



(No Model.)

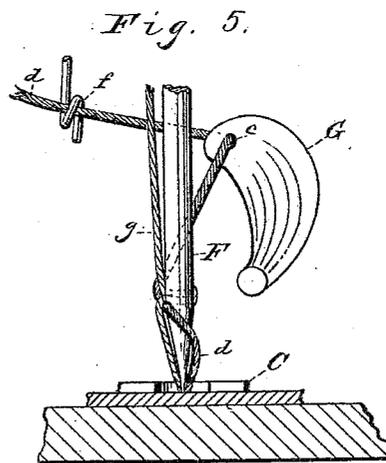
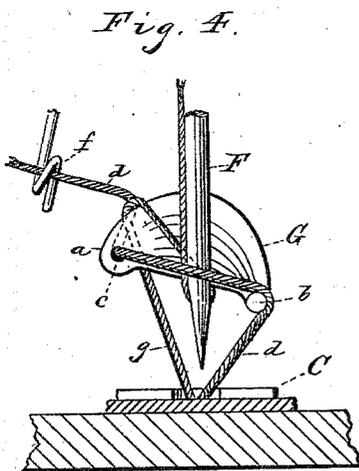
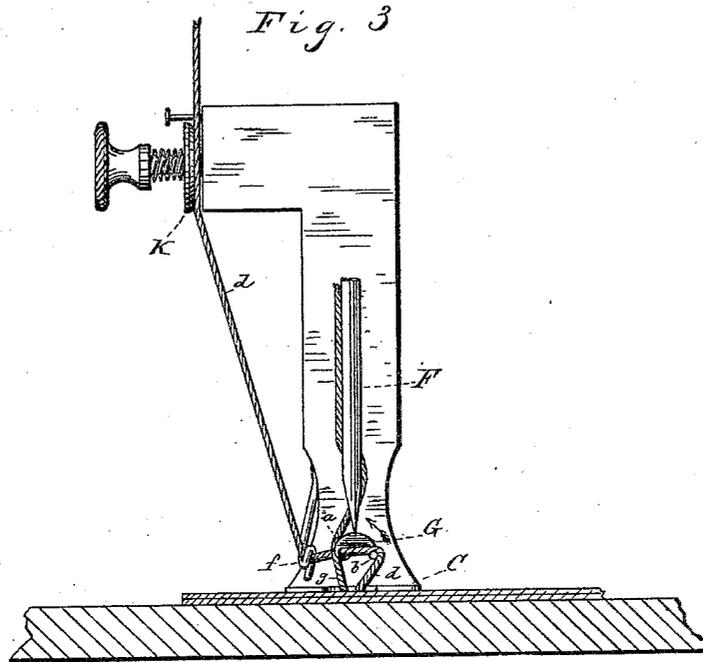
2 Sheets—Sheet 2.

G. W. BAKER.

EMBROIDERING ATTACHMENT FOR SEWING MACHINES.

No. 274,548.

Patented Mar. 27, 1883.



WITNESSES

*W. Engel*  
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# UNITED STATES PATENT OFFICE.

GEORGE W. BAKER, OF CLEVELAND, OHIO, ASSIGNOR TO THE WHITE SEWING MACHINE COMPANY, OF SAME PLACE.

## EMBROIDERING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 274,548, dated March 27, 1883.

Application filed December 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BAKER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Embroidering Attachments for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to embroidering attachments for sewing-machines; and it consists in the parts and combination of parts, as will be hereinafter fully set forth and claimed.

In the drawings, Figure 1 is a view in perspective of my embroidering device, showing it secured in place by being fastened to the presser-foot bar. Fig. 2 is a view in front elevation of the same. Figs. 3, 4, and 5 are views showing the different positions of the looper, threads, and needle.

A represents the presser-foot bar of a sewing-machine, to which I prefer to secure my embroidering attachment.

B represents the needle-bar of a sewing-machine, which is provided at the rear side with the usual set-screw for retaining the needle in its socket.

C is a presser-foot, which is secured to the presser-foot bar A by means of the socket-piece C' and set-screw C<sup>2</sup>. To the vertical portion of this presser-foot C, and beneath the socket-piece C', is secured a frame, D.

Journalled in the frame D is a spiral shaft, E. The end of this shaft E which is nearest the needle F is provided with a thread-looping device, G, which is formed as shown more clearly in Fig. 3, and provided with two small arms, a and b. One of the arms, a, is provided with an eye, c, through which the embroidering-thread passes.

