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INKING MECHANISM

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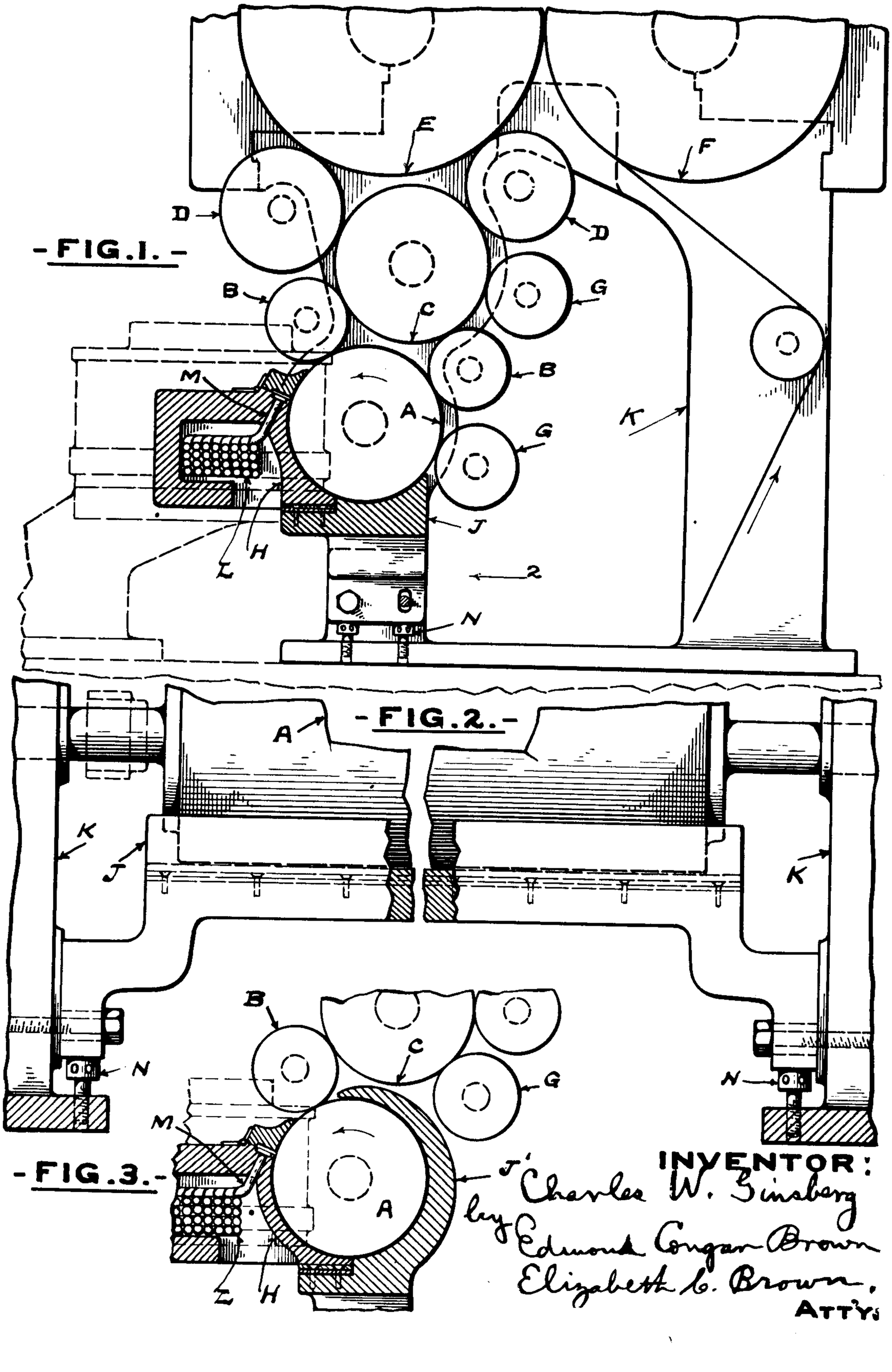

-FIG.1.-

-FIG.2.-

-FIG.3.-

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INKING MECHANISM

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8 Claims. (Cl. 101—350)

The invention relates to inking mechanism, and more particularly to inking mechanism for printing machines, and to devices forming part of or operatively connected with the ink rail and adapted to prevent the ink passing from the ink rail to the ink distributing cylinder being thrown off or removed therefrom by centrifugal force and/or gravity during the operation of the machine.

