May 13, 1941. W. C. VIZARD 2,241,652

METHOD OF MAKING WELTING

Filed June 22, 1940

Fig. 1.

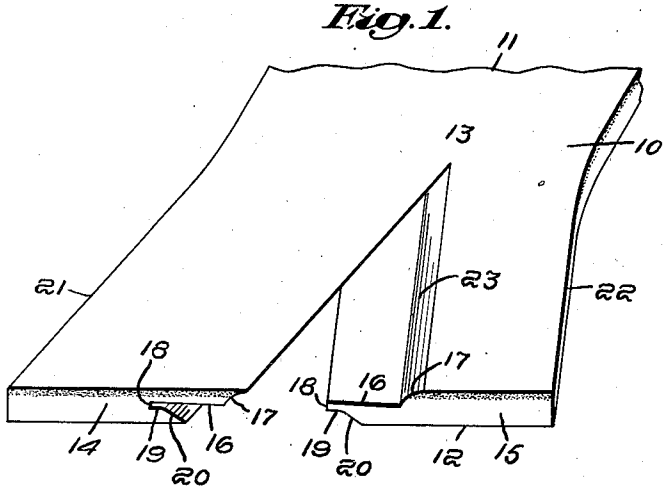


Fig. 2

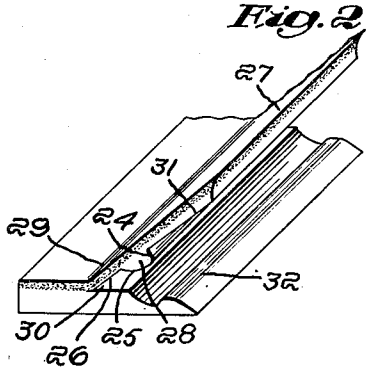


Fig. 3.

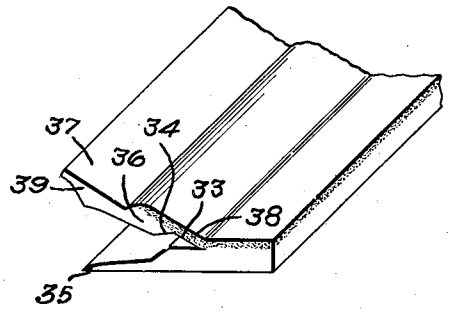


Fig. 4.

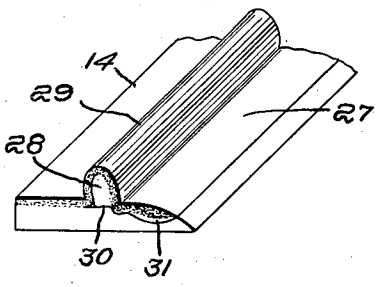
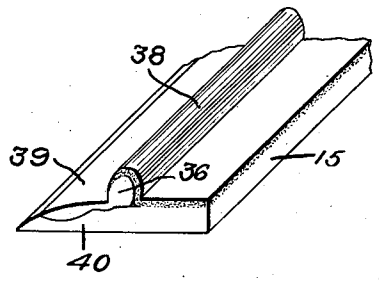


Fig. 5.



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2,241,652

METHOD OF MAKING WELTING

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Application June 22, 1940, Serial No. 341,871

8 Claims. (Cl. 12—146)

This invention relates to the manufacture of beaded welting for shoes and more especially to an improved method of manufacture of such welting wherein the cost of production is reduced through savings in the amount of welting material required.

The common practice in the art is to form the beads by slitting the inner marginal portions of fillets of the welting material to form flaps which flaps are folded between their ends to form the beads, the latter being supported and held in position at the inner edges of the welt extensions by integral portions of the flaps applied to the inner margin or sewing edges of the welts.

Those skilled in the art are aware that in order to give the flap sufficient width to form the bead, and to extend over the inner margin of the welt, the process of manufacture must be initiated with a welt strip having greater width than the finished welting. In my prior United States patents, No. 2,142,228, dated January 3, 1939, and No. 2,153,321, dated April 4, 1939, I have disclosed two methods for utilizing a double fillet which by means of novel severing cuts are divided into single welt strips each having sufficient width for the formation of a suitable flap, in both cases the double fillets being narrower than the combined widths of the single welt strips formed therefrom. In this way I have been able to effect great savings in the cost of manufacture of beaded welting as, where thousands and even millions of yards of the welting is made, the reduction of the width of the fillet even by a fraction of an inch will result in substantial reductions in cost.

