

(Model.)

F. H. CHILTON.

EMBROIDERING ATTACHMENT FOR SEWING MACHINES.

No. 250,709.

Patented Dec. 13, 1881.

Fig. 1.

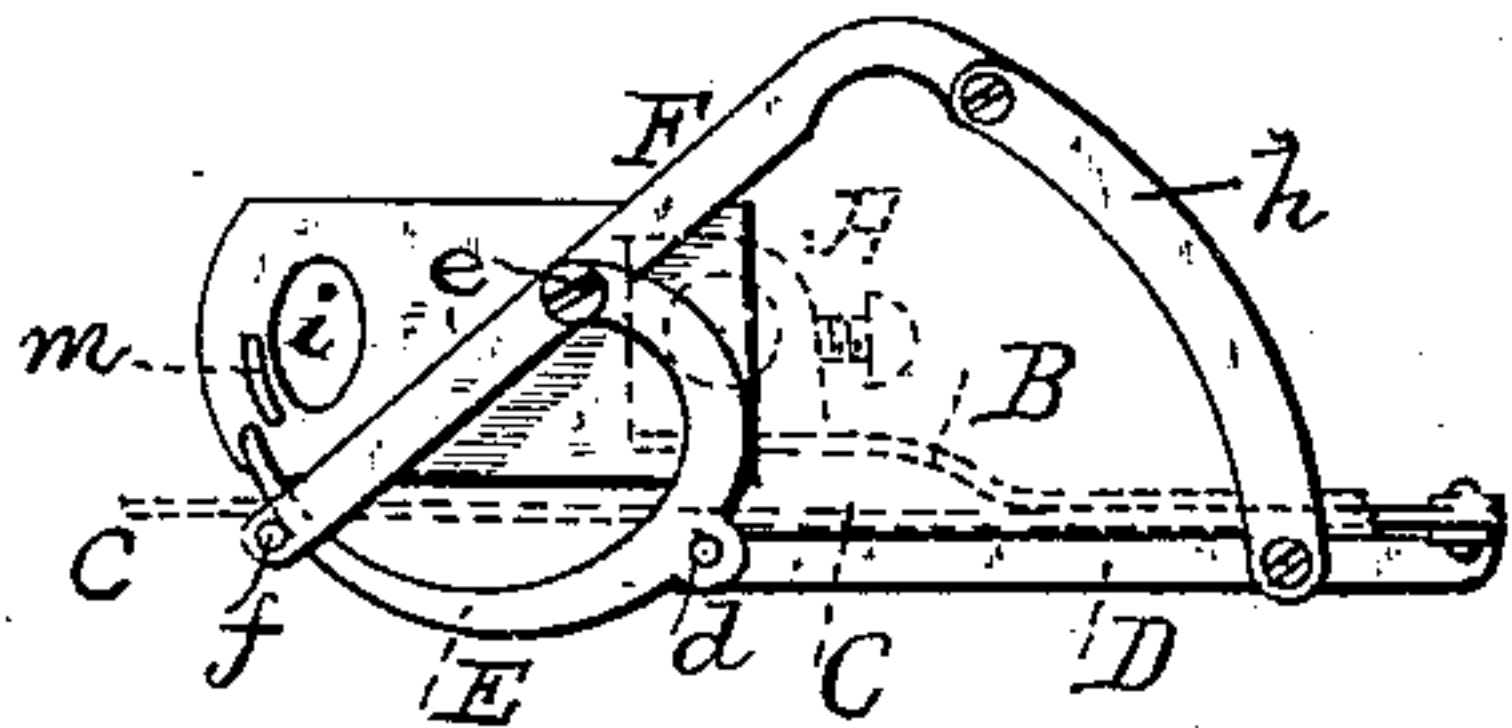


Fig. 2.

