March 13, 1962 R. W. BURGESS 3,024,751

ZIPPER FOOT

Filed Feb. 24, 1960

Fig. 1.

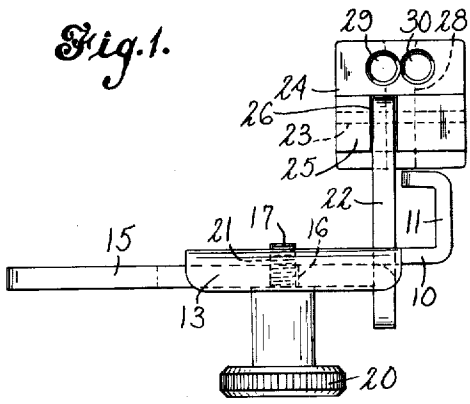


Fig. 2.

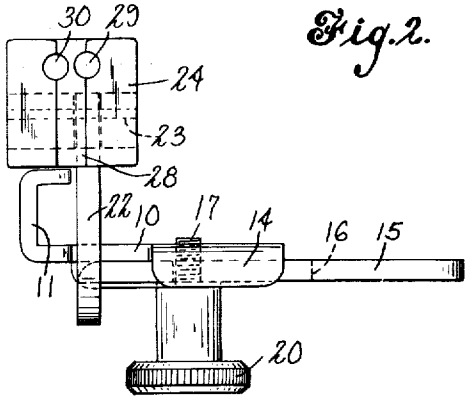


Fig. 3.

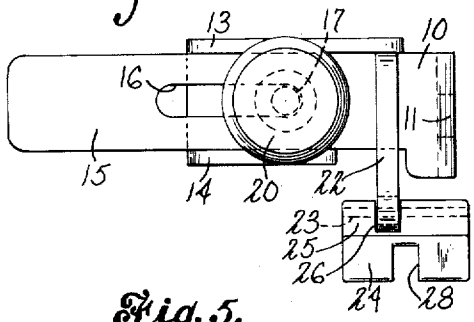


Fig. 4.

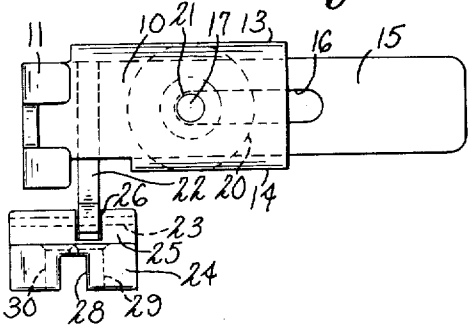


Fig. 5.

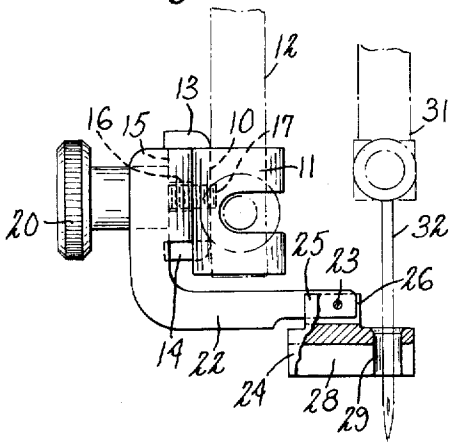
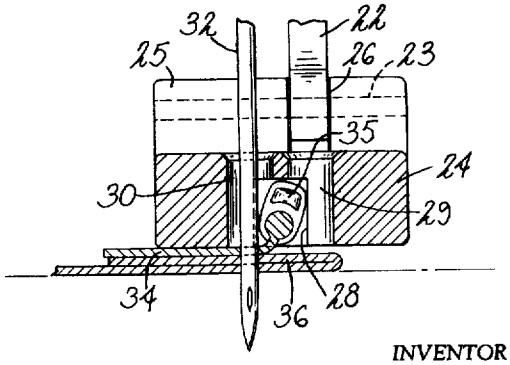


Fig. 6.



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ZIPPER FOOT

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1 Claim. (Cl. 112—235)

This invention relates to a zipper foot attachment for sewing machines and more particularly to a detachable sewing foot for the usual domestic sewing machine which may be advantageously employed to sew zipper tapes upon garments.

Zippers for fastening the edges of a garment are commonly mounted upon tapes which are sewed to the edges of the cloth on each side of the opening to be closed by the zipper fastener. If the usual sewing machine foot is employed for this purpose, it is not possible to make the line of stitching sufficiently close to the metal parts of the zipper fasteners so that the latter will be concealed when the garment is worn. For this reason usually a pleat or flap is formed in the garment at each side of the opening to project over the metal portion of the zippers and conceal them from view.

It is contemplated by the present invention to provide a zipper foot wherein the line of stitching which sews the zipper tape to the garment may be made in close juxtaposition to the metal parts of the zipper so that a concealed zipper or sliding clasp fastener will result, the metal portions of the fastener being concealed under the edges of the garment without the provision of a pleat or flap for this purpose.

