(No Model.)

F. W. STEWART.

DARNING ATTACHMENT FOR SEWING MACHINES.

No. 312,923. Patented Feb. 24, 1885.

Fig. 1.

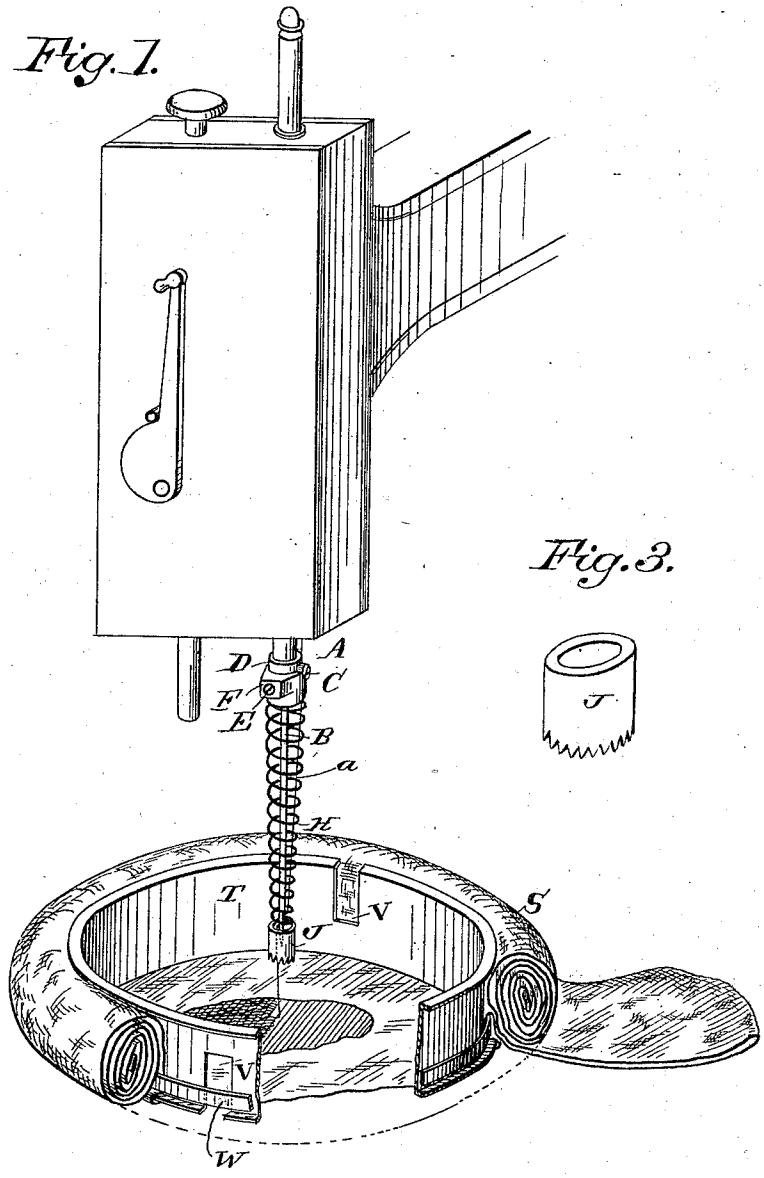


Fig. 2.

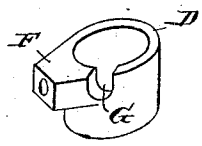


Fig. 3.

WITNESSES:

Thos. Dwyer

Chas. Lurcott

INVENTOR:

Frederick W. Stewart

BY Munn & Co.

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

FREDERICK W. STEWART, OF OSWEGO, NEW YORK.

DARNING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 312,923, dated February 24, 1885.

Application filed September 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. STEWART, of Oswego, in the county of Oswego and State of New York, have invented a new and Improved Darning Attachment for Sewing-Machines, of which the following is a full, clear, and exact description.

My invention is an improvement in the class of stocking-darning attachments for sewing-machines in which a spiral spring and a sleeve encircling the needle are employed in connection with a ring that rests on the bed-plate, and to which the stockings are secured.

The invention consists in the construction and combination of parts, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of my improved darning attachment for sewing-machines, showing it applied. Fig. 2 is a perspective view of the collar to which the top of the spring is fastened. Fig. 3 is a perspective view of the toothed ring secured to the bottom of the spring.

The usual presser-foot on the sewing-machine is removed and the presser-bar is raised as high as possible to be out of the way. On the lower end of the needle-bar A, in which the needle B is held by a binding-screw, C, in the usual manner, a collar, D, is held by a binding-screw, E, in a boss or projection, F, of the collar, the outer end of the said screw projecting but slightly. The collar D is provided in its top edge with a notch, G, for receiving the binding-screw C, that holds the needle in the needle-bar. A spiral spring, H, tapered from the top to the bottom, has its upper end secured on the bottom edge of the collar D, and the said spring surrounds the needle. A ring or sleeve, J, surrounding the point of the needle, is secured to the lower end of the spring, the bottom edge of the ring or sleeve J being toothed and projecting slightly below the point of the needle.

The operation is as follows: Into the stocking, S, to be darned a ring, T, is passed, which is provided with outwardly-projecting flanges at the top and bottom edges in such a manner that the hole in the stocking is about in the middle of the ring. An elastic band, W, is then passed around the stocking and the ring T, thus holding the stocking to the ring, and the stocking is rolled up on the outside of the ring, as shown in Fig. 1. That part of the stocking in which the hole is that is to be darned is stretched taut over the edges of the ring, and can be placed flat on the sewing-machine plate, so that when the needle-bar descends the toothed edge of the ring J is pressed on the stocking, thus holding the same in place during the time the needle forms the loop. As the toothed edge of the ring J is below the point of the needle, the toothed edge will always be pressed on the stocking before the needle enters. The stocking is shifted by hand and not by the feeder. The stocking can easily be shifted during the time the needle and ring J are raised. The ring J protects the point of the needle from being injured by coming in contact with the edge of the band or ring T. The thread *a* is carried down through the spiral spring and through the ring J, as shown. The ring T is provided with notches V in both edges, to permit passing the ring under the needle with either edge up. The ring J and lower end of the needle are nearer the sewing-plate than the top edge of the ring T is, and the notches V are provided to let the needle and ring J pass.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a darning attachment for sewing-machines, the ring T, having notches V in its top and bottom edges, in combination with the needle and bed-plate, substantially as herein shown and described.

2. In a darning attachment for sewing-machines, the combination, with the needle, its collar, and the sleeve or ring T, of the spiral spring attached to said collar and sleeve, the aggregate length of the sleeve and spring (when the latter is normally extended) being greater than the portion of the needle which they encircle, as shown and described, whereby said sleeve is held normally projected slightly below the point of the needle, as specified.

3. The combination, with a needle-bar, of a collar held on the same, a spring surround-

ing the needle and secured to the collar, and a sleeve or ring secured to the lower end of the spring and having its bottom edge toothed, substantially as herein shown and described.

4. The combination, with a needle-bar, of the collar D, having a boss projection, F, the spring H, secured to the collar D, and the toothed ring or sleeve J, secured to the lower end of the spring, substantially as herein shown and described.

5. In a stocking-darning attachment for sewing-machines, the combination, with the needle-bar, of a spring held on the same, a ring held on the lower edge of the needle-bar and having its bottom edge toothed, a flanged ring adapted to be placed in the stocking to be darned, and a band surrounding the ring and stocking, substantially as herein shown and described.

FREDERICK W. STEWART.

Witnesses:
DANIEL E. TAYLOR,
DAVID H. JUDSON.