Z. R. BENNETT.

Inking-Fountain for Printing-Machines.

No. 225,964 Patented Mar. 30, 1880.

Fig. I.

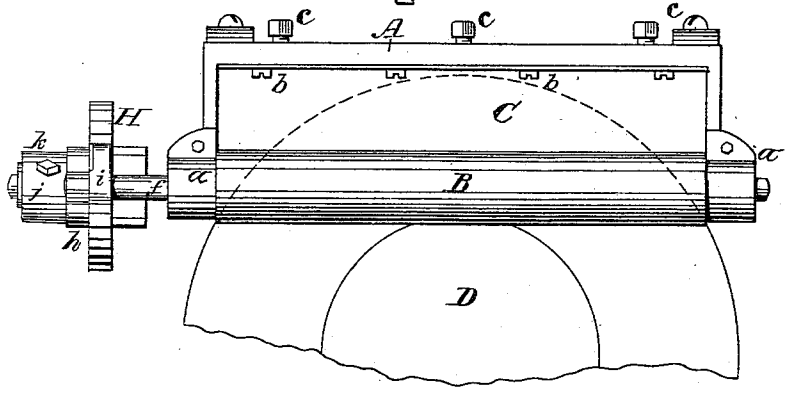


Fig. II.

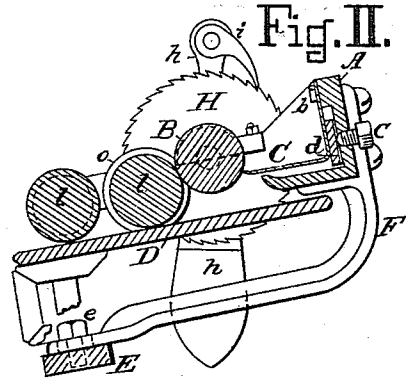


Fig. III.

ATTEST.

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ZELOTES R. BENNETT, OF BROOKLYN, NEW YORK.

INKING-FOUNTAIN FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 225,964, dated March 30, 1880.

Application filed July 10, 1879.

To all whom it may concern:

Be it known that I, ZELOTES R. BENNETT, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Inking-Fountains for Printing-Presses, of which the following is a specification.

My invention relates to a fountain for supplying ink to the distributing-roller of a press, and it may be applied to any press now in use. In the drawings, however, I have shown the fountain applied to a Gordon press, it being especially adapted to that construction of press.

Figure I is a plan of the fountain. Fig. II is a transverse vertical section of the same, taken through its center. Fig. III is an end elevation of the same, showing the mechanism for operating the fountain-roller.

A is the fountain-shell, which may be of cast-iron, and provided at *a a* with bearings for the journals of the fountain-roller B.

C is the fountain-knife, which I prefer to make of thin elastic steel-plate. In constructing the knife this plate is bent along a longitudinal line until the parts on each side of the bend stand about at right angles with each other. The upright portion or back of the knife is secured to the rim of the fountain-shell at *b b*, preferably by screws, and the horizontal or bottom portion projects forward toward the fountain-roller, which it should touch at or somewhat below its center, as shown in Fig. II. Normally, the front edge of the knife does not quite touch the fountain-roller, and to feed or adjust it up to the latter I provide a set screw or screws, *c c*, which pass through the back of the fountain-shell and impinge against a loose bar, *d*, preferably of metal, arranged in a recess behind the back of the knife at the angle. This interposed bar prevents the screws from pressing in the thinner metal of the knife at intervals, and insures its edge being adjusted truly with respect to the fountain-roller, with a very limited number of adjusting-screws. As the bar *d* is not attached to the knife the elasticity of the latter is not affected by its use, and the knife retracts readily by its own elastic force when the set-screws are turned back.

I prefer to construct my knife from one plate of thin steel, bent as shown, as it forms a better receptacle for the ink than if put together with joints; but the bottom or horizontal portion of the knife might be made independent of the back or upright part and be fed in edgewise toward the roller by screws behind it, substantially as in the construction shown, being provided with suitable retracting-springs. The front edge of the fountain-shell, where it projects forward under the knife, is provided with a raised ridge or lip, as clearly shown in Fig. II. This lip does not necessarily extend quite up to the knife, but it serves to prevent the knife from being deflected downward to an injurious extent, which would permit too large a quantity of ink to pass. Where stiff ink is used some support for the knife is very necessary, and with all kinds it is desirable.

