May 29, 1945. M. E. DUCKOFF 2,377,216

SHOE BINDING

Filed July 28, 1942

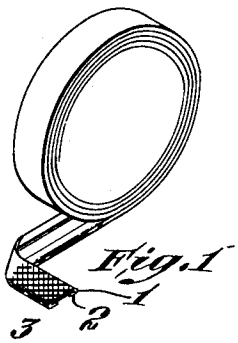


Fig. 1

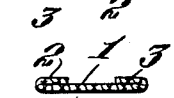


Fig. 2

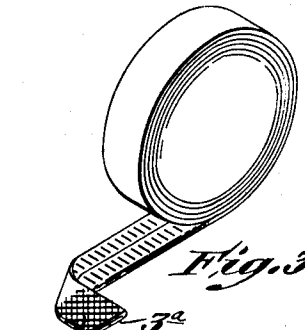


Fig. 3

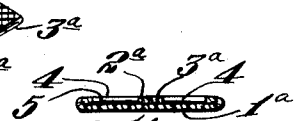


Fig. 4

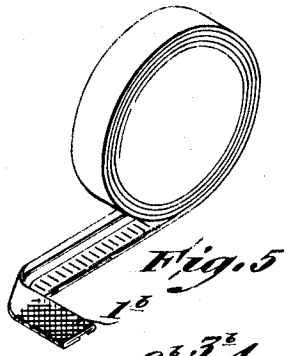


Fig. 5

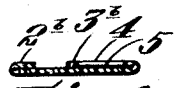


Fig. 6

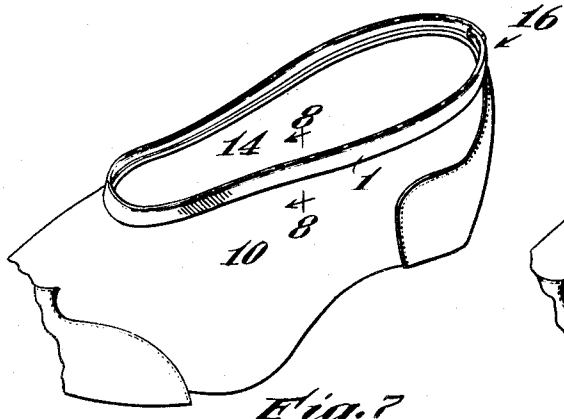


Fig. 7

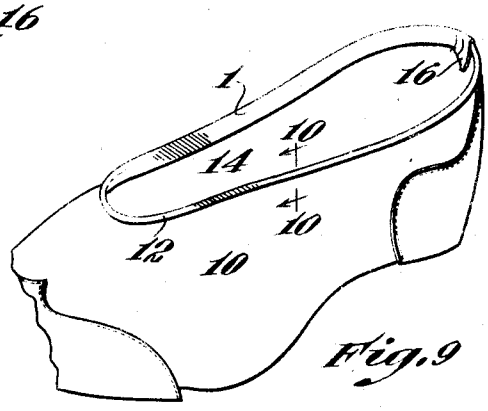


Fig. 9

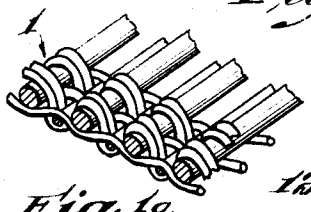


Fig. 1a

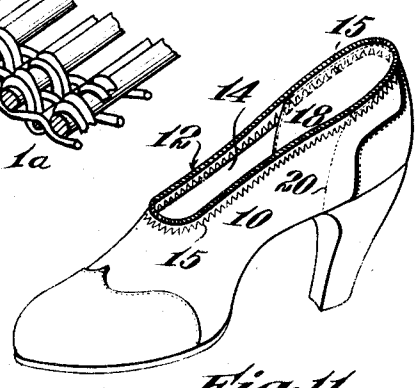


Fig. 11

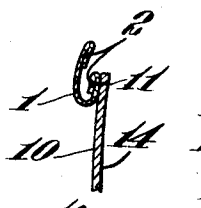


Fig. 8

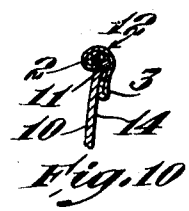


Fig. 10

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SHOE BINDING

Maxwell E. Duckoff, Manchester, N. H.

