

No. 620,544.

Patented Feb. 28, 1899.

E. FLAGG.
BUTTON SETTING MACHINE.

(Application filed Feb. 8, 1897.)

(No Model.)

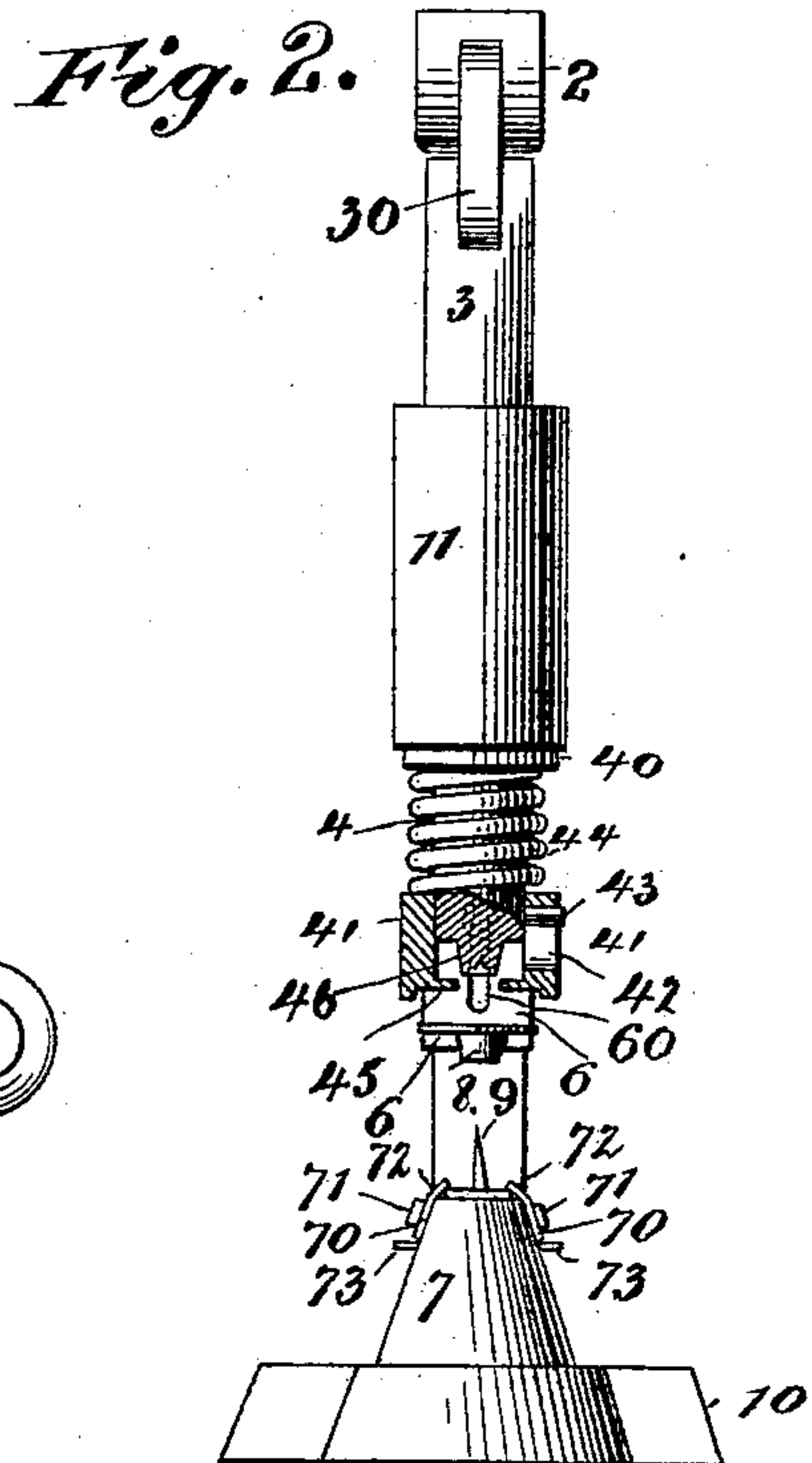
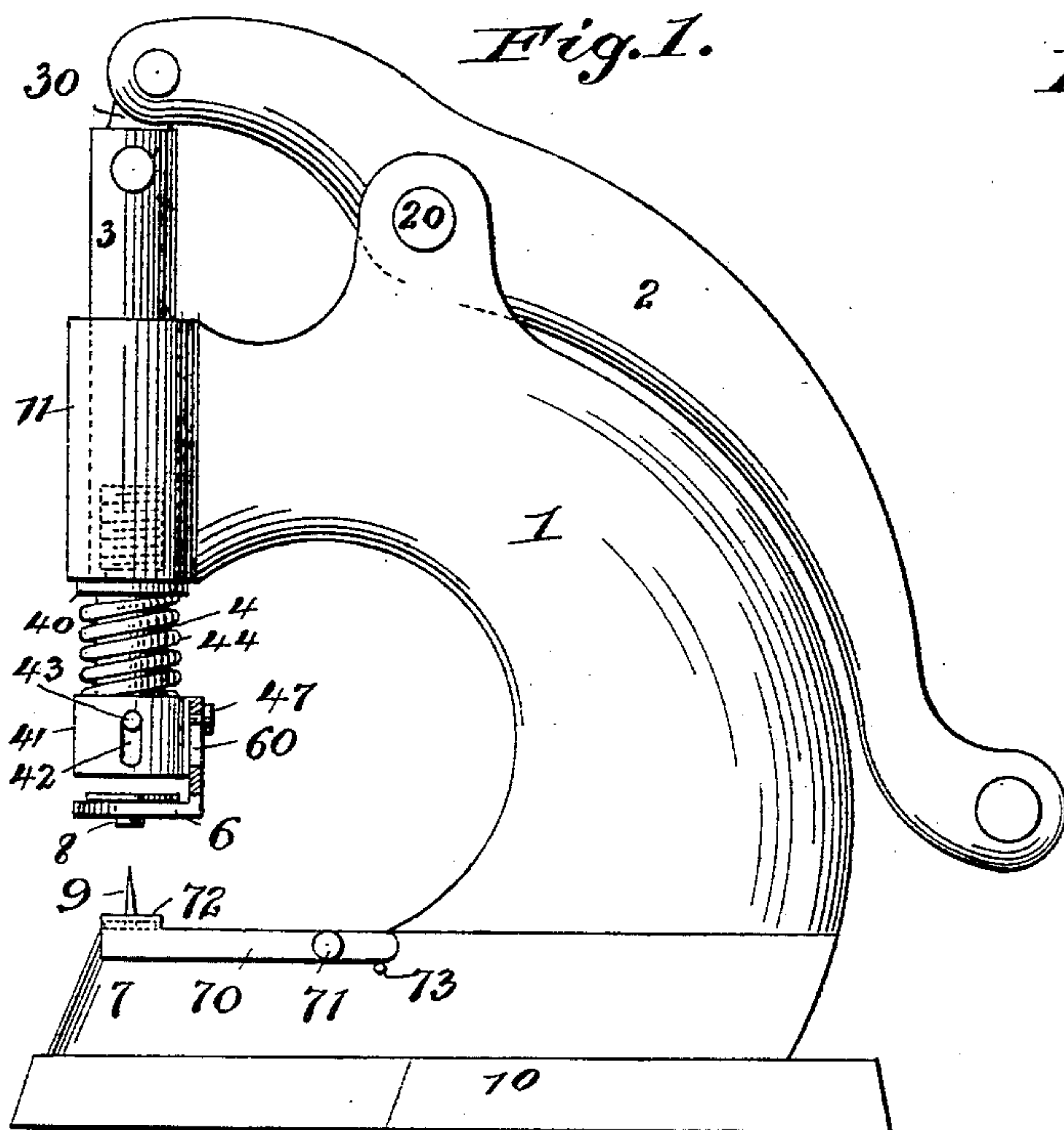


