

(No Model.)

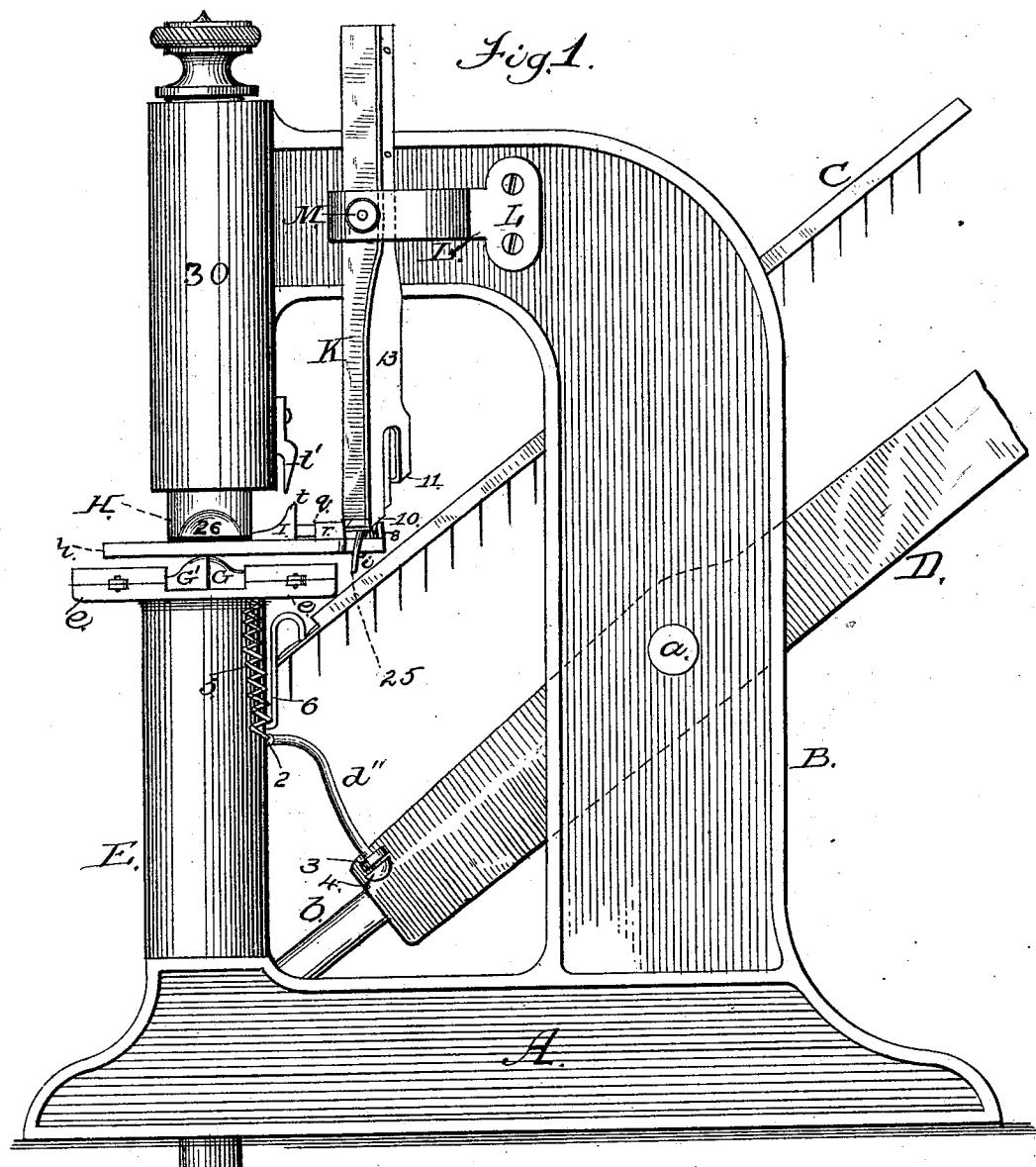
4 Sheets—Sheet 1.

A. G. WILKINS.

MACHINE FOR ATTACHING BUTTONS.

No. 282,821.

Patented Aug. 7, 1883.



