April 9, 1935. W. C. VIZARD 1,996,844

SHOE WELTING AND THE PROCESS OF ITS MANUFACTURE

Filed Feb. 3, 1933

Fig. 1

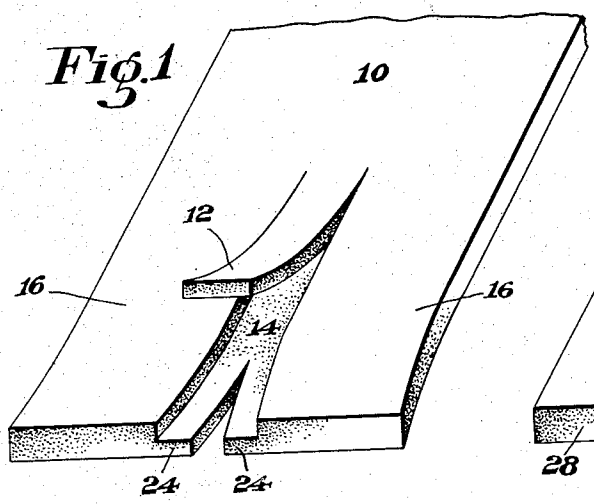


Fig. 2

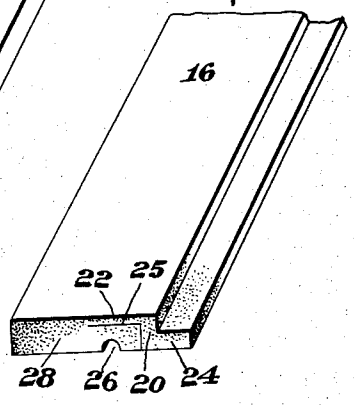


Fig. 3

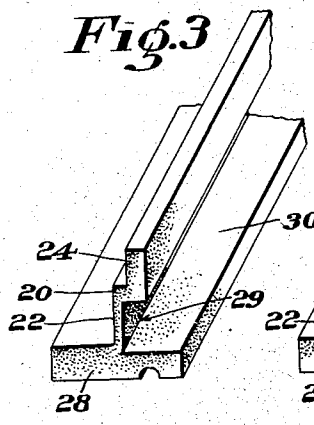


Fig. 4

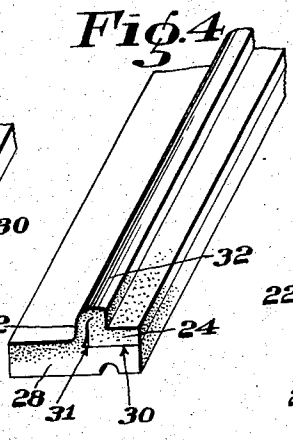


Fig. 5

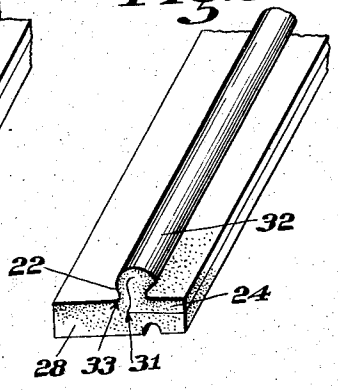


Fig. 6

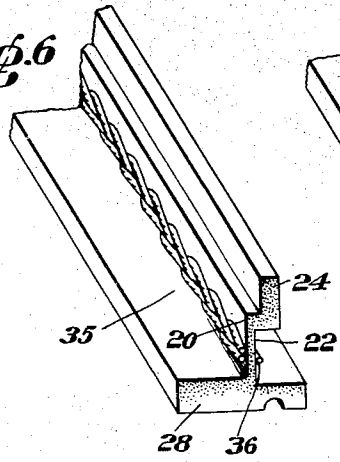
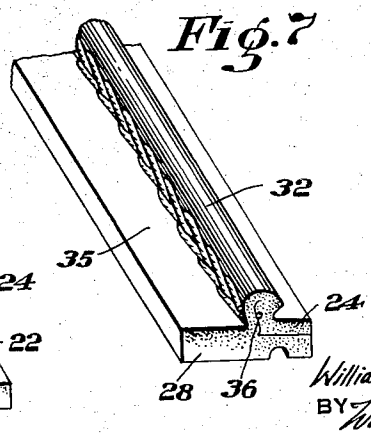


