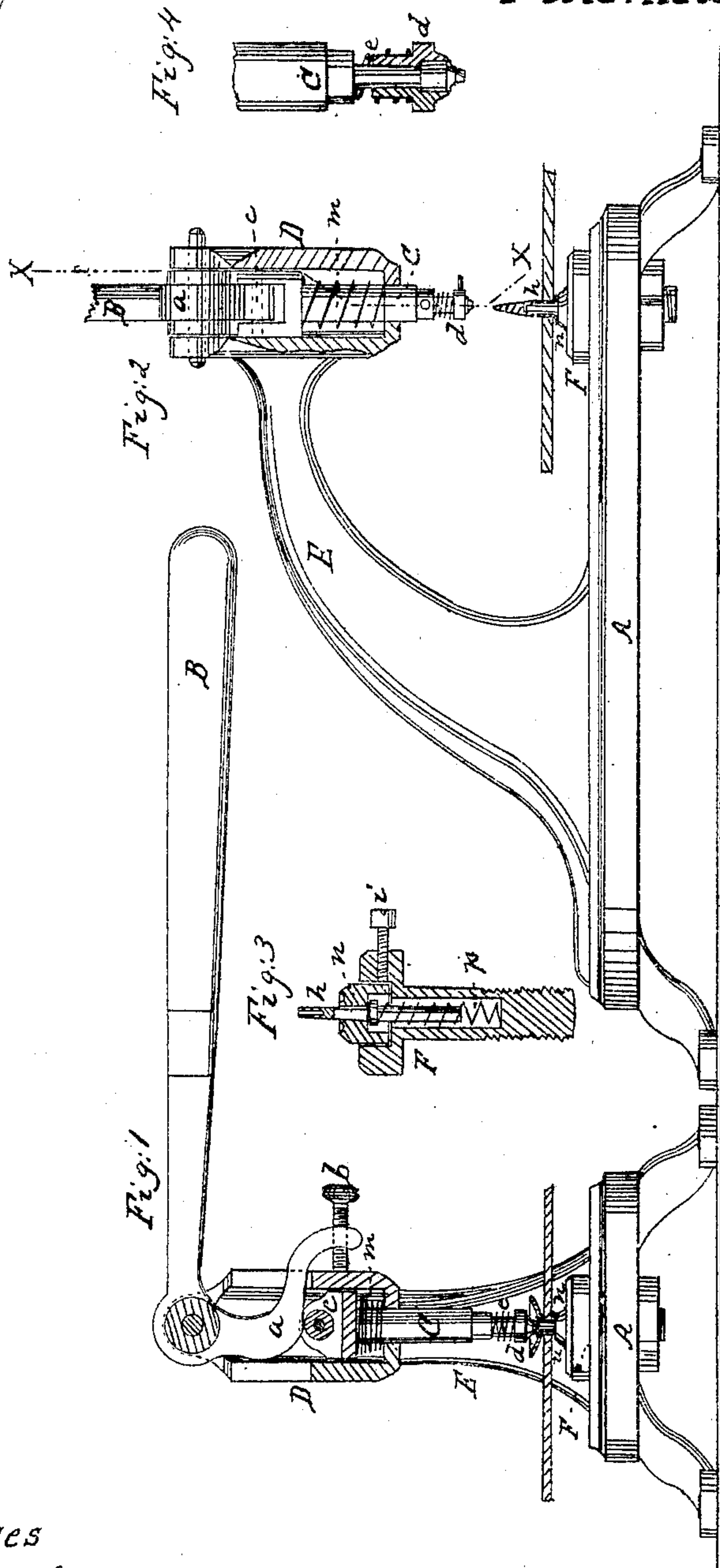


E. J. Warner.

Button Fastening Machine.

N^o 69284.

Patented Sep 24. 1867.



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EZRA J. WARNER, OF NEWARK, NEW JERSEY.

Letters Patent No. 69,284, dated September 24, 1867.

IMPROVEMENT IN EYELETING MACHINES FOR ATTACHING BUTTONS TO GARMENTS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, EZRA J. WARNER, of Newark, in the county of Essex, and State of New Jersey, have invented a new and improved Machine for Fastening Buttons on Garments; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of the machine, seen partly in section through the line *x x*, fig. 2.

Figure 2 is a side elevation.

Figure 3 is a sectional detached view of the needle-spring guide.