One of the principal objects of the invention is this ink control, above mentioned, but further objects and advantages of the invention will be in part set forth in the following specification and in part will be obvious therefrom without being specifically pointed out, the same being realized and attained by means of the instrumentalities and structural characteristics and relative arrangements and combinations which will be hereinafter more fully described or which will be pointed out in the claims hereof.

With the above and other objects of the invention in view, the invention consists in the novel construction, arrangement and combination of various devices, elements and parts, as set forth in the claims hereof, certain embodiments of the same being illustrated in the accompanying drawing and described in this specification.

In the accompanying drawing,

Fig. 1 is a fragmentary vertical section showing a portion of the mechanism of a printing machine constructed according to my invention in one embodiment of the same;

Fig. 2 is a view at right angles to Fig. 1, looking in the direction of the arrow 2; and

Fig. 3 is a fragmentary sectional view of another embodiment of my invention.

In carrying my invention into effect in the embodiment thereof which is shown in Figs. 1 and 2 of the accompanying drawing, I provide a supporting frame of the usual or any suitable construction, marked K, in which are journaled various rollers and cylinders, as shown, comprising a first ink distributing cylinder A, transfer cylinders B, B, a second ink distributing cylinder C, form rollers D, D, a form or plate cylinder E, and an impression cylinder F. Ink distributing rollers G are also provided, of the usual or any suitable type. These various rollers may be mounted in such a way as to be reciprocated longitudinally or axially in an out of time relation, for the purpose of more evenly distributing the ink, but this mechanism forms no part of the present invention and need not be shown or described in detail.

In mechanism of the type referred to, the ink passing from a reservoir or ink pump is led down toward the ink rail H and longitudinally through the same by a series of conduits L. At intervals during the length of the ink rail one of these conduits turns outward, as shown at M in Fig. 1, and discharges the ink between the ink rail and the first ink distributing cylinder A, in a manner which will be well understood. The arrangement of this series of conduits, which as above said are turned towards the ink distributing cylinder at regular intervals along the length of the ink rail, is such that a practically continuous sheet of ink is deposited between the ink rail and the ink distributing cylinder A. This cylinder A, in the form shown in the drawing in Fig. 1, turns in a counterclockwise direction, and the ink deposited thereon is carried towards the first ink distributing roller G and then upwards and acted on by other rollers in the usual manner, which will be well understood.

In mechanism of the kind described which has been heretofore known in the art, considerable difficulty has been experienced owing to the tendency of the ink to be thrown off by centrifugal force from the ink distributing cylinder A and also by the force of gravity to descend to the lowermost portion of the said ink distributing cylinder where the loss of ink by the combined action of gravity and centrifugal force may be considerable. In the present invention, this difficulty is overcome by providing an extension J to the ink rail, which lies underneath and is carried around and beyond the lowermost portion of the ink distributing cylinder A and guards a considerable portion of the periphery thereof, thus preventing the flying off of ink therefrom.

I provide adjusting mechanism as indicated in Fig. 1, for the purpose of locating the ink rail and its extension member J in proper position vertically with regard to the ink distributing cylinder, the adjusting mechanism being indicated at N.

In the modification of the device shown in Fig. 3, I provide certain parts analogous to those shown in Figs. 1 and 2 and comprising the first-named embodiment of the invention, but in Fig. 3 it will be seen that the ink rail extension J′ is much larger and extends not only underneath and on one side of the ink distributing cylinder A, but also to a substantial extent around and over the same. Because of this change of form of the ink rail extension, as

shown in Fig. 3 and marked J', it becomes necessary to somewhat change the location and arrangement of the various cylinders and rollers, as is shown in Fig. 3, but this re-arrangement does not constitute any radical change in the invention, further than an accommodation of the arrangement of the parts to conform to the modified shape of the extension J'.

