(Model.)

J. BOLTON & A. D. PENTZ.

CLAMP GUIDE FOR BUTTON HOLE SEWING MACHINES.

No. 277,106. Patented May 8, 1883.

Fig. 1.

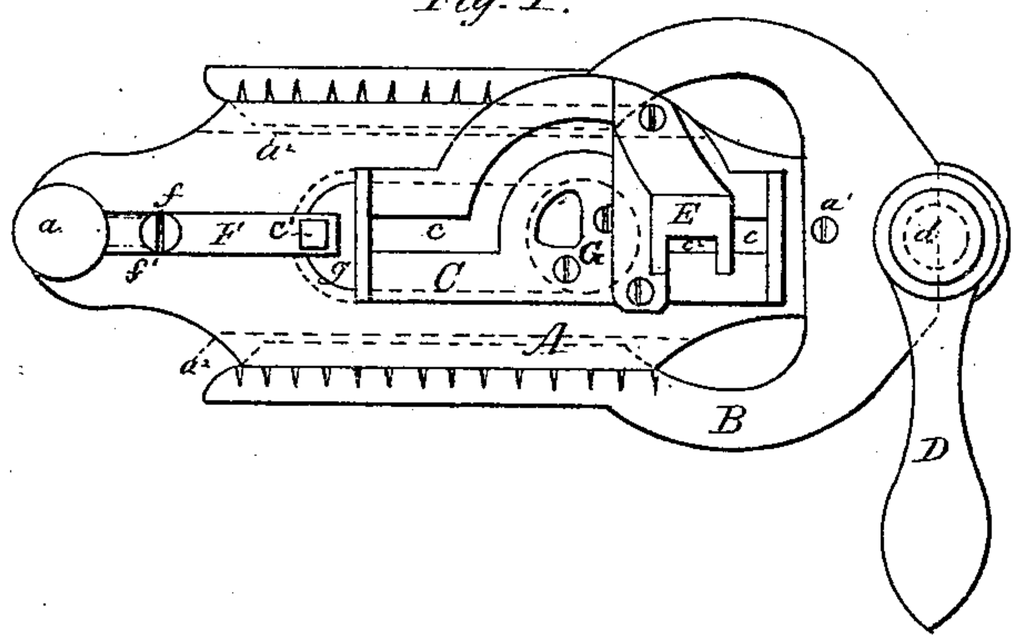
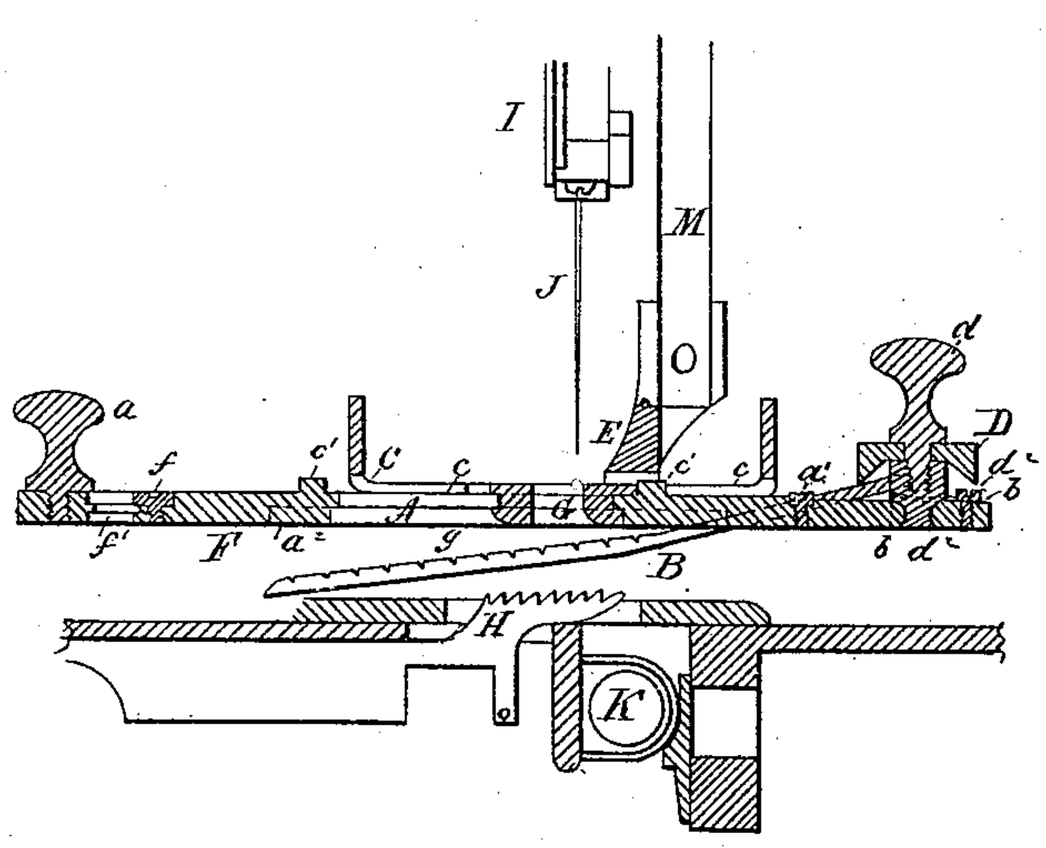


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES BOLTON AND ALBERT D. PENTZ, OF CHICAGO, ILLINOIS.

