June 7, 1938. W. C. VIZARD 2,119,801

WELTING AND SHOEMAKING THEREWITH

Filed Aug. 4, 1936

Fig. 1

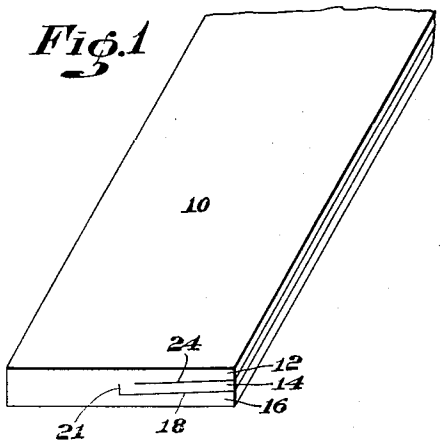


Fig. 2

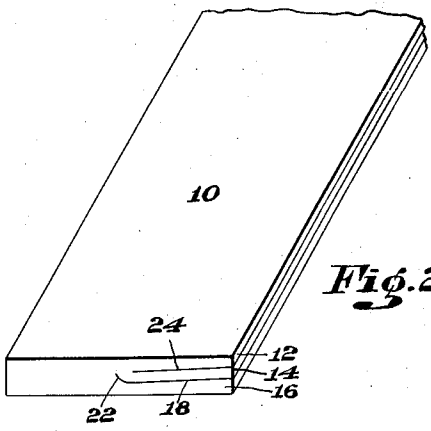


Fig. 3

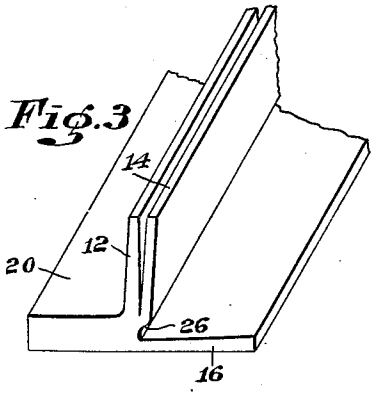
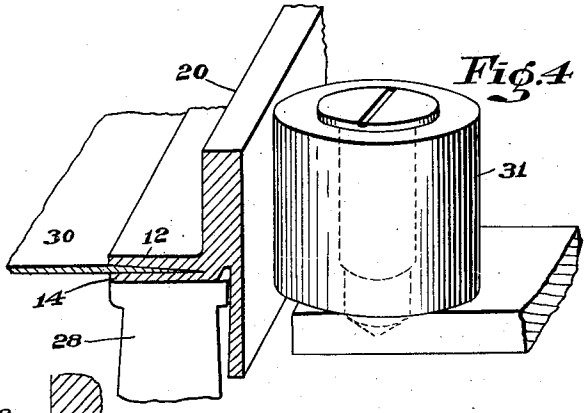


Fig. 4



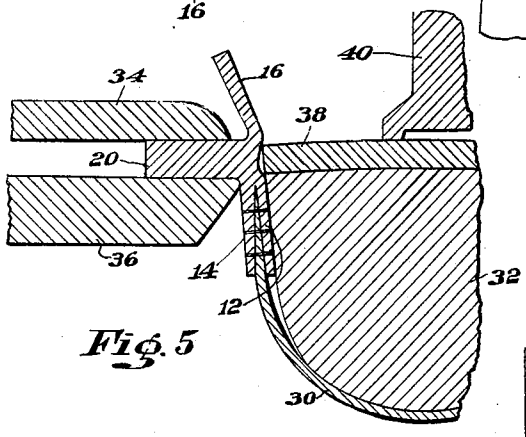
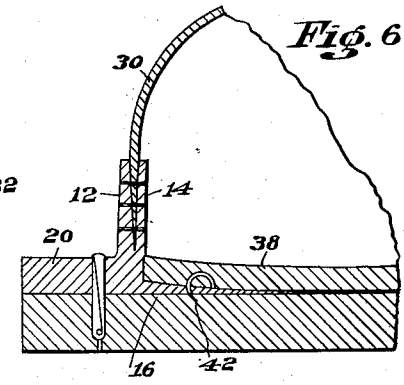


Fig. 5

Fig. 6



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UNITED STATES PATENT OFFICE

2,119,801

WELTING AND SHOEMAKING THEREWITH

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Application August 4, 1936, Serial No. 94,166

10 Claims. (Cl. 36—17)

This invention relates to welting of the type disclosed in United States patent to Pearl C. Arnold No. 2,039,287 and to improved shoemaking therewith in the manufacture of shoes having a scant upper or one too short to overlast.

