(No Model.)

R. MIEHLE.

INKING MECHANISM FOR PRINTING PRESSES.

No. 558,594. Patented Apr. 21, 1896.

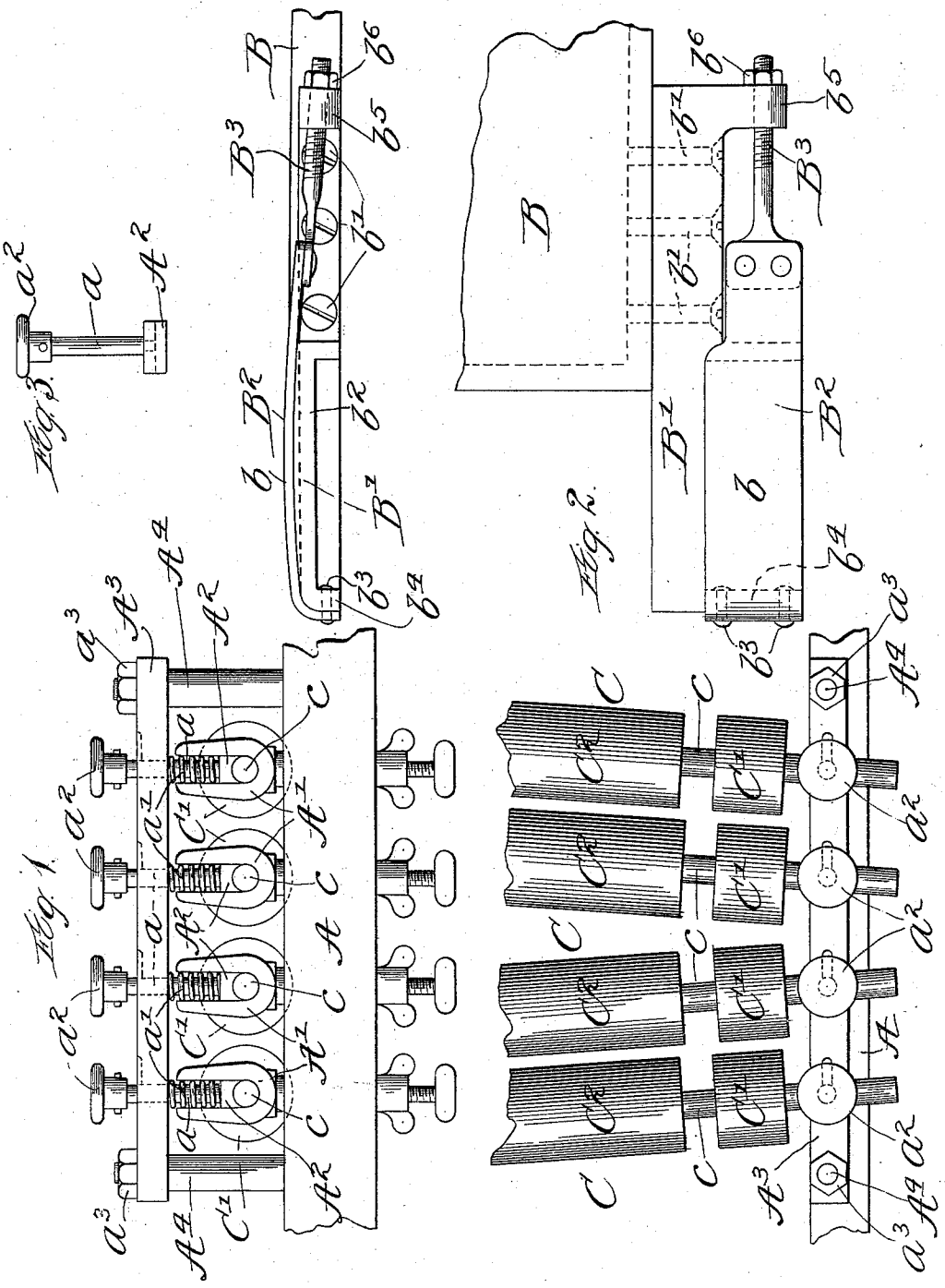

Fig. 3.

Fig. 2.

Fig. 1.

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UNITED STATES PATENT OFFICE

ROBERT MIEHLE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MIEHLE PRINTING PRESS AND MANUFACTURING COMPANY, OF SAME PLACE.

INKING MECHANISM FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 558,594, dated April 21, 1896.

Application filed August 3, 1894. Serial No. 519,333. (No model.)

To all whom it may concern:

Be it known that I, ROBERT MIEHLE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Inking Mechanism for Printing-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to the inking apparatus of that class of cylinder printing-presses having a reciprocating ink-table and distributing-rollers arranged angularly or otherwise, as desired, upon the machine-frame, and adapted to act upon the ink-table to distribute the ink thereon.

The object of my invention is to provide improved means for imparting an initial rotary motion to the distributing-rollers with a velocity or surface speed nearly equal to that of the ink-table.

The subject-matter of the invention is generally similar to that of my pending application, Serial No. 355,110, filed June 11, 1890.

In the accompanying drawings, Figure 1 is a fragmentary side elevation of a structure embodying my invention in one form. Fig. 2 is a plan view thereof. Fig. 3 is a detail of one of the top caps for the roller journal-bearings.

