March 7, 1944. S. ZONIS 2,343,624

WORK-FOLDING ATTACHMENT FOR SEWING MACHINES

Filed July 4, 1942

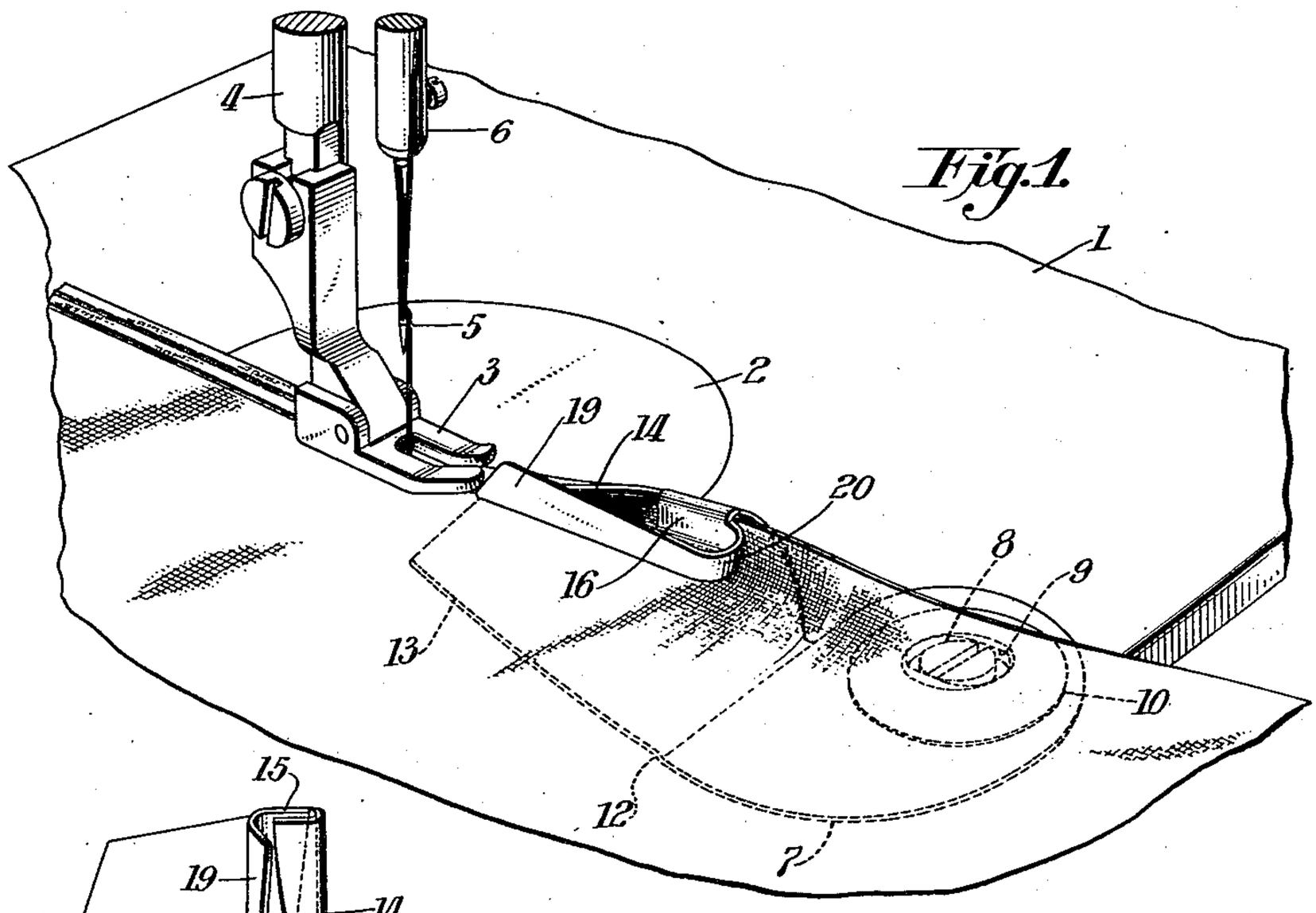

Fig. 1.

