

No. 623,163.

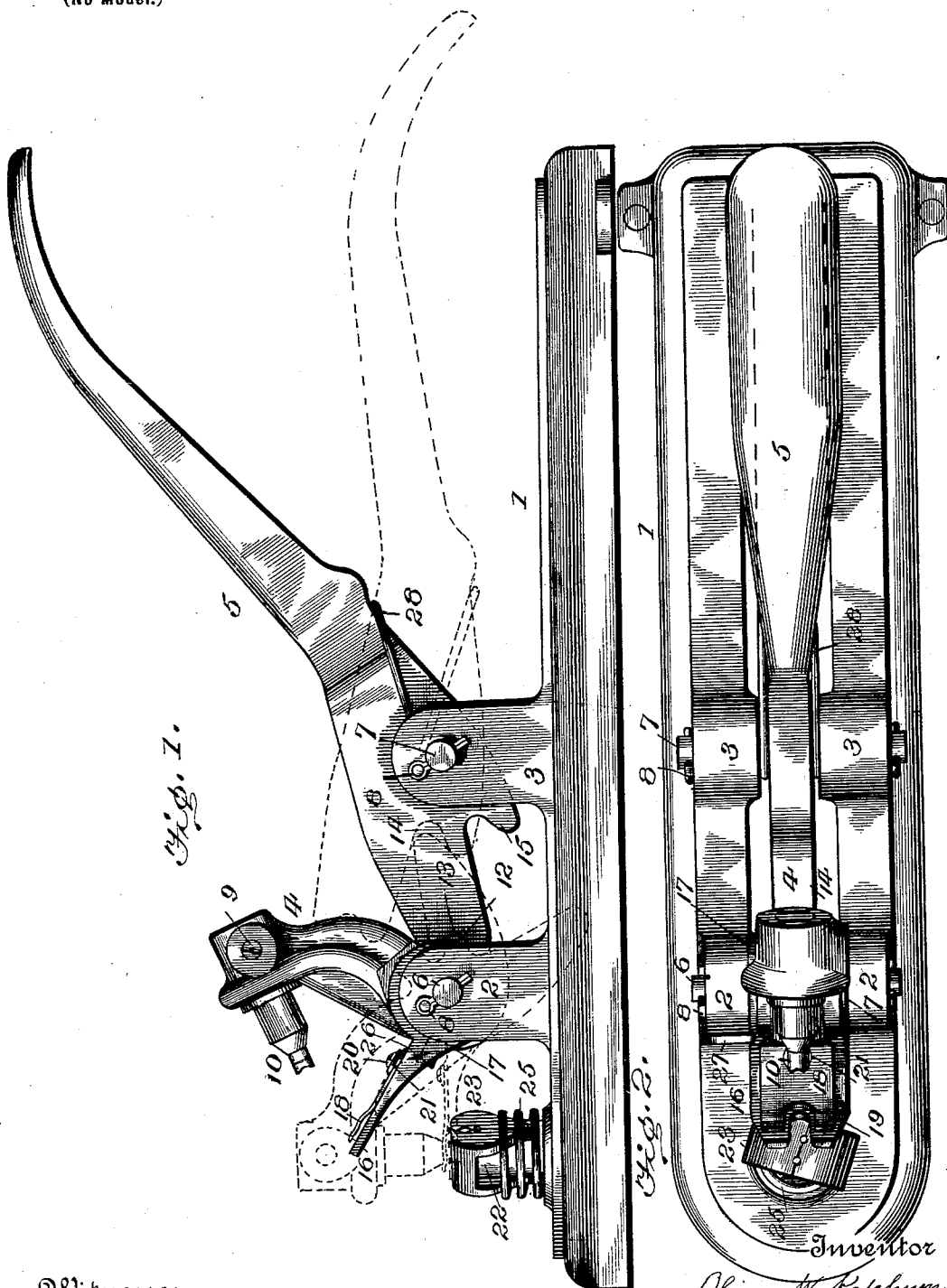
Patented Apr. 18, 1899.

O. W. KETCHUM.
BUTTON SETTING MACHINE.

(Application filed Jan. 12, 1897. Renewed Apr. 26, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

John E. Robertson
John E. Robertson

Inventor
Oliver W. Ketchum
By *T. W. Robertson*
Attorney

No. 623,163.

