July 9, 1940. L. F. PLUMMER 2,207,068

WELT

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Fig. 1

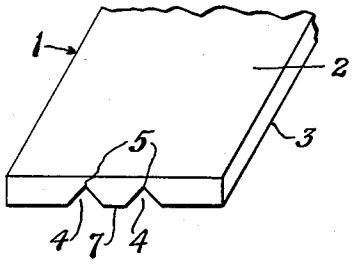


Fig. 2

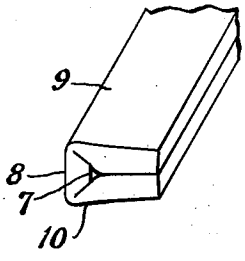


Fig. 3

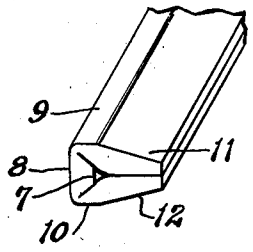


Fig. 4

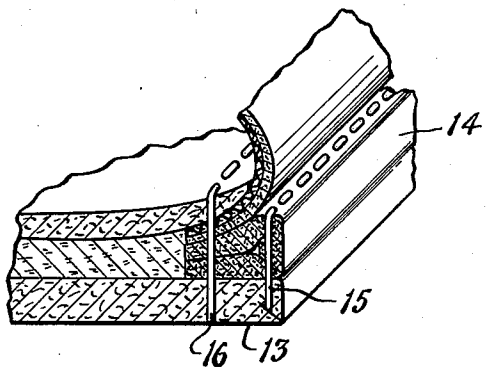


Fig. 5

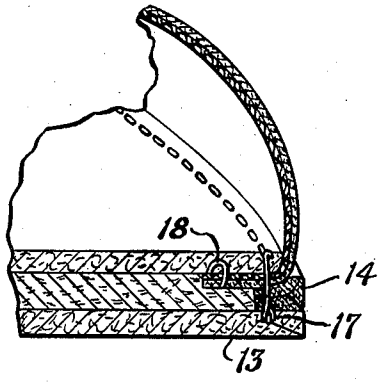


Fig. 6

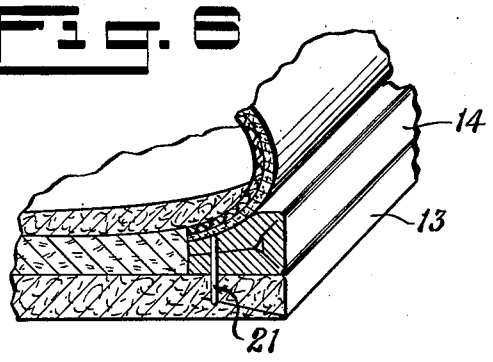


Fig. 7

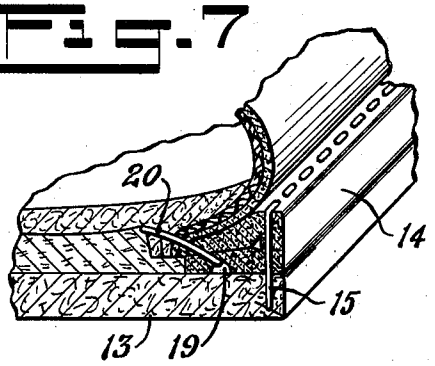
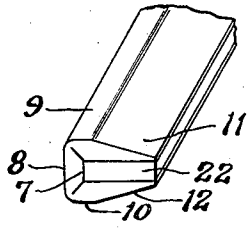


