Sept. 22, 1931. R. J. SAILER 1,823,954

HEM FOLDER FOR SEWING MACHINES

Filed March 3, 1930 2 Sheets-Sheet 1

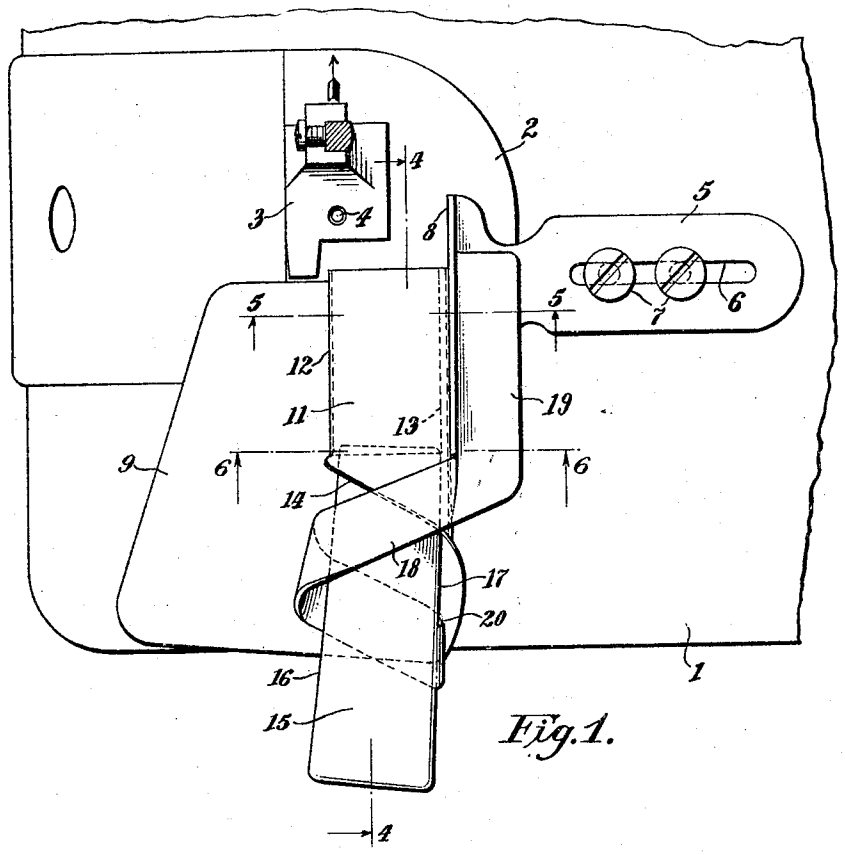


Fig. 1.

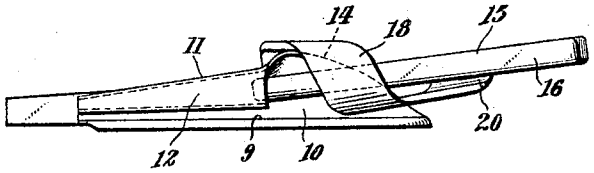


Fig. 2.

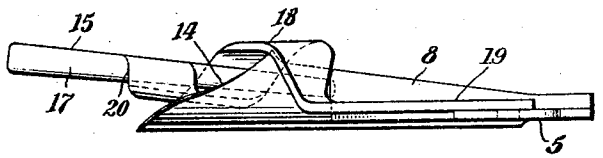


Fig. 3.

Witnesses.
Geo. Wright
W. T. Stewart

Inventor
Rudolph J. Sailer

By Henry J. Miller

Attorney

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HEM FOLDER FOR SEWING MACHINES

Filed March 3, 1930 2 Sheets-Sheet 2

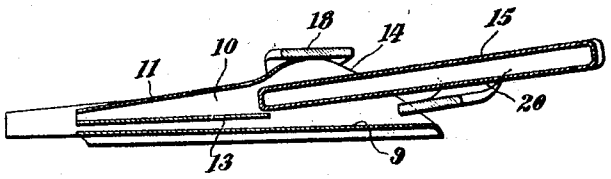


Fig. 4.

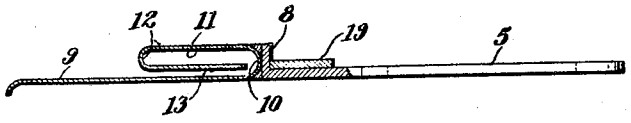


Fig. 5.

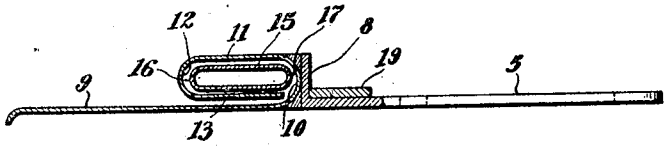


Fig. 6.

