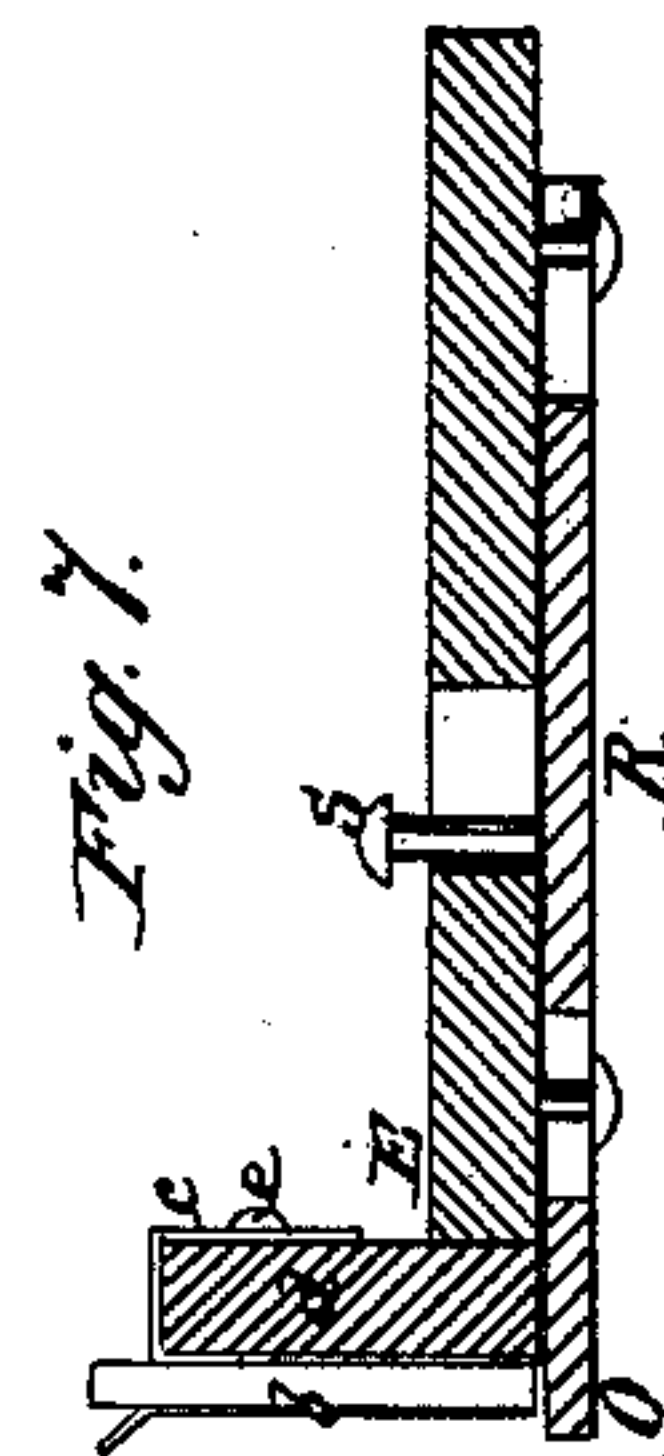
