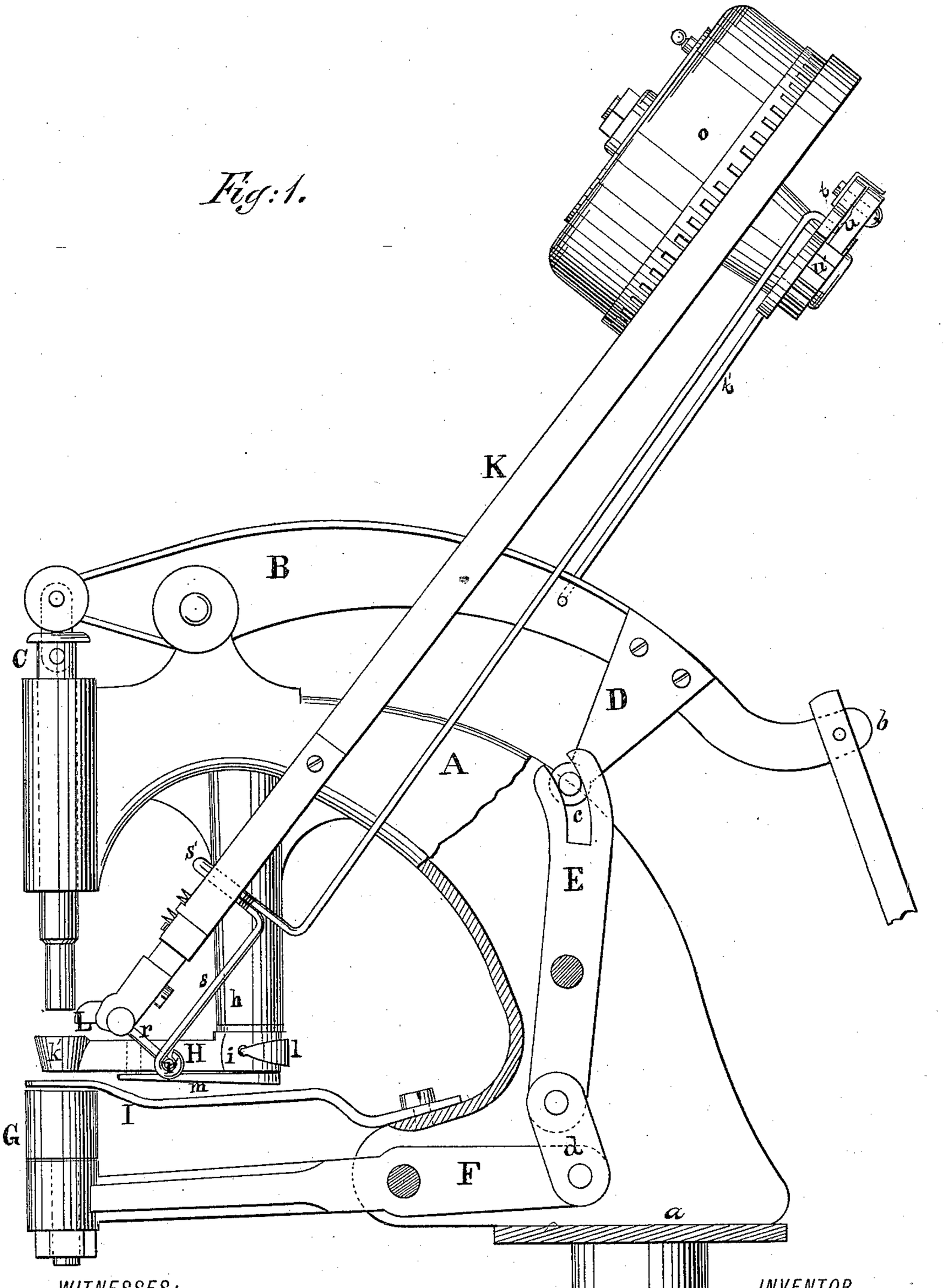
(No Model.) 2 Sheets—Sheet 1.

