Oct. 7, 1947. E. E. MURPHY 2,428,431

SEWING MACHINE STRIP GUIDE

Filed Aug. 3, 1945

Fig. 1

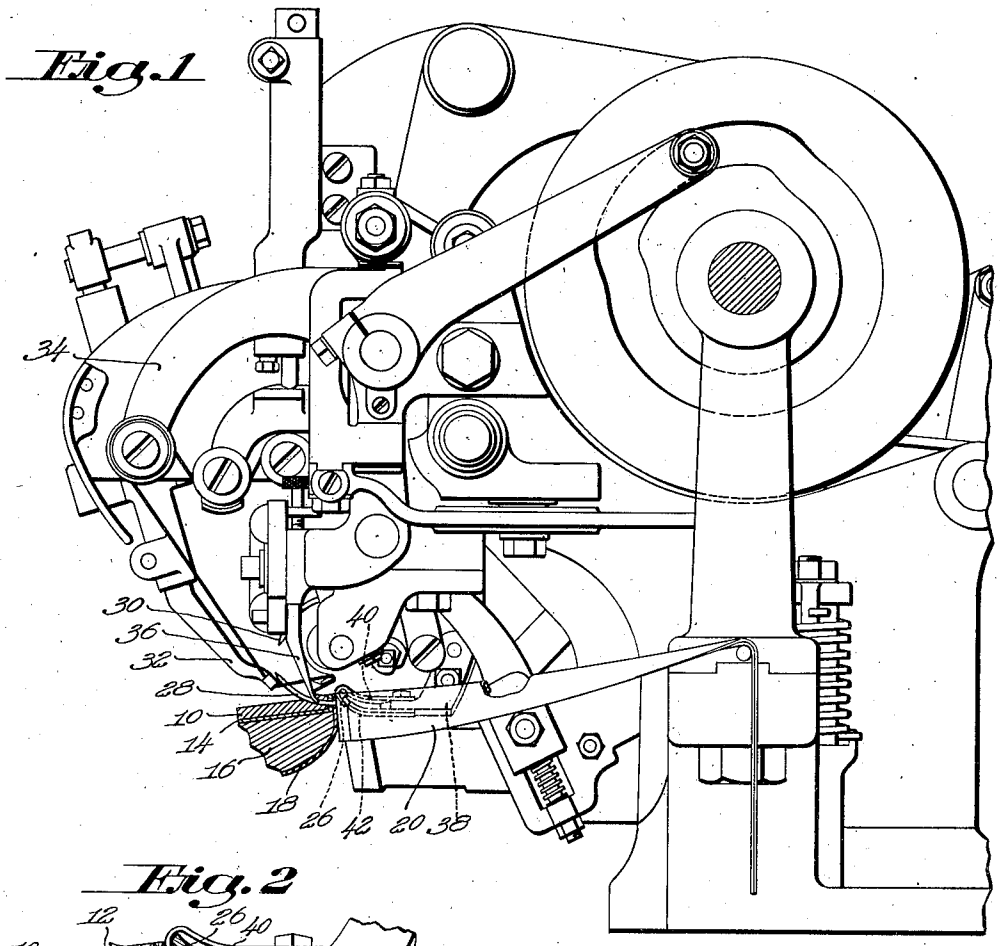


Fig. 2

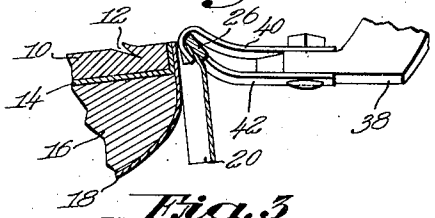


Fig. 3

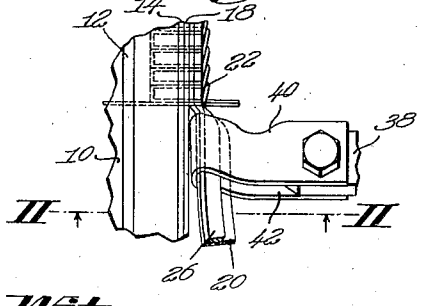


Fig. 4

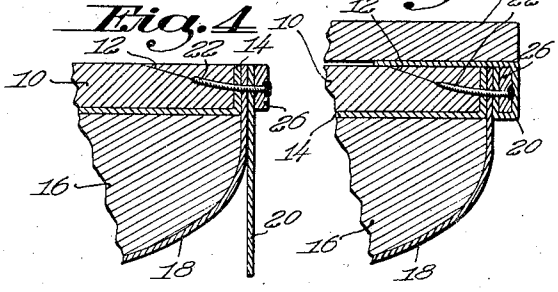


Fig. 5

Witness

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SEWING MACHINE STRIP GUIDE

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2 Claims. (Cl. 112—52)

1

The present invention relates to shoe sewing machines in the use of which an edge covering strip is secured to the sole or bottom part of a shoe, and more particularly to guiding devices for directing a platform sole edge covering strip or wrapper into the seams inserted by such machines for practicing the method of shoe construction disclosed in application for United States Letters Patent Serial No. 603,920, filed July 9, 1945, in the name of the present inventor.

In sewing a platform sole edge covering strip to a shoe, the usual practice is to guide the strip in such relation to the machine that the seam will pass through one edge of the strip while the other is left free to be wrapped about the edge of the platform sole. In a curved hook needle shoe sewing machine, there is little if any available space for the addition to the machine of bulky guides ordinarily necessary for sole edge covering strips or wrappers to direct them to the sewing point. Also, platform sole edge covering strips or wrappers are relatively flexible and are not susceptible to easy and accurate control and direction of movement.

In guiding a sole edge covering strip or wrapper into sewing position, it is desirable to sew the strip as close to one of its edges as is practicable, leaving free as great a width of the strip as possible for subsequent wrapping about the edge of the platform. With excessive flexibility, accurate control of a covering strip cannot be obtained merely by confining the strip throughout its entire width, the rigidity of the strip being insufficient to maintain proper guiding action. Furthermore, a platform edge covering strip or wrapper frequently is cut with a non-uniform width to fit the edges of a platform sole or heel lift having varying degrees of thickness throughout the length of the shoe, thus increasing still further the difficulty in controlling the strip.

Accordingly, the object of the present invention is to provide a simple and effective inseam shoe sewing machine having a platform covering or wrapper edge guide which will enable application of a strip to a shoe and afford accurate control of the strip to be obtained while the strip is being directed into a seam connecting the parts of the shoe, without the exercise of unusual skill or ability on the part of the operator, and, more generally, the object of the invention is to provide an improved construction for a shoe sewing machine designed to secure such a covering strip or wrapper to a shoe.

