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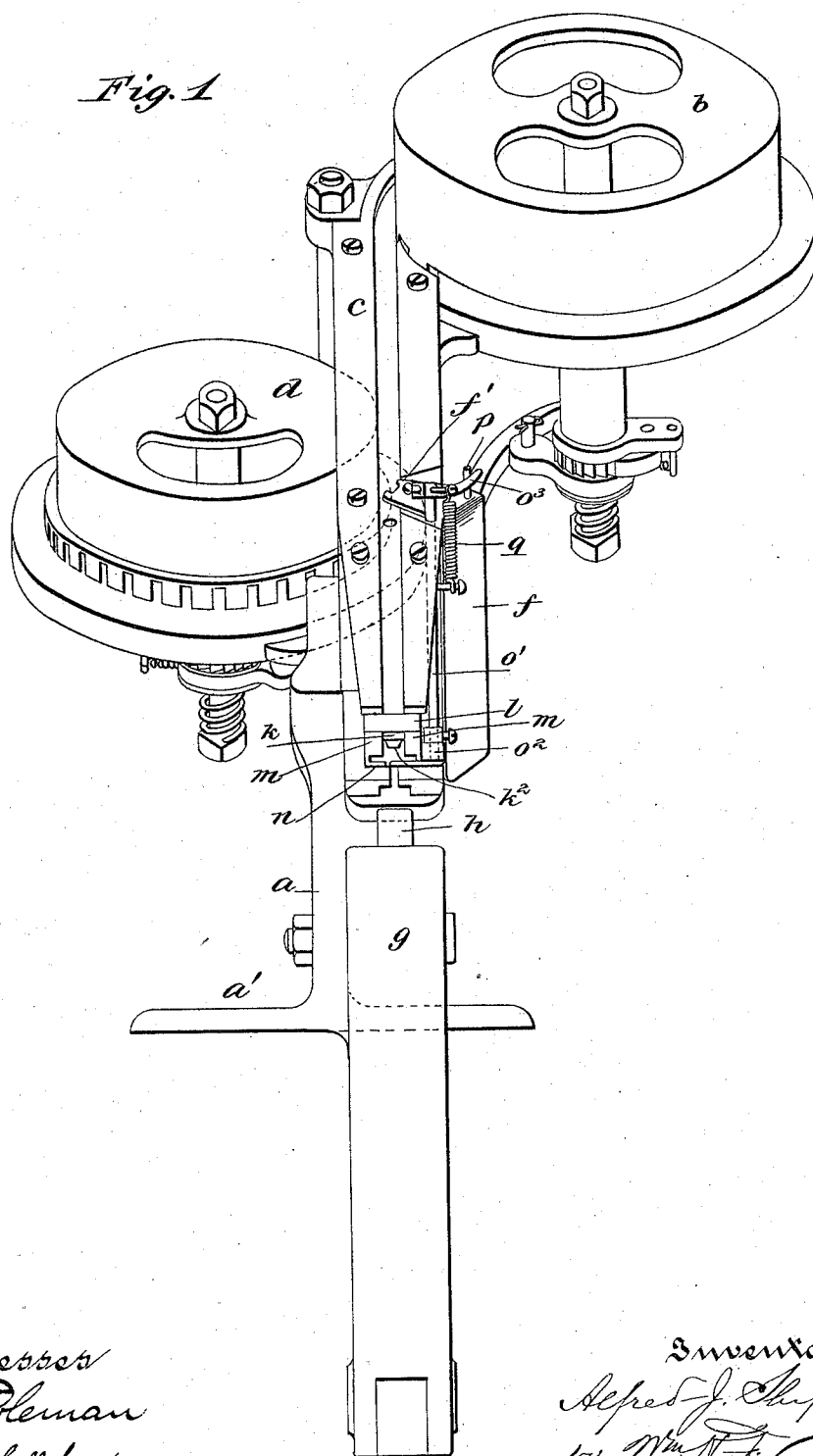
3 Sheets—Sheet 1.

A. J. SHIPLEY.
BUTTON SETTING MACHINE.

No. 579,017.

Patented Mar. 16, 1897.

