March 14, 1950 M. E. DUCKOFF 2,500,668

SHOE WITH BINDING HAVING ELASTIC AND INELASTIC SECTIONS

Filed June 3, 1948

Fig. 1.

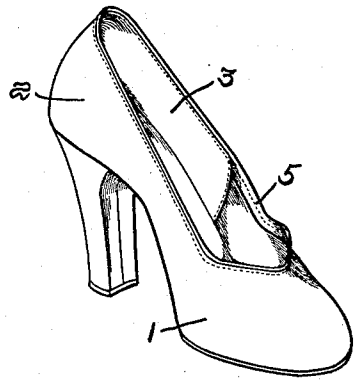
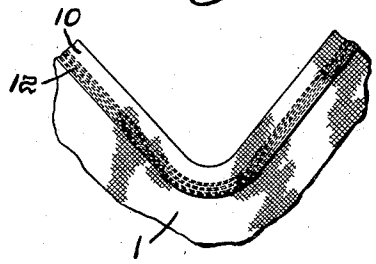


Fig. 2.



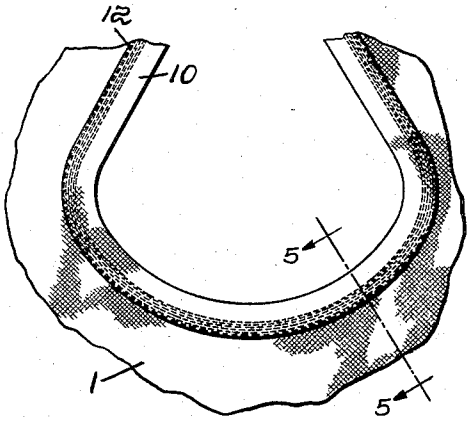


Fig. 3.

Fig. 4.

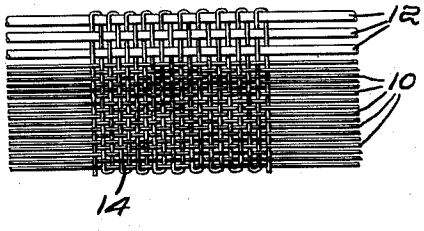
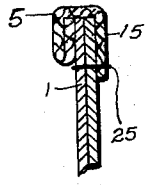


Fig. 5.



Inventor:
Maxwell E. Duckoff
By James R. Hodder
Attorney

Patented Mar. 14, 1950 2,500,668

UNITED STATES PATENT OFFICE

2,500,668

SHOE WITH BINDING HAVING ELASTIC AND INELASTIC SECTIONS

Maxwell E. Duckoff, Manchester, N. H.

Application June 3, 1948, Serial No. 30,838

3 Claims. (Cl. 36—57)

1

My present invention is a novel and improved binding for shoe uppers, particularly of the so-called French cord binding type, and includes the combination of same with a shoe upper, and the improved boot or shoe wherein my improved upper and binding are incorporated.

Heretofore it has been customary to bind the top edge portion of shoe uppers, particularly those designed for women's shoes, with a binding to protect the edge of the upper material and to provide a desired finish and ornamental appearance. The application of such a binding to the curved contours of the shoe upper particularly around the throat of the vamp has always proved to be difficult as the binding must be applied to permit a widthwise binding and attachment to the upper around the curved contours.

Usually such binding was attached, first, by adhesive and then by stitching, usually being applied with the adhesive edge portion to the inside of the upper and then folded over the edge, and thereafter permanently secured by zig-zag or other stitching. Because of the difficulty of applying the binding around the curved contours of the vamp, particularly at the throat and other curved parts, it has been customary to use either a binding strip made of elastic threads, or a non-elastic binding, which latter required snipping or pinking to permit the binding to be applied properly and lay flat.

The use of elastic binding has been highly objectionable because of the expense involved and the present difficulty of securing rubber or other elastic threads from which to weave such a binding. Also, elastic binding is unsatisfactory because the elastic threads disintegrate, do not hold stitching firmly, and rarely outwear the shoe.

On the other hand, a binding of non-elastic threads was always extremely difficult to apply flat around a curved contour with a short radius, requiring extra snipping and pinking at critical points and parts of the binding to permit the binding and upper to be united in a smooth and satisfactory condition.

My present invention is directed to obviate the difficulties above briefly outlined and first to provide a novel and efficient binding which will eliminate the necessity, delay, and expense of pinking and which will also eliminate the disadvantages, expense, and unsatisfactory character of an all-elastic binding.

By means of my present invention I thus provide a novel and efficient shoe binding particularly for French cord reinforcing and ornamentation, and thereby presenting an improved vamp

2

construction as well as constituting an improvement in the entire completed shoe.

My invention contemplates, first, an improvement in the weaving of a shoe binding of appropriate width and material, such weaving consisting in the utilization of standard non-elastic warp and filling threads, the warp threads being employed throughout the greater width of the binding, viz. two-thirds or three-fourths, and thereupon combining with the non-elastic warp threads a relatively narrow width of elastic warp threads, all being bound by the weave or filling and, thus, presenting a shoe binding so constructed and arranged as to have an elastic edge portion along one edge with the relatively inelastic body portion, and extending widthwise to and including the opposite edge of the binding.

