

W. CHICKEN.

Clamps for Button-Hole Sewing-Machines.

No. 136,702.

Patented March 11, 1873.

Fig. 1.

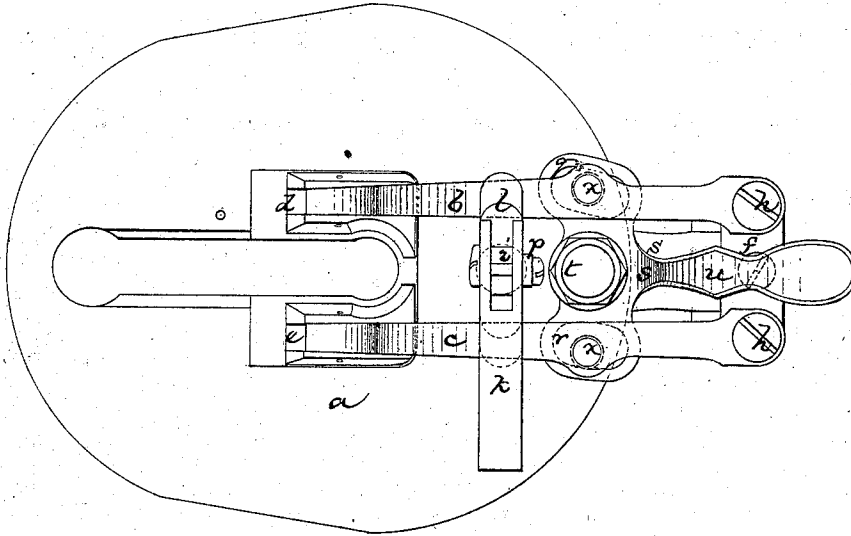


Fig. 2.

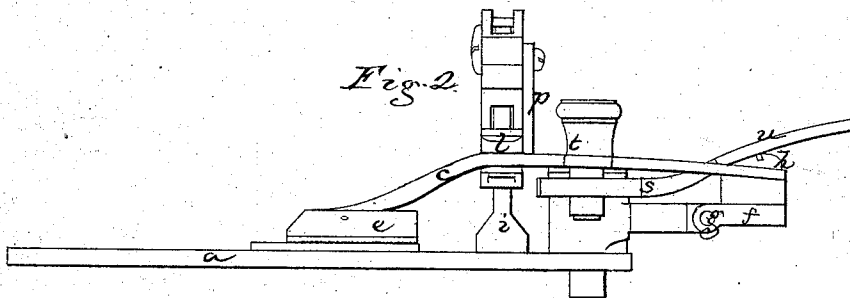
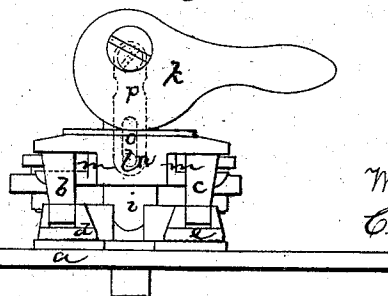


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM CHICKEN, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO AMOS L. WOOD, TRUSTEE, OF SAME PLACE.

IMPROVEMENT IN CLAMPS FOR BUTTON-HOLE SEWING-MACHINES.

Specification forming part of Letters Patent No. 136,702, dated March 11, 1873.

To all whom it may concern:

Be it known that I, WILLIAM CHICKEN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Clamps for Button-Hole Machines; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms a part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates particularly to the construction or arrangement of the cloth-clamping mechanism of that class of button-hole-stitching machines shown in United States Letters Patent issued to me, No. 115,163. In such machines two clamp-feet are used for securing the work to the work-plate on each side of the button-hole slit, these feet being pivoted to the ends of two levers, which are so arranged as to be capable of being thrown down or raised to cause the feet to clamp or unclamp the work, and of being swung laterally to spread the feet and open the slit, more or less.

In the clamp mechanism, as usually made, the feet are raised by springs, and are spread by an eccentric or cam operated by a spring-lever, which has notches springing over a stationary tooth to lock the eccentric in position.

In my present invention I carry the clamp-levers through slots at the opposite end of a cross-head, which cross-head is connected by a link to an eccentric lever which turns on a pin extending from an upright, so that the clamp-feet are not only pressed down by the eccentric, but are positively raised by it, and the clamp-levers are spread by a lever having eccentric slots into which two pins extend from the opposite levers turning this lever, causing the pins to positively move the clamp-levers laterally in either direction. This arrangement is more simple, effective, and reliable than the common construction.

My invention consists in the improved mechanism for raising the clamp-levers and moving them laterally.

The drawing represents a work plate and clamp mechanism embodying my invention.

Figure 1 shows the mechanism in plan; Fig.

2 is a side view of it; Fig. 3 is an end view of it, looking from the left of Fig. 1.

a denotes the work-plate. *b c* are the two levers, having pivoted to their front ends the two feet *d e*, by which the work is clamped to the work-plate. These levers are connected at their rear ends to a fulcrum-plate, *f*, that turns on a horizontal pin, *g*, to enable the levers to play vertically, and are pivoted to the plate by pins *h*, to enable them to turn horizontally. Extending up from the work-plate is a stem, *i*, upon which is pivoted an eccentric lever, *k*, and sliding on this stem is the cross-head *l*, having at its opposite ends slots or forks *m* through which the levers *b c* pass, the eccentric surface acting against this cross-head (when pressed down) to depress the springs and cause the feet to clamp the work. From the rear side of the cross-head a piece, *n*, extends through a slot, *o*, in a link, *p*, jointed to the rear face of the eccentric lever, and as the lever is turned up into or toward a vertical position this link positively raises the cross-head, and thereby lifts the clamp-feet from the work. Behind the cross-head pins *x* extend from the levers *b c* into slots *q r*, in two opposite arms of a lever, *s*, fulcrumed at *t*, and having a handle, *u*. The slots *q r* are eccentric to the center of movement of the lever, and as the handle *u* is turned in either direction the slots operate upon the pins to spread the levers or to move them inwardly, and to lock them in any position to which they may be brought by the action of the lever and its slots.

By this arrangement all springs are dispensed with; the clamp-levers are moved positively in each direction; the mechanism is easily operated without special skill, and the parts are strong and cannot be easily got out of order in any way.

By arranging the mechanism that operates the levers, as shown, to adjust the clamp-jaws laterally, said jaws may be moved to the slightest extent and locked in position, their motion not being controlled by mechanism that is only capable of movements determined by the distance between teeth or notches.

I claim—

1. In combination with the clamp-levers and

the eccentric for depressing them, the link *p*, or its equivalent, for raising the levers, substantially as described.

2. In combination with the levers *b c*, the lever *s*, having the eccentric slots *q r* through which the lever-pins *h* extend, the lever *s* operating to spread the levers *b c*, or to draw them inward and to lock them in position, all substantially as described.

3. In a clamp for button-hole stitching-machines, clamp-jaws combined with mechanism,

substantially as described, whereby the jaws are positively moved laterally to any required extent, however slight, and are positively held in any position to which they are brought.

Executed this 23d day of September, A. D. 1872.

WM. CHICKEN.

Witnesses:

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