May 16, 1933. R. LOEB 1,909,185

PROCESS OF PRODUCING EMBROIDERED FABRICS

Filed Oct. 28, 1927

Fig.1.

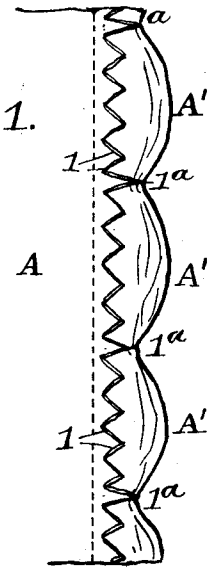


Fig.2.

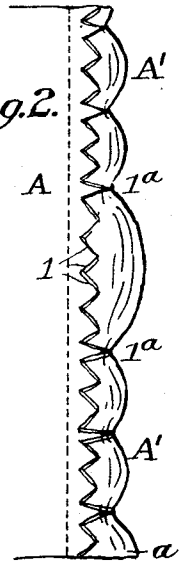


Fig.3.

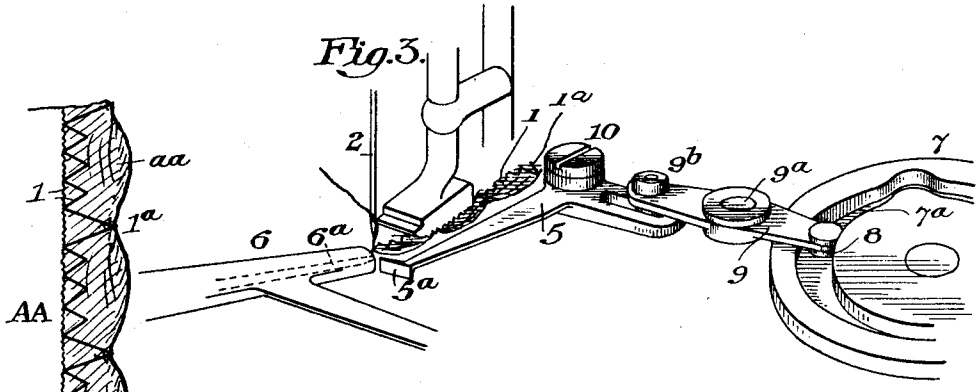


Fig.4.

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UNITED STATES PATENT OFFICE

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PROCESS OF PRODUCING EMBROIDERED FABRICS

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My invention relates to embroidered fabrics, and comprises an ornamental scalloped edge directly applied to the edge of a fabric, or to a strip which may be folded and overlie the fabric edge.

A further object of my invention is to produce this ornamental edging or seam for fabrics by hemming the margin or edge of the fabric in a manner that will produce or simulate a series of scallops; which scallops may be of substantially regular contour successively and of substantially regular size, or may be of irregular contour and vary in size with respect to each other in groups successively produced.

In carrying out my invention, I employ a sewing machine of the so-called zigzag type, that is to say a machine employing a single needle which is vibrated laterally with respect to the line of stitching, so that each stitch produced lies in a diagonal position with respect to the adjoining and connected stitches.

In preparing this ornamental edging, the edge of the fabric may be folded by suitable guiding means before presentation to the needle, and in such folding operation the inner marginal edge of the folded portion may be turned under. The zigzag stitching is applied in a line substantially parallel to the folded edge so that the turned under portion will be secured by the stitches; that is to say, the line of stitches substantially follows the inner margin of the folded edge portion. In the ordinary operation of the zigzag sewing machine, the face of the fabric would simply receive a row or line of zigzag stitches securing the folded marginal edge of the fabric in place, and one object of my invention is to form this folded marginal edge into a series of scallops.

As is well understood, the needle of zigzag sewing machines vibrates in a short path at right angles to the general line of the stitching produced, and with the usual means provided to advance or feed the goods, the entrance of the needle into the goods at the opposite sides of the line of stitching is always in advance of the preceding entrance; thereby producing the zigzag effect.

In order that the scallop effect forming the subject of my invention may be produced, I provide an oscillating blade arranged to engage the edge of the fabric and move the same toward the needle at regular or irregular intervals, depending upon the type of scallops desired. This blade may be so arranged and operated as to hold the fabric in such position with respect to the needle that when the latter is making its loops with the shuttle thread, certain stitches will pass outside of the folded edge of the fabric which has been indented by the blade, and serve as overedging or binding stitches for such edge. As the stitches engaging the indented portions are under substantially the same tension as the other stitches, these binding or overedging stitches will hold in the pinched portions of the edge of the fabric and produce the effect of a scalloped edge.

