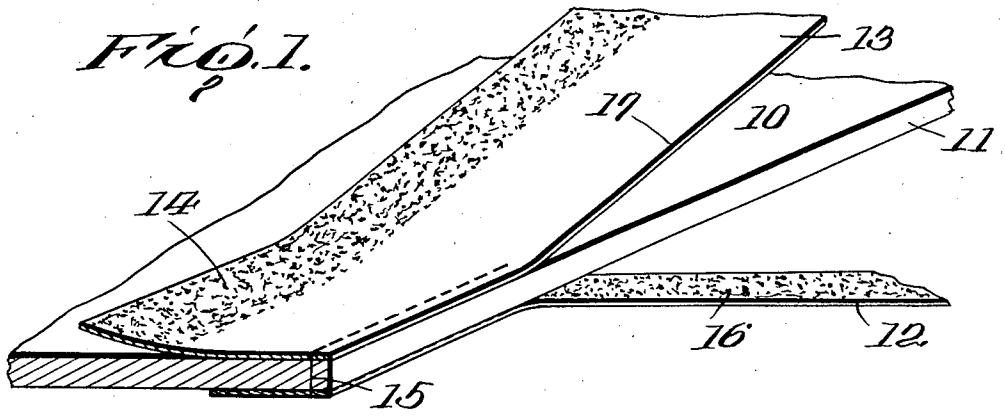
Dec. 5, 1933. F. D. HERALD 1,938,288

METHOD OF FORMING BINDINGS

Filed Jan. 9, 1931

Fig. 1.



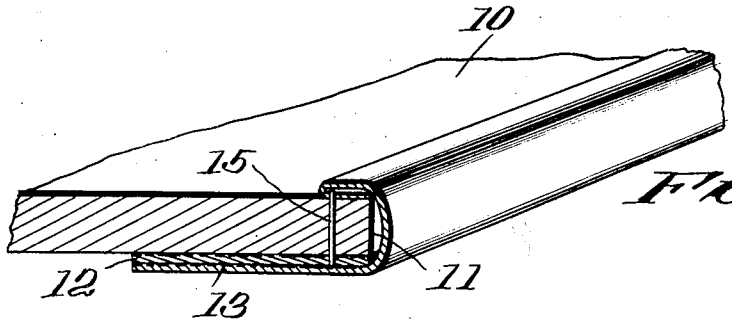
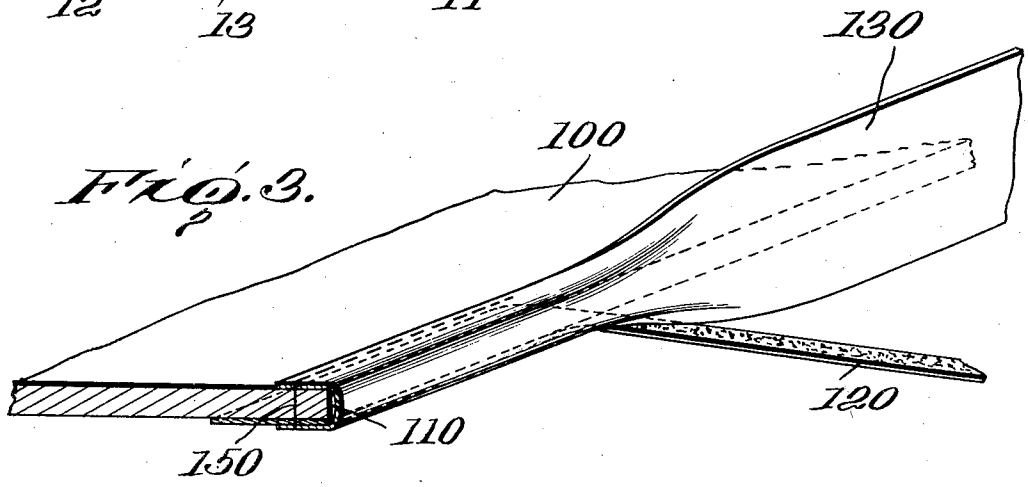


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE

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METHOD OF FORMING BINDINGS

Floyd D. Herald, Frankfort, Ky.