Attest;
Walter Fowler,
R. K. Evans

Inventor;
Alex G. Wilkins
by A. H. Evans & Co
Attest.

(No Model.)

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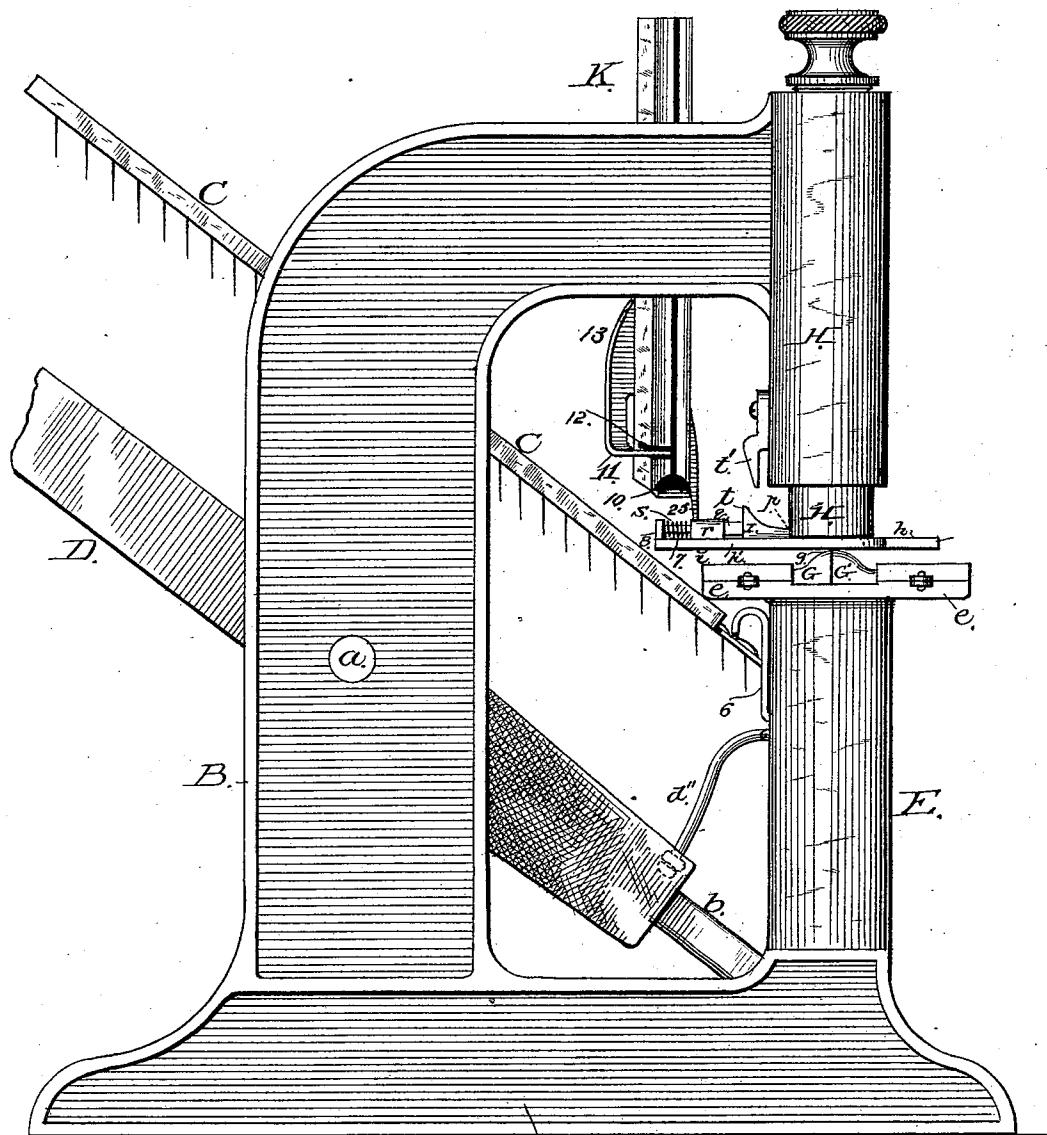
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Fig 2.



