Feb. 1, 1949. F. L. AYERS 2,460,669

SHOE WITH INTEGRAL INSOLE AND BACKSTAY

Filed Nov. 13, 1945 2 Sheets-Sheet 1

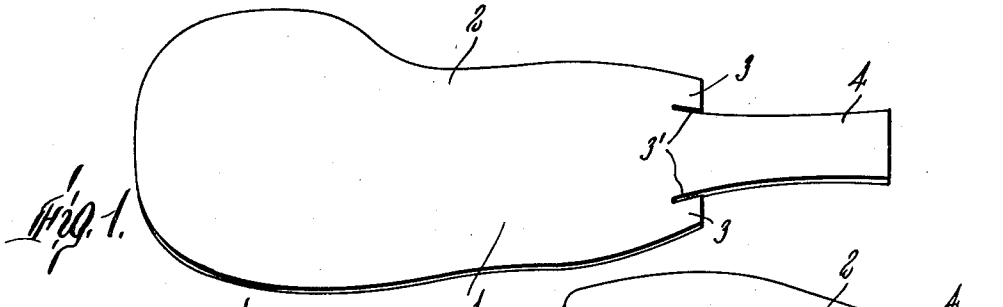


Fig. 1.

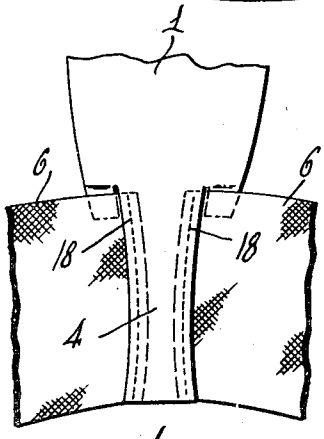


Fig. 2.

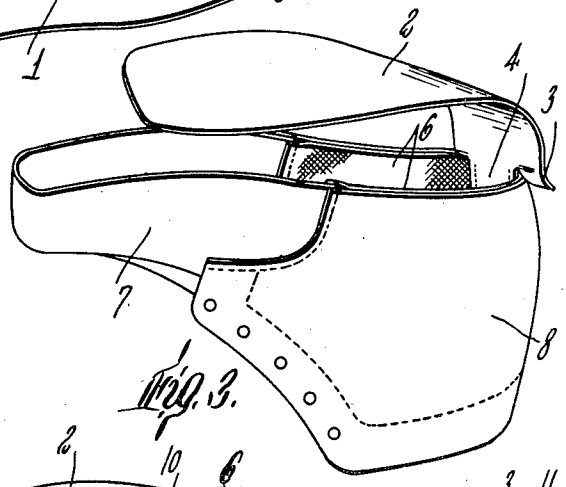


Fig. 3.

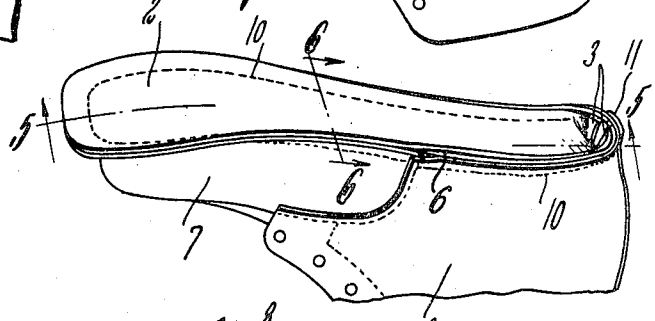


Fig. 4.

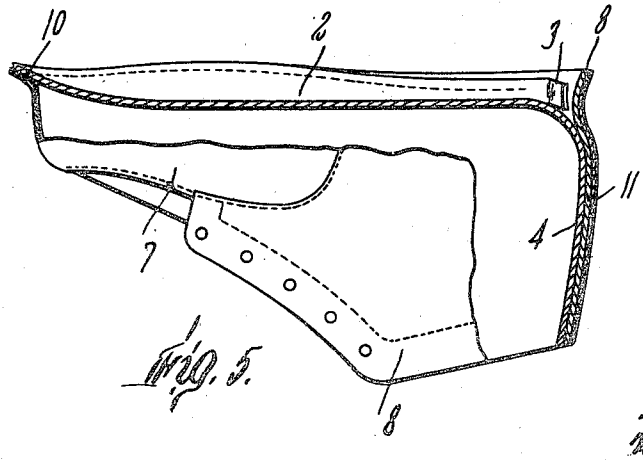


Fig. 5.

