(No Model.) 2 Sheets—Sheet 1.

H. JOHNSON.

INK FOUNTAIN AND INK DISTRIBUTION.

No. 575,892. Patented Jan. 26, 1897.

FIG. 1.

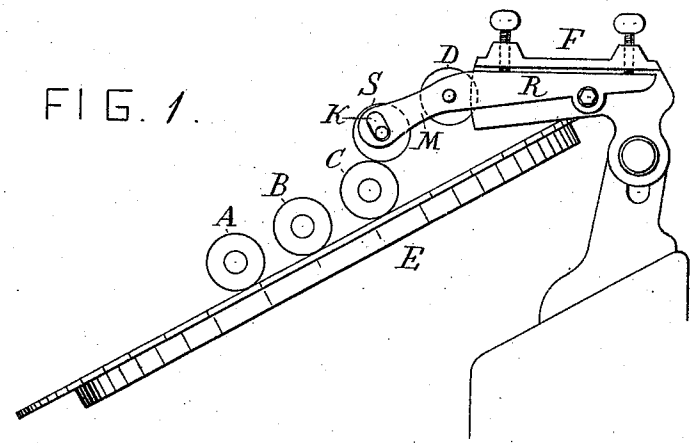
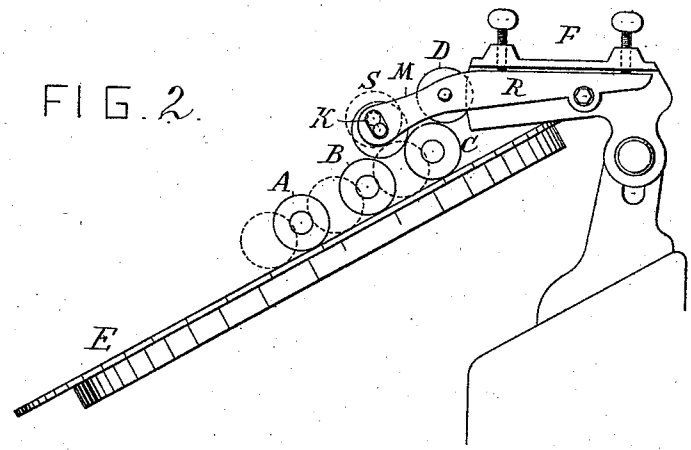


FIG. 2.



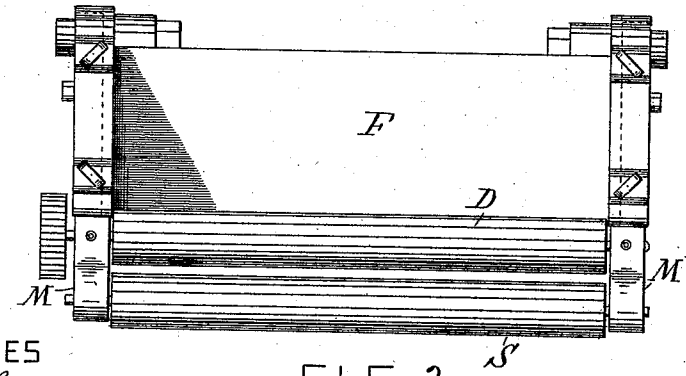


FIG. 3.

WITNESSES

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James A. Stilton.

INVENTOR

Henry Johnson

(No Model.) 2 Sheets—Sheet 2.