In the practice of the invention of the application above referred to, the sole and upper of a

2

shoe are assembled and suitably prepared for further operations, and one edge of a sole covering strip is provided with a lengthwise enlargement or reinforcement and is guided against the shoe by directing the enlargement into alinement with the sole edge while securing the strip and upper to the sole. As therein disclosed, the steps of making a shoe constructed in this manner include separately attaching a filler strip to one edge of the covering strip to provide the enlargement, guiding the filler strip into alinement with the sole edge, and sewing both strips with a single seam to the sole edge.

Conveniently, certain steps of the method disclosed in the above noted application may be performed effectively with the use of an inseam shoe sewing machine of the curved hook needle type provided with a novel and improved guide constructed to direct a reinforced edge of a flexible platform covering strip or wrapper into the seam inserted by the stitch forming devices of the machine with the flexible portion of the strip disposed in a plane substantially parallel to the marginal portion of a shoe upper which is secured in lasted relation to a platform insole, which guide, according to the principal feature of the present invention, comprises a frame, a hooked strap and a reinforcement retaining strap, both secured to the frame, with their ends suitably spaced to form a slot for the flexible portion of the covering strip and disposed with relation to each other to prevent escape of the reinforced edge of the covering strip from the guide. In providing a guide of this construction, and in utilizing a covering strip having the reinforcement along its edge, the edge may thus be directed accurately into the seam so that a firm anchorage in the seam for the covering strip may be obtained and so that a uniform and generally satisfactory shoe construction may result. Preferably, the separate filler strip comprising the reinforcement is attached with its edge in registration with the edge of the wrapper, and the hooked strap has its hooked end directed downwardly while the free end of the reinforcement retaining strap is directed upwardly to engage the under edge surface of the reinforcement, thus enabling the flexible portion of the cover strip to hang downwardly through the slot between the straps in a natural unwrinkled condition.