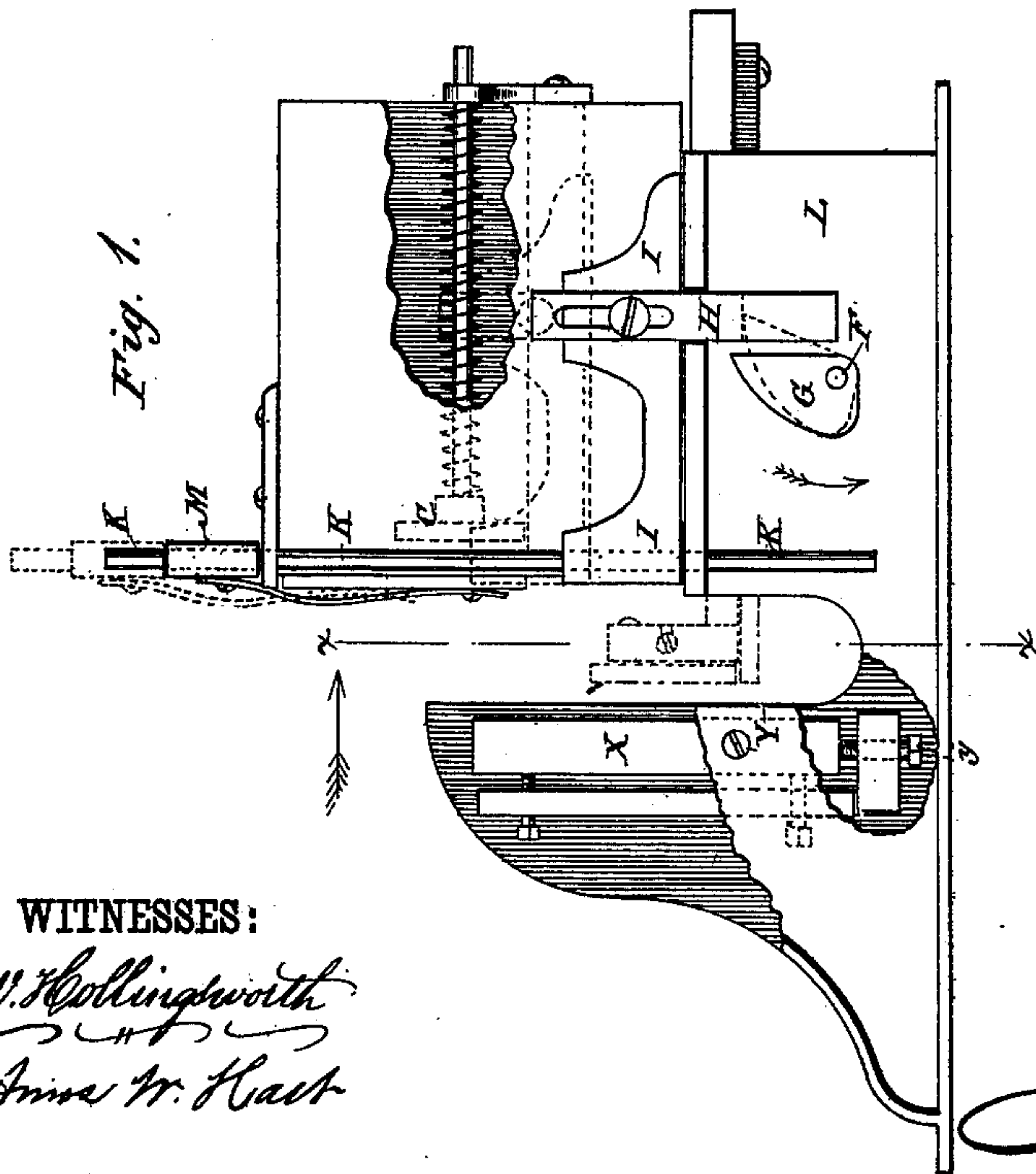
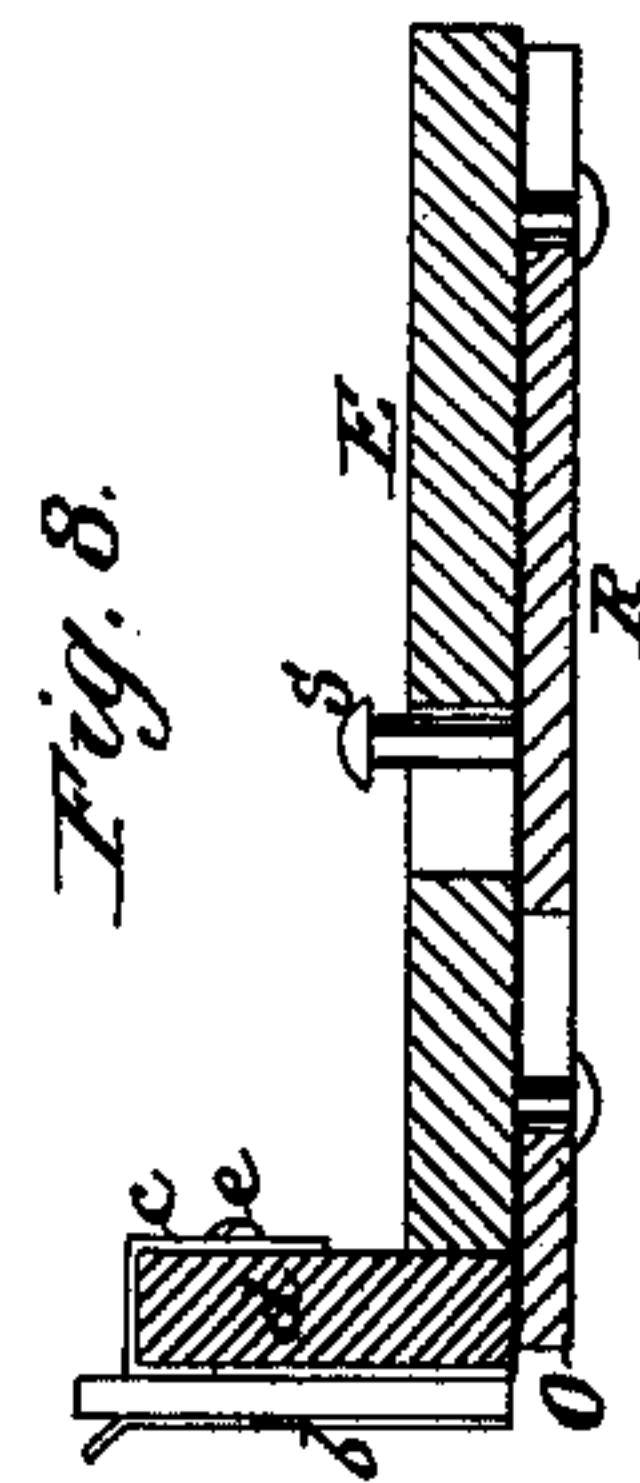