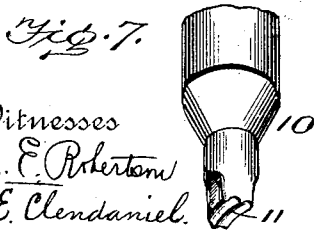
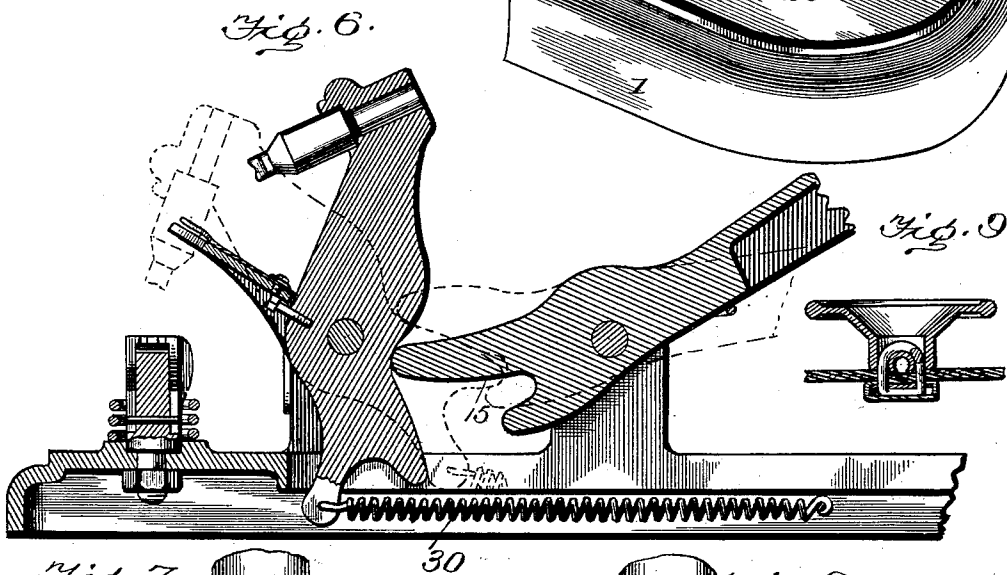
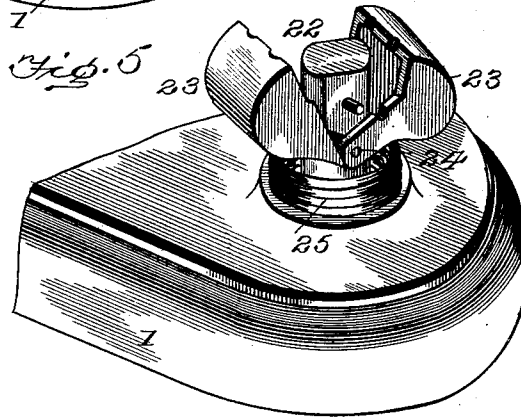
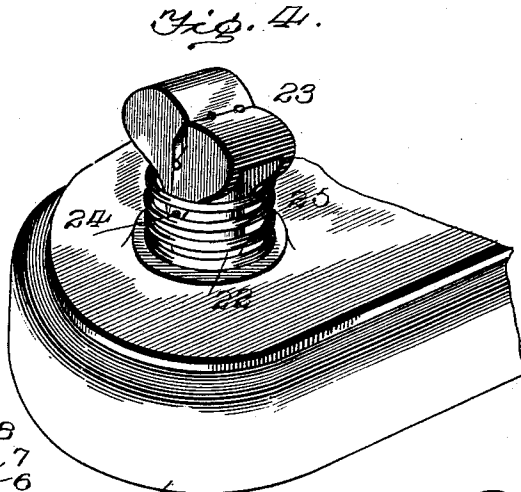
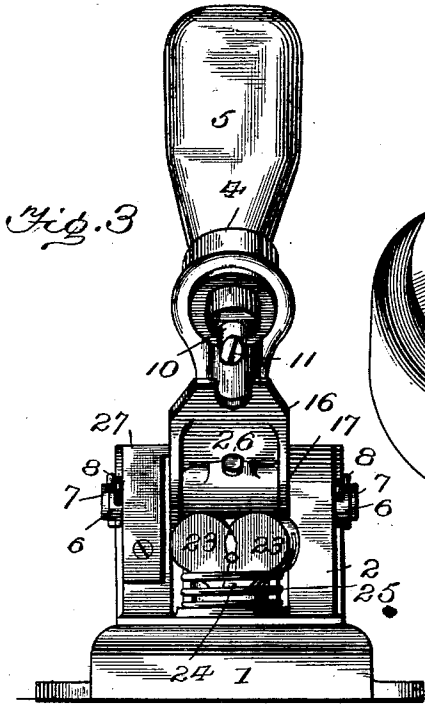
Patented Apr. 18, 1899.

