N. F. Turner: Ink Fountain for Printing Presses.

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PATENTED JUL 11 1871

Fig. 1.

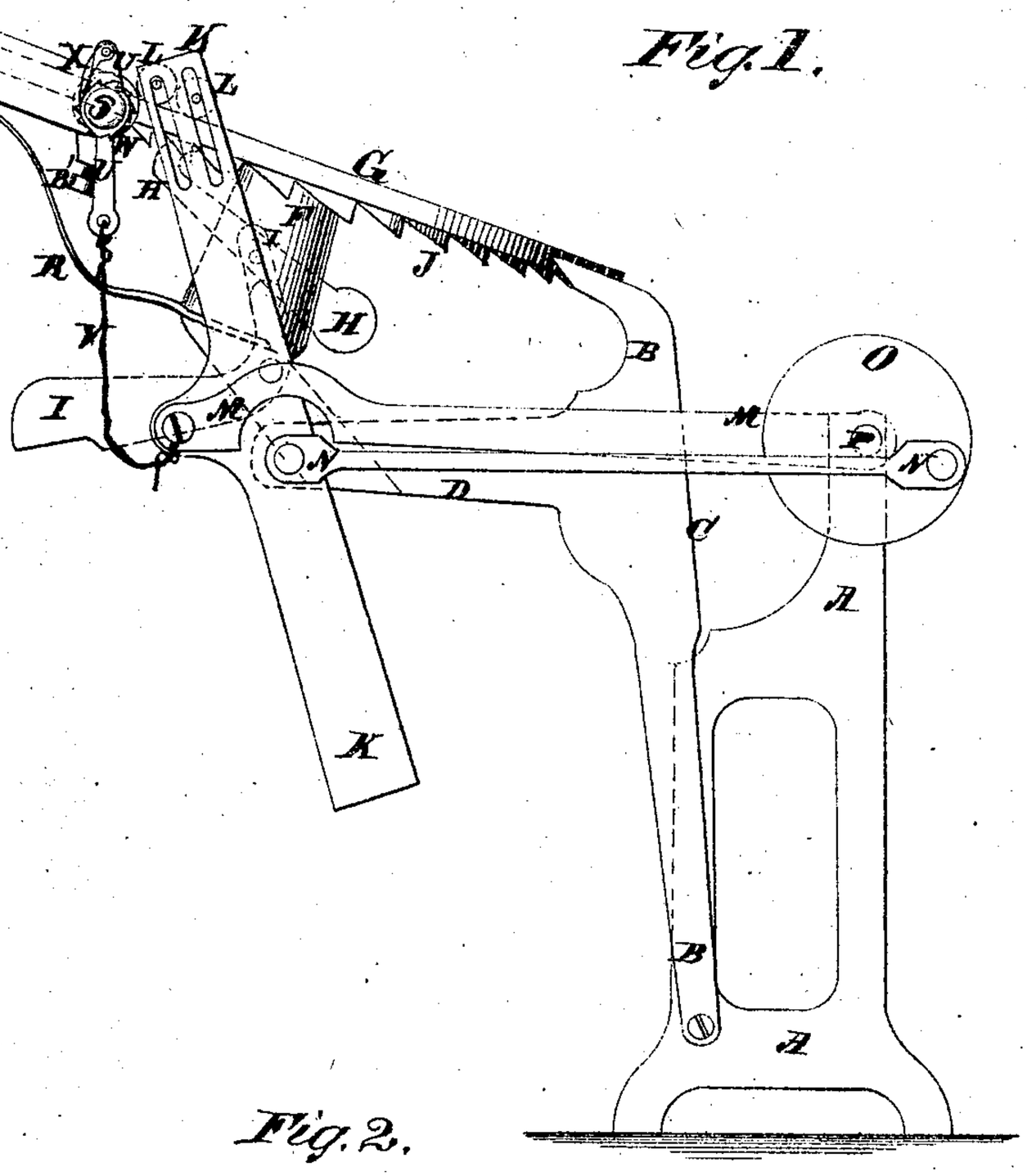


Fig. 2.

