

July 9, 1935.

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2,007,262

ART OF FINISHING THE EDGES OF FLEXIBLE MATERIAL

Filed Aug. 14, 1933

Fig. 1

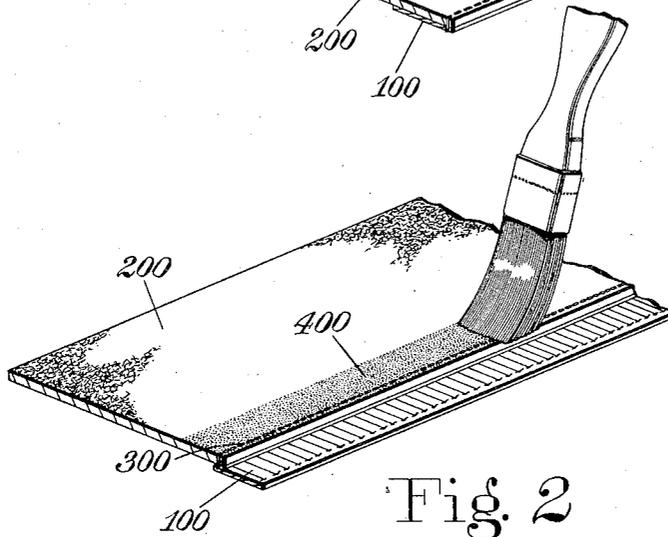
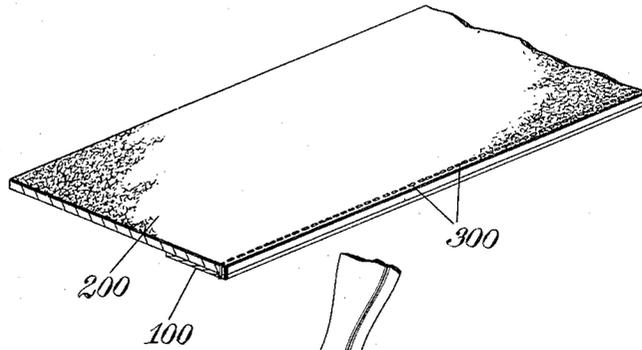


Fig. 2

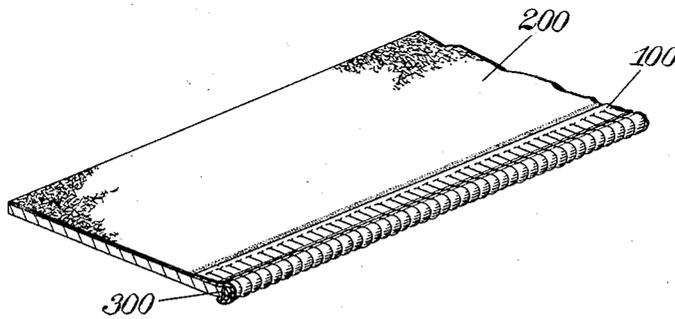


Fig. 3

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2,007,262

ART OF FINISHING THE EDGES OF FLEXIBLE MATERIAL

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Application August 14, 1933, Serial No. 684,956

7 Claims. (Cl. 12-146)

This invention relates to a method of finishing the edge of a piece of leather or other flexible sheet material, more particularly to the finishing of the edge of a piece of sheet material which is to be used as part of the upper of a boot or shoe, and to the article which results from the practice of the method.

An edge of a piece of upper material for use in boots and shoes is commonly finished by attaching to the display side of said material along said edge one edge of a fabric binding strip and thereafter folding the free portion of the strip about the edge of the sheet material and over upon the other side of said sheet material, cement having previously been applied to the strip or to the margin of the sheet material or to both so that the binding strip will adhere to the sheet material. As a result of this procedure, the edge of the sheet material is covered by a part of the binding strip and presents a pleasing finished appearance.

Two procedures for carrying out this general method are in common use. According to one procedure, the binding strip is first sewed to the piece of sheet material, a coat of cement is applied to the binding strip and to the margin of the sheet material, and then the binding strip is folded over and pressed into place while the cement is still sticky. According to the other procedure, the binding strip is coated with a thermoplastic cement before being sewed to the sheet material, and this coating of cement is softened by heat just prior to the folding operation.

However, a binding strip coated all the way across its width with thermoplastic cement has been found somewhat difficult to stitch properly to the sheet material because the needle of the sewing machine is liable to become gummed. Consequently, when the procedure employing thermoplastic cement is used, the binding strip is commonly coated with a narrow band of cement along the margin thereof, leaving the opposite margin uncoated and hence in condition to be stitched more readily to the sheet material.

The first-named procedure, which makes use of what is called "wet cement", which is commonly a solution of rubber in naphtha, has the drawback that because such a cement must stand for a considerable interval before it becomes properly sticky, the pieces of work which have been coated with cement must be handled very carefully until after they have been folded, since otherwise they are liable to stick to and thereby soil one another. The second procedure (the one employing thermoplastic cement) is not open to this objection because the coating of cement on the strip is in

its normal hard, non-sticky condition until the piece of work is to be folded, whereupon the piece is commonly passed through a suitable machine which progressively heats the cement and folds the binding strip. This second procedure, however, has the drawback that in the finished work the binding strip is frequently not attached throughout its whole width to the sheet material but only throughout that portion of its width which was initially coated with the cement. In order to obviate the drawbacks of the two procedures which have been outlined above, as well as to facilitate generally the production of a properly bound edge, a binding strip consisting in whole or in part of threads or fibers capable of being gelatinized by treatment with a solvent for said fibers is attached to the piece of leather or other flexible sheet material and is treated with a solvent prior to the completion of the folding operation to render it sticky so that it will adhere firmly to the sheet material. In practicing this method the disadvantages mentioned above in connection with the two commonly practiced procedures are obviated. There is no danger of soiling the work; the binding strip may be stitched to the piece of sheet material without difficulty, and in the finished folded work the binding strip is attached throughout its width to the piece.