Fig. 1



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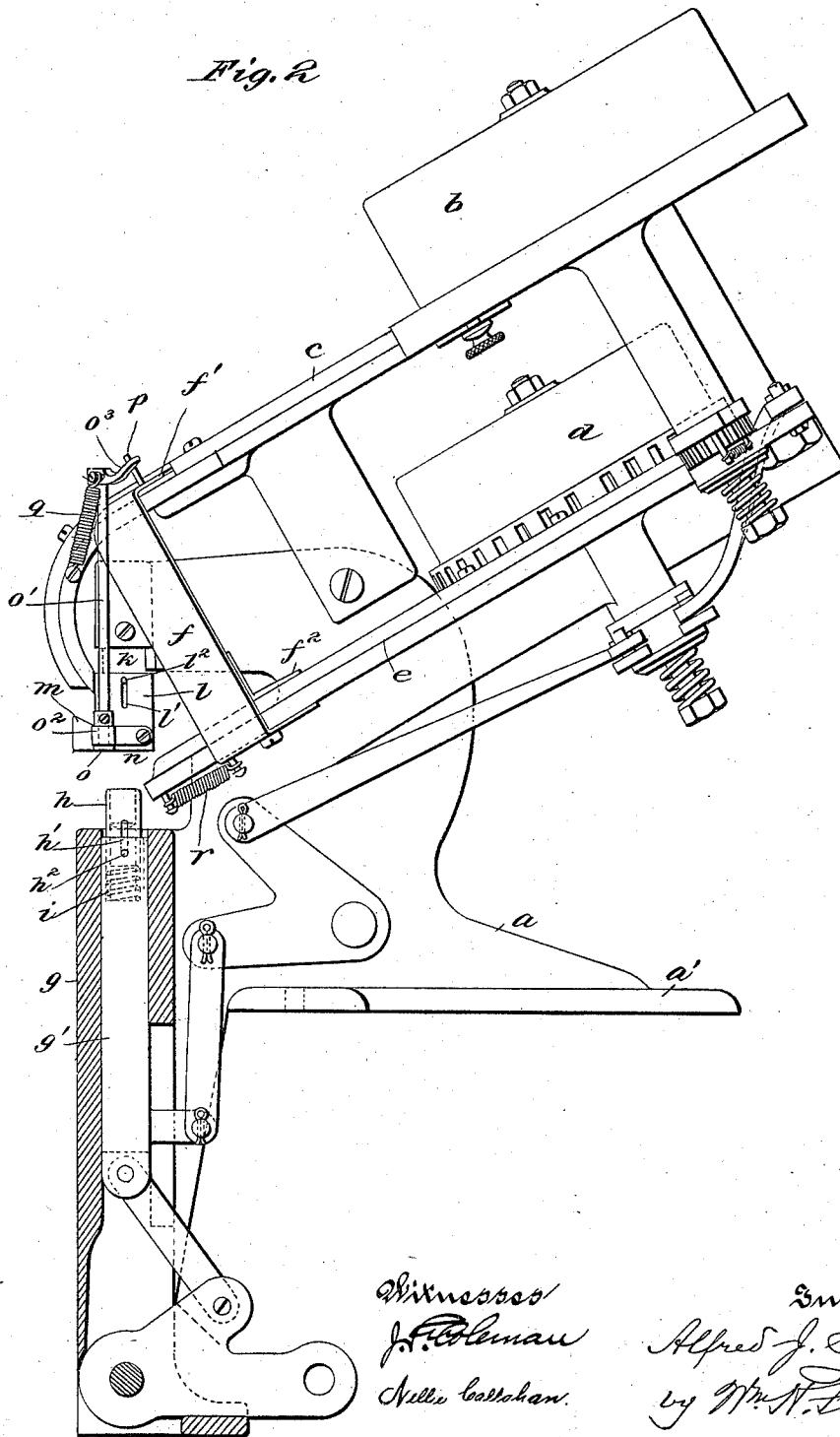
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A. J. SHIPLEY.
BUTTON SETTING MACHINE.

No. 579,017.

Patented Mar. 16, 1897.