Various means coordinating with the sewing machine mechanism may be employed to present this creasing or pinching blade against the edge of the fabric at regular or irregular intervals but for illustrative purposes, I have indicated a cam member and levers which are so connected with the blade, with the cam path of such character, that such blade will be moved into engagement with the edge of the fabric at the proper intervals and held temporarily until the necessary overedging or binding stitches are applied.

Any means that will serve to pinch or indent the edge of the fabric may be employed, such means holding the fabric in such position with respect to the needle that the stitches applied by the latter can overlie the edge of the pinched or indented portions, so as to properly bind the edge of such points and simulate the scalloped effect. And any form of pattern control may be employed; the whole object being to move the indenting blade into engagement with the turned edge of the fabric and hold the same temporarily.

These and other features of my invention are more fully described hereinafter; reference being had to the accompanying drawing, in which:

Figure 1, illustrates a scalloped edge made

in accordance with my invention, in which the indentations are formed at regular intervals, making scallops of substantially the same length.

Fig. 2, shows a series of scallops of unequal length, arranged in groups.

Fig. 3, shows one form of mechanism which may be employed in carrying my invention into effect, and

Fig. 4 illustrates a modified form of seam within the scope of my invention.

In Figs. 1 and 2, the fabric is indicated at A, and its edge, which may be folded, is indicated at *a*. This folded edge is scalloped as clearly indicated in the drawing; such scallops being indicated at A′, and these scallops are produced by tucking or indenting the folded edge at intervals, and catching in and holding such indented portions by certain of the stitches.

The edge *a*, folded or otherwise, is sewn down by a row of zigzag stitches, indicated at 1, and when these stitches are applied at an indented point of the edge, they will overlie said edge, as indicated at 1^a, and their tension will hold the indented portion of the edge and produce the simulation of scallops.

The indenting of the folded edge may be effected by any suitable means that will press such folded edge toward the needle 2 applying the line of zigzag stitches which are applied in a substantially straight line, so that certain of the latter may pass outside the fabric at the indented portions of the edge, as clearly indicated at 1^a.

In the present instance I have provided a pivoted arm 5, having a bladed end 5^a, arranged to lie adjacent to the edge *a* of the fabric as it is delivered by the guide 6, folded or otherwise, with means for moving this bladed end against the edge *a*, at intervals. In the present instance such means may consist of a cam 7, pivotally mounted upon the bed plate of the machine, having a groove 7^a engaged by a roller 8, carried by a lever 9 pivoted at 9^a; the opposite end of such lever being connected at 9^b to the slotted and cranked end 5^b of the arm 5, which is pivotally mounted at 10 upon the bed plate of the machine. In lieu of this mechanism, any suitable form of pattern mechanism may be employed which will serve to move the arm 5, so as to cause its bladed end 5^a to press the edge *a* of the fabric toward the needle 2, at the desired intervals.

In order that the edge of the fabric when in a folded condition may be held in a relatively distended state as it is fed from a folding guide to the needle, so as to respond to the indenting by the bladed arm, such folding guide may carry a spring finger 6^a, which lies within the folded edge of the fabric at the point of delivery from the folding guide, and extends to a point just short of the zone of sewing operations effected by the needle 2.

It will be understood, of course, that the means for producing this scalloped edge effect does not affect the operation of the zigzag sewing machine, which is free to perform the usual operation of zigzag stitching without producing the scalloped effect referred to, by simple disconnection of the mechanism employed to indent the folded edge of the fabric.

In Figs. 1 and 2 I have shown instances of scalloped edges produced by indenting the edge of a fabric and holding the same by certain of the zigzag stitches. In Fig. 4 I have shown an instance of an applied edge of another strip of fabric of a different color which is turned over the edge of the main fabric; the edge strip being indicated at *aa*, and the main fabric at AA.

I claim:

1. The method of ornamenting the edges of fabrics which consists in folding such edge, continuously applying a row of zigzag stitches substantially paralleling said folded edge; said stitches serving to retain the edge in folded condition, indenting said edge at regular intervals simultaneously with the stitching operation and during continuous feed of the fabric whereby certain of the stitches of the continuous zigzag row are caused to overlie the fabric at the indented portions thereof and hold the same in indented condition whereby a scalloped edge is produced, and maintaining said edge under tension during the indenting operation.

2. The method of ornamenting the edges of fabrics which consists in folding such edge and guiding the same in folded condition, continuously feeding said folded edge and simultaneously applying a row of zigzag stitches substantially paralleling said folded edge; said stitches serving to retain the edge in folded condition, indenting said edge at regular intervals simultaneously with the stitching operation in advance of the needle operation and during continuous feed of the fabric whereby certain of the stitches of the continuous zigzag row are caused to overlie the folded edge of the fabric at the indented portions thereof and hold the same in indented condition whereby a scalloped edge is produced; said edge being maintained under yielding tension during the indenting operation.

In witness whereof I have signed this specification.

RUDOLF LOEB.