It is to be particularly noted that the objects of the present device are achieved in practical measure only by carrying or extending the guards J or J' around and beyond the lowermost portions of the ink distributing cylinder A, as illustrated in Figures 1 and 3, since in this manner not only are the ink globules or drippings which tend to accumulate by gravity at the lowermost portion of the cylinder prevented from falling or flying off the said ink distributing cylinder, but such globules of ink as may fly off the said ink distributing cylinder beyond the lowermost portions will be conserved by the present guard which is extended to a point where escape of any ink globules from the revolving cylinder is practically inappreciable.

The operation of my invention has been already sufficiently described in connection with what has been said with regard to its construction, and will be quite obvious therefrom and from the drawing.

Certain advantages of the invention have already been referred to, and they as well as other advantages will be quite obvious to those skilled in the art to which the invention relates.

I do not limit myself to the particular details of construction set forth in the following specification and illustrated in the accompanying drawing, as the same refer to and set forth only certain embodiments of the invention and it is obvious that the same may be modified, within the scope of the appended claims, without departing from the spirit and scope of the invention.

Having thus described my invention, what I claims as new and desire to secure by Letters Patent is as follows:

1. An inking mechanism for printing presses comprising in combination an ink reservoir, an ink distributing cylinder, means for conducting ink from said reservoir to said ink distributing cylinder, and means having a concave portion closely adjacent said ink distributing cylinder extending around and beyond the lowermost portion of same, said means being adapted to prevent the premature escape of ink therefrom before it reaches a predetermined point.

2. An inking mechanism as set forth in claim 1, characterized by the fact that said ink escape prevention means surround said ink distributing cylinder to a substantial extent, leaving only a small portion of the periphery thereof exposed, sufficient to allow the same to contact with means adapted to receive and transfer the ink thereon.

3. In an inking mechanism for a printing machine, an ink distributing cylinder, an ink rail, and a plurality of ducts from which ink is fed to the rail; said rail having an extended portion conforming to the lower side of the cylinder and carried beyond the lowermost point of the said cylinder and co-operating therewith to distribute ink thereon, and adapted to prevent ink from being thrown from the cylinder by the combined action of centrifugal force and gravity.

4. In an inking mechanism for a printing machine, an ink distributing cylinder, an ink rail, and a plurality of ducts from which ink is fed to the rail; said rail being extended to conform to the greater portion of the periphery of the cylinder and co-operating therewith to distribute ink thereon, and adapted to prevent the ink from being thrown from the cylinder by the combined action of centrifugal force and gravity.

5. In inking mechanism for a printing machine, an ink distributing cylinder, an ink rail provided with a plurality of ink-conveying ducts, and means extending around and beyond the lowermost portion of said ink distributing cylinder and adjustable vertically relatively to same, for preventing loss of ink by combined action of gravity and centrifugal force.

6. In inking mechanism of the character described, an ink distributing cylinder, and ink rail having a plurality of ink-conveying ducts, an ink rail extension secured to a frame whereon said cylinder is mounted, and adjusting means connected to the frame and ink rail extension for moving the ink rail extension relatively to the ink distributing cylinder, said ink rail extension in combination with said ink rail enclosing the greater portion of the ink distributing cylinder, but affording sufficient space for the operative engagement of coacting rolls forming a part of the mechanism with the ink distributing cylinder.

7. In inking mechanism for a printing machine, an ink distributing cylinder, an ink supply, means for delivering ink from said supply to the ink distributing cylinder, an ink rail and an extension therefor extending around and beyond the lowermost portion of said ink distributing cylinder, said rail and extension having concave portions which are closely adjacent the surface of the ink distributing cylinder to prevent the premature escape of ink therefrom.

8. In inking mechanism for a printing machine, an ink distributing cylinder, an ink supply, means for delivering ink from said supply to the ink distributing cylinder, an ink rail and an extension therefor extending around the greater portion of said ink distributing cylinder but affording sufficient space for the operative engagement of coacting rolls forming a part of the mechanism with the ink distributing cylinder, said rail and extension also having concave portions which are closely adjacent the surface of the ink distributing cylinder.

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