

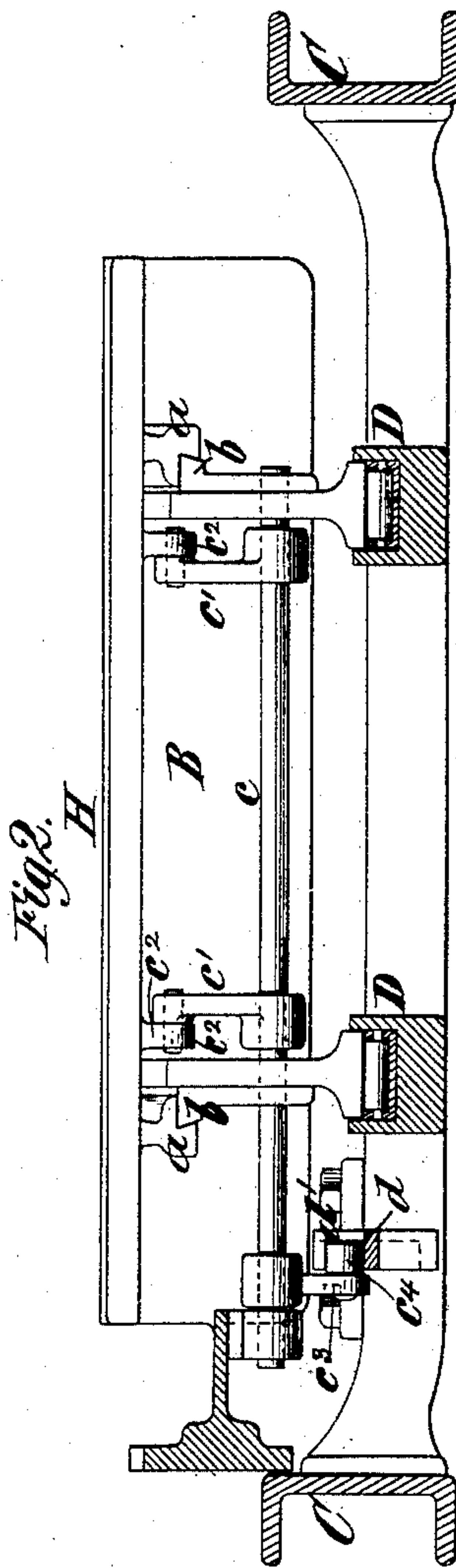
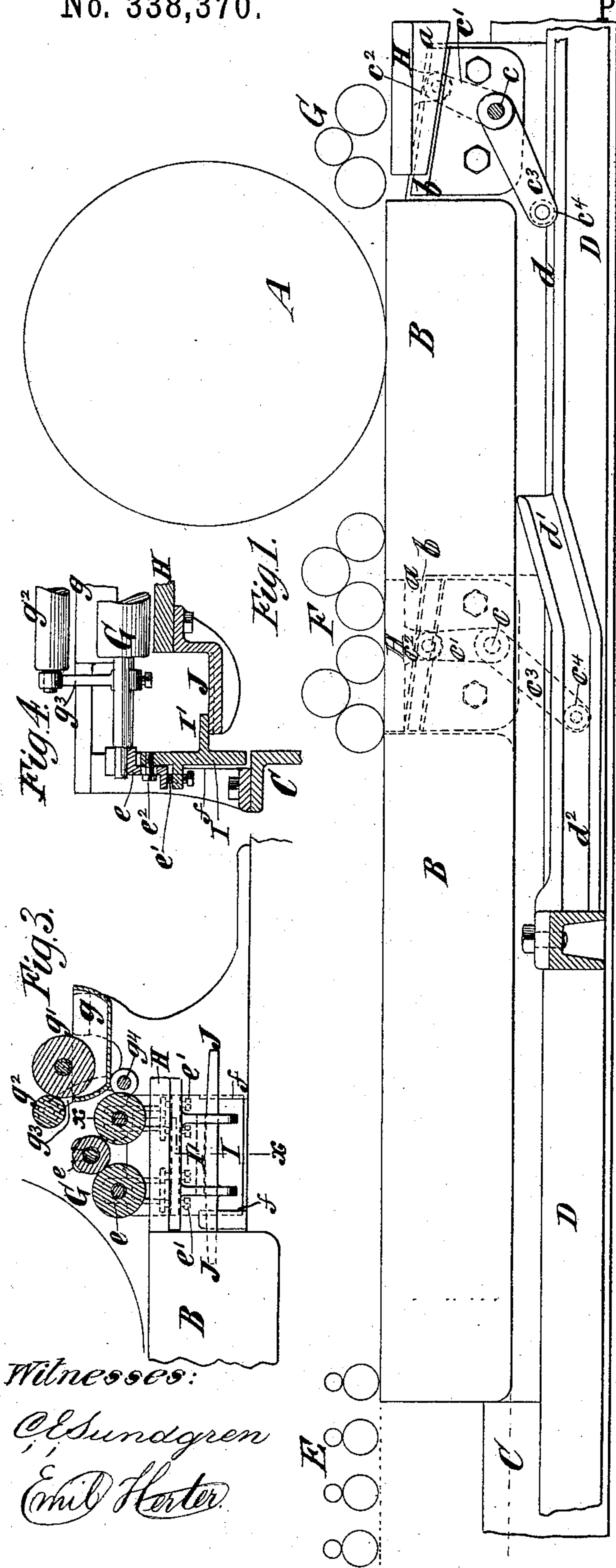
(No Model.)

