

I. M. ROSE.

Embroidery Attachments for Sewing-Machines.

No. 136,098.

Patented Feb. 18, 1873.

Fig. 1.

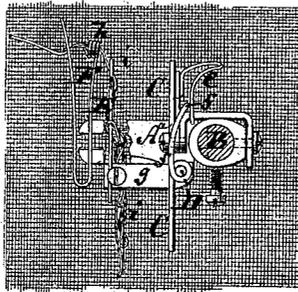


Fig. 2.

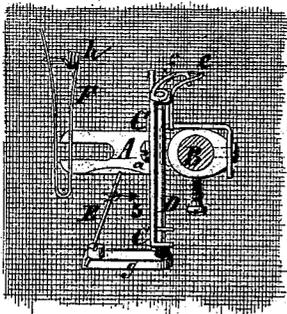
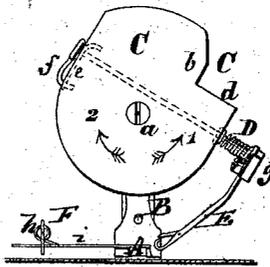


Fig. 3.



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# UNITED STATES PATENT OFFICE.

ISRAEL M. ROSE, OF BROOKHAVEN, NEW YORK.

IMPROVEMENT IN EMBROIDERING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 136,098, dated February 18, 1873.

*To all whom it may concern:*

Be it known that I, ISRAEL M. ROSE, of Brookhaven, in the county of Suffolk and State of New York, have invented an Improved Embroidering Attachment for Sewing-Machines, of which the following is a specification:

This invention relates to a new attachment to the presser-foot of a sewing-machine for the purpose of laying an embroidery-thread upon the fabric which is subjected to the process of sewing, and of stitching said embroidery-thread down upon said fabric by means of an ordinary needle and thread without causing the embroidery-thread to pass through the fabric, leaving the same entirely upon the surface of such fabric. The invention consists in pivoting to the side of the presser-foot shank a plate, which is vibrated by a projection of the needle-bar, and which carries a latch-needle for taking hold of and drawing the embroidery-thread, and placing the same on the fabric in the requisite position, and forming it into the desired succession of loops. The latch-needle is fastened to an oscillating arbor, which has an independent motion on the said vibrating plate in order to allow the latch-needle to give the requisite lateral displacement to the embroidery-thread and to carry it around the sewing-needle. The invention also consists in forming on the presser-foot proper a guide or loop, through which the embroidery-thread is drawn, and which, being immovable, gives the said thread its proper direction when drawn by the latch-needle; all as hereinafter more fully described.

In the accompanying drawing, Figures 1 and 2 represent top views of my improved embroidering attachment, showing the same in different positions; and Fig. 3 is a face view of the same.

Similar letters of reference indicate corresponding parts.

The letter A in the drawing represents the presser-foot of a sewing-machine, of suitable construction, fastened in suitable manner to its shank or holder B, and adjustable, if desired, in the customary manner. The sewing-machine to which this attachment may be applied may be arranged to work one thread only or with a shuttle; and I do not confine myself in the use of my invention to the use of any particular kind of sewing-machine.

To the presser-foot shank at *a* is pivoted a plate or bar, C, which has two shoulders, *b d*. A projection on the needle-bar (not shown) is in line with these shoulders, and strikes the shoulder *b* during the ascent of the needle-bar, swinging the plate C in the direction of the arrow 1, Fig. 3, while during the descent of said needle-bar its said projection strikes the shoulder *d*, turning thereby the plate C on its pivot in the direction of the arrow 2, Fig. 3. To the reverse, or, if desired, to the face of the plate C, is swiveled or hung an arbor, D, in such manner that it can swing independently on its own axis, its independent oscillations being controlled by a slotted guide, *e*, which projects backwardly from the shank of the presser-foot, and into which slot a crank, *f*, of the arbor D enters. The lower end of the arbor carries a projecting arm, *g*, to which a latch-needle, E, is rigidly secured by means of a set-screw or otherwise. This latch-needle during the oscillations of the plate C is carried into the two extreme positions in Figs. 1 and 2—that is to say, during the downward motion of the needle-bar, when the plate C is swung in the direction of the arrow 2, the latch-needle is carried above and across the presser-foot into the position shown in Fig. 1; and during the subsequent upward motion of the needle-bar, when the plate C is swung in the direction of the arrow 1, the latch-needle is carried clear of and beyond the presser-foot into the position shown in Figs. 2 and 3. F is a wire guide fastened to the end of the presser-foot and formed at *h* into a loop, through which the embroidery-thread is drawn after having passed through or over suitable tension devices. When the needle-bar descends and causes the latch-needle E to move toward the loop *h*, said latch-needle catches under and takes hold of the embroidery-thread, which is shown at *i* in Fig. 1, and during the subsequent ascent of the needle-bar the latch-needle, swinging away from the loop *h*, carries the embroidery-thread with it across and over the presser-foot; and at the end of its movement in this direction the latch-needle will be swung in the direction of the arrow 3, shown in Fig. 2, by the crank *f* moving in the loop or stationary slot *e*, into which it is laterally deflected at the end of the upward vibration in the direction of the arrow 1 of the plate C. This lateral deflec-

tion of the latch-needle E causes the same to pass or stand behind the sewing-needle, and in this position that portion of the embroidery-thread which lies across the presser-foot is sewed down during the descent of and by the sewing needle and thread. The subsequent vibration of the plate C in the direction of the arrow 2 causes its latch-needle to pass through the loop of the embroidery-thread last formed, and to retain such loop on its shank, and to open its latch, so that it can again take hold of a new part of the embroidery-thread and draw it back over the presser-foot in the manner described. Upon its arriving in the position shown in Fig. 2 the latch becomes closed by the loop which was on its shank slipping over and off the latch-needle, leaving, however, the last portion of thread carried on such needle to form the succeeding loop, and so on. In this manner the stitch shown in Fig. 1 is formed entirely on the surface of the fabric, and sewed down by the sewing-thread of the machine.

In place of the latch-needle herein described, and of the guide or loop *h*, I may use an ordinary-eyed needle, and in conjunction therewith a spring-holder for retaining the embroidery-thread, the spring-holder being so arranged that the vibrating needle will pass toward it on one side and from it on the other, to form thereby the necessary succession of loops of the embroidery-thread, the same in substance

as the loops formed by means of the latch-needle.

*Claims.*

1. The vibrating plate C carrying the latch-needle E for the purpose of laying an embroidery-thread upon the surface of the fabric, as set forth.
2. The latch-needle E fastened to the rock-shaft D, which has an independent axial play on the vibrating plate C, as and for the purpose specified.
3. The guide *h* arranged in conjunction with the movable latch-needle E on the presser-foot of the sewing-machine, as set forth.
4. The embroidery-thread carrier E of a sewing-machine attachment, when arranged so as to perform a longitudinal and also a slight lateral motion to carry the embroidery-thread toward and by the sewing-needle, as specified.
5. The combination of the sewing-machine needle with the vibrating embroidery-thread carrier E, as set forth.
6. The mechanism herein described for applying an embroidery-thread upon the surface of the fabric and stitching the same down by the sewing-thread, as set forth.

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Witnesses:

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