Fig. 7



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SHOE WELTING AND THE PROCESS OF ITS MANUFACTURE

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Application February 3, 1933, Serial No. 655,023

12 Claims. (Cl. 36—78)

This invention relates to welting for shoes and more particularly to that kind of welting which provides an integral bead to lie against the upper and fill that portion of the welt crease which, in Goodyear work, is exposed above the welt extension. The process of manufacture, hereinafter described, is especially adapted to welting made from grain leather although not limited to this material.

Previous types of beaded welting for Goodyear work have been produced both with and without an integral core within the bead. The cored type produces an excellent welting of first grade quality having a firm upstanding bead that holds to the upper and maintains the shape of the shoe during wear. The earlier beads of the uncored type do not have sufficient strength or stiffness to withstand the breaking down and shoe spreading strains during wear and in addition previous methods of manufacture have required a blank of substantially twice the width of the finished welting.

This invention improves and perfects the production of welting having an uncored integral bead in that it provides a relatively heavy bead wholly adequate to provide "shape insurance" for the shoe. Furthermore the method of manufacture requires a blank of considerably less width than heretofore, effecting a saving of stock that is highly important. The method of manufacture provides further advantages pertinent to the welt itself. For Goodyear work a full-width extension (the deck at the outer side of the bead) is obtained from the narrower blank; a strip of grain leather may be salvaged for use as stitch down welting; and, while the salvaging of the stitchdown leaves only flesh stock at the sewing edge of the finished welting, the grain of the bead is carried over its top edge sufficiently to prevent any flesh exposure after sewing to the shoe.

Other inherent advantages flowing from this invention are ease of manufacture, there being but one cutting and one doubling operation disregarding the stitchdown salvaging step, and the ability to form-up the bead and set it at such an angle to the body of the welting that it will lie tight against the adjacent upper.

A further and important advantage of the method of cutting or slitting the blank to provide the bead making stock is the ease with which the stock forming the outer or exposed face of the bead may be handled for the application of ornamental features to the welting. For example, the bead stock need only be lifted from the body and the portion which forms its outer face is easily reached for chain-stitching with a seam of heavy thread to give the appearance of a sewed reverse welt, or this portion of the bead stock may be set with eyelets, grommets, studs or the like, or the stock may be surface cut into any fancy pattern and colored as may be desired to produce decorative effects.

Accordingly this invention comprises welting having the features of construction, and the process of its manufacture, hereinafter described and then particularly pointed out in the appended claims.

The preferred form of the welting of this invention is illustrated in the accompanying drawing, the views indicating the sequence of steps in the process of its manufacture, and in which:

Figure 1 is a view, in perspective, illustrating the removal of a grain stitchdown from the central portion of a double strand fillet and the severance of the double fillet into two blanks;

Fig. 2 is a view, in perspective, showing the longitudinal incision to prepare a blank for forming-up;

Fig. 3 is a view, in perspective, of the prepared blank of Fig. 2 with the flap broken back preparatory to forming-up;

Fig. 4 is a view, in perspective, of the welting in the stage of forming-up;

Fig. 5 is a view, in perspective of the finished welting after forming-up and molding; and

Figs. 6 and 7 are views, in perspective, of a modified form of the welting in its preparatory and finished stages.

In the embodiment of the invention illustrated in Figs. 1 to 5 inclusive, having a plain or simply a grain faced bead when grain leather is used, **10** is a fillet of double the width required for two welt strands. For the production of 2/16" x ½" welting, a standard size to which later dimensions given herein apply, the fillet **10** would be 2/16" x 22/16" thus enabling a ½" beaded welt to be formed up from stock of but slightly greater width.

