(No Model.)

J. C. RORICK.

EMBROIDERING MACHINE.

No. 303,458. Patented Aug. 12, 1884.

Fig. 1.

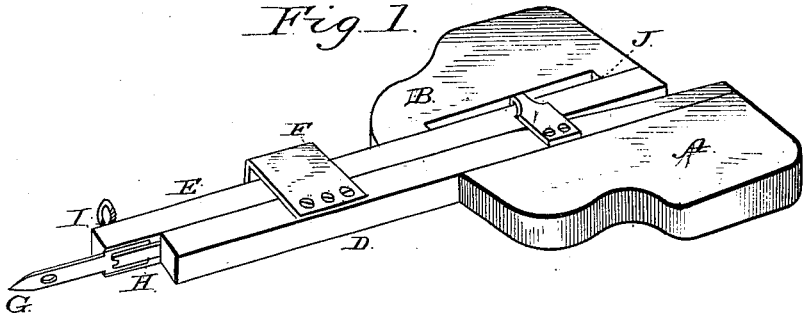


Fig. 2.

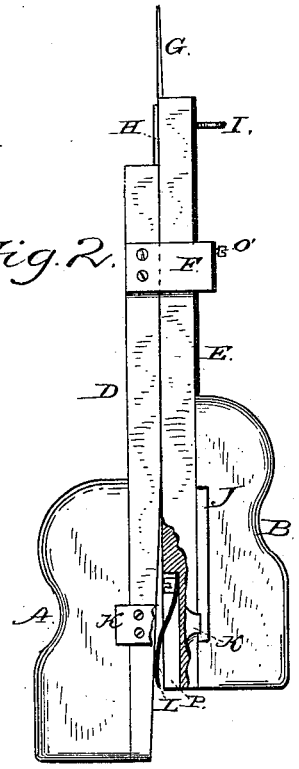
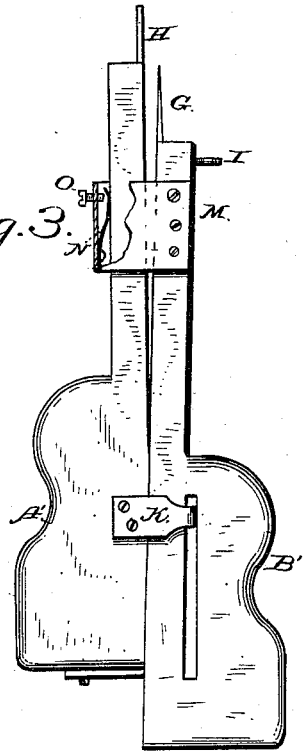


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN C. RORICK, OF WAUSEON, OHIO.

EMBROIDERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 303,453, dated August 12, 1884.

Application filed April 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. RORICK, of Wauseon, in the county of Fulton and State of Ohio, have invented certain new and useful Improvements in Embroidering-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to machines for embroidering textile fabrics; and it consists in a combination and arrangement of parts whereby the construction is simplified, the working portions strengthened, and the operation conducted with accuracy and precision. In prior machines of the character most nearly allied to my present invention, but differing from it in principle, it has been usual to attach the needle to one of the abutting faces of two blocks sliding past each other and projecting from its end. To the corresponding side of the other block is affixed a flat spring projecting out in like manner and bearing against the needle. In the operation of these devices the needle and spring are forced through the fabric, which is stretched upon an appropriate frame-work. The needle is then withdrawn by sliding its block toward the operator, the spring remaining in the fabric. Stitches are then taken by moving the machine sidewise against the tension of the spring, which is disengaged from the fabric after each stitch. The disadvantages attendant upon the use of such machines are obvious. The tension of the spring, being exerted directly on the fabric, pulls it toward the needle and has a tendency to tear it, rendering the machine practically inoperative for delicate cloths. The varying distances to which the needle and spring may be stretched from each other, owing to the resiliency of the spring, make it necessary, moreover, that the operator should carefully gage the length of each stitch in order to secure uniform results. These difficulties are fully obviated by my improved construction, as will be more fully detailed in the following description, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of my invention; Fig. 2, an elevation thereof, partly in section; and Fig. 3, an elevation, also partly in section, of a modification.

