Nov. 24, 1925. 1,562,930

W. D. TURNER

GUIDE FOR SEWING MACHINES

Filed May 23, 23

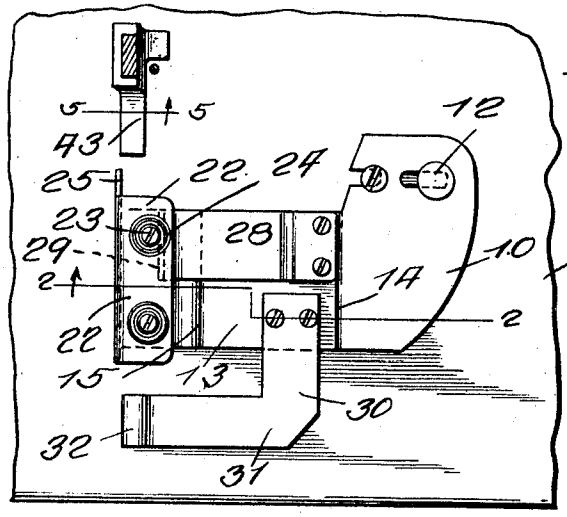


Fig. 1.

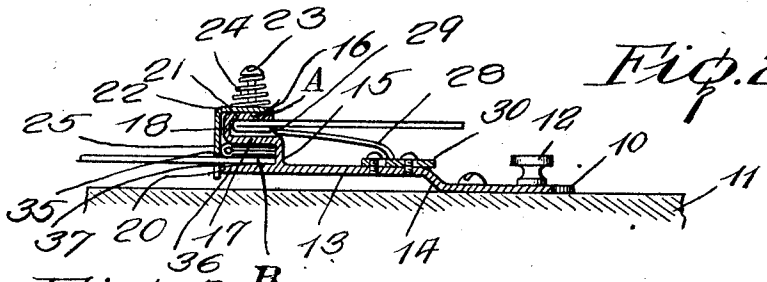


Fig. 2.

Fig. 3.

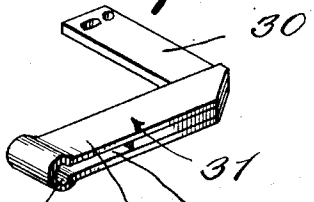


Fig. 4.

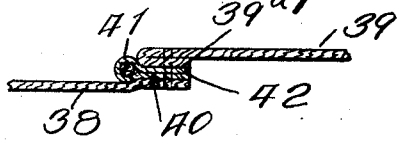
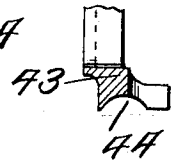


Fig. 5.



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UNITED STATES PATENT OFFICE.

WALTER D. TURNER, OF WACO, TEXAS.

GUIDE FOR SEWING MACHINES.

Application filed May 23, 1923. Serial No. 640,914.

To all whom it may concern:

Be it known that I, WALTER D. TURNER, a citizen of the United States, residing at Waco, in the county of McLennan and State of Texas, have invented certain new and useful Improvements in Guides for Sewing Machines, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to guides for sewing machines and more particularly to a guide adapted for use in forming seams which include the use of piping.

A further and more specific object of the invention is to provide a device of this character particularly adapted for guiding the sections of material used in forming casing covers for automobile tires.

A further object of the invention is to provide in combination with a guide of this character, a presser foot so constructed that it maintains the piping against transverse movement with relation thereto.

These and other objects I attain by the construction and arrangement shown in the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention and wherein like reference characters designate like parts throughout.

In the drawings:—

Figure 1 is a plan view showing the guide constructed in accordance with my invention applied to a sewing machine;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a perspective of the guide arm detached;

Figure 4 is a sectional view taken through the seam formed; and

Figure 5 is a section on the line 5—5 of Figure 1.

