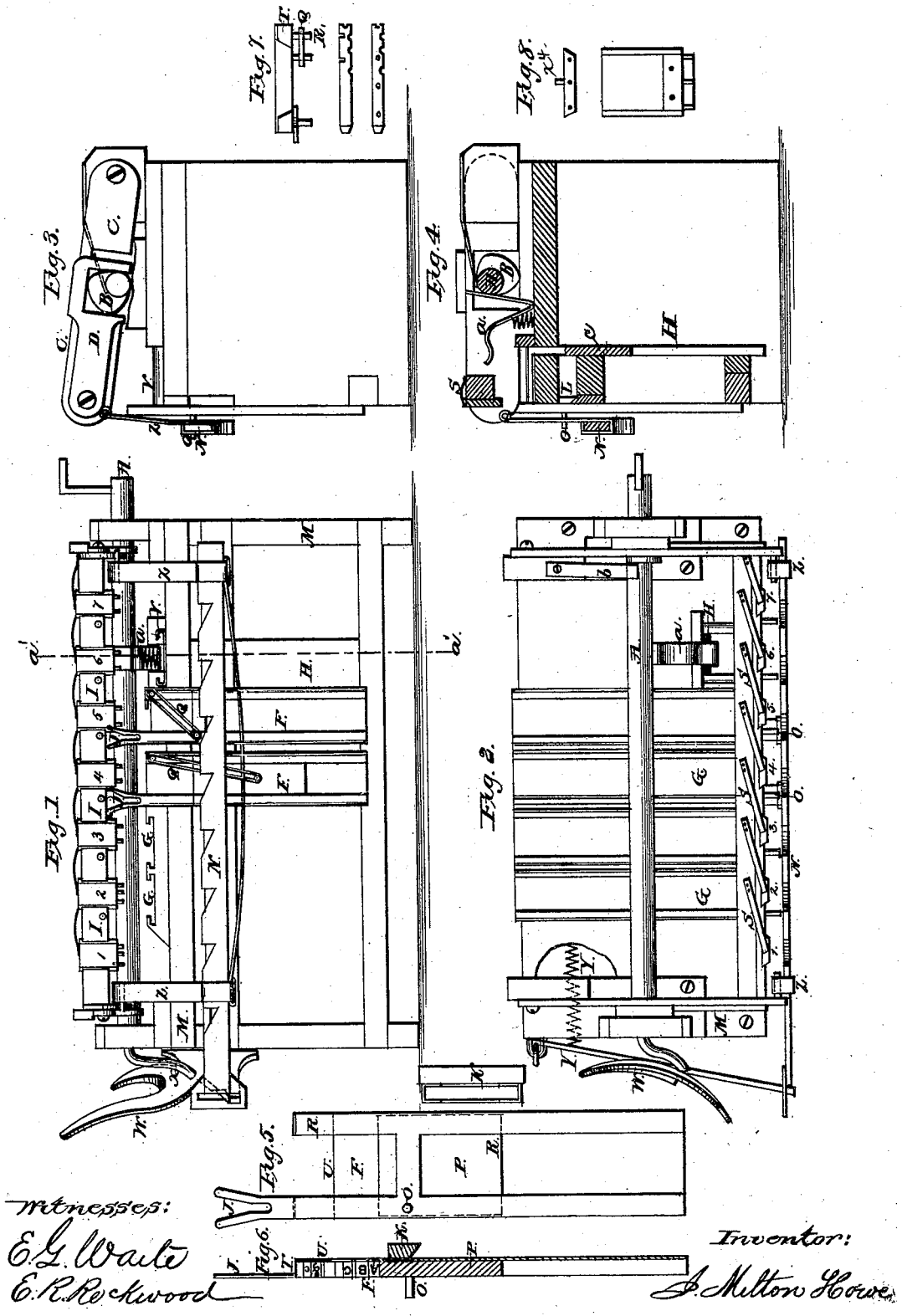
J. M. HOWE.

TYPE-DISTRIBUTING MACHINE.

