July 11, 1933. R. J. SAILER 1,917,776

FOLDER FOR SEWING MACHINES

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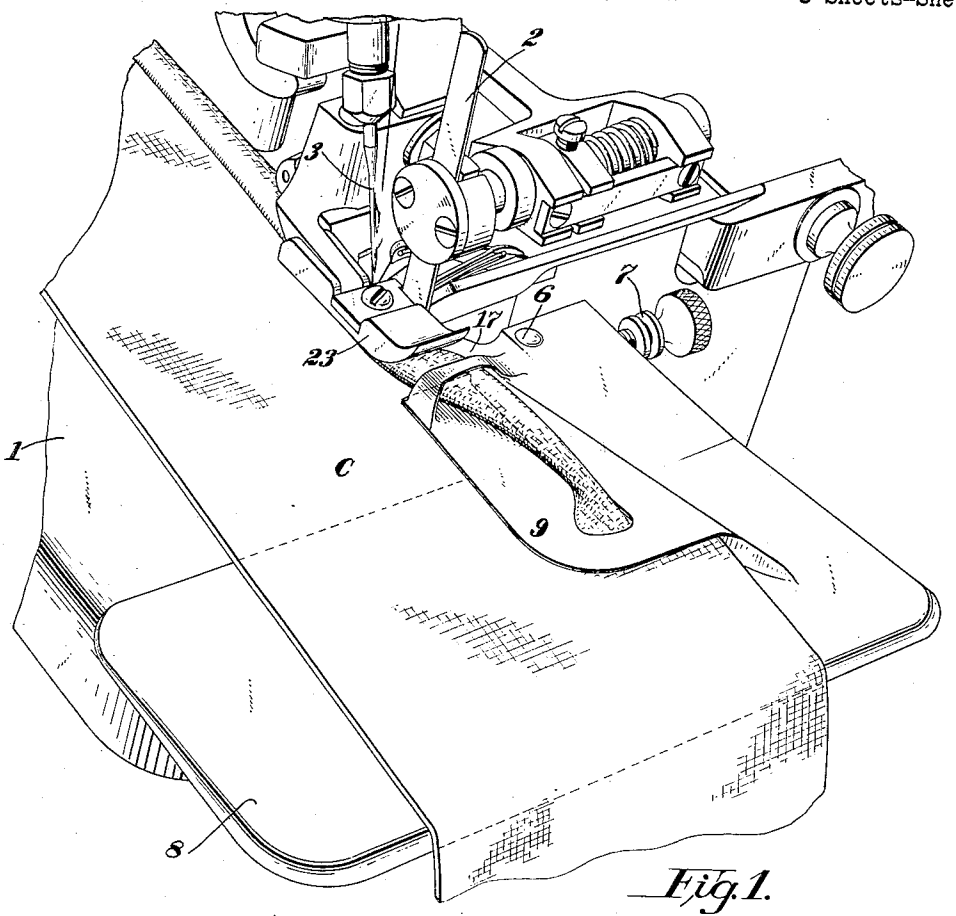


Fig. 1.

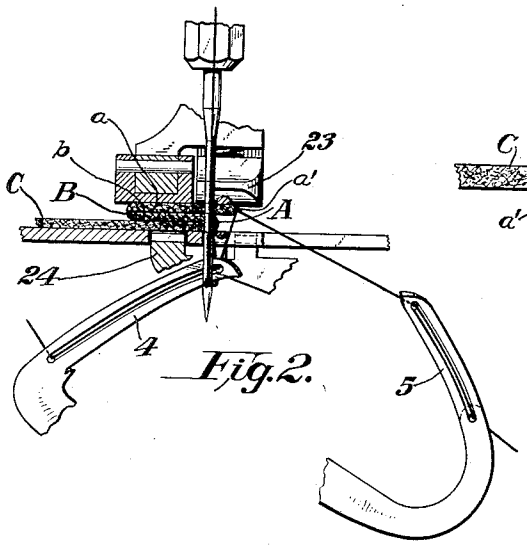


Fig. 2.

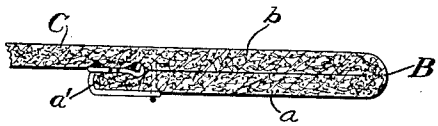


Fig. 8.

