Dec. 9, 1958 H. J. VACHON 2,863,229

INNERSOLE WITH STUCK-ON RIB

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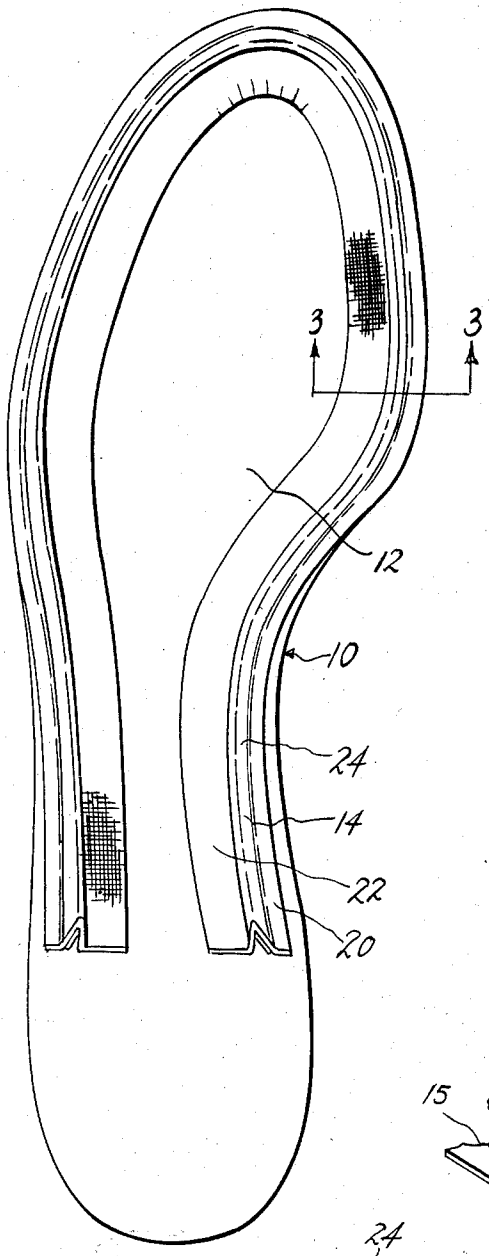


Fig. 1

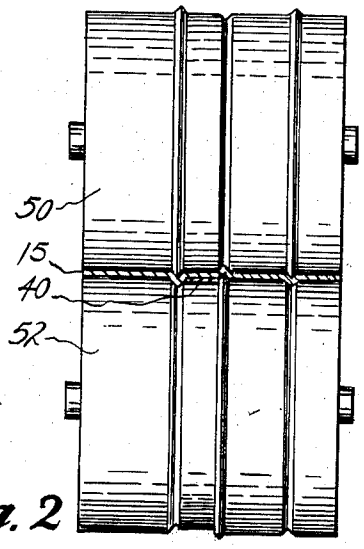


Fig. 2

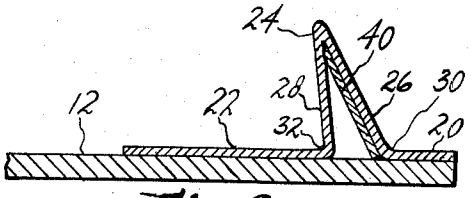


Fig. 3

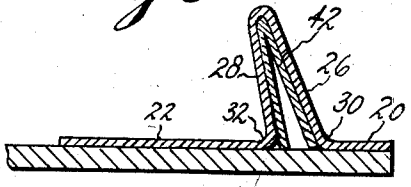


Fig. 4

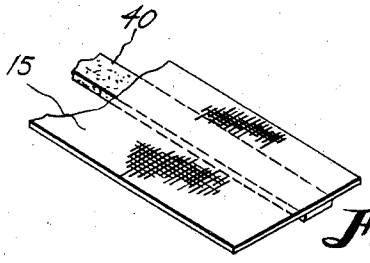


Fig. 5

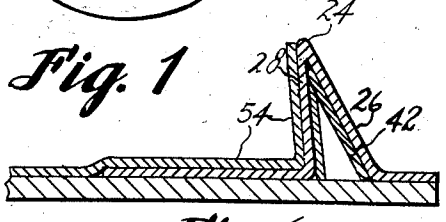


Fig. 6

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INNERSOLE WITH STUCK-ON RIB

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Application October 8, 1956, Serial No. 614,429

1 Claim. (Cl. 36—22)

This invention relates to innersoles and more particularly to improvements in so-called "stuck-on" ribs for innersoles although the invention is not limited to the use of adhesives in applying the rib, but it can also be stitched on. With the increase in production of Goodyear welt shoes, the decrease in availability of suitable insole leather and the development of good quality synthetic insole materials, the channeled rib is being increasingly replaced by stuck-on ribs such, for example, as are shown and described in U. S. Patents Nos. 2,387,710 and 2,398,277.