The main object of the present invention is to improve welting, characterized by marginal upper embracing flaps in a manner to facilitate performance of the lasting process thereby to preserve the entire width of the welt extension with relation to the upper of the shoe in which the welting is incorporated. A principal advantage accruing from the improvement of this invention resides in overcoming the excessive curling of the welt, either down or up, at the sharper curves of the shoe bottom which heretofore has seriously interfered with a proper beating-out of the welt. The improved welt affords the further advantage of making it possible for the operator when shaping the toe (and heel when the shoe is full-welted) to produce a well defined crease for setting the welt extension in the proper plane with relation to the insole for bottoming with an outsole.

Accordingly this invention comprises welting of the said Arnold patent type improved to gain the objects and advantages herein set forth, including also the process of its manufacture and its incorporation in shoes of the kind having a scant upper, all as hereinafter described and then particularly pointed out in the appended claims.

The invention will best be understood by reference to the accompanying drawing, in which:

Figure 1 is a view, in perspective, of a portion of a welting strand of grain leather split twice at one edge to produce two upper embracing flaps and a lasting allowance flange;

Fig. 2 is a view, in perspective, similar to Fig. 1 of a modified cutting to produce the lasting allowance flange;

Fig. 3 is a view, in perspective, of the welting shown in Fig. 1 illustrating the free hinging of the flaps and of the flange thereof;

Fig. 4 is a view, in perspective, of the position of the welt on a sewing machine table while stitching the upper to the welt;

Fig. 5 is a view, in transverse section, of one half of a welted upper on a last illustrating the opened welt during the process of first lasting and of shaping the welt extension to the shoe bottom; and

Fig. 6 is a view, in cross-section, showing the relation of the welt and its extension to the insole and outsole in the completed shoe.

In the following description the manufacture and use of the welting of this invention will, for simplicity, be confined to the processing of grain leather, but it should be distinctly understood that the usefulness of this invention is not limited to leather because any suitable welting material may be processed and used in like manner; nor are dimensions given because they vary greatly with the size and kind of shoe for which the welting is made. The general field of usefulness of the welting includes children's, growing girls', misses', little gents' and boys' shoes; work shoes for all ages; and sport shoes, particularly of the serviceable type.

In the embodiment of the invention shown in Figs. 1 and 3 a grain leather strand 10 is slit twice transversely through one edge producing a grain flap 12, an adjoining flesh flap 14 and an underlying lasting allowance flange 16. The lasting allowance slit 18 in Fig. 1 extends as far inward as is possible commensurate with the preservation of an adequate width of welt extension 20 after the upper-embracing flaps have been turned upward from the lasting allowance flange, as shown in Fig. 3. The slit 18 is provided with an inner terminal edge which may be angular as at 21 in Fig. 1 or curved as at 22 in Fig. 2. In either case the blade of the splitting knife will have an upturned or "hooked" end. It will be observed that the depth of the upper-embracing flaps slit 24 is somewhat less than that of the lasting allowance slit 18 and is cut on such a plane that its inner edge lies within or spaced from the terminal of the hooked inner edge of the slit 18. When the upper-embracing flaps are lifted from the lasting allowance flange as shown in Fig. 3, the hooked edge formation of the slit 18 provides a shoulder 26 at the base of the flesh flap 14. In the new cutting the two slits, while preferably parallel to each other, are not parallel to the faces of the welting strand but each has a slight inward and downward slope relative to the exposed or grain face of the welting.

Each of these changes in the character of the edge slits over the edge slits for a like purpose as disclosed in said Arnold patent, has an important bearing on the increased ease of manipulation and on the improved shoemaking afforded by use of the new welting.

A shortened upper-embracing flaps slit 24 permits the use of a still scanter upper or vamp than heretofore was possible which effects a further saving of upper stock and a resulting economy for this type of shoe. The provision of a shorter slit 24 with the consequent saving in upper stock

is made possible by the hooked edge of the slit 18. As described in the said Arnold patent the two upper embracing flaps of the welting cannot be lifted from the equally wide lasting allowance flange without a slip of one flap on the other. In the improved welting the hinge is beyond or outside of the upper-embracing flaps permitting both to be lifted from the extension as a unit or without slip of one on the other. This permits stitching the upper to the welt while the two flaps 12 and 14 lie in the plane of the welt extension 20 without danger of buckling the grain flaps when the said extension is out-turned for securement of an outsole thereto.

Preferably the welt will be formed into a ring, as disclosed in the Arnold U. S. Patent No. 2,062,288, for a shoe that is to be full-welted and Fig. 4 illustrates how easily a ring-welt having the two characteristic edge slits herein described can be manipulated on the table of a sewing machine while stitching the upper between the two upper-embracing flaps as contrasted to the unhandy and quite difficult manipulation forced by the earlier flap-slipping form of this type of welting. For the stitching operation the two upper-embracing flaps 12 and 14 are turned outward as a unit from the welt extension 20 and laid on the sewing-machine table 28 permitting the lasting allowance flange 16 to drop down behind the table and out of the way of the needle. This position of the flaps 12 and 14 is permitted by the flexible hinge formed by the hooked edge slit 18. The upper 30, previously inserted between the two flaps 12 and 14 and temporarily held by cement, may be permanently secured by stitching as the welt is fed through the sewing machine beneath the needle. The upper 30 may thus be stitched to and between the two upper-embracing flaps 12 and 14 while they both lie flat in exact superposition on the table 28. A suitable guide roll 31 on a bracket behind the welt may be used to determine accurately the position of the lines of stitching exposed to view on the grain flap 12.