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FOLDER FOR SEWING MACHINES

Filed Oct. 25, 1932 3 Sheets-Sheet 2

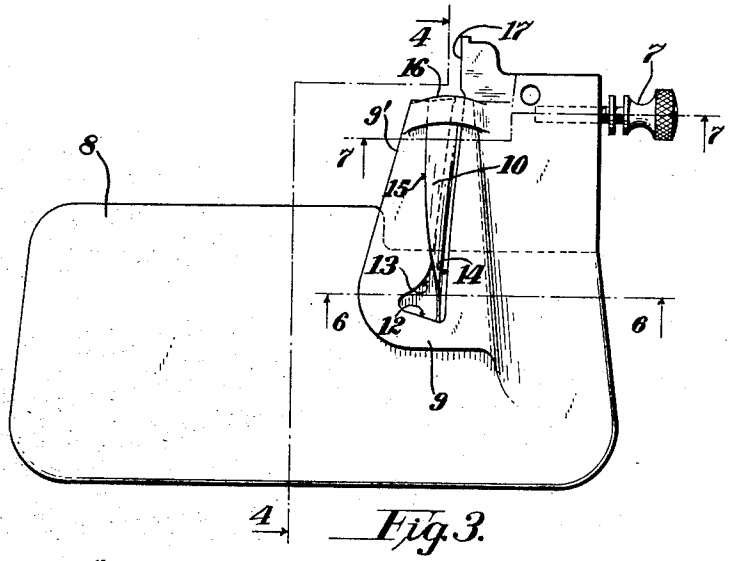


Fig. 3.

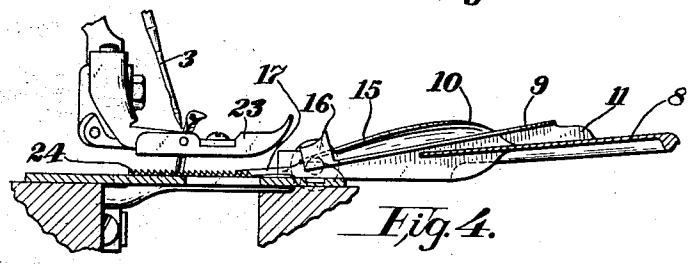


Fig. 4.

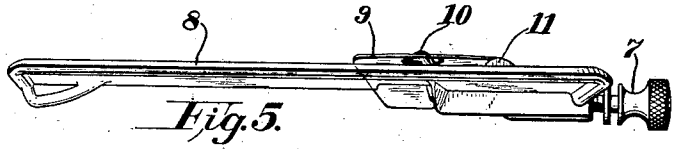


Fig. 5.

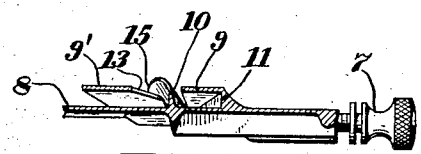


Fig. 6.

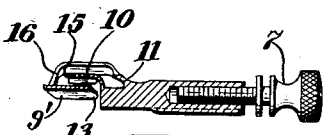


Fig. 7.

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FOLDER FOR SEWING MACHINES

Filed Oct. 25, 1932 3 Sheets-Sheet 3

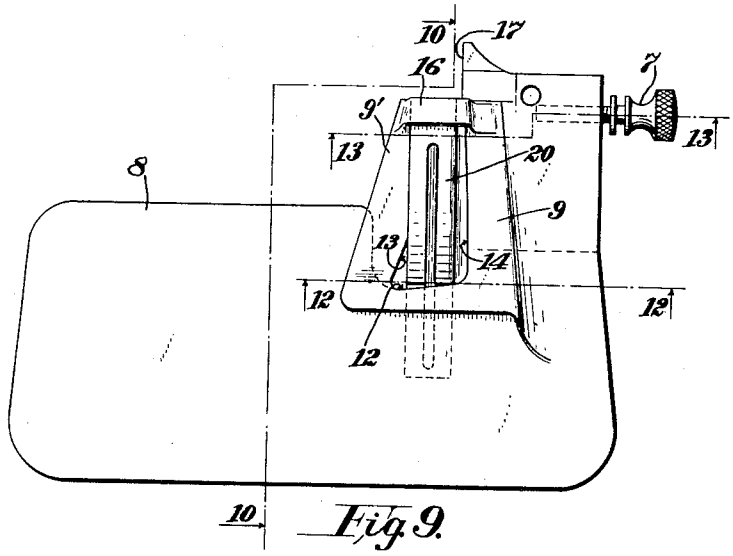


Fig. 9.

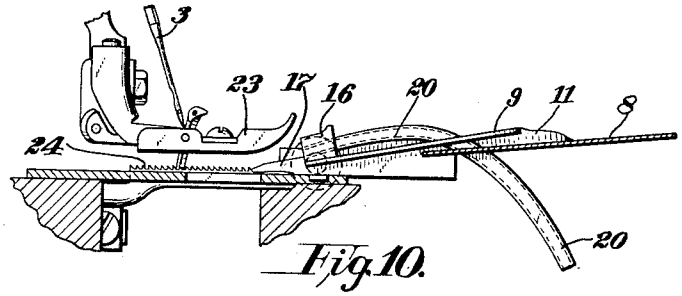


Fig. 10.

