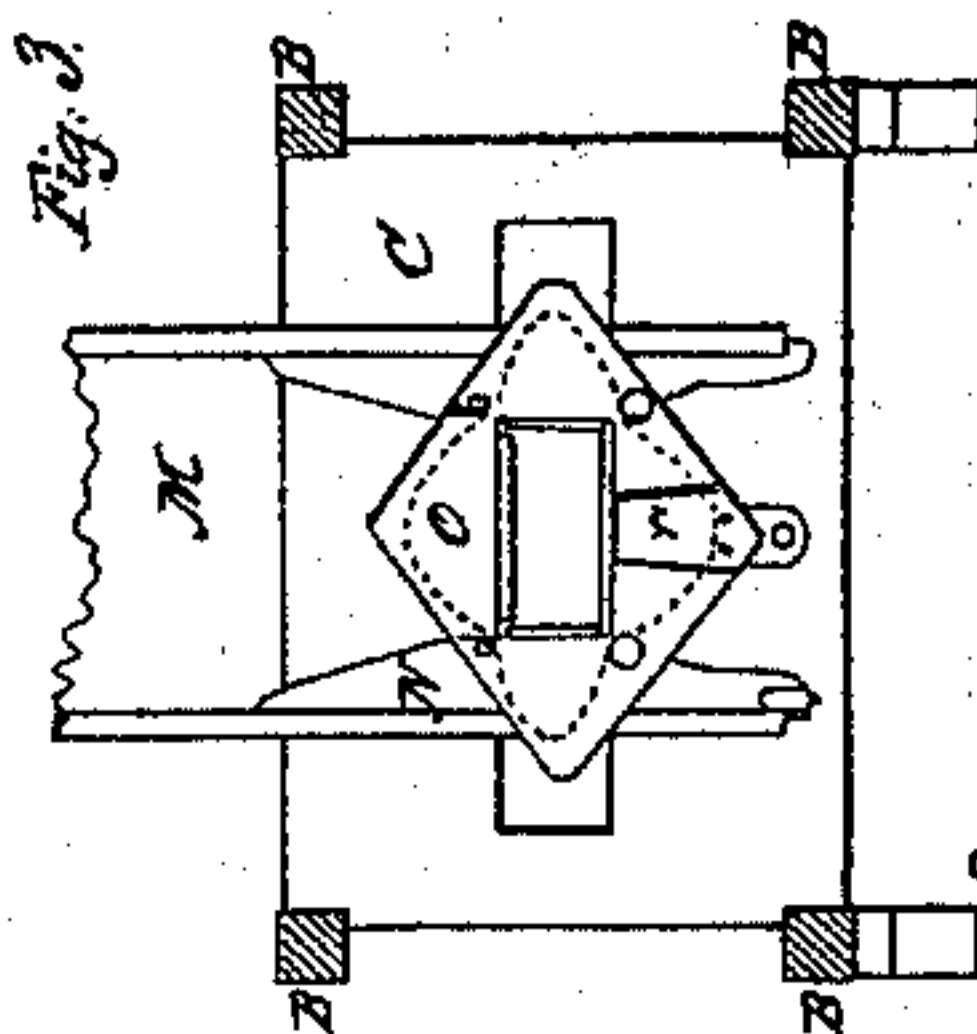
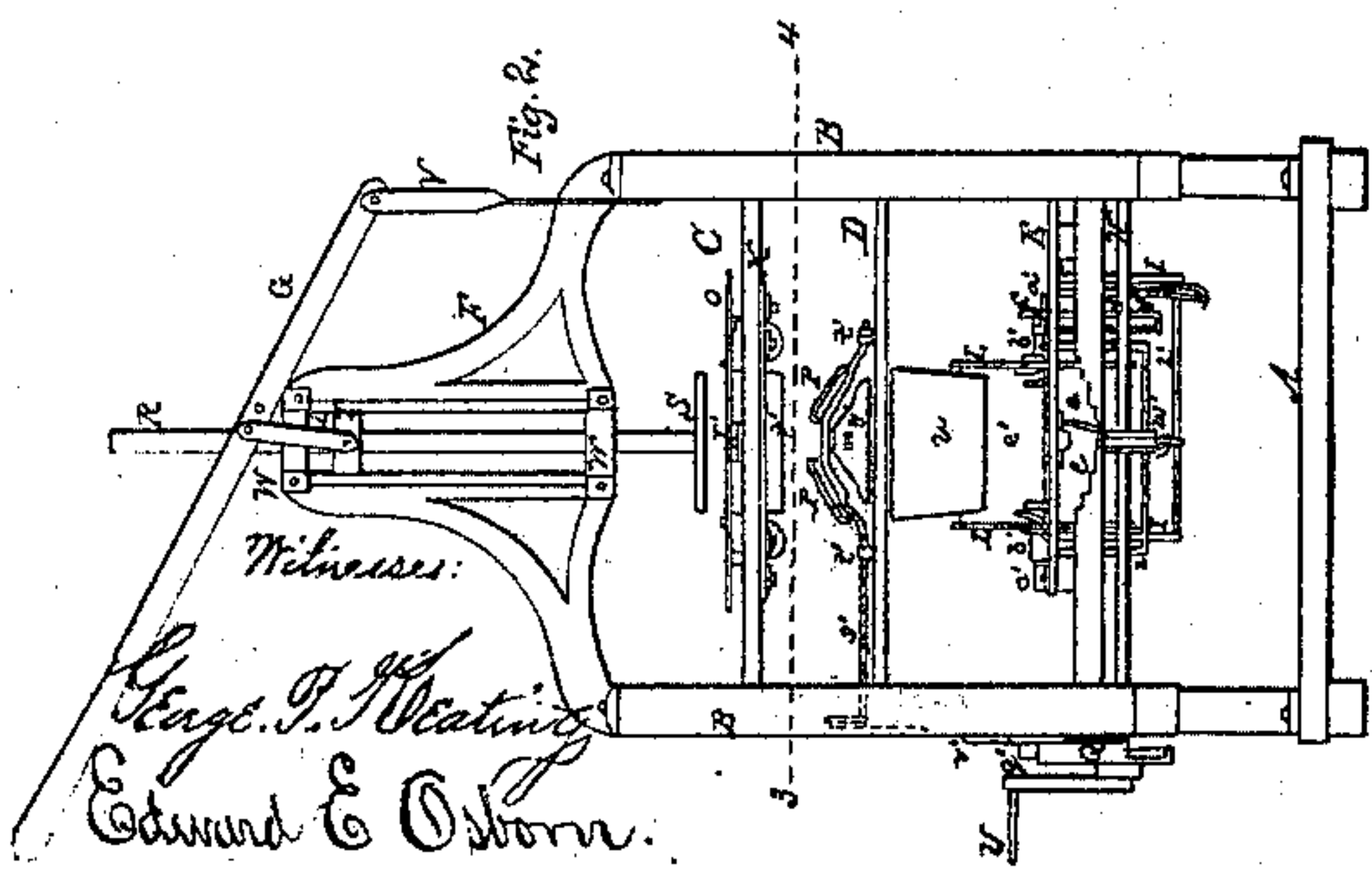