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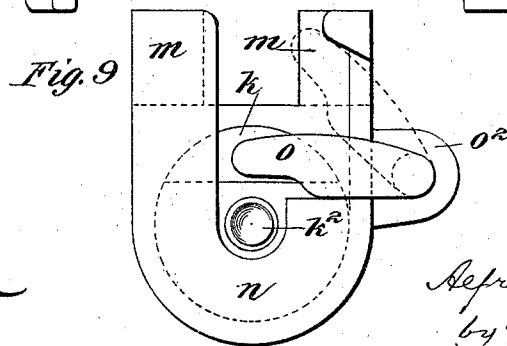
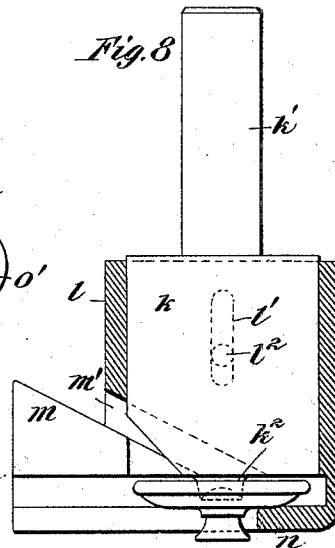
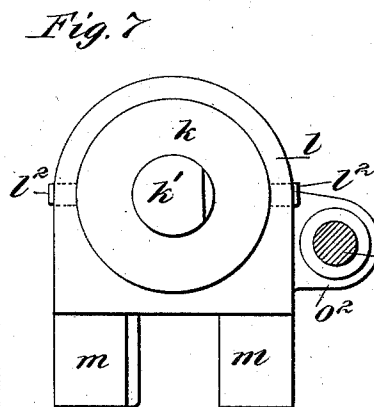
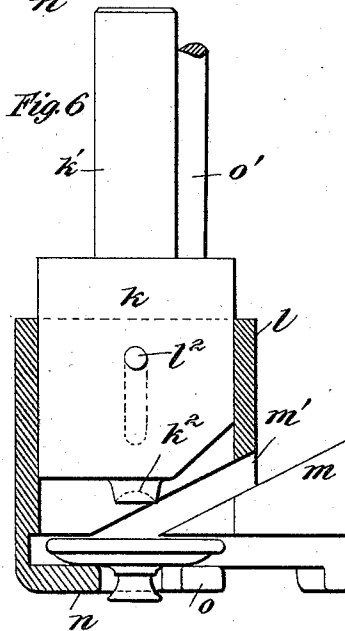
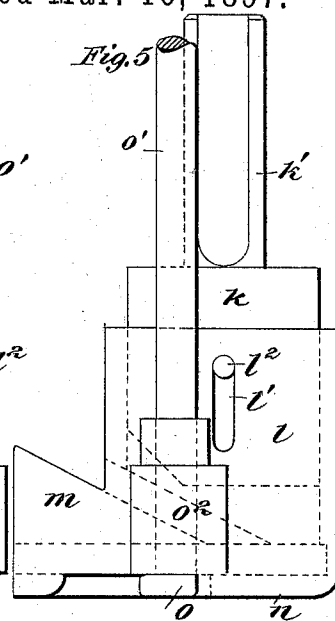
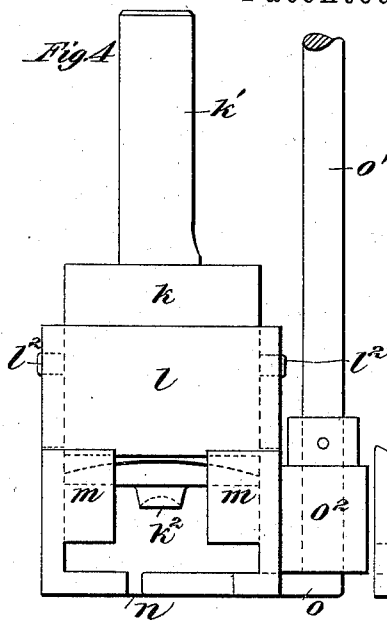
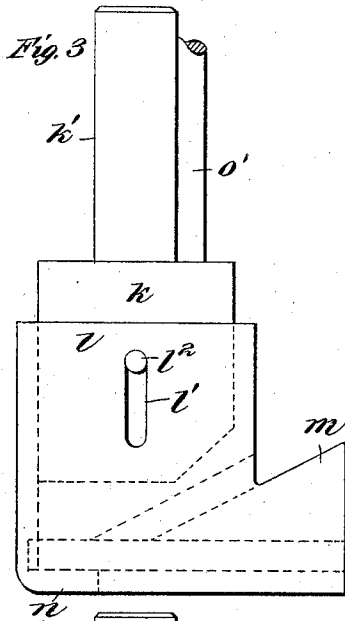
(No Model.)

3 Sheets—Sheet 3.

A. J. SHIPLEY.
BUTTON SETTING MACHINE.

No. 579,017.

Patented Mar. 16, 1897.



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UNITED STATES PATENT OFFICE.