C. M. PLATT.

RIVET SETTING AND BUTTON FASTENING MACHINE.

No. 343,848. Patented June 15, 1886.

Fig: 1.



WITNESSES:

Chas. Nida.

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Clark M. Platt,

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(No Model.) 2 Sheets—Sheet 2.

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Fig: 2.

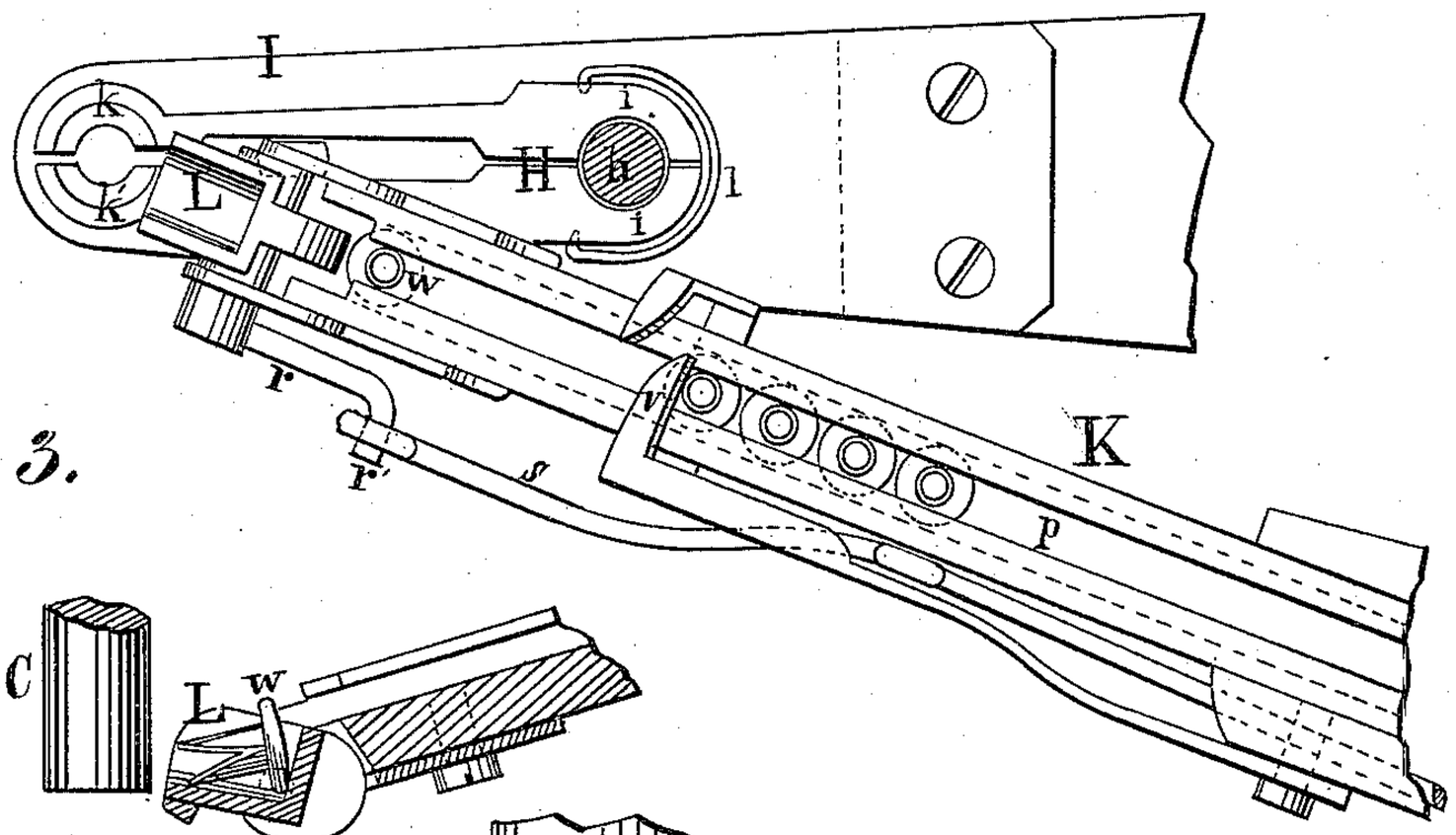


Fig: 3.

