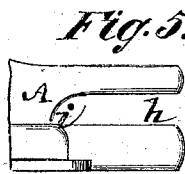
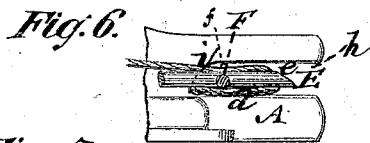
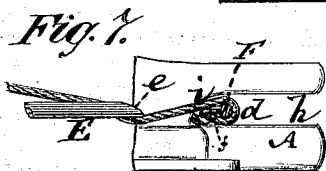
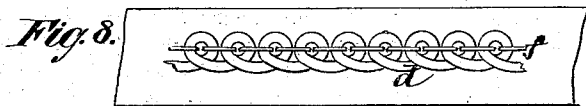
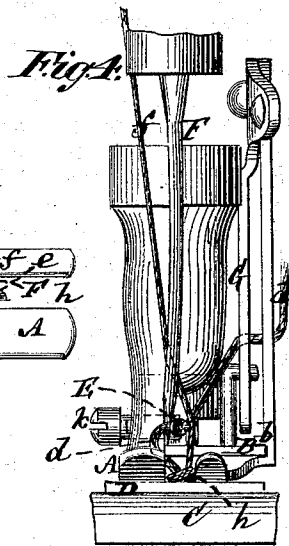
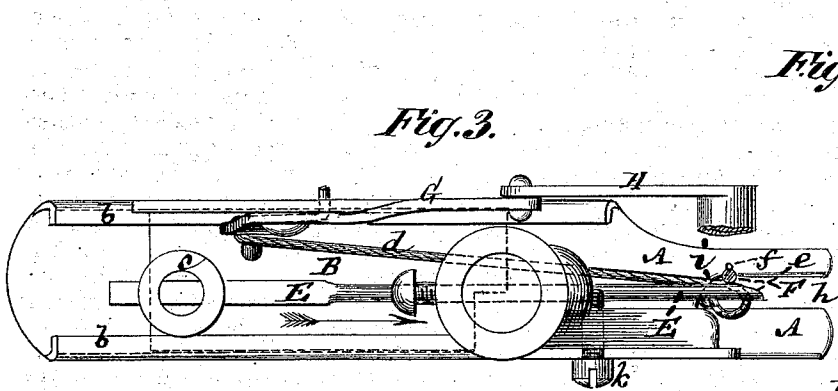
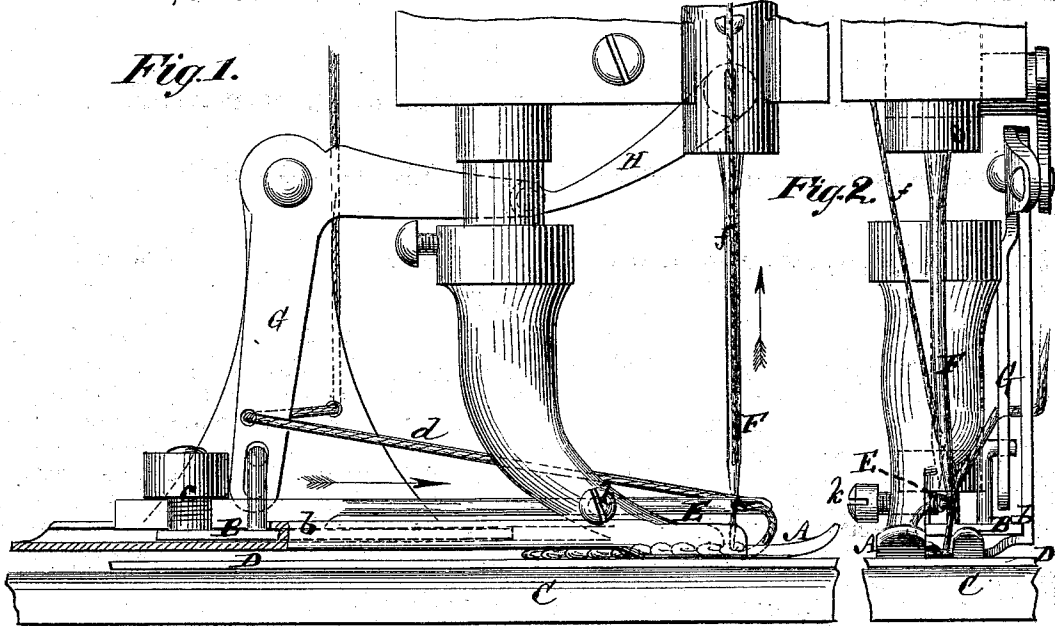


