

(No Model.)

2 Sheets—Sheet 1.

D. A. CARPENTER.

MACHINE FOR ATTACHING BUTTONS TO GARMENTS.

No. 519,788.

Patented May 15, 1894.

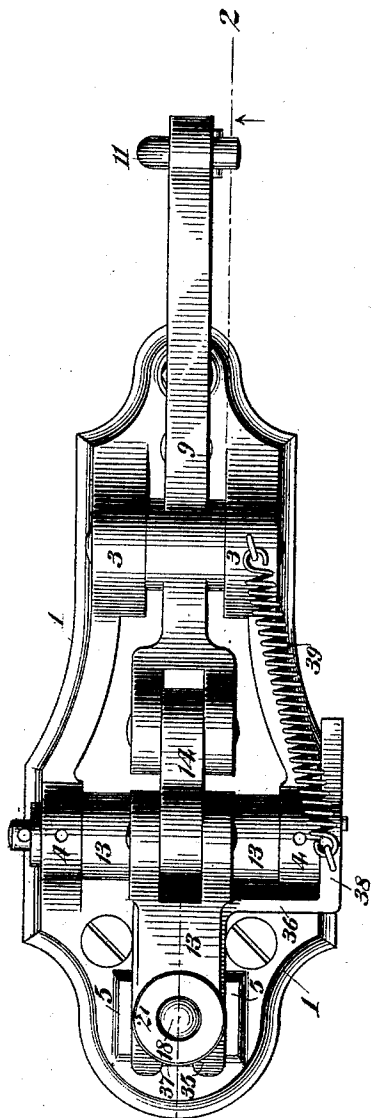


Fig. 1,

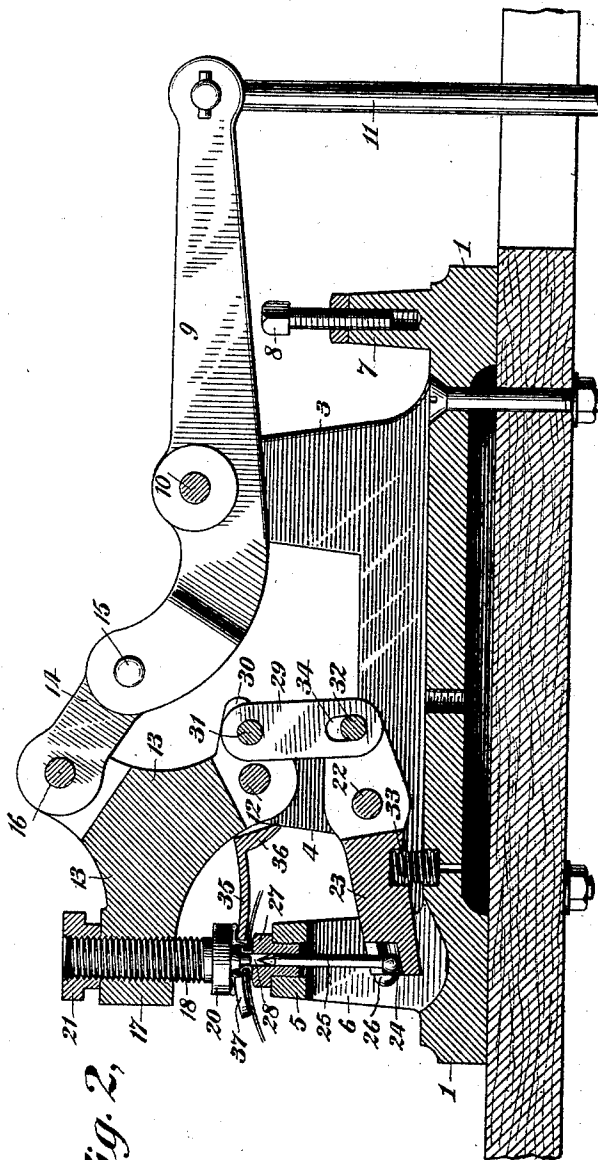


Fig. 2,

Witnesses
C. E. Ashley
J. F. Macpeak

Inventor
Daniel A. Carpenter

(No Model.)

