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J. H. EVERSTON

2,037,970

CUSHION SHOE

Filed May 20, 1935

Fig. 1.

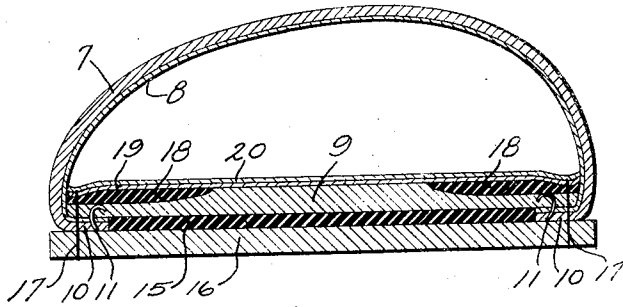


Fig. 2.

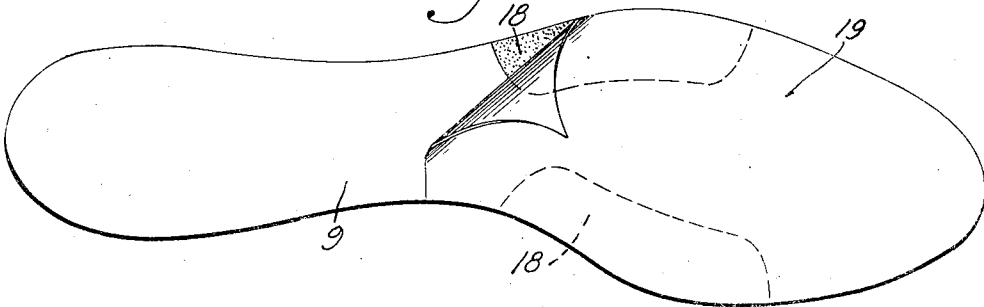


Fig. 3.

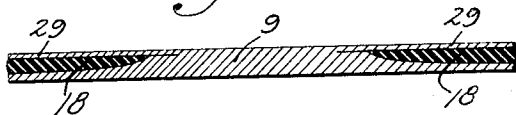


Fig. 4.

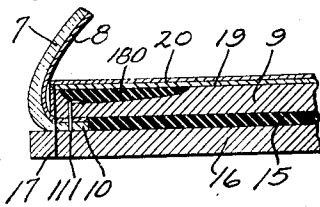


Fig. 5.

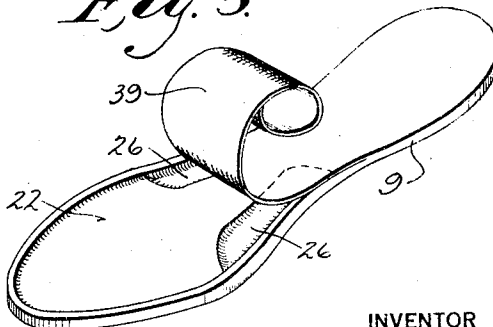
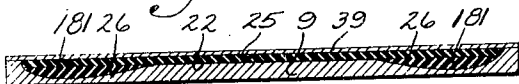


Fig. 6.



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CUSHION SHOE

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10 Claims. (Cl. 36—19)

This invention relates to improvements in cushion shoes.

The invention has particular application either to cement, thread, or staple lasted shoes, the object of the invention being to provide a specially cushioned area beneath the first and fifth metatarsal heads or bones of the metatarsal arch, while at the same time providing full cushion support for the remainder of the ball portion of the wearer's foot.

In a McKay, Littleway, Compo, or other shoe lasted by cementing or by stitching through the insole, the upper and the lining are turned inwardly over the insole, thereby providing a two ply flange upon which the outer sole is applied and stitched. It has heretofore been proposed to employ cushioning material in the shallow space outlined by the flanged margins of the upper and interposed between the insole and outsole. Obviously, however, a cushion in this area can only provide a partial yielding support for the foot, the area occupied by the flange and the lasting means being non-yieldable. It has also been proposed to extend a portion of the cushion between the inturned flange and the bottom of the insole proper, to a position where such cushion portion will be confined under compression if stitches or staples are used in lasting the inturned flange of the upper and lining about the insole.

The present invention seeks to provide a more full and complete cushion support for the ball portion of the wearer's foot by employing cushion pads within the insole itself in relation such as to overlap one or both rows of the staples or stitching used for lasting purposes, the special pads at these points overlapping the marginal edge portions of the cushion pad used as filler between the insole and outsole, thereby providing areas of increased yielding characteristics at the points where the first and fifth metatarsal bones and their associated phalangeal bones require support. In accordance with my invention none of the elastic cushion material is subjected to any compression whatever with the possible exception of the extreme marginal portions of the auxiliary cushions which are outside of the area occupied by the wearer's foot.

In the drawing:

Figure 1 is a transverse cross section through a staple lasted shoe exemplifying one embodiment of my invention.

Figure 2 is a plan view of an insole used in connection with my invention and having a cover ply partially rolled back to expose a cushion built into the insole.

