March 18, 1958 R. R. RATCLIFF 2,826,834

CUSHION FOR INSOLES

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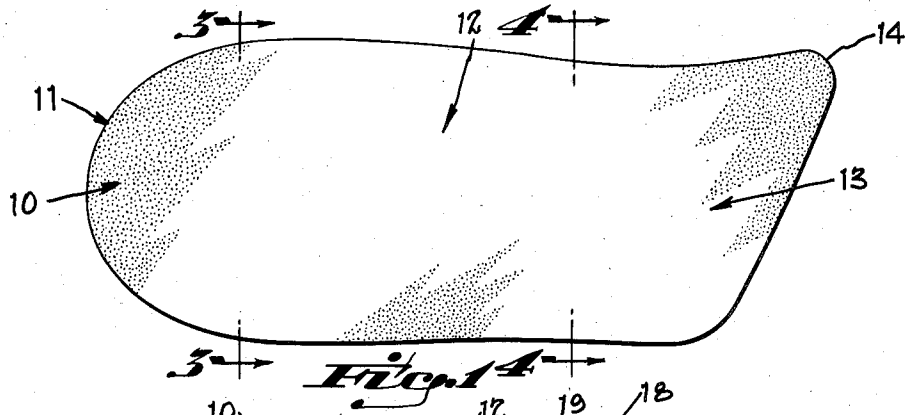


Fig. 1

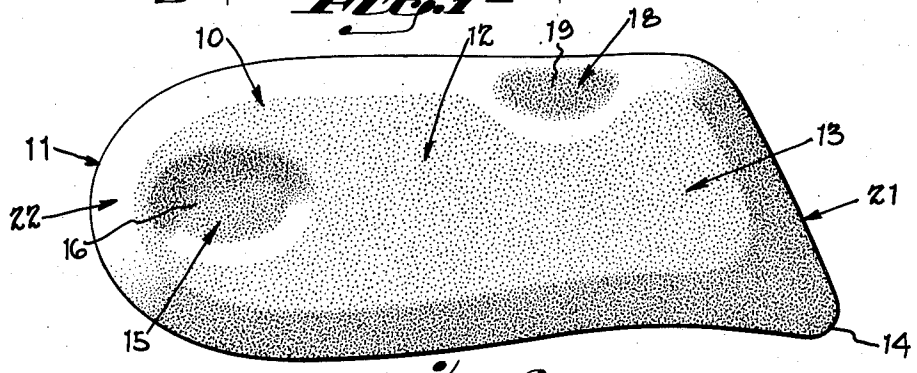


Fig. 2

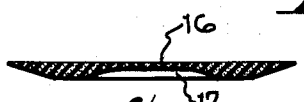


Fig. 3

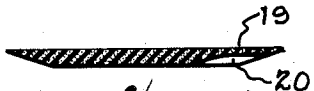


Fig. 4

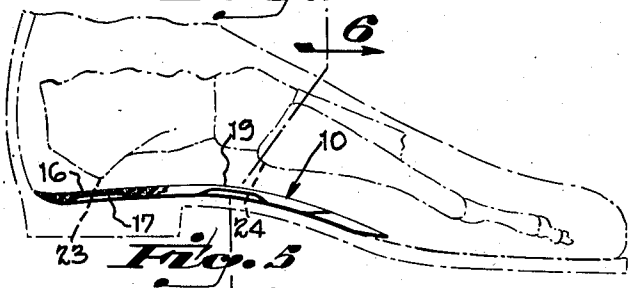


Fig. 5

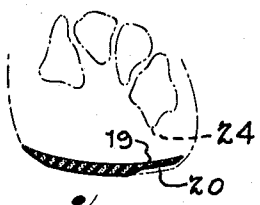


Fig. 6

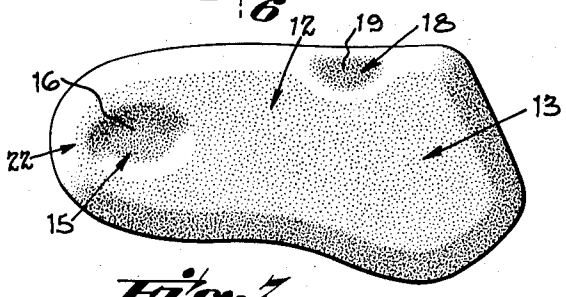


Fig. 7

INVENTOR.
Raymond R. Ratcliff.
BY
Wood, Herron & Evans.
ATTORNEYS.

