No. 661,309. Patented Nov. 6, 1900.

G. W. GWINN & H. C. SMITH.

BUTTON SETTING MACHINE.

(Application filed Jan. 5, 1900.)

(No Model.) 3 Sheets—Sheet 1.

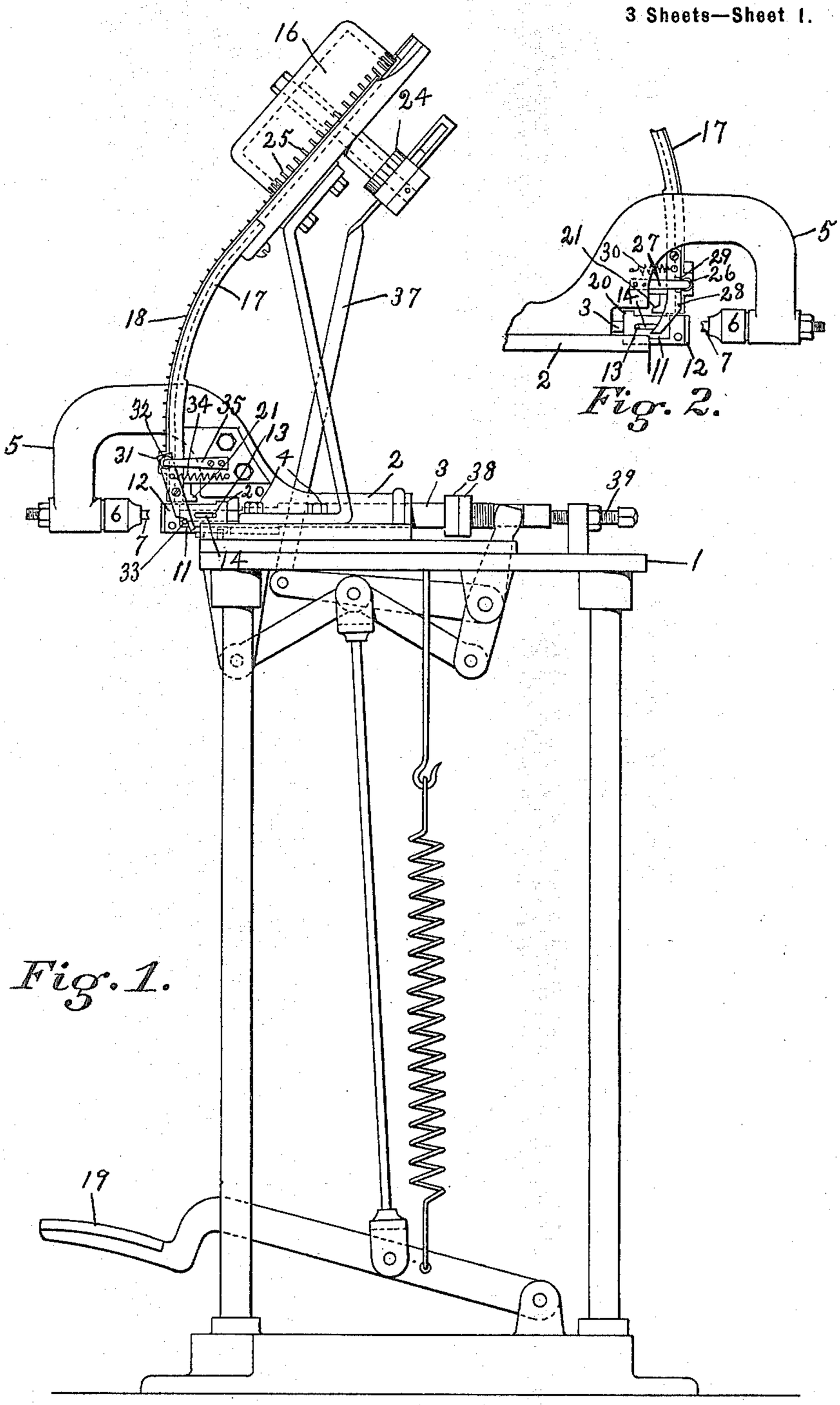

Fig. 1.

Fig. 2.

Witnesses:-
Henry C. Wagner
Wilson Rugle

Inventors:-
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(No Models.) 3 Sheets—Sheet 2.

