Nov. 7, 1939. J. H. EVERSTON 2,178,629

SHOE

Filed Jan. 25, 1937

Fig. 1.

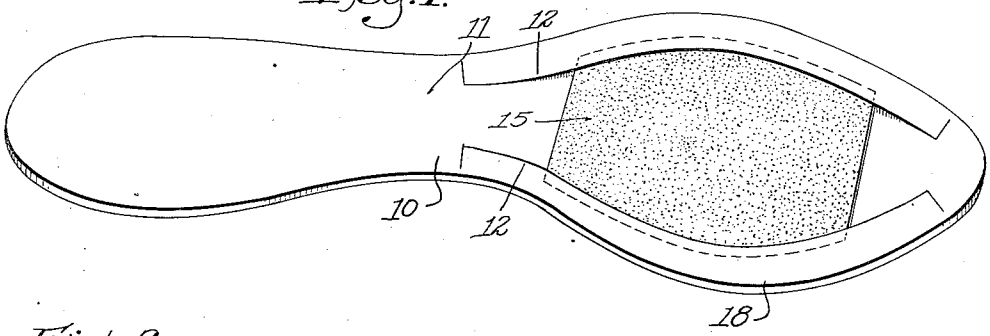


Fig. 2.

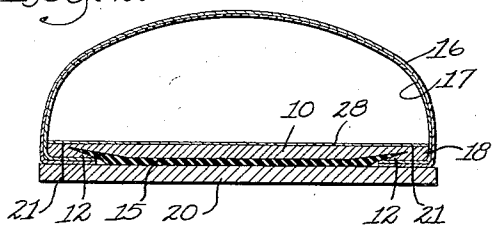


Fig. 3.

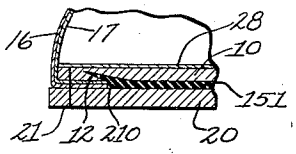


Fig. 6.

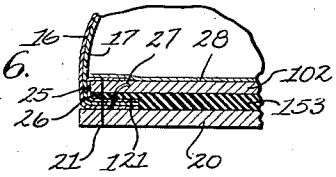


Fig. 4.

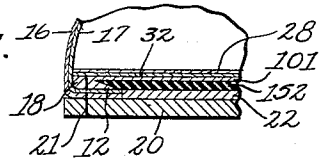


Fig. 7.

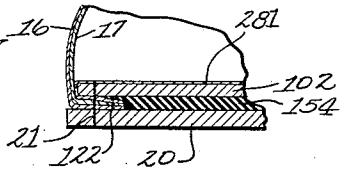


Fig. 5.

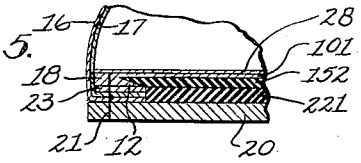
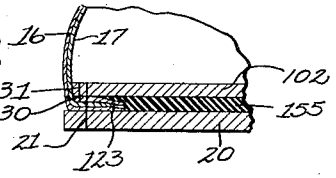


Fig. 8.



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UNITED STATES PATENT OFFICE

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SHOE

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Application January 25, 1937, Serial No. 122,209

2 Claims. (Cl. 36—19)

This invention relates to improvements in shoe inner soles and assemblies.

It is the primary object of the invention to provide in novel and more readily usable form, an inner sole and cushion assembly capable of being handled unitarily for lasting into the shoe to provide a cushion for the fore part of the wearer's foot. More specifically, it is my objective to provide a shoe having an adequate cushion in its fore part without requiring the separate handling of the cushion during the lasting of the shoe and without requiring any preliminary stitching or other permanent connection of the cushion with the inner sole.

Other objects will appear from the following disclosure of the invention.

In the drawing:

Figure 1 is a view in perspective showing the lower surface of an inner sole comprising a preferred embodiment of my invention.

Figure 2 is a view in transverse section through a shoe incorporating the inner sole construction shown in Fig. 1.

Figures 3 to 8 inclusive are fragmentary views taken in sections similar to that of Fig. 2 and showing various modified embodiments of the invention.

Like parts are identified by the same reference characters throughout the several views.

The inner sole 10 which is shown in Fig. 1 as a separate article of manufacture, conforms to usual practice in that it comprises a moderately thin flexible piece of leather. In accordance with the present invention the fore part of the lower surface 11 of the inner sole is skived or slit by existing equipment to separate therefrom a lip 12 which follows the contour of the forward half of the sole and is spaced inwardly therefrom and inwardly directed to receive the thinned edges of a cushion 15.

The usual flexibility of the leather will permit the lip 12 to be lifted for the insertion of the thinned edges of the cushion and the lip will then be cemented down to confine the edges of the cushion to retain the cushion as a part of the insole for unitary handling therewith both in shipping and in the subsequent lasting of the unitary assembly into a shoe.

The insole as shown in Fig. 1 appears as illustrated in Fig. 2 when it is assembled in a conventional shoe. The upper 16 and the lining 17 are lasted over the margin 18 of the insole 10 and underlie the lip 12. The thickness of the lining and upper portions thus lasted beneath the insole is sufficient to provide clearance within which the cushion 15 is accommodated, thus providing substantial parallelism between the insole 10 and the outsole 20. The stitching 21 which connects the insole and outsole passes through the lasted portions of the upper and the lining, and passes through the edge portion 18 of the insole without traversing the yieldable cushion 15 or any portion thereof. This is important because it provides a solid and relatively non-yielding anchorage for the stitches. If the line of stitching or other securing means were to pass through the cushion, the yielding of the cushion during the wear of the shoe would occasion a constant movement of the soles with respect to the stitching and would result in breaking the stitching and pulling out staples or other securing means which might be employed either temporarily or as a permanent connection between the soles as a lasting operation.