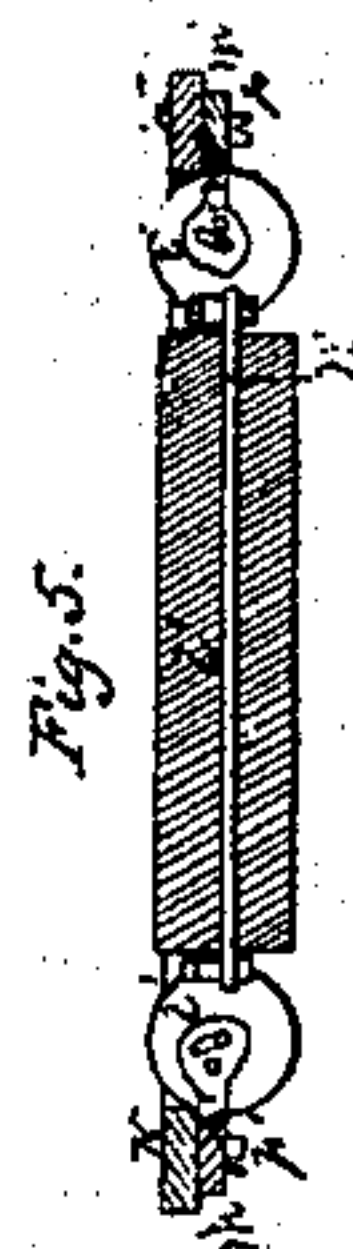