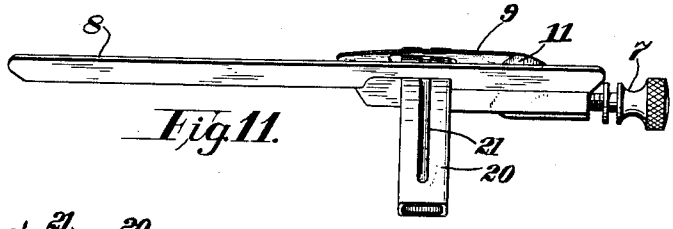


Fig. 11.

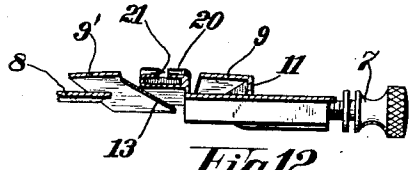


Fig. 12.

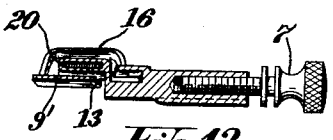


Fig. 13.

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UNITED STATES PATENT OFFICE

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FOLDER FOR SEWING MACHINES

Application filed October 25, 1932. Serial No. 639,399.

This invention relates to folders for sewing machines and has for its object to provide a folder of novel construction adapted more particularly for use in the production of "blind-stitch" seams; and to provide a folder in which the material to be stitched may be inserted with the minimum of effort.

With the above and other objects in view, as will hereinafter appear, the invention consists in the devices, combinations, and arrangements of parts hereinafter set forth and illustrated in the accompanying drawings of a preferred embodiment of the invention, from which the several features of the invention and the advantages attained thereby will be readily understood by those skilled in the art.

In the accompanying drawings:

Figure 1 is a perspective view of part of a machine with my improved folder attached thereto, showing the material in a position to be acted upon by the stitch-forming mechanism.

Figure 2 is a fragmentary sectional view taken through the presser-foot and throat-plate of the machine showing the position of the folds when the material is presented to the stitch-forming mechanism.

Figure 3 is a top plan view of my improved folder.

Figure 4 is a sectional view taken substantially along the line 4—4 of Figure 3 and through the throat-plate of the machine.

Figure 5 is an elevation of the receiving end of the folder.

Figures 6 and 7 are sectional views taken along the lines 6—6 and 7—7, respectively, of Figure 3.

Figure 8 is a sectional view of the finished seam showing the positions of the threads.

Figure 9 is a top plan view of a modification of my improved folder.

Figure 10 is a view similar to Figure 4 showing the modified folder.

Figure 11 is an elevation of the receiving end of the modified folder shown in Figure 9.

Figures 12 and 13 are sectional views taken along the lines 12—12 and 13—13, respectively, of Figure 9.

As represented in the drawings, the present invention is shown applied to the well known Singer overseaming machine, similar to that shown in Patent No. 933,033, issued to A. Grieb, August 31, 1909, and known commercially as the "Singer 81 Class" machine. This machine is constructed with a bed 1; trimming mechanism 2, reciprocating needle 3, and loopers 4 and 5 which are located below the throat-plate and cooperate with the needle in the formation of the overseaming stitches.

Detachably and adjustably secured to the bed 1 by the screws 6 and 7 is my improved folder which is adapted to make an S-shape fold at the edge of the material. The folder comprises a work-supporting plate 8 to which is secured a slotted lip 9 and a tongue 10. The lip 9 extends over the work-supporting plate 8 and has a supporting depending wall 11 which has its lower edge fixed to the work-supporting plate 8. The wall 11 is inclined towards the stitch-forming mechanism from the work-receiving end to the delivery end and serves as a guide for the edge of the material as it passes through the folder. The slot in the lip 9 is defined by the side-walls 12, 13 and 14, the wall 13 being inclined downwardly and inwardly towards the delivery end of the folder (Figures 6 and 12) so that it forms the lower limb of the S-fold and directs the lower limb of the fold to the stitch-forming mechanism so that it will be split by the needle.

The tongue 10 is also made integral with the plate 8 and extends up through the slot in the lip 9. The upper edge 15 of the tongue is bent so as to extend over the lip 9 and is so formed that the material is forced outwardly thereby forming the upper limb of the S-shaped fold.

An arched strap 16 having its ends fixed to the lip 9 at the delivery end of the folder bridges the slot and serves as a support for the overhanging extension 9′ of the lip.