The first cutting of the fillet **10** (Fig. 1) removes centrally from the grain side a strip **12** that is suitable for use as stitchdown welting. Following the cutter for removing the stitchdown welting is a centrally set knife for severing the web **14** and splitting the fillet into two strands **16**. Each strand is $\frac{11}{16}$" wide overall and a $\frac{1}{16}$" x ¼" grain stitchdown has been salvaged.

The second cutting is in a strand **16** (Fig. 2) and produces the body **20** of the bead and a grain flap or bead cover **22**. This is a longitudinal cut with a knife having a right angular blade form-

ing a 1/16" bead body **20** upstanding at the inner edge of the flesh flange **24** that is left after removal of the stitchdown **12**, and a bead cover preferably about 3/32" thick. The bead cover slit **25** is 3/32" wide thus providing for a full 1/4" extension to lie outside the bead on completed 1/2" welting for Goodyear work. A sewing groove **26** is preferably cut at this time by a suitable grooving knife.

The third step in the manufacture of the welting is to lift the slit portion of the blank about the joinder of the flange **22** and welt body **28** as a hinge. The flange is lifted and turned back sufficiently to effectually break the fibres at the angle **29** (Fig. 3) making the entire shaft **30** available for forming-up the bead on the welt body. At this stage the inner faces of the lifted flanges **22** and **24** and the shelf **30** may conveniently be cemented.

The final operations are forming-up the bead and then molding it to the desired shape and angular position on the welt body. The first forming-up is shown by Fig. 4 wherein the flesh flange **24** is turned to a horizontal position, viewing Fig. 3, and seated on the shelf **30** at the sewing edge. This is accomplished by a suitably formed folder and may conveniently be described as being performed in two steps although the operation is continuous. Because the height of the inner face of the bead-body **20** is less than the width of its cover flap, after doubling the former toward the latter the body **20** must be forced downward to seat on the shelf **30**. This down drag on the cover causes the grain of the flap **22** to be drawn toward the sewing edge and over the top of the bead **32** that is in process of formation (see Fig. 4). At this stage the heel **31** of the bead body is seated somewhat loosely in the angle **29** prepared by the previous breaking operation. Molding rolls then operate to consolidate the bead by forcing the anchoring flange **24** well into place on the shelf **30** to provide a sharp angle **33** between the bead and the welt extension and to shape the bead as may be desired.

It is especially noted that the bead body **20** is not rolled within or enwrapped by the cover flap **22**. The body **20** is merely doubled against its cover to produce a two layer bead that, after molding, is grain covered at its outer face and well over its top. An important feature of the invention enabling the production of a satisfactory bead of merely doubled stock resides in the nature of the cutting illustrated by Fig. 2. The body **20** and flange **24** are integral and because the flange extends at right angles from the base of the body stock it serves, when seated on the shelf **30**, to hold the bead body in upright position and to anchor it in the angle back of the lifted bead cover. This function is attained by employing unfolded stock back of the bead face formed by the grain flap **22**, that is, flesh stock cut initially to an angular form to eliminate any weakening fold line, between the bead body and its anchoring flange, that would permit crushing the bead inward.

Many ways of ornamenting the bead will occur to those skilled in the art, one of which is illustrated by Figs. 6 and 7. Here the bead cover **22**, before forming-up and cementing, is stitched with a seam **35** preferably a chain stitch seam with the chain at the grain face. The bead **32** is thereafter formed-up as described and the molding leaves the ornamental thread seam at the outer face of the bead or that face which is exposed when the welting is secured in the welt crease of a shoe, and simulates the appearance of a sewed reverse welt. This welting has, however, a great advantage over the usual Goodyear work reverse welting in that it is pre-stitched, the inseam being sufficient to hold the bead firmly to the upper, and the single thread **36** or weaker side of the stitching is protected from wear by complete enclosure within the bead of the welting. Any equivalent ornamentation may be similarly applied and various types of decorative weltings obtained, or the bead cover may be colored and cut to produce patterns for decorative effects in the manner disclosed in the patent to Harry Lyon, No. 1,687,459, October 9, 1928.