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(No Model.)

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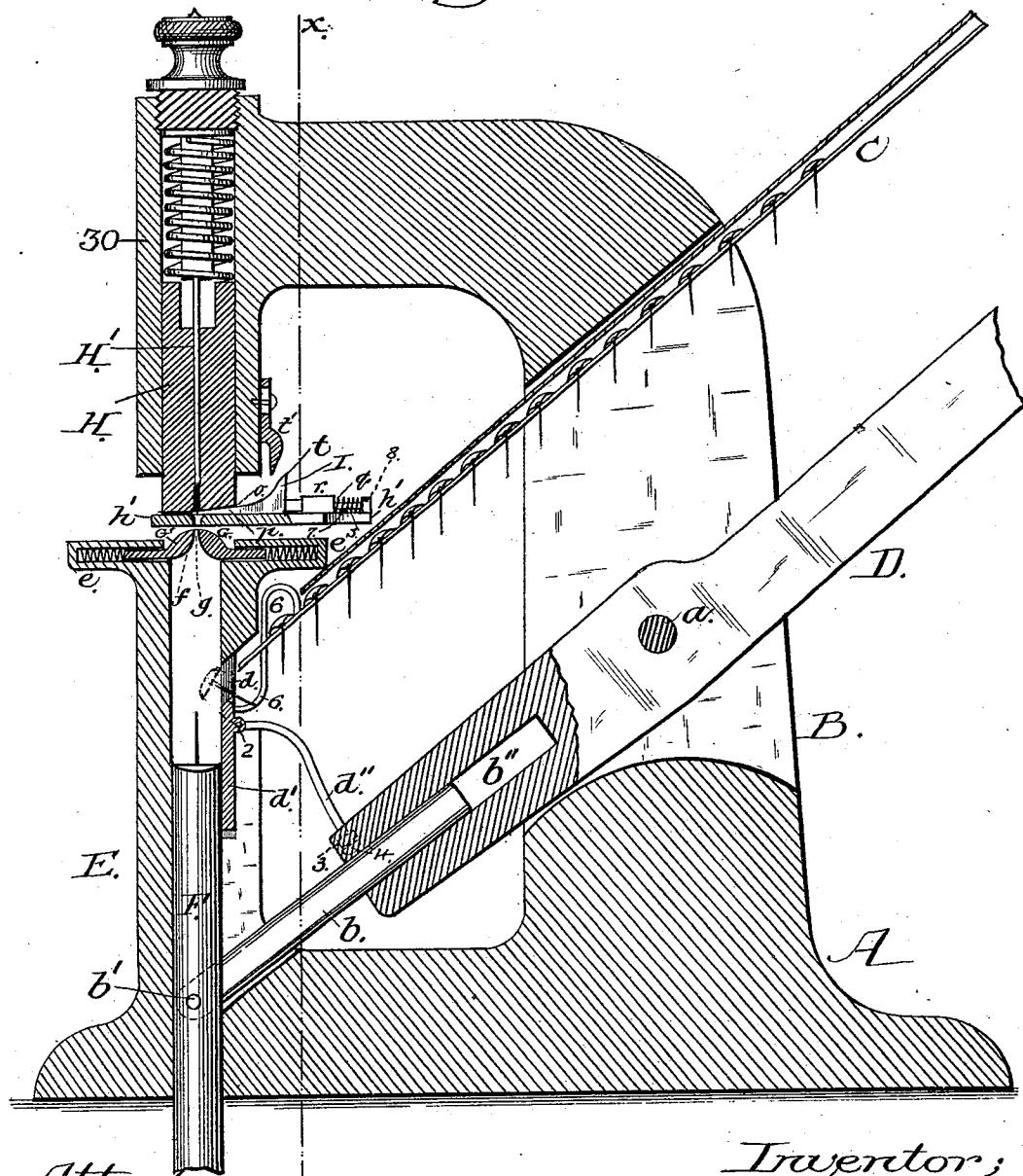
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Fig. 3.



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(No Model.)