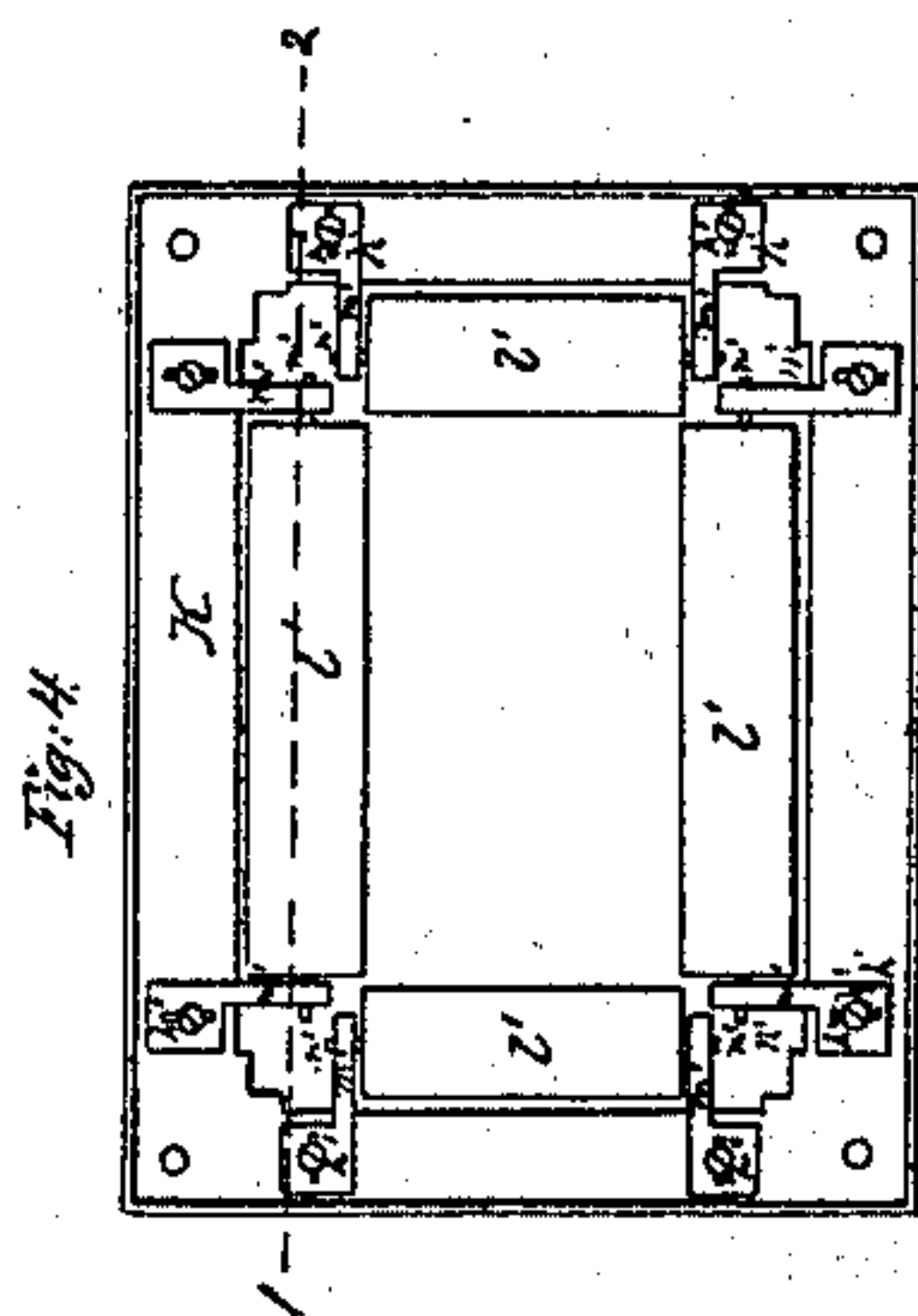
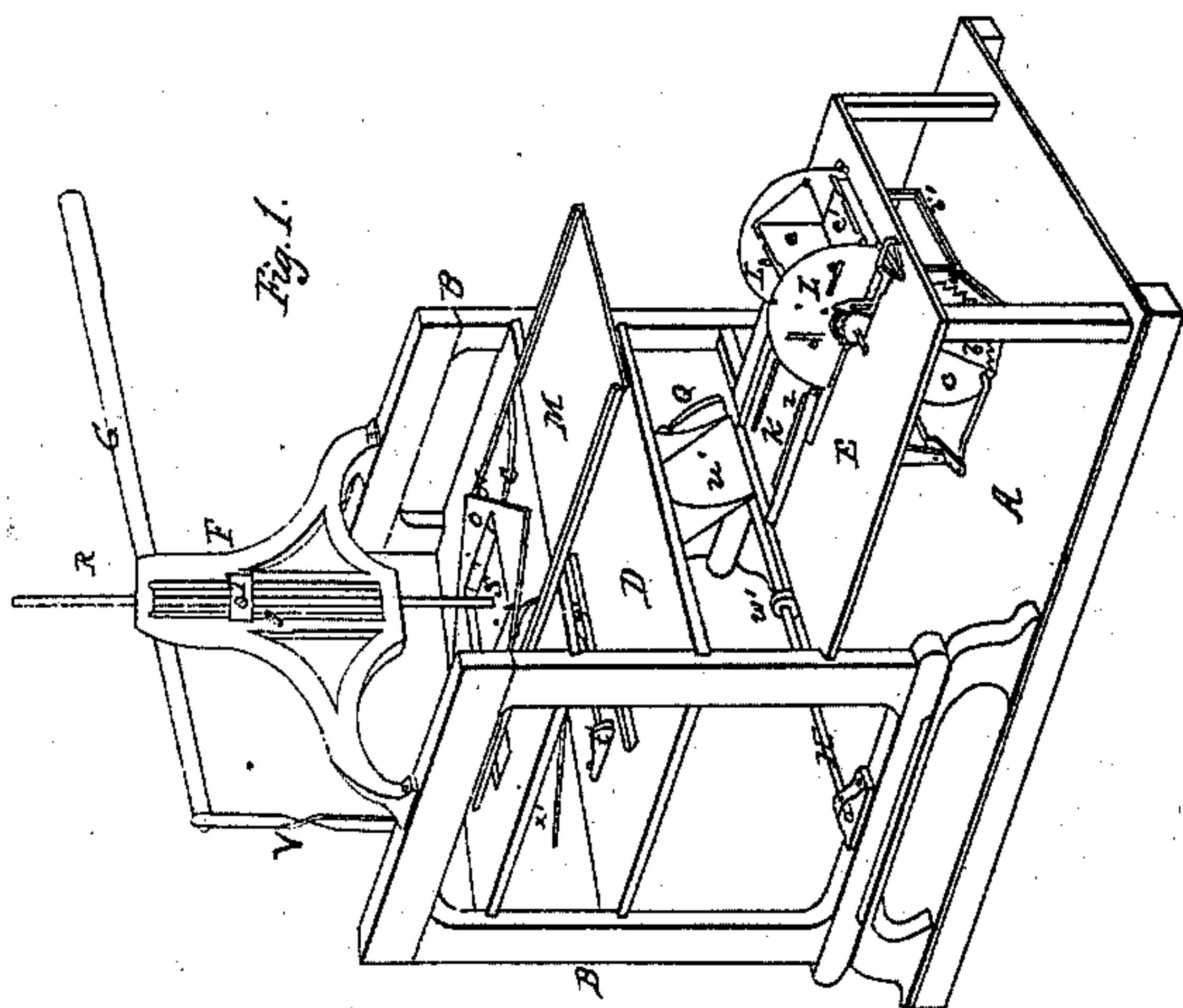