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SHOE WITH INTEGRAL INSOLE AND BACKSTAY

Filed Nov. 13, 1945 2 Sheets-Sheet 2

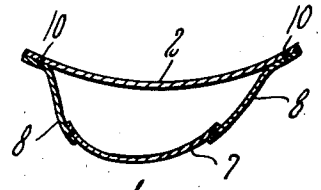


Fig. 6.

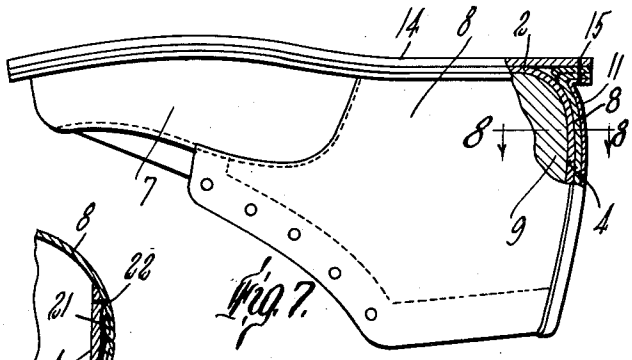


Fig. 7.

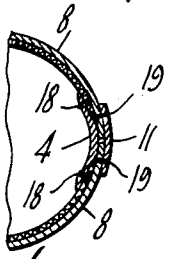


Fig. 8.

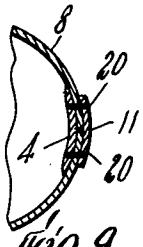


Fig. 9.

Fig. 10.

Fig. 11.

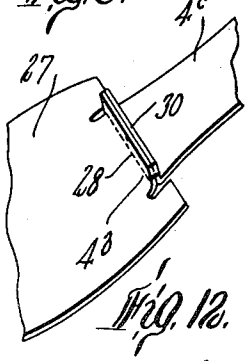


Fig. 12.

Fig. 13.

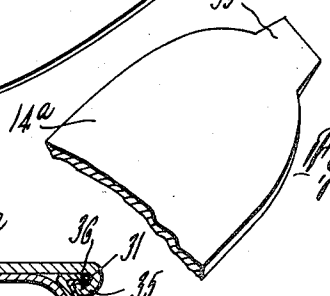


Fig. 14.

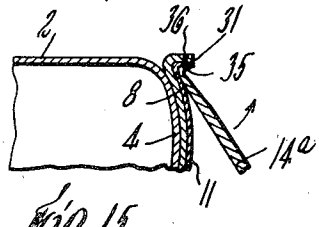


Fig. 15.

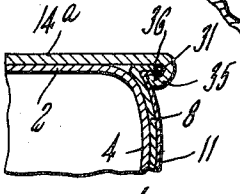


Fig. 16.

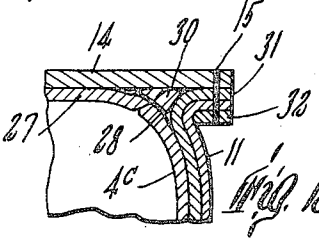


Fig. 18.

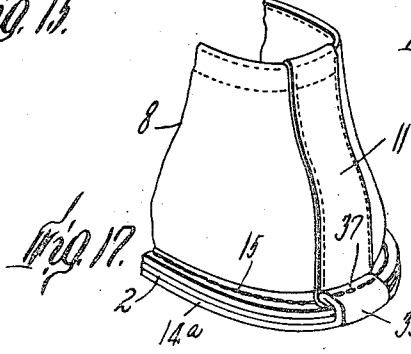


Fig. 17.

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UNITED STATES PATENT OFFICE

2,460,669

SHOE WITH INTEGRAL INSOLE AND BACKSTAY

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Application November 13, 1945, Serial No. 628,168

6 Claims. (Cl. 36—16)

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This invention relates to shoes and to their manufacture, and has for one object to provide a method of manufacture by which several of the more expensive and difficult steps commonly employed are rendered unnecessary, thus substantially reducing the cost of manufacture.

A further object, which is of great importance, particularly for children's shoes, is to provide a more comfortable and better fitting counterportion and without detracting from the appearance of the shoe.

Still another object is to provide a shoe having a flexible sole, the innersole being of such a soft and pliable nature as to impart substantially no stiffness to the sole.

A further object is to provide a shoe having the appearance of a conventional stitch-down shoe, but without the use of the stiff innersole heretofore found necessary in the manufacture of a shoe of this type and without the necessity of employing a welt.

For a more complete understanding of this invention, together with further objects and advantages, reference may be had to the accompanying drawings in which

Figure 1 is a perspective view of a combined innersole and inside backstay which may be employed in practicing the method of this invention.