2 Sheets—Sheet 2.

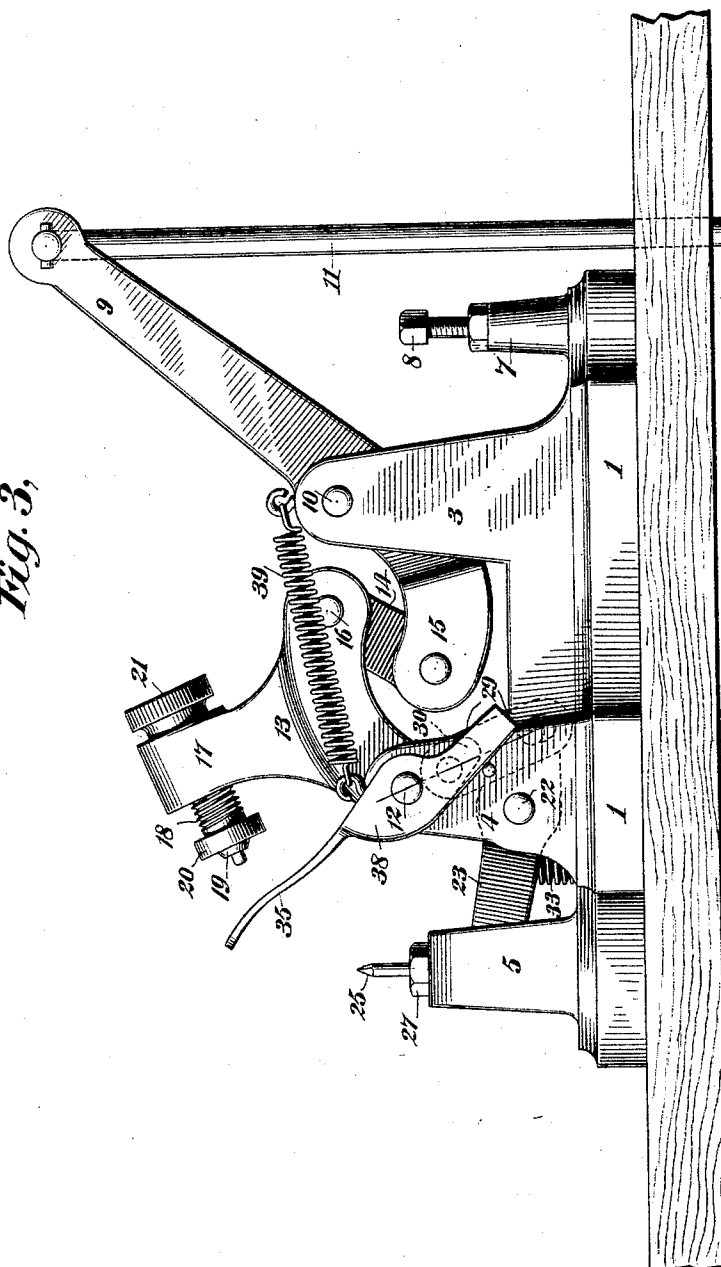
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Fig. 3,



Witnesses
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UNITED STATES PATENT OFFICE.

DANIEL A. CARPENTER, OF NEW YORK, N. Y.

MACHINE FOR ATTACHING BUTTONS TO GARMENTS.

SPECIFICATION forming part of Letters Patent No. 519,788, dated May 15, 1894.

Application filed April 20, 1892. Serial No. 429,828. (No model.)

To all whom it may concern:

Be it known that I, DANIEL A. CARPENTER, of New York city, in the county and State of New York, have invented a certain new and useful Improvement in Machines for Attaching Buttons to Garments, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 This invention relates to improvements in machines designed to attach buttons to garments by means of hollow metallic fastenings, and consists of a machine having its parts constructed and combined substantially as herein described, shown and claimed.