CLAMP-GUIDE FOR BUTTON-HOLE SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 277,106, dated May 8, 1883.

Application filed February 8, 1881. (Model.)

To all whom it may concern:

Be it known that we, JAMES BOLTON and ALBERT D. PENTZ, both of the city of Chicago, and the county of Cook, State of Illinois, have invented a new and useful Improvement in Clamp-Guides for Button-Hole Sewing-Machines, of which the following is a specification.

This improvement is fully set forth in the following specification, reference being had to accompanying drawings.

Our invention relates to means for the guidance and control of cloth or other fabrics during the process of working or overseaming button-holes or other openings.

Figure 1 is a plan view of the button-hole clamp-guide, and Fig. 2 a longitudinal central section of the same.

A is the carriage-plate, with the knob *a*, the fulcrum-screw *a'*, the rabbets a^2, the projection *c'*, and the slide-seat *f'*.

B is the spring-clamp, held to the carriage-plate by the screw *a'* and operated on by the lever D and the spring *b*, which spring is secured to the plate A by the screw *b'*.

C is the guide-plate, with the irregular guide-slot *c*, open at either end, and which has its ends turned up at right angles with its base to allow the projections *c'* to enter and escape from the slot *c*.

D is the clamp-lever, with its knob *d*, leaves *d'*, and stud d^2.

E is the hanger, secured to C, by which the whole device is attached to an ordinary sewing-machine.

F is the adjustable slide, with its projection *c'*, and is fastened to the desired position in the plate A by the screw *f*.

G is a short flanged cylinder, secured to the bottom of C, perforated for the action of the needle, and filling in at least one direction the button-slot *g*.

H is the feeding element of an ordinary sewing-machine.

I is a partial view of a known device for intermittently vibrating the needle to and fro parallel to the action of the loop-taker.

J and K are the needle and loop-takers of a sewing-machine.

M is the presser-bar of a sewing-machine.

When the lever D is turned at right angles to the general direction of the instrument the spring-clamp B is released from contact with A by the spring *b*, forming a wedge-like receptacle between A and B for the cloth, (see Fig. 2,) which cloth being inserted the lever B is turned out a one-quarter turn. This brings the leaves *d'* and stud d^2 into contact with the upper end of the spring-clamp B, forcing it to turn on its fulcrum near *a'*, and by its arms to carry the cloth up into the rabbets a^2, thereby bending and stretching the fabric over the bottom of A between the feed H and the button G. The device is lowered by throwing down the presser-bar M, to which it is attached. This brings it into contact with feed H, which is situated at some distance on one side the center of the button G, the better to turn the carriage at the ends of the holes which it is designed to overseam. The feed H by its natural action carries the cloth forward, which in turn carries the movable parts of the clamp and guide. The projections *c'*, by moving in the slot *c*, control the direction and character of the movements of the carriage A. Thus when either of them arrive at the curved portion of the slot *c*, the straight movement, which alone is possible while the projections are in the straight part of that slot, is retarded, and the curved movement begins, which lasts a one-half turn of the carriage A around the cylinder G. This finishes either end of the button-hole and places the carriage in position to work the parallel sides. One of these projections *c'* is adjustable with the slide F, thus enabling the operator to vary at will the length of the button-hole to be worked by moving the projection *c'* on the slide F to suitable distances from the projection *c'* on the plate A and fastening it with the screw *f*.

On the ends of the device are the knobs *a* and *d*, whereby the operator may assist the turning of the instrument.

Having thus described our invention, we make the following claims:

1. The combination, in a clamp-guide, of the plate A, the spring-clamp B, the guide C, the lever D, the hanger E, by which the whole device can be attached to a sewing-machine, the adjusting-slide F, which permits of the length of the holes being varied at will, and cylinder G, as shown and described.

2. The combination, in a clamp-guide, of the

carriage A, provided with projection c', the spring-clamp B, by which the fabric is held fast to the plate A against the cylinder G and between said cylinder and the feed H, and the guide C, having the slot c, as shown and described.

3. The carriage-plate A, with its projection c' fastened to it, and the adjustable slide F, carrying its projection c', in combination with the guide C, having slot c, substantially as shown and described.

4. The bifurcated spring-clamp B, arranged from the upper to the lower side of the plate A, in combination with the plate A, the lever D, and the rabbets a^2, as shown and described.

5. The guide C, with its slot c, in combination with the cylinder G, the slot g, the slide F, and the projections c', as shown and described.

6. The slide F, with its projection c', by which a positive adjustment for different lengths of button-holes is obtained, in combination with the cylinder G, the guide C, having the slot c, and the plate A, having projection c', substantially as and for the purpose described.

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