March 17, 1942. J. H. EVERSTON 2,276,949

SHOE

Filed March 25, 1940

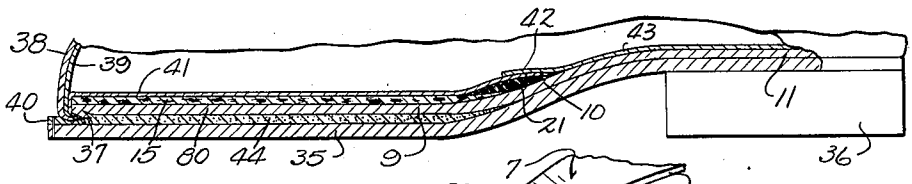


Fig. 6.

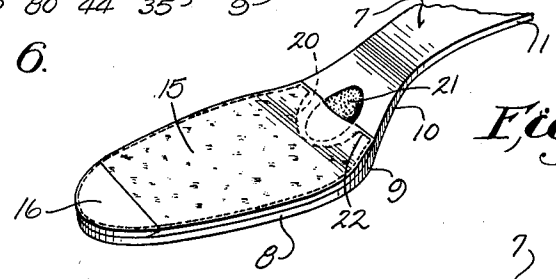


Fig. 1.

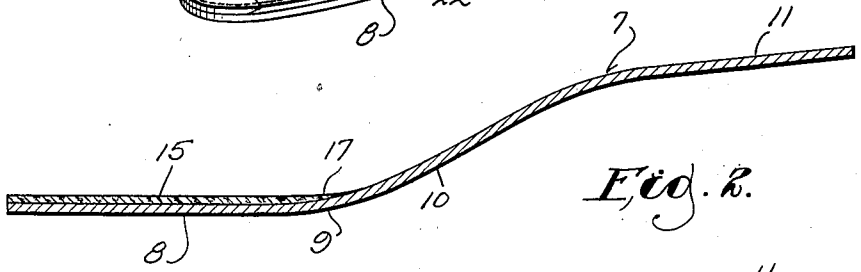


Fig. 2.

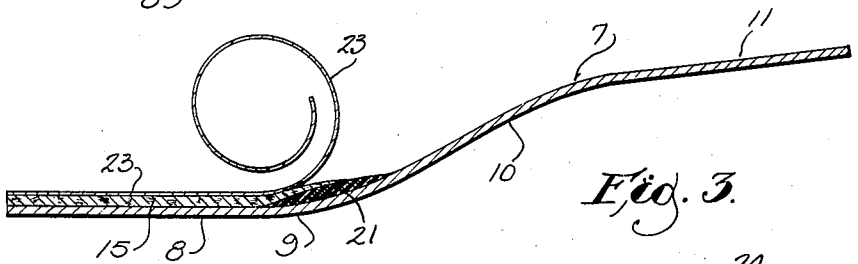


Fig. 3.

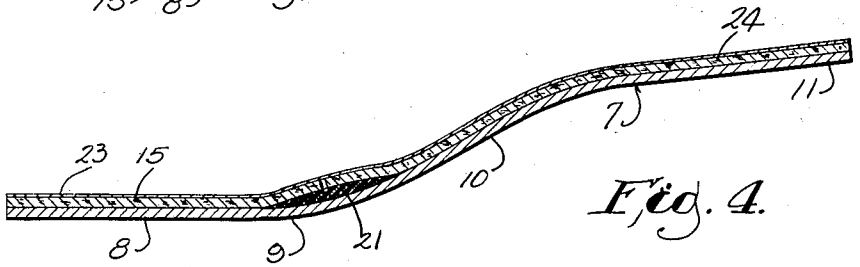


Fig. 4.