Fig. 3.

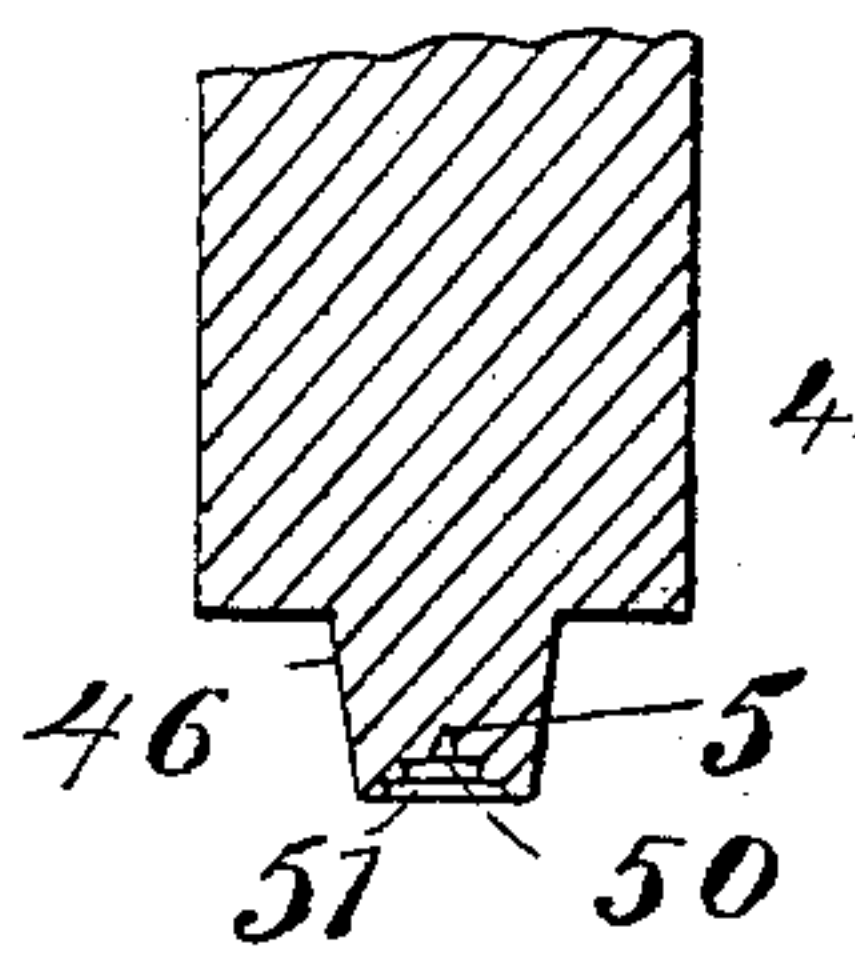


Fig. 4.

