

(No Model.)

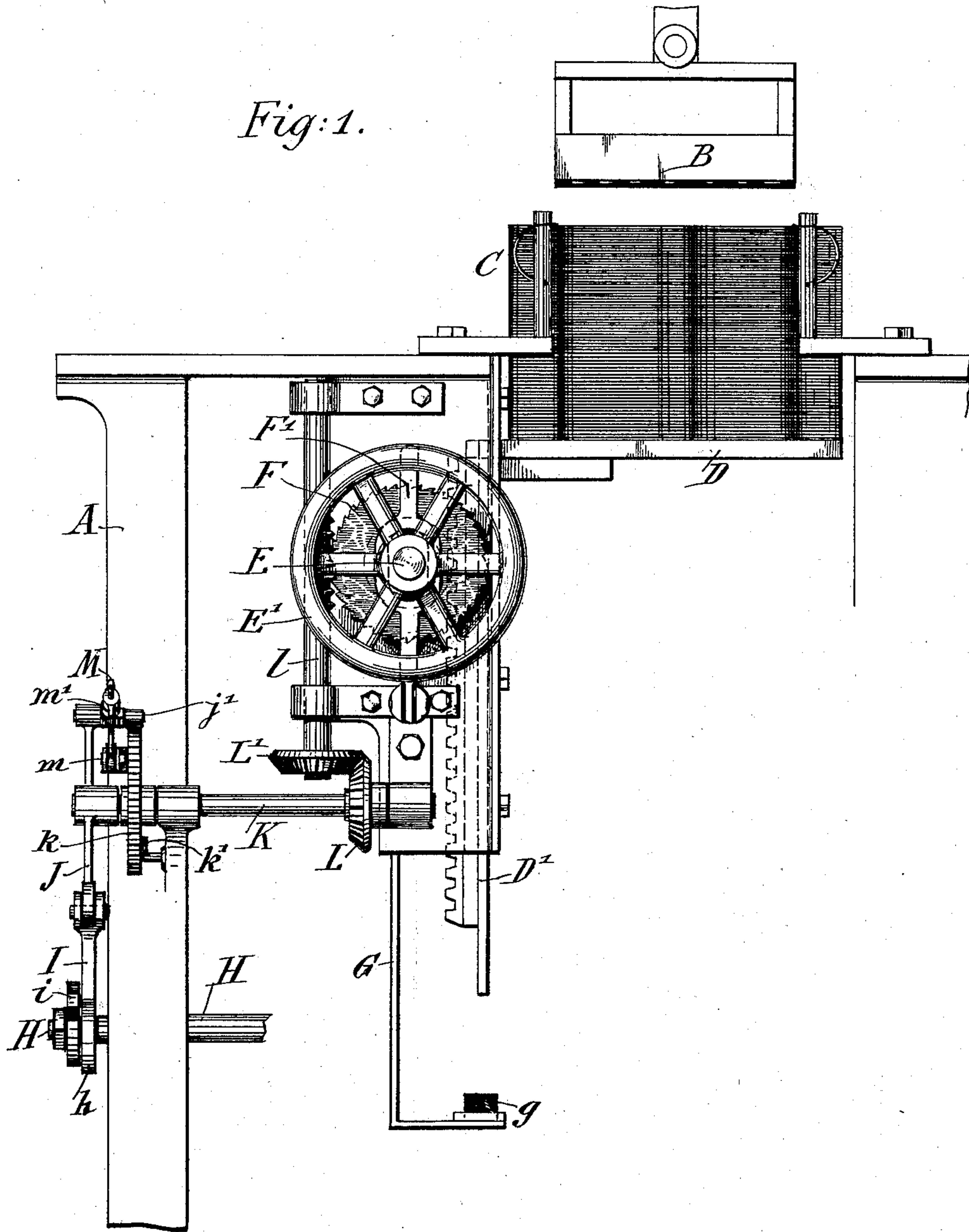
2 Sheets—Sheet 1.

E. ERMOLD.
ENVELOP MACHINE.

No. 580,641.

Patented Apr. 13, 1897.

Fig: 1.