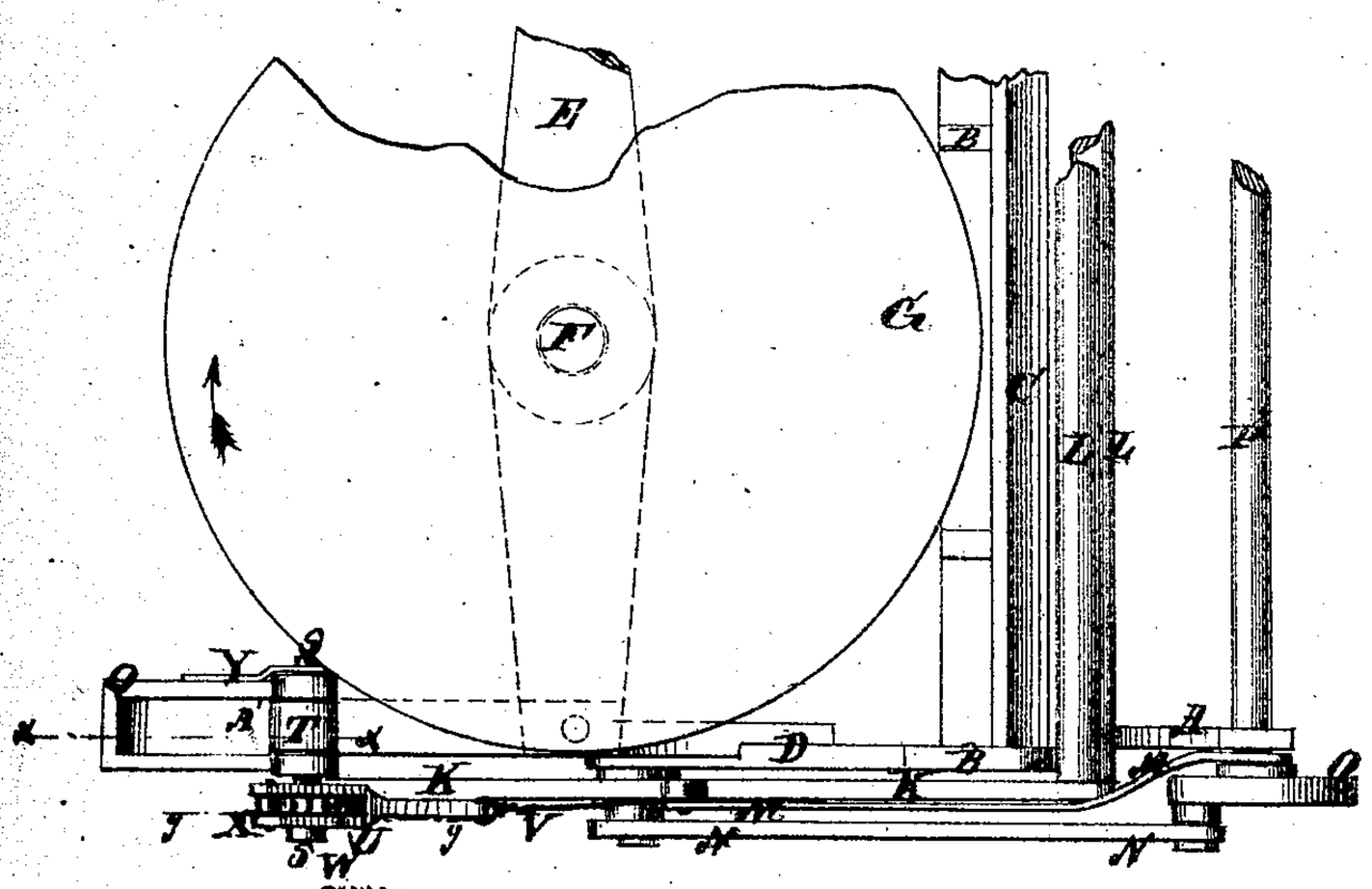


Fig. 5.

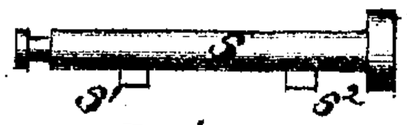


Fig. 3. (through x, x of Fig. 2.)

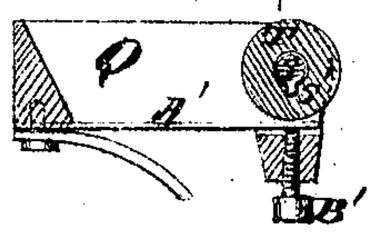
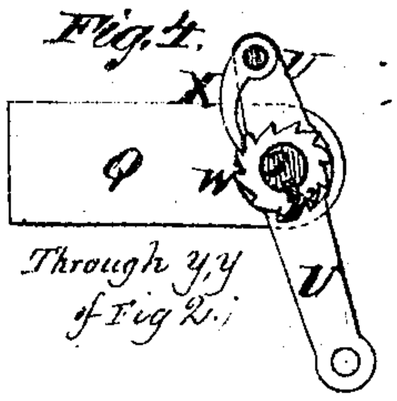


Fig. 4.



Through y, y of Fig 2.

Witnesses:

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UNITED STATES PATENT OFFICE.

NATHAN F. TURNER, OF WILLIAMSBURG, NEW YORK.

IMPROVEMENT IN INKING APPARATUS FOR PRINTING-PRESSES.

Specification forming part of Letters Patent No. 116,892, dated July 11, 1871.