The construction shown in Fig. 3 is identical with that shown in Fig. 2 with the exception that the cushion 151 is provided with an abrupt shoulder at 210 against which the lasted marginal portions of the upper and lining 16 and 17 are trimmed to seat.

In the construction shown in Fig. 4 the material throughout the central lower portion of the insole 101 has actually been cut away completely within the lip 12 to provide a recess or pocket in which the cushion 152 is wholly disposed. The space below the cushion in this construction may be filled with a separate filler 22 which may be any usual soft composition or felt, or another ply of sponge rubber or other cushioning material, as desired. It will, of course, be understood that any elastic cushion may be used, but sponge rubber is the material most widely used and found most acceptable in current practice.

The use of a rubber cushion ply at 221 is shown in Fig. 5, which differs from Fig. 4 only in this regard and in the fact that the ply 221 can be somewhat thicker than ply 22 because I have incorporated at 23 a strip of stiffening material underlying the marginal portion 18 of the insole to keep it straight and flat under the tension of the stitches 21.

In the construction shown in Fig. 6 I have shown a materially different arrangement in which the inner sole 102 is not cut to provide the lip 12. Instead, I have employed about the margin of the insole 102 a binding strip 25 such as is commonly used in women's sandals for summer wear. This binding strip is adhesively secured to the upper surface of the inner sole 102, but beneath the insole it passes about the reduced mar-

ginal portion 26 of the cushion 153 and thereby serves to connect the cushion unitarily with the insole. The lower edge 121 of the binding strip thus performs a function analogous to that of lip 12 in the constructions previously discussed. I have also shown in Fig. 6 the use of a curved staple at 27 serving to supplement the thread 21 as a connection to the insole of the lasted-over portions of the upper 16 and the liner 17, these being preferably engaged with the portion 121 of the binding strip 25. It will, of course, be understood that curved staples or nails, or other securing devices, may be used in any of the constructions herein disclosed. It will also be understood that "sock linings" such as that shown at 28 may be used in this or any other of the constructions disclosed.

In the construction shown in Fig. 7 the sock lining 281 is preferably adhesively secured to the top face of the insole 102 and is carried integrally around the margin of the insole as a binder therefor and a substitute for the binding strip 25 shown in Fig. 6. The lower margin 122 of the sock liner 281 engages the lower face of the cushion 154 to hold the cushion unitarily to the insole 102 in the same manner in which the lip 12 performs that function in Figs. 1 to 5 inclusive.

The construction shown in Fig. 8 is more nearly like that of Figs. 1 and 2. In the Fig. 8 construction the insole 102 is similar to that shown in Figs. 6 and 7 in that it is not cut. The lip 123 which retains the skived or molded thin edge of the cushion 155 comprises a separate strip 30 of leather or the like, which is stitched at 31 to the insole, prior to the lasting of the shoe, as a means of retaining the cushion. It will be noted that the lasting is in other respects similar to that shown in Fig. 2 and Fig. 3.

Where the insole is greatly reduced in thickness, as in Figs. 4 and 5, I may employ a piece of fabric or other stiffener to assist in holding the shape of the insole as shown in Fig. 4 at 32.

It will be observed that the cushion ply is economically made of a size which is just sufficient to support the foot of the wearer of a shoe incorporating my improvements. There is no need, nor is it desirable that the cushion should extend into the box portion of the shoe forwardly of the wearer's foot. Neither is it desirable that the cushion should extend to the margins of the insole where its presence, at least in any substantial thickness, would weaken the stitching and reduce the effectiveness of any other securing means employed in the lasting of the shoe. My improved construction provides a solid seat for the stitching used in the assembly of the shoe while at the same time mounting unitarily on the insole a cushion which is sufficiently large to be effective over substantially the entire area of the insole engaged under the pressure of the wearer's foot.

I claim:

1. In a shoe, the combination with an insole having a solid central portion and a solid marginal portion of substantially equal thickness and a cut spaced inwardly from said margin to provide an inwardly directed lip following the margins of the sole about substantial portions of the sides thereof, of a cushion having a marginal portion of reduced thickness inserted within the lip for mechanical unitary retention thereby, an upper having its margins lasted about the solid side margins of the insole and in substantial parallelism to the plane of said insole, an outsole applied in substantial parallelism to the insole across the lasted portions of the upper and across the cushion therewithin, and means extending through the solid portions of the insole for connecting the outsole and insole of the shoe through said upper.

2. In a shoe the combination with an outsole, of a cushion on the outsole having marginal portions of reduced thickness extending laterally in an upward direction divergent from the outsole, an insole resting on said cushion and having solid marginal portions and integral flaps extending therefrom beneath the upwardly inclined marginal portions of the cushion, the solid marginal portions of the insole being of substantially the same thickness as the central portion of the insole and in the same plane, and an upper and lining extending marginally about the insole and lasted at their margins horizontally beneath the solid portion of the insole and between the insole and outsole, and means connecting the outsole and the solid marginal portion of the insole through the upper and lining.

JOSEPH H. EVERSTON.