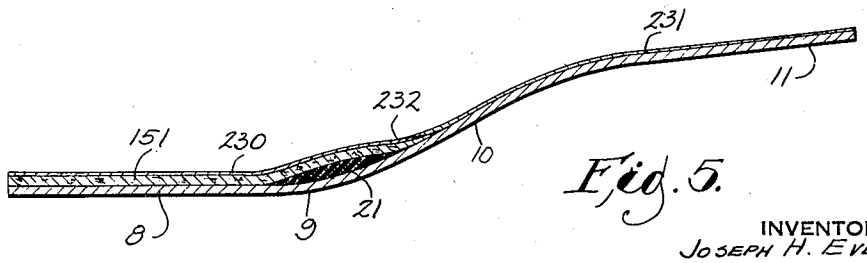


Fig. 5.

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SHOE

Joseph H. Everston, Milwaukee, Wis.

Application March 25, 1940, Serial No. 325,765

8 Claims. (Cl. 36—71)

This invention relates to improvements in shoes and insoles for shoes.

It is the primary object of the invention to provide a novel and improved type of cushion insole in which provision is made for the insertion, interchange and removal with facility of a metatarsal pad. Other objects will be apparent to those skilled in the art upon study of the following disclosure of the invention.

In the drawing:

Fig. 1 is a view in perspective of a shoe insole embodying the invention which is illustrated apart from any shoe, but which is shown in the form in which it would appear in use within a shoe, the form being important to an understanding of the invention but the remainder of the shoe structure being unimportant.

Fig. 2 is a view on an enlarged scale in longitudinal section showing an insole of the general type illustrated in Fig. 1, but slightly modified.

Fig. 3 is a view similar to Fig. 2 showing a sock lining applied to the insole of Fig. 2 and rolled forwardly, the metatarsal pad being positioned in the pocket provided therefor.

Fig. 4 is a view similar to Fig. 3 showing a modified embodiment of the invention.

Fig. 5 is a view similar to Fig. 3 showing a further modified embodiment of the invention.

Fig. 6 is a view in a longitudinal section showing the embodiment of the invention in a Goodyear welt type shoe.

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

As indicated above, the particular form or style of shoe is broadly immaterial to the present invention, but, in certain aspects of the invention, the form in which the insole is supported within the shoe is of some consequence and, accordingly, the invention has in every instance been illustrated by showing the insole in the form in which it is held when embodied in a shoe. It will, of course, be understood that as manufactured, the insole will be flat in accordance with usual practice.

The insole generically designated by reference character 7 has a forward portion 8 which, in use, is substantially flat and is supported directly from the ground by the outsole. At 9, the sole is sharply reduced in width and formed upwardly to comprise the shank 10 beneath the wearer's instep. At 11, the insole is again substantially leveled off over the heel of the shoe.

In accordance with the present invention, a cushion 15 is applied over the entire forward portion 8 of the insole, as shown in Fig. 2 or, if desired, the toe portion of the cushion may be filled out by a leather tip 16, as shown in Fig. 1. It will be understood without further discussion that these arrangements are optionally alternative since, in either event, the cushion supports substantially the entire weight of the wearer's foot. The cushion may be stitched or cemented to the insole or secured thereto in any other desired manner to be handled unitarily therewith in the lasting of the shoe.

At its rear edge, the cushion 15 is thinned or skived at 17 so that the upper surface of the cushion extends substantially flat to the shank portion 10 of the shoe. At this rear end of the cushion, there is also provided a pocket shown in dotted lines in Fig. 1 at 20 to receive a metatarsal pad 21, if desired. When the cushion is stitched or cemented to the insole, the line upon which the parts are fastened together does not follow the rear margin of the cushion, but deviates therefrom as indicated by the line of stitching 22 in Fig. 1 to provide a pocket. For persons with normal feet, this pocket need not be used and its presence will not be apparent since the side margins of the cushion 15 will be secured to the insole clear to the rear end of the cushion and the top surface of the cushion will be substantially flat, as shown in Fig. 2. However, if a metatarsal pad is desired, the pocket may readily be opened by lifting the central rear end portion of the cushion and inserting the pad into the pocket there provided. In this position, the thinned rear marignal portions 17 of the cushion will partially overlap the pad. By reason of the pocket and by reason of the fact that the pad will also extend slightly upwardly of the inclined shank portion of the insole, the pad will be securely held in the desired position and will not become displaced in use. The shank portion of the insole likewise overlaps the pad and tends to hold it in the pocket. However, if it is desired to interchange the large pad for a smaller one, it only requires a moment to withdraw the large pad and to substitute a small one which, despite the fact that it does not fully fill the pocket as shown in Fig. 1, will nevertheless be held by the overlap of the cushion and the shank portion of the insole securely in the desired location beneath the metatarsal arch of the wearer's foot.