ALFRED J. SHIPLEY, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE
SCOVILL MANUFACTURING COMPANY, OF SAME PLACE.

BUTTON-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 579,017, dated March 16, 1897.

Application filed June 29, 1896. Serial No. 597,444. (No model.)

To all whom it may concern:

Be it known that I, ALFRED J. SHIPLEY, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Button-Setting Machines, of which the following is a full, clear, and exact description.

This invention relates to the class of button-setting machines illustrated, for example, in the patent of Edwin D. Welton, assignor to the Scovill Manufacturing Company, No. 571,207, granted November 10, 1896.

The object of the invention is to furnish a machine by which button-heads and tacks for fastening the said heads to a garment are assembled upon opposite sides of the garment and engaged with one another and with the garment.

The machine comprises intermittently-rotated hoppers for containing separately the button-heads and the tacks; individual chutes leading from the respective hoppers in such manner as to present the button-heads and the tacks in a common vertical plane; a button-head holder or die arranged at the end of the button-head chute to receive the button-heads singly as they are fed from their hopper in position for application to the garment; a punch or plunger which is adapted to receive and center the tacks singly beneath the button-head in the holder or die, and a switch arranged to control the discharge of the button-heads and tacks from their chutes and operated automatically by the withdrawal of the garment from the machine after a button has been applied to such garment.

The novel features of the invention are the button-head holder or die and the switch for controlling the discharge of the button-heads and the tacks from their respective chutes, all as I will proceed now more particularly to set forth and finally claim.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a front elevation of the head of the machine. Fig. 2 is a side elevation with a portion in section. Fig. 3 is a side elevation. Fig. 4 is a front elevation, and Fig. 5 is an elevation of the opposite side of that shown

in Fig. 3, of the button-head holder or die. Fig. 6 is a vertical section of Fig. 3. Fig. 7 is a top plan view. Fig. 8 is a vertical section of Fig. 4 with the anvil in contact with the button-head. Fig. 9 is a bottom plan view. Figs. 3 to 9, inclusive, are enlarged views.

The stand *a* has a foot *a'*, by means of which it may be arranged upon a table or other support.

b is a hopper mounted in any suitable manner upon the stand *a* and adapted to receive an intermittent rotary motion, as by means of a pawl-and-ratchet mechanism, substantially such as shown in the drawings and actuated in any suitable manner from the main actuator. This hopper is designed to receive button-heads. A chute *c* of appropriate construction leads from this hopper forwardly and downwardly, and its raceway terminates opposite the button-head holder or die, which will be presently described.

d is another hopper, which is designed to receive the tacks and which is mounted, in connection with the stand *a*, in such manner as to be capable of intermittent rotary motion, such motion being imparted in the instance illustrated by the pawl-and-ratchet mechanism, which is actuated, as in the case of the button-head hopper, from the main power appliance. A chute *e* leads from this hopper forwardly and downwardly to a point to discharge its tack in the receiver therefor, presently described.

f is a switch or gate having fingers or arms *f'* *f''*, which extend over the respective chutes *c* and *e* in such manner that each will pick out from the mass of descending button-heads and tacks a single button-head and tack and restrain the descent of the superposed column of the descending button-heads and tacks, and at the proper time will discharge a single button-head and a single tack, which escape thence by gravity into the appropriate receivers for them, as will presently appear.

The stand is provided with a socket-piece *g*, in which is arranged a plunger *g'*, which is adapted to be reciprocated therein, as by the mechanism illustrated, and under the control of a foot-power device. The upper end of this plunger *g'* is reduced and is surrounded by

an annular fender or guard-sleeve h , which is fitted thereto by slots h' and the pin h^2 , and is normally projected by means of a spring i in such manner that the said fender normally stands above the outer end of the plunger or pin g' and constitutes a receiver for the tack discharged from the tack-chute, as before described, the head of the tack by its superior gravity falling down within the said fender with its head upon the head of the plunger and its point standing up out of the fender.

The button-head holder or die comprises a stationary anvil k , which may be secured in position on the stand by means of its stem or shank k' . This die is provided with a centering device k^2 , which is adapted to engage with the button-head and hold it in position while the tack is being applied. The die is surrounded by a sleeve l , which may be movably secured to the said die by means of slots l' and pins l^2 in such loose manner that normally the said sleeve hangs down from the said die, as in Figs. 3, 4, 5, and 6, and is capable of being moved upwardly under the action of the plunger g' , so as to force the button-head up against the die or anvil and hold it rigidly while the tack is being inserted.