R. M. ROSE.

Embroidering-Attachments for Sewing-Machines.

No. 154,088.

Patented Aug. 11, 1874.



Witnesses.
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UNITED STATES PATENT OFFICE.

REUBEN M. ROSE, OF WILLIAMSBURG, BROOKLYN, NEW YORK.

IMPROVEMENT IN EMBROIDERING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **154,088**, dated August 11, 1874; application filed April 20, 1874.

To all whom it may concern:

Be it known that I, REUBEN M. ROSE, of Williamsburg, in the city of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Embroidering Attachments to Sewing-Machines, of which the following is a specification:

This invention, as with the one for which Letters Patent No. 148,761 were issued to me March 17, 1874, relates to embroidering attachments for sewing-machines that operate to lay an embroidery-thread upon the upper surface of the fabric, and which is secured by an independent sewing-thread, two needles and a shuttle, or its equivalent, being used, and the embroidery-stitch produced consisting of a succession of coils, which the sewing-thread is made to interlace. To this end I employ, as used in my previous invention, heretofore referred to, and others for the same purpose, a presser-foot attachment, which may be applied to any ordinary sewing-machine in place of the usual foot, and has combined with it a horizontally-reciprocating needle for working the embroidery-thread, which is required to pass first in front of the sewing-needle and afterward back of the latter during its ascent, or across the path of said needle, and subsequently in front of the sewing-needle again, to form a loop for the sewing-needle with its thread to pass through.

My invention consists, first, in an embroidery-needle having only a reciprocating motion in line with the feed, and formed with an incline or curve at its forward end, on its rear side, immediately in advance of the eye of said needle, for operation in connection with an elastic sewing-needle, which the incline or curve of the embroidery-needle pushes back or to one side when required to pass in front of the sewing-needle, the latter afterward springing or being sprung forward to pass through the loop of the embroidery-thread. By this construction and combination of parts I dispense with any lateral movement of the embroidery-needle, thus simplifying the same and giving it a steadier and more reliable action generally. The invention also consists in a novel slotted construction of that portion of the presser-foot plate through which the sewing-needle passes for action in concert with

the feed and horizontally-reciprocating embroidery-needle, whereby the loop of the latter's thread is spread and retained open for the sewing-needle to pass through, and said loop afterward tightened and adjusted into line in front of the sewing-needle. This part of the invention will be found particularly advantageous in cases where it is required to make sharp angular turns of the embroidery stitch or pattern.

In the accompanying drawing, Figure 1 represents a front elevation of my improved embroidery-thread attachment in relation with the sewing-needle during the ascent of the latter and forward motion of the embroidery-needle, and showing the sewing-needle as pushed back or to one side by the other needle; Fig. 2, a side view of like parts in the same relative positions; and Fig. 3, a plan thereof under similar conditions. Fig. 4 is a similar view to Fig. 2, but representing the sewing-needle as sprung forward in front of the embroidery-needle, and in the act of making its descent through the loop left by the embroidery-needle as the latter makes its back stroke. Fig. 5 is a plan of the front portion of the presser-foot plate in illustration of its slotted construction to effect the spreading of the loop; Fig. 6, a similar view with the embroidery-needle at the extremity of its forward stroke, and with the sewing-needle as making its descent, but before it is sprung forward, as shown in Fig. 4, by coming in contact with the embroidery-needle; Fig. 7, a like view of same devices, but showing the embroidery-needle at the end of its back stroke and the sewing-needle just before it leaves the loop. Fig. 8 is a top view of a piece of fabric with the embroidery-stitch as produced thereon.