Figure 4, a sectional detached view of the plunger.

Similar letters of reference indicate like parts.

The object of this invention is to fasten buttons with tubular shanks or eyelets to garments at a single operation; and it consists of a press, provided with an adjustable die, through which passes a spring slide-bar for holding the tubular shank in proper position to be pressed thereon, and thus fasten the button on a garment, and which also holds a piercing-needle for making a hole in the cloth to receive the tubular shank, as hereinafter more particularly described. The plunger of the press is also provided with a spring sliding-guide to adjust automatically and keep the button in place when the operation of fastening it is performed.

This machine is more especially designed for the use of tailors and wholesale manufacturers of clothing, in order to facilitate the operation of fastening buttons to garments with tubular shanks of recent invention, and strike up or head the ends thereof more perfectly than can be done by hand.

A represents the bed of a small hand-press, to be screwed to a table, and B the handle, which operates a plunger, C, by means of a cam, *a*, on its end, that is so formed as to give the plunger a very rapid motion in the first part of its descent in the socket D on the end of the standard E, and a slow motion at the last part of its descent, where greater power is required for spreading or heading the tubular shanks to the buttons on the cloth. The cam *a* strikes a friction-roller, *c*, on the head of the plunger C, and on an end projecting from the cam *a* is an adjusting-screw, *b*, by which the action of the plunger is regulated to allow it to descend more or less, according to the thickness of the cloth and the buttons that are to be fastened. The plunger C is provided with a spiral spring, *m*, for elevating it. On the lower end of the plunger C is fitted a sliding-guide, *d*, to which is attached a spiral spring, *e*, by which the guide adjusts itself to the button, and brings it level and even on the cloth when the plunger descends to fasten it, and thus dispenses with holding the button by the fingers, as shown in detail by fig. 4, and hereinafter described. Directly under the socket D is placed a die, *n*, the form of which is adapted to the head or lap of one end of a tubular shank, and which is nicely fitted in the head of a hollow screw, F, which rests upon and passes through the bed A, secured by a nut on the under side. The die *n* is held in place by a set-screw, *i*, as shown in fig. 3. In the hollow or recess in the upper end of the screw F a round sliding-bar, *h*, is placed vertically, the upper end of which passes through the centre of the die *n*, and is also made hollow at the upper end. The lower end of the sliding-bar *h* is prevented from rising above a certain height by a shoulder which catches on the under side of the die *n*, and is provided with a spiral spring, *p*, which keeps the shoulder close to the die when the sliding-bar is not depressed, as shown clearly by fig. 3 in detail, and presently described.

To operate this machine the tubular shank is first set on the upper end of the sliding-bar *h*, and a piercing-needle is then set upon it. This needle for piercing the cloth may be made in two forms, either hollow, to set over the end of the sliding-bar like a cap, Figure 5, or with a shank, Figure 6, which fits into the hole in the end of the sliding-bar *h*. When either of these needles is set in place the cloth is then placed on the point and pushed down by hand to pierce a hole through it, so that it can go down snugly over the tubular shank, as shown in red lines in fig. 2. The needle is then removed and a button with a hole in the middle is set in its place over the tubular shank. The plunger C is then brought down upon it, the lower end of the plunger being pointed to strike first and bear upon the tubular shank or the end of the sliding-bar *h*, which recedes through the die *n* in the hollow screw F, to allow the button to go down close upon the cloth. At the same time the pointed end of the plunger C settles in the concave centre of the button, and the sliding-guide *d* bears upon it and adjusts it in a horizontal position even with the cloth, while it also rises on the plunger and slides up out

of the way sufficiently to allow the point of a die on the end of the plunger to come down solidly upon the upper end of the tubular shank and spread or head it down closely and evenly in the middle of the button, as shown clearly in fig. 1. When the cloth is removed, with the button thus fastened to it, the spring *p* elevates the sliding-bar *h* to its old position above the die *n*, and the spring *m* raises the plunger *C*, while the spring *e* also forces back the sliding-guide *d* to its place on the end of the plunger, thus restoring all the parts to their original positions and relations for a repetition of the same operation for fastening another button on the garment.

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

The combination of the sliding-bar *h*, the die *n*, the sliding-guide *d*, and the plunger *C*, all arranged and operating substantially as and for the purposes herein described.

The above specification of my invention signed by me this 4th day of February, 1867.

EZRA J. WARNER.

Witnesses:

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