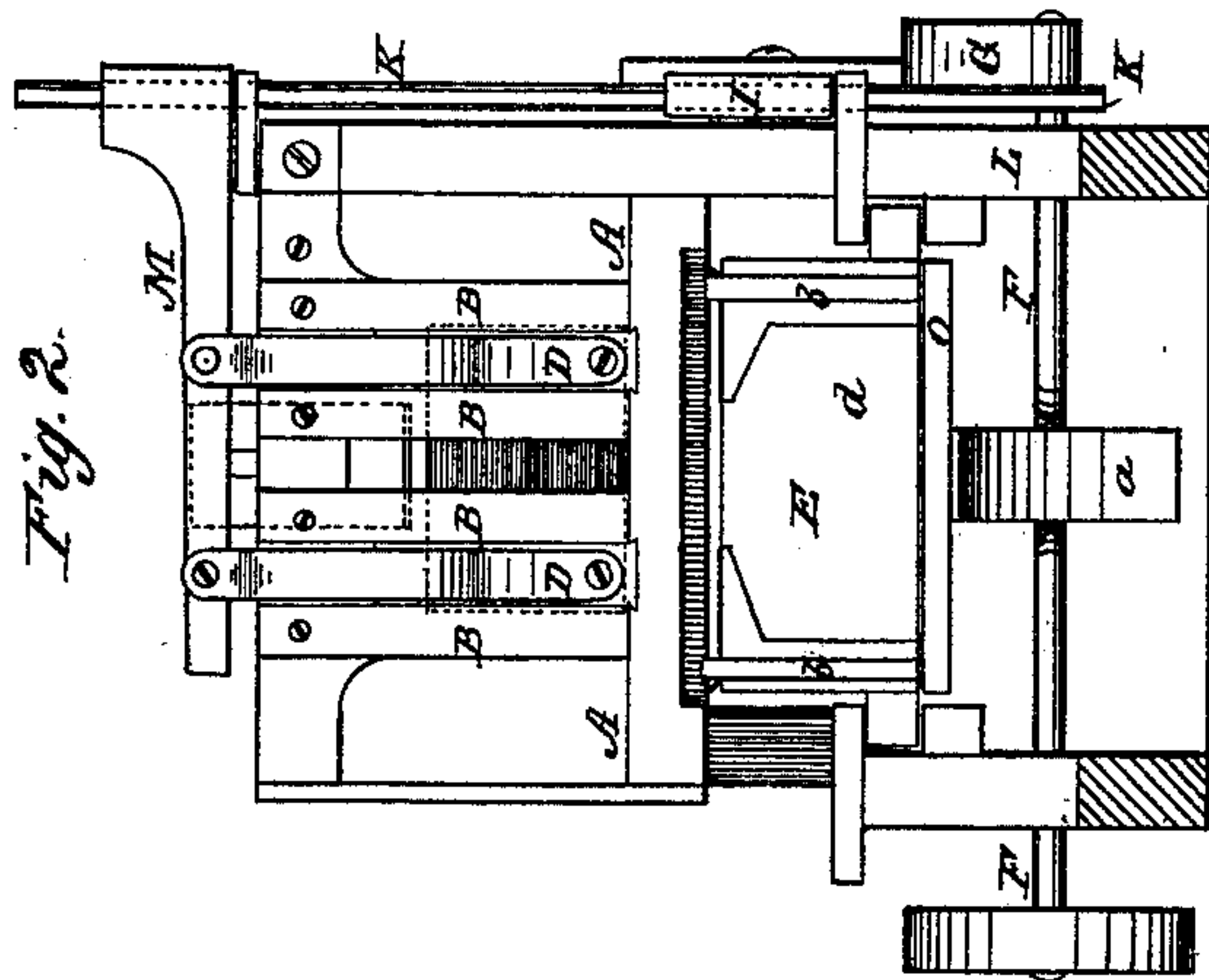