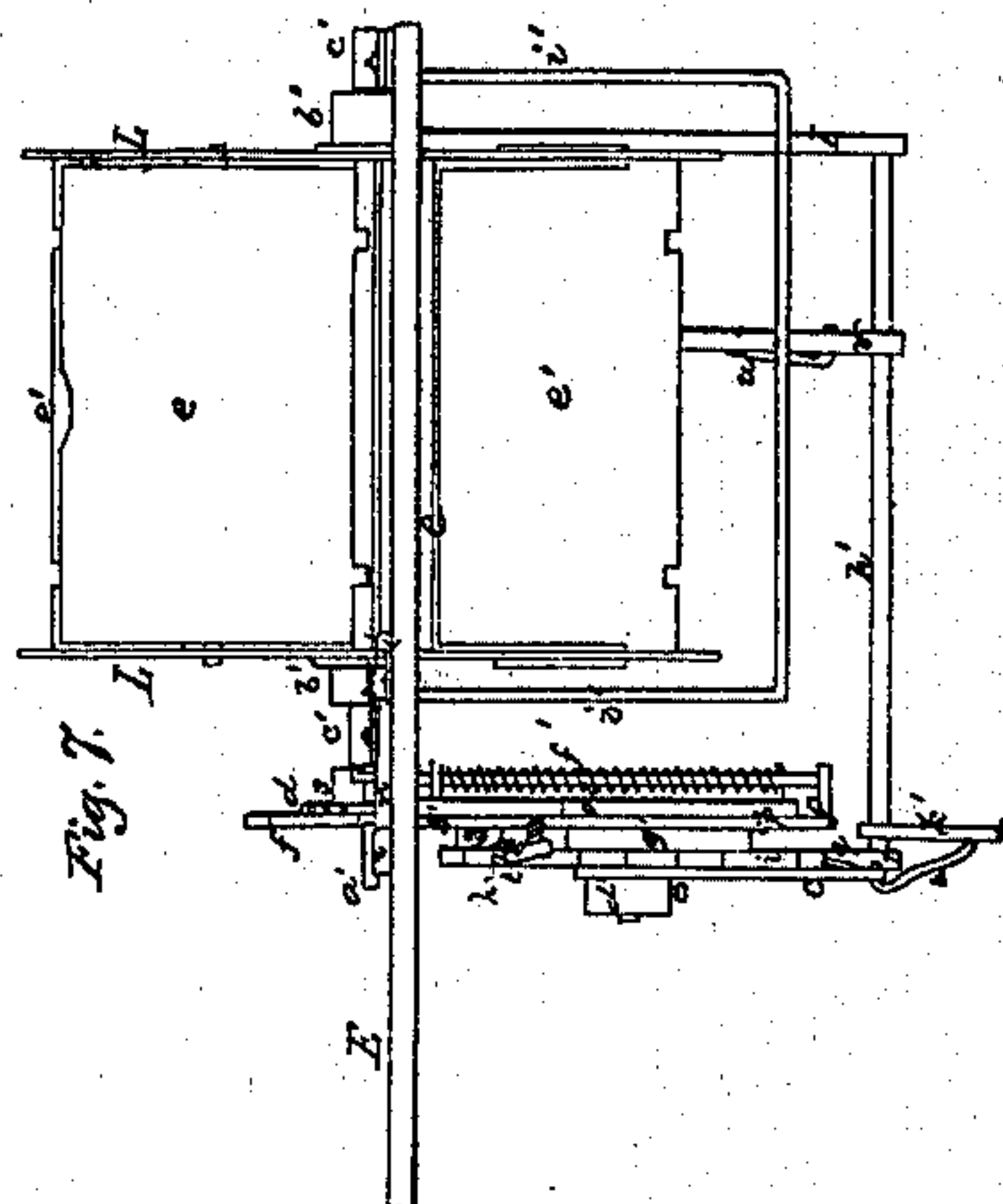