Other features of the invention consist in devices, combinations and arrangements of parts hereinafter described and claimed, the advantages of which will readily be understood from

the following description taken in connection with the accompanying drawings, in which

Fig. 1 is a view in right side elevation of the upper portion of an inseam shoe sewing machine containing a platform binding or wrapper guide embodying the present invention;

Fig. 2 is a detail view, on an enlarged scale and partly in section taken along the line II—II in Fig. 3, of a shoe and edge covering strip, showing their relative positions while being directed together by the guide illustrated in Fig. 1;

Fig. 3 is a plan view of the parts illustrated in Fig. 2;

Fig. 4 is a sectional view on a still further enlarged scale, showing the construction of a shoe assembled on the machine of the present invention; and

Fig. 5 is a similar view of the same shoe after completion and attachment of an outsole.

Before sewing a shoe with the illustrated machine, an insole 10 of the platform type is provided having an inside channel 12 formed along its bottom surface extending around the entire marginal portion of the insole. The edge surface of the insole is covered with a layer of thin, flexible material 14 secured to the inner surface of the insole by cement. The insole is then assembled on a last 16 with an upper 18 and the upper secured temporarily to the marginal portion of the insole by cement in a manner more fully disclosed in inventor's copending application above referred to.

In the construction of a shoe of this type, it is customary to employ a wedge heel or a similar form of heel lift to give the shoe more effective shape. After the heel or lift is applied, an insole edge covering strip or wrapper 20 is assembled with one of its edges in substantial registry with the bottom surface of the platform insole 10, and the parts are permanently secured in place by a line of inseam stitches 22 passing through the covering strip, upper and insole within the channel 12 (Fig. 4). After sewing, the covering strip is carried about the bottom of the insole and an outsole 24 is attached to complete the shoe generally, as illustrated in Fig. 5.

Where the covering strip is intended to cover the edges of the heel or lift as well as the edges of the insole 10, it may be cut with a width varying along its length so that excessive overlap and wastage will not occur along the bottom surface of the insole 10 while, at the same time, there will be sufficient width in the strip to cover the heel edge. Furthermore, the covering strip or wrapper 20 is of relatively flexible material, frequently in the form of fabric or flimsy coated stock, so that it is difficult to guide the strip accurately during its application to the shoe merely by confining the strip throughout its entire width and at both edges. With a variable width strip, guiding by confinement is rendered still more difficult since a guide of a side to receive the narrowest portion will cause the strip to become jammed or wrinkled when a wider portion is reached.

To overcome these difficulties, before the covering strip or wrapper is directed against the shoe for attachment to the insole edge, an enlargement is formed along one edge of the strip consisting of a separate reinforcing or filler strip 26 cemented to the edge of the covering strip. With such an enlargement, the two strips are guided together and, in directing the enlargement of the reinforcing strip into proper alinement with the insole edge, the covering strip is carried automatically into proper sewing position. By this expedient, the covering strip may be satisfactorily attached by machine while securing the other parts of the shoe together.

A shoe sewing machine equipped with a guide of novel and improved construction, as will be more fully set forth, for sewing a covering strip to the marginal portions of a shoe upper and platform insole, according to the present invention, comprises the usual stitch forming devices including a curved hook needle 28, a curved awl 30, a looper 32, a take-up 34, a channel guide 36, and other stitch forming devices similar to those in the machine disclosed in United States Letters Patent No. 1,108,560, granted August 25, 1914, on an application filed in the name of Andrew Eppler. In operation, the machine is adjusted to cause the needle to penetrate the marginal portion of a lasted shoe upper and the edge of the insole and to emerge from the bottom surface of the insole.