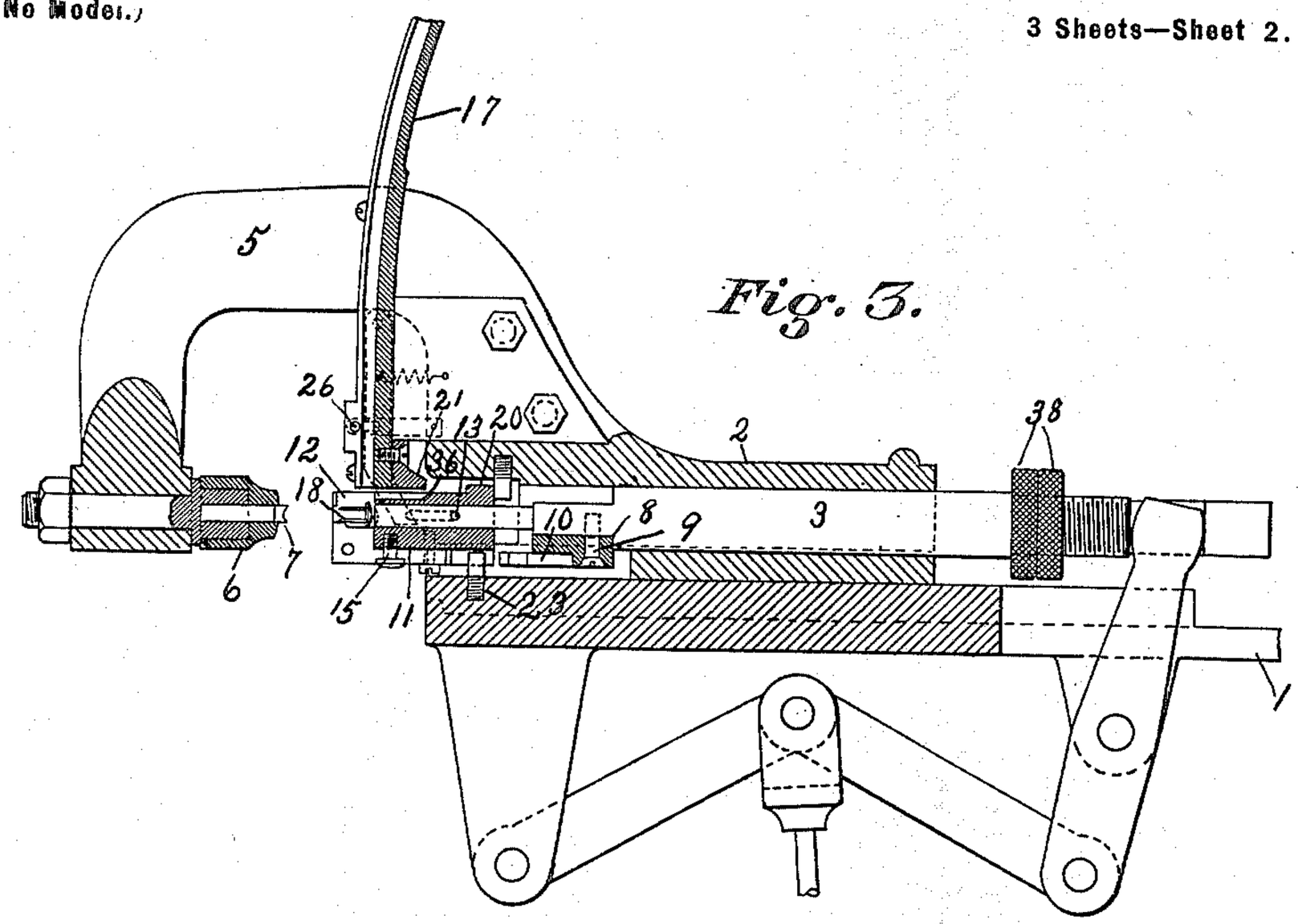

Fig. 3.