Figure 2 is a fragmentary inside elevation showing the element of Figure 1 attached to a shoe lining.

Figure 3 is a perspective view showing the closed upper with the element of Figure 1 ready for attachment to the margins of the shoe upper.

Figure 4 is a fragmentary perspective view showing the combined innersole and inside backstay secured in position with respect to the upper, preparatory to slip lasting.

Figures 5 and 6 are sectional views on lines 5—5 and 6—6, respectively, of Figure 4.

Figure 7 is a side elevation partly broken away of the completed shoe on the last.

Figure 8 is a detail sectional view on line 8—8 of Figure 7, but omitting the last.

Figures 9 and 10 are views similar to Figure 8, but showing modified constructions.

Figures 11, 12 and 13 are fragmentary perspective views showing modified constructions of combined innersole and inside backstay.

Figure 14 is a fragmentary perspective view of an outersole which may be used in practicing this invention.

Figures 15 and 16 are fragmentary sectional views showing successive stages in the attachment of an outersole such as is shown in Figure 12.

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Figure 17 is a fragmentary perspective view of the heel end of a shoe employing the outersole of Figure 14 and showing a modification from the disclosures of Figures 15 and 16.

Figure 18 is a view similar to a portion of Figure 7, but showing a combined innersole and inside backstay constructed as shown in Figure 12.

Referring first to Figures 1 and 2, an element 1 of somewhat flexible material has a forward portion 2 terminating rearwardly in a pair of spaced tabs 3 separated by cuts 3' between which is a rearward extension 4 of substantially less width than the forward portion 2. The forward portion 2 constitutes a shoe innersole, while the portion 4, as will later more fully appear, constitutes at least a portion of an inside backstay. This portion 4 may be secured to the rear edges of a pair of lining members 6, as shown in Figure 2, and this assembly of the lining members 6 and the element 1 may then be incorporated in a shoe upper to form a closed heel end for the shoe, as shown in Figure 3, this upper having the usual vamp 7 and quarters 8.

The forward or innersole portion 2 of the element 1 is then brought down inside the margins of the upper, as shown in Figures 4, 5 and 6 and the tabs 3 are brought around inside of the lining close to the downward projection of the sides of the inside backstay 4, and the margins of the sole portion and upper are secured together as by the line of stitching 10 which extends from adjacent to the portions 3 around the forepart of the shoe. The tabs 3 form shoulders engaging the inside of the upper and provide for uniform thickness of stock around the sides of the shoe substantially to the outside backstay, though if desired they may be omitted as shown in Figure 13, in which case the rear edges 5 constitute spaced shoulder portions at opposite sides of the inside backstay portion 4. The upper also preferably includes an outside backstay 11, the lining and the upper materials extending in between the inside backstay portion 4 and the outside backstay 11 as shown best in Figures 8 and 15.

The shoe is then slip lasted, the last 9 (Figure 7) being forced in between the innersole and the upper. The margin of the innersole portion 2 where it is secured to the lower margins of the upper (Figure 4), and the lower end of the backstay 11, are turned outwardly, as shown best in Figure 7, and an outersole 14 is applied to the shoe and secured to these out-turned margins, as by the outersole stitching 15 similar to the outersole stitching of a shoe of the stitch-down

type. The shoe is then completed in any desired manner.

It will be noted that with this arrangement of parts, the inside backstay portion 4 merges on a gradual curve with the innersole portion 2 as shown best in Figure 5, thus providing a curved rear end to the heel cavity of the shoe which is very comfortable to the wearer. The last employed during the slip lasting will have its heel seat portion rounded over to make the heel end of the last correspond with this contour of the combined inside backstay and innersole. It will also be noted that no pulling over or side lasting operations are necessary, the entire assembly of the upper in preparation for the insertion of the last comprising stitching-room operations.

The securement between the inside backstay and the lining is shown in Figures 2 and 8 as two spaced lines of stitching 18. Both the upper and lining extend between the inner and outer backstays 4 and 11, respectively, and the outer backstay 11 may be secured to the upper only as by the lines of stitching 19 (see Figure 8). Thus the outside face of the heel end of the shoe is relatively smooth and presents the appearance of the conventional shoe provided with an outside backstay.

In some cases it may not be desired to employ a lining. Such a construction is shown in Figure 9 in which inside backstay portion 4 is applied directly to the inside face of the shoe upper. It may be cemented in position, or, if desired, it may be secured by lines of stitching, such as 20, which secure the outside backstay 11 in position.