Any desired materials may be used for the cushion and pad. For example, both may be made of sponge rubber or foam rubber or one may be made of rubber and the other of cork or the like. I have found cork bonded with rubber

to be a very satisfactory material, particularly for the cushion 15.

In actual practice, the shoe will ordinarily be supplied with a sock lining 23 which usually comprises a thin ply of leather and which, in the present invention, will overlie the cushion 15, the metatarsal pad 21 and the entire shank and heel portions 10 and 11 of the insole 7. Fig. 3 shows how this sock lining may be rolled up from the rear to expose the rear end of the cushion 15 and the pad 21 when it is desired to insert, remove or exchange the metatarsal pad.

In Fig. 4, I have shown an arrangement in which the cushion 15 which covers the forepart of the insole is supplemented by a cushion 24 which covers the shank and heel portions of the insole. In this instance, the forward end of cushion 24 abuts the rearward end of cushion 15 and no skiving is required. The two cushions together provide complementary pocket portions in which the metatarsal pad 21 is received, it being only necessary to lift one of the abutting ends of the respective cushions to obtain access to the pad. In actual practice, a sock lining 23 will usually be employed over the cushions 15 and 24 and will be rolled up in the manner indicated in Fig. 3 when access to the pad is desired.

The construction shown in Fig. 5 is one which is particularly adapted for use in welt shoes in which ordinarily no lining is used over the forepart of the sole and only the heel is covered with a so-called heel pad. In the Fig. 5 construction, the cushion 151 is somewhat longer than the cushion 15 heretofore illustrated and extends partway up the shank portion of the shoe to completely cover, instead of merely overlapping, the metatarsal pad 21. At its upper end, the cushion 151 is skived or thinned to merge gradually with the shank portion of the insole. It is covered by a sock lining portion 230 which is approximately the same length as the cushion 151. A relatively elongated heel "pad" 231 is used which, at its forward margin 232, preferably slightly overlaps the rear margin of the forward sock lining portion 230. In effect, the forward sock lining portion 230 and the elongated heel "pad" 231 actually comprise a two-part sock lining, the parts being slightly overlapped adjacent the rear end of the metatarsal pad 21. As is well known in the art, the so-called pad 231 is actually not a pad but merely a partial sock lining, usually limited to the heel portion of the insole only.

The construction shown in Fig. 6 is also adapted for use in welt shoes. In this view the outsole 35 and heel 36 are illustrated. The fore part 80 of the insole is provided with the usual inseam rib at 37 to which the upper 38 and liner 39 and welt 40 are stitched, the latter being also stitched to the outsole. In addition to the above described parts conventionally fastened to the rib or flange 37 of the insole, I may also last thereto the margin of a special sock lining 41 overlying the cushion 15. The sock lining need not necessarily be lasted to the rib but may terminate flush with the cushion in the manner shown in Fig. 5 if desired.

It will be understood that the welting of the conventional welt type shoe extends only around the fore part of the shoe terminating at the shank. Thus, assuming the special sock lining 41 to be fastened to the welt or otherwise secured about the margin of the cushion 15, it will be free at its end margin 42 to overlie the pad 21 which, in this instance, is shown lapping the upper face rather than the lower face of the cushion 15, but nevertheless in contact both with the cushion and the shank portion 10 of the insole.

In order to close and conceal the pocket formed by the sock lining and into which the pad 21 is inserted or removed as desired, I may extend the heel liner 43 sufficiently to lap at the insole the cushion 21 and the sock lining ply 40.