C. A. STILLMAN.

INKING APPARATUS FOR LITHOGRAPHIC MACHINES.

No. 338,370.

Patented Mar. 23, 1886.



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UNITED STATES PATENT OFFICE.

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INKING APPARATUS FOR LITHOGRAPHIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 338,370, dated March 23, 1886.

Application filed September 28, 1885. Serial No. 178,457. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. STILLMAN, of Westerly, in the county of Washington and State of Rhode Island, have invented a new and useful Improvement in Inking Apparatus for Lithographic Machines, of which the following is a specification.

In lithographic presses there are usually employed, in addition to the inking-rollers and distributing-rollers ordinarily employed in presses having reciprocating beds, a set of wetting-rollers which wet or moisten the form at each reciprocating movement of the bed.

The object of my invention is to secure a better and more uniform distribution of the ink upon the distributing-rollers; and to this end I employ, in connection with the bed, a small ink-table which is supported at the rear end of the bed and moves with the bed.

In order that this ink-table may perform its functions properly, it is necessary that it should not make contact with the wetting-rollers, and I therefore combine with the ink-table and the distributing and wetting rollers mechanism whereby the table is caused to make contact with the distributing-rollers as it moves past them, and whereby the table is prevented from making contact with the wetting-rollers as it is carried past them. This result may be accomplished either by lowering the ink-table as it reaches and moves beneath the wetting-rollers or by raising the wetting-rollers as the table moves beneath them, and I have shown in the accompanying drawings both these means of accomplishing the desired end.

The invention consists in novel combinations of parts, which are hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 represents a side view of the bed and ink-table with the mechanism for imparting to it a rising and falling motion, said figure also showing in outline the impression-cylinder and the several sets of rollers. Fig. 2 is an end view of the table and bed, showing mechanism for raising and lowering the table, and also showing in transverse section a portion of the press-framing and the bearers for the bed. Fig. 3 is a sectional elevation of the parts of a press, showing means whereby the wetting-rollers are raised as the ink-table passes beneath, in order to prevent contact of the ink-table with

them; and Fig. 4 is a sectional view upon the plane of the dotted line *x x*, Fig. 3.

Similar letters of reference designate corresponding parts in all the figures.

Referring first to Figs. 1 and 2, A designates in outline the impression-cylinder, and B the reciprocating bed on which the form is placed.

C C designate portions of the side frames of the press, and D D designate bearers whereby the bed is supported in its reciprocating movements.

The mechanism for operating the bed and cylinder may be of any usual or suitable character, and are not here represented, as they form no part of my invention.

E designates the inking-rollers, which are arranged at the front end of the press.

F designates the distributing-rollers, which are arranged near to and in front of the cylinder, and G designates the set of wetting-rollers, which are arranged at the back of the cylinder.

In order to secure a better distribution of the ink upon the distributing-rollers F, I desire to employ, in connection therewith, a small ink-table, H, which is supported at the rear end of the bed, and is carried by the bed in its reciprocating movements. It is necessary, however, that the ink-table H, while it makes contact with the distributing-rollers F as it passes under them, should not make contact with the wetting-rollers G as it passes under the latter, and I have therefore shown in Figs. 1 and 2 means whereby the ink-table H is lowered as it passes under the wetting-rollers.

As here represented, the ink-table H has upon its under side gibs or slides *a*, which fit upon bearers or ways *b*, attached to the bed, and inclined from the end of the bed downward and rearward. It will therefore be seen that by giving the ink-table H a slight reciprocating movement toward and from the end of the bed it will be raised or lowered.

In order to produce the reciprocating movement of the ink-table upon its tracks or ways *b*, I have here represented a rock-shaft, *c*, which extends transversely across below the bed, and is carried thereby. This rock-shaft has fixed to it upwardly-extending arms *c'*, which are connected with ears or lugs *c''* on the under side of the ink-table H, and at one

end the shaft c has a downwardly and forwardly extending arm, c^3 . (Here shown as provided with a roller, c^4 .)