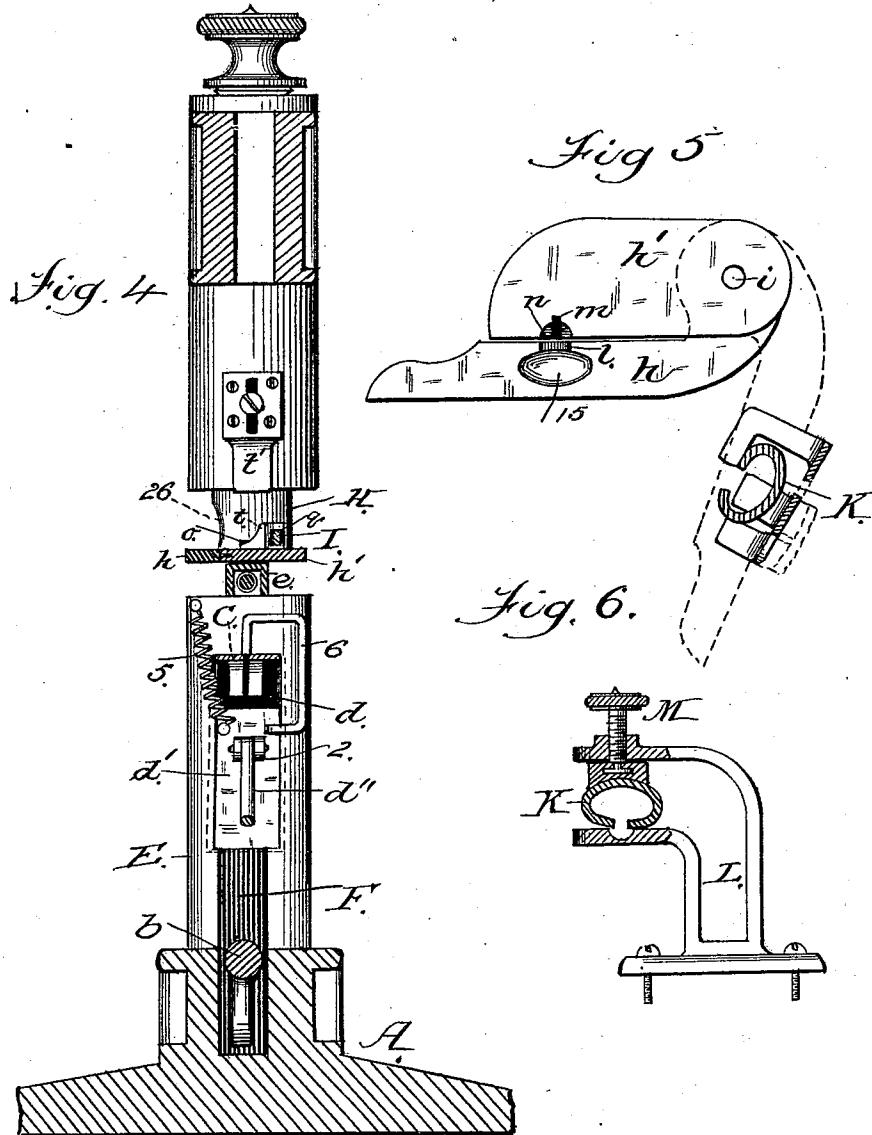
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MACHINE FOR ATTACHING BUTTONS.

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Patented Aug. 7, 1883.



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Shalter Fowler
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Inventor:
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UNITED STATES PATENT OFFICE.

ALEXANDER G. WILKINS, OF MEADVILLE, PENNSYLVANIA, ASSIGNOR TO
THE WILKINS SHOE-BUTTON FASTENER COMPANY, OF SAME PLACE.

MACHINE FOR ATTACHING BUTTONS.

SPECIFICATION forming part of Letters Patent No. 282,821, dated August 7, 1883.

Application filed April 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER G. WILKINS, of Meadville, county of Crawford, and State of Pennsylvania, have invented certain 5 Improvements in Machines for Fastening Buttons to Shoes and other Articles; and I hereby declare the following to be a full, clear, and exact description of the same; reference being had to the accompanying drawings, making 10 part of this specification, in which—

Figure 1 is a side elevation. Fig. 2 is an elevation taken on the side opposite Fig. 1. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a vertical section on the line $x-x$ of 15 Fig. 3, showing the front of the machine. Figs. 5 and 6 are details to be referred to.