In some cases an outside backstay may not be desired. When this is so, the construction shown in Figure 10 may be employed, the shoe upper quarters being joined by the usual back seam, which may be overlaid by a reinforcing strip 21 against which the inside backstay 4 may be secured as by stitches 22.

In some cases it may not be desired to form the entire backstay and innersole in one piece. For example, in Figure 11 the innersole portion is shown as formed in two parts, a forward part 25 and a rear part 26, which may be united by a skived joint either cemented or stitched, or both, as desired. The rear part 26 is provided with the integral backstay portion 4a between tabs 3a.

In Figure 12 a further modification is shown in which the innersole member 27 may have a relatively short inside backstay extension 4b which may be seamed to an inside backstay portion 4c which may extend to the top of the shoe. The seam securing these parts together at 28 may leave a substantial amount of stock projecting from the back face of the combined element and when in place in the shoe, this projecting stock 30 acts as a filler between the curved combined innersole and inside backstay, the outersole 14, and the rearwardly turned upper margins 31 and lower end of the outside backstay 11, as shown in Figure 18.

This Figure 18 also shows the application of a mock welt 32 to the upper face of the out-turned margins which will usually be found desirable in the larger sizes of children's shoes. It will not usually be found desirable in infants' sizes.

The outside backstay may be of any desired thickness and when of substantial thickness forms a heavy reinforcement for the rear end of the heel where substantial wear is likely to occur, and if desired it may be further reinforced by a rearward extension of the outersole in a

manner shown in Figures 14 to 17. In these figures, the outersole 14a is shown as provided with a rearward extension 35, which, if desired, may be skived, and this extension may be secured to the rearwardly extending margins of the upper materials and the outer backstay end. For example, as shown in Figures 15 and 16, the outersole 14a may have its extension 35 stitched to the upper face of the backwardly turned backstay end 31 with the outersole extending outwardly therefrom, a line of stitching being shown at 36 to so secure these parts. The outersole may then be turned downwardly and forwardly, so concealing the stitching 36, as shown in Figure 16, and the margin of the outersole may then be secured to the out-turned margins of the upper as previously described. If desired, however, the stitching may appear on the top face of the inwardly folded rear extremity 35 as shown in Figure 17 at 37. This extension may be of substantially equal width with the outside backstay 11 and furnishes a substantial reinforcement to this portion of the shoe. The construction of Figures 14 to 17, inclusive, is not claimed herein but forms subject matter of my application Serial No. 21,929, filed April 19, 1948, for Shoe, as a continuation-in-part hereof.

From the foregoing description of certain embodiments of this invention it should be evident to those skilled in the art that various further changes and modifications may be made without departing from the spirit or scope of this invention.

I claim:

1. A shoe having an upper including inside and outside backstays between which the adjacent edges of the upper extend, said inside backstay having an innersole portion provided with a margin secured to the lower margin of said upper, said upper margin and the lower end of said outside backstay being out-turned, and an outersole secured to said out-turned margins and outer backstay.

2. A shoe having an upper, an inside backstay having its outer face positioned against the inner face of said upper at the heel end of the shoe, said inside backstay comprising two parts secured together, one of said parts having an innersole portion having a margin secured to the lower margin of said upper, said margins being outwardly turned, an outersole secured to the outwardly turned portions, the edges of said secured parts extending rearwardly and forming a filler between said inside backstay, outersole, and heel end of said upper.

3. A shoe having an upper, an inside backstay, and an outside backstay secured to the outer face of said upper at its heel end, said inside backstay comprising two parts secured together, one of said parts having an innersole portion having a margin secured to the lower margin of said upper, said margins and the lower end of said outside backstay being outwardly turned, an outersole secured to the outwardly turned portions, the edges of said secured parts extending rearwardly and forming a filler between said inside backstay, outersole, and heel end of said upper.

4. A shoe having inside and outside backstays, upper materials having rear margins extending between said stays, lines of stitching securing said stays and upper materials together, said inside backstay having an innersole part having its margins secured to the lower margins of said upper materials and turned outwardly, the lower

end of said outside backstay being also outwardly turned, and an outersole secured to said outwardly turned margins and end.

5. A shoe having an upper, a combined inside backstay and sole member secured at the outer face of its backstay portion to the inner face of said upper and at the margin of its sole portion to the lower margin of said upper, said lower upper margin being outwardly turned, and an outersole secured to said out-turned margin.

6. A shoe having an upper including a lining, a combined inside backstay and insole member secured at its backstay portion to said lining and at the margin of its insole portion to the lower margin of said upper, an outsole, said lower upper margin being outwardly turned over said outsole, and means securing said outwardly turned margin to said outsole.

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