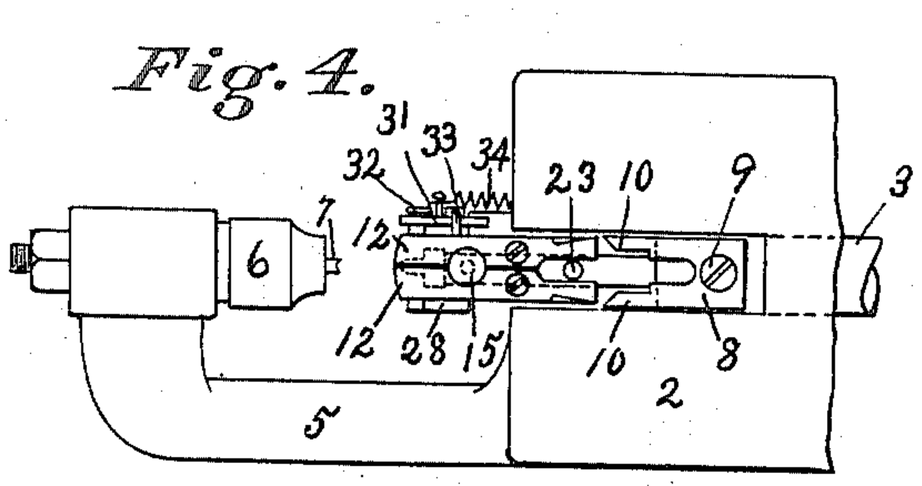

Fig. 4.

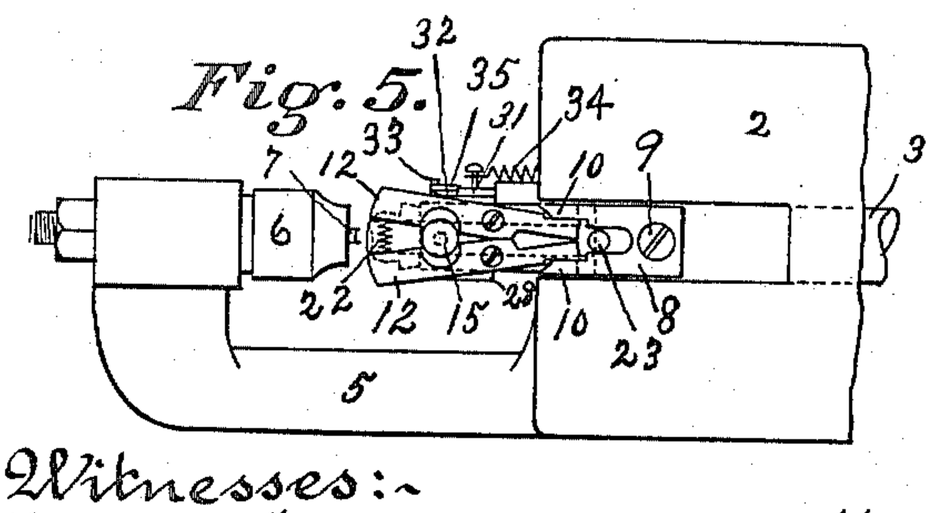

Fig. 5.

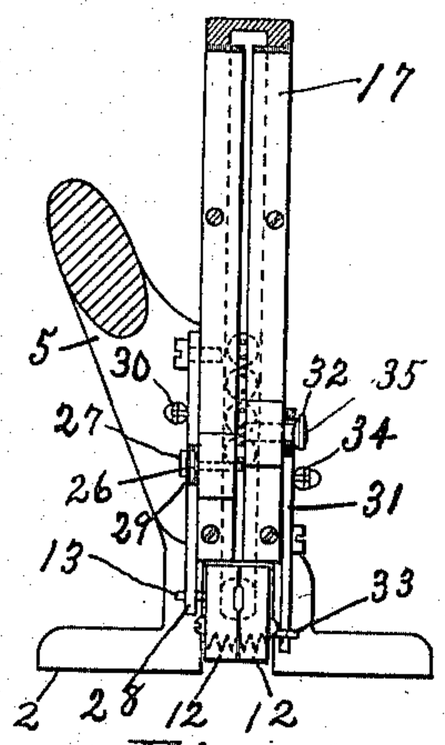

Fig. 6.

Witnesses:-
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G. W. GWINN & H. C. SMITH.

BUTTON SETTING MACHINE.

(Application filed Jan. 5, 1900.)

(No Model.) 3 Sheets—Sheet 3.