In order that those skilled in the art may make and use my invention, I will proceed to describe the manner in which I have carried 20 it out.

In the said drawings, A is the frame of the machine, having a slotted standard, B, through which projects an inclined feedway, C, for the pin fasteners and washers, and an operating- 25 lever, D; pivoted at a. Projecting from the front of the bed is a slotted vertical tube or barrel, E, in which works a plunger, F, the head of which is of a conformation like the upper or outer face of the washer and the head 30 of the pin. The plunger is operated by a bar, b, one end of which is pivoted to the plunger at b', and the other end reciprocates in a socket, b'', in the end of the lever D, to compensate for the tangential movement of the 35 pivot b'. On the rear side of the barrel E, near its upper end, is an opening, d, against which abuts the lower end of the pin feedway C, and through which the pins and washers are delivered to the interior of the barrel E, where they 40 fall, head downward, upon the upper end of the plunger, to be carried up to the fastening-point. The opening d is alternately opened and closed by a sliding door, d', set into ways 45 in the barrel, and operated by a rod, d'', loosely connected with it at 2, and having its lower end passing through an eye, 3, on the lever, and terminating in a head, 4. This rod is of such a length that as the lever approaches its lowest depression the head 4 brings up against 50 the eye 3 and pulls the door down by overcoming a coiled spring, 5, which normally

holds the sliding door closed, and a fastener falls into the barrel. At one side of the sliding door is an upwardly-projecting inverted hook, 6, the end of which, when the door is closed, lies immediately over the slot in the feedway C, so that when the door is brought down the end of the hook enters the slot immediately behind the escaping fastener and prevents more than one fastener entering the 55 barrel. As the pins and washers are fed into the barrel or tube E through opening d, the feedway is so located in reference to the sliding door that the points of the pins are arrested against its edge, while the washers and 60 heads, being comparatively heavy, pitch forward and downward and fall, point upward, on the anvil or head of the plunger while the plunger is depressed, and are ready to be forced 65 up by the plunger. The top of the pipe or tube is provided with arms or bearings e e, projecting forwardly and rearwardly, which support a centrally-divided centering-cap, G G', having a conical interior, f, terminating in a central opening, g, through which the 70 fastening-pin passes as it approaches the leather. As the plunger rises the point of the pin enters the leather, which steadies it, and a yielding-spring device sustains the leather until the head of the plunger strikes into the interior, f, of the divided cap G G', and, passing 75 upward, forces the sides G G' apart, and moves upward until the pin strikes the upsetting-tool, and the fastening is complete. 80

The spring-bolt H, which forms the yielding 85 resistance while the leather is being punctured, and the fixed upsetting-tool H' shown in my invention, are substantially the same shown and described in the application of Mahlon M. Zellers, filed April 17, 1883, and hence I 90 make no claim thereto.

Attached directly to the lower end of the yielding bolt H, and moving with it, is a plate bearing the button-die and the mandrel around which the pin is bent. This plate is divided 95 and the portion h is hinged to the mandrel-carrying portions h' at i, the division being just within the right-hand lower edge of the spring-bolt H. In the upper face of the hinged piece h is a socket, in which rests the body of 100 the button, and in the edge of this socket is cut a recess, l, in which rests the shank of the

button-eye, so that the eye may project within a recess, *n*, cut in the edge of the plate *h'*, and be held securely beneath the edge of bolt *H* over central opening, *g*, through which the pin approaches the eye. A slot, *m*, in the eye of plate *h'* allows the pin to pass upward, be clinched downward, and withdrawn. Across the end of the slot in the bolt *H*, in which is located the end of the upsetting-tool, is the recess *o*, into which projects the forming-mandrel *I*. This forming-mandrel has a finger, *p*, on its front end, a squared portion, *q*, which slides into the square box *r*, rigidly secured to plate *h'*, and a rearwardly-projecting shank, *s*, around which is a coiled spring, *t*, having its end secured to a stud, *8*, on the plate, and which serves to keep the mandrel normally pressed forward. On the upper side and front end of the squared portion *q* of the mandrel is an upwardly-projecting lug, *t*, provided with a beveled face adapted to come in contact with the beveled face of an adjustable projection, *t'*, secured to the head of the machine, and the lug *t*, coming in contact with the projection *t'*, retracts the mandrel and withdraws it from the loop of the pin as it is finished.