I. ROBBINS.  
Card-Printing Machine.

No. 222,310.

Patented Dec. 2, 1879.



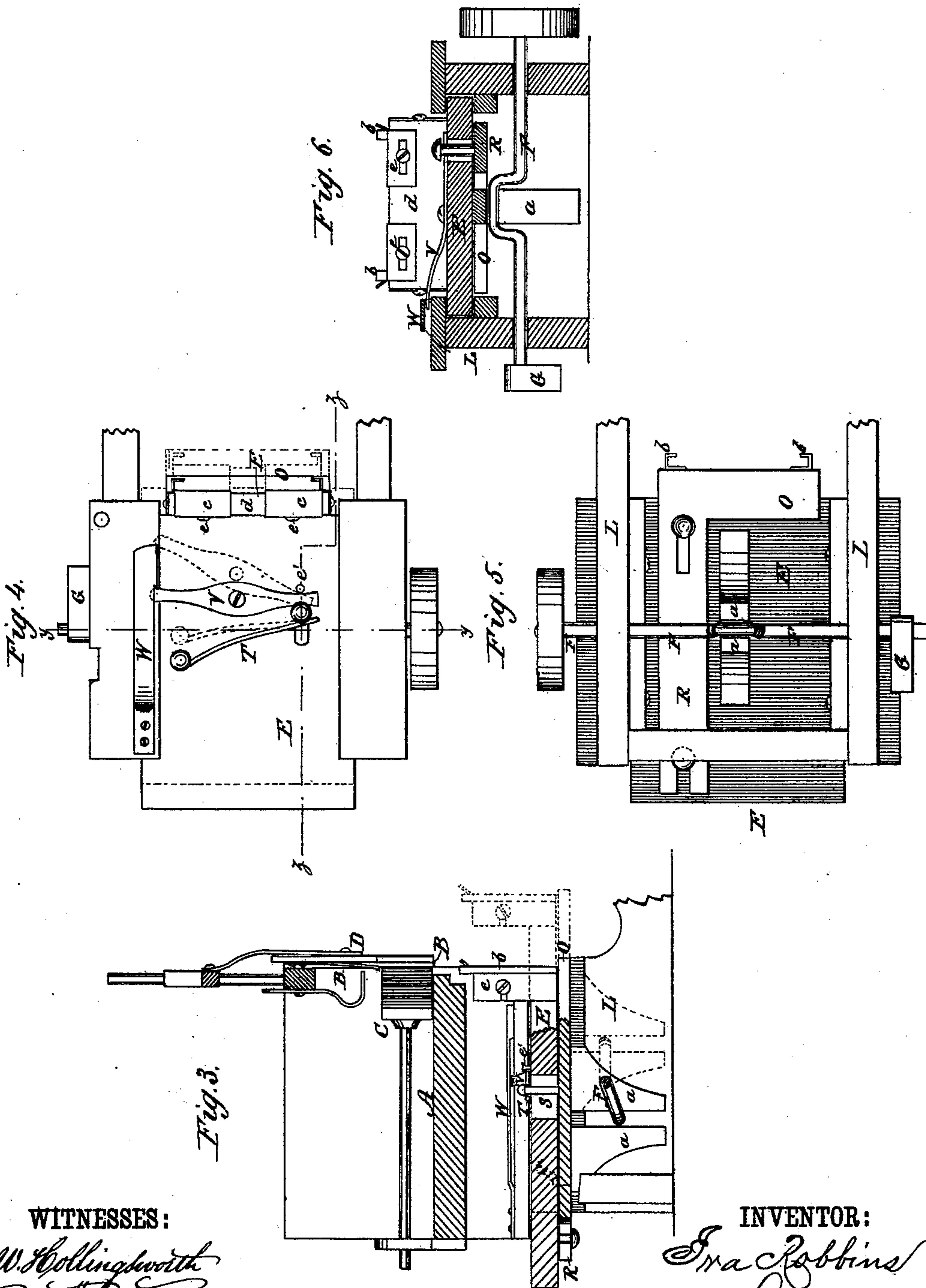
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# UNITED STATES PATENT OFFICE.