This machine is usually provided with a welt guide for directing a welt into the inseam of a Goodyear welt type shoe. In the present machine, however, the usual welt guide is removed and a modified form of strip guide substituted to facilitate directing the reinforcing strip against the shoe during sewing operations while the covering strip 20, supported along one edge with the reinforcing strip 26, is permitted to extend outside the guide in such a way as to avoid the formation of wrinkles or folds as would occur under close and complete confinement of flimsy, flexible materials. The adjustment of the present guide is such that the seam will intersect the filler strip and the attached edge of the covering strip substantially at right angles.

The strip guide of the illustrated machine has a frame 38 of substantially the same construction as that of the prior patent and a hooked strap 40 attached to the frame with its hooked end directed downwardly. The hooked end of the strap 40 is shaped to guide both the filler strip and upper edge of the covering strip in proper relation to the edge of a shoe insole when the shoe is presented to the machine. To prevent escape of the reinforcing strip, the guide is provided with a retaining strap 42 also secured to the frame 38 with its active, free end directed upwardly to engage the under edge surface of the reinforcing strip but at a position spaced from the hooked end of the strap 40 to form a slot through which the flexible portion of the covering strip or wrapper 20 may extend. Thus, the reinforcing strip is definitely confined, the width of the slot between the ends of the straps being insufficient to enable it to escape. Through its attachment to the reinforcing strip, the upper edge of the covering strip also is held from displacement and the downwardly extending portion of the covering strip is carried in natural, unwrinkled condition to its point of attachment to the shoe.

By adjusting the channel guide 36 and the position of the straps 40 and 42, the reinforcing strip and attached covering strip edge are directed into the seam line, the reinforcing strip being led in accurate alinement with the edge of the platform insole. After the parts thus acted upon are sewed, a permanent construction is provided which enables the completed shoe to display the desirable configurations of its shape and character to the fullest possible degree. Also, the number of separate operations required in the construction of the shoe are correspondingly re-

duced to a minimum, and relatively inexpensive and easily obtained materials may be utilized.

Having thus described the invention, what is claimed is:

1. An inseam shoe sewing machine having, together with other stitch forming devices, a curved work piercing needle arranged to penetrate the marginal portion of a lasted shoe upper and the edge of a platform insole and to emerge from the bottom surface of the insole, in combination with a guide constructed and arranged to direct a reinforced edge of a flat flexible platform sole wrapper into the seam inserted by the stitch forming devices with the plane of the wrapper in substantially parallel relation to the marginal portion of the upper, comprising a frame, a hooked strap attached to the frame, and a reinforcement retaining strap secured to the frame with its active end spaced from the hooked end of the hooked strap to form a slot for the wrapper and disposed closer to the hooked strap than the thickness of the reinforcement to prevent escape of the reinforcement from the hook of the hooked strap.

2. An inseam shoe sewing machine having, together with other stitch forming devices, a curved work piercing needle arranged to penetrate the marginal portion of a lasted shoe upper and the edge of a platform insole and emerge from the

bottom surface of the insole, in combination with a guide constructed and arranged to direct one edge of a flat flexible platform sole wrapper having a reinforcing filler strip attached in registering relation thereto with the filler strip intersected by the seam inserted and the plane of the wrapper in substantially parallel relation to the marginal portion of the upper, comprising a frame, a hooked strap attached to the frame with its hooked end directed downwardly, and a filler strip retaining strap secured to the frame having its active end directed upwardly to engage the under surface of the filler strip but spaced from the hooked end of the hooked strap to form a slot for the wrapper of a width less than the thickness of the filler strip to prevent escape of the filler strip from the hook of the hooked strap.

EVERETT E. MURPHY.

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