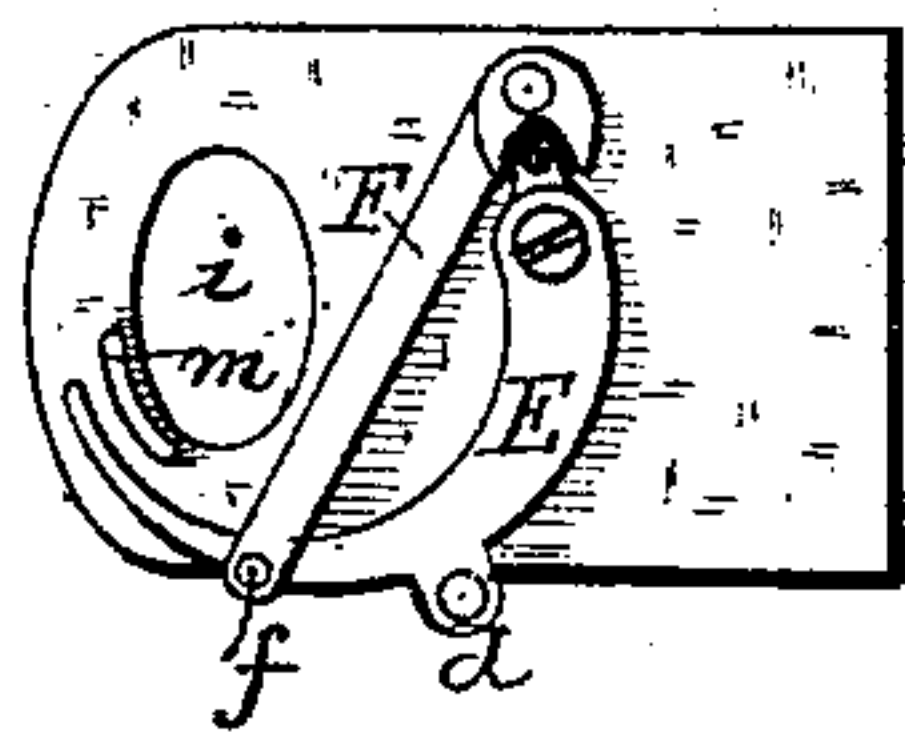


Fig. 3.