H. JOHNSON.

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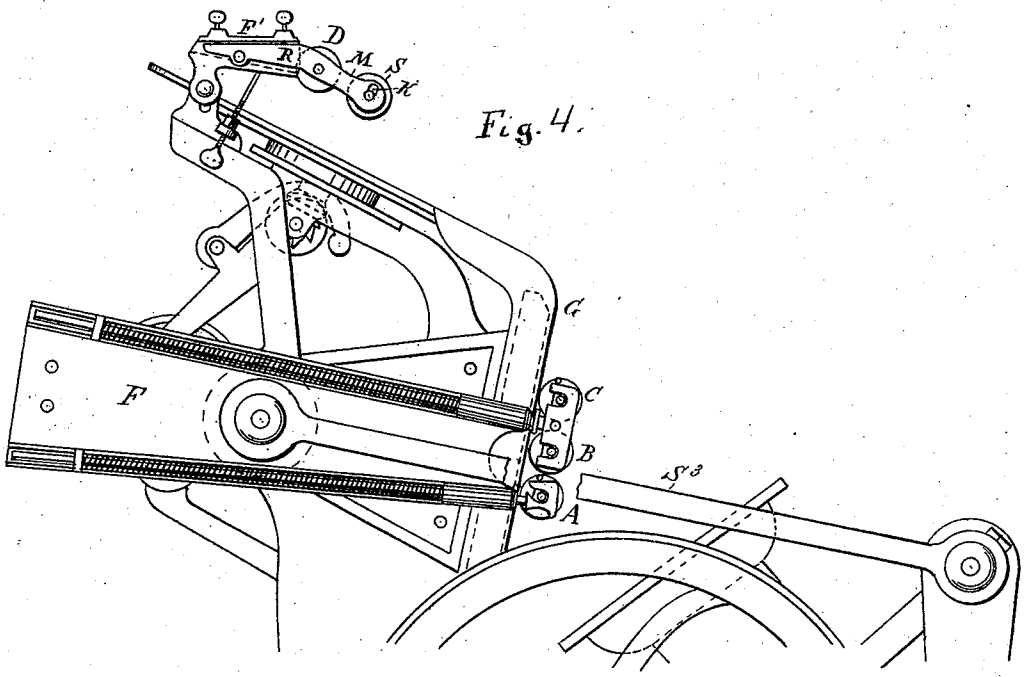

Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY JOHNSON, OF NEW YORK, N. Y.

INK-FOUNTAIN AND INK DISTRIBUTION.

SPECIFICATION forming part of Letters Patent No. 575,892, dated January 26, 1897.

Application filed November 6, 1885. Serial No. 182,058. (No model.)

To all whom it may concern:

Be it known that I, HENRY JOHNSON, of No. 33 East Twenty-second street, in the city, county, and State of New York, have invented a new and useful Improvement in Ink-Fountains and in Ink Distribution or Spreading, of which the following is a specification.

My invention relates to mechanism for taking ink from the fountain or ink-supply and distributing or spreading it upon the disk or plate of a printing-press; and it consists in a roller interposed between the fountain or ink-supply roller and a carriage or vibrating roller which traverses the disk or plate, the object being to effect intermediate distribution of the ink and to increase the spread of the same after it is taken from the fountain or supply roller and before it is transferred from and by the carriage or vibrating roller to the disk or plate, the spread being still further increased upon the disk or plate by the action of such carriage or vibrating roller, or rollers, in the first instance, together with the other carriage, and form-rollers subsequently.

My invention is shown in the four figures found on Sheets 1 and 2 of the drawings, of which—

Figures 1 and 2 are end views. Fig. 3 is a top or plan view, and Fig. 4 is a partial side view of the fountain in position and of the press upon which it is intended to be used.

My invention is shown in connection with a hinged fountain, but I do not desire to limit it to connection with a fountain of that construction, as it is adapted for use in connection with any fountain suitable for use or operation, together with a disk or plate.

Similar letters refer to similar parts throughout the several views.

A and B are form-rollers.

F is the fountain.

D is the fountain-roller.

E is the disk or plate.

S is the spreader or distributing-roller and rests in vertically-elongated sockets K of the hinged arms R R, the object of which is to permit the intermediate distributing-roller or spreader S to rise, as shown in Fig. 2 in dotted lines, when the carriage-roller C passes under it while moving up to and back from the fountain-roller D in the operation of taking ink therefrom. The spreader is made of metal or of any other suitable material sufficiently heavy for the purpose, the ordinary unaided composition roller not affording sufficient pressure, as I have found by experiment, to spread or roll out the ink upon the surface of the carriage-roller C as it retreats under the same and prior to the contact which distributes the ink therefrom upon the disk. The spreading action seems to be given by or through the increased weight of the spreading-roller, which holds it in close or solid contact with the roller C. The same effect may be produced by a lighter roller provided with a spring or other means for producing equivalent pressure; but I prefer the weighted roller as more simple, steady, and less liable to get out of order. The carriage-roller C may also be used as a form-roller.

According to the different sizes of rollers the ink is distributed upon the disk in the absence of the spreader over a space of, say, a half-inch in width, whereas the action of the spreader S increases the eventual spread or distribution of the ink over a space of an inch to an inch and a half. This effect is due to the intermediate distribution or spreading of the ink upon the carriage-roller C by the action of the intermediate roller or spreader S.

The hinged fountain is supported forward of the hinge by the thumb-screw shown in Fig. 4, by which the position of the roller S and also the roller D and the ink-fountain are adjusted with relation to the disk and the carriage roller or rollers, the roller S being provided with socket-bearings or other similar devices provided for the purpose of allowing the roller S to rise while the carriage roller or rollers are passing under it and while the roller S is revolving thereon, and also to drop when or as they are passing from under the roller S, either in the upward or downward motion of the form roller or rollers.