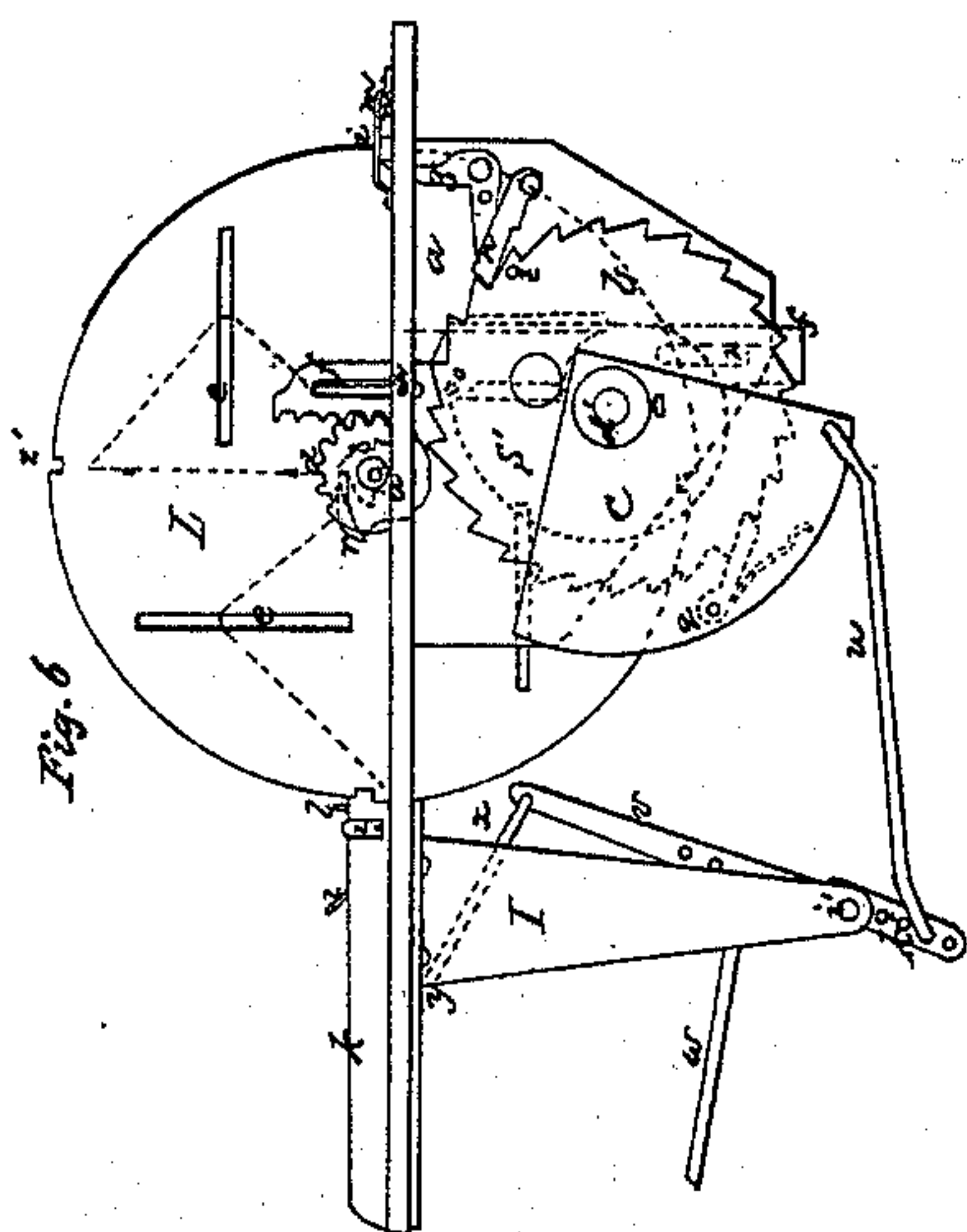
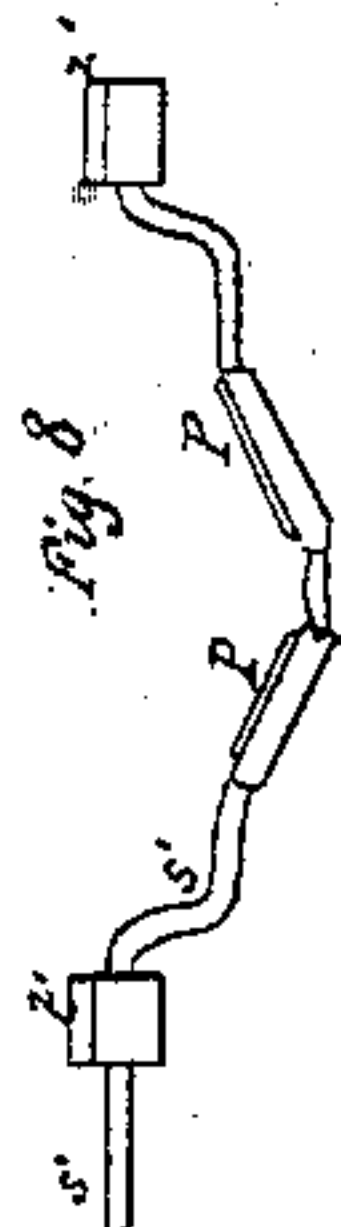
