O. E. Weston. Sheet 1. 2 Sheets.

Printing Press.

No. 26869. Patented Jan. 17. 1860.

Fig: 1.

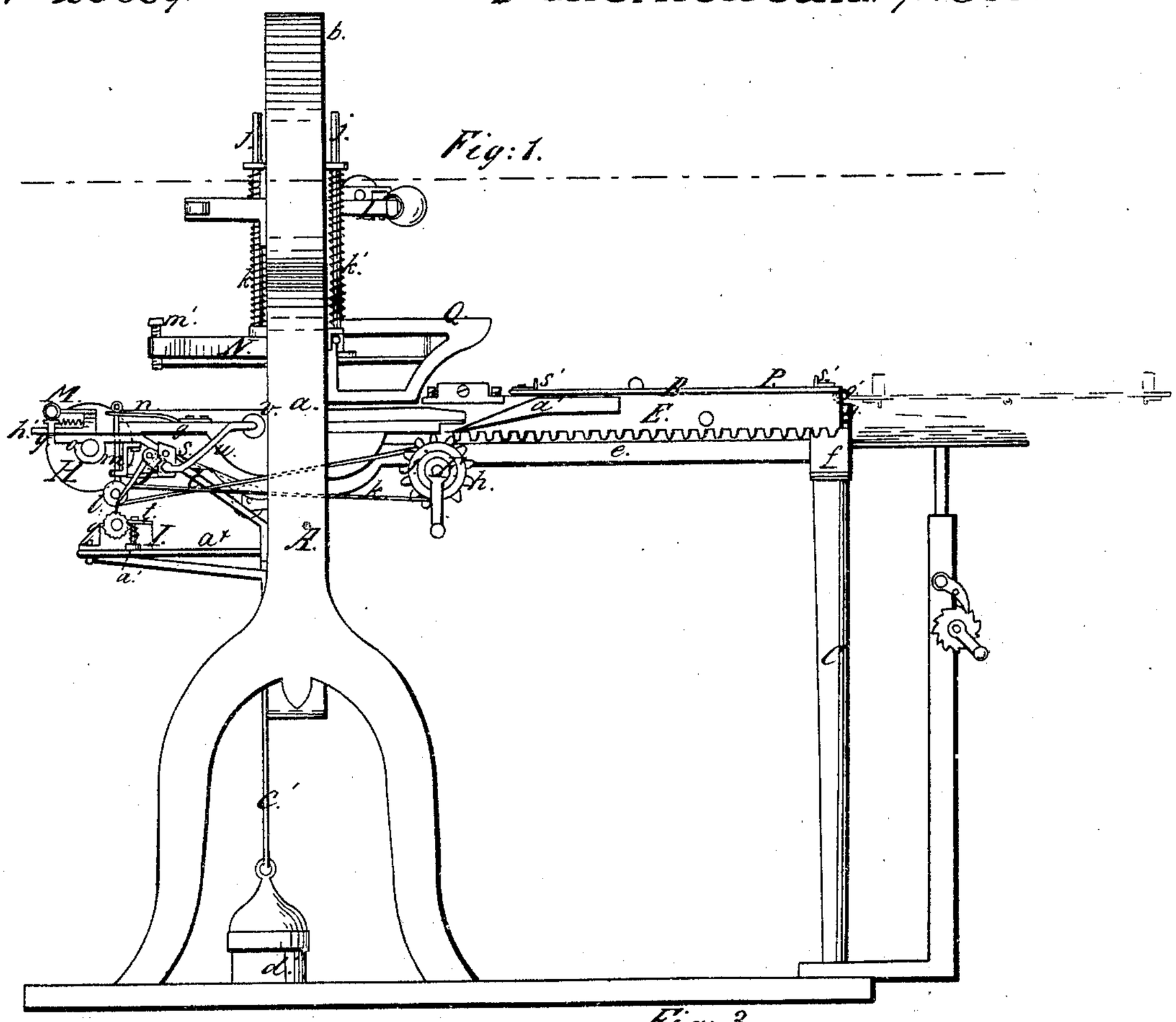
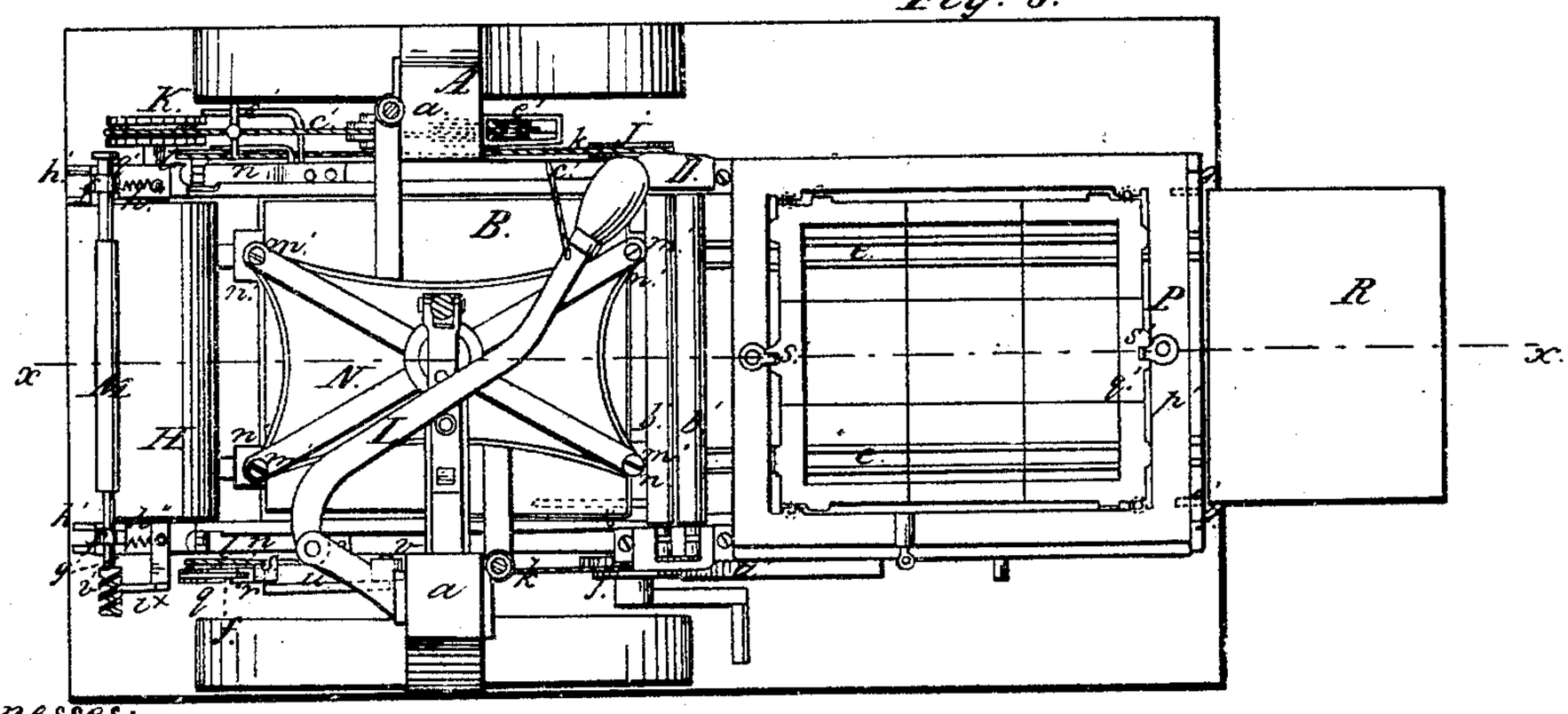