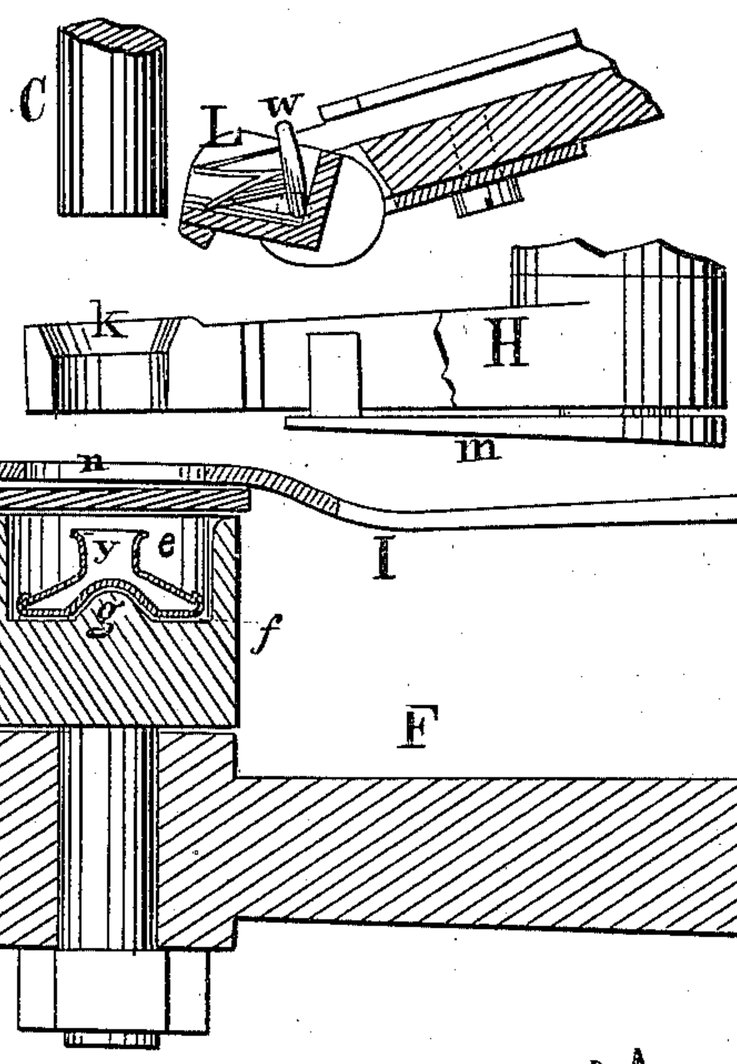


Fig: 5

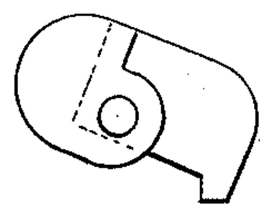
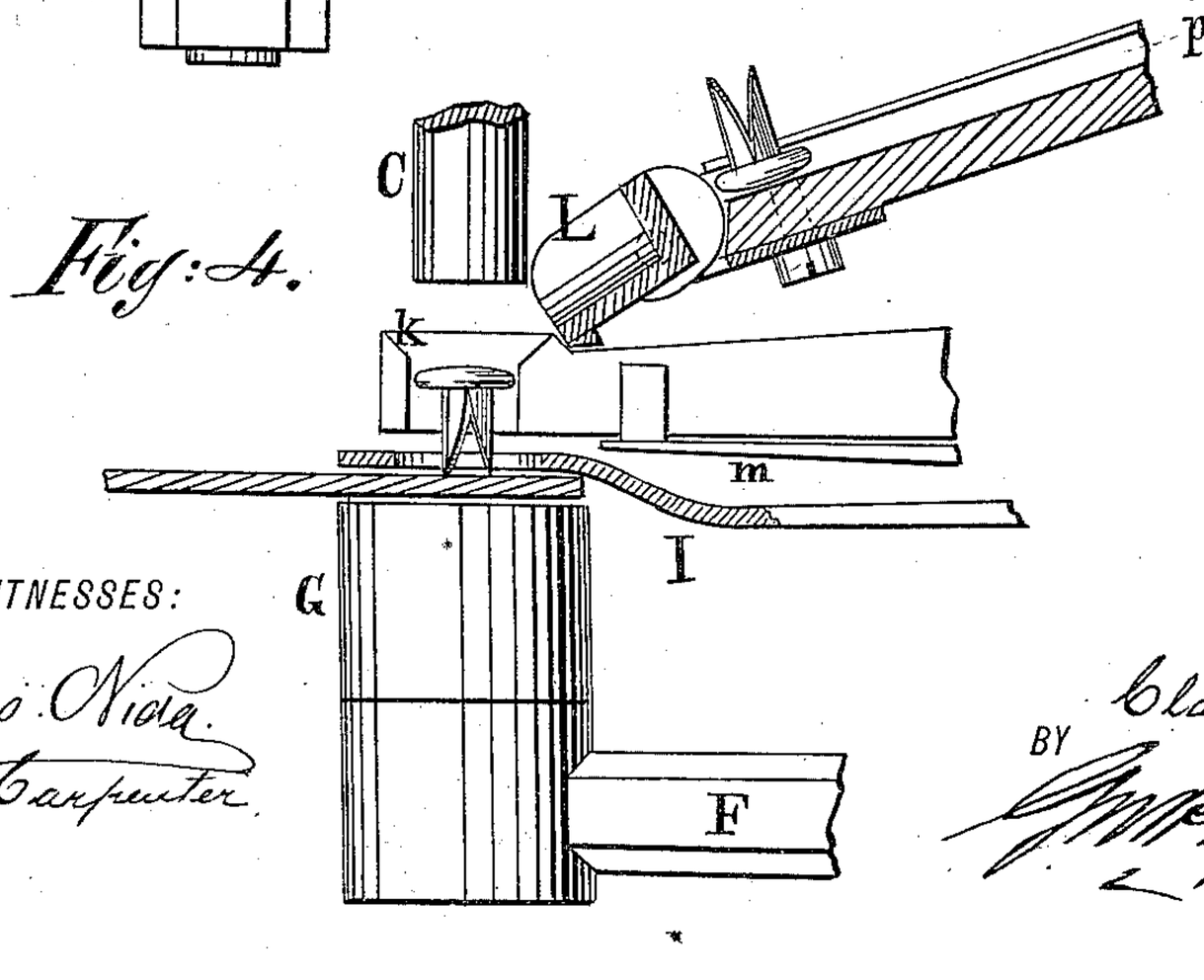


Fig: 4.



WITNESSES:

Chas. Nida.

D. A. Carpenter.

INVENTOR

Clark M. Platt.

BY

ATTORNEY

UNITED STATES PATENT OFFICE.

CLARK M. PLATT, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE PATENT BUTTON COMPANY, OF SAME PLACE.

RIVET-SETTING AND BUTTON-FASTENING MACHINE.

SPECIFICATION forming part of Letters Patent No. 343,848, dated June 15, 1886.

Application filed February 15, 1886. Serial No. 191,973. (No model.)

To all whom it may concern:

Be it known that I, CLARK M. PLATT, of Waterbury, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Rivet-Setting and Button-Fastening Machines, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings, forming a part thereof.

This invention is in the nature of an improvement in rivet-setting and button-fastening machines; and the invention consists in a rivet-setting and button-fastening machine constructed and combined in the manner hereinafter with particularity shown, described, and claimed.