WITNESSES:

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Chas. East

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Edward Ermold

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(No Model.)

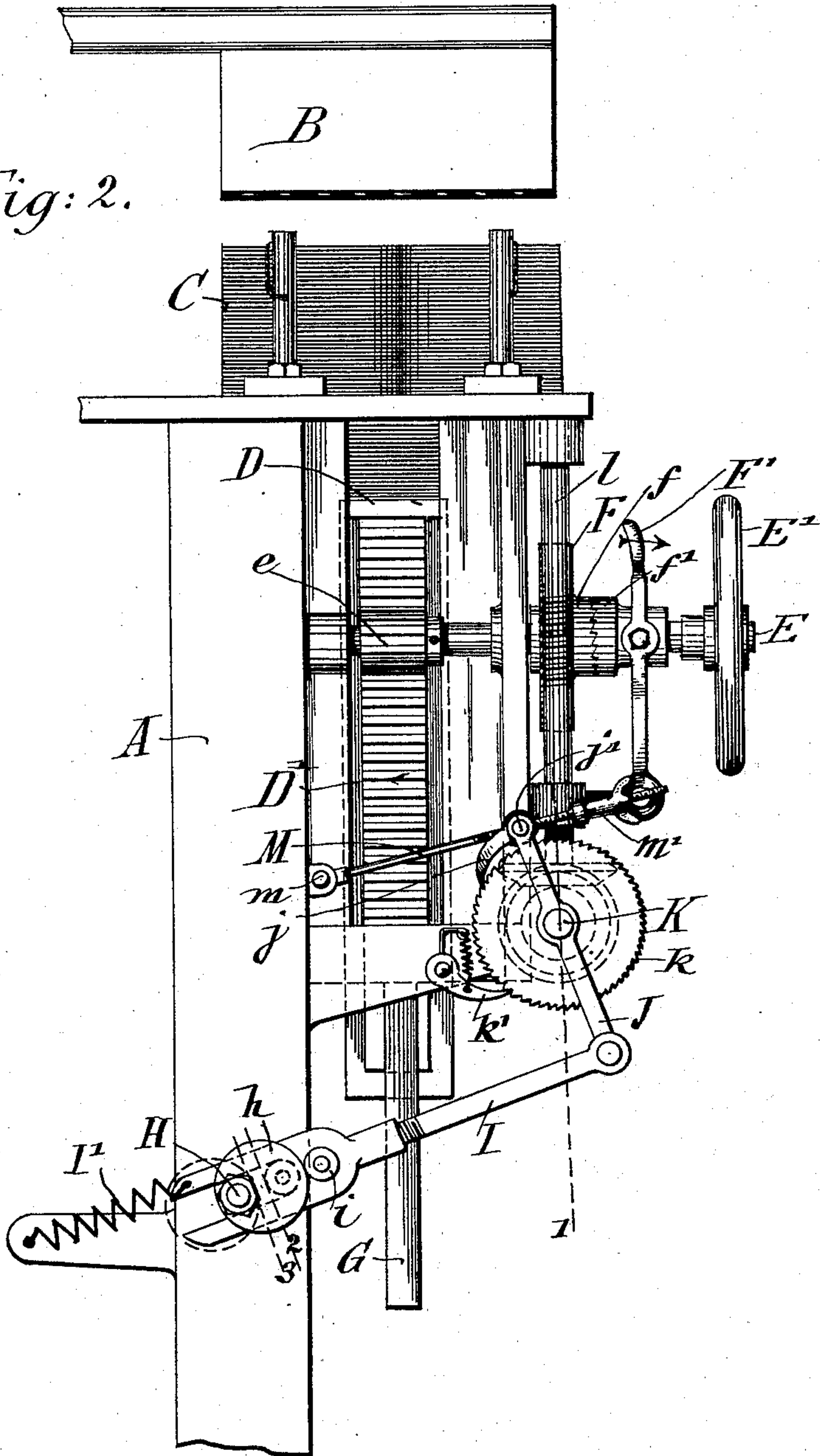
2 Sheets—Sheet 2.