The usual cork, plastic, or other filler is incorporated at 44 between the outsole and the insole. Thus the fore part of this shoe contains an outsole ply 35, a filler ply 44, an insole ply at 80, a cushion ply at 15, and a sock lining ply at 41. Of these several plies only the outsole and the insole are continuous from end to end of the shoe and the cushion at 21 laps all of the discontinuous plies.

I claim:

1. The combination with an insole provided with a forward portion and an upwardly inclined shank portion, of a cushion provided with means marginally connecting it with the forward insole portion, said means being so disposed in spaced relation to the rear margin of the cushion as to provide a pocket adjacent the shank portion of the insole and a metatarsal pad releasably positioned in said pocket and lapping said cushion and the shank portion of the insole whereby to be positioned in said pocket.

2. In a shoe, the combination with an insole ply, a cushion ply limited in extent to the fore part of the shoe, and a sock lining ply substantially co-extensive with said insole ply, of a metatarsal pad lapping said cushion ply, said cushion ply and one of said other plies having portions above the central part of the insole mutually free of each other and providing a pocket opening beyond the rear end of the cushion ply in which said pad is positioned.

3. The combination with an insole having a fore portion, an upwardly inclined shank portion, and a heel portion at a higher level than the fore portion, of a cushion ply limited in its extent to the fore portion of the insole and terminating adjacent the shank portion thereof, a metatarsal pad lapping said cushion ply, a sock lining ply over the cushion ply and at least a portion of the pad, and a heel lining ply extending forwardly from the rear portion of the insole and lapping said pad and said sock lining ply.

4. The combination with an insole having a shank portion, of a cushion ply superimposed on the insole and extending rearwardly substantially to the shank portion thereof, a sock lining ply marginally secured over said cushion ply and free thereof adjacent the insole shank portion whereby to provide a pocket, and a metatarsal pad disposed in said pocket and removable therefrom, said insole having an inseam rib and said sock lining ply being lasted over said cushion and connected about the margins of the fore part of the insole with said rib.

5. The combination with an insole having a fore part and a shank portion, of a cushion ply overlying the fore part of the insole and terminating adjacent the shank portion, a sock lining ply overlying the cushion ply, means fixing one of said plies in assembly above the margins of the fore part of the insole while leaving said last mentioned ply free at its rear end to provide a pocket adjacent the shank portion of the insole, and a metatarsal pad removably disposed in said pocket, said pad lapping said cushion ply and having its rear portion in contact with the insole.

6. The combination with an insole having a

forward portion, a rear portion and an upwardly inclined intermediate shank portion, of a metatarsal pad superimposed on the insole adjacent the shank portion, and cushion plies mounted on the forward and rearward portions of the insole and substantially abutting at said pad, said plies providing a pocket in which said pad is removably disposed.

7. The combination with an insole having a forward portion, an elevated rear portion, and an intermediate inclined shank portion, of a metatarsal pad applied to said insole in proximity to said shank portion, and a cushion ply superimposed on the insole at its forward portion and lapping said pad, a second cushion ply applied to said insole at its heel portion and extending forwardly over said shank portion and lapping said pad in substantial abutment with said first mentioned cushion ply, said cushion plies coacting with said insole to provide a pocket in which said pad is positioned.

8. A shoe having in combination an insole ply comprising a generally planiform forward portion and an upwardly extending shank portion, a cushion ply superimposed on the forward portion of the insole ply and substantially co-extensive with said forward portion and provided with a skived rear margin at said shank portion, a resilient pad overlying said skived margin and partially lapping said cushion and partially lapping said shank portion adjacent the rear margin of the cushion, a sock lining applied to the upper surface of the cushion ply and extending at least partially over said pad, and means maintaining the sock lining, cushion ply, and forward insole portion connected in unitary assembly, the rear margin of the sock lining being unconnected to the underlying plies whereby to provide a pocket in which said pad is positioned, the connected portions of said plies including means restricting the forward movement of said pad, whereby to confine it to the specified location for metatarsal support.

JOSEPH H. EVERSTON.