(No Model.) 2 Sheets—Sheet 1.

A. FAYOL.

INKING MECHANISM FOR PRINTING MACHINES.

No. 448,749. Patented Mar. 24, 1891.

FIG-1-

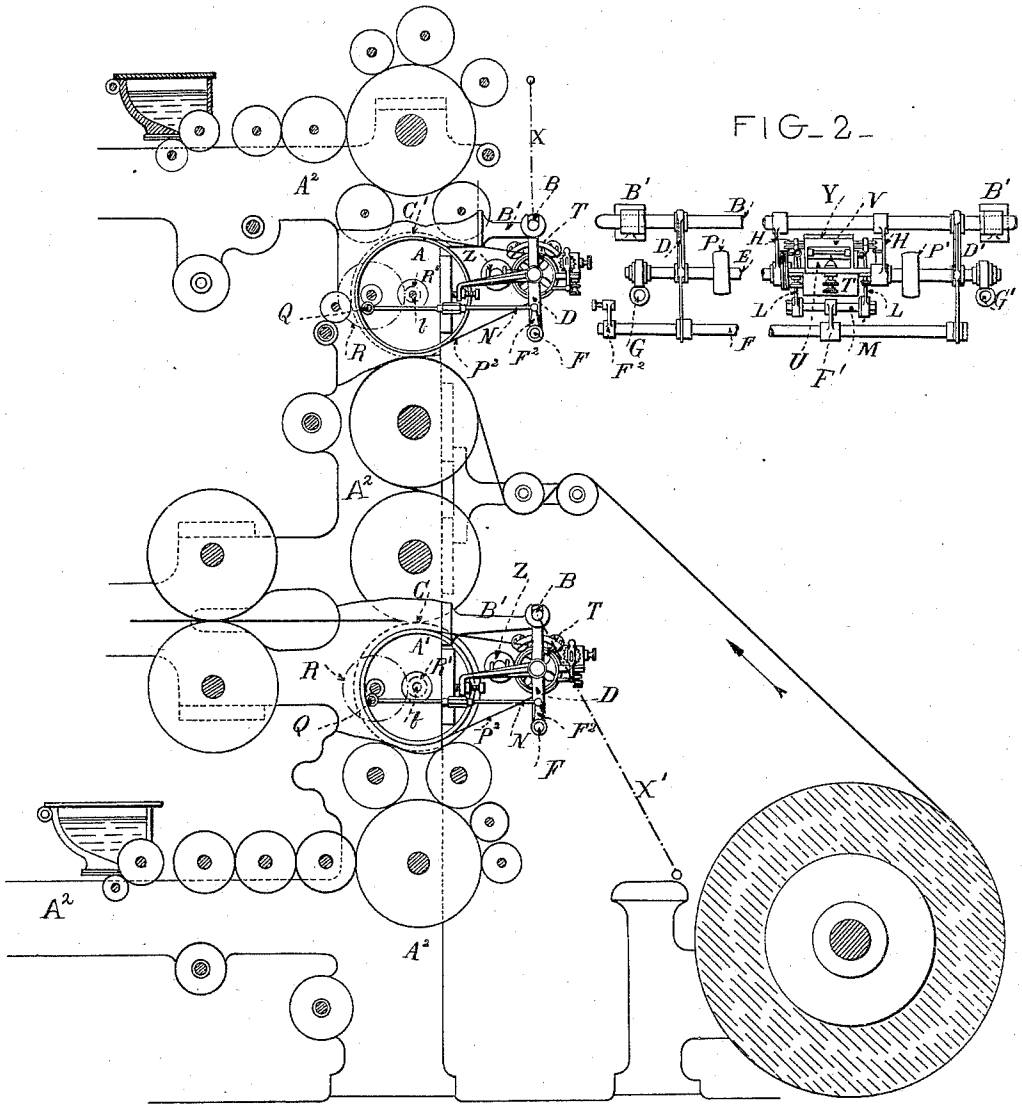


FIG-2-

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

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FIG. 3.