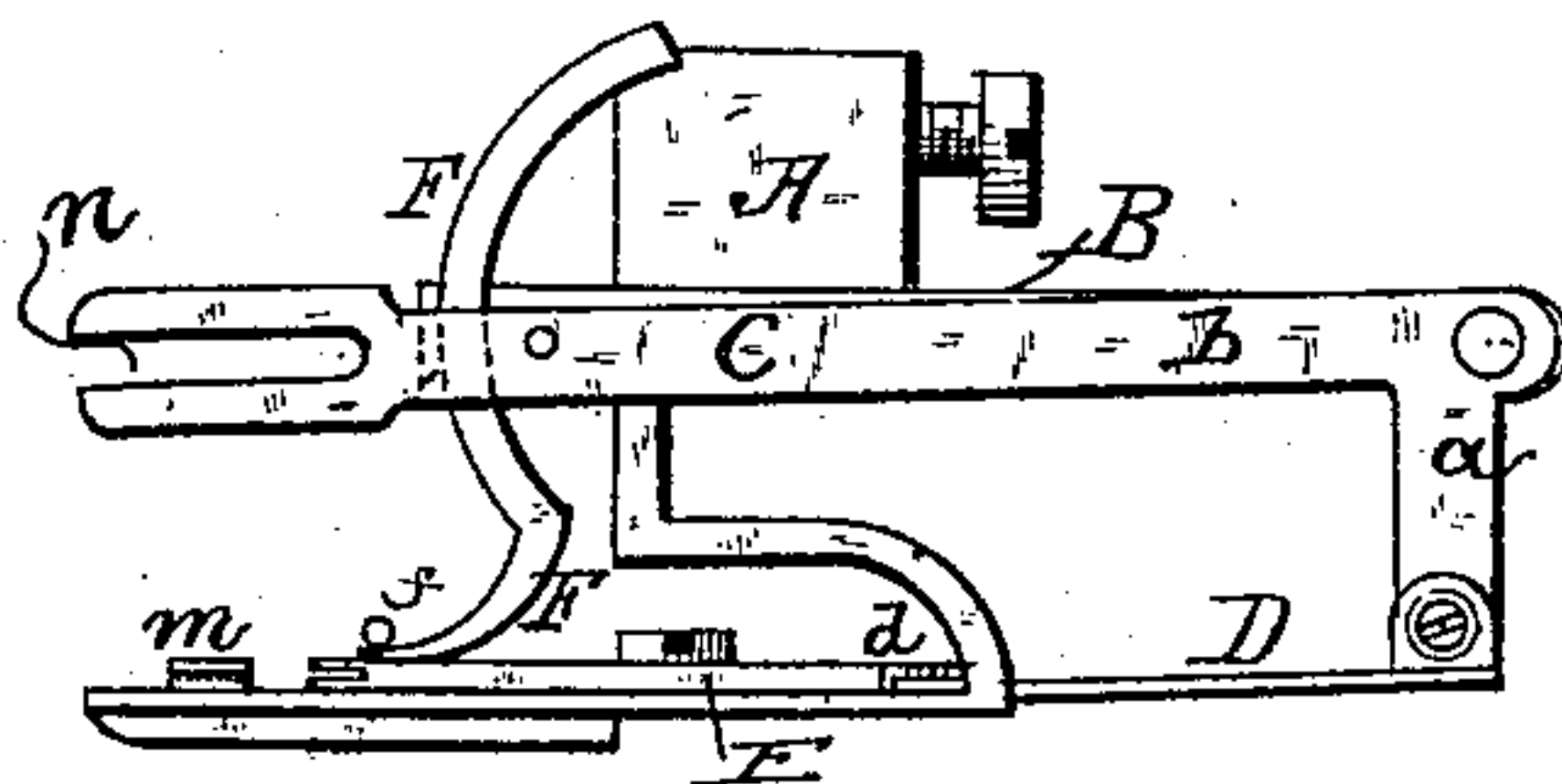


Fig. 4.