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CUSHION FOR INSOLES

Raymond R. Ratcliff, Columbus, Ohio

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2 Claims. (Cl. 36—71)

This invention relates to shoe construction and is particularly concerned with a resilient support cushion which may either be built directly into the shoe or which may be inserted by the wearer after the shoes are purchased.

In the past there have been suggested innumerable different types and styles of shoe inserts, each adapted to support some selected portion of the foot to provide additional comfort or supposedly to correct existing foot ailments. A great majority of these constructions have comprised one or more resilient pads selectively located around the sole and in many instances secured to the sock lining or insole. Other types of constructions have included supports extending over all or a substantial part of the entire foot sole.

The basic theory on which these earlier constructions have proceeded has been to provide additional support for some particular bone or bones of the foot, such as in many cases the metatarsal heads or some portion of the transverse or longitudinal arch. While in many types of feet a direct cushioned support has proved very effective in alleviating foot discomfort, in some instances because of the additional height provided or becasue the support member was wrongly positioned constructions have actually contributed to foot difficulties rather than alleviating them.

The essential purpose of the present invention has been to provide a shoe cushion construction in which the bones of the underside of the foot which contact the shoe most directly and firmly in walking, to wit, the oscalcis or heel bone and the cuboid bone are provided with recesses or pockets which tend to encase them thereby permitting a thickened portion of the cushion to support the muscular part of the foot and to relieve pressure on these primary shoe contacting bones.

Another object of the invention has been to provide a resilient support cushion adapted to support the entire heel and the cuboid bone and to extend sufficiently far forward to relieve pressure on the metatarsal heads without being directly under these heads.

Another object of the invention is to provide a relatively flat resilient foot support cushion which preferably is bevelled around its peripheral edges to provide selective types of support for the various portions of the foot and a more secure and comfortable fit.

Another object of the invention has been to provide a unitary resilient cushion which is simple to manufacture, light in weight, and which does not distort the fit of the shoe when regular standard lasts and patterns are used.

Another object is to provide a support cushion which assists in balanced posture and eases the strains of walking or standing.

Another object has been to provide a resilient foot support cushion which is adapted to be built integrally into or inserted in all types of shoes, including work shoes as well as dress shoes.

Other further objects and advantages will be apparent from the further and more detailed description of the

invention when considered in conjunction with the drawings in which;

Figure 1 is a top plan view of a cushion of the preferred type of the invention.

Figure 2 is a bottom plan view similar to Figure 1.

Figure 3 is a sectional view along the line 3—3 Figure 1.

Figure 4 is a sectional view along the line 4—4 Figure 1.

Figure 5 is a diagrammatic view illustrating the relationship of the cushion of the invention to a shoe and to the various bones of the foot.

Figure 6 is a sectional view along line 6—6 Figure 5.

Figure 7 is a bottom plan view of a modification of the invention in which the extension lip shown in Figures 1 and 2 is omitted.

As clearly shown in Figures 1 and 2, the preferred form of the invention comprises a thin and relatively flat resilient cushion member designated generally as **10**. This member is adapted to be positioned preferably, although not necessarily, between the sock lining and insole and to coincide in contour with the sock lining and insole from the extreme rearward edge of the heel portion forward to a line extending transversely across the shoe rearward of the metatarsal heads. The heel portion of the cushion has been designated generally as **11**, the central or shank portion as **12**, and the ball portion as **13**. An extension lip **14** may be provided on the forward or inner edge, the cushion member as shown in Figures 1 and 2 being adapted for use with a right shoe.