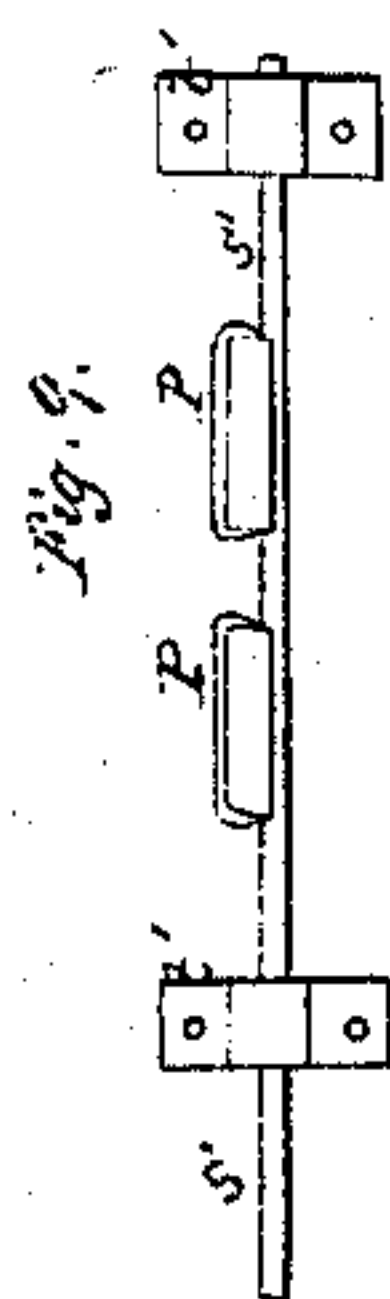


