

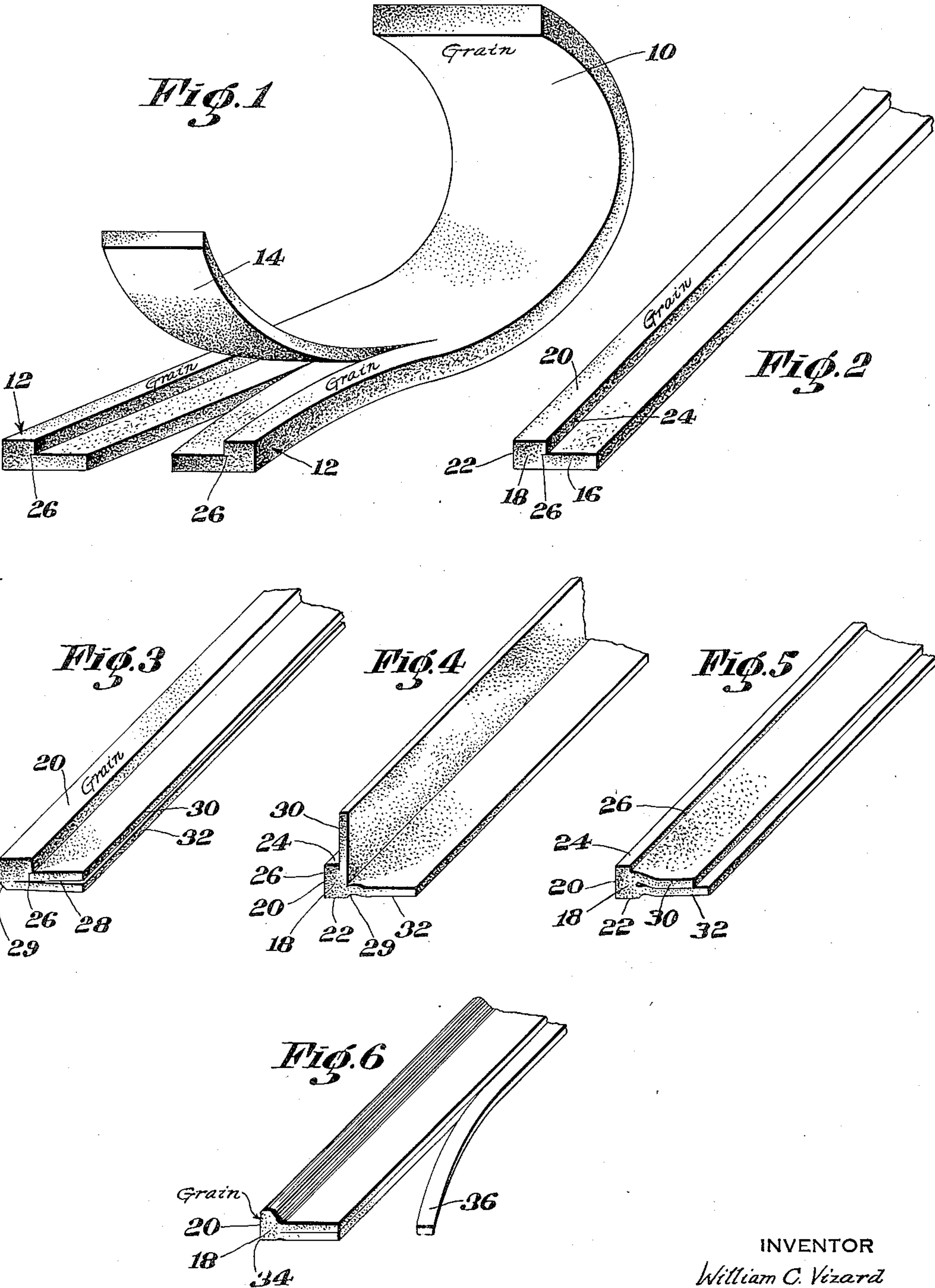
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WELTING AND THE MANUFACTURE THEREOF

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## UNITED STATES PATENT OFFICE

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WELTING AND THE MANUFACTURE  
THEREOF

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mesne assignments, to Barbour Welting Com-  
pany, Brockton, Mass., a copartnership com-  
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8 Claims. (Cl. 12—146)