Fig: 3.



Witnesses:
C. M. Hughes.
M. M. Livingston.

Inventor:
Oliver E. Weston

O. E. Weston. Sheet 2. 2 Sheets

Printing Press.

No. 26809. Patented Jan. 17. 1860.

Fig: 4.

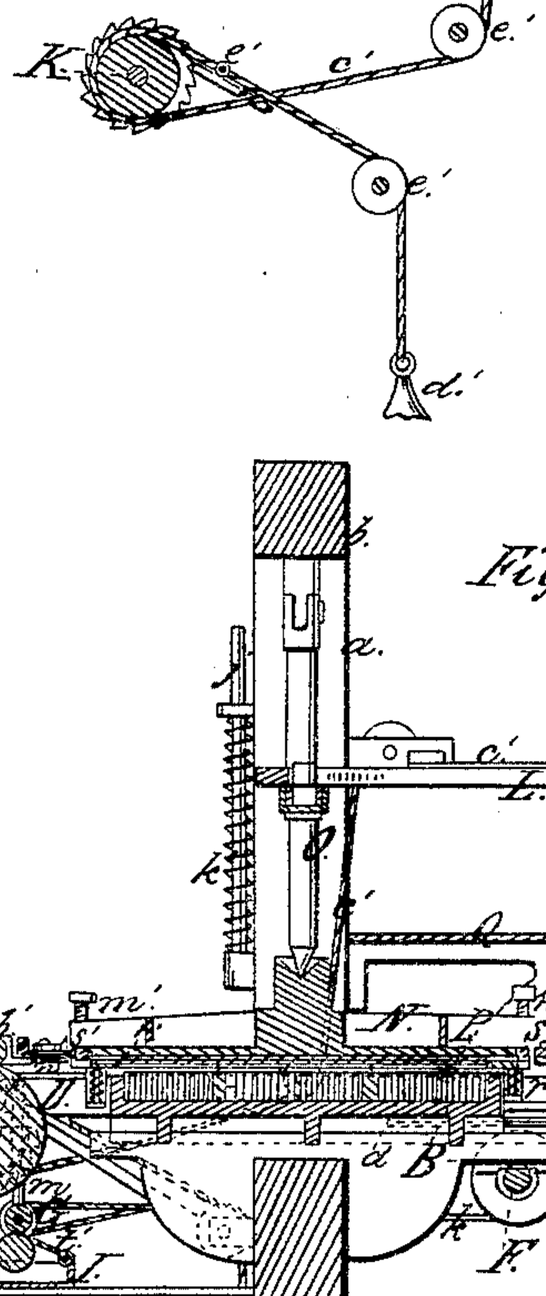


Fig: 2.

Witnesses:
C. M. Hughes.
M. M. Livingston.

Inventor:
Oliver E. Weston

UNITED STATES PATENT OFFICE.

O. E. WESTON, OF ROXBURY, MASSACHUSETTS.

PRINTING-PRESS.

Specification of Letters Patent No. 26,869, dated January 17, 1860.

To all whom it may concern:

Be it known that I, OLIVER E. WESTON, of Roxbury, in the county of Norfolk and State of Massachusetts, have invented a new and Improved Printing-Press; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side elevation of my invention; Fig. 2, a side sectional view of ditto taken in the line x, x, Fig. 3; Fig. 3, a horizontal section of ditto taken in the line y, y, Fig. 1; Fig. 4, a detached view of a position of the working parts of ditto.

Similar letters of reference indicate corresponding parts in the several figures.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents the frame of the press which is formed of two side pieces a, a, connected at their upper ends by an arch b, and at about their centers by a traverse bar c. This frame may be constructed of cast iron.

B, represents the form bed in which the form d is placed. This bed is fitted on ways e, e which rest at one end on the traverse bar c, the opposite ends resting on a traverse bar f, which is supported by an upright C. The form bed has no device whatever attached to it, it being separate from all the working parts.

D, represents a carriage which is simply a quadrilateral frame fitted on ways g, g, secured to the traverse bars c, f, as e, e, and parallel with, but above them, and at the outer sides. The carriage D, has a rack E, attached longitudinally to one side of it, and into this rack a pinion h gears, said pinion being on one end of a shaft E, which is placed in bearings i, underneath the ways g, g. On each end of the shaft F, there is placed a pulley j, around which cross bands k, k, pass. Said bands also passing around pulleys l, l, at the ends of a roller G, the bearings of which are at the lower ends of upright rods m, m, fitted in suitable guides and attached at their upper ends to springs n, n, which have a tendency to keep the roller G, bearing against the under side of a cylinder H, the bearings o, of which are attached to the ends of the ways g, g.

Just below the roller G, and parallel with it an ink-fountain I, is placed. This ink-fountain rests on horizontal bars $a^{\times}$ $a^{\times}$ attached to the traverse bar c, and within the ink-fountain a roller p, is placed and allowed to rotate, freely, the axis of said roller having a ratchet q, at one end.

J, is a pawl which is attached to a lever r, in a bar s, secured to a brace t, attached to the framing. To the lever r, a rod u, is attached said rod having a weight and roller v, at its outer end. To the front part of the rack E, and at its outer side an inclined ledge a', is attached and on the front part of the carriage D, two ink rollers b', b', are placed.

The axis of the cylinder H, has a ratchet K, at one end. This ratchet is grooved circumferentially so that a cord C′ may pass around it, one end of said cord having a weight d' attached and the other being secured to the hand lever L, of the press proper guide pulleys e' being employed for the cord to pass under and over; see Fig. 4. To the cord c' and in the vicinity of the ratchet K, a cross pin e', is attached the use of which will be presently shown.

