C. H. PALMER.

Embroidering Attachment for Sewing-Machines.

No. 161,632. Patented April 6, 1875.

Fig. 1.

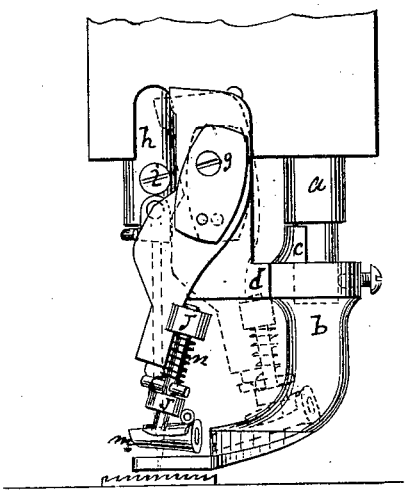


Fig. 2.

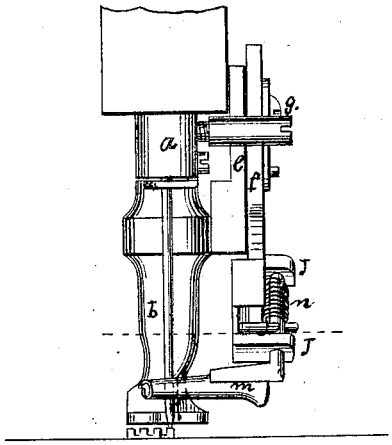
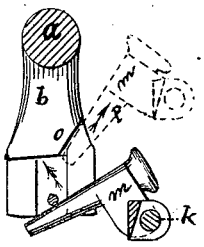


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES H. PALMER, OF NEW YORK, N. Y.

IMPROVEMENT IN EMBROIDERING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **161,632**, dated April 6, 1875; application filed November 13, 1874.

To all whom it may concern:

Be it known that I, CHARLES H. PALMER, of New York, N. Y., have invented an Improved Embroidering Attachment for Sewing-Machines, of which the following is a specification:

The object of my invention is to interlock an embroidery-thread with the sewing thread or threads, so as to form embroidery on the upper surface of the fabric, all of which is clearly set forth in the accompanying drawings, wherein—

Figure 1 represents a back view of my attachment; Fig. 2, a side view thereof, and Fig. 3 a plan view of the same.

In the drawings, *a* is the presser-bar, to which is applied the presser-foot *b*. *c* is a shoulder projecting above the socket to increase bearing-surface, and facilitate its attachment to the bar. *d* is a horizontal continuation of the presser-foot, with a perpendicular upwardly projection, *e*, to which is attached the vibratory lever *f*, whose center of vibration is at *g*. *h* is the needle-bar, with an elongated screw-head, *i*, projecting therefrom, by means of which vibratory motion is given to lever *f* when the needle-bar is in motion. Dotted lines seen in Figs. 1 and 3 show the extent of this vibration. On the lower end of this lever are two bearings, *j j*, supporting the vertical rock-shaft *k*, and on the lower end of this rock-shaft is attached a tubular embroidery-needle or embroidery thread-carrier, *m*. *n* is a spiral spring, by means of which the rock-shaft *k* is held in proper position, and made to rotate when desired. *o* is a shoulder on the presser-foot, (seen in Fig. 3,) by means of which *m* is made to change its lines of motions (represented by arrows,) and by which the desired amount of slack is obtained and regulated.

From this description of the construction of the apparatus it will be observed that when the needle-bar is set in motion, and the sewing-needle is ascending, the embroidery-thread carrier is thrown under and behind the sewing-needle, as represented by the line and direction of the feed. Then immediately as the the sewing-needle is descending the embroidery-thread carrier glides forward past the sewing-needle, and is arrested in its line of motion by the shoulder *o*, and thereby caused to move in the line of arrow *p*, and thus a loop is thrown around the sewing-needle and interlocked with the sewing-thread with nice precision every stitch, whereby a beautiful embroidery upon the surface of the fabric is produced.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the presser-foot *b*, having the shoulder *o* and projection *e*, and the needle-bar *h*, provided with the projecting screw *i*, of the vibrating lever *f*, rock-shaft *k*, spring *n*, and tubular embroidery-thread carrier *m*, as and for the purposes specified.

2. The combination, with the presser-foot provided with the shoulder *o*, of the tubular thread-carrier, whereby such carrier is made to change its line of motion on its backward stroke, as and for the purpose specified.

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