This invention relates to welting and to the method of its manufacture. The welting of this invention is of the type characterized by a beaded edge and is adapted to be seated in the crease of the shoe, only the beaded edge being exposed after completion of the shoe. Such beaded welting may be embodied in several kinds of shoes. It may be used as a calking welt in combination with the usual Goodyear welt in Goodyear shoes or it may be used by itself as a calking welt in nailed shoes, mock welts and other types wherein a Goodyear welt is not used. In all such uses it is important that the welting be so formed that it can be drawn snugly into the crease leaving only the bead exposed. It also is of importance that the bead be not so bulky as to give the finished shoe a heavy appearance; and it is highly desirable that the outer surface of the bead, which becomes the exposed face in the shoe, be provided with grain to present a finish comparable to that of the adjoining upper and sole or welt strip according to the kind of shoe to which the calking welt has been applied.

The object of this invention is to provide a beaded or calking welt having these desirable features and to the accomplishment of this object the invention comprises the features shown by the accompanying drawing which also illustrates its method of manufacture. The invention will be first described by reference to the drawing and then set forth in its true scope in the appended claims. In the drawing, all of the figures being in perspective,

Figure 1 shows a method of simultaneously producing two rabbeted blanks, each to be formed up into finished welting, from a fillet of leather having one grain face;

Fig. 2 shows one of the rabbeted blanks produced from cutting a fillet in the manner shown by Fig. 1;

Fig. 3 shows a further step in preparing the blank of Fig. 2 for forming up;

Figs. 4 and 5 show the method of forming up by which the grain face of the blank is thrown to the outer edge of the bead, and

Fig. 6 shows the finished calking welt, trimmed and molded it being understood that the forming up operations, in practice, are performed on a blank of indefinite length and follow each other closely.

It has been determined from practice that the best calking welt is substantially  $\frac{5}{16}$  inch wide with a narrow edge bead having a substantially right angular base corner with a face about  $\frac{1}{8}$  inch in height and finished with a rounded up-

per edge. This width affords an ample body flange for stitching, the beaded edge of the welt lies flat and firm against the underlying shoe material, and the bead itself can be drawn snugly into the crease. Saving of stock is a point of major importance in the manufacture of welting. By practising the method herein described two  $\frac{5}{16}$  inch calking welts, each having a grain faced bead, are produced from an original fillet of  $\frac{11}{16}$  inch wide thus losing only  $\frac{1}{16}$  inch of the fillet stock as trimmed string. At the same time a grain strip  $\frac{7}{16}$  inch wide is salvaged that may be stripped into salable stitchdown welting. There is no waste of the grain the entire width of  $\frac{11}{16}$  inch being preserved either in the calking welt or in the stitchdown. This size is used as an example because it is the most desired commercial product, but a proportional conservation of stock is obtained in producing any other size.

In the embodiment of the invention illustrated in the drawing the method starts with a grain fillet 10 of a width suitable to provide two calking welt blanks 12. The fillet may be leather having a natural grain face, or it may be a split having had grain applied to one face as by cementing thereto a grain ribbon obtained from finishing processes in the manufacture of other kinds of welting, or in other ways. In the following description and claims "grain faced" is inclusive of either a natural or an applied grain. The fillet 10 is cut, as illustrated in Fig. 1, to salvage a grain-faced strip 14 of stitchdown welting quality, and is split centrally through the flesh stock left by the removal of the strip 14. This produces two rabbeted blanks 12 each having a flesh flange 16 and an adjoining edge portion 18 having a grain face 20, an edge face 22 of full thickness and an inner shoulder 24 (see Fig. 2). During the process of producing the rabbeted blank a short slit 26,  $\frac{1}{64}$  inch is sufficient, may be made at the base of the inner shoulder 24 in extension of the upper face of the flange 16, in order to facilitate forming-up as presently described. The flesh flange of the blank 12 is then slit, about midway its thickness, as shown at 28 in Fig. 3, and the lower corner of the edge portion 18 is beveled slightly at 29 also to assist in the forming up operation. The slit 28 extends into the stock of the edge portion 18 and nearly to its beveled corner. These operations produce the blank of Fig. 3 that is to be formed up and then set by molding to the desired finished form, for example, as shown in Fig. 6.