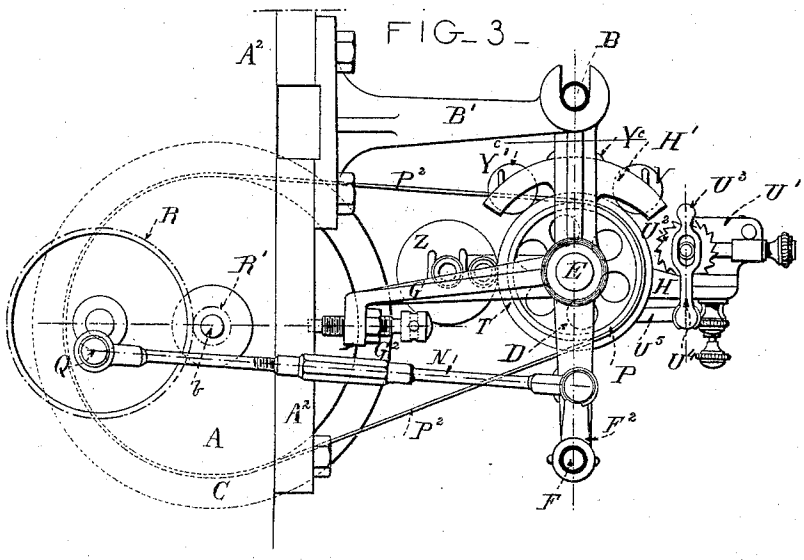


FIG. 5.

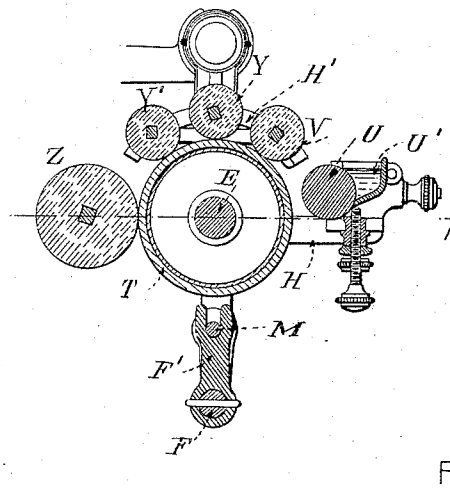


FIG. 4.

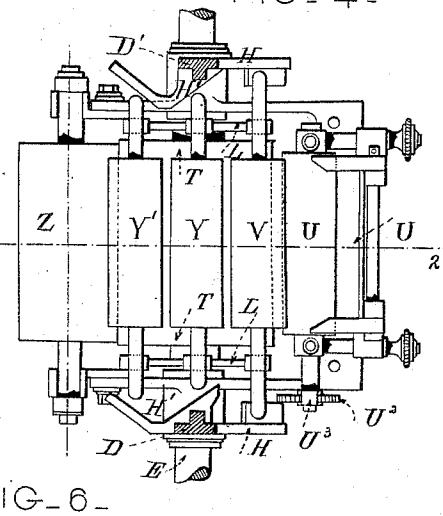
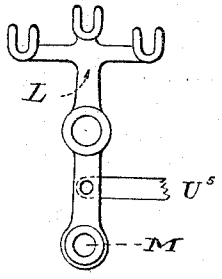


FIG. 6.



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UNITED STATES PATENT OFFICE.

AMÉDÉE FAYOL, OF BORDEAUX, FRANCE.

INKING MECHANISM FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 448,749, dated March 24, 1891.

Application filed December 29, 1890. Serial No. 376,027. (No model.) Patented in France January 2, 1889, No. 195,139.

To all whom it may concern:

Be it known that I, AMÉDÉE FAYOL, a resident of Bordeaux, France, have invented an Improved Inking Mechanism for Printing-Machines, of which the following is a specification, and for which I have obtained Letters Patent in France for fifteen years, No. 195,139, dated January 2, 1889.

My invention relates to a novel inking device, which consists, essentially, of the new combination of ink-reservoir, its distributing-table, and its rollers, with new means for actuating the same, as hereinafter described.

The object of my invention is to construct and provide in a printing-press of any rotary style an inker without modifying the construction of the press to any extent, said inker being so arranged that it can at any time be removed.

To illustrate my invention I refer to the accompanying drawings, in which—

Figure 1 is a vertical cross-section of a rotary printing-press of the Marinoni pattern, showing my inker attached thereto. Fig. 2 is a front elevation of my improved inker on the same scale as Fig. 1. Fig. 3 is an enlarged side elevation of my inker and the actuating mechanism. Fig. 4 is a plan view of my inker, partly in section. Fig. 5 is a cross-sectional view of the inker on the line 1 2, Fig. 4. Fig. 6 is a side view of the forked roller bearing or carrier.

Similar letters refer to similar parts in all the figures.