Fig. 8



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Fig. 9

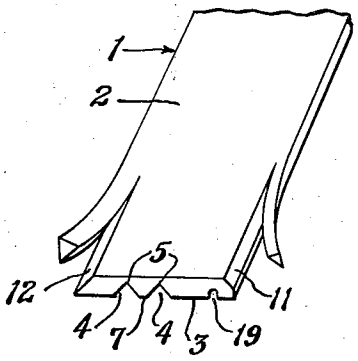


Fig. 10

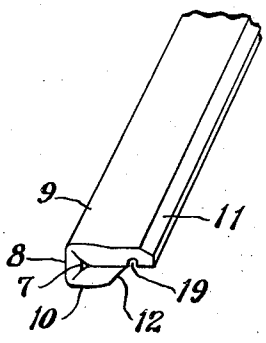
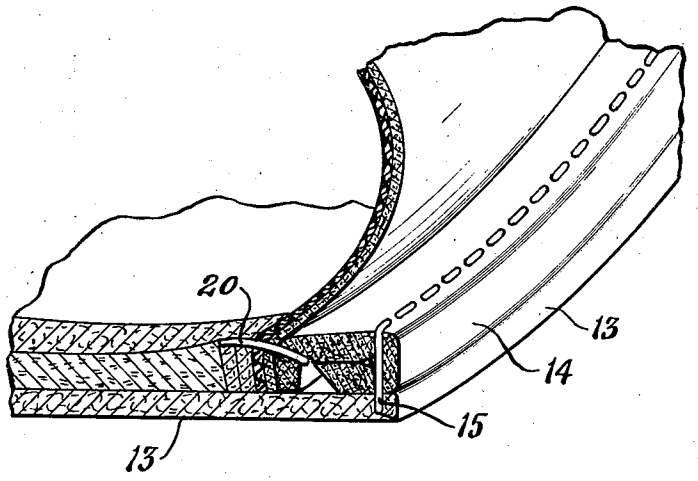


Fig. 11



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UNITED STATES PATENT OFFICE

2,207,068

WELT

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Application August 13, 1938, Serial No. 224,737

3 Claims. (Cl. 36—78)

This invention relates to a new and useful improvement in welt. One of the objects of this invention is the production of a welt, the exposed surface of which consists of continuous grain leather so that the edge and upper surface are identical in texture, the usual raw fibre edge being eliminated.

Another object of the invention is to procure a welt by folding a strip of welt leather upon itself in such a way that its thickness at the folded edge is greater than twice the thickness of the welt leather, and in which the folded edge is substantially flat. Another object is the production of such a welt which may be utilized upon shoes of Goodyear, McKay, Littleway lock-stitch and cemented constructions without material variation. Another object is the production of a welt which is completely finished before its application to the shoe, thus eliminating the usual finishing steps.

To illustrate the invention there have been selected the forms of welt shown in the accompanying drawings, of which:

Figure 1 illustrates a strip of welt leather grooved for folding in accordance with my invention;

Figure 2 illustrates the same strip folded upon itself;

Figure 3 illustrates the same folded strip after its inner edge has been made thinner and more flexible by bevelling;

Figure 4 is a section of part of a shoe made in accordance with the McKay process, which includes the welt of Fig. 3;

Figure 5 is a similar section of part of a shoe made in accordance with the Littleway lockstitch process and also including the welt of this invention;

Figure 6 is a similar view illustrating the welt applied to a cemented type of shoe;

Figure 7 is a similar view illustrating the application of the welt of this invention to the Goodyear type of shoe construction;

Figure 8 is a view of the same tye of welt, but differently constructed;

Figure 9 illustrates a strip of welt leather in process of being formed into a modified form of welt for use on a shoe of Goodyear construction;

Figure 10 illustrates this form of welt completed; and

Figure 11 shows it applied to a shoe.

As shown in Figure 1, the welt of this invention may be made from a strip of welt leather 1, having a grain side 2 and a flesh side 3, the latter of which is provided with two V-shaped longitudinal grooves 4, symmetrically positioned on either side of the longitudinal axis of the strip and separated by a rib 7, the top of which is flat and composed of the flesh side of the strip. The bottoms 5 of groove 4 are spaced apart a distance greater than twice the thickness of the welt strip.

The welt strip thus grooved is cemented and folded, flesh side inward, upon the bottoms 5 of groove 4 as hinges, as shown in Figure 2. To obtain a substantially flat outer edge 8 groove 4 should be rather deep. This also will result in sharp bends between edge 8 and the top and bottom faces 9 and 10, respectively, of the welt. The inner edge of the folded welt is given its final form by cutting the bevels 11 and 12 in the top and bottom surfaces, respectively, as shown in Figure 3.

Although this welt is made of one piece of leather folded upon itself, it has the unusual characteristic that its outer edge 8 is of greater height than the combined folded thickness of the strip, as shown in Figures 2 and 3, the actual thickness or height of outer edge 8 being determined by the spacing of the bottoms 5 of groove 4, as described above. At the same time the welt is of very substantial construction and will withstand wear and tear and retain its shape in use indefinitely, and exposes an unbroken grain leather surface. It is complete in all respects before application to the shoe.

