Sept. 23, 1947. W. C. VIZARD 2,427,984

HEAVY-EDGE WELTING

Filed Nov. 29, 1945

Fig. 1.

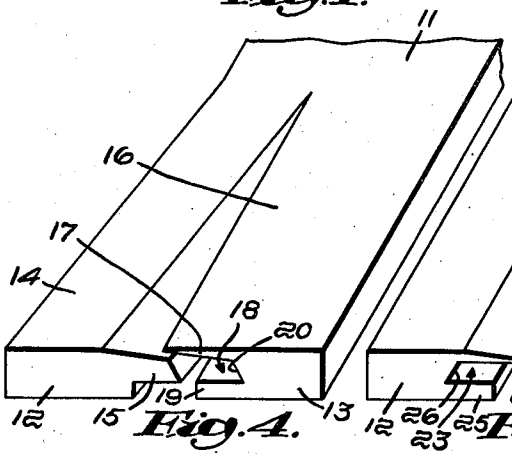


Fig. 2.

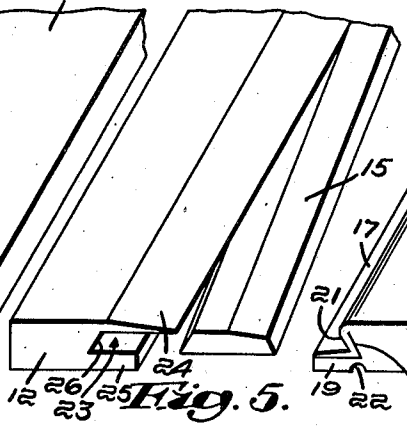


Fig. 3.

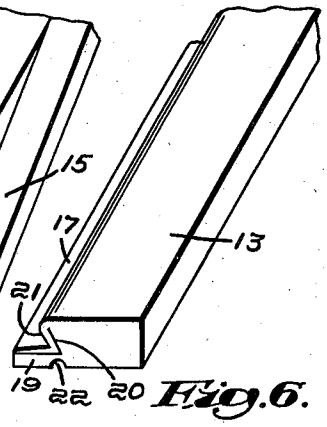


Fig. 4.

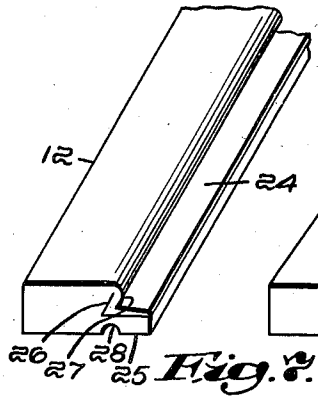


Fig. 5.

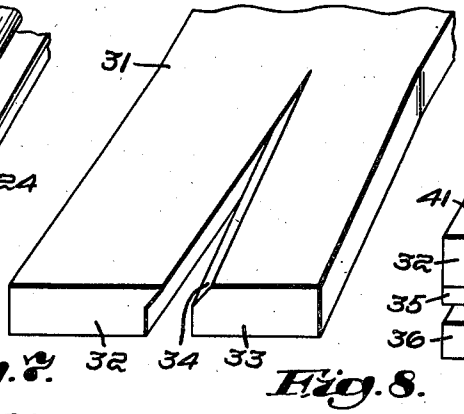


Fig. 6.

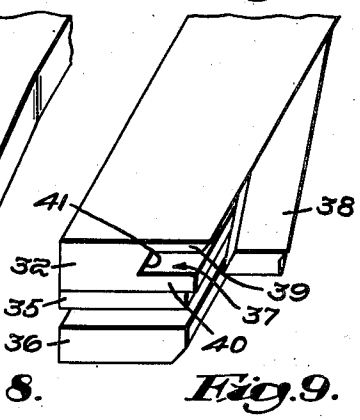


Fig. 7.

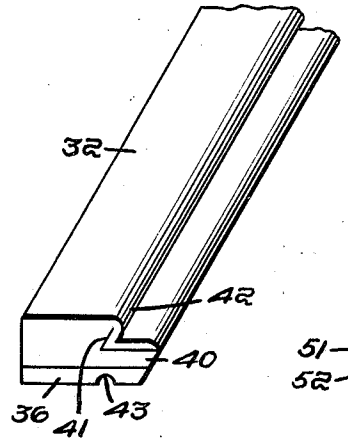


Fig. 8.