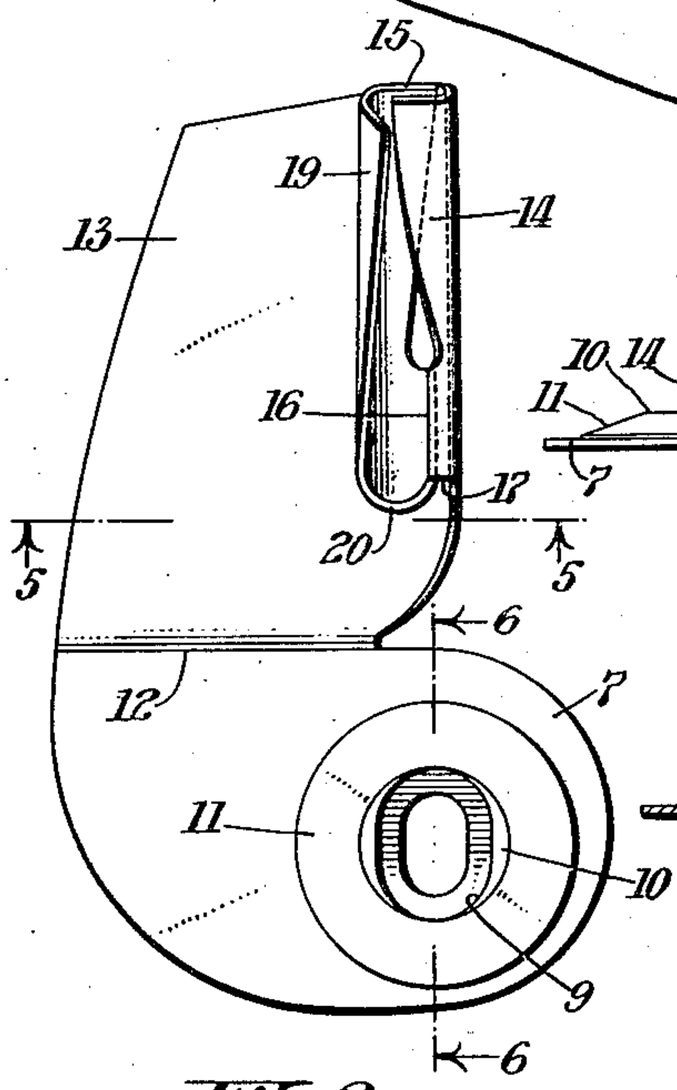

Fig. 2.

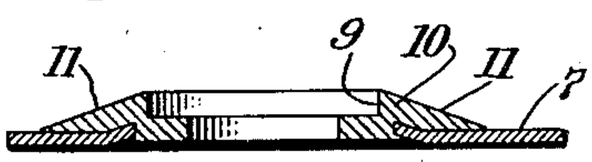

Fig. 6.

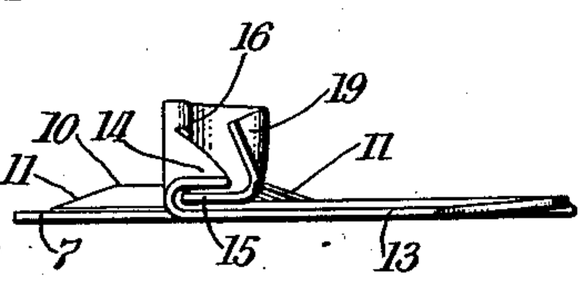

Fig. 4.

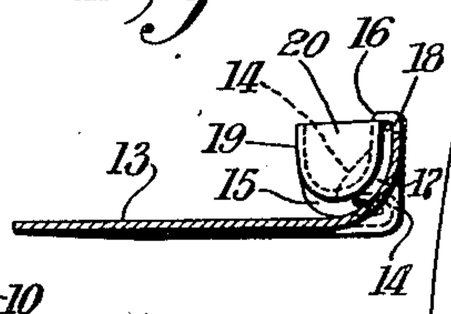

Fig. 5.