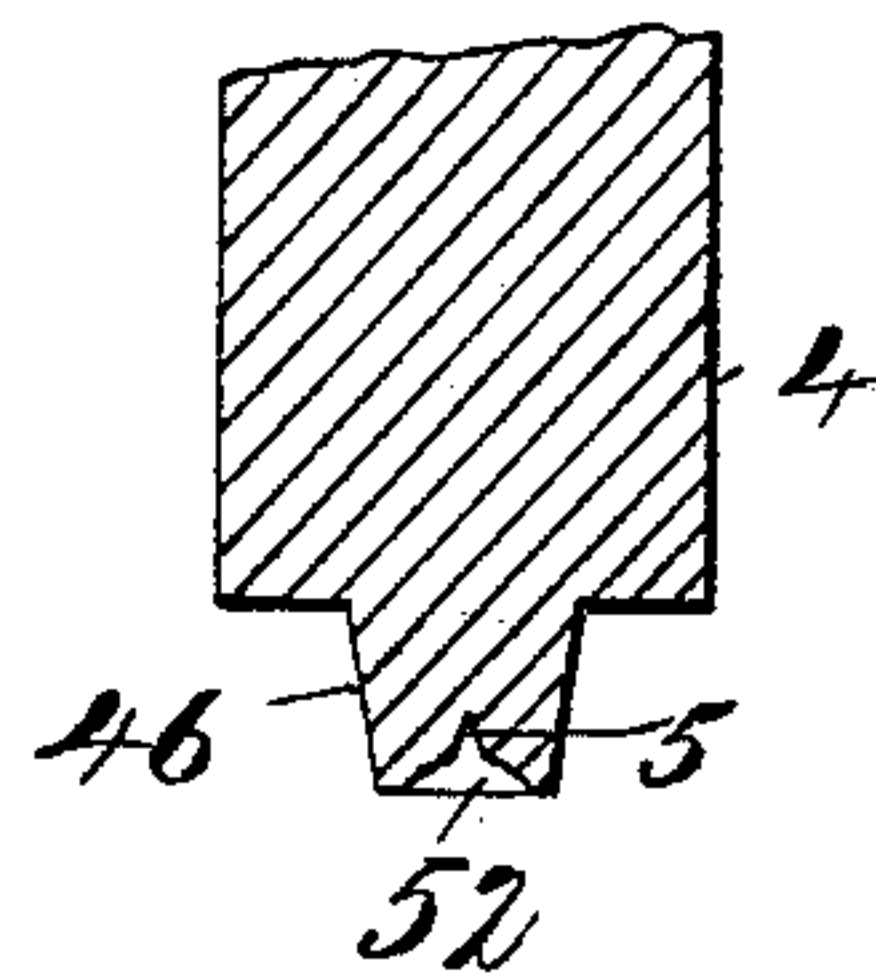
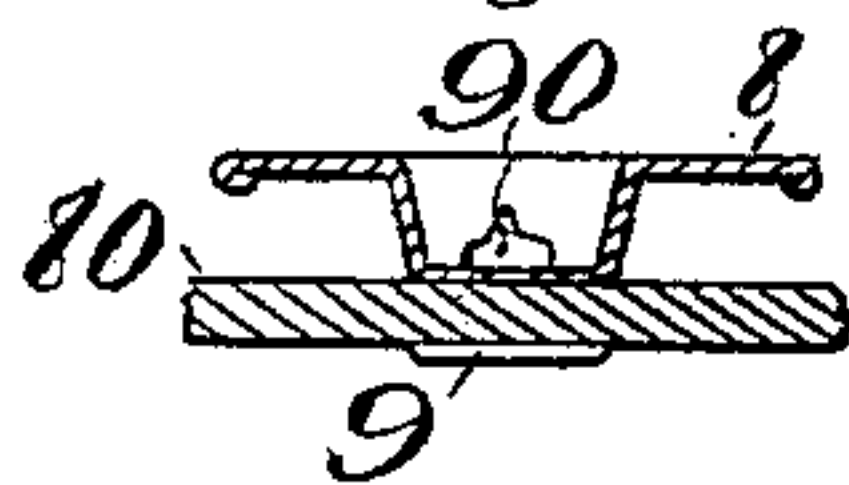


Fig. 5.



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UNITED STATES PATENT OFFICE.

ELISHA FLAGG, OF NEW YORK, N. Y., ASSIGNOR TO THE FLAGG BROTHERS COMPANY, OF SAME PLACE.

BUTTON-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 620,544, dated February 28, 1899.

Application filed February 8, 1897. Serial No. 622,472. (No model.)

To all whom it may concern:

Be it known that I, ELISHA FLAGG, of New York city, in the county and State of New York, have invented a certain new and useful
5 Improvement in Button-Setting Machines, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings, forming part of this specification.

10 This invention relates to improvements in machines by which buttons are riveted to garments by means of a fastener having a single pointed stem; and the invention consists of a machine comprising the peculiar die herein
15 described and claimed.

On the accompanying sheet of drawings, Figure 1 is a side elevation of a machine embodying the invention; Fig. 2, a front elevation thereof; Figs. 3 and 4, details of a part of
20 the die, larger than the natural size; and Fig. 5, a view of a button attached to a piece of fabric, illustrating the result of the action of the die on the fastener.

Similar reference-numerals designate like
25 parts in the different views.

This die is so made that when a fastener having a single pointed prong is upset by it within the hub of a button the upset portion of the fastener projects over the margin of
30 the hole in the button on opposite sides of the hole, thus rendering the attachment of the button to the garment secure. The die may be affixed to the plunger of a machine, as represented in the drawings, and be forced against
35 the fastener, or it may constitute a stationary anvil, against which the fastener may be driven. The machine shown in the drawings comprises the frame 1, the lever 2, pivoted to the frame by the pin 20, and the plunger 3,
40 connected with the lever 2 by a link 30. The main portion of the frame rests on a flat base 10, and is provided with a head 11, in which is a guide for the plunger. The die is composed, essentially, of the stem 4, on which are a fixed
45 collar 40 and a loose sleeve 41. The sleeve contains a slot 42, through which passes a pin 43, which is fastened in the stem and which holds the collar on the stem, but allows it to slide thereon through a short distance. On
50 the stem, between the collar and the sleeve, is a strong coil-spring 44, which tends to hold the sleeve in the position in which it is shown