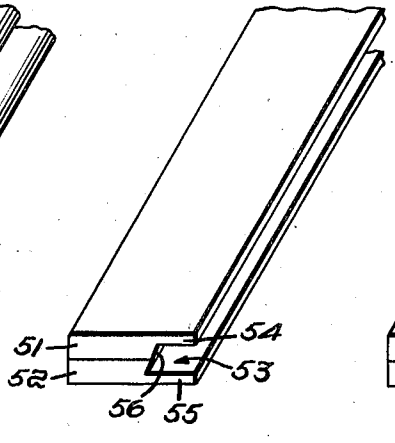
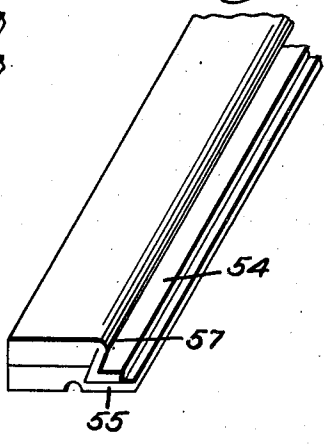


Fig. 9.



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HEAVY-EDGE WELTING

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Application November 29, 1945, Serial No. 631,575

4 Claims. (Cl. 36—78)

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This invention relates to shoe welting of the heavy-edge type, and the principal purpose of the invention is to provide a relatively thick welt having a flat outer extension or deck and an undercut or receding shoulder at the top of its inseam edge, so that the applied welt is drawn tightly against the shoe by the inseam stitch with the shoulder closely hugging the upper at or slightly below the level of the insole.

The improved welt may be economically manufactured without waste of welt stock, according to the methods herein disclosed; it may be made in any suitable thickness by using a single strip of heavy welt stock or several plies of less expensive leather; it may be built into a shoe according to conventional Goodyear methods; and its use substantially improves the shape, fitting qualities and durability of the shoe, by holding the upper in proper position and obviating "grinning" at the welt crease.

Recommended embodiments of the invention are shown in the accompanying drawings, but it will be understood that the structural details of the welts herein described may be varied to suit particular requirements, without departing from the essence of the invention as defined in the appended claims. In the drawings,

Fig. 1 is a perspective view of a welt fillet partially divided into two welt strips, according to one method of making the improved welt;

Fig. 2 is a similar view showing a flesh tongue partially removed from the inner edge of the left-hand welt strip of Fig. 1, to form an edge channel;

Fig. 3 is a perspective view of a welt made from the right-hand welt strip of Fig. 1;

Fig. 4 is a similar view of a welt made from the welt strip of Fig. 2;

Fig. 5 is a view similar to Fig. 1 showing a modified method of dividing a fillet;

Fig. 6 is a perspective view of a step in the production of a welt from the divided strips of Fig. 5;

Fig. 7 is a perspective view of a thick welt produced by the method of Fig. 6;

Fig. 8 is a perspective view of a laminated welt strip with an edge channel therein, according to a further modification; and

Fig. 9 is a perspective view of a welt made from the laminated strip of Fig. 8.

In the particular embodiment shown in Figs. 1 to 4, two half-inch welts characterized by the undercut inner shoulder are made from a grain leather fillet one inch wide and approximately three-sixteenths inch thick. The fillet 11 is first

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divided longitudinally (Fig. 1) by a series of cuts which provide welt strips 12 and 13 each having a flesh base one-half inch wide. Strip 12 has a quarter inch grain deck 14, and a projecting flesh tongue 15, inclined on its upper surface; and strip 13 has a three quarter inch grain surface 16 including a tapering grain lip 17, and an edge channel 18 between the lip 17 and a base flange 19 having a thickness of approximately one-sixteenth inch. The inner wall 20 of the channel is inclined upwardly toward the lip 17, or undercut with respect to the inner edge of the strip, so that the wall and the bottom surface of the lip meet at an obtuse angle.

To form a finished welt from the strip 13, the grain lip 17 is folded against the wall 20 and the flange 19 and suitably cemented thereto under pressure, thereby producing the receding welt shoulder 21; and an inseam groove 22 is cut in the flesh base, as shown in Fig. 3, which also indicates that the undercut wall 20 forms an acute angle with respect to the top of the base flange 19, in the finished welt. This preferred form of the invention thus provides a heavy-edge, half-inch welt having a full grain surface on the welt extension or deck and over its shouldered inner edge; and an inseam flange of adequate strength and thickness formed by the flesh flange 19 and the margin of lip 17.

To form a finished welt from the strip 12, the tongue 15 and a part of the flesh body is removed as shown in Fig. 2, by cutting a channel 23 in the flesh body of the strip, thereby providing a tapering, upper flesh lip 24 and a base flange 25; the inner wall 26 of the channel being inclined or undercut, like the wall 20 of strip 13. The lip 24 is pressed inwardly and downwardly against the wall 26 and flange 25, and cemented thereto as above explained, to furnish a welt having a receding welt shoulder 27 at its inner edge, as shown in Fig. 4. An inseam groove 28 is then cut in the flesh base, and the welt is ready for the shoe maker.