After stitching the welt to the lower edge of a scant upper the mouth of the upper is opened for the reception of a last 32 by bending the lasting allowance flange 16 outward. Lasting may be accomplished by holding the welt extension 20 between clamps 34 and 36 while forcing the last and insole 38 into the upper by a pusher 40. The shoulder 26 may be used as a gauge properly to position the welt extension at the edge of the insole whereupon the lasting allowance flange 16 is wiped inward and cemented to the face of the insole. The upper may be finally drawn to the last by applying Littleway staples to the lasting allowance flange which draws the edge of the insole snugly into the pocket formed by stretching open the hooked-edge of the lasting allowance flange slit 18, as illustrated in Fig. 6.

At this stage the curves about the shoe cause the welt extension on the stiffener welts to curl downward and to lie more or less closely against the upper making it difficult to beat the welt back flat for applying an outsole. The flexible hinge provided by the hooked edge slit 18 gives sufficient relief to prevent excessive downward curling and enables the welt-beater to preserve the entire width of the extension even at the more sharply curved toe and heel. Furthermore, if the toe and heel are finally shaped in a bed lasting machine, as is desirable, the relief afforded by the hooked edge of the slit 18 enables the operator to produce a well defined crease at the base of the upturned flaps 12 and 14 which will retain the welt extension 20 substantially in the plane of the insole for receiving the outsole. Thereafter an outsole 42 is applied and secured in any convenient manner as by the outsole stitching illustrated in Fig. 6.

The nature and scope of the invention having been indicated and its preferred embodiment and the method of its manufacture and shoemaking therewith having been specifically described, what is claimed as new, is:—

1. Welting for shoes comprising a strand having two longitudinal slits through one edge one slit forming two upper embracing flaps and one slit forming an underlying lasting allowance flange, said lasting allowance flange slit having a hooked inner edge lying intermediate the two faces of the strand.

2. Welting for shoes according to claim 1 in which said lasting allowance slit is deeper than said upper embracing flaps slit, its inner hooked edge lying beyond the inner edge of said latter slit.

3. Welting for shoes according to claim 1 in which said lasting allowance slit is deeper than said upper embracing flaps slit, and its hooked inner edge is characterized by a slit extending upward at an angle and in a plane beyond the inner edge of said latter slit.

4. Welting for shoes according to claim 1 in which said lasting allowance slit is deeper than said upper embracing flaps slit, and its hooked inner edge is characterized by a curve rising to a terminal edge beyond the inner edge of said latter slit.

5. Welting for shoes comprising a strand of grain leather having two longitudinal slits in one edge, one slit adjacent the flesh face of the strand being deeper than the other slit adjacent its grain face, forming two upper embracing flaps of less width than the underlying lasting allowance flange, the slit adjacent the flesh face of the strand having its inner edge turned upward to cut across the under one of said upper embracing flaps in a plane beyond the inner edge of said flap.

6. Welting for shoes comprising a strand of grain leather having two longitudinal slits in one edge the lower slit forming a flesh flange, and the upper slit forming a narrower grain flap and an intermediate flesh flap of the same width, the hinge beyond the inner edge of said upper slit being relieved by an upwardly turned hook at the inner edge of said lower slit, whereby said two narrower flaps may be turned upward from said flange as a unit, said hooked edge forming a shoulder below said intermediate flesh flap.

7. Welting according to claim 6 in which the hook at the inner edge of said lower slit consists of an angle.

8. A welted shoe having an upper too short to overlast, an insole below the lower margin of the upper, a welt having its extension turned outward from the upper and having two upstanding flaps between which said lower edge of the upper is secured, said welt having a third flap or flange extending inward from the welt extension beneath and secured to the insole, a shoulder at the lower end of said inner flap and spaced from said third flap to lie adjacent the upper face of said insole, and a suitably secured outsole bottoming the shoe.

9. In a welted shoe of the type having an upper too short to overlast, a welt having an outturned

welt extension provided with two separable flaps at its inner edge, said flaps being turned upward from the welt extension as a unit with exact coincidence of the edges of said flaps one on the other and said short upper being between and secured to said flaps, and said welt having a flange-like lasting allowance extending inward of the upper in lateral continuation of the welt extension.

10. Welting for shoes comprising a strand of welting having two longitudinal slits through one edge forming three flaps at one margin, the depth of cut of one of said slits being greater than the other and said deeper slit forming a common hinge for the two flaps formed by said other narrower slit located within the material just beyond the inner edge of said narrower slit.

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