

(No Model.)

S. D. HENRY.
SELF INK DISTRIBUTER.

No. 420,940.

Patented Feb. 11, 1890.

Fig. 1.

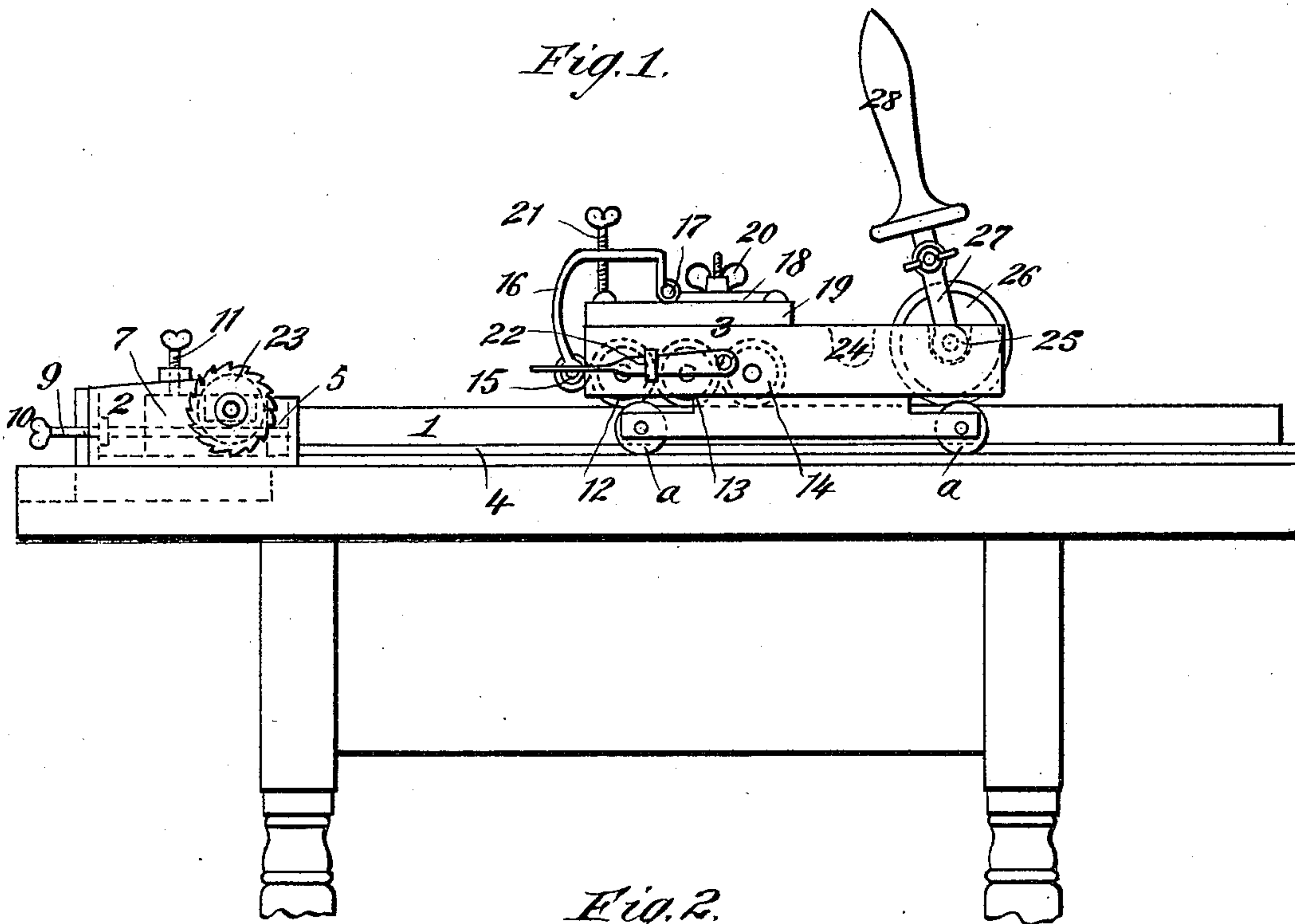
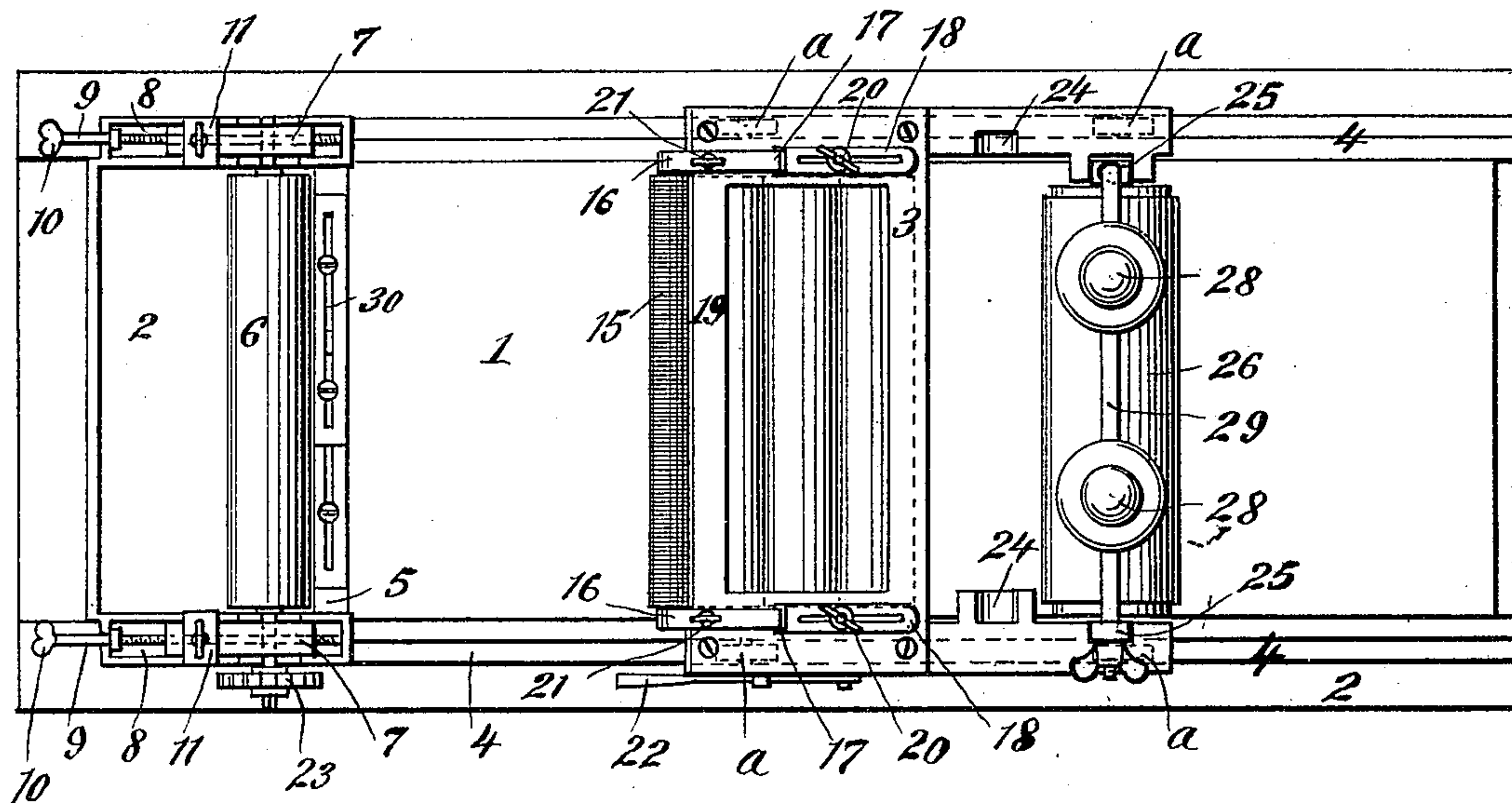


Fig. 2.