Referring to the several parts by letter, A B represent counterpart handles, either attached directly to the abutting sliding pieces D E, by screws or otherwise, or formed integral therewith, as shown in Fig. 3. One of the handles, as B, is provided with a slot, J, within which plays the guide-loop K, attached to the other handle, A. At the outer ends of the pieces E D project the needle G and the rigid forked metallic piece H, which are respectively attached flush with the abutting surfaces of sliding pieces E D. In the construction shown in Figs. 1 and 2 a guide-loop, F, encircling the slide E, is attached rigidly to the other slide, D, the loop being sufficiently deep to allow of the lateral play of the slide E in making the stitches. At its inner end the slide D is cut away, as shown, and the slide E is provided with a groove, P, within which is secured the spring L. The tendency of this spring is to force the inner ends of the slides apart, causing needle G and piece H to abut against each other.

The parts in Figs. 1 and 2 being disposed as described, the operation of my invention with respect thereto is as follows: The fabric being stretched upon its frame-work, the machine is advanced toward it until the needle G and piece H penetrate it. The slide E is then drawn toward the operator until the needle is withdrawn from the fabric, the piece H remaining in it. By pressure of the hand the inner ends of the slides are brought together against the tension of the spring L. The outer end of the slide E is therefore forced out to the extent permitted by the set-screw O', which regulates exactly the length of the stitch made by the threaded needle G. The screw may be inserted to any desired extent within the loop, according to the desired length of stitch. The needle G is then once more pushed through the fabric, forming the first stitch. The slide D is then drawn toward the operator, removing the piece H from the fabric. The press-

ure on the handles is released, which again brings the slides to their original position. The piece H is then once more pushed through the fabric, and the succeeding stitches taken as before.

In Fig. 3 the loop M is provided with a spring, N, bearing against the rear of the slide A′. The operation of this device is similar to that just described, the lower portions of the handles serving to force the slides apart. The function of the rigid piece H in both instances is to engage with and retain a portion of the thread carried through the fabric by the needle, forming a loop while the needle is withdrawn.

It is evident that in both the constructions shown there is no tension upon the fabric in taking the stitches, and none upon the loop-holder H. The power employed in moving the needle G and its slide laterally is exerted wholly at a point within the machine itself, and where the slides begin to diverge at their inner ends. The device is therefore operated with greater certainty than if, as in former machines, the fulcrum or point of application of the power were located at the outer end of a spring projecting from one of the slides. The rigid loop-holder H, being subjected to no strain, has no tendency to bend, and the lateral movement of the slide E being accurately gaged by the set-screw O or O′, the stitches taken by the needle must necessarily be even and uniform. The length of the stitch may also be regulated, if preferred, by means of an edge-plate provided with an elongated slot and set-screw attached to one of the slides, and capable of adjustment toward the other, as shown in Fig. 3. The loop-holder H, furthermore, may have an operating-spring located between it and the face of the slide D, in a groove channeled out in the latter. An adjusting set-screw may be provided therein for regulating the length of the stitch.

The springs L and N may be entirely dispensed with, and both the opening and closing of the slides effected by the hands. In some instances I propose to dispense with cutting away the inner end or ends of the slides. In such case the slides, instead of being separated from each other by pressing the outer extremities of the handles together, as described, may be pulled apart by the rounded upper portions or thumb-pieces, the outer extremities serving as a fulcrum.

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

1. In an embroidery-machine, the combination, with the sliding pieces, the inner end of one or both being beveled or cut away, of loop K, secured to one of said pieces and moving in a slot in the other, loop F, having a set-screw, and a spring secured to the inner end of one of the sliding pieces and bearing against the other, whereby their outer ends are held together normally, substantially as described.

2. In an embroidery-machine, the combination, with the sliding pieces, the outer ends of which are adapted to be moved from each other, of an elongated loop attached to one of said outer ends and encircling the other, and a set-screw for limiting the movement and regulating the stitch, substantially as shown and described.

3. In an embroidery-machine, the combination, with the sliding pieces, the outer ends of which are adapted to be moved from each other, of an elongated loop attached to one of said outer ends and encircling the other, and provided with a spring abutting against the latter, substantially as shown and described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN C. RORICK.

Witnesses:
O. E. DUFFY,
JOHN C. PENNIE.