Application July 28, 1942, Serial No. 452,567

2 Claims. (Cl. 36—57)

This invention relates to the manufacture of shoes, and more particularly to an extensible tape for binding the edge of a shoe upper to provide an attractive finish.

In the manufacture of women's shoes it is customary to use a beaded edge, binding tape, or goring comprising either a rubber core element or embodying rubber threads, both if which constructions are effective to provide an elastic tape. Such tape is not only expensive, but due to present conditions is no longer available, and it is the principal object of the present invention to provide a binding tape which is not only inherently elastic in the sense that it is extensible and capable of returning to substantially its original length, but also relatively inexpensive and capable of producing an attractive finish.

Another object is to provide a shoe having a beaded upper edge capable of yielding sufficiently to ensure wearing comfort.

Further objects will be apparent from a consideration of the following description and accompanying drawing, wherein

Fig. 1 is a perspective view of a roll of binding tape made in accordance with the present invention;

Fig. 1ª is a fragmentary perspective, on an exaggerated scale, illustrating a fabric having a rib weave;

Fig. 2 is an enlarged, transverse section of the tape shown in Fig. 1;

Figs. 3, 4 and 5, 6 are views, similar to Figs. 1 and 2, respectively, showing modifications of my new binding tape;

Fig. 7 is a perspective view of an unlasted upper illustrating the manner in which the binding tape is applied to the upper edge thereof;

Fig. 8 is an enlarged section on the line 8—8 of Fig. 7;

Fig. 9 is a view, similar to Fig. 7, illustrating a further step in the application of the tape to an unlasted shoe upper;

Fig. 10 is an enlarged section on the line 10—10 of Fig. 9; and

Fig. 11 is a perspective view of the completed shoe.

In accordance with the present invention my new binding tape is cut on the bias from a woven fabric, preferably having a rib weave, and the cut edges are then turned or folded inwardly and if desired, cemented or otherwise secured in place. The inturned edges not only prevent raveling, but also provide a sewing margin or longitudinal zone of increased strength, the entire tape, due to its bias-cut structure, possessing an inherent elasticity or extensibility which not only permits an appreciable amount of longitudinal yield, but also permits the tape readily to conform to the curved contours and other irregularities of the shoe upper. If desired, one or both margins may be folded inwardly to provide an inturned marginal portion substantially greater than that necessary for sewing, in which case the inturned margin may be provided with spaced transverse slits, the ends of which terminate short of the longitudinal edges of the inturned marginal portion, thereby substantially increasing the extensibility of the inturned portions.

In the manufacture of shoes in accordance with the present invention, the obverse face of the binding tape is first applied and stitched to the outer face of the assembled upper and is then turned inwardly over the free edge of the upper to form a beaded edge with the opposite inwardly folded longitudinal marginal portion juxtaposed against the inner face of the upper and cemented, stitched, or otherwise permanently held in place. When thus applied to the upper, the binding tape provides a beaded edge which, due to the bias-cut structure of the tape and the mode of attachment, is sufficiently extensible to yield readily so as to conform to the wearer's foot, thus ensuring wearing comfort.

Referring to the drawing, the binding tape shown in Figs. 1 and 2 comprises a bias-cut length of fabric 1 having a rib weave simulating a grosgrain appearance, as illustrated in Fig. 1ª the longitudinal edges of the tape being folded inwardly to provide reinforced sewing margins 2 and 3, the inner edges of which are spaced from each other, as shown. If desired, the inturned margins 2 and 3 may be cemented against the reverse face of the tape, although hot pressing may suffice to maintain the marginal portions in place.

