

(No Model.)

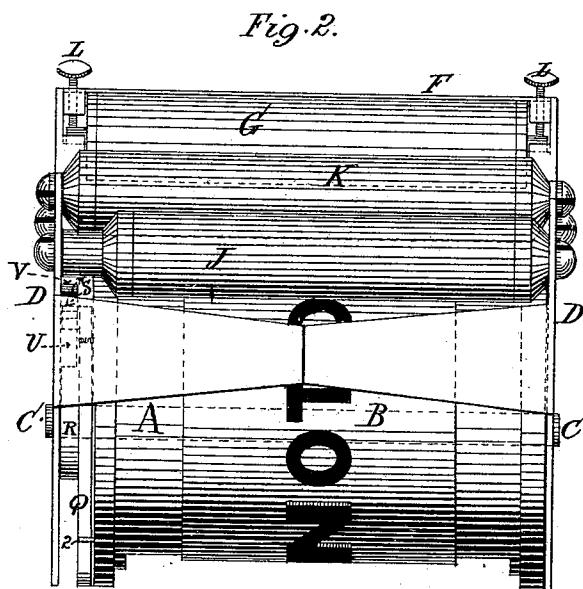
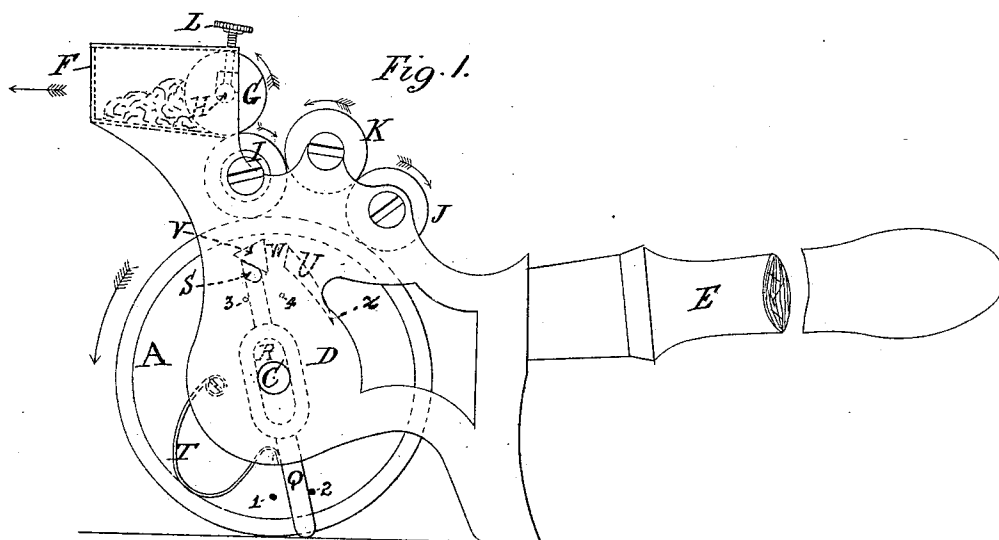
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J. H. EIERMANN.

HAND ROLLER PRINTING MACHINE.

No. 353,670.

Patented Dec. 7, 1886.