O. W. KETCHUM.
BUTTON SETTING MACHINE.

(Application filed Jan. 12, 1897. Renewed Apr. 26, 1898.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses
Thos. F. Robertson
H. E. Clendaniel.



Inventor
Oliver W. Ketchum
By T. M. Robertson
Attorney

UNITED STATES PATENT OFFICE.

OLIVER W. KETCHUM, OF BALTIMORE, MARYLAND, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE RAYMOND BUTTON COMPANY, OF SAME PLACE.

BUTTON-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 623,163, dated April 18, 1899.

Application filed January 12, 1897. Renewed April 26, 1898. Serial No. 678,909. (No model.)

To all whom it may concern:

Be it known that I, OLIVER W. KETCHUM, a subject of the Queen of Great Britain, residing at Baltimore, in the State of Maryland, have invented a certain new and useful Improvement in Button-Setting Machines, (for which an English provisional protection, No. 25,363, dated November 11, 1896, a French patent, No. 265,498, dated March 30, 1897, a Belgian patent, No. 127,285, dated March 30, 1897, and an Austrian patent, No. 47 / 2,104, dated June 4, 1897, have been granted,) of which the following is a specification, reference being had to the accompanying drawings.

This improvement relates to that class of button-setters designed to force buttons down onto the prongs of the fasteners and then turn down said prongs in order to securely fasten the buttons to cloth or other fabric; and the invention consists in the construction hereinafter more particularly described and then definitely claimed at the end hereof.

In the accompanying drawings, Figure 1 is a side view of a button-fastener constructed according to my improvement, with the parts shown in their normal position in full lines and with the handle depressed in dotted lines. Fig. 2 is a plan of the same. Fig. 3 is a front view thereof. Fig. 4 is an enlarged side view of the anvil and clamp, with the latter in its normal position. Fig. 5 is a similar view with clamps represented open. Fig. 6 is a vertical central longitudinal section of a modification. Fig. 7 is a perspective view of a die enlarged. Fig. 8 is a similar view of another form of die. Fig. 9 is a vertical sectional view of a button and fastener as secured to a garment.

Referring now to the details of the drawings by numerals, 1 represents the base, provided with standards 2 3 rising therefrom, between which are mounted the operated or die-carrying lever 4 and the operating or handle lever 5 on suitable fixed shafts 6 7, which are secured in place by cotters 8. In the front end of the lever 4 is secured, by a set-screw 9, a die 10, the form of which is more clearly shown in Fig. 7, from which it will be seen that it has two concave cavities divided by a

rib 11, whose purpose will be hereinafter explained. Near the fulcrum of this lever is a projection or tooth 12, which engages in a recess 13 in the longer arm 14 of the shorter part of the lever 5, beneath which arm 14 is a shorter arm 15, which engages with the rear end of the lever 4, as shown by dotted lines in Fig. 1.

At 16 is shown a slotted button-carrier having ears 17, which pass between the standards 2 and are held in position by the shaft 6, which passes through the ears 17. A spring-plate 18, having a slot 19, is secured to this carrier by a screw 20 and washer 21.

Rising from the front of the base is an anvil 22, to which are pivoted two notched clamping-jaws 23 by a pin 24, passing through both the clamps and the base of the anvil. A spiral spring 25 surrounds the anvil, and as it bears against the inclined bottom of the clamps they tend to keep the same in the closed position.

On the under side of the lever 4 is a pin 26, which acts upon the under side of the button-carrier and causes the same to rise as said lever 4 makes the latter half of its backward motion. A stop 27 is secured to one of the standards 2 to prevent the carrier rising too far. A spring 28, which has its ends coiled around the shaft 7, serves to raise the handle and keep the parts in their normal position.