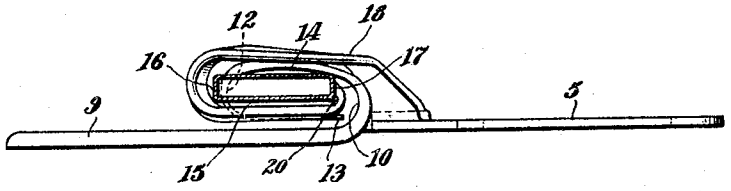


Fig. 7.

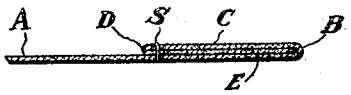


Fig. 8.

Witnesses.
Geo Wright
W. P. Stewart

Inventor
Rudolph J. Sailer

By Henry J. Miller Attorney

Patented Sept. 22, 1931

1,823,954

UNITED STATES PATENT OFFICE

RUDOLPH J. SAILER, OF TOWNLEY, NEW JERSEY, ASSIGNOR TO THE SINGER MANUFACTURING COMPANY, OF ELIZABETH, NEW JERSEY, A CORPORATION OF NEW JERSEY

HEM-FOLDER FOR SEWING MACHINES

Application filed March 3, 1930. Serial No. 432,599.

This invention relates to improvements in hemfolding devices for sewing machines and has for its primary object to provide a device of this character which in the production of wide hem-folds, particularly in thin or flimsy materials, is capable of turning in the free or raw edge of the material to an extent substantially equal to the full width of the hem-fold.

A preferred embodiment of the invention comprises a scroll having the usual spaced fold-face directing walls merging into guiding walls for the outer and inner fold-edges of a hem-fold. Combined with this scroll is a fold-face separating arbor which preferably terminates short of the delivery end of the scroll, whereby the folded hem is delivered by the scroll with the fold-faces in contact with each other.

The fold-face separating arbor, around which the hem is formed, preferably projects forwardly beyond the work-receiving end of the scroll and is suspended within the scroll by an arm which spirally encompasses the arbor. This arbor-supporting arm is connected with the arbor at the outer fold-edge side and adjacent the work-receiving end of the scroll, the juncture of the arm and arbor providing a guiding wall for directing the inturned edge of the hem into contact with the outer edge-fold thereof. Preferably, the arbor is slightly tapered or narrowed toward its delivery end to insure that sufficient material is provided to permit the raw edge thereof to lie in close contact with the outer edge-fold of the hem.

In the accompanying drawings, Fig. 1 is a top-plan view of the present improved hemmer as applied to a sewing machine of which is only shown a portion of the cloth-plate and the presser-foot to illustrate the position of the hemmer. Figs. 2 and 3 are opposite side elevations of the hemmer. Fig. 4 is a longitudinal section of the hemmer substantially on the line 4—4 of Fig. 1. Fig. 5 is a transverse section of the hemmer substantially on the line 5—5 of Fig. 1. Fig. 6 is a transverse section of the hemmer substantially on the line 6—6 of Fig. 1. Fig. 7 is a front end elevation of the hemmer, with the work-supporting arbor in transverse section. Fig. 8 is a sectional view of the stitched hem-fold produced.

Referring to the drawings, the hem-folder is shown as applied to a sewing machine having a cloth-plate 1, a throat-plate 2 and a presser-foot 3 provided with a needle-aperture 4.

The hem-folder has a supporting shank 5 provided with a slot 6 through which pass the securing screws 7, whereby the hem-folder may be adjusted upon the cloth-plate in a direction crosswise of the line of seam-formation indicated by the arrow in Fig. 1.

Rising from the inner end of the shank 5 is a flange 8 carrying a hem-folding scroll, comprising a work-supporting apron 9 which curves upwardly at one side thereof to provide a guiding wall 10 for the outer edge-fold of the hem. The guiding wall 10 merges into a substantially flat fold-face directing wall 11 which overhangs the apron 9 and at its inner end curves downwardly to form a guiding wall 12 for the inner edge-fold of the hem. The guiding wall 12 terminates in a substantially flat lip 13 which underlies the wall 11 and serves to separate the inturned margin of the hem-fold from the body-material upon the apron 9. It will therefore be observed that the described scroll comprises the usual reversely bent plate, with the free end of the inner lip 13 spaced from the upturned wall 10 a sufficient distance to provide clearance for the work. In the present instance, the work-receiving end of the outer fold-face direction wall 11 is partly cut away at an inclination to the width of the scroll, whereby the work-receiving end of the scroll has the form of a spiral edge 14, which facilitates the initial folding of the work.