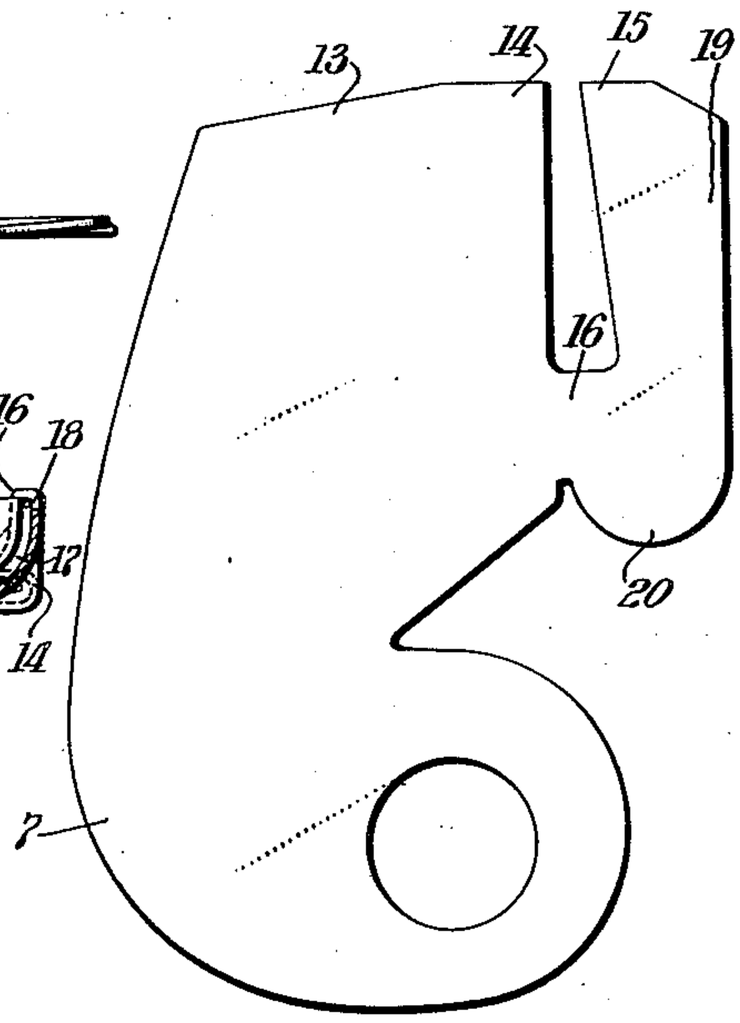

Fig. 3.

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WORK-FOLDING ATTACHMENT FOR SEWING MACHINES

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3 Claims. (Cl. 112—141)

This invention relates to new and useful improvements in sewing machine work-folders and has for its primary object to provide a unitary work-folding attachment exceedingly simple in design, yet sturdy and efficient in operation.

A second object of the present invention is the provision of a work-folding attachment constructed so that it may be readily loaded with the exact amount of fabric to be folded to form the seam.

A still further object of the invention is to provide a work-folding attachment designed to so fold the marginal portion of the fabric that the same will not be abnormally stretched or distorted during the folding action, but will be folded suchwise that the stitched seam will lie smooth and flat.

Further advantages attained by the present invention will be readily understood by those skilled in the art from the following description of a preferred embodiment of the invention, taken in connection with the accompanying drawing, in which:

Fig. 1 is a perspective view of work-folding attachment made in accordance with the present invention and shown as applied to a sewing machine.

Fig. 2 is a top plan view of the improved work-folding attachment.

Fig. 3 is a top plan view of a sheet-metal blank before the same is shaped to form the work-folding attachment.

Fig. 4 represents an end view of the delivery end of the attachment.

Fig. 5 represents a vertical sectional view taken along the line 5—5, Fig. 2, showing the shape of the folder at the receiving end of the work-folding scroll.

Fig. 6 represents a vertical sectional view taken along the line 6—6, Fig. 2.

The present improvement is shown applied to the work-support 1 of a sewing machine having a throat-plate 2, a presser-foot 3 carried by the usual presser-bar 4, and a threaded needle 5 carried by the conventional needle-bar 6.

In its preferred embodiment, my improved folder comprises a base-plate 7 which is adapted to be adjustably fastened upon the work-support 1 of the sewing machine by means of a securing screw 8 threaded into the work-support, the head of which screw 8 is adapted to be received in an elongated countersunk recess 9 preferably formed in a reinforcing block 10 riveted or otherwise secured to the base-plate 7. In order not to impede the loading of the folder or the travel of the work through the same the reinforcing block 10 is beveled, as at 11, to provide a relatively smooth surface devoid of sharp protuberances.