In the forming up operation the upper and



lower flesh lips 30 and 32 are opened at the slit 28 this operation throwing the edge portion 18 outward and turning its grain face 20 substantially 90° so that it faces outwardly with respect to the lip 32. The bevel 29 has removed enough stock to permit turning the edge face 22 into the plane of the lip 32 (see Fig. 4). During the forming up operation the lip 30 is folded down from the portion 18, the slight slit 26 permitting an even break, and lays it back upon the lip 32. After the lips 30 and 32 have been partly opened their inner faces are cemented with an enduring cement so that the final pressing and molding operation produces a firm two layer or laminated body flange while at the same time finishing the bead to a desired form. In this operation the shoulder 24, now the upper edge of the bead, is rounded and pressed to the desired thinness, the bead is concaved at its rear face properly to fit under the bulging upper of a shoe, the flesh bottom face is flattened and smoothed and the grain face is squared with the bottom providing a base corner 34 that will contact firmly with the Goodyear welt or other shoe material upon which the welt rests. Before the welt leaves the molding rolls it is trimmed to final width by removing a string 36 from the flesh base flange.

It will be observed that the width of the blank is increased by turning an entire edge face thereof into the plane of the bottom and that the top of the bead is formed from what was originally an inner shoulder. This operation has positioned the entire grain on the blank at the outer face of the bead, that is, in the finished welting the outer face of the bead is the only grain covered portion. The molding operation presses the lip 30 firmly in behind the bead and at the same time irons out and consolidates the flesh bottom. This serves to stiffen the bead and to hold it in its upright position at the edge of the body flange.

It will be understood that the welting may be made from a strip one-half the width of the fillet 10. In such case the first operation would be to rabbet the grain face as shown in Fig. 2 thus producing the blank on which the operations hereinbefore described are performed.

Generic claims to the calk welting herein disclosed will be found in applicant's co-pending application for Calk sole welting and the like, Serial No. 533,993, filed April 30, 1931, the claims of this application being confined to the species of calk welt and its method of manufacture as disclosed in the drawing and such equivalents as may be permitted by the prior art.

The nature and scope of the invention having been indicated and the preferred form of the welting and methods of its manufacture having been described, what is claimed as new, is:—

1. The method of making calking welt which comprises producing from a strip of grain faced leather, a blank having a rabbet in its grain face and a narrow grain faced edge portion of full strip thickness adjoining said rabbet, slitting the remaining flesh flange widthwise, opening the two flesh lips thus formed, cementing their inner faces and positioning the edge face of said edge

portion in the plane of and in extension of the outer face of the lower lip and simultaneously bringing the grain face of said edge portion to an outwardly facing position, turning the upper lip back upon the lower lip, and applying pressure to cause adherence and mold the bead to shape.

2. The method of making welting according to claim 1 in which a slight slit is made at the base of the inner shoulder left by said rabbet to facilitate laying the upper lip back upon the lower lip.

3. The method of making welting according to claim 1 in which the lower corner of said edge portion of the blank is beveled slightly and the widthwise slit in said flesh flange extends into the stock of said edge portion and nearly to its beveled corner, to facilitate bringing the grain face of said edge portion to the position described.

4. The method of making beaded welting which comprises rabbeting the grained face of a strip of grain faced leather leaving a flesh flange at one margin and an edge portion of the full thickness of the strip at the other margin, splitting said flesh flange into upper and lower lips said split extending into the stock of said edge portion, cementing the inner faces of said lips, turning said upper lip and the attached edge portion at a substantial right angle to the lower lip, then replacing said upper lip against the lower lip, and molding the welting to shape.

5. Leather calking welt and the like having a body consisting of two relatively thin ungrained flesh lips cemented together, and a bead at one edge of said body consisting of flesh stock integral with the body, said bead being grain-faced solely upon its outer edge from the base corner upward.

6. The method of making one-piece, leather calking welt having integral grain on the outer face of its edge bead which consists in preparing a blank of L-shaped cross-section that has the width of grain required for said outer face of the bead by removing a strip from the grain side of a strand of welting leather having a rectangular cross-section, and then molding said blank to a beaded edge shape while confining said grain to the outer edge of the bead.

7. Leather calking welt having a bead originally of rectangular cross-section along one edge, said bead having a grain-covered outer face, a flesh top face and a body flange thinner than the bead extending from its inner face, and said originally flat top face of the bead being convexed and its inner face concaved at the line of joiner with said body flange.

8. A blank for beaded, one-piece calking welt formed of grain leather and having a rabbet in its grain face along one margin leaving a thick edge portion having grain on its upper face, the width of said grain face being no greater than the desired height of the bead in the finished welting and said edge portion being partially severed by a slit at the base of the shoulder formed by said rabbet.

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