(Model.)

C. H. PALMER.

EMBROIDERING ATTACHMENT FOR SEWING MACHINES.

No. 250,570. Patented Dec. 6, 1881.

FIG. 1.

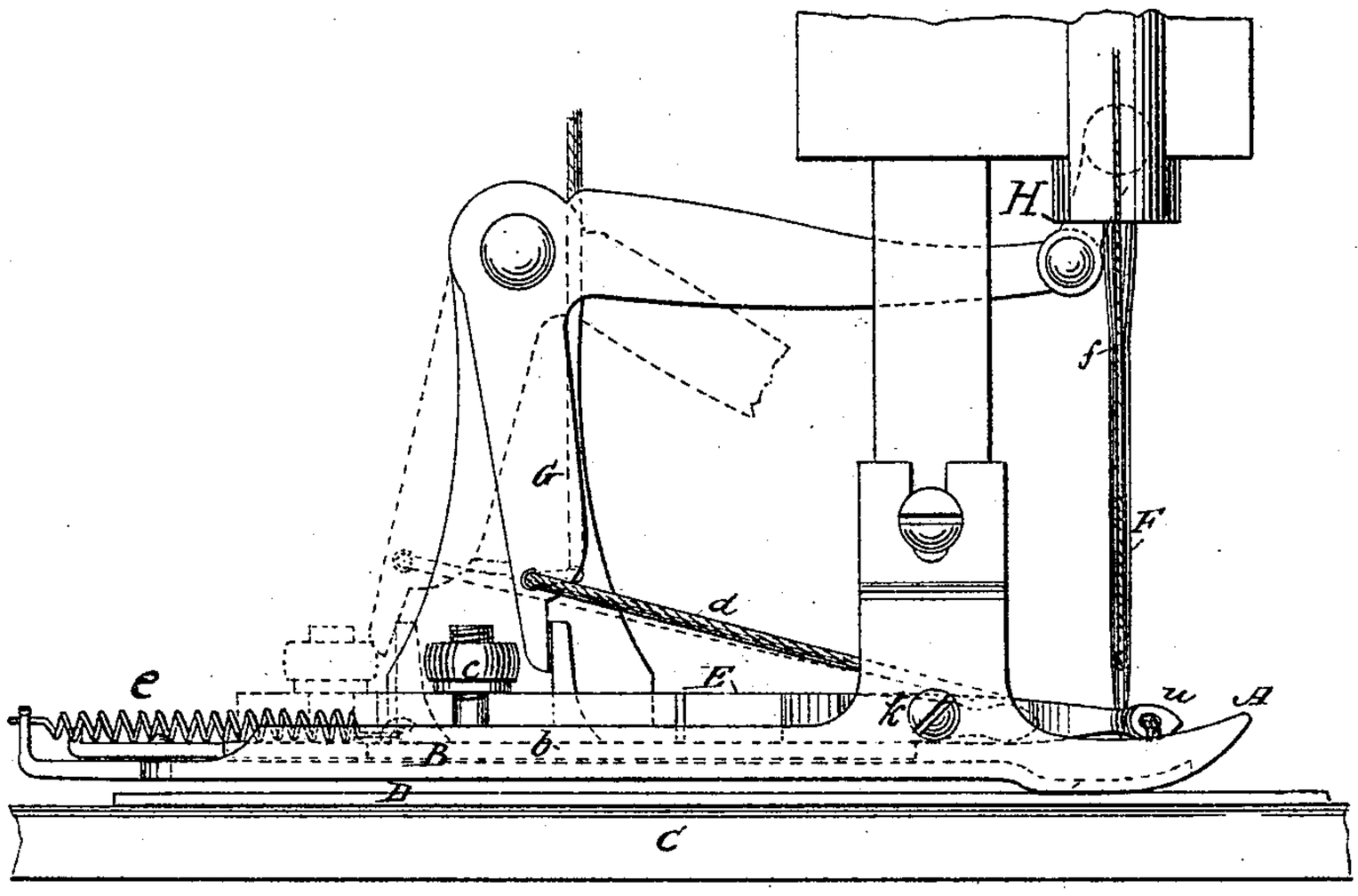


FIG. 2.