J. M. D. Keating.
Envelope Mach.
N^o 62274. Patented Feb. 19. 1867.



Inventor
John M. D. Keating

United States Patent Office.

JOHN M. D. KEATING, OF NEW YORK, N. Y., ASSIGNOR TO E. KEATING,
OF SAME PLACE.

Letters Patent No. 62,274, dated February 19, 1867.

ENVELOPE MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN M. D. KEATING, of the city, county, and State of New York, have invented certain new and useful improvements in Machines for Making Envelopes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, figures, and letters of reference thereon, making part of this specification. Of the said drawings—

Figure 1 is a perspective view.

Figure 2 is a rear elevation.

Figure 3 is a transverse section taken through the line 3, 4, fig. 2.

Figure 4, shows the creasing rollers and supporting frame detached from the machine.

Figure 5 is a horizontal section of fig. 4, taken through line 1, 2.

Figure 6 is a side elevation of the counting mechanism.

Figure 7 is a front view of the counting mechanism.

Figures 8 and 9 are vertical and horizontal projections of the additional flap detached from the machine.

Similar letters of reference indicate like parts in all the drawings.

My invention is designed as an improvement upon the envelope machine, for which Letters Patent were granted to me on the 30th day of June, 1863, and consists, first, in the employment of adjustable elastic creasing rollers, in combination with a folding apparatus; second, a slotted feeding-plate in combination with a folding apparatus; third, an auxiliary presser-flap in combination with a folding apparatus; fourth, a counting mechanism, whereby the packing of envelopes is greatly facilitated, all of which will be fully set forth hereafter.

To enable others skilled in the art to make and use my invention, I will describe the construction and operation thereof:

A represents the base of the machine; B B the frame or uprights thereof. C is a platform, secured to the uprights B B, on which the feeding apparatus operates, and to the under side of which the creasing rollers are attached. D is a second platform, immediately below C, secured to the main frame, upon which the folding flaps are mounted. E is another platform for supporting the counting mechanism, one end of which is secured to a girth joining the uprights B B immediately below the platform D, while the other end is supported in front of the main frame by uprights attached to the base A, as plainly shown in fig. 1. F is an arch, bolted to the top of the main frame B B, supporting the slides and bearings for the plunger-rod R. G is a hand-lever for working the plunger. H is the main shaft. On this shaft, in machines made by me, would be placed the cams to work the plunger flaps and feeder by means of levers and proper connections; but as these form no part of my invention a detailed description is omitted. A full description may be found in the specification of the patent granted me June 30, 1863. On this main shaft is placed a cam, Q, which, by means of a roller, q' , and cam-lever and connecting-rod v' , operates the auxiliary presser-flap. There is also upon the main shaft an eccentric, w' , which, by means of a strap and rod, w , operates the counting mechanism. To the rod R is secured the plunger S, of the same size as the envelopes to be made. To the under side of the platform C is secured by screws a frame, K, to which are secured the journal pins $m' m'$, by screws, p' , for the elastic creasing rollers l' , as plainly shown in fig. 4. The feeder-plate O is secured to the bars N, which slide freely in the grooves in the platform M, attached to the front end of the platform C. This feeder-plate is provided with a slot in its rear end, which is closed by the wedge v' when in proper position beneath the plunger, thereby allowing the feeder-plate to reciprocate immediately after the plunger has descended clear of the plate, and admitting of an easy cam movement, which could not be accomplished if the plunger had to rise clear of the plate before it could be drawn back.