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

1. Beaded leather welting having a grain-faced bead comprising a flap split longitudinally from beneath the grain of the body stock and upturned from the underlying flesh, said flap being maintained in its bead-forming position by an integral right-angular section of flesh stock seated behind it on the shelf exposed by the upturned flap.

2. Beaded welting having a welt body, and a bead comprising a flap split longitudinally from one face of the body stock and upstanding therefrom, said flap having a terminal portion initially split from the body stock to an integral angular section and said terminal portion being pressed against the flap to maintain it in its upstanding position upon the welt body.

3. Beaded leather welting comprising a body having an integral bead intermediate the welt extension and sewing edge formed of a doubled strip incised from the welt body comprising a grain covered face and a flesh body, said flesh bead body having an integral anchoring flange extending angularly therefrom, the angular relation of said anchoring flange to the flesh bead body being unchanged from its natural position as initially incised from the welt body.

4. Leather welting having a body and an integral bead projecting therefrom consisting of an incised and doubled strip of welt body stock presenting a grain face and a flesh back, said grain face being ornamented by a thread seam.

5. Leather welting having a welt body and a bead projecting therefrom consisting of a grain flap incised longitudinally and turned up from the welt body and held in position by an integral flesh body doubled against it, said grain flap having a thread seam sewn therethrough and said flesh body covering the thread of said seam at the back face of said flap.

6. A blank for beaded welting having a body and a flap incised longitudinally from one face of the body, said flap having an integral depending portion of the full thickness of said body and an integral flange projecting outwardly from the lower edge of said depending portion.

7. A blank for beaded leather welting having a body and a grain flap incised longitudinally from beneath the grain face of the body, the unsecured edge of said grain flap terminating in a rigid right angular section incised from the flesh stock of said body.

8. The method of making beaded leather welting which comprises severing a stitchdown strip centrally from the grain face of a double strand fillet, splitting said fillet centrally through the remaining flesh stock to produce two strands each having a flesh flange at one edge, slitting a strand longitudinally by a cut through the flesh face and inward of said flange to form a bead body and

then parallel to and beneath the grain to form a bead cover, lifting the flap thus formed, cementing the flap and finally doubling the bead body against the bead cover and seating the flesh flange on the shelf produced by slitting beneath the grain.

9. The method of making beaded welting which comprises producing a strand having a longitudinal flange at the edge of one face, slitting said strand through said flanged face inward of said flange and then parallel to the other face producing an integral flap having a right-angular section at its free edge formed in part by said flange, then forming-up a bead by lifting said flap and seating said section on the shelf exposed by said lifting of the flap, cement having been applied to the contacting surfaces at a suitable time.

10. The method of making beaded welting which comprises producing a grain leather strand having a flesh flange at one longitudinal edge, slitting said strand through its flesh face inward of said flange producing a rigid right-angular flesh section, and then parallel to its grain face producing an integral grain flap, then lifting and cementing said flap and forming-up a bead by seating said flesh section in the angle behind said lifted flap.

11. The method of making beaded welting which comprises producing a grain leather strand having a flesh flange at one longitudinal edge, slitting said strand through its flesh face inward of said flange producing a rigid right-angular flesh section, and then parallel to its grain face producing an integral grain flap, then displacing said flesh section upwardly from its position at the edge of said strand and seating it back of the grain flap, also lifted by said displacement, in the same relation to said flap as it originally had to the edge of the strand, the contacting surfaces having been cemented at a suitable time.

12. The method of making beaded welting which comprises producing a strand having a longitudinal flange at the edge of one face, slitting said strand through said flanged face inward of said flange and then parallel to the other face producing an integral flap having a right-angular section at its free edge formed in part by said flange, then lifting said flap, sewing a thread seam therethrough, cementing, and forming-up a bead by doubling said section upon the flap and against the thread of the seam and seating its flange on the shelf exposed by said lifting of the flap.

WILLIAM C. VIZARD.