The binding tape 1ª, shown in Figs. 3 and 4, is similar to that shown in Figs. 1 and 2, being cut on the bias from a woven fabric and having its longitudinal edges inturned to provide sewing margins 2ª and 3ª. In this embodiment the inner edges of the margins 2ª and 3ª are substantially contiguous and each is provided with spaced transverse slits 4, the extremities of which terminate inwardly of the inner and outer edges of the marginal portions, as shown more clearly in Fig. 4. In this embodiment the marginal portions 2ª and 3ª are secured against the reverse face of the body portion of the tape by a

layer of rubber cement or other suitable adhesive 5.

In the embodiment shown in Figs. 5 and 6, the tape 1b is likewise formed from a bias-cut length of woven fabric, and one of its longitudinal edges 2b is folded inwardly so as to provide a sewing margin of a relatively narrow width, comparable to those of the embodiment shown in Fig. 1, while the other edge is inturned to provide a marginal portion 3b of substantially greater width. The marginal portion 3b is formed with transverse slits 4 and is secured in place by a layer of suitable cement 5, as in the embodiment shown in Figs. 3 and 4.

The application of the tape above described to an assembled shoe upper is generally the same for all modifications and for the purpose of illustration the embodiment shown in Figs. 1 and 2 is selected. A length of tape, slightly greater than the perimeter of the upper edge of an assembled shoe upper, is applied so that its obverse face is disposed against the outer face 10 of the upper and its inturned margin 2 extends along the upper marginal portion of the shoe upper and is stitched thereto by a line of stitching 11, as shown in Figs. 7 and 8. The longitudinal central portion is then turned over the upper edge of the shoe upper to form a beaded edge 12 and the opposite marginal portion 3 is juxtaposed against the inner face 14 of the shoe upper, as shown in Figs. 9 and 10.

The folded-over margin 3 may, if desired, be secured in place by a layer of rubber cement or other suitable adhesive, but in any case the margin 3 is permanently secured by a zigzag line of stitching 15 which extends through the margin and the upper, as shown in Fig. 11. The overlapping ends 16 (Figs. 7 and 9) of the tape are then trimmed and finally a heel liner 18 is applied and secured in place by a line of stitching 20, as shown in Fig. 11.

In a shoe constructed in acordance with the present invention the binding tape forms a beaded edge 12 which, due to the bias-cut structure, is inherently extensible and hence permits the upper edge of the shoe upper to yield sufficiently to conform to the wearer's foot, thereby ensuring a greater degree of wearing comfort than would otherwise be possible. The inturned edges 2 and 3 not only prevent raveling of the tape, but also form reinforced sewing margins, and where, as is preferred, the tape is cut from a fabric having a rib weave, the beaded edge 12 presents the attractive appearance of a helically twisted cord.

While I have shown and described different desirable embodiments of the invention, it is to be understood that this disclosure is for the purpose of illustration and that various changes and modifications may be made without departing from the spirit and scope of the invention as set forth in the appended claims.

I claim:

1. An extensible binding tape for shoe uppers free from elastic elements and consisting of an elongate bias-cut length of fabric having a rib weave with its opposite longitudinal marginal portions folded inwardly against one face to provide reinforced sewing margins, said inwardly folded marginal portions only being provided with spaced transverse slits, the ends of which terminate inwardly of the edges of said inwardly folded marginal portions, said tape when embodied in a shoe being extensible and retractible and its longitudinal intermediate portion, due to said rib weave, presenting the appearance of a French cord binding.

2. An extensible binding tape for shoe uppers free from elastic elements and consisting of an elongate bias-cut length of fabric having a rib weave with its opposite longitudinal marginal portions folded inwardly against one face to provide reinforced sewing margins, one of the inwardly folded marginal portions being of greater width than the other and being provided with spaced transverse slits, the ends of which terminate inwardly of the edges of the inwardly folded marginal portion, the body of the tape being free of such slits, said tape when embodied in a shoe being extensible and retractible and its longitudinal intermediate portion, due to said rib weave, presenting the appearance of a French cord binding.

MAXWELL E. DUCKOFF.