From an inspection of the drawings it will appear that the form-roller B, being of the same size as the roller C and moving in the same plane therewith, may, as or when it moves up under the fountain-roller D, come in contact therewith, take ink therefrom, subsequently have the same distributed upon

itself by the distributing-roller S, and in its turn redistribute the ink so received upon the ink-disk E, all in the same way and with the same effects as in the case of the roller C, and the same is also true of the form-roller A.

In using the terms "form-roller" and "form-rollers" I refer to a vibrating roller or rollers supported in a carriage-frame and having vibratory motion therewith in performing the function of distribution when passing to and fro over the ink-disk and also for the purpose of inking the form when arranged to be brought into contact therewith.

I am aware that the upper roller C, while traversing the disk for the purpose of transferring the ink thereto and distributing it thereupon, may be made to traverse the form without making contact therewith, the work of inking the form being left to one or both of the other rollers located in the same carriage and arranged to traverse the disk and form in its vibratory movement.

In the press shown in part in the drawings and to which this invention has been pactically adapted it had been, long prior to the date of this application, customary to provide the upper roller C with collars of different diameters, the larger of which when used would allow the roller to make contact with the disk, but prevent it from making contact with the form, thereby limiting its work to the transferring and distributing of the ink upon the disk and leaving the inking of the form to the other two rollers. When collars of uniform sizes with those of the other rollers were used thereon, however, the roller C would both distribute on the disk and also ink the form with its associate rollers.

The contact between the carriage-roller and the distributing-roller is made at each vibration upon the upper periphery of the former and upon the lower periphery of the latter.

I claim as my invention—

1. In combination, a fountain-roller, one or more swinging form-rollers, a spreading or distributing roller, spreading the ink upon a carriage-roller, and a revolving disk, substantially as shown and described.

2. The combination of the spreader, or distributing-roller S, with the fountain-roller D, and the swinging carriage-roller C, for the purpose of spreading the ink on such carriage-roller prior to spreading the same upon the revolving disk.

3. In combination, the following devices for distributing ink, in a printing-press; first, an ink-fountain; second, a fountain-roller; third, one or more swinging form-rollers; fourth, an intermediate distributing-roller or spreader distributing or spreading the ink upon one or more swinging carriage-rollers; and, fifth, a revolving ink disk or plate.

4. In combination, the following elements: first, an ink-fountain provided with arms R R; second, a fountain-roller supported by the arms R R and receiving the ink from the ink-fountain; third, a swinging carriage-roller; fourth, an intermediate distributing-roller or spreader supported by the arms R R; and, fifth, a revolving ink disk or plate.

5. In combination, the following elements: first, an ink-fountain; second, a fountain-roller receiving the ink from the ink-fountain; third, a swinging carriage-roller; fourth, an intermediate distributing roller or spreader supported on or by the ink-fountain and arranged to roll automatically upon the swinging carriage-roller through its contact therewith; and, fifth, a revolving ink disk or plate.

6. In combination, a weighted spreader, or distributing-roller, a fountain-roller and a swinging carriage-roller upon which such distributing-roller intermittently rests and by which it is intermittently revolved for the purpose of distribution, first upon the carriage-roller and thereafter upon an ink-disk.

7. In combination, a hinged ink-fountain, a fountain-roller, and a spreading or distributing roller spreading the ink upon one or more carriage-rollers preparatory to spreading the same upon a revolving ink-disk, one or more form-rollers and an ink-disk.

8. In combination, the following elements: first, an ink-fountain; second, a fountain-roller; third, an intermediate distributing-roller or spreader having its bearings in elongated sockets and suspended over the path of the swinging carriage-roller so as to make contact therewith during its vibratory motion and revolve upon the same; fourth, a swinging form-roller; and, fifth, a revolving ink disk or plate.

9. The combination of a spreader, or distributing-roller, the bearings of which are movable in elongated sockets, with the fountain-roller D, and with one or more swinging carriage-rollers, for the purpose of spreading the ink on such carriage roller or rollers prior to spreading the same upon the revolving disk, and the revolving disk.

10. A vibrating carriage-roller actuating a second and independent roller located in the path of vibration, to effect preliminary, independent distribution, and effecting secondary distribution upon a revolving ink-disk, at the same time, with the same vibration, all in combination for these purposes.

HENRY JOHNSON.

Witnesses:
WM. H. BUTTERWORTH,
JAMES A. SKILTON.