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PATENTED AUG. 4, 1908.

R. G. WOODWARD.

ATTACHMENT FOR GUIDING EDGING TO SEWING MACHINES.

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Fig. 1.

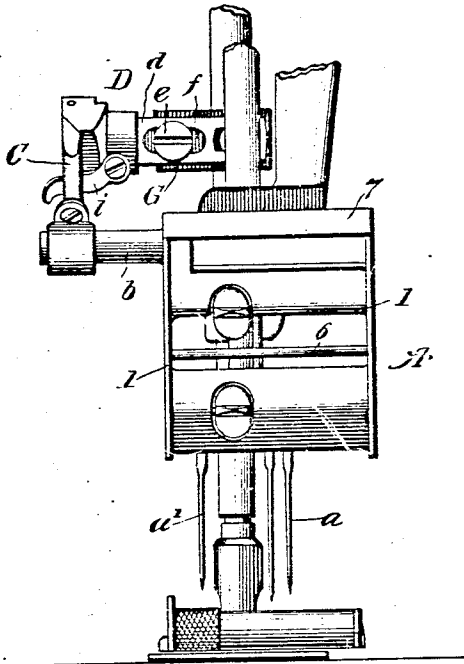


Fig. 2.

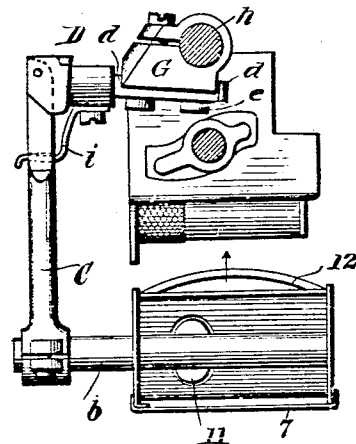


Fig. 3.

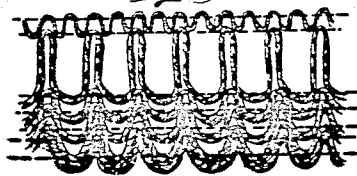
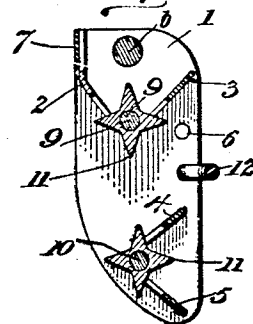


Fig. 4.



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UNITED STATES PATENT OFFICE.

RUSSEL G. WOODWARD, OF WAUKEGAN, ILLINOIS, ASSIGNOR TO UNION SPECIAL SEWING MACHINE COMPANY, A CORPORATION OF ILLINOIS.

ATTACHMENT FOR GUIDING EDGING TO SEWING-MACHINES.

No. 895,394.

Specification of Letters Patent.

Patented Aug. 4, 1908.

Application filed April 17, 1902. Serial No. 103,321.

To all whom it may concern:

Be it known that I, RUSSEL G. WOODWARD, a citizen of the United States, residing at Waukegan, in the county of Lake, State of Illinois, have invented certain new and useful Improvements in Attachments for Guiding Edging to Sewing-Machines, of which the following is a description, reference being had to the accompanying drawing and to the letters and figures of reference marked thereon.

My invention relates to improvements in sewing machines, and particularly to an attachment for use upon machines adapted to sew lace edging upon the necks or fronts of underwear, through the cross bars of which a tape is drawn alternately over and under.

This lace edging is of various well known characters, and of various widths and designs, and is adapted to furnish an ornamental finish for garments. It is usually formed on special machines for the purpose, and is sold to manufacturers for application to their goods, the uniting of the edging with the body of the fabric being performed on sewing machines.

Heretofore in sewing the edging which comprises an outer festoon and an inner line united by open work cross bars between which cross bars a ribbon or tape is threaded, considerable difficulty has been experienced in laying the cross bars at right angles to the length of the lace, and unless it is so laid not only the diagonal appearance of the cross bars is unsightly, but the ornamental ribbon in passing through will be wrinkled.

The object of the present invention is, therefore, to provide an attachment for a sewing machine, which will guide the edging properly and straighten out the cross bars of the lace as it is sewed.

To this end the invention consists in the matters hereinafter described and referred to in the appended claims.

In the accompanying drawings which illustrate the invention, Figure 1 represents my attachment applied to a sewing machine having three needles, a pair of which is arranged to make the Union Special twin needle stitch, illustrated in Patent 344,492, and to pass through the right hand portion of the edging and fabric, leaving the festoons projecting beyond the edge thereof, while the third needle makes the ordinary straight-away stitch, and passes through the edging

and fabric upon the opposite side of the festoon edging; Fig. 2 is a plan view, partly in section, of a portion of a sewing machine with my device applied; Fig. 3 is a plan view of the edging itself; and Fig. 4 is a sectional side view of the attachment.