The button-feed tube *K* is held by a bracket, *L*, secured to the head 30 of the machine, and provided with a set-screw, *M*, whereby varying sizes of tubes can be used with facility. At the lower end of the tube the buttons are checked by a stop, 10, on the lower end of a flat spring, 13. This flat spring also carries a projection, 11, which enters a slot, 12, in the button-tube behind the lowermost button, at the instant the stop 10 is forced from over the lower end of the button-tube by means of the hinged piece or plate *h* being thrown around until it strikes a projection, 25, on the lower end of spring 13 and forces back the stop 10. This movement of plate *h* brings the button socket or recess 15 under the tube, a button drops into the socket, and the plate *h* is swung around to the fastening-point, where the button is secured.

When fasteners of this description are clinched very closely, if the body of the button is held rigidly in a socket, there is danger of bending the shank of the button-eye. This I am able to avoid by cutting away or hollowing out the side of the yielding spring-bolt *H* at 26, near the button, so that if too great a strain is put upon the button-shank the upper part of the body of the button can tip over toward the bolt *H* and relieve the strain.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a button-fastening machine, the barrel *E*, provided with the interior plunger, *F*, and an opening for the entrance of the fasteners, in combination with a feeding device, *C*, which feeds the pin point downward, and a tripping device, substantially as described,

for turning the fasteners as they fall, whereby they are thrown head downward onto the end of the plunger.

2. In a button-fastening machine, the barrel *E*, provided with plunger *F*, in combination with lever *D*, having the hollow end, and the reciprocating bar *b*, substantially as and for the purpose set forth. 70

3. In a button-fastening machine, the barrel *E*, provided with an opening to receive the fasteners, and lever *D*, in combination with the sliding door *d'*, spring 5, pivoted headed rod *d''*, and eye 3, all constructed, arranged, and operated as set forth. 75

4. In a button-fastening machine, the fastener-feedway *C* and the inverted hook-stop 6, in combination with sliding door *d'*, spring 5, pivoted headed rod *d''*, eye 3, and lever *D*, all constructed and operated as described. 80

5. In a button-fastening machine, the barrel *E* and plunger *F*, in combination with the divided cap *G G'*, provided with the conical interior *f* and central opening, *g*, substantially as set forth. 85

6. In a button-fastening machine, a leather sustaining-plate secured directly to and sustained by the yielding spring-bolt *H*, substantially as described. 90

7. In a button-fastening machine, the leather sustaining-plate having a hinged swinging portion, *h*, provided with a button-receiving recess, 15, for the purpose specified. 95

8. In a button-fastening machine, the hinged swinging plate *h*, provided with a jog or recess, *l*, to receive the shank of the button-eye, in combination with the plate *h'*, provided with a recess, *n*, in its upper face, wherein the button-eye rests when brought to the fastening-point, substantially as and for the purpose set forth. 100

9. In a button-fastening machine, the mandrel *I*, provided with the beveled-face upwardly-projecting lug *t*, in combination with a beveled-face projection, *t'*, on the frame, adapted to retract the mandrel, as set forth. 110

10. In a button-fastening machine, the spring-bolt having its side cut away at 26 to allow the body of the button to tip, as described.

11. In a button-fastening device, the button-carrying tube *K*, having a flat spring attached bearing the stops *i* 10 11, in combination with the hinged swinging plate *h*, which strikes said flat spring and releases a button, substantially as set forth. 115

12. In a button-fastening machine, the bracket *L*, attached to the standard of the machine, and provided with the set-screw *M*, in combination with a removable button-tube, *K*, substantially as and for the purpose described. 125

ALEXANDER G. WILKINS.

Witnesses:

CHARLES P. WEBSTER,
R. K. EVANS.