Extending lengthwise of the press is a track 5 or rail, d , upon which the roller c^4 bears, and at the front end of the track or way d , and at a point below the distributing-rollers F , is shown a stationary cam, which comprises an inclined portion, d' , and a forwardly-extending 10 straight portion, d^2 .

When the ink-table is in the position represented by dotted lines in Fig. 1, it moves in contact with the distributing-rollers F , and is retained in such position by reason of the 15 roller c^4 on the arm c^3 engaging with the straight portion d^2 on the stationary cam. As the bed carries the ink-table rearward from the position shown by dotted lines in Fig. 1 the roller c^4 on the arm c^3 comes in contact 20 with the inclined portion d' of the cam, by which the arm c^3 is raised, and through the arms c' the table H is moved away from the back end of the bed and to the position shown by full lines in Fig. 1, where it is held by the 25 roller c^4 , bearing upon the straight portion d of the track or way. When the ink-table is moved in a direction away from the back end of the bed, as described, it is also lowered, so that as it passes rearward and then forward 30 below the wetting-rollers G it does not make contact with them, and hence receives no water from them.

I will now describe the construction shown in Figs. 3 and 4, in which the wetting-rollers 35 are raised to keep them out of contact with the ink-table H . As there represented, the boxes e at each end of the wetting-rollers G are supported by vertically-moving sliding plates I , upon which they are adjustable up- 40 ward and downward by means of set screws e' , and the boxes may be secured after adjustment by means of clamping-screws e^2 . The slides or plates I are fitted to slideways f upon the side frames of the press, and it will therefore be seen that by imparting a slight fall- 45 ing and rising movement to the plates I the wetting-rollers G will be raised and lowered. In this construction the ink-table H is permanently fixed in position at the back end of 50 the bed B , and has projecting from each side a cam, J , the upper surface of which is inclined in opposite directions toward the center, and in a direction lengthwise of the bed, as shown in Fig. 3. The slide or plate I has 55 projecting inward from it an arm or flange, I' , which overlaps the cam J upon the ink-table H .

It will be understood that the ink-table H has at each side of it a projecting cam, J , and 60 that the bearings at each end of the wetting-rollers are supported by vertically-moving slides I , provided with the flange or arm I' , projecting inward over the cam J .

From the above description it will be seen 65 that when there is nothing bearing upon the slides I to raise them they will by gravity assume their lowest position, which will bring

the wetting-rollers G in contact with the form, and at the time when the ink-table H passes 70 below the wetting-rollers the cams J act upon the flange I' of the slides I , and by their inclined upper surfaces raise the slides I and the wetting-rollers, so that the ink-table does not make contact with them.

In Fig. 3 I have represented the usual wa- 75 ter-pan, g , and roller g' , and have also represented the usual transferring-roller, g^2 , which is carried by arms g^3 , pivoted at g^4 , and which transfers water from the roller g' to the wet- 80 ting-rollers G .

The means for operating this transfer-roller may be of the usual character, and are not here represented, as they form no part of my in- 85 vention.

What I claim as my invention, and desire to 85 secure by Letters Patent, is—

1. The combination, with the impression-cylinder and bed and distributing-rollers arranged at one side of the cylinder, of wetting- 90 rollers arranged on the opposite side of the cylinder, and an ink-table carried by the bed, the wetting-rollers and ink-table having one of them a rising and falling movement relatively to the other, whereby contact of the ink-table with the wetting-rollers is avoided, 95 substantially as herein described.

2. In a printing-press, the combination, with the impression-cylinder and bed and with wetting and distributing rollers arranged at opposite sides of the cylinder, of an ink- 100 table carried by the bed and having a rising and falling movement, whereby it is caused to make contact with the distributing-rollers as it passes beneath them, and to avoid con- 105 tact with the wetting-rollers as it passes beneath the latter, substantially as herein described.

3. In a printing-press, the combination, with the impression-cylinder and bed and with the distributing and wetting rollers, of bear- 110 ers at the rear end of the bed, having a downward and rearward inclination, an ink-table fitted to and movable upon said bearers, a stationary cam extending lengthwise of the bed, 115 and connections, substantially such as described, carried by the bed and operated by said cam to move the ink-table upon its bear- 120 ers, whereby said table is caused to make contact with the distributing-rollers and to avoid contact with the wetting-rollers, substantially 120 as herein described.

4. In a printing-press, the combination, with an impression-cylinder and distributing and wetting rollers, of a bed having inclined 125 bearers carried by it, the ink-table H , fitted to said ways or bearers, the rock-shaft c and its arms c' c^3 , and the stationary cam d' d^2 , operating through said rock-shaft and arms to move the ink-table, substantially as herein de- 130 scribed.

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