Figure 3 is a transverse cross section through an insole comprising a different embodiment of the invention.

Figure 4 is a detail view in fragmentary cross section showing a slight modification of the structure illustrated in Fig. 1.

Figure 5 is a view in perspective on a reduced scale showing the portions of an insole prepared for the incorporation of cushions in a manner representing a further modification of the invention.

Figure 6 is a detail view taken in transverse cross section through a completed insole cushioned in the recesses disclosed in Fig. 5.

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

In the accompanying drawing of my improved shoe, the upper 7 and the lining 8 have been lasted over the insole 9 to provide the flange portions 10 held to the insole, for example, by the staples 11. Within the area defined by the flanges 10, the pad 15 of sponge rubber or the like has been applied to the bottom of the insole at 9, such pad being preferably slightly thicker than the flange portions 10 of the upper and lining in order to be maintained under some compression when the outsole 16 is secured in place by the stitches 17 which extend through the outsole, the flanged-over portions of the upper and lining, the margins of the insole 9, and the margins of cushions 18, and cover ply 19.

The cushions 18 are likewise preferably made of sponge rubber or the like, and are positioned in cavities suitably cut into the insole 9 in the areas generally indicated in Figs. 1 and 2. The cover ply 19 is then preferably applied over the cushions to assemble them to the remainder of the insole 9 for sale as a unit to shoe manufacturers, such manufacturers being able to handle the assembled insole shown in Fig. 2 unitarily without any change of manufacturing processes in the production of shoes therefrom. The sock liner 20 is used over the insole to cover the stitches 17 in the usual manner.

It will be apparent to those skilled in the art that the cushion 15 will be inadequate in itself since it would expose sensitive feet to the abrasion produced by the marginal edges of the inturned flange portions of the upper and liner, not to mention the staples or other lasting expedients. The present device meets this problem by overlapping the margins of pad 15 and the margins of the flange portions of the upper with the supplementary pads 18 which not only cushion the joint between the aforesaid margins, but

also overlies the staples or other lasting devices. The stitching 17 which holds the outsole in place is so closely adjacent the extreme margins of the shoe that it is not perceptible to the wearer's foot.

The insole disclosed in cross section in Fig. 3 is identical with that disclosed in Fig. 2, with the exception that the cover flap portions 29 over the cushion pads 18 comprise an integral portion of the insole 9. Assuming that the insole is made of leather, the leather may readily be split inwardly from the margins of the insole to form the flaps 29 which may then be lifted to permit the cutting away of the material sufficient to form recesses for the supplementary pads 18. The flaps are preferably then cemented in place over the cushions or pads.

In the construction thus far described there is necessarily a certain amount of compression of the supplementary pads 18 occasioned by the operation of securing the outsole in place by means of the stitches at 17. In Fig. 4 I have shown a means of avoiding such compression of the pads and leaving the surface of the sock lining entirely level. In the Fig. 4 construction the recesses in which the supplementary pads 180 are received, are so made as to lie wholly inside of the margin of the insole 9, leaving a sufficient area of unrecessed insole to receive the stitches 17 and to provide a rigid and relatively nonperceptible support for the cover ply 19 and the sock lining 20. This arrangement prevents the cushion 180 and the superposed plies from being slightly depressed over the line of stitching 17 in the manner shown in Fig. 1. The construction is otherwise identical with that of Fig. 1 and Fig. 2 except that stitches or tacks are used at 111 instead of the staples shown at 11 in Figure 1.

In Figs. 5 and 6 I have shown a further modified embodiment of the invention. In this construction the insole 9 has been split rearwardly from its toe portion to provide a cover ply 39 which may be rolled backwardly as shown in Fig. 5 to enable the sole to be cut away. A general recess is provided at 22 for a cushion 25 which corresponds in form to the ball portion of the shoe and is almost co-extensive in size with the insole. At predetermined areas of the sides of the insole I provide deeper recesses at 26 into which the above described supplementary cushions 181 are received. It will be understood that the only purpose in making the supplementary cushions 181 independent of the cushion ply 25 is to avoid the expense of molded cushions and to enable sheet cushioning material to be blanked out in the proper sizes and shapes without molding.

In the construction thus disclosed in Figs. 5 and 6, the arrangement is very similar to that of Fig. 4 with the exception that additional elastic support is provided across the center of the shoe and the thickness of the auxiliary cushions 18 may be somewhat increased if desired. Shoes embodying insole structures shown in Figs. 5 and 6 will differ from Fig. 1 only in the use of the additional cushion ply at 25 and in the provision of the uncut margin of the insole which will sustain the tension of the stitching at 17 to provide a level support for the cover ply flap 39 and the sock liner 20.

I claim:

1. A shoe of the character described, comprising the combination with an insole and an up-

per having marginal portions turned inwardly about said insole and lasted in parallel face contact therewith, of a cushion pad within the intumed margins of said upper and marginally confined by said marginal portions, an outsole retaining said pad to the lower face of the insole, and supplementary cushion means overlying said intumed margins and partially overlapping said pad at a predetermined point and cushioning said margins at such point said cushion pad and supplementary cushion means being of softly yieldable material of like characteristics.