WITNESSES:

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SELF INK-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 420,940, dated February 11, 1890.

Application filed November 27, 1888. Serial No. 291,964. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL D. HENRY, of Coon Rapids, in the county of Carroll and State of Iowa, have invented a new and useful Improvement in Self Ink-Distributers, of which the following is a full, clear, and exact description.

My invention is especially adapted for use in connection with hand newspaper-presses; and has for its object to secure the even distribution of ink upon the forms to be printed from and to increase the speed of the press-work.

I will describe a self ink-distributing apparatus embodying my invention, and point out the particular features thereof in claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation of my apparatus, and Fig. 2 is a plan view thereof.

The ink board or stone 1 is of the usual construction, and is provided at one end with an ink-trough 2. A roller-carriage 3, provided with rollers *a a a*, is given a reciprocating motion over the face of the ink-board to and from the ink-trough upon the tracks 4 4, and serves to take ink from the ink-trough 2 and distribute it by means hereinafter described over the face of the ink-board.

The ink-trough 2 is provided at the end facing the roller-carriage with a stationary ink-gage 5, made preferably of a strip of metal, and an ink-roller 6, mounted in sliding journal-blocks 7 7, which blocks fit into the boxes 8 8, formed at either end of the ink-trough. The sliding journal-blocks below the points where the ink-roller is journaled in them are tapped to receive the screw-threaded bolts 9 9, which have thumb-nuts 10 10 at their outer ends. By this arrangement of parts the charge of ink upon the ink-roller can be regulated. When the roller and gage have been given the desired adjustment, the journal-blocks may be clamped by the set-screws 11 11.

The tracks 4 4 may be laid upon the ink-board or at the side thereof upon an auxiliary frame. The latter arrangement I have shown in the drawings.

In the side frames of the roller-carriage are journaled three ink-distributing rollers 12, 13, and 14, preferably of equal length and diameter and out of contact with each other. In advance of these rollers an ink-receiving roller 15 is supported by means of journal-arms 16 16, which are pivoted upon hinge-pins 17 17, located at the ends of slotted strips 18 18, which are held in place on the top plate 19 of the roller-carriage by the jam-nuts 20 20. By this arrangement the ink-receiving roller may be adjusted both vertically and horizontally and may be held in any desired position, the screw-threaded rods 21 21 and nuts thereon serving as a further means of securing a desired adjustment.

At one side of the carriage-frame a finger 22 is secured, which, when the roller-carriage is advanced, serves to rotate the ink-roller 6 by means of the ratchet-wheel 23, borne by the spindle of that roller at its end. By this means a fresh surface of the ink-roller is presented at every advance of the roller-carriage.

The side frames of the roller-carriage are provided on their inner surfaces with two sets of grooves 24 24 and 25 25. One groove 24 and one groove 25 are on the same side of the frame and are arranged as steps, as shown most clearly in Fig. 2 of the drawings, where it will be seen that though the horizontal distance between each set of grooves is the same yet an object of the correct length placed in one set of grooves would bear a different endwise relationship to the surrounding parts than it would when placed in the other set of grooves.

26 is a removable ink-distributing roller having the arms 27 27 mounted at either end upon its spindle, which arms form the side pieces of the frame to support the handles 28 28, the cross-piece 29 serving as the other frame-piece. The ink-roller I prefer to construct of metal. I prefer also to have the ink-roller of less length than the ink-board is wide. The ink-receiving roller I prefer to construct with a metal core and a twine-wound periphery. The permanent ink-distributing rollers and the removable ink-distributing rollers I prefer to have of printers' roller composition.

