

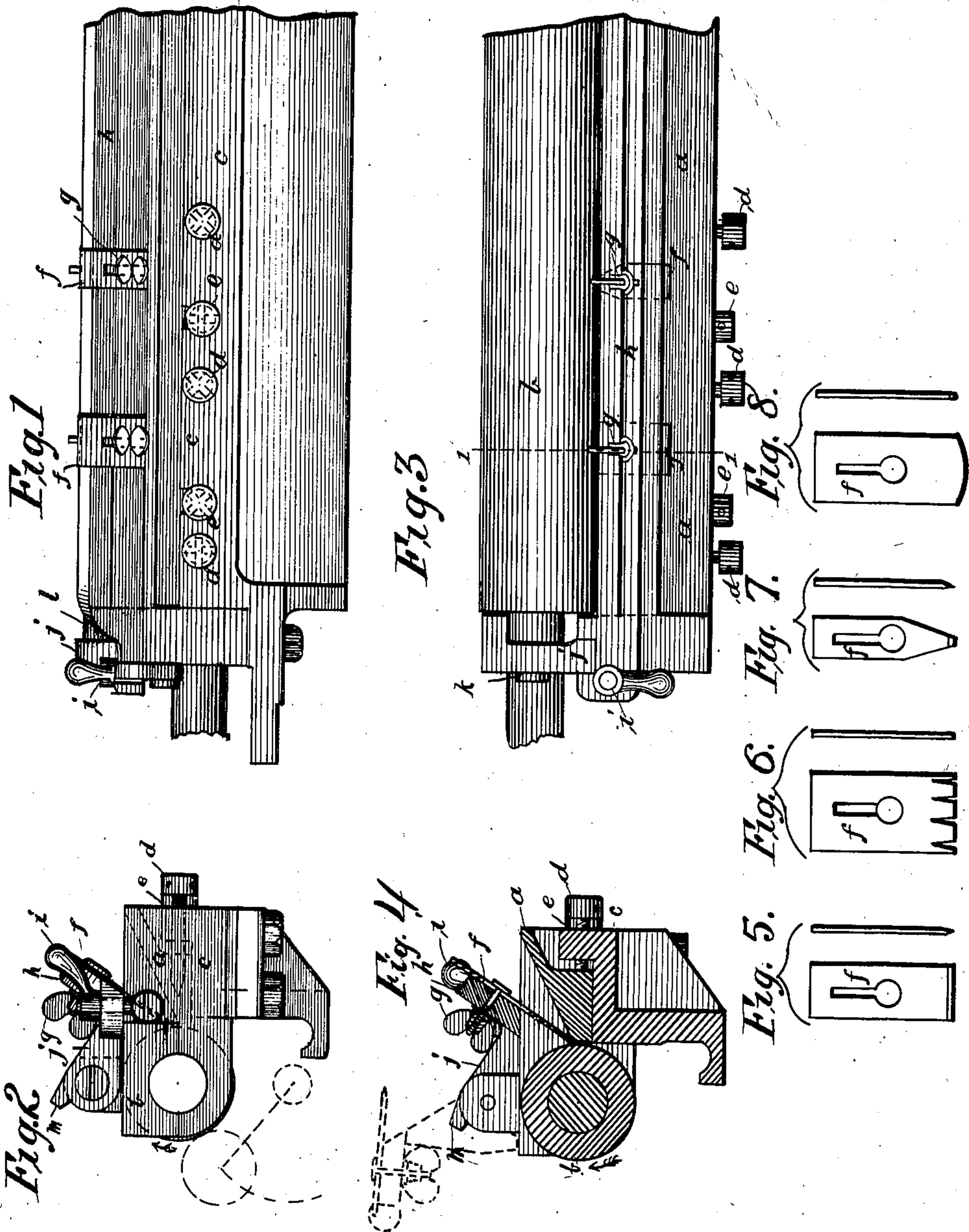
(No Model.)

J. W. OSBORNE.

INKING APPARATUS FOR PRINTING PRESSES.

No. 287,569.

Patented Oct. 30, 1883.



WITNESSES.

W. C. Walling
Chas. J. Simpson.

INVENTOR.
John W. Osborne
per Warwick & Bartlett
His Atty.

UNITED STATES PATENT OFFICE.

JOHN W. OSBORNE, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
TO WILLIAM H. FORBES, OF BOSTON, MASSACHUSETTS.

INKING APPARATUS FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 287,569, dated October 30, 1883.

Application filed May 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. OSBORNE, a subject of the Empress of India, residing at Washington, in the District of Columbia, have
5 invented certain new and useful Improvements in Inking Apparatus for Printing-Presses, of which the following is a specification, reference being had therein to the accompanying drawings.

10 My invention relates to devices connected with the inking apparatus of printing-machines of the class in which the ink is stored in a fountain or trough and delivered to the inking-rolls in regulated quantities.

15 The object of my invention is to facilitate the adjustment of the local supply of ink to suit the requirements of the particular form to be printed.

20 In the drawings forming part of this specification, Figure 1 shows so much of an ink-fountain as is necessary to illustrate the device, with my improvement attached, as seen from the back. Fig. 2 is an end elevation of the same. Fig. 3 shows part of the fountain
25 in plan. Fig. 4 is a cross-section on line 1 1 of Fig. 3. Figs. 5 to 8 are front and side elevations of various forms of plates which may be used.