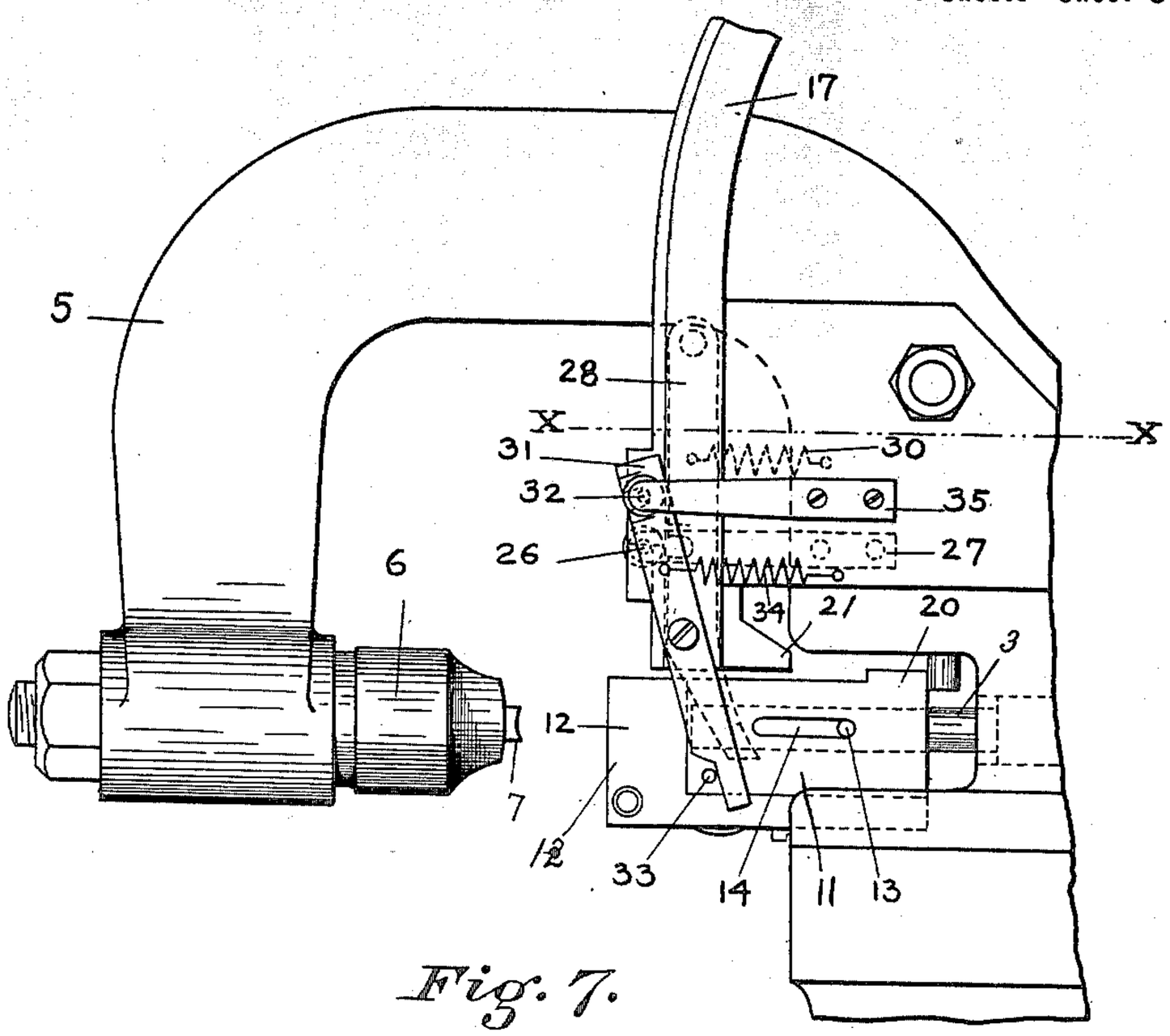

Fig. 7.

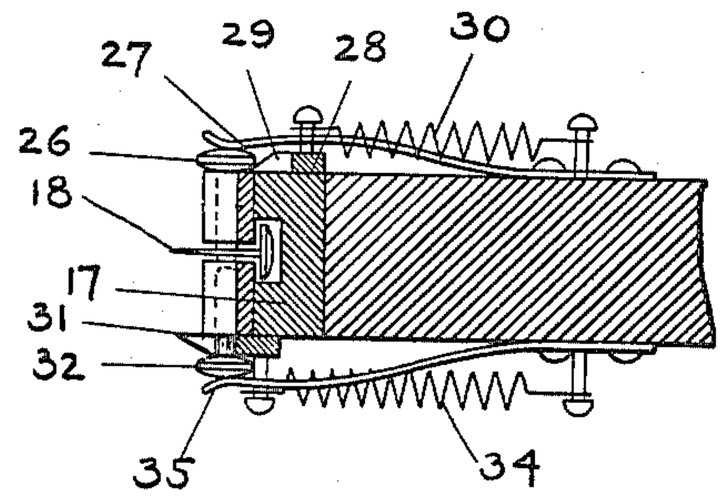

Fig. 8.