A is the bearing-plate or shoe of the presser-foot, provided on its upper surface with a horizontal slide, B, reciprocating in the line of feed within ways *b b*. C is the bed or table of the sewing-machine, and D the material to be embroidered. The slide B has attached to it in the rear, at *c*, a stout horizontal needle, E, for working the embroidery-thread *d*. This needle, the axial line of which intersects that of the sewing-needle F, or thereabout, has its eye near its forward end, and is bent or shaped on its rear side in advance of said eye to form

an incline or curve, *e*, so that, in the forward motion of the slide B, the incline or curve *e*, coming in contact with the front of the sewing-needle F while the latter, having left the cloth, is passed upward, springs the sewing-needle (which is made elastic) backward, all as represented in Figs. 1, 2, and 3 of the drawing. In this way the embroidery-thread *d* is projected in front of the sewing-needle, which latter, as soon as it rises above the embroidery-needle, springs forward by its natural elasticity to its normal position, as shown in Fig. 6, and which, in its next descent, is further temporarily sprung forward by coming in contact with the front side of the embroidery-needle E in the early portion of the back stroke of the latter, but immediately resumes its normal position again so soon as the embroidery-needle in its back stroke has passed it, the sewing-needle passing through the loop of the embroidery-thread and being coiled around the sewing-needle as the embroidery-needle completes its descent, as represented in Fig. 7. The sewing-needle F, after the usual dwell for the passage of the shuttle through the loop of its thread, then rises again, and the embroidery-needle advances to repeat the operation, as before, the feed of the material taking place at the concluding portion of the ascent of the sewing-needle, or in the early portion of its descent—that is, when wholly above the embroidery-needle. Such feed draws the previous embroidery-thread (which has been last penetrated by the sewing-needle and its thread) tight, and each forward stroke of the embroidery needle carries new thread beyond the sewing-needle to form a fresh loop, which is left by the embroidery-needle in its back stroke.

The embroidery-needle E or its operating-slide B may be worked in timely relation with the sewing-needle by means of a bell-crank, G, and link H direct from the sewing-needle bar, and said needle, if desired, be steadied in its

action, at or near its working-point, by a screw, *k*, or other suitable support or guide.

The two threads *d* and *f* are arranged to interlace within a wide or enlarged slot in the forward portion of the presser-foot plate A, so as to receive the loop left by the embroidery-thread needle within it, and so that said loop is spread and retained open for the sewing-needle to pass through, and is afterward tightened and drawn into line, which is in advance of the sewing-needle, by means of a curved or inclined back end, *i*, of the slot *h*, along which incline *i* the thread of the loop is guided toward the front of the machine by the feed of the material under the presser-foot each successive stitch, the ordinary or any suitable feeding mechanism being used. This construction of the presser-foot or its plate will be found of great service in making sharp angular turns of the embroidery stitch or pattern.

I claim—

1. The horizontally-reciprocating embroidery-needle E, formed with a curved or inclined surface, *e*, on its rear side at its forward end, near the eye thereof, in combination with an elastic eye-pointed sewing-needle, F, substantially as specified.

2. The presser-foot shoe or plate A, constructed with a slot, *h*, having a curved inclined back end, *i*, in combination with an embroidery-needle and a sewing-needle, operating to interlace their threads, as described, the whole being arranged for operation in connection with the feed, essentially as herein set forth.

3. The combination of the screw-support and guide *k* with the horizontally-reciprocating embroidery-needle E, for operation in relation with the sewing-needle, substantially as specified.

R. M. ROSE.

Witnesses:

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