No. 190,434. Patented May 8, 1877.



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J. MILTON HOWE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN TYPE-DISTRIBUTING MACHINES.

Specification forming part of Letters Patent No. **190,434**, dated May 8, 1877; application filed December 2, 1875.

To all whom it may concern:

Be it known that I, J. MILTON HOWE, of San Francisco, county of San Francisco, State of California, have invented certain new and useful Machinery for Distributing Type, of which the following is a specification:

My improvements relate, chiefly, to devices and combinations of devices for feeding and distributing certain peculiarly-characterized type from dead matter, by means of machinery run by power, which selects and deposits each of the various characters in receptacles provided for the same; and said invention may be said to consist in the combination of certain movable reservoirs, so constructed and arranged with slides and springs or self-adjusting weights, competent to feed or present the various characters of type in proper position to the selecting mechanism; also, a selecting mechanism, which consists in selecting-fingers attached to a movable bar, the motion of which deposits the several characters in the said receptacles provided for the same.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same, referring to the drawing hereto annexed, which forms part of this specification.

Figure 1 is a side elevation of my machine. Fig. 2 is a plan view. Fig. 3 is an end elevation. Fig. 4 is a sectional view through *a' a'*, Fig. 2. Figs. 5, 6, and 7 are different views of full-size traveling-reservoirs for carrying line of dead matter. Fig. 8 is different views of selecting-finger and type, full size.

Referring to the above-described drawing, A represents a revolving driving-shaft, from which all movements are derived. B B, Figs. 3 and 4 are cams on said shaft, which, when revolving, raise levers C C, then acting on arms D D, attached to the four-motion bar E, (seen in Figs. 1 and 2,) carrying selecting-fingers Nos. 1 2 3 4, &c., provided with small pins or points, (see Figs. 1 and 8,) to engage or select the particular type in order as characterized, for said type must be characterized by being perforated or nicked in a varying manner, as may be found most desirable. Said type are supported and presented to the selecting-fingers by the movable reservoirs, (shown in F, Figs. 1 and 5,) opposite to each receptacle G, Figs. 1 and 2, where the motion of reservoirs F F is checked a sufficient length of time for the downward motion of the bar E with selecting-fingers Nos. 1 2 3 4, &c., to select or reject each a type. The reservoirs F F then pass to the next receptacles, where the same operation is again performed, and the same is continued until each kind or character of type finds its own particular receptacle G G. The receptacles G G, when full, may be removed, and others supplied. The reservoirs F F, when empty, may be removed at either end of the machine, and full ones replaced. H (shown in Figs. 1, 2, 3, and 4) is a receptacle for what is called the "pi" line, or for receiving type side against side, instead of edge to edge, as in receptacles G G. The type deposited in this manner are left in line, ready to be placed in reservoirs F F, and distributed at leisure, in a machine with selecting device, Fig. 8, suitably provided with points, for the purpose specified, or are left ready for a type-setter like the Alden, for instance.

An almost unlimited number of changes may be made by altering the number and position of the pins in selecting-fingers, and the corresponding perforations or nicks in the type, thus giving each type a separate character.

The bar E is provided with a mechanical device or pin, I I, for the purpose of working in connection with the guides J J, Figs. 5 and 6, being attached to and part of the reservoirs F F, for the purpose of bringing in place, holding, and securing said reservoirs directly opposite the receptacles G G, and directly under the selecting-fingers Nos. 1 2 3 4, &c., while the downward motion of the bar E is made and the selecting by the said fingers is accomplished, and during the first part of the receding motion as the selected type are leaving the reservoirs F F, and entering the receptacles G, G, and V. The receptacles have flanges projecting inwardly, as shown at G, Fig. 1, for the purpose of keeping the type from getting out, and for detaching them from the fingers when the bar E makes its upward movement. The selecting-fingers 1 2 3, &c., have each a check, x^4. In this case

a pin is inserted near the top on the inside, and rests on the bar E when not in contact with a type. When a type is presented to a receptacle other than where it belongs, the selecting-finger will yield, after which it is returned to its proper position by a delicately-acting spring, so that the metal of the type shall not be injured by harsh contact.