The operation is as follows: The parts being in the position shown in full lines in Fig. 1, the clamps are opened and a fastener set on the anvil, with the prongs thereof arranged so that the walls of the notches in the edges of the clamps will embrace said prongs. A button is then set between the carriers and the spring-plate thereon, and the cloth or other fabric to which the button is to be fastened is set over the prongs of the fastener. The handle of the lever 5 is then pressed down, which rapidly carries the die and the button-carrier down upon the prongs of the fastener, so that said prongs are made to pass through the cloth and the holes in the button, and as the button-carrier presses on the clamps they open and allow the cloth to pass down close to the head of the fastener. As the lever 4 and its die continue to descend the prongs are clenched down upon the bridge

of the button, as shown in Fig. 9, thus securely fastening the button to the cloth or garment. The button can now be withdrawn from the carrier and another button and fastener inserted in the button-carrier and clamp and the operation repeated as often as desired.

It will be observed that the clamps are set so as to hold the prongs on a line diagonal to the length of the base of the machine, which is done to bring their points on opposite sides of the rib on the die, so that each prong will enter its appropriate cavity in the die and be bent down parallel with each other without interfering. It will also be seen that the slot in the carrier is made oblong to fit the hollow oblong shank of the button and that its longest diameter is parallel with the length of the machine or at an angle to the edges of the opening of the clamp. It is important that the slot in the button-carrier and the notches in the clamp bear this relation to each other, for then the prongs of the fastener will always enter the button in the right position to be turned down parallel, or substantially so, with the sides of the oblong shank.

The style of button used on the machine, as above described, has no cap to cover the prongs; but the same machine may be used for a button having a cap such as is shown in my Patent No. 555,868, in which case a die having a plain concave cavity is used, such as is shown in Fig. 8.

In some cases I may make the machine as shown in Fig. 6, in which a spring 30 is used to give the die-carrying lever a part of its motion. When such a spring is used, the projection 12 may be dispensed with, as the spring will carry the rear arm of said lever up in position to be acted on by the arm 15 of the lever 5, as shown by the dotted lines in Fig. 6.

The peculiar arrangement and construction of the levers I believe to be important, inasmuch as it allows of a very rapid motion of the lever 4 when it has but little to do and a slow and therefore powerful action when the prongs are being clenched.

Although I have shown and prefer to use my button-setting machine in fastening buttons with an oblong shank, I do not intend to limit myself to such use, as I may use it with round shanks, such as are shown in my Patent No. 555,868, before referred to.

It is evident that the machine can also be operated by foot-power by placing it on a table or bench and connecting the lever 5 with

a foot-actuated lever or treadle. As such mode of operation is well known, further description is unnecessary.

What I claim as new is—

1. A button-setting machine having a carrier with an oblong slot and adapted to carry and hold oblong-shanked buttons, and a clamping device for the fastener having its line of opening diagonal to the sides of said slot, substantially as described.

2. The combination in a button-setting machine, of a reciprocating die, a button-carrier, a spring-holder thereon, an anvil, and yielding clamps pivoted beneath the anvil adapted to hold the fastener, substantially as described.

3. The combination in a button-setting machine, of a reciprocating die, a button-carrier, an anvil and a pair of spring-clamps pivoted below the anvil, and a spring surrounding the anvil to close the clamps, substantially as described.

4. The combination in a button-setting machine, of an anvil, a button-carrier having an oblong vertical slot therein open at one end, a horizontal spring set above the button-carrier and having its face substantially parallel therewith, and a die arranged to pass through said spring, substantially as described.

5. The combination with the base 1, and an operating-lever mounted thereon, of the die-carrying lever 4, the button-carrier 16, provided with slotted spring-plate 18, the anvil 22, the clamps 23 pivoted beneath the anvil, and the spring surrounding the anvil, substantially as described.

6. The combination with the base 1, having standards 2, 3, of two levers pivoted in said standards, one carrying an operating-die, and the other having two arms on its shorter part, one of said arms acting on the lever 4 near its fulcrum and the other acting near the end of said lever, a spring to keep the long end of the lever 5 raised, a button-carrier having a spring-plate thereon, a pin on the lever 4, acting on the button-carrier, an anvil 22, clamps 23 pivoted beneath said anvil, and a spring 25 acting on the clamps, all substantially as described and shown.

In testimony whereof I affix my signature, in the presence of two witnesses, this 31st day of December, 1896.

OLIVER W. KETCHUM.

Witnesses:

HARRY W. RODGERS,
CARROLL T. BOND.