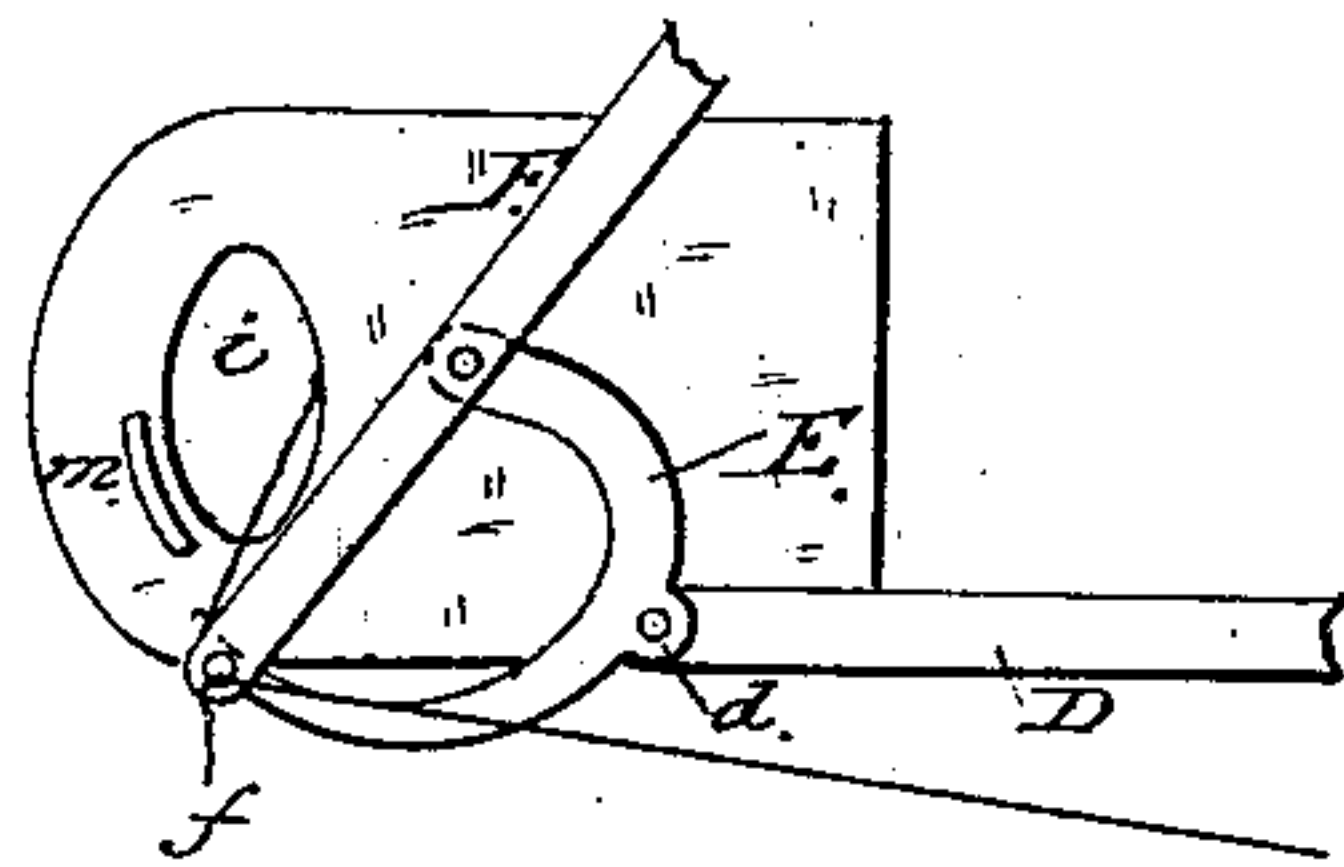


Fig. 5.