Extending from the delivery end of the folder and fixed to the supporting plate 8 is a guiding member 17 which engages the outer surface of the lower limb of the S-shaped fold and guides it accurately to the stitch-forming mechanism.

Figures 9–13, inclusive, show a modifica-

tion in which the simple tongue is replaced by a tongue comprising a rectangular conduit 20 having a slot 21. The rectangular conduit 20 is bent in the form of an arc of a circle and extends through the enlarged part of the slot in the lip 9 with its receiving end terminating below the supporting plate 8. The folder shown in Figures 9 to 13, inclusive, may be used to form the S-shaped fold shown in Figure 2 and if desired a tape may be fed through the conduit into the upper limb of the S-shaped fold.

To load the folder the material *c* is placed on the supporting plate 8 and forced inwardly in the direction of the stitch-forming mechanism. When the material enters the folder its leading edge is forced up through the slot in the lip 9 by the tongue 10 or 20, as the case may be. As the material continues to move towards the stitch-forming mechanism the wall 13 of the slot in the lip 9 forces the material inwardly under the overhanging edge of the tongue thereby forming the limb A (Figure 2) and the overhanging edge 15 of the tongue forces the material outwardly thereby forming the limb B (Figure 2) of the fold.

The folder delivers the folded material to the presser-foot 23 which coacts with the feed-dog 24 to feed the work to the trimming mechanism 2, which trims the edge *a'* of the material, and thence to the stitch-forming mechanism. The folded material is so presented to the stitch-forming mechanism that the needle will pass through the edge portion *a'* and into and out of the lower limb A of the material, as clearly shown in Figure 2, thereby securing the edge *a'* to the body of the material by stitches which pass into and out of the body of the material on the same side thereof, and which covers the edge *a'* of the material, as clearly shown in Figure 8.

From the foregoing description considered in connection with the accompanying drawings, the construction, and several advantages of my improved folder will be clearly understood. It is apparent that such a device may be used with various types of machines, and that its form and construction are susceptible of material variations. Therefore the privilege is reserved of resorting to all such legitimate changes therein as may be fairly embodied within the spirit and scope of the appended claims.

Having thus set forth the nature of the invention, what I claim herein is:—

1. A folder adapted to make an S-shaped fold at the edge of material and comprising a work-supporting plate, a lip provided with a slot overlying said plate, and a tongue extending through said slot and overlying a portion of said lip.

2. A folder adapted to make an S-shaped fold at the edge of material and comprising a work-supporting plate, a lip overlying said plate, said lip being provided with a slot and with a depending wall which has its lower edge secured to said plate, and a tongue extending up through said slot and overlying a portion of said lip.

3. A folder for sewing machines comprising a work-supporting plate, a lip overlying a portion of said plate, spaced walls on said lip defining a slot, a tongue secured to said plate and extending up through said slot, said tongue having its upper edge bent so as to overlie a portion of said lip.

4. A folder for sewing machines comprising a work-supporting plate, a lip provided with a slot overlying a portion of said plate, a tongue extending through said slot and having its upper edge overlying a portion of said lip, and a guide fixed to said plate at the delivery end of said folder.

5. A folder adapted to make an S-shaped fold in the edge of material and comprising a work-supporting plate, a lip overlying a portion of said plate, said lip being provided with spaced walls defining a slot, one of said walls being inclined downward and inwardly for forming the lower limb of said fold, and a tongue secured to said plate, said tongue having its upper edge disposed in overlying relation to the inclined wall of said lip for forming the upper limb of said fold.

6. A sewing machine including in combination, stitch-forming mechanism and a folder for forming a three-ply fold in the edge of material and presenting the fold to the stitch-forming mechanism so that the edge of the material will be blind-stitched to the body of the material, said folder comprising a work-supporting plate, a slotted lip overlying said plate, and a tongue extending through said slot.

7. A folder for sewing machines comprising a work-supporting plate, a lip provided with a slot overlying said plate, and a tongue extending through said slot and overlying a portion of said lip, said tongue being in the form of a conduit.

8. A folder for sewing machines comprising a work-supporting plate, a lip provided with a slot overlying said plate, a conduit extending up through the plate and through the slot in the lip, said conduit serving as a tongue over which the material may be folded.

9. A folder for forming an S-shaped fold at the edge of material comprising a work-supporting plate, a lip provided with a slot overlying said plate, and a tongue extending up through said slot and overlying a portion of said lip, said tongue affording means for leading a tape into the upper limb of said S-shaped fold.

In testimony whereof I have signed my name to this specification.

RUDOLPH J. SAILER.