IRA ROBBINS, OF CAMDEN, NEW JERSEY.

## IMPROVEMENT IN CARD-PRINTING MACHINES.

Specification forming part of Letters Patent No. **222,310**, dated December 2, 1879; application filed March 6, 1879.

*To all whom it may concern:*

Be it known that I, IRA ROBBINS, of the city and county of Camden, and State of New Jersey, have invented a new and useful Improvement in Printing-Presses; and I do hereby declare that the following is a full, clear, and exact description of the same.

My machine is an improvement in the class of presses having a horizontally-reciprocating platen, and is intended and adapted for printing cards. The blank cards are fed successively downward by pushers, which slide vertically in guideways, and are received by a device combining the functions of tympan and platen, and are by it carried horizontally forward against the form to receive the impression, and then backward, and are discharged downward, as hereinafter fully described.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation, with part broken away. Fig. 2 is a vertical cross-section on line *xx*, Fig. 1. Fig. 3 is a vertical longitudinal section on line *zz*, Fig. 4. Fig. 4 is a plan view of the upper side of the frame that carries the platen. Fig. 5 is an inverted plan of same. Fig. 6 is a vertical cross-section on line *yy*, Fig. 4. Figs. 7 and 8 are sectional details.

A indicates the stationary table upon which the pack or bunch of blank cards is placed, the same being held vertically against the bars B by means of the spring-presser C. Said bars B serve as guides for the reciprocating pushers D, which consist of bars having fingers or flanges that, upon each downward movement, take the front or face card from the bunch and force it down between the end of table A and free lower ends of the guide-bars B, and thus effect its delivery to the horizontally-reciprocating tympan-platen E.

The bars B may be made to yield slightly to allow passage of a card, or a narrow space may be left between them and the edge of the table. The pushers D and tympan-platen E are connected with and simultaneously operated by the shaft F.

The means of connection between the shaft and pushers are as follows: A cam, G, fixed on the shaft acts on a vertical bar, H, which is adjustably attached to a horizontal bar, I, that extends along the side of the frame L of

the machine. Said bar I is fixed on a vertical rod, K, from whose upper end a third bar, M, projects laterally above, and in the plane of the pushers D, which are connected with it, as shown. The rod K works in guides, and as the shaft F rotates the cam G alternately raises the connected parts H I K M, and thereby elevates the pushers D, which then fall by the effect of gravity.