In these drawings, *a* represents the needles of the pair arranged upon the right hand side of the line of feed, and *a'* represents the needle making the straight-away stitch arranged upon the opposite side of the line of feed, the direction of feed being indicated by the arrow in Fig. 2.

The attachment for guiding the edging is shown as a whole, at A, and is provided at its upper end with a projecting bar *b*, near the outer end of which is clamped one end of the arm C, pivotally attached at its opposite end to the head D, which has the lateral projecting shank *d*, dovetailed in and adjustably secured by set screws *e* and slots *f* to the clamp *g*, which embraces the presser bar *h* on the sewing machine.

The arm C above referred to, is controlled by the spring *i*, in the manner shown in Reissue Patent 11,081, of June 3, 1890. By this arrangement it will be seen that the attachment A may be swung in and out as desired, to allow access to the needles for the purpose of threading them.

The edging guiding attachment A, is composed of the side plates 1, 1, having the various cross plates 2, 3, and 4, 5, the cross rod 6, and the front cross plate 7. The cross plates 2, 3, and 4, 5, are formed in the shape of angle plates, within the apex of which are supported rods 9, 10, upon which are pivoted the rotating members 11, formed as herein shown, each with four tapering projections properly spaced apart, so that in the movement of the edging through the attachment they will successively engage the spaces between the horizontal cross bars, and exercise the necessary action upon the cross bars to keep the latter in their proper position at right angles to the line of the feed, and prevent their being pulled out of position by the action of the feed and the stitch-forming mechanism. The plates 2, 3, and 4, 5, are slotted to allow these projecting members to pass through them.

The lace edging is supported from above upon a roll or spool in the usual manner, and is fed to the attachment behind the bar 7, then beneath the part 2 of the angle plate 2,

3, then over the top of the convex cross bar 12, arranged in rear of the attachment; then down in front of the part 4 of the angle plate 4, 5, beneath the attachment, to the sewing mechanism. By this arrangement, as the feed of the machine takes place, it will pull the lace edging along through the attachment, the projecting members on the rotatable wheels serving to guide and separate and keep in proper position the cross bars of the edging. This device is herein shown as used in connection with a presser foot of the type shown in patent granted Pennington & Schott, No. 558,459, April 14th, 1896. The convex wire 12 is of importance, as counteracting the tendency of the lace to run together, the part 12 forcing the edging out to its full width and preventing lateral buckling.

It will, of course, be understood that the particular features of the lace guiding attachment may be varied without departing from the spirit of the invention, which is broadly intended to cover a device having means for guiding and straightening out the cross bars in a lace edging.

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

1. An attachment for guiding cross bar edging to the stitch-forming mechanism of a sewing machine, in which the feed of the machine feeds the edging, comprising a device carried thereby, adapted to engage and straighten out the cross bars while being fed to the stitch-forming mechanism; substantially as described.

2. A device for guiding cross bar edging to the stitch-forming mechanism of a sewing machine in which the feed of the machine feeds the edging, comprising rotatable members carried thereby adapted to engage the cross bars and hold them in normal position during the operation of feeding the same; substantially as described.

3. In combination with a sewing machine, having stitch-forming mechanism and a feeding mechanism, an attachment for guiding

lace edging to said stitch-forming mechanism, said attachment comprising means for straightening out and holding the cross bars of the edging in normal position, and means for moving said attachment into and out of operative position.

4. An attachment for sewing machines for guiding cross bar edging to the stitch-forming mechanism, comprising a framework attached to the machine frame and arranged in position in front of the stitch-forming mechanism, said framework being provided with means for straightening out and holding the cross bars at right angles to the sides of the edging; substantially as described.

5. An attachment for guiding cross bar edging to the stitch-forming mechanism of a sewing machine, comprising means for guiding the edging, and rotating wheels provided with projections adapted to successively project into the openings between the cross bars, and hold the latter in normal position; substantially as described.

6. The herein described attachment for sewing machines, comprising a framework pivotally attached to the machine frame and arranged in a position in front of the stitch-forming mechanism of a sewing machine, guiding devices carried by said framework, and rotatory members provided with projections adapted to engage the edging between the cross bars; substantially as described.

7. A cross bar edging guide for attachment to sewing machines for guiding the edging to the stitch forming mechanism of the machine, comprising side plates, cross rods, angle plates, and rotatable spur wheels successively engaging the spaces between the horizontal cross bars of the edging; substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

RUSSEL G. WOODWARD.

Witnesses:

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JULIUS STINE.