Referring now more particularly to the drawings, the numeral 10 indicates an attaching plate adapted to be secured to the bed plate 11 of a sewing machine by the securing elements 12 so employed to hold attachments upon the surface of the bed plate. The plate has a vertically offset portion 13 which is integrally connected thereto as at 14, this offset portion overlying the bed plate 11 of the machine in spaced relation thereto. Adjacent its longitudinal end edge the plate 10, and more particularly the offset portion 13 thereof, is provided with an upwardly extending flange 15 having secured thereto a reclining U-shaped guide member 16, the lower arm 17 of the U being slightly spaced from the upper surface of the offset portion 13 of the plate and the bight portion 18 thereof being disposed in the same plane as the free edge 20 of this offset portion. It will be noted that the edge of the plate 10, flange 15 and guide member 16 combine to form a body provided in opposite sides thereof with guide channels A and B, the guide channel A being substantially vertically above the channel B so that this body is S-shaped in cross section. Upon the upper surface of the upper wall 21 of the channel A a plate 22 is arranged, through which are directed securing elements 23 engaged in the upper arm 21 and upon which the plate 22 is vertically movable. Between the heads of the securing elements 23 and the plate 22, springs 24 are disposed, normally maintaining this plate against the upper surface of the arm 21, the outer edge of this plate being provided with a depending flange 25 extending adjacent the outer surface of the bight portion of the U-shaped member 16 and slidably abutting the free edge of the portion 13 of the plate 10. It will be noted that this flange 25 forms a guide space by closing the mouth of the channel B, the ends of this guide space being open.

Secured to the plate 10 and more particularly to the offset portion 13 thereof, as at 27, is a spring member 28, the end of which extends into the channel A intermediate the arms 17 and 21 of the U-shaped member 16 and which is provided at its end with an upturned flange 29 directed toward the uppermost arm 21 of the U which forms the upper wall of the channel A, this flange paralleling the bight portion 18 of the U. The offset portion 13 of the plate has further secured thereto an arm 30 provided with an angular portion 31 formed at its end with an eye 32. In the present instance I disclose this eye as formed by providing a strip of sheet metal 33 formed intermediate its ends to provide the eye and having its end portions in slightly spaced relation as indicated at 34, these end portions having their extremities attached to the angular portion 31 of the arm in any suitable manner. The eye 32, and more particularly the opening thereof, is in longitudinal alignment with the end of the guide space B. The flange 25 has the end thereof next adjacent the eye cut away as indicated at 35,

and the corresponding corner of the offset portion 13 of the plate, indicated at 36, is slightly down-bent so that this corner combines with the flange to form a V-shaped mouth 37 into which a piece of cloth may be introduced to lift the flange 25 and plate 22 against the action of the springs 24.

In Figure 4 I have illustrated the seam which the guide is particularly adapted to construct. The seam, it will be noted, includes an under ply 38 of material, an over ply 39 and a beaded piping strip 40. In the completed seam the piping strip has the bead 41 thereof exposed to view, this bead usually being of a different color from the under and over plies 38 and 39. Since the over ply 39 is exposed to view, the end portion 39^a thereof must be reverted and in the construction of vehicle tire covers this reverted edge is usually glued or otherwise fastened in position before the goods is introduced to the machine. In the contruction of the guide the flange 29 is spaced from the adjacent face of the base of the channel A formed by the bight portion 18 of the U a distance equal to the distance of the marginal edge of the over ply 39 and the inner edge of the reverted portion 39^a. The eye 32 of the arm 30 is made of such size that it slidably receives the bead 41 of the piping strip 40, the body 42 of the piping strip extending into the space 34 provided therefor. From the eye 32 the piping strip is led through the guide space B from end to end, the space between the adjacent faces of the flange 25 and flange 15 forming the base of the channel A being equal to the double width of the piping strip. The under ply 38 of material is led beneath the eye 32 of the arm and engaged in the mouth 37 of the guide opening B, the edge of the under ply abutting the outer face of the flange 15 beneath the piping strip 40. The inner face of the bight portion 18 of the U is in a vertical plane corresponding to the inner edge of the bead 41 of the piping and since the edge of the over ply 39 abuts against the inner face of this bight portion the over ply is held in such position that only the bead 41 of the piping strip is exposed to view.