At Figs. 5 and 6 is shown a full-sized reservoir with a dovetail, K, that fits and slides in the groove L, (shown in Fig. 4,) each independent of the other, so as to be readily removed when desired. The dovetails K are of a uniform gage, corresponding to the distance between the mechanical devices or pins I I, Fig. 1, and the notches in the driving-bar N, Fig. 1, which has a reciprocating movement of the distance that the reservoirs are to be advanced from one receptacle to the next.

Fig. 6 shows a section of reservoir with a follower, P, which slides freely up and down, and is used to raise or feed the type A B C, &c., by having a spring, Q, Fig. 1, attached to the pins R R, Fig. 5. A stop, T, Figs. 6 and 7, is provided, to prevent the type from rising above the corresponding ledges or flanges in G, Fig. 1. At U, Fig. 5, the inside of the reservoir is cut away, to allow a three-em quadrat to pass out and into a corresponding large opening and receptacle, as shown at V, Fig. 1. The notched driving-bar N, Figs. 1 and 2, for the purpose of shifting or moving the reservoirs from one to another receptacle, is driven or caused to reciprocate by a cam-plate, W, Figs. 1 and 2, acted upon by the cam-crank X, attached to the main shaft and the spring Y, Fig. 2. The supports Z Z, Figs. 1 and 3, suspended from the levers C C, Figs. 1 and 3, gives the bar N a vibrating movement, causing it to engage with the pins O O in the shifting movement of reservoirs F F.

In Figs. 1, 2, 3, and 4, *a* is a lever or device, operated by a cam-pin in shaft A, for pressing the type down into the receptacle H, the type resting upon a friction-follower, *c*, Fig. 4, which allows the type to settle as each additional one is added from above. The receptacles G G are movable, being separated from the front part nearly under the bar E, so as to be drawn out when filled, and others put in their stead. The pawl *b*, Fig. 2, is to prevent the machine from being turned the wrong way.

The selecting-fingers may be provided with a plate or apron, as in Fig. 8, or an extra point, as in No. 1, Fig. 1, for the purpose of aiding in drawing the type from the reservoirs into the receptacles.

The receptacles G, G, and V, Fig. 1, are of different depths to correspond with the thickness of the type they are to receive, and that the ends next to the reservoirs F F may prevent other type from being partially drawn in prematurely.

I claim as my invention and desire to secure by Letters Patent—

1. The yielding selecting-fingers 1 2 3, &c., in combination with mechanism, substantially as described, for producing their upward, advancing, downward, and receding movement, as set forth, each being provided with two or more fixed points or pins, to engage in corresponding perforations in the type, whereby the latter, when the pins and perforations register, are withdrawn from the reservoirs F at each receding reciprocation of the said selecting-fingers.

2. The plate or apron, Fig. 8, in combination with the selecting-fingers 1, 2, 3, &c., constructed and arranged as set forth, to assist in delivering the type from the reservoirs F into the receptacles G and V, substantially as shown and described.

3. In combination with the cams B, the bars C, arms D, and bar E, constructed and arranged to operate conjointly, substantially in the manner set forth, for the purpose of providing the bar E with an alternate, vertical, and horizontal reciprocation.

4. The detachable flange-edged receptacle G, constructed as shown and described, in combination with the selecting-fingers 1 2 3, &c., for the purpose set forth.

5. The guide-pins I on the bar E, Figs. 1 and 2, in combination with guides J on the reservoirs F, for the purpose of securing the exact registration between the reservoirs F and receptacle G.

6. The traveling-reservoirs F, provided with ledges or stops T, and cut-away portions U, substantially as shown, for the purposes set forth.

7. The combination of the cam W, notched bar N, and traveling-reservoirs F, when operating conjointly, substantially in the manner and for the purpose set forth.

8. The vibrating type-setter *a*, in combination with the receptacle H, operating substantially as and for the purpose set forth.

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