In the accompanying sheet of drawings, Figure 1 is a side elevation of machine, partly in section; Fig. 2, a plan or top view, partly in section; Fig. 3, details in section of plunger, with rivet therein, chute and hopper, receiver, jam-plate, fabric, button, anvil, and lever fixed thereto; Fig. 4, details in section of plunger, chute, and hopper in position to discharge rivet, receiver, jam-plate, and fabric, with anvil and lever in elevation; Fig. 5, detail of hopper and its pivotal connection.

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

This invention is in the nature of a modification of the rivet-setting machine patented to me January 9, 1883, in Letters Patent No. 270,555, and the machine has a supporting-arm, A, provided with a suitable base, *a*. To this arm is pivoted an operating-lever, B, one end of which is suitably united to the plunger C, and the other end, *b*, may or may not be connected with treadle mechanism, as the machine may be operated by such mechanism or by hand. To this operating-lever B is firmly fixed a bracket, D, the inner end of which engages with the fork *c* of a lever, E, pivoted to the supporting-arm A, the lower end of this lever E being united by a link, *d*, to one end of a lever, F, which is pivoted to the base *a* of the supporting-arm, the other end of this lever having secured to it an anvil, G. This anvil has a cup recess in its upper surface, as at *e*. The base *f* of this cup may be turned to permit a button-face to lie snugly thereon, and it is provided centrally with a projecting cone, *g*.

To the under side of the supporting-arm A, and projecting downward, is fixed a support, *h*, surrounding the lower end of which are the rear ends of a receiver, H, which projects outward at a right angle to the support *h*, its outer end consisting, essentially, of two jaws, *k* and *k'*, fashioned into a flaring or cup-shaped mouth. The rear ends, *i*, of this receiver before mentioned are provided with a spring, *l*, the function of this spring being to yield when the jaws *k* and *k'* are opened by the action of the plunger C, hereinafter to be described, and to close these jaws when not actuated by the plunger.

Rigidly fixed to the lower part of the supporting-arm A, and extending at right angles from the arm parallel with and immediately beneath the arms of the receiver H, or rather immediately beneath a supporting-plate, *m*, of these receiver-arms, is a plate, I, which for convenience I shall call a "jam-plate." This plate I at its outer end is provided with a perforation, *n*, which perforation is coincident with the axis of the plunger C, the opening in the jaws *k k'* of the receiver, and the cup *e* of the anvil G when the anvil is in its raised position.

Fixed to the supporting-arm A, and on one side of the same and at an angle, as shown in Fig. 2, is a chute, K. The upper end of this chute has secured to it a revolving feed-box, *o*, and the chute proper consists of a raceway, *p*, formed by a groove which extends from the feed-box *o* downward to the end of the chute, and terminates a short distance from the receiver H.

To the lower end of the chute K is pivoted in any suitable manner a hopper, L. One of the pivots or journals of this hopper has fixed to it a crank-arm, *r*, provided with a wrist-pin, *r'*. To this wrist-pin is secured one end of a connecting-rod, *s*. This rod has formed on it a striker, *s'*, and the rod extends upward to an oscillating cross bar or plate, *t*; also to this oscillating plate *t*, opposite to the place of attachment to it of the rod *s*, is secured a rod, *t'*, the other end of this rod being pivoted to the operating-lever B; also to this oscillating plate or bar *t* is pivoted a pawl, *u*, which engages with a ratchet, *u'*, fixed to the journal of the feed-box *o*.