H is a bell-crank, which is pivoted at H' to the frame D. One arm, I, of the bell-crank H is bifurcated, and thus adapted to engage with a set-screw on the needle-bar B, from which it receives a vertical reciprocating motion, which in turn communicates a horizontal reciprocating motion to the other arm, I', of the bell-crank. This arm I' is also bifurcated or slotted at the end, said end being thus adapted

to engage with the shaft E and impart to it a reciprocating rotary motion.

J is a small bell-crank, which is also pivoted to the frame D in the rear. One arm, J', of this bell-crank is adapted to engage with a lug or short arm, e, which extends out from the bell-crank H. The other arm, J<sup>2</sup>, is adapted to engage with the shoulder h of the shaft E and act to move it forward at the required time, as will be hereinafter fully explained.

K is a tension device, of any suitable construction, through which the embroidering-thread d passes before being passed through the eye c of the looper. The embroidering-thread d also passes through another eye, f, formed in the end of a piece of spring-wire, said eye f being set nearly on a horizontal plane with the arms a and b of the looper G, thus guiding the thread in a horizontal direction to the looper, as shown in Fig. 3.

L is another tension device, which is located beneath the take-up of the sewing-machine, (not shown,) and between said take-up and the needle. The function of this tension L is to keep the needle-thread g taut between the said tension L and the eye of the needle.

The operation of my device is as follows: The needle-thread g is threaded on the machine in the usual manner, with the exception that it is passed through the tension L before being passed through the eye of the needle F. The embroidering-thread d is first passed through the tension K, through the eye f, and then through the eye c, as shown in Fig. 3. Now, as the needle-bar and needle move upward the looper G is caused, by means of the bell-crank H, to make a partial revolution in the direction of the arrow, as shown in Fig. 3, which in turn causes the arm b of the looper G to engage with the embroidering-thread d and bring it to the position shown, Fig. 3. The arm a of the looper is also caused to pass ahead of the needle-thread g at a point below the needle-point, and between said needle-point and the goods to be stitched or embroidered. At the downward motion of the needle-bar and needle the point of the needle is caused to pass between the looper and the embroidering-thread d, about midway between the arms a and b, and from thence down through the goods.

This position of the needle, looper, and threads is shown in Fig. 4, and will be clearly understood. Now, as the needle passes downward the bell-crank J, engaging with the shaft E, causes the looper first to be pushed backward until the shoulder *h* on the shaft E has reached the bearing *i*, which will cause the needle-thread *g* to slip from the arm *a* of the looper G, and as the needle is forced still farther downward the bell-crank causes the shaft E and looper G to come to the position shown in Fig. 5. It will also be seen by this figure the manner in which the threads are interwoven, which results in the embroidering-thread *d* being sewed to the goods, thus forming an embroidering-stitch. When the needle has nearly reached its lowest point the arm *e* of the bell-crank H engages with the arm J' of the bell-crank J, which acts through the arm J' to force the looper forward, when it is again in position to operate as hereinbefore described.

What I claim is—

1. In a sewing-machine embroidering attachment, a rotary reciprocating spiral shaft arranged horizontally and operated by the needle-bar, and carrying a looper provided with arms adapted to engage the embroidering-thread, one of said arms being provided with an eye, substantially as set forth.

2. In a sewing-machine embroidering attachment, a horizontal spiral shaft provided with a looper having arms adapted to loop the embroidering-thread, said shaft being operated from the needle-bar by bell-cranks to allow the needle of the machine to pass through the loop of said thread, substantially as set forth.

3. In a sewing-machine embroidering attachment, the combination, with a looping device, of a spiral shaft and bifurcated bell-cranks engaging the shaft, substantially as set forth.

4. In a sewing-machine embroidering device, the combination, with a spiral shaft and a bell-crank adapted to impart a reciprocating motion to said shaft, of a second bell-crank adapted to engage with the first, and also with the shaft, whereby the said shaft is moved forward in a horizontal direction, substantially as and for the purpose shown and described.

In testimony whereof I sign this specification, in the presence of two witnesses, this 25th day of October, 1882.

GEORGE W. BAKER.

Witnesses:

C. H. DORER,  
W. E. DONNELLY.