C. L. RATHBUN.

FOLDER FOR SEWING MACHINES.

APPLICATION FILED AUG. 5, 1909.

Patented Dec. 29, 1914.

1,123,006.

Fig. 1.

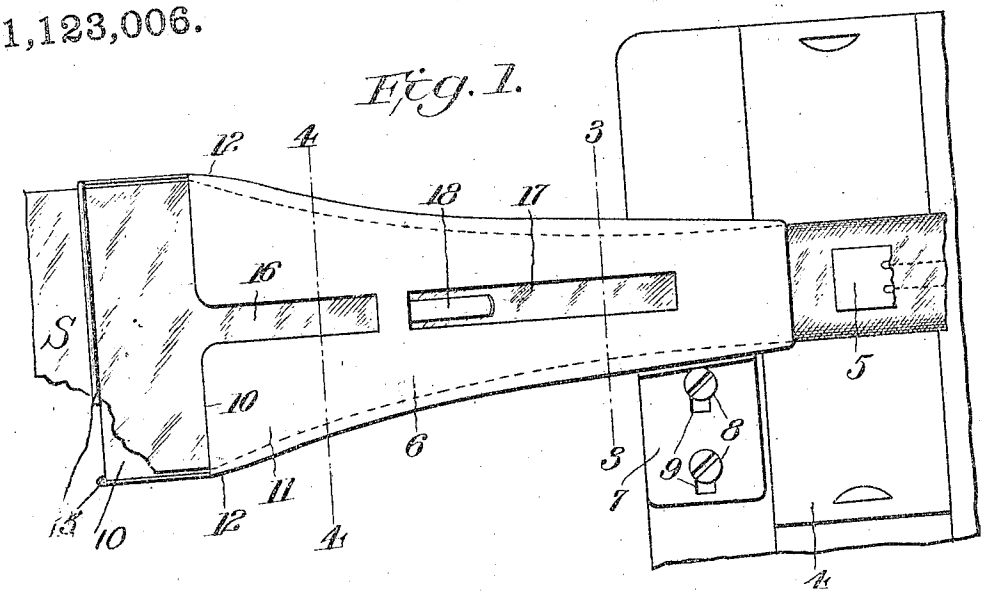


Fig. 8.

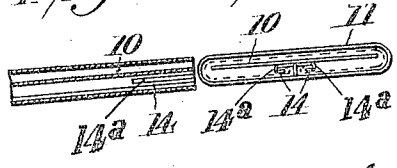


Fig. 2.

Fig. 3.

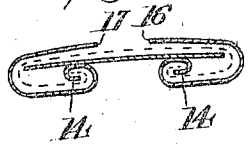


Fig. 4.

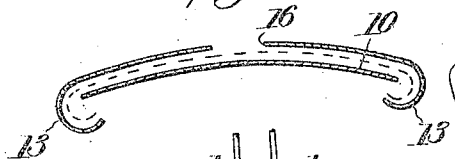


Fig. 5.

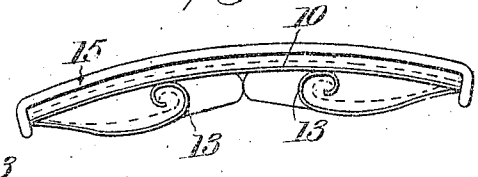


Fig. 7.

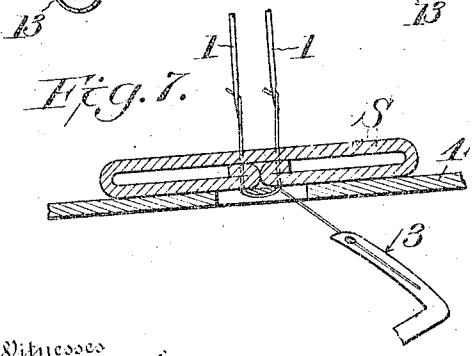
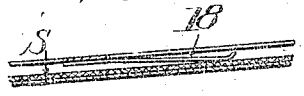


Fig. 6.



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UNITED STATES PATENT OFFICE.

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FOLDER FOR SEWING-MACHINES.

1,123,006. Specification of Letters Patent. Patented Dec. 29, 1914.

Application filed August 5, 1909. Serial No. 511,442.

To all whom it may concern:

Be it known that I, CHARLES L. RATHBUN, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Folders for 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.

The invention relates to new and useful improvements in folding devices for sewing machines, and has for an object to provide a folding device wherein a strip of fabric may be guided and the side edges thereof folded, so as to bring the edges adjacent each other, substantially in the center of the strip.

A further object of the invention is to provide a folding device wherein a strip of fabric may be guided and the side edges folded, so that the same will meet substantially in the center of the strip, the meeting edges of the strip being folded in, so as to prevent the appearance of raw edges.

A further object of the invention is to fold a strip in the manner above described, and secure the same by parallel lines of stitching, together with cross stitching which covers the meeting edges.

These and other objects will in part be obvious, and will in part be hereinafter more fully described.

In the drawings which show by way of illustration, one embodiment of the invention,—Figure 1 is a top plan view of my improved folder, showing the same attached to the bed plate of a sewing machine and with the fabric and parts of the folder broken away to show the plate over which the strip is led and around which said strip is folded; Fig. 2 is a view of the delivery end of the folder; Fig. 3 is a section on the line 3—3 of Fig. 1; Fig. 4 is a section on the line 4—4 of Fig. 1; Fig. 5 is a view of the receiving end of the folder; Fig. 6 is a longitudinal sectional detail, showing the tension finger; Fig. 7 is a sectional view through the folded strip at the stitching point, showing the position of the work support, the needles and the looper; Fig. 8 is a detail, showing the folding scroll at its delivery end.