Witnesses:
R. F. Boyden
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Inventors:
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UNITED STATES PATENT OFFICE.

GEORGE W. GWINN AND HENRY C. SMITH, OF BALTIMORE, MARYLAND, ASSIGNORS TO THE RAYMOND BUTTON COMPANY OF BALTIMORE CITY, OF MARYLAND.

BUTTON-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 661,309, dated November 6, 1900.

Application filed January 5, 1900. Serial No. 489. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. GWINN and HENRY C. SMITH, citizens of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Button-Setting Machines, of which the following is a specification.

This invention relates to an improved machine for attaching buttons to garments by means of a staple or other similar fastener; and the invention consists of a machine having substantially the parts and combination of parts hereinafter particularly shown, described, and claimed.

Referring to the drawings, Figure 1 is a side elevation of the complete machine. Fig. 2 is a view showing the opposite side of the chuck and arm from that shown in Fig. 1. Fig. 3 is a vertical longitudinal section of Fig. 1, the magazine and lower part of the stand being broken away. Fig. 4 is an inverted plan view of the arm and base-plate, showing the plunger and chuck in their normal positions. Fig. 5 is also an inverted plan view of the base-plate with the parts in the position they occupy when the plunger makes its extreme traverse. Fig. 6 is a front elevation of the base-plate and chuck, the arm and chute being broken away. Fig. 7 is a view, on an enlarged scale, of the chuck and mechanism for controlling the escape of the staples from the chute to the chuck. Fig. 8 is a section on the line X X of Fig. 7.

Similar numerals refer to like and corresponding parts throughout the several views.

1 designates a stand to which is secured a base-plate 2, in which latter the plunger 3 reciprocates. The plate 2 is secured to the stand 1 by means of bolts 4 and has an arm 5 projecting therefrom, which latter is provided with a magnetized collar 6, to hold the metal button, and a clencher 7. The said clencher is on a plane with the plunger and serves to clench the staples around the bar of the buttons.

The plunger 3 is provided on its lower surface with a plate 8, which is secured thereto by means of the screw 9. This plate 8 has two beveled fingers 10, the purpose of which will be presently pointed out. At the front of the plunger is a chuck 11, which latter is provided with two jaws 12, pivoted thereto and having their front ends projecting upward flush with the top of the chuck. The said chuck is secured to the plunger by means of the pin 13, which passes through the slot 14 in the chuck 11. The plunger, it will be seen, is free to move back and forth within the chuck for a limited distance without moving the latter. The chuck is also provided with a screw or pin 15 to keep the jaws 12 in their proper relative position when brought together. The jaws 12 are provided with a spring 22 to keep them normally closed. The chuck 11 is provided at the rear end with a shoulder 20, which abuts against the lug 21 on the chute to limit the forward movement of the chuck and hold it while the jaws 12 are being forced apart by the plunger.

The machine is also provided with a magazine 16, having a slotted chute 17, through which the staples 18 are conveyed to the chuck. The magazine 16 is revolved by motion transmitted through the several levers and rods to the rod 37, which operates the ratchet 24. As the magazine revolves the staples fall through the slots 25 and pass into the slotted chute 17, where they are conveyed to the chuck 11. Near the lower end of the chute 17 is a pin 26, on which the staples rest. This pin 26 is held to its normal position across the slot by the spring 27. As the plunger 3 makes its forward stroke the pin 13 comes in contact with the lower end of the lever 28, which latter moves forward, causing the beveled edge 29 of the lever 28 to come under the head of the pin 26 and raise it up against the tension of the spring 27, thereby drawing the said pin 26 from the slot and allowing a staple to fall. The said lever 28 is returned to its normal position by the spring 30. At the time the lever 28 is returning to its normal position the lever 31, which is normally held under the head of the pin 32 by means of the pin 33, is released by the spring 34, when the pin 33 moves forward with the chuck 11, thereby allowing the said pin 32 to be forced

across the slot of the chute by the spring 35 pressing on the head of the said pin 32. When the lower pin 26 is withdrawn from the chute, the upper pin 32 is forced across the said slot, thus allowing but one staple to drop at one time.