2. In a shoe of the character described, the combination with an insole having recessed portions adjacent its side margins, of an upper having marginal portions lasted about said insole in parallel face contact therewith and provided with fastening means extending through said marginal portions and the adjacent portions of the insole toward the inside of the shoe, an outsole, a sponge rubber cushion ply interposed between the margins of the upper and between said insole and outsole, and a like cushion disposed in the recessed portions of the insole and overlying said means of connection.

3. In a shoe of the character described, the combination with an insole having recessed portions adjacent its side margins, of an upper having marginal portions lasted about said insole and provided with means of connection therewith extending through the insole to the inside of the shoe, an outsole, a cushion ply interposed between the margins of the upper and between said insole and outsole, and cushions disposed in the recesses of the insole and overlying said means of connection, together with means for securing said outsole extending through the inwardly lasted marginal portions of the upper and through the insole adjacent the extreme marginal portion thereof and through the said cushions, whereby to fix their positions respecting the insole.

4. In a shoe of the character described, the combination with an insole having recesses adjacent its lateral margins and between its upper and lower surfaces, of cushion means within said recesses, an upper having marginal portions lasted about the margins of the insole to a point beneath said recesses and cushion means, an outsole spaced from said insole and seated upon the intumed margins of said upper, a cushion ply interposed within the margins of the upper and between the insole and outsole, lasting means fastening the intumed margins of the upper to the insole beneath said recesses and cushioning means, and stitching connecting the outsole through the intumed margins of the upper with the insole adjacent the extreme margin thereof, said insole recesses being within the line of stitching which secures the outsole, whereby the tension of such stitching will be absorbed in the unrecessed portion of the insole and without subjecting said cushioning means to compression.

5. In a shoe, the combination with an insole and an outsole, of an upper having marginal portions lasted about the edge of the insole and terminating between the insole and outsole, means connecting the marginal portions of the upper with the insole, a yieldable sponge rubber cushion interposed between the insole and outsole within said securing means, and supplemental cushions at opposite sides of the insole in recesses disposed above said securing means and partially overlapping said first mentioned cush-

ion, said supplemental cushions having a maximum thickness above said securing means and gradually tapering in thickness toward their margins in the central area of the insole, whereby to cushion to the wearer's feet the said securing means and to provide a cumulative cushioning effect to the extent that the supplemental cushions overlap the first mentioned cushion, while minimizing the wearer's perception of the point at which said supplemental cushions terminate in the intermediate area of the insole.

6. In a shoe, the combination with an insole, an upper marginally lasted over the insole, and an outsole; of a sponge rubber cushion interposed between the insole and outsole within the margins of the upper; supplemental sponge rubber cushions disposed in recesses of the insole and having a maximum thickness over the said margins of the upper, and thence gradually tapering in thickness to thin edges at opposite sides of the center of said insole; and connecting means connected with the said outsole, and extending through the upper, the insole, and said supplemental cushions in the thicker portions thereof, whereby to fix the relative positions of the parts.

7. In a shoe, the combination with an insole and an upper having marginal portions lasted over the edge of the insole into face contact therewith, of supplemental cushions for which recesses are provided in the insole, lasting means securing the margins of the upper through the insole beneath said cushions, an outsole applied beneath the marginal portions of the upper, a main cushion between the insole and outsole and marginally confined by the edges of the upper, and stitching extending through the outsole, the marginal portions of the upper, the insole, and the edges of said supplemental cushions for the unitary connection thereof.

8. In a shoe, the combination with an insole, an outsole, and an upper having marginal portions lasted between the insole and outsole in parallel relation to both, a sponge rubber cushion of substantially uniform thickness interposed between the insole and outsole and marginally confined by the intervening edges of the upper, and supplemental sponge rubber cushions disposed at opposite sides of the insole overlying the edges of the upper and partially overlapping said first mentioned cushion, whereby to cushion to the wearer's foot the said edges of the upper and to provide within said edges a support accumulating the cushion effect of the first mentioned cushion and the supplemental cushions.

9. In a shoe, the combination with an insole and an outsole having substantially planiform upper and lower surfaces respectively, said insole being recessed at opposite sides and provided with supplemental sponge rubber cushions having their top surfaces level with the planiform upper surface of the insole, the upper having its margins lasted between the insole and the outsole, means connecting said margins with the insole, a primary sponge rubber cushion between the insole and outsole within the edges of the upper, and means securing said outsole.

10. In a shoe, the combination with an upper, of an insole connected with the upper and provided above the margin of the upper at each side of the insole with recesses spaced from the edge of the insole and from each other and having their maximum thickness above the margins of the upper, and then tapering in the thickness transversely of the shoe bottom toward the central portion of the insole, each such recess being provided with a soft resilient cushion.

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