30 A form of inking apparatus in very common use has the fountain-roll arranged to revolve in contact with the body of ink in the fountain. The quantity of ink fed to the inking-rolls is regulated by the pressure of an elastic steel blade, which is held in contact
35 with the fountain-roll by set-screws. When the blade bears uniformly upon the fountain-roll throughout its length, the film of ink on said roll will be uniform; but any buckling or irregularity of the knife will cause an uneven-
40 ness in the feed of ink to the different portions of the fountain-roll, and so on to the duck and inking rolls. When it is desired to localize the ink-feed on any part of the rolls and form, certain of the set-screws are tight-
45 ened or loosened, and thus the film of ink on the fountain-roll is increased or diminished; but this, being done by the flexure of the knife, does not cut the ink off squarely at any point, but feeds a band of ink tapering gradually
50 from thick to thin. Another objection to this

form of fountain is the rapid wear of the knife or blade if the fountain-roll is made to revolve continuously. In my apparatus I prefer a continuously-moving fountain-roll, because such a roll will take up a thin film of
55 ink, rather than lines or blotches. With the roll I prefer to use an inflexible knife of considerable thickness, which knife may be adjusted relatively to the roll, so as to cut off all but a film of ink from the roll. The knife, 60
being thick, is not much subject to wear. This form of fountain is also old.

In the drawings, *a* represents a knife or blade of the character last referred to. This knife may be pressed toward the fountain-roll *b* by
65 means of set-screws *d*, and drawn back by set-screws *e*, the knife resting on the base *c* of the fountain. By this device alone a very even film of ink may be fed to the fountain-roll, or a film which is thick at one end of the roll 70
and thin at the other end; but there is no provision for local variation.

To effect local distribution, so that heavy bands of color may be fed only to those parts of the roll which require such excess, I arrange the knife at such distance from the roll
75 as to give a thickness to the ink-film equal to the greatest thickness of color required. To reduce or entirely cut off the flow of ink from portions of the fountain-roll, I interpose plates
80 *f* between the roll and knife in such manner that their edges enter the angle between the knife *a* and roller *b* and close or nearly close the aperture. The plates *f* are shown to be
85 slotted, and are mounted on the slotted bar *h*, and held thereto by thumb-screws, so that they may be adjusted lengthwise of the bar, or be extended nearer to or farther from the aperture between the roll and knife.

The slotted bar *h* is provided at its ends 90
with lugs *j*, which are pivoted by screw-bolts *k* to uprights *l* on the fountain or frame, so that the bar *h* may be swung upward, and thus lift all the blades *f* from contact with the roll. When the bar *h* is thus lifted, it may be thrown
95 over so that the lugs *j* rest on stops or projections *m*, (see dotted lines, Fig. 4,) and thus afford convenient access to the fountain for filling, cleaning, &c. When the bar *h* is turned down, so that the plates *f* are in contact with 100

or proximity to the roll, the plate is held down by the swinging bolt *i*, which is mounted on the frame of the fountain.

The plates *f* may be of any width desired, 5 and may have a variety of forms, some of which are shown in Figs. 5 to 8. The edges of the blades *f* may be so formed as entirely to close the aperture between the knife *a* and roller *b*, or to permit the ink to pass in narrow 10 belts, or in bands of irregular thickness.

It will be apparent that the plates *f* may be attached to the fountain by other means than by the bar *h*. The mode of attachment I have 15 illustrated is a convenient one, but may be readily modified.

While I have described my device as attached to a fountain having a continuously-revolving roll and an inflexible knife, such construction being desirable, as it conveys a 20 film of ink of considerable extent to the duck-roll, and the wear of the knife being unimportant, it is apparent that I may use the plates *f* with a fountain having a flexible knife, or one in which the fountain-roll has an inter- 25 mittent movement.

What I claim is—

1. An ink-fountain provided with fountain-roll and knife, as *a b*, and intermediate plates arranged, as shown, to close a portion of the 30 aperture between the knife and roll.

2. The combination, with the fountain-roll

and knife of an ink-fountain, of intermediate adjustable plates arranged with relation to the knife and roll, substantially as described.

3. The combination, with the fountain-roll 35 and knife of an ink-fountain, of adjustable plates, as *f*, arranged between the roll and knife to cut off the ink-supply, said plates being mounted on a device substantially such as described, whereby all the plates may be 40 turned back out of contact with the roll or knife, as set forth.

4. The combination, with the fountain-roll and knife, of intermediate plates, adjustable, as described, with relation to said roll and 45 knife, the pivoted bar to which said plates are attached, and mechanism, substantially as described, for holding said bar and plates down in working position, as set forth.

5. The improvement in the art of supply- 50 ing ink to the rolls of a printing-machine, which consists in shutting off the flow of ink entirely between the fountain-roll and knife for a precisely-determined distance, while permitting it to flow through other portions of the 55 length of the fountain, substantially as stated.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. OSBORNE.

Witnesses:

J. W. HAMILTON JOHNSON,
EDMOND BRODHAG.