As shown in Figure 4, this welt may be applied to shoes of McKay construction. The outsole 13 is cut to the desired final shape and the edge finished. Then the welt 14 of the construction described is stitched to the outsole 13, as shown at 15. The combined sole and welt is then McKay stitched to the upper, as shown at 16.

In Figure 5 is illustrated the application of the same welt to a shoe of Littleway construction. In this case the sole 13 is cut to its final size and the edge finished, and the welt 14 laid around it by means of a welt-laying machine, and the combination of outsole 13 and welt 14 sitched to the shoe by the Littleway lockstitch method indicated at 17, the upper having been previously attached to the insole by the usual staples 18. It will be noted from Figures 4 and 5 that the usual midsole, which reduces the flexibility to an undesirable degree, is rendered unnecessary by this invention.

To apply this welt hereinbefore described to a shoe of the Goodyear construction, it is only necessary to cut in the bottom bevel 12, the usual inseam groove 19. This welt may be applied in

the usual manner, as illustrated by Figure 7, by first stitching it through the upper to the insole by inseam stitches 20 and then to the outsole by out-seam stitches 15. Here, also, no midsole is required.

To use this welt on a cemented shoe, the sole is finished as described above, and the welt stitched adjacent its inner edge to the outsole, as shown at 21 in Figure 6. The upper bevel 11 (Figure 3) is then roughened and coated with a suitable cement as is the corresponding edge of the upper, and the combined welting and outsole pressed on to the shoe in the usual manner.

By the construction described the thickness of the outer edge of the welt may be made, within practical limits, as much greater than the actual thickness of the folded welt strip as desired so that a considerable saving in leather and cost results.

A still greater saving may be effected by using a still thinner welt strip and filling the space between the folded halves with a filler 22 of cheaper leather as shown in Figure 8. Otherwise this welt in construction, appearance and utility is the same.

The welt illustrated in Figure 7 adapted for use with the Goodyear type of shoe may be sometimes advantageously modified as shown in Figures 9–11. In this modification the welt strip, instead of being grooved symmetrically with its longitudinal axis, is grooved off-center, as shown at 4 in Figure 9. The height of the folded edge of the welt is as before determined by the separation of the bottoms 5 of grooves 4 which, to obtain a welt having a greater height at its outer edge 18 than the combined folded thickness of the welt strip, should be spaced apart a distance greater than twice the thickness of the original welt strip. The welt strip is folded upon bottoms 5 of grooves 4 as hinges as in the other form, but since the groves are off-center, the free edges of the strip will not coincide, but one will project beyond the other, as shown in Figure 10, which permits of the cutting of an inseam groove 19 in the flesh side of the strip beyond the end of bevel 12 and provide a more flexible inner edge, which is sometimes advantageous, as in the case of an extra wide welt for example. Also it effects a material saving in leather.

When this welt is applied to the shoe it is first stitched to the upper and insole in the usual manner by inseam stitches 20, after which it is bent outwardly and downwardly and stitched to the outsole by outseam stitches 15; in short, the usual Goodyear process is followed without change.

It will be evident that the welt of this invention is particularly adapted for the so-called "platform shoe" because it renders a midsole unnecessary, supplies the desired flat edge of grain leather similar in texture to the upper, and is ideal for coloring and other decorative treatment, economical in leather, durable and sturdy. Also its use involves no unusual or difficult operations, and, in the case of the Goodyear type, no extra operations at all.

I claim:

1. A welt consisting of a strip of leather having opposed grain and flesh sides, said flesh side being provided with two longitudinal grooves separated by a rib, the bottoms of said grooves being spaced apart a distance greater than twice the thickness of the strip, said strip being folded upon the bottoms of said grooves as hinges to form opposed top and bottom portions, said top and bottom portions being separated by a filler strip.

2. A welt consisting of a strip of leather having opposed grain and flesh sides, said flesh side being provided with two deep longitudinal V-shaped equilateral grooves separated by a rim, the bottoms of said grooves being spaced apart a distance greater than twice the thickness of the strip, said strip being folded upon the bottoms of said grooves as hinges to form opposed top and bottom portions and a connecting edge which is substantially flat and the height of which is greater than the combined thickness of said top and bottom portions.

3. A welt consisting of a strip of leather having opposed grain and flesh sides, said flesh side being provided with two deep longitudinal V-shaped equilateral grooves separated by a rib extending to the surface of said strip, said strip being folded inwardly upon the bottom of said grooves as hinges to form top and bottom portions, and a connecting edge which is substantially flat.

LLOYD F. PLUMMER.