Application January 9, 1931. Serial No. 507,731

7 Claims. (Cl. 12—146)

The present invention relates to a method of forming bindings of the French and imitation French type, wherein a reinforcing tape and a finishing strip or binding are applied to the otherwise raw edge of a piece of work, and more particularly to the attachment of a rubberized reinforcing tape about the edges of a shoe upper and finishing of such upper by the application of a finishing strip to conceal the edges of the leather and tape, although the invention is well adapted to other work than shoe parts.

The practice in the present manufacture of shoes is to apply a reinforcing tape having a rubberized adhesive coating, to the upper adjacent its edge and on the inner side thereof, and to subsequently sew a strip of binding over such tape at opposite sides of the upper material, to produce an imitation French binding, or to secure the strip wrong side out on the outer face of the upper leather, and subsequently folding the binding strip over the edge and securing same in the case of genuine French binding, thereby to provide a reinforcement for the edges of the shoe upper.

Under this practice of taping or reinforcing shoes, it has been practically impossible to place the reinforcing tape on the leather so that the edge of the tape is exactly flush with the edge of the leather. This has been due in part to the fact that taping machines and methods of taping, regardless of whether cold tape or hot tape is used, require either a walking foot machine, or some means of hammering the tape to the upper material, there being no stitches utilized, reliance being placed upon the adhesive to hold the tape to the upper material.

At different times and under different weather conditions a great deal of difficulty is experienced in maintaining adhesion. Not only this but in taping around corners or sharp curves, it is very difficult at times to get the tape to stick and to avoid wrinkling.

The whole theory of taping involves a reinforcement of the leather and if the tape is not attached to or closely adherent to the leather at the outside edge, then any strain will cause parts to open up before the pull reaches the reinforcement itself.

It is important then in taping a shoe to get the tape flush with the edge so that when it is bound with the finishing or binding strip, the stitching that attaches the binding will also sew the tape. If the tape is not uniformly attached and flush with the edge, the stitching will run off the tape at different places, and it will be impossible to obtain a good, plump, uniform surface in the bound edge, this being particularly true when the upper leather material is light or flimsy, in which case if the reinforcing tape is not flush with the edge there will be a tendency to curl when bound.

Accordingly, one of the objects of the present invention is to provide a binding for upper leathers in which the reinforcing tape is uniformly and evenly attached to the upper with its edge flush with the edge of the upper and closely adherent thereto at all points.

In order to obtain these results it is essential that the binding and the reinforcing tape be simultaneously attached to the upper leather, and accordingly another object of the present invention is to sew the binding and tape to the upper in a single operation, whereby every stitch binds both the tape and the binding, uniformly to the upper leather therebetween and with the edges flush to give the uniform, plump, tight effect to the binding.

The present method is applicable to both imitation French binding and genuine French binding, and reference may be made to my co-pending application Serial No. 368,228, filed June 4th, 1929, wherein is disclosed a machine capable of forming imitation French binding, and to my application Serial No. 521,289 filed March 9th, 1931 wherein are disclosed machines for forming French and imitation French binding, by the present method.

As disclosed in these applications, the reinforcing tape is fed or supplied to the work substantially free of tension, i. e., under less tension than is required to pull same from a source of supply. Further, the amounts of tape supplied are preferably proportionate to demands of the work feeding and tape applying mechanism.

To the attainment of the above and other objects which will appear as the description proceeds, reference may be had to the accompanying drawing, in which

Fig. 1 illustrates an incomplete French binding;

Fig. 2 represents the completed binding; and

Fig. 3 represents a partially completed imitation French binding.