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ENVELOP MACHINE.

No. 580,641.

Patented Apr. 13, 1897.

Fig: 2.



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UNITED STATES PATENT OFFICE.

EDWARD ERMOLD, OF NEW YORK, N. Y.

ENVELOP-MACHINE.

SPECIFICATION forming part of Letters Patent No. 580,641, dated April 13, 1897.

Application filed June 11, 1896. Serial No. 595,110. (No model.)

To all whom it may concern:

Be it known that I, EDWARD ERMOLD, a citizen of the United States, residing in the city, county, and State of New York, have
5 invented certain new and useful Improvements in Envelop-Machines, of which the following is a specification.

This invention relates to envelop-machines, and particularly to the elevating mechanism
10 for the platform which supports the pile of envelop-blanks and intermittently raises the pile toward the gummer, which gums and picks up the top blank from the pile, the object of the invention being to intermittently
15 raise the platform, after each top blank has been removed from the pile, a distance corresponding to the thickness of a blank, whether the blanks composing a pile be of one thickness or another, so that the upward feed of
20 the pile is always in accordance with the adjustments of the other parts of the machine and spoiled blanks thereby prevented.

The invention consists of an elevator-platform provided with a rack-bar, means for
25 guiding the same, a shaft provided with a pinion meshing with the teeth of the rack-bar, a worm-wheel loose on said shaft and provided with a hub having clutch-teeth and forming one member of a clutch, another
30 clutch member having a feather-and-groove connection with the shaft, so as to slide thereon and yet rotate when brought into engagement with the other clutch member by the hand-lever, which is pivoted on the frame of
35 the machine, a vertical worm-shaft journaled in the frame of the machine, the worm of which meshes with the said worm-wheel and the lower end of which is provided with a bevel gear-wheel, a suitably-journaled horizontal
40 shaft provided with a bevel gear-wheel meshing with the aforesaid gear-wheel, a ratchet-wheel fixed on the horizontal shaft, a rocking lever fulcrumed on the horizontal shaft and provided at its upper end with an actuating-pawl which takes into the teeth of the
45 ratchet-wheel, a reciprocating bar provided with an antifriction-roller and pivoted to said rocking lever, an eccentric mounted on a suitable shaft upon which the roller rides, a spring
50 tending to force the roller against the periphery of the eccentric, a pivoted rod passing loosely through a hole in the pivot of said

pawl, and a stop-nut screwed on said rod and adapted to be adjusted thereon to limit the throw of the actuating-lever more or less.

In the accompanying drawings, Figure 1 is a front elevation of so much of an envelop-machine as is necessary to show my improvements, and Fig. 2 is an end elevation of the same parts.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A indicates the frame of the machine; B, the gummer or pick-up; C, the pile of envelop-blanks; D, the elevator-platform, and D' the rack-bar attached to the latter and suitably guided in the frame of the machine. The rack-bar is intermeshed by a pinion *e*, which is mounted on a short shaft E, suitably journaled in the frame A. Arranged loosely on the shaft E is a worm-wheel F, which is provided with clutch-teeth formed on its hub, so as to form a clutch member *f*, while another clutch member *f'* is guided to and from the member by the usual and evident feather-and-groove connection with the shaft. Through the medium of the pivoted hand-lever F' the teeth of the clutch member *f'* are caused to engage those of member *f*, so that when the worm-wheel F is revolved the shaft E will also be revolved, while when the clutch members are disengaged said shaft may be rotated by the hand-wheel E', so that the elevator-platform may be quickly raised or lowered when desired, or so that the same may fall and be brought to rest in its lowermost position by the rack-bar contacting with the buffer *g*, which is fixed to a bracket G, fixed to the frame and arranged below the said parts.