In carrying out my invention, any suitable stitch-forming mechanism may be used, but, as herein shown, I have provided a stitch-forming mechanism including two spaced needles 1—1 and a looper 3, which cooperates with both of the needles and will form cross stitches extending from one line of stitching to the other.

The work support 4 and the presser foot 5, are of the usual construction. The folder 6 is attached to the work support by a supporting shank 7, and suitable screws 8, passing through slots 9 formed in said shank. The folder comprises a supporting plate 10, which is slightly arched at the receiving end, as shown in Fig. 5. At the delivery end, said plate 10 is substantially flat, and is of considerably less width than at the receiving end. Said plate, as shown in dotted lines in Fig. 1, gradually tapers from a point near its receiving end to its delivery end. This plate 10 forms a support for the strip of fabric, around which said strip is gradually folded, and will serve to hold the folded strip flat, and deliver the same to the stitching mechanism. A folding plate 11 is secured to the supporting plate at the points 12, 12, near the receiving end of the folder, the whole forming a body portion, and said folding plate is spaced from the supporting plate 10, and arranged substantially parallel therewith, as shown in Figs. 2 to 5, thus forming a guiding channel. The supporting plate 11 has its side edges 13 carried around underneath the supporting plate 10, and the distance said side edges extend underneath the plate 10 gradually increases toward the delivery end, as shown in Figs. 4, 3 and 2. At the delivery end, the folding plate 11 completely encircles the supporting plate 10. The free edges of the folding plate are gradually formed into folding and guiding scrolls 14, 14, as shown in Fig. 3, which as they approach the delivery end, are brought nearer and nearer together, until the edges passing through the folding scrolls 14 are substantially abutted, as shown in Figs. 2 and 7. The supporting plate 10 projects slightly beyond the folding plate 11 at the receiving end, and carries a guiding wire 15, which is arranged substantially parallel with the supporting plate, as shown in Fig. 5, and extends along the edge of the folder to strengthen the same. The folding plate 11 is cut away at 16 and at 17, so as to form an opening through which the fabric may be engaged

to assist in threading the strip of fabric into the folder. A tension finger 18 is carried by the supporting plate 11, and bears upon the strip passing through the folder, so as to put a slight tension thereon. The folding scroll 14, adjacent its delivery end, is cut away at the side as at 14ª, in order to allow free delivery of the folded edge. The folded strip after leaving the folder is directed to the needles 1, 1, which enter the folded strip so as to pass through the folded edges which are positioned adjacent each other centrally of the strip. A looper cooperates with the needles to form a series of cross stitches covering the meeting edges.

A strip of fabric S which is substantially the same width as the receiving end of the folder, is led through the folder. Said strip of fabric, when it reaches the portion of the folder indicated in Fig. 4, will have its edges gradually carried around to the end side of the strip. When the portion shown in Fig. 3 is reached, the edges of the strip have been carried to a greater distance underneath the strip, and the free edges of the strip are again folded, so as to conceal the raw edges. When the strip leaves the folder, as shown in Fig. 2, the edges are brought substantially together, meeting centrally of the strip, and in this position they are guided to the stitching mechanism.

Various modifications may be made without departing from the spirit of my invention.

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

1. A folding device for sewing machines, comprising a body portion having a guiding channel to receive a strip of fabric, said body portion being shaped so as to fold the side edges of said strip and bring the side edges adjacent each other substantially in the center of the strip, and guiding scrolls formed in said body portion for turning in the meeting edges of the strip.

2. A folder for sewing machines, having a tapered substantially flat supporting plate and a folding plate spaced from said supporting plate, and lying substantially parallel therewith, said folding plate extending around the outer edge of the supporting plate, whereby a strip may be guided between said plates and have its side edges folded so as to lie adjacent each other centrally of the strip, and guiding scrolls formed in said folding plate for turning in the meeting edges of the strip.

3. A folder for sewing machines including in combination, a supporting plate tapered toward its delivery end, a guiding wire connected to and spaced from said supporting plate for guiding a strip flat against said supporting plate, a folding plate extending around said supporting plate for folding said strip around said plate, said folding plate at the delivery end of the folder having folding scrolls on its side edges, which are in contact with each other, whereby a strip may be folded and have its edges meeting substantially centrally of the strip.

4. A folder comprising a body portion, having a guiding channel to receive a strip of fabric, said body portion being shaped so as to fold the side edges of the strip, and bring said side edges adjacent to each other, said folder having supplemental guiding means with delivery end substantially central of the folder, and adapted to engage and turn in an edge of the strip folded.

5. In a folding device, a body portion having means to fold the side edges of a strip back upon itself, a second folding device acting to give the inturned portions of said strip a second fold, said second folding device comprising right and left hand folders inclining toward each other, whereby the edges are oppositely turned.

6. In a folding device, a body portion having means to fold the side edges of a strip back upon itself, a second folding device acting to give the inturned edges of said strip a further fold, said second folding device comprising right and left hand folders inclining toward each other and in contact at the delivery end, whereby the edges are oppositely turned.

7. A folding device having a body portion shaped so as to fold the side edges of a strip of material inwardly upon said body portion, a second folding device operating upon the edges of the folded-in portion of the strip, subsequently to the first folding of the strip for turning in the raw edges of the material between said folded-in portions of the strip, and the body portion of the strip, said second folding-in portions being located between the first folding portions, which turn in the side portions of the strip.

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

CHARLES L. RATHBUN.

Witnesses:
CHESTER MCNEIL,
CARRIE HASS.