The base-plate 7, at its forward end, is bent upwardly slightly, as at 12, and terminates into a flat work-supporting apron 13 which along its right hand side edge (Fig. 2) is bent upwardly and over to provide a work-folding scroll 14. At the delivery end of the folder, see Fig. 4, the work-folding scroll 14 is substantially C-shaped, the apron 13 forming the bottom wall thereof and the scroll 14 forming the top wall thereof. Disposed between the parallel walls of the C-shaped scroll 14 and cooperating with the scroll for a major portion of its length is a substantially horizontal blade-like arbor-section 15 supported adjacent the receiving end of the folder by a relatively narrow vertically disposed shank 16 integral with the upper edge of the work-folding scroll 14. As shown in Fig. 5, the shank 16 is spaced laterally from the work-folding scroll 14 and thereby defines with the upturned inner or vertical wall of the scroll an L-shaped fabric-passageway 17 which is closed at its upper end by the edge-guiding surface or wall 18 of the shank 16 where the latter merges into the upper edge of the work-folding scroll 14.

The arbor-section 15, along the side edge remote from the work-folding scroll 14 is bent upwardly to provide a substantially vertical guide-wall 19, the purpose of which is to assist the operator in properly loading the attachment with the correct amount of fabric. At the receiving end of the attachment the vertical guide-wall 19 is extended rearwardly and curved, as at 20, so that it merges with the shank 16, thus providing the arbor-section of the folder with a blunt nose which functions to facilitate the proper introduction of the work into the scroll.

In loading my improved folder, the work to be edge-finished is laid upon the flat work-supporting apron 13 and then shifted laterally to the right (Fig. 2) until the margin of the work enters the fabric-passageway 17 between the arbor-section 15 and the work-folding scroll 14 and contacts the edge-guiding wall 18 at the upper end of the fabric-passageway. When the edge of the work contacts the edge-guiding wall 18 the proper quantity of work to produce the required edge-fold is included in the fabric-passageway 17. With the proper quantity of work thus determined, the operator lays her finger upon the work and against the guide-wall 19 and advances the work toward the delivery end of the attachment preparatory to the stitching operation,

making sure that her finger remains in contact with the guide-wall 19. It will be understood that the operator, by maintaining her finger against the guide-wall 19 during the loading operation, will advance through the folder a quantity of work determined by the capacity of the fabric-passageway 17 at the receiving end of the folder.

Concerning the production of my improved attachment, the design of the same is such that its manufacture is a relatively simple procedure. Using a common type of male and female die that portion of the blank (see Fig. 3) from which the arbor-section 15 is produced is inserted into the die and is given a drawing operation in order to bend up the guide-wall 19 and form the blunt nose-portion 20. When the blank is removed from the die the arbor-section is formed to the extent that only a slight bending over of the guide-wall 19 is required. This bending of the guide-wall is effected after the work-folding scroll 14 has been formed and the shank 16 which supports the arbor-section 15 has been bent as at 18, Fig. 5.

From the above description, it will be appreciated that a work-folder has been invented which, by virtue of the novel shape at the mouth or receiving end thereof, may be quickly and conveniently loaded. My improved folder also contemplates the provision of a guide-wall 19 which assists in the loading operation, and a scroll 14 which folds the work gradually and without abnormal stretch or distortion so that the resultant stitched seam will lie smooth and flat.

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

1. A work-folding attachment for sewing machines comprising a work-folding scroll having an L-shaped receiving end and a C-shaped delivery end, a horizontal blade-like arbor-section disposed between the limbs of the C-shaped delivery end of said scroll, a vertically disposed shank for supporting said arbor-section on said scroll, said shank being spaced from said scroll and providing with said scroll opposed walls defining a fabric-passageway, and a substantially vertical guide-wall formed on that side of the arbor-section which is remote from the work-folding scroll.

2. A work-folding attachment adapted to be formed from a single sheet-metal blank comprising an upturned work-folding scroll, a blade-like arbor-section cooperating with said scroll, a vertical shank integral at its lower end with said arbor-section and integral at its upper end with the upper edge of said upturned work-folding scroll, said shank being spaced from said scroll and defining with the same a fabric-passageway, and a substantially vertical guide-wall formed on that side of the arbor-section which is remote from the work-folding scroll.

3. A unitary sheet-metal work-folding attachment, for sewing machines comprising a work-supporting apron, a work-folding scroll integral along one of its edges with said work-supporting apron, a shank projecting from the opposite edge of said work-folding scroll and bent into substantial parallelism with said work-folding scroll to provide a fabric-passageway having a closed end, a blade-like arbor-section carried by said shank and having one of its edges disposed in cooperative relation with said work-folding scroll, and a guide-wall provided on said arbor and extending lengthwise thereof, said guide-wall at the receiving end of the attachment being reversely bent and merging with said shank to provide a blunt nose facilitating the introduction of work into the attachment.

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