15 In the accompanying sheets of drawings, Figure 1 is a plan of the machine; Fig. 2, a vertical section in the planes 2, 2, Fig. 1; and Fig. 3, a side elevation.

20 Similar reference numbers designate like parts in the several views.

The machine when in use is ordinarily screwed or bolted to a table, and operated by a treadle, which is connected with the main lever of the machine by a rod extending up through the top of the table, only a small portion of which is illustrated in the drawings.

The frame of the machine is a casting having the base 1, with uprights 3, 3 and 4, 4 projecting therefrom, the rear uprights 3, 3 being higher and closer together than the others. Near the front end of the base is a block or anvil 5 which has a recess 6 in its lower part, and is an integral portion of the main casting, while on the rear of the base is a hub 7, in which is a set screw 8 to limit the descent of the operating lever. This lever 9 is pivoted at 10 between the uprights 3, 3 and is connected with the treadle by the rod 11.

40 Between the uprights 4, 4 is pivoted at 12 a block 13, with which the lever 9 is connected by a link 14, pivoted to the lever at 15 and to the block at 16. In another portion 17 of this block is screwed the stem 18 of a die 19 which is provided with a collar 20, and on the opposite end of the stem 18 is a nut 21 with a milled head to enable the die to be readily adjusted.

In respect to the parts thus far described

this machine is similar to one which has long been in use, but an operator of the old machine in order to insert the fastener in the garment, is compelled to handle a needle, first placing it on the anvil of the machine and then removing it, whereas by means of the mechanism described below in connection with that previously described, the inconvenience of handling the needle may be avoided.

Under the block 13 and between the uprights 4, 4 as shown at 22, is pivoted a lever 23, one end of which projects forward into the recess 6 in the anvil, and has a cavity 24, open at the top, wherein rests the head of the needle 25. A screw 26 prevents the needle from slipping out of the cavity.

In the top of the anvil is a screw plug 27 on the upper face of which a seat is formed for the button fastening, and through the plug is a vertical channel 28 that forms a guide for the needle 25 when this moves up and down as will soon be explained. The rear end of the lever 23 is slotted and connected by a link 29 with a slotted lug 30 on the block 13, as shown in Fig. 2, the link being secured to the block by the pin 31 and to the lever by the pin 32. These pins are so arranged that when the block 13 is in the position indicated in Fig. 2, the pin 31 is behind and about on a horizontal line passing through the pin 12, but when the block is in the position indicated in Fig. 3, the pin 31 is below the pin 12, and the pin 32 is held by the link 29 near enough to the base to cause the needle 25 to be forced up by the front end of the lever 23, through the plug 27, as shown in Fig. 3, the pins 12, 31 and 32 then being substantially in a straight line. The spring 33 bears upward against the front part of the lever 23, and supports this while the link 29 travels upward at the beginning of each operation, until the bottom of the slot 34, in the link, reaches the pin 32. The object of this arrangement is to prevent the needle from being withdrawn from the fastener too soon.

On the pin 12 is mounted a button holder which turns on or with the pin, and which

consists of a thin strip 35 projecting forward midway between the sides of the machine from an arm 36, and having a crotch 37 in its outer end, the arm 36 being attached to the piece 38, which is secured on one end of the pin 12. The spring 39 tends to keep the button holder in the position indicated in Fig. 3. When there is no pressure on the treadle the rod 11 is held up as shown in Fig. 3, by a spring connected with the treadle, and the other parts of the machine then occupy the respective positions in which they are shown in that figure.