The beaded welting produced in accordance with my prior patents above noted is intended primarily, although not necessarily exclusively, for use in Goodyear welt shoes and for this purpose is provided with a relatively narrow thick inseam edge. The welting of the present invention is intended primarily for use in that type of shoe known as a McKay welt shoe and in certain aspects may be regarded as an improvement over my prior patents wherein I am able to obtain savings in stock while providing for the relatively wide wedge-like sewing edge required in the McKay welt type of shoe.

One of the principal objects of the present invention is to bring about an improved method of severing and slitting a double fillet of welting material wherein two welt strips may be formed each being suitable for use in the manufacture of beaded McKay welting, the combined widths of the strips being markedly greater than the width of the double fillet from which they are made.

A feature of the invention resides in a simple method of severing and slitting the double fillet to form the single welt strips wherein each strip may be provided with a flap and a body suitable for molding into beaded welting having the desired sewing edge and without removal of any of the material of the strips or other intermediate steps.

To these and other ends the invention resides in the novel features and combinations of steps to be hereinafter more fully described.

In the drawing,

Figure 1 is illustrative of the first step in severing a double fillet, in accordance with the invention, into two welt strips by a multi-part cut;

Figures 2 and 3 are illustrative of the further treatment of the welt strips at the left and right respectively of Figure 1 preparatory to forming up the beads therein, and

Figures 4 and 5 are illustrative of the novel beaded welting after final molding of the welt strips at the left and right of Figure 1 respectively.

The best grades of welting, including beaded welting, are made of grain leather and while the advantages gained from the present invention are more marked and the same is illustrated in connection with its application to grain leather welting nevertheless those skilled in the art will understand that the invention is by no means limited thereto but is of great importance and effects large savings when applied to other and less costly types of welting materials. Thus while in the description of the invention the upper face 10 of the double fillet 11 of Figure 1 is referred to as the grain face and the bottom face 12 as the flesh face, it will be understood that such reference is for convenience only and is not to be taken as a limitation of the invention to the use of grain leather.

In accordance with the invention, the double fillet 11 is severed longitudinally and generally centrally of its width, as indicated at 13 (Figure 1), to produce two single welt strips 14 (left) and 15 (right). This severance is accomplished by a five-bar cut including a central bar 16 which lies between and is parallel to the grain and flesh faces 10 and 12 and an end bar 17 at the right hand end of bar 16, the bar 17 curving upwardly away from the end of bar 16 and emerging at the grain face 10 in a direction somewhat sharply inclined to the plane of said face. The severance is completed by a relatively short bar 18

extending towards the flesh face 12 at right angles to and at the left end of bar 16, the bar 18 terminating at its lower end at another relatively short bar 19 extending inwardly parallel to the bar 16 and joining at its inner end a downwardly and inwardly extending bar 20 emerges through the flesh face 12 at a sharp angle and substantially midway between the side edges 21 and 22 of the fillet.

It will be observed that the cuts described above leave the welt strip 14 with an upper grain surface extending from edge to edge while the welt strip 15 is provided with a grain surface extending from its outside edge 22 to the shoulder 23 formed by the cut 17. As the bars 16, 17 and 20 form the principal parts of the severance cut, the latter may be treated generally as a three part cut, the cuts 18 and 19 acting to give definiteness to the inside edge of the welt strip 15 as well as to locate the position of the bead core of strip 14 as will appear hereinafter.

To prepare the welt strip 14 for forming up into a beaded welt, as illustrated in Figure 4, a single further cutting operation is necessary. This additional cut forms an extension of the cuts previously made therein and includes a bar 24 extending downwardly towards the flesh face and forming a continuation of the cut 18, a bar 25 curving upwardly and outwardly towards the grain face from the lower end of bar 24 and a bar 26 lying between and parallel to the grain and flesh faces in the plane of cut 16, the cut formed by the bar 26 terminating substantially at the inner edge of the welt extension.

The several cuts described above form a flap 27 on the welt strip 14 which flap has an integral bead core 28 on its under side, the cut 26 not only forming a cover strip 29 for the bead core 28 but forming a shelf in the welt body on which the core may be seated as it is folded in the cover strip. The bead is formed up by opening the flap away from the body of the welt strip and applying cement to the internal surfaces whereupon the strip may be passed through a molding machine, the latter folding the core in the cover strip 29 while seating the bead core 28 on the shelf 30, the inseam edge portion 31, of the flap, being applied to the inner margin 32 of the welt body. The extreme end of the flap is seated in the groove produced by the cuts forming the bead core, the molding machine pressing the thin edge of the flap into contact with and filling the groove so that the inner margin of the finished welting has the wedge-like shape characteristic of McKay welting.