As thus far described, the machine differs from the machine of the patent hereinbefore referred to in details only, and now I will proceed to describe my improvements.

In my invention the sleeve of the button-holder is provided with the parallel lips m , which underlie an oblique mouth m' , which leads into the button-head holder, and these lips are arranged adjacent to the discharge end of the button-head chute, so as to take the descending button-head and introduce it into the button-head holder beneath the anvil. The button-head falls from the inclined lips m , after it has passed within the sleeve l , onto the subway-lips n , whereon it rests in a horizontal position and beneath the anvil k .

o is a pivoted gate extending across the opening between the lips n and serving to assist in centering and retaining the button-head in said lips n . This gate is provided with a vertical stem o' , which has a bearing o^2 on the sleeve l , and the upper end of this stem is provided with a finger o^3 , which is in normal contact with a pin or projection p from the gate f . By means of a suitably-disposed spring q the gate o is held crosswise of the opening between the lips n , as in Fig. 9, and the finger o^3 is in contact with the pin p , but without undue pressure thereon. The gate f resists the action of the finger o^3 by means of the spring r .

As the button is applied to a garment and it is desired to apply another button or to remove the fabric or garment, the said garment or fabric is pulled away from the machine, and the button-head still being in contact with the gate o the outward pull on said gate serves to rotate it on its stem o' and in the bearing o^2 , and thereby not only permits the withdrawal of the garment with the attached

button, but also through the finger o^3 serves to rock the gate f and thus through the fingers f' and f^2 to feed into the chutes another button-head and tack, respectively, which escape into their respective receivers and are positioned for application to a garment. In this way a button-head and a tack are fed into their respective receivers only as the preceding button-head and tack are removed, and thus it is impossible to duplicate in their respective receivers and so choke the machine, a fault incident to some prior constructions.

It will be understood, of course, that as the plunger g' is elevated to connect the tack with the button-head the sleeve l recedes into the socket g and the sleeve l rises on the anvil k .

While I have shown and hereinbefore described my invention as used to operate a gate or switch common to both chutes, I wish to be understood as not limiting it to such a gate or switch, as it is easily within my invention to divide the gate for the chutes and make the said gates independent in operation. In such a case I would prefer to operate the button-head chute automatically from the button-head-holder gate, and the switch or gate for the tack-chute might be operated positively from one of the hoppers or might be otherwise operated.

What I claim is—

1. In a button-setting machine, a button-head holder or die and means to feed button-heads thereto, the said button-head holder or die comprising a stationary anvil and a movable sleeve surrounding the same and provided with inclined lips leading into the said button-head holder and to a horizontal subway upon which the button-head rests while being applied, substantially as described.

2. A button-head holder, for button-setting machines, comprising an anvil, a movable sleeve surrounding such anvil and provided with inclined lips leading into the said holder and to a horizontal subway upon which the button-head rests while being applied, and a spring-gate for retaining the button-head within the holder, while being set, and permitting its escape, after being set, substantially as described.

3. In a button-setting machine, the combination with a button-head holder or die, a spring-gate for retaining the button-head within such holder, means to feed button-heads to such holder or die, a gate for controlling the button-feed, and a connection between such button-feed-controlling gate and the gate in the button holder or die, whereby as the button-holder gate is actuated to release the button-head, the button-feed-controlling gate is also actuated, substantially as described.

4. In a button-setting machine, the combination with a button-head holder or die, means to receive and apply tacks to the button-heads successively, hoppers for the button-heads and tacks, chutes leading from such hoppers respectively to the button-head holder or die

and the tack-receiver, a gate or switch applied to the said chutes and controlling the feed, both of the button-heads and of the tacks, and means interposed between said gate or switch and the button-head holder or die and actuated by the withdrawal of a button-head from such button-head holder or die to operate the said gate or switch to feed another button-head and tack, substantially as described.

5. In a button-setting machine, the combination with the button-head hopper, a chute and a button-head holder or die, of a gate interposed in the path of exit of the button-

head from the said button-head holder or die, a switch for controlling the feed of button-heads from the chute to the button-head holder or die, and a spring-stem interposed between the said gate and the said switch and operated by the said gate to actuate the said switch, substantially as described.

In testimony whereof I have hereunto set my hand this 26th day of June, A. D. 1896.

ALFRED J. SHIPLEY.

Witnesses:

THEOPHILUS R. HYDE, Jr.,
CHARLES FEHL.