To attach a button to a garment the operator proceeds as follows: He places a fastening or rivet on the needle so that the base of the rivet rests in the seat on the plug 27, and the needle projects through the stem of the rivet, also dropping a button into the button holder. Then holding the garment in both hands above the needle, he forces it down on the needle, so that this is made to penetrate the cloth, and continues to press the cloth downward until the stem of the fastener likewise protrudes through the cloth. During this part of the operation the thrust from the needle on the lever 23 is overcome by the link 29 acting against the pin 12 through the lug 30 and the pins 31 and 32, those three pins being in a straight line, or substantially so, as above explained. He then applies his foot to the treadle, whereby the rod 11 and the rear end of the lever 9 are pulled downward, and the block 13 being thrown forward, turning on the pin 12, the die descends toward the anvil, and carries with it the button in the button holder, which also turns on or with the pin 12. Meanwhile the pin 31 in the lug 30 of the block is carried to the rear and upward, and drawing up the link 29 raises the rear and depresses the front end of the lever 23, which draws the needle down in advance of the die so that the fastener can be upset in the button as indicated in Fig. 2. When the pressure is removed from the treadle the parts are restored to the respective positions in which they appear in Fig. 3. Buttons having a closed top may likewise be attached to garments with this machine, as well as those through which there is an opening, the action of the machine being the same in both cases, except that the fastener is curled against the shell of the closed button instead of a die like the die 19, which with the stem 18 may be removed and replaced by a similar stem fashioned at its lower end to fit the top of the closed button.

The needle may be readily removed from the anvil by unscrewing the plug 27 and taking out the screw 26, and needles of different sizes may be used in the same machine, provided plugs having channels varying in diameter according to the sizes of the needles are furnished to hold the needles.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for attaching buttons to garments by means of tubular metallic fastenings, the combination of a stationary anvil fixed to the base of the machine and provided with a seat conforming to the base of the fastening and with a channel 28 extending through the center of the seat and having its diameter equal to the interior diameter of the stem of the fastening, a sliding needle 25 having the channel 28 as a guide and arranged with the piercing end of the needle projecting from the anvil a distance greater than the length of the fastening when the parts of the machine rest in their normal positions, a movable support on which the needle thus rests, a movable setting device supported above the anvil, and mechanism connecting said setting device and the support for the needle, substantially as described.

2. In a machine for attaching buttons to garments by means of tubular metallic fastenings, the combination of a stationary anvil fixed to the base of the machine and provided with a seat conforming to the base of the fastening and with a channel 28 extending through the center of the seat and having its diameter equal to the interior diameter of the stem of the fastening, a sliding needle 25 having the channel 28 as a guide and arranged with the piercing end of the needle projecting from the anvil a distance greater than the length of the fastening when the parts of the machine rest in their normal positions, a support consisting of a pivoted lever on which the needle thus rests, a movable setting device supported above the anvil, and mechanism connecting said setting device and pivoted lever, substantially as described.

3. In a machine for attaching buttons to garments by means of tubular metallic fastenings, the combination of a stationary anvil, provided with the plug 27 having a seat for the fastening, and with a channel 28, extending through the plug, and equal in diameter to the interior of the stem of the fastening, the needle 25 adapted to slide in this channel and to extend through the fastening on the anvil, the lever 23, a movable setting device, and operating mechanism connected with said lever and setting device, substantially as described.

4. In a machine for attaching buttons to garments, the combination with a movable setting device and stationary anvil, of the plug 27 forming the part of the anvil on which the fastening rests, the needle inserted in the plug and adapted to enter the fastening, the lever 23 which supports the needle, and mechanism whereby the support for the needle is advanced, and retracted when the fastening is upset, substantially as described.

5. In a machine for attaching buttons to garments, the combination of the stationary anvil 5, having a seat for the fastening, the needle 25 inserted loosely in the anvil and adapted to extend through the tubular stem of the fastening, the pivoted lever 23 whereby the needle is supported, the pivoted block 13 provided with a setting device arranged to be advanced to the fastening on the anvil

when the block is turned, the link 29 connecting the lever 23 and block 13, and means whereby motion is imparted to the block, substantially as described.

DANIEL A. CARPENTER.

In presence of—

CHAS. COLEMAN MILLER,
JAMES J. WILSON.