The welt strip 15 is prepared for forming up of the bead by a single further cut consisting of a bar 33 extending inwardly from the inner edge of the welt extension, the bar 33 lying between and being parallel to the grain and flesh faces substantially in the plane of the cut 16, the bar 33 terminating at its inner end at a bar 34 which extends downwardly and inwardly at an angle of about 45° to the grain and flesh faces, the bar 34 terminating at a bar 35 extending at an acute angle to the flesh face and emerging through the latter at the point where the cut 20 passes through the flesh face. This further cutting of the strip 15 forms a bead core 36 on the under side of the flap 37 together with a cover strip 38 for the bead core, and inseam edge part 39 which may be applied to the inner margin 40 of the welt strip body. As in the case of welt strip 14, the molding machine not only forms up and sets the bead but presses the inseam edge of the flap into contact with the inner margin of the welt body, forcing the relatively thin extreme edge of the flap into contact with the welt strip body and otherwise forming a wedge-like inseam edge on the welting. While the welting formed from the welt strip 14 is provided with a welt extension, bead and inseam edge each having a grain leather surface it will be noted that only the extension and bead of the welting formed from strip 15 are provided with grain surfaces, the inseam portion of said welting having a flesh surface.

The point where the cut 20 passes through the flesh face 12 defines the inner marginal edges of both strips of welting after forming up of the beads and it will thus be noted that the width of the double fillet is reduced to a minimum being no greater than the combined widths of the finished strips of welting.

The drawing illustrates a double fillet and severance cuts suitable for the formation of two ¾ of an inch strands of beaded welting, the cut 17 emerging through the grain face 10 at a distance of about $^{30}/_{32}$ of an inch from the left edge 21 of the fillet. The cut 16 may be about $\frac{1}{32}$ of an inch from the grain face and the other cuts in proportion. Those skilled in the art will be able to adapt the principles of the invention to other sizes of welting.

While a preferred embodiment of the invention is described herein in detail in order that those skilled in the art may fully understand the nature of the invention and its mode of application it will be understood that the invention in its application is capable of variation and modification within the scope of the appended claims.

What I claim is:

1. The method of producing two welt strips from a double fillet of less width than the combined width of stock in single fillets required for the two beaded welts made from said strips, each strip being of greater overall width than one half of the width of the fillet and each having a flange along one edge adapted for cutting a flap for forming up into a longitudinal bead within the edges of the severed strip, comprising severing the fillet longitudinally by a cut formed by a buried center bar lying in a plane parallel to both faces of the fillet, a bar at one end thereof emerging at one face of the fillet and in a direction inclined to said face and away from said end of the center bar and a bar at the other end of the center bar emerging at the opposite face of the fillet and extending in a direction inclined with respect to said face and towards the opposite end of the center bar.

2. The method according to claim 1 in which one of said end bars emerges along a line defining the overall width of the beaded welts to be formed from the welt strips.

3. The method according to claim 1 in which the end bars define the overall widths of the two welt strips and the point of emergence of one of said end bars defines the overall width of the beaded welts to be formed from the strips.

4. The method according to claim 1 in which the ends of the center bar define the ends of the two welt strips.

5. The method according to claim 1 in which at least one of the end bars is curved and presents its concave side towards the bottom face of the fillet.

6. The method of producing two welt strips from a double fillet of less width than the combined width of stock in single fillets required for

the two beaded welts made from said strips, each strip being of greater overall width than one half of the width of the fillet and each having a flange along one edge adapted for cutting a flap for forming up into a longitudinal bead within the edges of the severed strip, comprising severing the fillet longitudinally by a cut formed by a buried center bar lying in a plane substantially parallel to both faces of the fillet, a bar at one end thereof emerging at one face of the fillet and in a direction sharply inclined with respect to said face and in a direction away from said end of the center bar and a bar at the other end of the center bar emerging at the opposite face of the fillet at a relatively sharp angle and in the direction of the opposite end of the center bar.

7. The method according to claim 6 in which each of the end bars are generally of arcuate shape.

8. The method according to claim 6 in which each of the end bars are generally of arcuate shape with their concave sides directed towards the bottom face of the fillet.

WILLIAM C. VIZARD.