Referring to the accompanying drawing,

Fig. 1 is a perspective of a portion of the upper of a shoe, such as a leather part, to which has been stitched a fabric binding strip consisting in whole or in part of threads or fibers which may be gelatinized by treatment with a solvent.

Fig. 2 is a perspective of the same piece of work showing the application of coating consisting of or containing solvent to the margin of the piece of leather after the binding strip has been pulled out so as to lie in a plane which is parallel to that of the leather piece, and

Fig. 3 is a perspective of the same piece of work after the folding operation has been completed.

In practicing the method, the binding strip is first sewed to the leather piece by a row of stitches which are parallel to aligned edges of the strip and the piece. This binding strip may conveniently be made of a material known as "Celanese" which is a fabric made of threads or fibers of cellulose acetate, a substance which may readily be gelatinized by treatment with a solvent such as acetone or various other well-known solvents, or mixtures of solvents, the term "solvent" being used in a general

sense as embracing swelling or dispersing agents for colloids. The binding strip need not be made entirely of soluble threads or fibers provided that it contains enough of such threads or fibers so that the surface of the binding strip, or a sufficient extent of the surface, becomes properly gelatinized upon treatment with the solvent to cause the strip to adhere to the piece of sheet material after the strip has been folded about the edge of the sheet material and pressed against a margin thereof as shown in Fig. 3, the pressure deforming the sticky gelatinized fibers more or less and forcing them into intimate contact with the leather or other material of the shoe parts 200. And although the soluble threads or fibers have been described as made of a cellulosic compound, such for example, as cellulose acetate, the only essential is that they be made of a substance which can readily be gelatinized by treatment with a solvent to provide a properly sticky substance. The solvent used will depend upon the material of which the binding strip is made, the conditions under which the folding operation is carried out, and the sort of leather or upper material the edge of which is to be finished; and the solvent may be applied either to the binding strip or to the margin of the sheet material or to both. Preferably, the solvent will contain in solution or dispersion sufficient cellulosic or other cementitious substance to render it viscous and will be applied along the margin of the sheet material as illustrated at 400 in Fig. 2. The use of a solvent made properly viscous has two advantages. First, it lessens the tendency which a thin liquid would have to strike through the sheet material and thereby to stain or otherwise injure the display side of said material. For example, if the sheet material is patent leather, any solvent which strikes through will injure the patent leather finish. Second, it permits the production of a firm bond between the binding strip and the sheet material with less gelatinizing of the cellulose acetate or other soluble fibers than would otherwise be the case, since it is not necessary to gelatinize the cellulose acetate sufficiently and in sufficient quantity so that the gelatinized substance may be forced into the pores or interstices of the sheet material when it is pressed into place as would be the case if a pure solvent were used.

Although the method, as specifically described, includes the rendering of the attaching surface of the binding strip sticky through practically its whole width, it should be understood that the invention is not limited in its broader aspects to such a procedure.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. The method of finishing the edge of a piece of flexible sheet material which comprises attaching to the display side of the sheet along an edge thereof an edge of a fabric binding strip consisting in whole or in part of fibers capable of being gelatinized by treatment with a solvent, folding the free portion of the binding strip about the edge of the sheet and over upon the other side

of the sheet and, prior to the completion of the folding operation, subjecting the soluble fibers to the action of a solvent.

2. The method of finishing the edge of a piece of flexible sheet material which comprises attaching to the display side of the sheet along an edge thereof an edge of a fabric binding strip consisting in whole or in part of fibers of a cellulosic compound capable of being gelatinized by treatment with a solvent, folding the free portion of the binding strip about the edge of the sheet and over upon the other side of the sheet and, prior to the completion of the folding operation, subjecting the soluble fibers to the action of a solvent.

3. The method of finishing the edge of a piece of flexible sheet material which comprises attaching to the display side of the sheet along an edge thereof an edge of a fabric binding strip consisting in whole or in part of fibers of cellulose acetate capable of being gelatinized by treatment with a solvent, folding the free portion of the binding strip about the edge of the sheet and over upon the other side of the sheet and, prior to the completion of the folding operation, subjecting the soluble fibers to the action of a solvent.

4. The method of finishing the edge of a piece of flexible sheet material which comprises attaching to the display side of the sheet along an edge thereof an edge of a fabric binding strip consisting in whole or in part of fibers capable of being gelatinized by treatment with a solvent, coating the margin of the sheet material with a solvent rendered viscous by the presence in it of a cementitious compound, and folding the free portion of the binding strip about the edge of the sheet material.

5. The method of finishing the edge of a piece of flexible sheet material which comprises attaching to the display side of the sheet along an edge thereof an edge of a fabric binding strip consisting in whole or in part of fibers capable of being gelatinized by treatment with a solvent, applying to the work a coating of a solvent rendered viscous by the presence in it of a cementitious compound, and folding the free portion of the binding strip about the edge of the sheet material.

6. As an article of manufacture a part of the upper of a shoe having stitched to and folded about the edge thereof a binding strip adhesively united to the shoe part by deformed threads which have been gelatinized.

7. The method of finishing the edge of a piece of flexible sheet material which comprises stitching to the display side of the sheet along an edge thereof an edge of a fabric binding strip consisting in whole or in part of fibers capable of being gelatinized by treatment with a solvent, folding the free portion of the binding strip about the edge of the sheet and pressing it upon the other side of the sheet and, prior to the pressing operation, subjecting the soluble fibers to the action of a solvent.

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