Operation.

The operation will be as follows: The paper blanks, which have been previously cut by dies, are placed upon the reciprocating feeder-plate O, and carried forward under the plunger by means of small hooks or projections; the plunger then descends and doubles the sides and ends of the blank at right angles, by coming in contact with the creasing rollers, and leaves the blank upon a hinged flat bed. The elastic roller may be so set by means of the slotted journal-pieces that the plunger may impinge with greater or less force for creasing

or forming the outline of the envelope. The journals of the rollers working in the slots $o' o'$ allow the roller to be lifted up with the plunger as it recedes, and move away laterally from it, as shown in fig. 5. The feed-plate having been drawn back, immediately after the descent of the plunger S, and received, another blank, is ready to feed it forward as the plunger rises above the level of the plate. The flaps now operate to fold and complete the envelope; the folder s operating first to fold the end flaps then the gum flap, and lastly the pocket or front flaps. The folder y' , which presses down on the gum flap, is cut, away to allow the auxiliary presser-flap to press down on the part gummed, by which means it is relieved from the great strain on the hinge which would be produced if the roller was extended to the edge of the flap to press the gummed edges together. The auxiliary presser-flap or folder s' , is intended to be so operated that it starts immediately after the folder y' , presses firmly on the gummed portions of the envelope, and rises a little in advance of the folder. To this flap, s' , are secured nipper pieces, which grasp the elastic pressers P P. These being formed of elastic material, readily yield to any inequality of surface, and press equally on all parts of the envelope with which they are in contact. The counting apparatus operates as follows: The main shaft at each revolution communicates a forward-and-back movement to the segment-plate e , by means of the arms $k' v$, and connecting-rods $u w$. To this plate is attached a spring-pawl, q , which engages in a ratchet-wheel, b , and causes it to revolve one tooth at each revolution of the main shaft; the ratchet-wheel being held from any retrograde movement by the spring-pawl h , as plainly shown in fig. 6. The ratchet-wheel b is provided with twenty-five teeth, this being the usual number of envelopes in a pack. To the back of this wheel is secured a constantly increasing cam, g' , which, coming in contact with a pin, o , raises the slotted bar f attached thereto. The upper part of this bar being formed into a rack, gears into a small pinion, d , which is loose on the shaft a' of the pocket-wheel L. A pawl, r , held in place by a spring, is fixed on the back of pinion d , and engages a small four-toothed wheel, s , fast upon the pocket-wheel shaft. The catch i , which is held against the pocket-wheel L, by the spring n , catches into the notches x' , on the periphery of the wheel, and holds it in position. On the back of the ratchet-wheel b there is a pin, t , which at the proper time trips the lever g , and throws the catch i with which it is in contact out of the notch in the pocket-wheel. All connections then being broken, the wheel L rotates by means of the coil spring f' acting on the small ratchet-wheel s , through the agency of the rack f and pinion d , till it rotates a quarter, when it is arrested by the catch i dropping into the notch x' . The envelopes falling one at a time in front of the fingers $l l$, working through the slots in the plate k , are forced one beneath the other between the plates $e e'$. The plate e , held in place by the projections working in the slots of the heads L, is raised as the pack of envelopes increases, and by its gravity keeps its packs together till it arrives at the place for the operator to put the band on. These plates may be made of any desired weight.

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

1. The elastic creasing rollers $U' U'$, in combination with the plunger S, for folding the paper blank at right angles, substantially as described and for the purposes specified.
2. The slotted feeding-plate O, in combination with the plunger, substantially as described and for the purpose specified.
3. The elastic flap or presser S' , in combination with the folding mechanism, substantially as described and for the purposes specified.
4. The counting mechanism in combination with the folding apparatus, constructed and operating substantially as described and specified.

JOHN M. D. KEATING.

Witnesses:

C. A. DURGIN,
EDWARD E. OSBORN.