WITNESSES

S. L. Schrader.
Edwin Sauter

INVENTOR

John H. Eiermann
Paul Bakewell
his attorney

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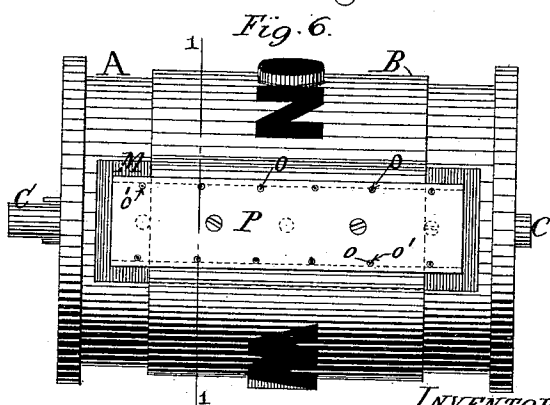
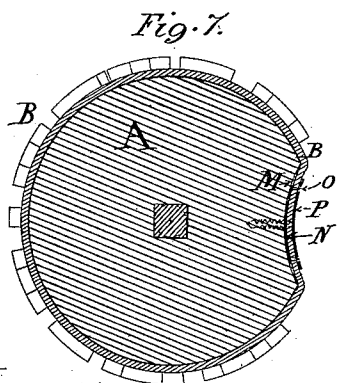
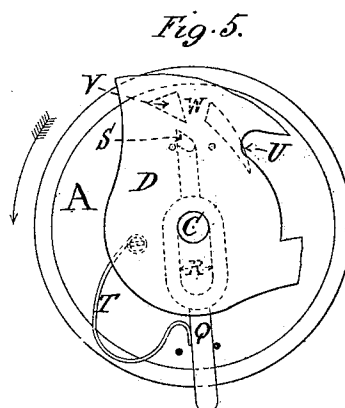
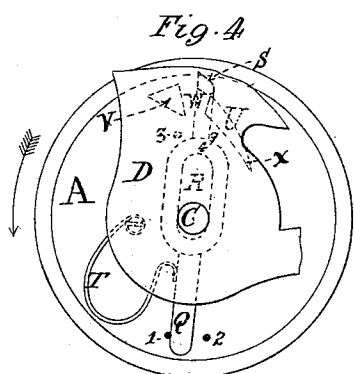
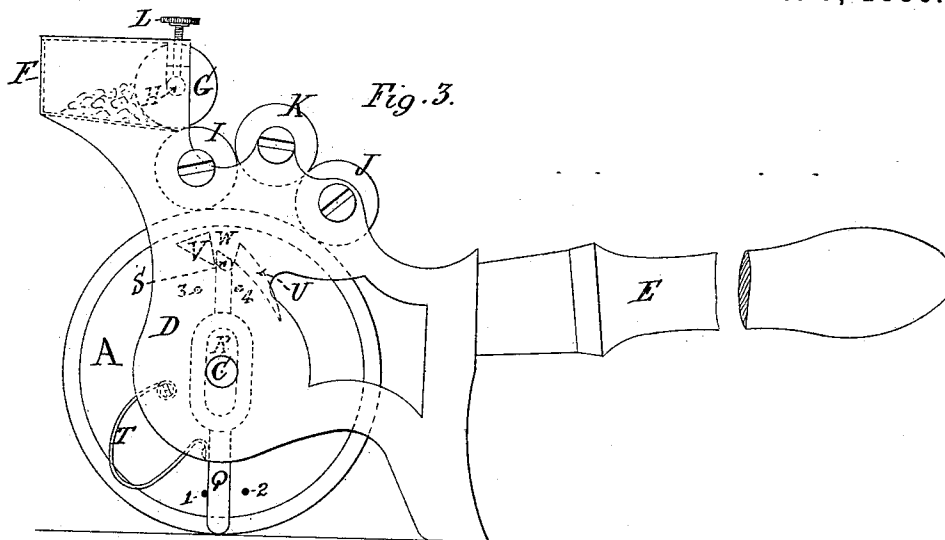
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UNITED STATES PATENT OFFICE.

JOHN H. EIERMANN, OF ST. LOUIS, MISSOURI.

HAND ROLLER PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 353,670, dated December 7, 1886.

Application filed May 15, 1886. Serial No. 202,263. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. EIERMANN, of St. Louis, Missouri, have invented a certain new and useful Improvement in Hand Printing-Roller Machines, of which the following is a full, clear, and exact description.

My invention relates to hand printing-roller machines, and has for its objects improved means of supplying and regulating the flow of the ink to the printing-band, and of securing the latter to the roller so that the band can be easily removed and replaced or changed; also of automatically stopping the roller at the end of its travel on completion of the printing, so as to avoid the jar and consequent uneven motion of the roller occasioned by the drop movement used for stopping the same in ordinary hand-printing rollers.

On the accompanying drawings, Figure 1 is a side elevation of my improved hand printing-roller machine when in position on the table for being pushed forward in the direction of the arrows at the commencement of the printing; Fig. 2, a back elevation thereof, omitting the handle; Fig. 3, a side elevation of the machine, showing the printing roller locked at the completion of the printing; Fig. 4, a detached end view of the roller and a portion of the frame-work broken away, showing the position of the stop mechanism when the roller is near the end of its travel or completion of the printing; Fig. 5, a similar view showing the position of the stop mechanism when the machine is lifted from the table; Fig. 6, a detached side view of the roller, showing the means employed for securing the printing-band thereto; and Fig. 7, a section on line 1 1 in Fig. 6, like letters of reference denoting like parts in all the figures.

A represents the printing-roller, furnished with the rubber or other printing-band B, and mounted with its axle C in and between the sides D of the frame-work, to which is secured the handle E, for operating and lifting the machine. Horizontally across the front of the machine, above the roller A and between the sides D, is fixed a fountain or reservoir, F, containing the ink, and closed on its rear side by a fountain-roller, G, which is mounted with its spindle H in bearings at the ends of the reservoir F, and is in contact with an inking-roller I, which bears against the printing-band

B. J represents another inking-roller arranged parallel to the inking-roller I, at some distance therefrom, and in contact, likewise, with the printing-band B.