It is an object of the present invention to provide an improved "stuck-on" rib which is easy to make and to apply, which has relatively little effect on the flexibility of the innersole, and which does not interfere with the application of a reinforcing layer of canvas or the like to the area of the insole and inside wall of the rib. To this end, the improved rib is composed of a strip or of woven material which is longitudinally creased to form inner and outer legs in a common plane and upstanding inner and outer walls between the legs. The walls form an inverted V, the inner wall being substantially perpendicular to the plane of the legs or sloping slightly away from the outer wall. The lines of juncture of the walls with their respective legs are spaced apart so that the outer wall is inclined and the two walls enclose an air space. One or both of the walls are reinforced, preferably within the rib.

For a more complete understanding of the invention, reference may be had to the following description thereof and to the drawing, of which:

Figure 1 is a plan view of an innersole having thereon a stuck-on rib embodying the invention;

Figure 2 is an elevation of rolls for creasing a strip or tape of woven fabric;

Figure 3 is a section on the line 3—3 of Figure 1, on an enlarged scale;

Figure 4 is a section similar to Figure 3, but of a modified form of rib;

Figure 5 is a fragmentary perspective view of a reinforced tape from which the rib is formed; and

Figure 6 is a section similar to Figure 4, but also showing a reinforcement for the sole and rib.

An innersole 10 is shown in Figure 1, this sole comprising a blank 12 with a stuck-on rib 14 secured to one face of said blank around at least its forepart by an adhesive or other means.

As illustrated in Figures 1 and 3, the rib 14 consists of a strip of tape 15, preferably but not necessarily of a woven material such as canvas. The outer and inner longitudinal margins 20 and 22 are adhesively secured to the face of the blank 12 by any suitable cement as well known in the art. These marginal portions are spaced apart and between them the mid portion of the tape rises in the form of a hollow ridge 24 having an outer wall 26 and an inner wall 28. The lines of juncture 30 and 32 of these walls with the outer and inner margins 20 and 22, respectively, are spaced apart so that the ridge

24 has a cross-section in the shape of an inverted V. The outer wall 26 is inclined inward, that is, away from the adjacent edge of the sole blank. The inner wall 28 may be approximately perpendicular to the plane of the sole blank if a reinforcing layer of canvas is to be applied to the innersole; otherwise it is preferably inclined substantially inward by as much as 45°. The slant height of the outer wall 26 is therefore somewhat greater than that of the inner wall 28. The outer marginal portion or leg 20 of the tape is relatively narrow so that the rib can be located near to the edge of the sole blank. The inner marginal portion or leg 22 of the tape is considerably wider than the leg 20 to provide a strong bond between the rib and the sole blank. The width of this inner leg can be varied depending upon the requirements of the shoe manufacturer. Either or both of the walls 26 and 28 may be stiffened to withstand the lateral forces impressed on the rib in the lasting and sewing operations. Preferably the outer wall 26 is stiffened by any suitable means, such for example, as a strip of paper 40 cemented to the inner face thereof. The paper of which the strip 40 is made is preferably creped to give it flexibility and a certain amount of extensibility, and is treated with latex, asphalt or the like to give it wet strength. Instead of the stiffening strip, the wall 26 may have a coating or impregnation of some suitable stiffening material which can be applied in liquid form to dry or set to form a flexible film having considerably more stiffness than the canvas itself. If desired, both walls may be stiffened as described. For example, a strip of paper 42 may be folded along a longitudinal line to be cemented to both walls of the rib as indicated in Figure 4.

The stiffening means is preferably applied to the tape before it is folded into the form of a rib. Thus, a strip of stiffening material 40 may be cemented to the tape 15 as indicated in Figure 5. To facilitate the formation of the rib 14, the tape with the stiffening strip 40 thereon may then be passed between two rolls 50 and 52 which have complemental circumferential ridges and grooves arranged to crease the tape along parallel longitudinal lines defining the inner leg 22, the inner wall 28, the outer wall 26, and the outer leg 20.

An advantage resulting from the spacing of the juncture lines 30 and 32 at the feet of the walls 26 and 28, resulting in a hollow ridge, is that in the subsequent stitching operation, when the needle (not shown) is thrust inward through the walls near the feet thereof and is then retracted, the outward tension on the inner wall 28 tends to pull the crest of the ridge downward and inward so that the ridge as a whole inclines inward and is thus effective in assisting the operator in the sewing operation by serving as a guide for the sewing mechanism.

If a canvas reinforcing layer is to be applied to the innersole, it is usually desirable that the inner wall 28 of the ridge be approximately perpendicular to the plane of the sole when the tape is first applied to the blank. When such a reinforcing layer 54 is applied, a face thereof is covered with sticky cement. If the rib is upright so that its inner wall is approximately perpendicular to the face of the innersole, then the reinforcing canvas layer can readily be applied to the innersole area within the contour of the rib and to the inner wall of the rib itself.

I claim:

An innersole having an inseam rib secured to a portion of the margin thereof, said rib comprising a strip of tape having spaced marginal portions in a common plane and a mid portion in the form of a ridge with an inverted V cross section, said ridge having inner and outer walls both of which slope inward away from the adjacent edge of the sole, and a reinforcing strip having an inverted V cross section adhesively joined solely to the inner sur-

faces of said walls, the edges of said reinforcing strip being spaced apart.

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