Centrally of the heel portion **11**, and preferably on the under-surface of the cushion member, an area designated **15** has been skived out or otherwise removed leaving only a very thin section **16** (see Figure 3) and a cavity or recess **17** below this section. This recessed area **15** is adapted to receive and snugly encase the oscalcis designated **23**, Figure 5, when the wearer's foot is positioned in the shoe. At the same time, the solid portions of the cushion around the recessed area provide direct support for the muscular portions of the foot. The support which is provided for the oscalcis is firm but gentle and in addition to the other advantages mentioned tends to maintain the foot in position in the shoe and prevent it from slipping forward or laterally.

A similar recess **18** is provided for the cuboid bone **24**, which when positioned depresses the thin section **19** into the recess **20**. This support of the foot at the two points where there is the most direct contact between the bones of the foot and the shoe attains the maximum advantages of the invention, although the provision of a recess at either of the two points only is likewise contemplated.

As previously indicated, the member **10** is preferably skived or tapered around its entire periphery. The forward edge which is designated generally as **21** is preferably tapered at a less abrupt angle than the rearward edge **22**. This is for the purpose of providing a definite but unobtrusive support for the longitudinal arch just rearwardly of the metatarsal heads, which as diagrammatically illustrated in Figure 5 never come into direct contact with the cushion. The tapering of the edges is important also, in that it enables the cushion to be fitted more securely and less obtrusively in the shoe.

The extension lip shown in Figures 1 and 2 performs an improved support function in certain types of feet, but as shown in Figure 7 it may be omitted without seriously impairing the efficacy of the structure.

The cushion may be formed from almost any type of resilient material conventionally used for this purpose, including sponge rubber and various synthetic plastics alone or in combinations.

As previously indicated, the cushion may be adhesively secured to the sock lining or insole, or it may be simply

inserted in the shoe either above or below the sock lining.

Having fully described the invention, I claim:

1. A one-piece cushion insert for a shoe comprising a flat cushion member of generally uniform thickness having an outline configuration coinciding with the heel and shank portions of the insole of the shoe and seated thereon, said cushion member formed of resilient spongy material to support the same above the surface of the insole, said cushion member having a forward edge residing rearwardly of the metatarsal heads of the foot bones, whereby the cushion member yieldably supports the longitudinal arch of the foot, the underside of said cushion member having a recess beneath the oscalcis bone of the foot, said recess being generally oval in configuration having its major axis extending longitudinally of the cushion member, said recess delineating a yieldable web normally spaced above the insole, said yieldable web having a thickness substantially one-half the full thickness of said cushion member, the portion of the cushion member marginally surrounding, said recess providing a load-bearing section yieldably supporting the peripheral heel portion of the foot which surrounds the oscalcis bone, said yieldable web being displaced downwardly under the downward pressure of the oscalcis bone.

2. A one-piece cushion insert for a shoe comprising a flat cushion member having an outline configuration coinciding with the heel and shank portions of the insole of the shoe and seated thereon, said cushion formed of resilient spongy material to support the same above the

surface of the insole, said cushion member having a forward edge residing rearwardly of the metatarsal heads of the foot bones, whereby the cushion member yieldably supports the longitudinal arch of the foot, the underside of said cushion member having a first recess and having a second recess residing forwardly of said first recess adjacent the outer edge of the insole, said first recess residing beneath the oscalcis bone of the foot, said second recess residing beneath the cuboid bone of the foot, each of said recesses delineating a yieldable web integral with said cushion member, said yieldable webs each having a thickness substantially one-half the full thickness of said cushion member, the portion of the cushion member which marginally surrounds the said first recess providing a load-bearing section which yieldably supports the peripheral heel portion of the foot surrounding the oscalcis bone, the portion of the cushion member which is contiguous to said second recess providing a load-bearing section for supporting the ball portion of the foot adjacent the cuboid bone, the yieldable webs which are delineated by said first and second recesses yielding downwardly under the pressure of the foot.

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