M, is a distributing roller the bearings f f', of which are attached to slides g', that are fitted and work on guides h' attached to the ends of the ways g, g. The slides g' have spiral springs h', connected to them which springs have a tendency to keep the roller M, against the cylinder H. One end of the roller M, is grooved spirally right and left as shown at i' and a pin $i'^{\times}$, is fitted in the grooves.

N, is the platen which has guide rods j attached with spiral springs k', on them, said springs having a tendency to keep the platen elevated. This platen is operated as usual by means of a toggle O, and hand lever L. Through the front and back ends of the platen N, screws m' pass said screws being near the sides of the platen as shown clearly in Fig. 3, and directly over projections n', on the ends of the form-bed B.

To the front end of the carriage D, a frisket P, is attached by joints o'. This frisket is formed of a quadrilateral frame p' having a frame g', within connected to springs r' which have a tendency to keep the frame g', against buttons s' attached to the back and front ends of the larger frame p'.

Q, is a feed board attached to the framing A, just above the platen N, and R, is the board which receives the printed sheets and

is placed at the front end of the ways, g, g. This board R, is rendered capable of vertical adjustment by means of a rack and pinion, $b^{\times}$ $c^{\times}$.

To the upper part of the box I, a plate t' at attached by a joint. This plate has a spring u' attached to each end of it, the springs causing the plate to bear on the roller p'.

The operation is as follows: The form d, is properly adjusted in the bed B, and the frame g' of the frisket is covered with paper an opening being made in it sufficiently large to repose the form when the frisket is placed over it. The blank sheets of paper are placed on the feed board Q, the bed B, shoved underneath the platen N, and a blank sheet of paper is placed on the frame q', of the frisket. The operator then moves the carriage D, underneath the platen by rotating the shaft F, by means of a crank and as the shaft F, rotates the roller G, is also rotated by bands k, k. As the carriage D, reaches the end of its forward movement it depresses the springs n, n, and thereby presses down the roller G, on the roller p, in the ink-fountain the roller G, being thus charged with ink from p, the latter leaving the ink evenly distributed on it by the pressure plate t'. The rollers b' b' also at the termination of the forward movement of the carriage D, pass over on the cylinder H, and receive a supply of ink therefrom the cylinder H, being rotated by the contact of roller G, as the former receives the ink from the latter. The ink is properly distributed on the cylinder H, by the roller N, which is rotated by contact with cylinder H, and has a vibrating movement given it in consequence of the pin $i'^{\times}$, working in the double spiral groove i', at one end of the roller. The operator then grasps the lever L, and forces down the platen N, on the frisket so that the blank sheet will be pressed on the form and receive the impression. As the lever L, is actuated to force down the platen the cord c' rotates the ratchet K, in consequence of the pin e' engaging with the ratchet and consequently the ink rollers b', b', will be properly charged with ink from H, said rollers inking the form d, as the carriage D, is moved back. The roller p, is turned a certain distance just previous to the depression of the roller G, in consequence of the inclined ledge a', raising the rod u, and thereby actuating the pawl J, which operates on the ratchet q. When the hand of the operator is taken from the lever L, the springs k', elevate the platen throw back the lever L, and the weight d' draws the pin t', free from the ratchet K, the weight touching the floor and leaving the cord loose so that the cylinder H will be free to rotate.

In case the form d, is placed in the bed D, at one side as might be the case if several forms are at first locked in the same bed, and printed from all at the same time until the requisite number of impressions is taken from certain forms and these then being removed leaving the other at one side of the bed. In this case an even pressure would not be obtained without the screws m', and these by being properly adjusted or set will form an even bearing at each part of the platen at whatever point underneath the platen the form may be placed.

It will be seen that by having the frisket detached from the bed B, and placed on a separate carriage the manipulation of the press is rendered extremely easy as the bed B, which is comparatively heavy does not require to be removed after the form is adjusted in it and the bed placed under the platen.

When the carriage D, is moved outward or back to its original position the frisket P, is turned over on the board R, and the printed sheet deposited thereon. The frisket is then again turned over on the carriage D, a blank sheet adjusted thereon and the operation repeated.

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

1. I claim the combination with the horizontally moving type bed B, and platen N, of a hand press, of a horizontally moving frisket P, arranged and operating substantially as and for the purpose herein shown and described.

2. I claim the combination of the inking apparatus and frisket P, with the shaft F, substantially as and for the purposes herein shown and described.

3. I claim the employment of the frisket as a "fly" for the sheets, substantially as herein shown and described.

4. The employment in combination with the platen and type bed of the adjustable bearing screws M′, to equalize the face of the platen as herein shown and described.

OLIVER E. WESTON.

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M. M. Livingston.