The mechanism for revolving the worm-wheel is constructed as follows: H is a rotating shaft operated from any suitable source of power and carrying an eccentric *h*, said shaft being straddled by a forked reciprocating bar I, provided at one side of its forked end with an antifriction-roller *i*, which is drawn toward the periphery of the eccentric by means of a tension-spring I', fixed to the frame A. The opposite end of the reciprocating bar I is pivoted to the lower end of a rocking lever J, fulcrumed on a horizontal shaft K, which is journaled in suitable bearings on the frame of the machine and carries

a ratchet-wheel *k*, the teeth of which are engaged by a pawl *j*, pivoted to the upper end of the rocking lever *J*. While the pawl *j* tends to move the ratchet-wheel in forward direction, a detent *k'* prevents the backward movement thereof. When the ratchet-wheel *k* is rotated in forward direction through the medium of the eccentric *h*, reciprocating bar *I*, rocking lever *J*, and pawl *j*, an intermittent rotation is imparted to the horizontal shaft *K*, which, through the bevel gear-wheel *L* thereon meshing with a bevel gear-wheel *L'* at the lower end of a vertical worm-shaft *l*, which is journaled in suitable bearings on the frame of the machine, rotates the worm-shaft *l* and causes the worm to mesh with the teeth of the worm-wheel *F* and rotate it, thus imparting an intermittent rising motion to the elevator-platform carrying the pile of envelop-blanks.

The nicety of the adjustment of the elevator mechanism is obtained by a rod *M*, pivoted to the frame of the machine at *m* and passing loosely through a hole in the pivot-pin *j'* of the pawl *j*, said rod being screw-threaded at its outer end and extended sufficiently beyond the pivot-pin to provide for considerable play of the thumb or winged stop-nut *m'*, which is screwed onto the rod. The mechanism is adjusted for the upward feed of the pile of blanks according to their thicknesses by adjusting the stop-nut *m'* on the rod *M*, so that the backward movement of the upper end of the rocking lever is limited according to the position of the nut. By limiting the backward movement of the upper end of lever *J* and consequently of the pawl *j* the latter is caused to ride over a greater or less number of teeth of the ratchet-wheel *k* in inoperative engagement, so that when a forward movement is given to the pawl the ratchet-wheel is moved a distance corresponding to the number of teeth before skipped by the pawl. If, for instance, it is desired to permit the pawl a backward movement, so that it will skip, say, four teeth instead of three, the nut *m'* is screwed outwardly toward the end of the rod *M*, thus adjusting the elevator-platform for feeding thicker blanks. Adjusted as shown in Fig. 1 the backward movement of the pawl is limited at the dotted line 1 and the forward movement of the roller *i* at the dotted line 2. Between the dotted lines

2 and 3, which latter shows the shortest radius of the eccentric, the eccentric does not and cannot bear on the roller *i*, because the upper end of the rocking lever *J* comes against the stop-nut *m'* and limits the movement of the roller toward the shaft of the eccentric. The length of contact of the roller with the periphery of the eccentric depends on the set or adjustment of the stop-nut, while this contact is always enforced by the tension-spring *I'*, connected to the reciprocating bar, said spring holding the upper end of the rocking lever against the stop-nut until another forward movement is imparted by a recontact of the eccentric with the antifriction-roller.

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

1. The combination, with the elevator-platform of an envelop-machine, of a revolving eccentric, a reciprocating bar provided with a part adapted to ride on the periphery of the eccentric, a tension-spring acting on the bar, a shaft, a rocking lever fulcrumed on the shaft and pivoted to said bar, a pawl carried by the rocking lever, a ratchet-wheel arranged on said shaft, its teeth being engaged by said pawl, a pivoted screw-threaded rod supported at the upper end of the rocking lever, a stop-nut screwed on said rod, and mechanism between said shaft and the elevator-platform whereby intermittent rising motion is imparted to the platform, substantially as set forth.

2. The combination, with the elevator-platform of an envelop-machine, provided with a rack-bar, a pinion, a shaft provided with a ratchet-wheel, and motion-transmitting mechanism between said shaft and pinion, of a rocking lever fulcrumed on said shaft and provided with a pawl engaging said ratchet-wheel, means for operating said rocking lever, a pivoted screw-threaded rod supported at the upper end of the rocking lever, and a stop-nut screwed onto said rod, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

EDWARD ERMOLD.

Witnesses:

GEO. W. JAEKEL,
PAUL GOEPEL.