To this end a sewing foot is provided which may be adjustably attached to the presser bar of a domestic sewing machine of usual form, the cloth-engaging portion of the foot being provided with a through longitudinal groove through which the material passes and a pair of vertical needle openings are provided in the foot, which openings intersect the longitudinal groove so that when the metal portions of the zippers are in this groove the sewing machine needle passing downwardly through the needle openings will lie in close juxtaposition to such portions and make the line of stitching at the extreme edge of the tape where it joins the metal portions. Two such needle openings are provided to facilitate the sewing of the zipper tape at each side edge of the opening in the garment and the foot is adjustable laterally so that it may be placed in such positions that the needle will enter first one opening and then the other.

One object of the present invention is to provide a sewing foot for sewing a zipper upon a garment in a concealed position.

A further object of the invention is to provide an adjustable sewing foot for sewing machines adapted to sew a line of stitching close to the metal fastener of the usual zipper fastener and movable to positions wherein it may be employed to sew a zipper tape on either side of the opening in a garment.

Still another object of the invention is to provide a sewing foot for sewing a concealed zipper fastener to a garment, the foot being provided with a longitudinal groove through which the metal portions of the zipper fastener are guided and provided with a pair of spaced needle openings intersecting such groove so that the foot may be adjustably secured to the presser foot of a sewing machine and adjusted to positions wherein the needle may pass through either of the vertical openings and effect a line of stitching closely adjacent the metal portions of the zippers.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed:

In the accompanying drawing:

FIG. 1 is a top plan view of an adjustable zipper foot embodying my invention;

FIG. 2 is a bottom plan view thereof;

FIG. 3 is a rear elevational view of the zipper foot;

FIG. 4 is a front elevational view thereof;

FIG. 5 is a side elevational view, partly in section; and

FIG. 6 is a sectional view of the zipper foot, the section being taken through the needle openings and showing the operation of sewing the zipper tape upon a portion of a garment.

To illustrate one embodiment of my invention, I have shown in the drawing an attachment plate **10** having the usual adapter **11** thereon for securement to the presser bar of a sewing machine in the usual manner, the presser bar being indicated in dotted lines at **12** in FIG. 5. The upper and lower edges of the plate **10** are flanged, as shown at **13** and **14**, to provide a guideway therebetween.

Within this guideway is slidably mounted a plate **15** having an elongated slot **16** therein through which may pass the threaded screw **17** to which is secured a button **20**, the screw **17** being threadedly received in an opening **21** in the plate **10**. With this construction it will be seen that when the screw **17** is loosened and the plate **10** secured to the presser bar, the plate **15** may be adjusted laterally with respect to the presser bar and secured in any adjusted position, permitted by the length of the slot **16** by tightening the screw **17**.

Formed integrally with the plate **15** at one end thereof is an L-shaped leg or shank **22** extending downwardly and horizontally from the plate and to the free end of the horizontal portion thereof is pivoted at **23** the cloth-engaging foot **24**. The foot is provided with an upstanding rib **25** having a recess **26** therein into which the end of the member **22** extends to be secured by a pivot pin at **23**.

This foot is provided with a longitudinal recess or groove **28** opening downwardly through the lower face of the foot, which groove is adapted to receive the metal portion of the zipper as shown in FIG. 6. The foot **24** is also provided with a pair of vertically disposed needle openings **29** and **30**, these openings being arranged side by side in spaced relation so that their axes lie substantially in the planes of the side walls of the groove and on opposite sides of the center line of the groove, as shown in FIG. 6. They intersect the groove **28** so as to communicate with this groove through its lateral edges.

The needle bar of the machine is indicated at **31** in dotted lines in FIG. 5 with the needle **32** secured thereto and it will be apparent that by means of the slot **16** and screw **17** the foot member **24** may be adjusted laterally so that the needle may pass either through the opening **29**, as shown in FIG. 5, or the opening **30**, as shown in FIG. 6.

In the use of the device the zipper tape **34** (FIG. 6) with the metal zipper fastener **35** secured to the edge thereof is placed upon the material **36** to which the fastener is to be secured. The metal portion **35** of the zipper lies within the groove **28** and will pass rearwardly through this groove when moved by the feed dogs of the sewing machine with which the attachment is used. It will be apparent that the needle **32** will effect a line of stitching very close to the metal fastener **35**, much closer than could be effected by the usual presser foot.

When one of the zipper tapes is sewed to the material, the attachment is adjusted by means of the slot **16** and screw **17** to cause the needle to register with the other opening **29**. The zipper tape at the other side of the opening in the garment may then be placed

below the presser foot with the metal portion of the zipper in the groove **28** and the stitch will be made close to the metal fastener **35** but on the right-hand side thereof instead of on the left-hand side, as shown in FIG. 6.

While I have shown and described one embodiment of my invention, it will be understood that it is not to be limited to all of the details shown, but is capable of modification and variation within the spirit of the invention and within the scope of the claim.

What I claim is:

In an attachment for a domestic sewing machinge having a presser bar and a needle bar carrying a needle, a support member having means thereon for the support of the member from the presser bar and for adjustment of the member transversely of the line of sewing, and a foot member carried by the support member in depending relation to the latter and extending lengthwise of the line of sewing, said foot member having means defining a single through longitudinal groove opening downwardly,

having a pair of side walls and a top wall, said groove providing a passage for at least a portion of either a right- or left-hand zipper stringer, the foot member having means defining a pair of needle openings extending vertically through the foot member on opposite sides of the center line of the groove and intersecting the groove, each of said openings having a transverse dimension approaching the width of said groove, and said openings being spaced so that approximately one half the width of each lies within said groove.

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