When my self-inking distributor is used for printing circulars or other small work, it is desirable that no more ink shall be spread than necessary. To effect this I provide the ink-gage with an adjustable strip or strips 30, which may be set to remove the ink from either or both ends of the ink-roller to the required extent. The width of the longitudinal slots of the gage-strips 30 is sufficient to allow a slight movement of the said strips toward and from the ink-roller. The said longitudinal slots therefore enable the gage-strips to be moved longitudinally and toward and from the ink-roller, and the set-screws shown in connection therewith secure the strips in the adjusted position.

The mode of operation of my apparatus is as follows: The ink-roller having been set to deliver the desired quantity of ink, the removable ink-distributing roller is placed in one set of grooves—say the grooves 24 24—and grasping it by the handles the operator reciprocates the roller, and consequently the carriage, so that the ink-receiving roller 15 will come in contact with and receive ink from the ink-roller, the finger and ratchet co-operating to insure the presentation of a fresh portion of the ink-roller at each reciprocation. The ink-receiving roller 15 will part with a portion of its ink to the roller 12 in contact with it, which will distribute it upon the ink-board and to the rollers 13 and 14. These latter rollers serve more as evening-rollers than as distributing-rollers proper. When the ink has been distributed upon the ink-board, the removable roller, which of course is free to rotate upon the ink-board, will receive a sufficient charge of ink, to be judged of by the operator, whereupon the operator removes it from the carriage and inks the forms. The operator then returns the removable distributing-roller to the carriage for a fresh supply of ink, but to the other set of grooves 25 25, and repeats the operation as before, and continues this operation as many times as are necessary, alternating the location of the removable roller in the grooves each time it has been used to ink a form. By this arrangement an accumulation of ink upon the ends of the removable roller is prevented and an even distribution of ink over its surface is obtained. When a roller inked as I have just described is applied to a form of type, it distributes the ink evenly over its surface, and the sheet printed from such form will come out clear, clean, and sharp, without an uneven distribution of color. By making the ink-roller of less length than the ink-board is wide ink is not distributed as liberally at the edges of the ink-board as if the ink-roller were of equal or greater length, and this also aids in securing an even distribution of color.

It is obvious that a mechanic might change the construction and arrangement of the parts of my apparatus to a considerable extent without departing from my invention—as, for instance, instead of having the ink-roller adjustable in relation to the ink-blade 5, the latter might be made adjustable with relation to the former; also, the ink board or stone 1 might be made of iron.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an ink-distributing apparatus, the combination of an ink-board, an ink-trough, and a reciprocating carriage, a removable roller, and two sets of bearings for said roller upon said carriage, each set of bearings arranged to support said roller in a different endwise relationship, substantially as specified.

2. In an ink-distributing apparatus, the combination of an ink-board, an ink-trough, and a reciprocating carriage, an ink-roller located in said ink-trough, and a receiving-roller and a distributing-roller located in said carriage, and a removable roller and two sets of bearings for said removable roller upon said carriage, each set of bearings arranged to support said roller in a different endwise relationship, substantially as specified.

3. In a carriage for an ink-distributing apparatus, the combination of side frames, one or more distributing-rollers journaled therein, two sets of bearings upon said frames for a removable distributing-roller, each set being arranged to support said removable roller in a different endwise relationship, said removable distributing-roller and an ink-receiving roller sustained in advance of the journaled distributing-rollers, substantially as specified.

4. In an ink-distributing apparatus, the combination of an ink-board 1, an ink-trough 2, an ink-roller 6, operating within said trough and of less length than the width of the ink-board, and a reciprocating carriage 3, a removable roller 26, and two sets of bearings 24 24 and 25 25 for said roller, each set of bearings arranged to support said roller in a different endwise relationship, substantially as specified.

5. In an ink-distributing apparatus, the combination, with the carriage carrying distributing-rollers, of an ink-receiving roller supported on the carriage in adjustable relation to said distributing-rollers, substantially as described.

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Witnesses:

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