The rear extension of the tympan-platen E has a slotted projection or keeper, *a*, in which the crank of the shaft F works. The platen slides in grooves or ways in the sides of the frame L, making its forward movement immediately after the pushers D have descended, and thereby delivered a blank card between the parallel vertical grooved holders *b* attached to head *c* thereof. Said holders are preferably constructed of sheet metal, and have arms *c* which are bent over the platen-head *d*, and provided with horizontal slots through which are inserted clamp-screws *e*. By loosening said screws *e* and sliding the holders *b* on the head *d* the holders may be adjusted for cards of different sizes.

When the cards enter between the holders *b* they are supported by the bar O, which forms the movable bottom of the platen or card-holder. Said bar is moved with the platen proper, but has also an independent movement for the purpose of allowing the cards to escape from the holders *b* after having received the required impression—that is to say, when the platen is receding from the form the bar O moves backward still faster, and the card which has just been printed, having then no support, slides downward by its own gravity, and passes from the tympan-platen into a suitable receptacle. (Not shown.) This independent movement of bar O is produced by the following described mechanism.

A bar, R, extends rearwardly from bar O, and from it a stud, S, projects up through a lengthwise slot in the platen-extension N. A spring, T, acts against this stud and holds it pressed against the front end of the slot, except when opposed by the lever V. In such position of parts the edge of bar O projects under the holder or platen proper, *Ee*, as shown in Figs. 3, 4, 7. The said lever V is pivoted flatwise and centrally to part E, one end be-



ing in contact with the stud S and the other projecting over the inner edge of one of the fixed guides or ways of the sliding platen. A flat spring-abutment, W, is secured to the way, and the outer end of the lever V alternately slides under and along the side of a flange or downward projection formed on the free end of the same. Thus when the tympan-platen moves forward the outer end of the lever V passes under the raised end of the abutment, the inner end of the lever being in such case held in place by the screw or pin *e'*; but when the tympan-platen recedes from the form the outer end of the lever abuts against and is opposed by the flange on the end of abutment W, so that it passes along and in contact with the side of the flange. Thus the inner end of the lever is thrown backward, and the stud forced back in the slot, thereby also drawing the bar O quickly backward.

As soon as the outer end of the lever passes behind the flange of abutment W the spring T at once forces the bar O forward again.

The several positions of the lever V will be fully understood upon reference to Figs. 3, 4, 6.

The chase X, Fig. 1, is held vertically in the frame and adjusted higher or lower or laterally, as required, by means of screws Y which pass through the sides of the frame, as shown.

I do not claim, broadly, the combination of vertically-reciprocating pushers with slotted guides, for the purpose of delivering cards successively to a platen.

What I claim is—

1. In a card-printing press, the combination of the cam G, the horizontal and vertical bars H I, the vertically-sliding rod K, an arm M extending horizontally from the latter, the pushers D, attached to said arm, and the slotted guides in which the pushers work vertically, as shown and described.

2. In a card-printing press, the combination, with the sliding platen-head E and the bar O, which forms temporarily the bottom of the card-holders *b*, of the lever V, pivoted to said platen-head, and the stud S fixed in the bar, and an abutment, W, fixed on the ways or frame, all as shown and described, whereby the operation of the lever causes said bar to move back with the platen-head, but more quickly, for the purpose specified.

3. In a card-printing press, the combination of the crank-shaft and its cam G, with the horizontally-sliding platen-head E, having card-holders attached to its vertical portion, and with the vertically-reciprocating pushers, slotted guides, arm M, rod K, and bars H I, all as shown and described.

4. In a card-printing press, the combination of the vertically-reciprocating pushers D with the tympan-platen which reciprocates horizontally, and mechanism, substantially as described, for operating the latter, whereby it is caused to recede from the form and arrives under the pushers just before their ascent, and remains stationary during their descent, substantially as shown and described.

5. In a card-printing press, the combination of the lever V with the spring-abutment, the bars O R, stud, spring, and reciprocating platen, substantially as shown and described.

6. In a card-printing press, the combination of crank-shaft, the vertically-acting card-pushers D, the rod K, and cam G, the horizontally-sliding platen E, the sliding bars O and R, lever V, stud and spring-abutment W, all constructed, arranged, and operating as shown and described.

IRA ROBBINS.

Witnesses:

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JOSEPH ASHBROOK.