It will be understood that the various cuts in the fillet or welt strips may be made by suitable machines operating on a continuously fed strand of leather, and that the folding and cementing of the lips are also suitably performed by machine, under substantial pressure which solidifies and shapes the finished welt. It will also be understood that the tongue strip 15 may be utilized for stitch-down welting or for other purposes, so that the process above described affords two full width welts, without waste of material.

In the modified form shown in Figs. 5 to 7, a

welt of quarter-inch thickness and a standard Goodyear welt strip (one-eighth inch thick), are made from a grain fillet of the same thickness as the fillet 11 of Fig. 1 but $\frac{3}{32}$ inch wider. The fillet 31 is divided longitudinally by vertical and diagonal cuts to produce strips 32 and 33. The flesh base of strip 32 is $1\frac{9}{32}$ inch wide, but the grain top $\frac{1}{16}$ inch wider. The body of strip 33 is one-half inch wide and the grain margin is beveled at 34 in the manner of regular Goodyear welting.

As indicated in Fig. 6, a flesh split 35, $\frac{1}{16}$ inch thick, is cut from the base of the strip 33 and cemented to the bottom of strip 32, leaving a welt 36, $\frac{1}{8}$ inch thick, for use as conventional Goodyear welting. The incised edge of strip 32 is channeled at 37, freeing a narrow flesh ribbon 38 which may be utilized as a stitch-down or caulk welt, and forming a thin grain lip 39 and a base flange 40. The wall 41 at the back of the channel is undercut, as aforesaid.

To complete the welt of Fig. 7, the lip 39 is cemented under pressure to the wall 41 and the flange 40, as above explained, forming the receding welt shoulder 42; the edges of the flange 40 and base layer 36 are trimmed off; and an inseam groove 43 is cut in the base.

In the laminated modification of Figs. 8 and 9, two or more thin layers 51 and 52 of any suitable welting material are cemented together to provide a plied strip of desired width and thickness, and one edge of the laminated strip is channeled at 53 to form a top lip 54 and a base flange 55, the inner wall 56 of the channel being undercut in the manner previously explained. A receding shoulder 57 is again formed by cementing the lip 54 to the inclined wall 56 and to the flange 55. The projecting edge of the flange may be trimmed off either before or after the welt is stitched to the shoe.

It will be evident that any of the welts herein described may be inseamed according to the conventional Goodyear methods of shoe manufacture, and it will be readily appreciated that the inseam stitching will draw the welt flange tightly under the feather of the innersole and press the welt shoulder closely against the upper, so that the flat welt extension or deck will extend laterally at or slightly below the level of the innersole and will require a minimum of beating to shape it for attachment of the outsole. The relatively wide inseam flange provides a hinge between the crease at the bottom of the recessed shoulder and the inseam groove, on which the welt extension is readily flexed when the shoulder is pulled against the upper by the curved stitch passing through the flange inwardly of said crease. It will be apparent, moreover, that the flexibility of this hinge is enhanced by the inclination of the undercut, flesh wall and the acute angle between that wall and the top of the base flange, in the finished welt.

I claim:

1. A welt having a flat deck along its outer side, a lip constituting a continuation of said deck along its inner side, and a base flange along its inner edge, the body of the welt having an inclined, undercut wall between the lip and the flange, and the lip being cemented to said wall and to the top of the flange, thereby providing a receding welt shoulder and a two layer inseam flange below the shoulder, the angle between said undercut wall and the top of said base flange being acute in the finished welt.

2. A leather welt having a flat, grain deck along its outer side, a grain lip and a flesh base flange along its inner side, the body of the welt having a vertically inclined, undercut wall extending between the lip and the flange and the angle between said wall and the top of said flange being acute, and the lip extending downwardly against said wall and then over the top of said flange and being cemented thereto, thereby providing a receding welt shoulder and a two layer inseam flange below said shoulder.

3. A method of making a welt, consisting in channeling the edge of a welt strip to provide a top lip, a base flange and a vertically inclined, undercut wall therebetween, the angle between said wall and the bottom of said lip being obtuse, folding the lip against said wall and onto the top of the flange and cementing the lip thereto, thereby producing a receding shoulder along the inner edge of the welt and a two layer inseam flange below the shoulder, the angle between said undercut wall and the top of said base flange being acute in the finished welt.

4. A method of making welting, consisting in cutting a longitudinal channel in the edge of a strip of grain leather to provide a grain lip, a flesh base flange narrower in width than said lip, and a vertically inclined, undercut wall therebetween, the angle between said wall and the bottom of said lip being obtuse, and folding and cementing the lip against said wall and onto the top of said flange, thereby producing a receding shoulder along the inner edge of the welt and a two layer inseam flange below said shoulder, the angle between said undercut wall and the top of said base flange being acute in the finished welt.

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