To all whom it may concern:

Be it known that I, NATHAN F. TURNER, of Williamsburg, in the county of Kings and State of New York, have invented a new and useful Improvement in Ink-Fountain for Printing-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a side view of a printing-press to which my improved ink-fountain has been applied. Fig. 2 is a top view of the same, parts being broken away. Fig. 3 is a detail sectional view of the fountain taken through the line *x x*, Fig. 2. Fig. 4 is a detail sectional view of the operating parts of the fountain taken through the line *y y*, Fig. 2. Fig. 5 is a detail side view of the shart of the fountain.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved ink-fountain for printing-presses, which shall be simple in construction, compact, free from distributing-rollers or vibrators, and effective and reliable in operation, the ink being distributed by the form-inking rollers and ink-plate or plates; and it consists in the construction of the fountain and in its combination with the various operating parts of the press, as hereinafter more fully described.

A is the vertical frame of the press. B is the inclined frame that supports the table C upon which the "form" is placed, and the lower part of which is pivoted to the lower part of the stationary frame A. From the rear side of the upper part of the pivoted frame B project arms D, to the rear ends of which are attached the ends of the cross-bar E, upon the center of which is formed, or to it is attached, the pivot or spindle F, upon which the inking-plate or plates G revolve. The plate or plates G are revolved by the pawl H and bent lever I, which operate upon the ratchet-wheel J formed upon the under side of the said plate or plates G, and are operated by their own weight and the movements of the pivoted frames B, D, and K. The frame K is pivoted to the arms D of the pivoted frame B, and in slots in the forward ends of its side bars work the journals of the inking-rollers L. M are connecting-bars, the forward ends of which are pivoted to the upper parts of the stationary frame A, and the rear ends of which are pivoted to the side bars of the frame K, or to short arms or lugs formed upon or attached to the frame K a little above and in front of the points at which the said frame is pivoted to the arms D of the frame B. N are connecting-bars, the rear ends of which are pivoted to the pivots that pivot the frame K to the arms D of the pivoted frame B. The forward ends of the bars N are pivoted to the crank-pins attached to the wheels O attached to the ends of the shaft P, which works in bearings in the upper part of the frame A. By this construction, as the shaft P is revolved the frames B, D, and K, are drawn forward. But, the forward movement of the upper or forward part of the frame K being prevented by the connecting-bars M, the said bars M cause the said parts of the said frame K to move upward, causing the form-inking rollers L to roll up along the front of the frame B and the surface of the ink-distributing plate or plates G. Q is the ink-box, trough, or receiver of the fountain, and is attached to the upper end of the arm R, the other or lower end of which is bolted to the ends of the cross-bar E and arm D by the same bolt that secures said parts E D to each other. S is a short shaft working in bearings in the forward end of the box Q, and upon which, in the open forward end of the said box Q, is placed a small roller, T, by which the ink is transferred to the inking-rollers L. The roller T is connected with the shaft S by a short pin, S′, attached to the said shaft S, and which enters a groove in the inner surface of the said roller T, as shown in Fig. 3. U is a slotted arm, which rides upon the end of the shaft S, and the lower end of which is connected with the frame K and bar M at or near the point at which said parts are pivoted to each other by a cord, V, so that the said arm U may be operated by the movements of the said parts K M. Upon the shaft S, and within the slot of the arm U, is placed a ratchet-wheel, W, which is operated upon to revolve the shaft S and roller T by a pawl, X, pivoted in the upper part of the slot of the arm U, and held down upon the teeth of the said ratchet-wheel W by its own weight. The ratchet-wheel W s connected with the shaft S, so as to carry the said shaft with it in its revolution, by a short

pin, s^2, attached to the said shaft, and entering a groove in the inner surface of the said wheel, as shown in Fig. 4. The bearings for the shaft S in the box Q and arm U are notched or grooved for the passage of the two short pins attached to the said shaft S, so that the shaft S may be conveniently removed when required for cleaning the roller T, or for any other desired purpose. The shaft S is secured in place, and, at the same time, allowed to revolve freely, by the hook-catch Y pivoted to the side of the box Q and hooking into a groove formed upon the projecting forward end of the shaft S.

By this construction, every time the form-inking rollers L pass up, the end of the forward roller, outside of the line of contact with the form, comes in contact with the roller T and receives a supply of ink, which it transfers to and distributes upon the plate G near its edge. As the plate or plates G are carried around the ink is still further distributed before it is brought in contact with the part of the said rollers that transfers it to the form. The amount of ink taken up by the ink-roller T and transferred to the form-inking rollers L is regulated by the knife A′ placed in the bottom of the box Q and adjusted by a single set-screw, B′, as shown in Figs. 1 and 3.

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

In an inking apparatus, consisting of inking-rollers L L and distributing-disk G operated as described, the short ink-fountain Q A′ T located at one side thereof, substantially as and for the purpose set forth.

The above specification of my invention signed by me this 23d day of September, 1870.

NATHAN F. TURNER.

Witnesses:

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