In order to efficiently fold flimsy materials and particularly in the formation of wide hem-folds, the folder includes a fold-face separating arbor 15 which, in the present instance, comprises a flattened tube of sheet-metal having closed ends. In the direction toward its delivery end, the arbor 15 is disposed at a slight inclination to the guiding wall 10, said arbor 15 being in the

main disposed forwardly of the work-receiving end of the scroll and its delivery end being freely suspended in the space between the fold-face directing walls 11 and 13 of the scroll. The longitudinal edges 16 and 17 of the arbor 15 converge slightly towards the delivery end thereof, which preferably terminates short of or is disposed at a point substantially in advance of the delivery end of the scroll.

The arbor 15 is supported by an arm 18 which spirally encompasses and is connected with the arbor solely at the longitudinal edge 17 thereof, at a point which is substantially in alinement with the outer edge-fold wall 10 and adjacent to the work-receiving end of the scroll. The arm 18 rises from a base 19 upon the folder-shank 5 and at its juncture with the arbor defines a guiding wall 20 which directs the inturned or raw-edge of the hem-fold into contact with the outer edge-fold thereof. The described arbor-supporting means thereby provides for readily folding the work completely about the arbor, whereby the fold-faces of the hem-fold are separated from each other during the fold-forming operation and are thereafter compressed into contact with each other by the converging walls 11 and 13 beyond the delivery end of the arbor 15.

By referring to Fig. 8 of the drawings, is will be observed that the hem-fold formed in a body-material A by the present folder has an outer fold-edge B, an outer fold-face C, an inner fold-edge D and an inturned face E having its free edge disposed in contact with the outer fold-edge B. It will be further observed that the hem-fold is of substantial width, the fold plies being secured by a line of stitches S.

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

1. A hem-folder comprising a scroll having guiding walls adapted to form the outer and inner fold-edges of a hem, in the margin of a body material, a fold-face separating arbor projecting into said scroll, and supporting means for said arbor providing a guide directing the inturned edge of the hem into contact with the outer edge-fold thereof within said scroll.

2. A hem-folder comprising a scroll having guiding walls adapted to form the outer and inner fold-edges of a hem, in the margin of a body material, a fold-face separating arbor freely suspended within said scroll, and arbor-supporting means connected with a longitudinal edge of said arbor in advance of the work receiving end and at the outer fold-edge side of said scroll.

3. A hem-folder comprising a hem-guiding scroll having a reversely bent fold-face directing plate defining guiding walls adapted to form the outer and inner fold-edges of a hem, a fold-face separating arbor, and a raw edge-guide for the hem comprising arbor-supporting means spirally encompassing the arbor in spaced relation thereto and connected with a longitudinal edge of said arbor at the outer fold-edge side of the work-receiving end of the scroll.

4. A hem-folder comprising a work-supporting apron terminating at one side in a reversely bent plate constituting a hem-folding scroll providing substantially flat fold-face directing walls connected by outer and inner fold-edge guiding walls, a substantially flat fold-face separating arbor, and supporting means for said arbor comprising an arm encompassing the arbor in spaced relation thereto and connected with a longitudinal edge of said arbor at the outer fold-edge side of the scroll.

5. A hem-folder comprising a scroll having guiding walls adapted to form the outer and inner fold-faces and fold-edges of a hem, a substantially flat fold-face separating arbor projecting forwardly beyond the work-receiving end of the scroll and freely suspended in the space between the fold-face guiding walls, and arbor-supporting means comprising an arm encompassing the arbor in spaced relation thereto and connected therewith adjacent the work-receiving end of the scroll at a point substantially in alinement with the outer fold-edge side of the scroll.

6. A hem-folder having a scroll comprising spaced fold-face directing walls converging toward the delivery end of the scroll and guiding walls for the outer and inner fold-edges of a hem-fold, a fold-face separating arbor terminating short of the delivery end of said scroll, and a supporting arm encompassing and connected with the arbor at the outer fold-edge side of the scroll.

7. A hem-folder having a hem-guiding scroll comprising substantially flat fold-face directing walls terminating in outer and inner fold-edge guiding walls, a substantially flat fold-face separating arbor having its longitudinal edges converging toward the delivery end thereof and projecting into the space between the fold-face directing walls, said arbor extending forwardly beyond the work-receiving end and terminating short of the delivery end of the scroll, and a raw-edge guide for the hem comprising arbor-supporting means spirally encompassing said arbor and connected with a longitudinal edge thereof at the outer fold-edge guiding side of the scroll.

8. A hem-folder comprising a scroll having guiding walls adapted to form the outer and inner fold-faces and fold-edges of a hem, the work-receiving edge of said scroll progressing spirally toward the delivery end of the scroll, a fold-face separating arbor projecting forwardly beyond the

work-receiving end of the scroll, and arbor-supporting means comprising an arm projecting forwardly from said work-receiving edge of the scroll and spirally encompassing the arbor.

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

RUDOLPH J. SAILER.