in the drawings, the part of the die which makes contact with the fastener being within the collar. In that end of the collar which
55 projects beyond the stem 4 is a recess 45, conforming to the face of the button. At the end of the main part of the stem 4 is a projection 46, which is adapted to enter the hub of the button and in which is a peculiar cavity. The
60 innermost part 5 of this cavity conforms to the apex of a cone, and the rest of the cavity is larger and has preferably the form shown in Fig. 3, its whole surface being composed of the inner conical portion 5 and the two sec-
65 tions 50 and 51, each conforming to a cylinder or to a truncated cone, and the inner section 50 being smaller than the outer section 51; but the outer portion of the cavity might be spherical or approximately so, as represented
70 at 52 in the drawings.

A button-holder 6 is mounted on the sleeve 41, it being attached to the sleeve by a screw 47, which passes through a slot 60 in the up-
75 right part of the button-holder and having in the horizontal part an open slot adapted to receive the hub of the button.

The device which holds the fastener upon the anvil 7 of the machine is composed of two thin and nearly flat springs 70, pivoted be-
80 hind the anvil on screws or studs 71 to a fixed support, which may be a part of the frame, as appears by Fig. 1. The springs normally press against the sides and extend over the edge of the face of the anvil, forming lips 72,
85 between which and the anvil the fastener is held by its head. Near the rear ends and under the springs are fixed pins 73, which prevent the front ends of the springs from passing above the positions in which they are
90 shown.

A button 8 and fastener 9, ready to be applied to a garment by the machine, are shown in Figs. 1 and 2. The button is pushed into
95 the holder 6 and the fastener between the springs 70, with its head under the lips 72, by hand from in front of the machine. The garment is held between the fastener and the button. The plunger is forced downward by power applied to the rear end of the lever
100 through a rod which may be connected with a treadle near the floor, the machine being stationed on a table or standard. As the plunger descends the downward movement

of the button-holder and button is arrested by the garment, and they are supported for a moment by the garment until the sleeve 41 reaches the button. Then the button and garment are driven downward together upon the fastener by the sleeve, the face of the button resting in the recess 45. The fastener is thus inserted in the garment and button before the die proper acts upon the fastener. Any further downward movement of the garment, button, and sleeve being prevented by the anvil, the stem 4 of the die descends upon the fastener, the spring 44 being compressed between the collar 40 and the sleeve. The point of the fastener is received in the innermost conical part 5 of the cavity in the die and so held that it is not deflected by the pressure, and the axis of the die and that of the stem of the fastener being a straight line the fastener is crushed lengthwise and spread on opposite sides in the larger outer part of the cavity of the die over the margin of the hole in the button, a head 90 being formed on the stem of the fastener within the hub of the button, whereby the button is firmly riveted to the garment 80, as appears by Fig. 5. If the cavity in the die has the particular form shown in Fig. 3, the sections 50 and 51 aid materially in the formation of a proper head on the fastener. The pressure upon the garment forces the outer ends of the springs 70 slightly downward, and they are spread apart at the same time by their action against the sloping sides

of the anvil 7, allowing the garment to be pinched between the hub of the button and the head of the fastener. The springs regain their normal positions after the pressure is withdrawn from them by their action against the sides of the anvil. If the lips 72 should catch the head of the fastener after the button has been attached to the garment, the fastener will be released from the springs by the upward pull of the button-holder on the button, when the plunger returns to its highest position.

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

1. In a button-setting or similar machine, a die containing a cavity having the innermost conical part 5, adapted to receive the end of a pointed prong of a fastener, the outer part of said cavity being larger than the conical part, substantially as described.

2. In a button-setting or similar machine, a die containing a cavity having the innermost conical part 5, adapted to receive the end of a pointed prong of a fastener, the outer part of said cavity being composed of the sections 50 and 51, substantially as described.

ELISHA FLAGG.

In presence of—

H. J. VANDER BEEK,
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