D represents the distributing-plate of a Gordon press, and E the cross-bar upon which it is mounted. F F are brackets secured to the fountain-shell, and curved so as to pass under the distributing-plate to seats at *e* upon the bar E, the screws or bolts which serve to secure the said bar in place serving also to secure the brackets. The bolt-holes in the brackets at *e* are elongated, so as to permit the adjustment of the fountain forward or backward over the distributing-plate to suit the travel of the distributing-roller.

The fountain-roller is caused to rotate through a fragment of a revolution at each impression by means of the following mechanism: One journal of the fountain-roller B is prolonged, as at *f*, and on it is mounted a fixed ratchet-wheel, H. This ratchet is provided with a long cylindrical sleeve or boss, *g*, on which is loosely hung or mounted a gravity pawl-carrier, *h*. This bears a loosely-hung pawl, *i*, arranged to mesh with the teeth of the ratchet H, as shown. A collar, *j*, upon the sleeve *g* keeps the pawl-carrier in place, and a set-screw, *k*, passes through both sleeve and collar and secures them to the roller-journal *f*.

G is the oscillating frame which bears the rollers *l l*. At *m* is secured to this frame an operating-tappet, *n*, which, when the rear end of the frame G is at its greatest elevation, impinges against the pendent weighted extremity of the pawl-carrier and drives it forward, thus rotating the fountain-roller slightly, as indi-

cated in dotted lines in Fig. III. When the tappet *n* is withdrawn by the return movement of the frame G the heavy pendent extremity of the carrier *h* returns to its vertical position through the action of gravity, dragging the pawl with it. To insure the return of the pawl-carrier to its normal vertical position, in case the friction of the parts should cause it to stick, I may place a suitable tappet on the roller-carriage to drive it back; but this I believe to be unnecessary.

To insure the better distribution of the ink over the form I provide the upper roller in the gang, which takes the ink from the fountain-roller, with larger bearing-wheels *o* than those of the type-inking rollers, so that it may be lifted above the face of the form and serve only as an ink-distributing roller.

Heretofore, in constructing inking-fountains for presses, it has been customary to bring the blade of the knife well under the fountain-roller and to force the said blade up to the roller by means of numerous screws acting upon it sidewise, instead of edgewise, as in my improved construction. These fountains operate very well; but, owing to the arrangement of the adjusting-screws underneath, it is found to be impossible to arrange them for use on some kinds of presses. Moreover, the great number of screws necessarily employed renders the adjustment tedious and difficult.

By adjusting my knife edgewise to the roller by means of screws at the back I am enabled to place the screws where they are accessible and to employ the fountain on any press now made.

I claim—

1. In an inking-fountain for printing-presses, a flat thin fountain-knife arranged to lie in a plane at right angles to the flow of the ink past its edge, and to be advanced edgewise to the fountain-roller by means of a set screw or screws, and to be retracted by elastic force, in combination with the fountain-shell, having a lip which projects under the said blade or knife, substantially as shown.

2. The combination of the fountain-shell A, provided with a projecting lip to take under the knife, the knife C, arranged to be adjusted edgewise to the roller B by means of a set screw or screws, *c c*, and to be retracted edgewise by elastic force, a bar for the screws to impinge against, an intermittent feeding device, as shown, arranged to be operated by the tappet *n*, the distributing-plate D, the distributing-roller *l*, arranged to contact with the fountain-roller, and the roller-bearing frame G, all arranged to operate substantially as set forth.

3. In an inking-fountain for printing-presses, the fountain-shell A, the angular knife C, secured thereto, the loose bar *d*, arranged behind the knife, and the set-screws *c c*, adapted to impinge against said bar when the knife is to be adjusted, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ZELOTES R. BENNETT.

Witnesses:
HENRY CONNETT,
WM. APGAR.