Placed between and above the inking-rollers I J, and in contact therewith, is an intermediate distributing-roller, K, the spindles of which, as also those of the rollers I and J, are mounted in bearings at the sides D of the frame-work.

When the machine is in operation, the inking-rollers I and J are rotated by their contact with the printing-band B, and communicate rotation to the rollers G K, the combined arrangement operating in such a manner that the ink is conveyed from the reservoir F by the fountain-roller G onto the inking-roller I, and thence to the other inking-roller, J, by the intermediate distributing-roller, K, by which means the ink is evenly spread before it passes from the inking-rollers I and J to the printing-band B.

The spindle H of the fountain-roller G is provided at each end with a set-screw, L, for adjusting the pressure of the fountain-roller G to the ink in the reservoir F, and so regulating the flow of the ink from the latter to the roller G, according to the amount required on the printing-band B for heavy or light printing.

For securing the printing-band B to the roller A, the cylindrical surface of the latter is formed with a concave depression, M, of suitable length between the ends of the roller A, and to the bottom of this depression M is fixed, with screws or otherwise, a correspondingly-shaped metal plate, N, provided on its outer face with pins or spikes O, which, when the printing-band B is placed around the roller A, are passed through the material where it crosses the concave plate N, and this portion of the band B being bedded closely to the plate N, it is covered by a clamp or plate, P, having holes O' through it, corresponding with the pins or spikes O, the outer ends of which pass through the said holes O', and the clamp or plate P is then screwed upon the interposed portion of the printing-band B into the inner plate, N, and roller A. By this arrangement the printing-band B is firmly held to the roller A without tacking, and can be easily removed and changed at pleasure, which is a great ad-

vantage when different printings are required by the same machine.

The mechanism devised for automatically stopping the rotation of the printing-roller A at the completion of its printing is composed of a trigger or catch-bar, Q, placed against one end of the roller A, between pins or stops 1 2 and 3 4, respectively, which project from the end of the roller for limiting the side play of the trigger or catch-bar Q. The latter is formed longitudinally, near its middle portion, with a slot, R, through which the projecting end of the roller-axle C passes, and at one end with an outwardly-projecting stud or catch, S. On the end of the roller A is fixed one end of a bent spring, T, the other end of which is fastened to the edge of the trigger or catch-bar Q, between its slotted portion and outer end. The spring T normally tends to force the trigger or catch-bar Q sidewise against the pins or stops 2 and 3 on the roller A, and longitudinally outward from the roller A.

On the inside of the side D of the frame-work, above the axle C of the roller A and facing the trigger or catch-bar Q, are two lugs or projections, U V, one of which, U, is cam-shaped on its upper edge, and between these lugs or projections U V is an upwardly-flaring slot or space, W, the vertical center line of which is coincident with that of the roller-axle C.

The printing-roller A, with this stop mechanism being in the position shown by Fig. 1, or on the commencement of the printing, the machine is pushed forward by the handle E, and the roller A being thereby rotated in the direction of the arrow the trigger or catch-bar Q is carried around with it by the spring T, combined with the stops 2 and 3, and the lower side of the stud or catch S on the trigger or catch-bar Q coming against the lowest point *x* of the cam-shaped projection U on the frame-work, the stud or catch S will ride

over the cam-shaped projection U until it reaches the position shown in Fig. 4, when the spring T will force the stud or catch S and that end of the trigger or catch-bar Q down into the space between the projections U V, and owing to the table preventing the further descent of the trigger or catch-bar Q, the latter will bear against the projection V, and the roller A be thereby prevented from further rotation, or "locked" at the completion of its printing, as seen in Fig. 3. On lifting the machine from the table, the spring T will further force down or withdraw the trigger or catch-bar Q with its stud or catch S clear of the projection V, as seen in Fig. 5, and the machine will be ready for placing on the table for a fresh printing. By this arrangement the roller A is stopped without jar, so that its motion is steady and a clear impression is obtained therefrom.

I claim—

1. The combination, with a printing-roller having concave depression M and with printing-band B, of concave plate M, secured to roller A and formed with pins or spikes O, and of clamp or plate P, having holes *o'*, and secured to plate M and roller A, substantially as shown, and for the purpose described.

2. In a hand printing-roller machine, the combination, with the printing-roller having projecting stops or pins 1 2 3 4, and with the side D of frame-work having lugs or projections U V, of a trigger or catch-bar, Q, formed with a projecting stud or catch, S, and connected to the printing-roller by spring T, substantially as shown, and for the purpose set forth.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 7th day of May, 1886.

JOHN H. EIERMANN.

Witnesses:

PAUL BAKEWELL,
EDWIN SAUTER.