By an inspection of the sectional view shown in Figure 2 it will be seen that when the materials are so arranged the edges of the piping strip 40, under ply 39 and the reverted portion 39^a of the over ply 39 are aligned and the goods accordingly positioned for the formation of the seam therein. It will be obvious that the piping strip 40 being relatively narrow and accordingly flexible will have a tendency to move after lifting the guide and before engaging beneath the presser foot 43. I accordingly form the presser foot 43 with a concaved under surface 44, this concavity extending longitudinally of the presser foot and forming a guide for the feed of the piping to prevent transverse movement thereof with relation to the under and over plies 38 and 39. I am aware that heretofore the under surfaces of the presser feet have been concaved for various purposes and I accordingly do not claim this construction of the presser foot as new except in the combination hereinbefore set forth.

What is claimed is:—

1. A guide for use in forming seams comprising oppositely directed under and over plies, comprising a member S-shaped in cross section providing oppositely directed ply edge receiving channels, and a resilient element projecting into one of said channels and abutting one wall thereof in spaced relation to the base of the channel.

2. In a sewing machine guide for use in forming seams comprising oppositely directed under and over plies, the over ply having the edge thereof reverted and secured, comprising a member S-shaped in cross section and providing oppositely directed ply edge receiving channels, a resilient element projecting into the upper channel and abutting the upper wall thereof in spaced relation to the base of the channel, the edge of the resilient element being spaced from the base of the channel into which it projects a distance equal to the marginal edge of the over ply and the edge of the reverted portion thereof.

3. A guide for use in forming seams comprising oppositely directed under and over plies, comprising a member S-shaped in cross section providing oppositely directed ply edge receiving channels, a resilient element projecting into one of said channels and abutting one wall thereof in spaced relation to the base of the channel, and a vertically movable plate secured to the upper surface of the S-shaped member and having a depending flange closing the mouth of the lower channel.

4. A guide for use in forming seams comprising oppositely directed under and over plies, comprising a member S-shaped in cross section providing oppositely directed ply edge receiving channels, a resilient element projecting into one of said channels and abutting one wall thereof in spaced relation to the base of the channel, a vertically movable plate secured to the upper surface of the S-shaped member and having a depending flange closing the mouth of the lower channel, and springs normally maintaining the flange in a position closing the mouth of the lower channel.

5. In a guide for material and a welt, a base plate, an arm rising therefrom and constituting a guide for material, the said arm having an extension lying parallel to the base plate, an upstanding portion and a portion integral therewith overlying the first mentioned extension, a tongue suitably

anchored and having a free end lying in the space between the extensions for guiding a strip of fabric, a plate on the second mentioned extension having a depending flange projecting below the first mentioned extension, and a welt guide at the side of the arm, through which the welt travels in engagement with the depending flange, substantially as described.

6. In a guide for material and a welt, a base plate, an arm rising therefrom and constituting a guide for material, the said arm having an extension lying parallel to the base plate, an upstanding portion and a portion integral therewith overlying the first mentioned extension, a tongue suitably anchored and having a free end lying in the space between the extensions for guiding a strip of fabric, a plate on the second mentioned extension having a depending flange projecting below the first mentioned extension, a welt guide at the side of the arm, through which the welt travels in engagement with the depending flange, and means for yieldingly holding the plate on an extension of the arm, substantially as described.

7. In a guide of the character described, a base plate, an arm extending upwardly therefrom and having an extension overlying the said base plate, an upwardly extending portion and an extension overlying the first mentioned extension with a space therebetween, a suitably anchored tongue having a free end projecting into the space between the extensions to engage a fold of material to be guided by the said tongue, a welt guide carried by the said base plate for delivering the welt to the space between the base plate and the first mentioned extension, and a guiding element engaging the edge of the welt for preventing its lateral movement.

8. In a guide of the character described, a base plate, an arm extending upwardly therefrom and having an extension overlying the said base plate, an upwardly extending portion and an extension overlying the first mentioned extension with a space therebetween, a suitably anchored tongue having a free end projecting into the space between the extensions to engage a fold of material to be guided by the said tongue, a welt guide carried by the said base plate for delivering the welt to the space between the base plate and the first mentioned extension, a guiding element engaging the edge of the welt for preventing its lateral movement, and means for yieldingly holding the guiding element in assembled relation to the arm.

In testimony whereof I hereunto affix my signature.

WALTER D. TURNER.