Thus by means of my present invention, I produce a shoe binding which will permit the stretch of the elastic edge around the curved contour of the throat of the vamp or other curved portion of the upper and insuring the binding to lay flat thereon, without snipping, pinking, or undue skilled work in fitting the same, and yet provide a firm body portion to receive the stitching.

Thus my novel binding tape, stripping, or French cord binding enables the upper and binding to be quickly united into permanent, smooth, ornamental, and reinforced condition at high speed and without skilled labor, thereby permanently improving the condition, strength, and appearance of the upper and shoe into which it is incorporated.

My improved binding tape may be woven of cotton, rayon, silk, or other material or blends of the same, and may be as a grosgrain tape if desired.

Referring to the drawings illustrating a preferred embodiment of my present invention and method of making the same:

Fig. 1 is a diagrammatic view of a typical shoe for illustrative purposes;

Fig. 2 is an enlarged detail showing a fragmentary portion of the throat of an upper and binding;

Fig. 3 is a further fragmentary portion of an upper and my improved binding showing a different contour of throat;

Fig. 4 is an enlarged detail of my method of weaving and the resultant new binding made thereby with an elastic edge and non-elastic body portion extending to the opposite edge; and

Fig. 5 is an enlarged cross-sectional view on line 5—5 of Fig. 3.

Referring to the drawings, a shoe upper of typ-

ical contour is illustrated with the forepart or vamp 1, the rear or counter 2 made either from one piece or two, as desired, lining 3, and binding 5.

This binding, as best shown in Fig. 4, is woven with a series of warp threads 10 extending over the greater width of the binding and throughout its length, which warp threads are of cotton, silk, nylon, or any other suitable and standard normal inelastic material, relatively speaking, with regard to rubber, latex, or elastic threads. A short marginal edge portion of the binding comprises a series of elastic warp threads 12, all bound together with a filling 14. Thus, the binding has the greater part of its width, i. e., the body portion and one selvage edge of relatively inelastic warp and filling, and with a short marginal portion along the opposite edge of elastic warp threads and inelastic filling.

Thus, my binding can be bent or curved around a contour of relatively short radius by the inherent stretching of the elastic edge portion 12, and thereby permits the binding to be attached to the curved contours of the upper, as well as the straight sides along the quarters, bent over the edge and permanently stitched by a zig-zag or other stitching to unite the same in smooth contact with the edge of the upper independently of snipping or other fitting.

In Fig. 3 I have shown for illustrative purposes the construction of my improved binding with stretchable edge.

Thus, referring to Figs. 3 and 5, the upper 1 has my binding with the inelastic body portion 10 and the relatively elastic edge 12 attached to the edge portion of the upper, preferably by adhesive along the elastic edge, and thereupon bent over as at 15 and stitched as at 25 to the shoe upper and/or lining, giving a projecting, finishing, and protecting edge.

Thus, starting with my novel woven binding tape and the improved, simple, and efficient method of attaching the same to the shoe upper results in an improved upper and, consequently, in an improved shoe construction, eliminating the objectionable features of pinked portions of the tape and retaining all the advantageous features of an inelastic binding throughout the main width and body portion of the same, together with the advantages incident to a stretchable or elastic edge portion.

It will be appreciated that my novel binding tape permits the smooth attachment of the same

to any concave or convex curve within the usual limits of the radius of the same on any part of a shoe upper, the elastic edge portion being either stretchable or compressible, without snipping or weakening the binding.

Therefore, my improved tape is especially applicable not only to the shoe upper vamp, as shown in the drawings for illustrative purposes, but also to the curved edge of foxings, quarters, counters, strapping, or other shoe upper parts, whereby the same is an attractive and finished appearance as well as a reinforcement.

I claim:

1. An improved boot or shoe comprising an upper having a curved throat opening and a French cord reinforcing and finishing binding attached over the edge of said upper around the throat, said binding consisting of a single layer of woven material, a portion of the woven material adjacent one edge comprising non-elastic warp and filler material, the opposite edge portion having elastic warp and non-elastic filler material, said inelastic edge of the binder being attached in edge-to-edge relationship to the upper and turned over the edge of the upper to position the elastic edge of the binder in spaced relation to the edge of the throat of the shoe upper.

2. A structure as in claim 1, wherein the elastic edge of the binder is of less width than the inelastic edge thereof.

3. A structure as in claim 1, wherein the elastic edge of the binder is substantially one-third the width of the binder.

MAXWELL E. DUCKOFF.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
136,119	Winslow	Feb. 18, 1873
2,068,500	Marinsky	Jan. 19, 1937
2,223,775	Zide	Dec. 3, 1940
2,267,540	Vamos	Dec. 23, 1941

FOREIGN PATENTS

Number	Country	Date
449,818	Great Britain	July 6, 1936
625,170	France	Apr. 19, 1927