIRIN, OF PARIS, FRANCE.

IMPROVEMENT IN DAMPING ATTACHMENTS FOR LITHOGRAPHIC PRESSES.

Specification forming part of Letters Patent No. **170,693**, dated December 7, 1875; application filed October 8, 1875.

To all whom it may concern:

Be it known that I, HENRI VOIRIN, of the city of Paris, in the Republic of France, have invented an Improved Stone-Wetting Attachment to Lithographic Printing-Presses, of which the following is a specification:

My invention relates to improvement in automatically wetting or dampening lithographic stones, the object being an adjustable regulation of the water-feed, so as to supply the water in such quantities that the dampening of the stone is effected with any degree of exactness and minuteness required.

The invention consists in an adjustable automatic and intermittent feed-movement for wetting the water-feed roller, and, in combination therewith, a device for adjusting and regulating an intermittent contact between the feed-roller and the wetting-roller, which latter transfers the desired quantity of water from the former to the wetting-table, whence it is further transferred by distributing-rollers to the lithographic stone in the usual manner, as will be hereinafter more fully described, with reference to the accompanying drawing, in which—

Figure 1 represents a top or plan view of a portion of a lithographic press with my present improvement applied thereto. Fig. 2 is a side elevation of the same, partly in section, taken through the line *x x* of Fig. 1. Fig. 3 is an end view of the same, partly in section, through the line *y y* of Fig. 1, and through the water-fountain. Figs. 4, 5, and 6 are face views of details, the latter two being sections through the lines *z z* and *v v* of Fig. 1, respectively.

Similar letters of reference indicate like parts in the different figures.

A is the frame of a lithographic printing-press. B is the wetting-table. To this, as well as to the stone, is given, by the ordinary press machinery, a horizontal reciprocating motion on ways *a'* on the frame A. The wedge-shaped ribs *b'*, in passing between the feed-roller and the wetting-roller, raise the latter from contact with the former, causing it to revolve by contact with and transfer water onto the surface of the progressing wetting-table B, from which it is taken up by other rollers, which then, in their turn, distribute it on the surface of the lithographic stone in the same and usual manner. C is the wetting-roller, the journals *c'* of which revolve in bearings in the arms D, which latter are rigidly secured to a rock-shaft, E, (mounted in bearings F on the frame A,) in such a manner that both ends of the roller C will be raised equally by any lifting device applied to either end thereof. The journals *c'* of the roller C are made sufficiently longer than their bearings to receive a collar, G, which can be shifted from one end or journal *c'* to the other of the roller C. H is the feed-roller, revolving in the water-fountain I. On one or both ends of the roller H, and directly underneath the collar G, I secure a disk or wheel, K K', whose surfaces are provided with notches *k'*, of such size and shape that, when the collar G is lodged in one of the said notches, the roller C will be in contact with the feed-roller H, and, becoming wetted thereby, will, on the passing of the table B between the rollers C and H, transfer a certain amount of dampness to the same. When, again, the collar G rests on the convex and circular portion of the surface of the disk K, (or K',) the roller C will be raised out of contact with the roller H, and thus not receive any more water, the table, when passing during the interval, being dampened merely by what moisture remains from the previous contact of the roller C with the roller H.

By varying the speed of the feed-roller H, (or the number of notches *k'*,) and thus also the time of contact between the two rollers C and H, the amount of water received from one dipping of the roller C may be variously and indefinitely extenuated to dampen the surface of the stone. By removing the collar G, the roller C will dip and dampen the table for each passage of the latter.

I have found by experience that, with only two disks, K' and K, having, respectively, three and four notches, and attached one on either end of the roller H, as shown in the drawing, in combination with the shifting-collar C, to engage with one or the other of the disks K K', all the necessary variations of feed and degree of moisture may be effected. The moisture on the table is afterward taken up and distributed on the surface of the stone by the rollers J in the ordinary manner.

The adjustable intermittent motion of the feed-roller H is effected in the following manner: L is a ratchet-wheel, secured firmly on the end of the shaft of the roller H. M is a lever, vibrating upon the said shaft, and provided at its upper end with a feed-pawl, m^1, engaging with the ratchet-wheel L. m^2 is a stop-pawl to the wheel L, and is pivoted to the frame A. The lower end of the lever M, below the center of the wheel L, is made of uniform thickness throughout, suitable to fit a sliding sleeve, N, which may be adjusted to any distance from the center of the wheel L, and secured in the adjusted position by a set-screw, n^1. The sleeve N is provided with a lug, n^2, which is connected by a rod, O, to the lower end of a vibrating cog segment-lever, P, pivoted to the frame A, and whose upper segmented end operates the fly which delivers the paper printed on the stone.

By the vibrating movement of the lever P the lever M receives its motion to operate the wheel L by the pawl m^1. By changing the position of the sleeve N on the lever M nearer to or farther from the center of the wheel L, the stroke of the pawl m^1 and movement of the wheel L may be respectively lengthened or shortened, and the speed of the water-feed roller H regulated.

The motion of the lever M may be taken from any suitable movement in the press other than that of the segment-lever P.

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

1. The combination of the vibrating levers P and M, ratchet-wheel L, pawls m^1 m^2, connecting-bar O, and adjustable sleeve N, with the feed-roller H, substantially as and for the purpose specified.

2. The adjustable collar G and cams K K′, in combination with the wetting-roller C, water-feed roller H, and wetting-table B, substantially as and for the purpose specified.

3. The combination of mechanism for producing the intermittent feed movement, consisting of the details P M O N L m^1 m^2 and feed-roller H, with the cam K or K′, collar G, roller C, and reciprocating wetting-table B, substantially as and for the purpose specified.

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