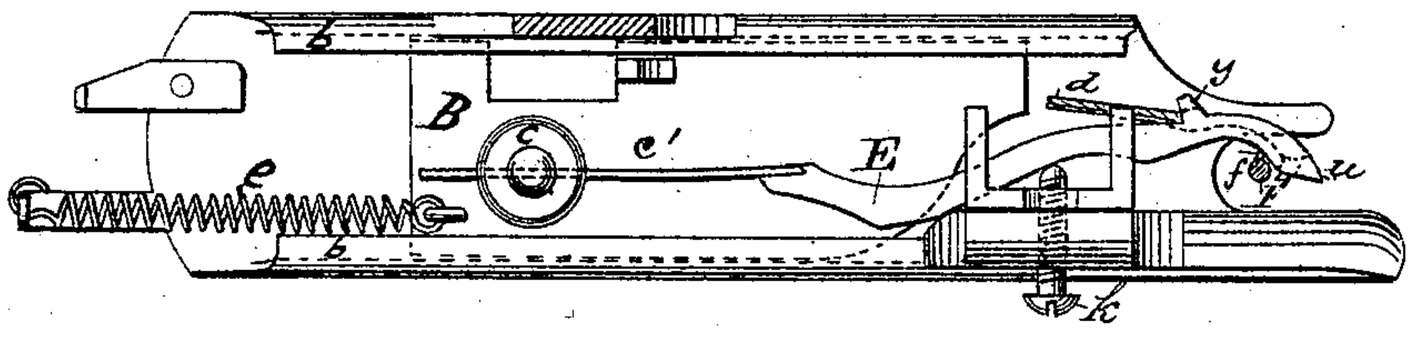


FIG. 3.

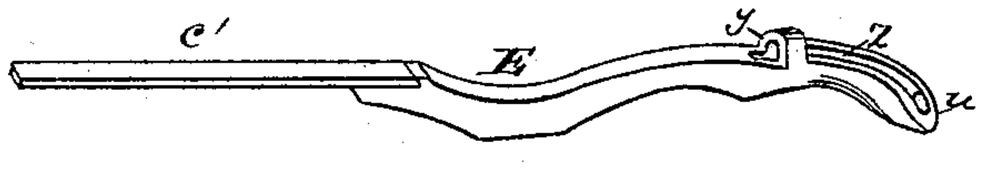
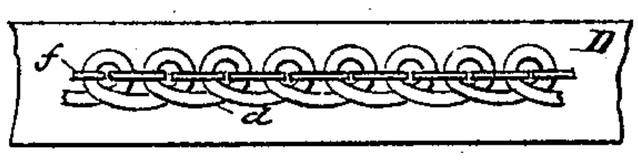


FIG. 4.



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EMBROIDERING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 250,570, dated December 6, 1881.

Application filed January 20, 1881. (Model.)

To all whom it may concern:

Be it known that I, CHARLES H. PALMER, of the city, county, and State of New York, have invented a new and useful Improvement in Embroidering Attachments for Sewing-Machines, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to make a well-known embroidery-stitch, the same consisting of a succession of coils which the sewing-thread of the sewing-machine is made to interlace, and to accomplish which my invention requires a needle of the kind herein more particularly described.

To this end my invention includes a presser-foot attachment which may be applied to ordinary sewing-machines in place of the sewing-machine presser-foot, and has combined with it a horizontally-reciprocating needle with the eye at the point, and mechanism for operating the same by attaching this mechanism to the needle-bar of the sewing-machine, so that the embroidery-thread, which is carried by the horizontal needle, is first worked by the latter in front of the sewing-needle, then moved laterally by a positive motion applied to the horizontal needle, that is thus thrown back of the sewing-needle during the ascent of the latter and across its path, and subsequently returned laterally to its normal position by a spring attached to the stock of the embroidery-needle. The sewing-needle in its descent enters the loop of the embroidery-thread, which, by the action of the horizontal or embroidery needle in the line of the feed and its lateral action combined, coils the embroidery-thread around the sewing-needle.

In the accompanying drawings, Figure 1 represents a front elevation of the attachment during the ascent of the sewing-machine needle and the forward motion of the embroidery-needle, and Fig. 2 a plan thereof under similar conditions. Fig. 3 is a plan of the embroidery-needle. Fig. 4 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. 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, (more clearly shown in Fig. 4,) for working the embroidery-thread *d*. This needle has its eye *u* near its forward end, and a groove, *z*, on its rear side back of said eye, connecting with eye *y*, through which the embroidery-thread passes, and is curved in such manner that in the forward motion of the slide B the curved part of the needle E comes in contact with the front of the sewing-needle F during its upward motion, and carries the embroidery-thread *d* in front of the sewing-needle. The sewing-needle having completed its upward movement, in descending is made, by proper adjustment of the embroidery-needle, to pass in its downward stroke just in the rear of the eye *u* and through the loop of the embroidery-thread, the embroidery-thread making a loop around the sewing-needle and forming a coil, as shown in Fig. 4. This operation is repeated, and with each stitch of the sewing-needle a fresh loop is formed.

The horizontal action of the needle E in line of the feed is effected by a bell-crank lever, G, one arm of which is connected by a link, H, with the needle-bar of the sewing-machine, and the other presses forward the slide B during the upward motion of the sewing-needle.

Upon the reverse movement of the lever G the slide B is drawn back by the action of a spring, *e*.

The lateral movements of the embroidery-needle E are caused by its impingement against the screw *k*, projecting in the longitudinal path thereof, said needle being held against said screw by the spring *c'*, attached to its stock.

I claim—

In an embroidering attachment, the needle E, curved near its point, as shown, and provided with the eyes *u* and *y* and groove *z*, in combination with mechanism for reciprocating said needle longitudinally and laterally, substantially as set forth.

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Witnesses:

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