A^2 is the frame of the press. At a suitable point on said frame the supporting-arms B′ B′ are attached. In open notches near the outer ends of these arms is supported the beam B. By this beam the mechanism of my device is supported. Near the extremity of the beam B are fastened the heads of the arms D D′, said arms D D′ being formed to receive near the middle the axle E of the cylindrical ink-table T. At the lower end of the arms D D′ is hung the axle F. At or near the ends of the axle E of the ink-table T are loosely carried the brackets G G′, which by projecting screws G^2 abut against the press-frame A^2. The axle E is supplied with the pulleys P P′ by which motion is transmitted from the type-cylinder A or other shaft by the belts P^2 to the ink-table T. The inker consists of the ink-reservoir U′, the roller U dipping into the same, the receiving-roller V, the cylindrical ink-table T, the vibrating distributing-rollers Y Y′, and the type-inking roller Z. (See Fig. 5.) The ink-reservoir U′, its roller U, and type-inking roller Z are hung on the two pieces of casting H H, which are suspended from the supporting-beam B. The rollers V Y Y′ have their axle ends resting in the forked bearings L L, Fig. 6, said forked bearings L L being carried loosely on the axle E and being united by a bar M, Figs. 2 and 5. This connects by a link F′ with the lower axle F. (See Fig. 2.) This axle F is oscillated by means of a crank F^2, Fig. 3, which is connected to the crank-pin Q on a wheel R by an extensible rod N, said wheel R gearing with a pinion R′ on the axle *b* of the printing-cylinder A, Fig. 3. By this arrangement I am enabled to vary the oscillations of the bearings L L and the alternate concentric shiftings of the rollers V Y Y′, and modify the speed of said shiftings by changing the proportions of the gear-wheels R R′. The roller U of the ink-reservoir U′ is rotated by the usual intermittent action of a ratchet-wheel U^3 and the pawl U^4, whose support U^4 is oscillated through the medium of a connecting-rod U^5, which is attached to one of the swinging bearings L. The receiving-roller V swings to and away from the roller U in a movement concentric to the axle E of the table T. While it contacts with the roller U any continuation of the swinging movement of the bearings L L will tend to lift in the grooves the roller V, thereby causing said roller V to be separated for a movement from the table T, so that too much ink will not be wiped from the roller U. On the return movement it drops back onto the table T, supplying the same with ink. In order that the amount of ink on the table may be equalized, the spreading or distributing rollers Y Y′ are used, which, by the revolving and lateral displacing movements, produce the distributing effect. The rotary movement is given to the rollers V, Y, and Y′ by their contact with the revolving table T, while the lateral displacing movement is caused by means of the stationary directing-tracks H′ H′ on the castings H during the rock of the arms L L, which carry the rollers Y Y′. The

spreading-roller Z turns by contact with the table T at a circumferential velocity equal to that of the type-plates or cylinder A. In Fig. 3 the type-cylinder is represented, but without type thereon. It will be seen that the greatest possible ease in inspecting all the parts composing the inker is obtained, the longitudinal shifting is allowed, and the lifting or removing the device from its supports in order to clean the press is facilitated.

Referring to Fig. 1, it will be understood that it is necessary to permit access to the printing-cylinders A A′ at the moment of adjusting or applying the type while the machine is at rest.

My plan of a movable inker gives satisfaction in all points of view. It can be shifted on its pivotal support B. The inker can also be removed from the cylinders by pushing it in a horizontal plane or by simply lifting the whole from its supports out of the holder, as is customarily done with the common rollers. My invention in its application to the cylindrical presses is therefore essentially remarkable for the place the inker occupies by reason of its great mobility in front of the printing-cylinders and its lifting to allow the free access to said cylinders. However, I expressly claim the right of placing the movable inker in back of the cylinder A A′, and employing in that case all known or new means for rendering this special application practicable.

Having now described my invention, what I claim is—

1. The loose frame B D D′, suspended from supports fixed to the frame A^3 of the press, in combination with the rotary table T, the ink-holder U′, the ink-roller U, the receiving-roller V, the distributing-rollers Y Y′, and spreading-roller Z, and means, substantially as described, for actuating said rollers, as specified.

2. The combination, in a printing-press inker, of the frame B D D′, loosely suspended from supports fixed to the frame A^2 of the press, and the rocking forked roller-bearing L and rods M F, with the ink-reservoir U′, the ink-roller U, the receiving-roller V, the table T, the distributing-rollers Y Y′, the type-inking roller Z, the eccentric Q, the adjustable connecting-rod N, and the crank F^2, all arranged substantially as herein shown and described.

3. The combination of the rotary ink-table T, and means, substantially as herein shown and described, for supporting and revolving it, with the ink-reservoir U′, rocking bifurcated bearing-pieces L L, means, substantially as described, for oscillating them, and with the roller V, hung in said bearings L, all arranged to lift the roller V off the table T when in contact with the roller U, substantially as herein shown and described.

4. The combination of the rotary ink-table T, and means, substantially as described, for supporting and revolving it, with the ink-reservoir U′, ink-roller U, rocking bifurcated bearing-pieces L L, rollers V Y, hung therein, and inclined tracks H′, adapted to shift the roller Y lengthwise during the oscillation of the bearings L, substantially as herein shown and described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

AMÉDÉE FAYOL.

Witnesses:

GEORGES LAURENT,

A. MUER.