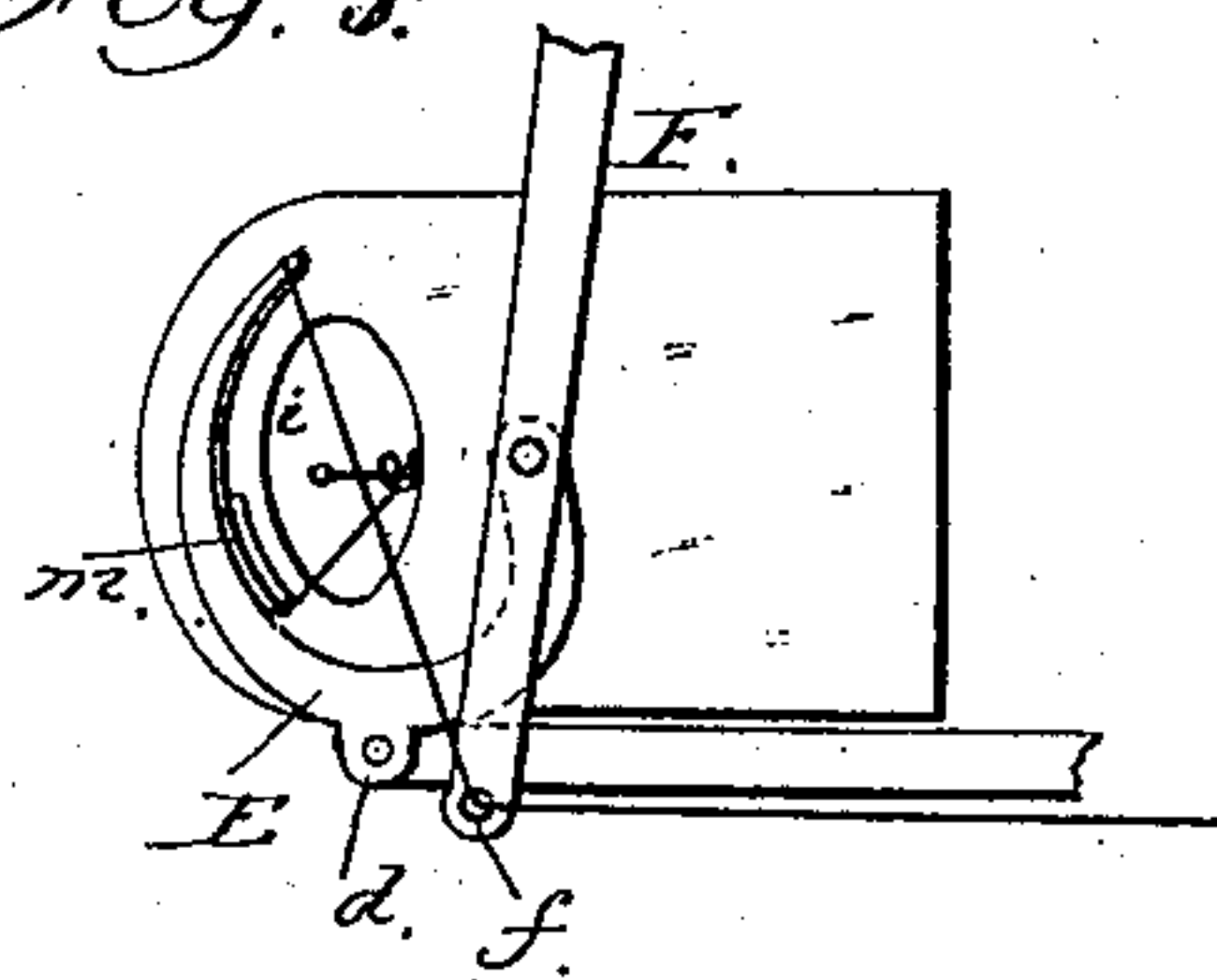


Fig. 6.

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Attest:

Walter Fowler,  
Chas. C. Gill

Inventor;

Franklin H. Chilton,  
By his Attys,  
Cox and Cox

# UNITED STATES PATENT OFFICE.

FRANKLIN H. CHILTON, OF NEW YORK, N. Y., ASSIGNOR TO EMPRESS EMBROIDERER COMPANY, OF SAME PLACE.

## EMBROIDERING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 250,709, dated December 13, 1881.

Application filed November 26, 1880. (Model.)

*To all whom it may concern:*

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

The invention relates to an improvement in 10 embroidering attachments for sewing-machines; and it consists in the construction and arrangement of devices hereinafter described, and particularly pointed out in the claim.

The object of the invention is to produce a 15 simplified form of embroiderer which can be sold at a minimum price, and which may be easily understood and used by the unskilled operator. Another very great advantage that my embroiderer possesses is that its operating 20 parts may be constructed quite small and pivoted in close relation to the vertical line of center of the sewing-needle, whereby the thread is prevented from vibrating to any great extent, and as a consequence no difficulty is experienced in using any kind of silk. By ar- 25 ranging the parts of my embroiderer in the manner I point out hereinafter the path of the sewing-needle is left unobstructed at all times.

Figure 1 is a top view of a device embody- 30 ing the elements of the invention. Figs. 2 and 3 are views of modifications which will be understood from the description hereinafter presented. Figs. 4 and 5 are plan views, illustrating the positions of the embroidering-thread 35 and of the parts of the device shown in Fig. 1 at the extreme of each movement. Fig. 6 is an enlarged view of the stitch formed by the attachment sought to be protected hereby.

A indicates the presser-foot of a sewing-machine, upon the right-hand side of the upper 40 portion of which is rigidly affixed the arm B, which extends rearward, and has pivoted in its extremity the rocking angular lever C, consisting of the vertical arm *a* and the horizontal 45 arm *b*, (see Fig. 3,) its bearing being at the juncture of the two arms.

In the lower end of the vertical arm *a* is pivoted the rear end of the connecting-rod D, 50 which extends forward a proper distance, and is pivoted at its front end to the hub *d*, form-

ing a part of the swinging hook E. The hook E is in the form of a half-circle or half of an ellipse, and is bowed to the right. Its rear end is pivoted upon the lower portion and slightly to the left of the vertical center of the 55 presser foot A, its front end being free and notched or hooked upon its vertical edge.