Referring to the drawing in detail, wherein like reference numerals designate like parts, there is disclosed in Figs. 1 and 2, a portion 10 of upper leather material having an edge 11 which is to be reinforced and bound with genuine French binding. Reinforcing tape 12 is applied to that side of the material which will form the inner

side of the completed article, this tape being usually coated on one surface with a suitable adhesive, sufficient pressure being applied to insure a firm union between the parts. The binding strip 13 having an adhesive coated section 14 is applied at the same time to the finished or outer surface of the leather, the tape and strip being simultaneously attached by stitching 15 to the leather and with their edges 16 and 17 exactly flush with the edge 11 of the work. Subsequently the strip 13 is turned or folded over the edge 11 and secured by means of the adhesive 14 to the reinforcing tape 12, as indicated in Fig. 2.

When forming an imitation French binding, (Fig. 3) the reinforcing tape 120 is used just as above described, but the binding strip 130 is bent, U-fashion and placed over the edge 110 to finish off and conceal both the edge 110 and the strip 120, the tape and strip being applied simultaneously. Stitches 150 serve, in addition to the adhesive coating on the tape to retain both the tape and strip in engagement.

It will be noted that in this instance just as above described the edge of the tape is exactly flush with the edge of the work 100.

It is customary under known methods of manufacturing shoes, to provide a stay or reinforcer at the seam where the vamp and quarter are sewed together, at the top of the back seam stay and around eyelets and buttonholes, particularly where the buttonhole is in a narrow slipper strap. Such reinforcers or stays are used to protect the leather against breaking or pulling apart at these points when the shoe is lasted, or under strains.

An advantage of the present invention, however, resides in the fact that many such reinforcements may be eliminated and even on the narrow slipper straps, wherein the tape itself reinforces around the buttonhole. By this method such uniform and satisfactory work is obtained all around the upper, including the throat of the vamp, and at seams, as to avoid necessity for any stays.

The center of the throat of the vamp collar of a shoe is a point where great strain and most striking weakness usually occurs in certain shoes, and there is a tendency to break out in lasting at this point, or to break out under constant use.

With the present method not only is uniform work obtained, but the binding and tape being applied and secured simultaneously avoid such difficulties as those mentioned, as well as saving an operator's time.

What I claim as new and desire to secure by Letters Patent of the United States is:—

1. The method of binding the edge of a shoe upper which comprises simultaneously attaching a relatively narrow reinforcing tape to one side of the upper and a binding strip to both sides thereof, with the edge of said tape flush with the edge of the upper.

2. The method of binding a piece of work, which comprises applying an adhesive reinforcing tape substantially free of tension to the work, and adhesively securing same thereto, applying a binding strip to the work and securing said tape and strip by sewing to the work, all in a single operation, while maintaining the edges of the tape and strip flush with the work.

3. The method of reinforcing and binding a piece of work which comprises stitching an adhesive reinforcing tape and a binder over the edge of the work in a single operation, whereby every stitch binds both the tape and the binding uniformly to the work therebetween.

4. The method of binding a piece of work which comprises simultaneously attaching a reinforcing tape adhesively to one side of the work, and a binding strip having an adhesive coated portion to the opposite side of the work, with the edges of said tape and strip flush with the edge of the work, and subsequently folding the body of said strip over the secured edge thereof, the edge of the work and said edge of the tape, and attaching the adhesive coated portion of said strip to the work.

5. The method of forming a French binding on a shoe upper, which comprises applying an adhesive reinforcing tape substantially free of tension to one side of the upper under pressure and sewing a binding strip to the other side of the upper in a single operation whereby every stitch binds both the tape and binding to the upper therebetween.

6. The method of forming an imitation French binding on a shoe upper which comprises applying an adhesive reinforcing tape to one side of the upper under pressure and sewing a binding strip over said tape and the edge of the upper in a single operation, whereby every stitch binds both the tape and the binding to the upper therebetween.

7. The method of forming a U-shaped edge binding on a shoe upper which comprises applying an adhesive reinforcing tape to one side of the upper under pressure, folding a binding strip over the tape and the edge of the upper and stitching the strip to the upper, in a single operation, whereby every stitch binds both the tape and the binding to the upper therebeween.

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