Now, my rivet-setting and button-fastening

machine being constructed substantially as hereinbefore described by me, its operation is as follows: The lever B, by the action of a treadle or otherwise, is moved up and down. In its upward movement the action of the bracket D in the fork *c* of the lever E causes that lever, through the link *d*, to depress the inner end of the lever F, and in consequence throw up the outer end of this lever F, and the anvil G, attached to that outer end, the anvil being so forced upward until it jams the fabric or other material which is interposed between the anvil and the jam-plate I, as in Fig. 3, and as the operating-lever B is moved upward in the manner stated, the rod *t'* is forced upward, and by that operation the oscillating plate *t* forces downward the connecting-rod *s* until the striker *s'* releases a stop-finger, *v*, and so permits one of the rivets *w* to descend through the raceway *p* and into the hopper L. Now, when the rivet is deposited in this hopper the downward motion of the operating-lever B causes the connecting-rod *s* to actuate the crank-arms *r* of the hopper L until that hopper assumes the position shown in Fig. 4, and when in that position the rivet *w* theretofore deposited in it will be deposited into the flaring cup formed by the jaws *k* and *k'* of the receiver H, within which the rivet remains with its head resting in the receiver and its pointed end protruding through it until by the next upward motion of the lever B the plunger C drives the rivet from the receiver H through the material between the anvil G and the jam I, and into the button or rivet-head *y*, that has been placed by hands within the cup *e* of the anvil G and on the base *f* of the same, the descent of the plunger C not only forcing the rivet through the material, as before stated, but also forcing it into the opening in the button or rivet-head designed for that purpose, and there upsetting or spreading or in some other way fastening or heading over the end of the rivet within the button or rivet-head, so that it cannot be withdrawn therefrom, and so fixing the button or rivet to the material.

The kind of rivet or fastener is a matter of fancy or expediency, since the machine I have described is applicable for the insertion of not only the two-pronged rivet, as shown in the drawings, but also a one-pronged rivet or tack, or a rivet with a tubular shank, or in short, any kind of fastening device that performs the functions of a rivet. It is to be understood that these fastening devices are placed in bulk within the feed-box *o*.

The operation of that feed-box and the specific operation of the chute K and the rivets within the chute, and the stops or stop-fingers *s*, I have not described in detail herein, because such description will be found in my patent of January 9, 1883, hereinbefore referred to, and for the further reason that my present invention and improvement is applicable to machines employing other kinds of feed boxes and chutes or devices for feeding fastening contrivances to the plunger or riveting mechanism of the machine.

The advantage to be derived from providing the anvil G with a cup, *e*, is that it allows the button or rivet-head to be in place on the anvil without chance of displacement, and also permits a certain amount of space for the proper driving of the fastener through the fabric into the button or rivet-head, and the special office of the jam-plate I is to afford a bearing against which the material may be clamped by the action of the anvil, as stated, and at the same time in no wise impair the proper working of the jaws of the receiver.

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

1. In a rivet-setting and button-fastening machine, the combination of devices for automatically feeding rivets or other fasteners with an oscillating hopper secured to the lower end of the chute K, an anvil, a receiver, and setting-plunger, as and for the purpose described.

2. In a rivet-setting and button-fastening machine, in combination, a chute and raceway with an oscillating hopper secured to its lower end, a connecting-rod combined and arranged to operate said hopper, a receiver with spring-jaws, a jam-plate, I, an anvil, G, fixed to a pivoted lever, F, a setting-plunger, C, and an operating-lever, B, as and for the purpose described.

3. In a rivet-setting and button-fastening machine, the following elements in combination: an operating-lever, B, plunger C, receiver H, jam-plate I, anvil G, oscillating hopper L, connecting-rod *s*, crank-arm *r*, oscillating plate *t*, connecting-rod *t'*, a feed-box, *o*, and chute K, all constructed, arranged, and combined in the manner and for the purpose hereinbefore described.

4. In combination, in a rivet-setting and button-fastening machine, a reciprocating anvil, G, a link, *d*, pivoted thereto and to a lever, E, and a jam-plate, I, interposed between said anvil and a receiving device, as and for the purpose described.

5. In combination, in a rivet-setting and button-fastening machine, an anvil, G, with a cup portion, *e*, a jam-plate, I, receiver, H, an oscillating hopper, L, and a setting-plunger, C, and mechanism for operating the same, as and for the purpose described.

6. In combination, in a rivet-setting and button-fastening machine, a chute, K, with groove *p*, stop-fingers *v*, an oscillating hopper L, and mechanism for operating the same, a receiver placed to catch the fastener deposited by said oscillating hopper, and an anvil and setting-plunger, as and for the purpose described.

CLARK M. PLATT.

In presence of—
LUZERNE I. MUNSON,
LUCIEN F. BURPEE.