In said drawings, A designates the machine-frame, B the reciprocating ink-table, and C the angle-rollers which serve to distribute the ink on the table as the latter passes beneath them. As herein shown, said rollers are four in number and are arranged in two sets which are inclined slightly in opposite directions from an intermediate transverse line, the two rollers of each set being parallel to each other. The exact number and arrangement of the rollers is not, however, of importance so far as my present invention is concerned.

C′ C′ designate friction rollers or collars which are rigidly secured to the shafts *c* of the distributing-rollers adjacent to the composition body portions C^2 thereof. Said friction-collars are of equal diameter with the body portion C^2 of the rollers C, and are adapted to be engaged from beneath by a friction-surface *b*, formed on an arm B′, secured to the side of the ink-table B, and extending beyond the end of the same. The arm B′ is in this instance cast separately from the table B, and is secured to the side of the same by screws *b*′. Its friction-surface *b* is formed by a broad leather strap B^2, which, as herein shown, rests upon an outer supporting-ledge b^2 of the arm B′ and is secured at its front end by rivets b^3 to a transverse rib b^4, which extends beneath and supports said ledge. The rear end of the strap B^2 is riveted to the flattened end of an adjusting-screw B^3, which extends through an aperture in a lateral lug b^5 at the rear end of the arm, and is provided with an adjusting-nut b^6 engaging the rear face of said lug. By screwing up the nut b^6 the strap may be thus kept taut and made to always lie smoothly upon the ledge b^2. The upper surface of the latter is herein shown as curved downwardly from its center toward each end, so as the bring the center of the friction-surface *b* of the strap slightly above the surface of the ink-table B, while its ends are depressed beneath the same. By reason of this construction the engagement between the friction-surface and the collars C′ is effected and released gradually, and the adjusting device at the rear end of the strap is conveniently maintained below the level of the table and out of contact with the collars C′. The top surface of the main body of the arm B′, aside from the ledge b^2, is also herein shown as arranged beneath the surface of the table B, out the way of the ink-rollers, and the strap B^2 is shown as made narrower at its rear end, so that it clears the side of the arm in dropping to engage the adjusting-bolt B^3.

The ends of the shafts *c* of the ink-rollers C are herein shown as journaled in U-shaped bearings A′, pivotally secured in the frame A in a familiar manner. As a further improvement, however, and for the purpose of preventing the ink-rollers C from being thrown up by the contact of the friction-surface *b*

with their collars C', I have in this instance shown the bearings A' as further provided with top caps A^2, which rest on the upper surface of the trunnions or journals *c* and serve to prevent free upward movement of the same.

As herein shown, the caps A^2 are provided with upwardly-projecting stems *a*, which extend through apertures in a stationary horizontal bar A^3 and are free to slide therein. Between the caps A^2 and the lower side of the bar A^3 are located coiled springs *a'*, which normally hold the rollers down but permit them to yield upwardly under any undue pressure. Said springs are herein shown as placed around the stems *a*.

As the arm B' passes rapidly beneath the collars C they will be held yieldingly against the friction-surface *b* of the strap B^2 with sufficient pressure to effect the rotary movement of the rollers, and any lifting or throwing up of the rollers under the impact of the arm B, with a resulting decrease in the rotative impulse (as may occur when the bearings for the roller-shafts *c* are left open at their tops) is prevented. The springs *a'* also permit the caps A^2 to be lifted by means of knobs or handles a^2, secured to the upper ends of the stems *a*, when it is desired to remove the rollers C from the machine or to replace them therein. Furthermore, the entire set of upper caps A^2 may, if desired, be removed by removing the bar A^3, the latter being herein shown as detachably secured by nuts a^3 to upwardly-projecting studs A^4 of the frame A.

I claim as my invention—

1. The combination with distributing-rollers provided with friction disks or collars, of a reciprocating ink-table provided with a frictional bearing-surface adapted to engage said collars, and means for holding said rollers down in position for engagement with said frictional bearing-surface, substantially as described.

2. The combination with distributing-rollers provided with friction disks or collars, of a reciprocating ink-table provided with a frictional bearing-surface adapted to engage said collars, and bearings for the adjacent ends of the roller-shafts provided with spring-pressed caps adapted to hold the rollers yieldingly in place, substantially as described.

3. The combination with distributing-rollers provided with friction disks or collars, of a reciprocating ink-table provided with a frictional bearing-surface adapted to engage said rollers, U-shaped bearings for the adjacent ends of the roller-shafts provided with caps having upwardly-extending stems engaging apertures in a stationary bar, and springs interposed between the caps and the bar, substantially as described.

4. The combination with distributing-rollers provided with friction disks or collars, of a reciprocating ink-table provided with a frictional bearing-surface adapted to engage the collars, U-shaped bearings for the adjacent ends of the roller-shafts provided with caps having upwardly-projecting stems, a stationary horizontal bar detachably secured to the frame and provided with guide-apertures for said stems, springs interposed between the caps and the bar, and enlargements on the upper ends of the stems for lifting the same, substantially as described.

In testimony that I claim the foregoing as invention I affix my signature in presence of two witnesses.

ROBERT MIEHLE.

Witnesses:
HENRY W. CARTER,
WM. L. HALL.