The plunger is provided with lock-nuts 38 to determine its forward movement and an adjustable screw 39 to prevent the plunger coming back too far.

The operation of the machine is as follows: After the magazine and slotted chute have been filled with staples the button is placed against the magnetized collar 6, the bar of the button extending across the clencher 7. The garment is then held in position and the treadle 19 is pressed down, which imparts motion through the several levers and rods to the plunger 3 and causes the latter to move forward. As the plunger 3 makes its preliminary traverse the fingers 10 of the plate 8 come in contact with the rear ends of the jaws 12 and as the latter are pivoted to the chuck carries the chuck forward until the shoulder 20 comes in contact with the lug 21 on the chute. As the chuck cannot then move any farther forward, the plunger continues forward, (the pin 13 moving through the slot 14,) and the jaws 12 are forced apart by the beveled fingers 10, as shown in Fig. 5. The plunger continues out to its final traverse and carries with it a staple 18, one of which latter always occupies the position shown in Fig. 3. The legs of the staple straddle the bar of the button (not shown) held by the magnetized collar 6 and are clenched around the said bar by the clencher 7. The button being thus secured to the garment the treadle is released, and as the plunger begins to move back to its normal position the jaws 12 will still remain open until the rear ends thereof come in contact with the pin 23 on the stand 1, which will hold the said jaws until the plunger has moved back far enough for the fingers 10 to release the jaws, which latter will then be closed by means of the spring 22. The plunger then continues back to its normal position.

We claim—

1. In a button-setting machine, the combination of a chuck, 11, having two jaws, 12, pivoted to the lower surface thereof and having their front ends projecting upward flush with the top of the said chuck; a longitudinally-reciprocal plunger which on its preliminary traverse carries the chuck and jaws forward, and having a plate, 8, on its lower surface, provided with two beveled fingers, 10, which fingers when the plunger makes its final traverse take on the outer sides of the said jaws at the rear ends thereof forcing the rear ends together and thereby opening the front ends and releasing the staple after being secured to the button; and means to operate the said plunger.

2. In a button-setting machine, the combination of a chuck, 11, having two jaws, 12, pivoted to the lower surface thereof and having their front ends projecting upward flush with the top of the said chuck; a longitudinally-reciprocal plunger which on its preliminary traverse carries the chuck and jaws forward, and having a plate, 8, on its lower surface provided with two beveled fingers, 10, which fingers when the plunger makes its final traverse take on the outer sides of the said jaws at the rear ends thereof forcing the rear ends together and thereby opening the front ends and releasing the staple after being secured to the button; means to operate the said plunger; an arm, 5, provided with a clencher, 7, against which the staples are forced by the plunger, 3; and means to close the jaws, 12, after being released from the said fingers, 10.

3. In a button-setting machine, the combination of a chuck, 11, having two jaws, 12, pivoted to the lower surface thereof and having their front ends projecting upward flush with the top of the said chuck; a longitudinally-reciprocal plunger which on its preliminary traverse carries the chuck and jaws forward, and having a plate, 8, on its lower surface provided with two beveled fingers, 10, which fingers when the plunger makes its final traverse take on the outer sides of the said jaws at the rear ends thereof forcing the rear ends together and thereby opening the front ends and releasing the staple after being secured to the button; means to operate the said plunger; a spring to close the said jaws; and means to feed the staples to the chuck.

4. In a button-setting machine, the combination of a base, 2, provided with an arm, 5; a plunger, 3, longitudinally reciprocal within the said base; a chuck, 11, having two jaws, 12, pivoted to the lower surface thereof; a plate, 8, secured to the lower surface of the said plunger and having fingers, 10, which when the plunger moves forward force the rear ends of the jaws together, thereby opening the front ends thereof to release the staple; a spring, 22, to close the said jaws when released from the fingers, 10; a clencher 7, secured to the arm, 5, and on a plane with the plunger; and means to operate the said plunger.

In testimony whereof we affix our signatures in the presence of two witnesses.

GEORGE W. GWINN.
HENRY C. SMITH.

Witnesses:
ROBERT GIPSON,
CHAPIN A. FERGUSON.