Upon the pivot *e*, (see Fig. 1,) which acts as a bearing for the hook E, is mounted, at about its central portion, the swinging bar F, having 60 a thread-eye, *f*, in its forward end, and having pivoted in its rear extremity one end of the arm *h*, the other end of the arm *h* being pivotally secured upon the connecting-rod D.

In the lower portion of the presser-foot A is 65 an opening, *i*, in which the needle is moved, and which is of such size that the embroidering-stitch may be seen while it is being formed.

Upon the front edge of the opening *i*, to the right of the vertical line of the center of the 70 presser-foot, is provided a fixed laying-hub or thread-detainer, *m*.

In the forward end of the angular lever C is supplied a suitably-formed slot, *n*, in which 75 the head of the screw securing the needle in the needle-bar of an ordinary sewing-machine is placed, whereby, when the machine is in motion, the lever C is given a rocking movement on its bearing by the vertical action of the needle-bar. 80

In the operation of the attachment above described the embroidering-thread is passed from a tension through the eye *f* in the vibrating-bar F, and thence through the opening *i* and under the presser-foot. The needle-bar is 85 then given its first downward stroke, which has the effect of depressing the lever C, by which the connecting-rod D is drawn toward the rear. This downward movement of the rod D causes the hook E to swing to the right 90 and toward the rear, and the forward end of the vibrating bar F to move toward the front and to the left until the embroidering-thread in its eye *f* is just in front of the notch in the end of the hook E. The succeeding upward 95 stroke of the needle-bar reverses the movement of the devices above described, whereby the hook E is caused to swing back to the front and left, carrying the embroidering-thread with it, while the bar F moves toward the rear. 100



When the devices are in this position the embroidering-thread is in a diagonal line from the eye *f* over the end of the hook *E*, thence around the said end in the notch and to the left around the right-hand end of the laying-hub *m*, whence it passes under the presser-foot. The sewing-needle now again enters the fabric, passing between the line of thread that extends from the eye *f* to the notch in the hook and that which passes from the point of the hook around the laying-hub. The depression of the sewing-needle causes the connecting-rod *D* to be drawn toward the rear, as before, and the ends of the oscillating hook *E* and bar *F* to move toward each other, as above described, whereby that portion of the thread which was looped around the point of the hook is drawn around the stitch formed by the needle. The movement of the hook *E* and vibrating bar *F* is positive, and these parts cannot fail to perform their functions with every movement of the needle-bar. The line of stitches formed is in the contour of a cycloidal line, and each loop is sewed to the fabric as fast as made.

In Fig. 2 I show another modification of the attachment. In this device I employ a fixed laying-hub, *m*, and move the bar *F* by the hook *E*, the pivoted ends of the hook and bar being interlocked in any convenient manner to permit of the communication of movement from one to the other.

The vibrating eye-bar *F* may receive its motion, if desired, from some other part of the attachment than the hook *E*. In Fig. 4 is

shown a modification wherein the bar *F* is pivoted to an arm and takes its motion from the lever *C*.

By the terms "right" and "left," as herein employed, I refer to the right and left hand sides of the attachment when looking at its front end.

I am aware of English Patent No. 4,585 of 1877, and do not wish to embrace in this application anything shown therein. The said patent is therefore disclaimed.

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

An embroiderer for sewing-machines, consisting of the presser-foot *A*, having a laying device, *m*, and the hook *E*, pivoted in near relation to the vertical line of center of the sewing-needle, and connected at *d* with the rod *D*, which passes rearward and is actuated by the rocking lever *C* to have a longitudinal sliding movement, in combination with the eye-bar *F*, adapted to have a simultaneous movement with the hook *E* and in a different direction thereto, and to deliver the embroidering-thread to the hook, substantially as set forth.

In testimony that I claim the foregoing improvement in embroidering attachments for sewing-machines, as above described, I have hereunto set my hand this 19th day of November, 1880.

FRANKLIN H. CHILTON.

Witnesses:

CHAS. C. GILL,  
W. B. TURPIN.