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MOLDED AND TAPERING LATEX INSOLE FOR FOOTWEAR

Filed July 28, 1951

FIG-1

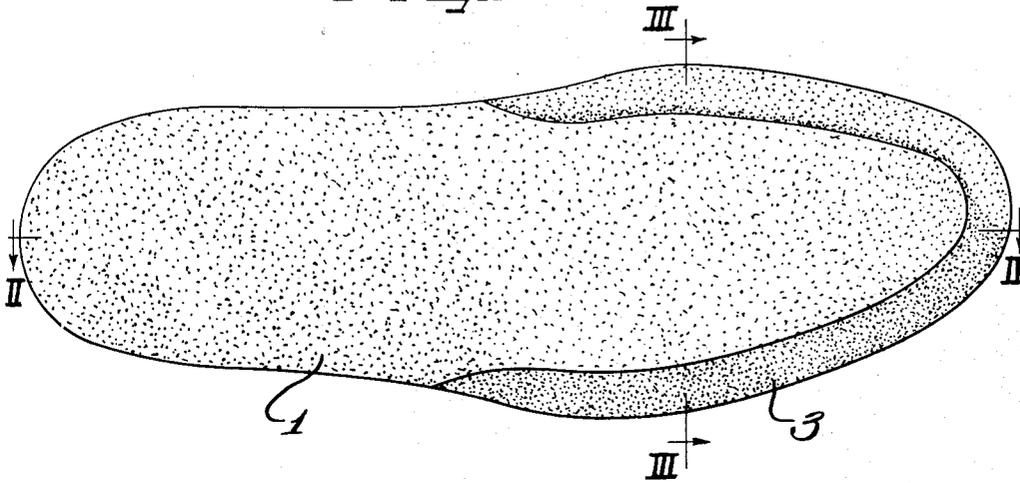


FIG-2

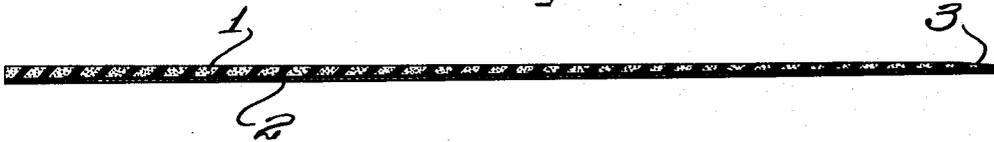


FIG-3



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MOLDED AND TAPERING LATEX INSOLE FOR FOOTWEAR

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1 Claim. (Cl. 36-44)

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This invention relates to improvements in a molded latex insole, and more particularly to an insole of the cushioning type for free insertion into and removal from an article of footwear whenever desired, although the invention may have other uses and purposes as will be apparent to one skilled in the art.

In the past, many and various types of insoles for insertion in articles of footwear have been developed. In the main, insoles of the cushioning type were not as advantageous as desired, in that if they alleviated shock under the heel of the foot, they must of necessity be of such thickness as to effect a crowded condition within the shoe to the discomfort of the user; while on the other hand if they were of sufficient thinness as not to crowd the shoe, they did not adequately perform their shock absorbing and cushioning function. Further, in many cases insoles of this character heretofore known were not of sufficient lightness, developed unduly high temperatures within the shoe or other article of footwear owing to the prohibition of ventilation, were frequently prone to slippage or buckling, and did not fit to the preciseness desired inside the shoe or the like.

With the foregoing in mind, it is an important object of the instant invention to provide an insole of the cushioning type so constructed as to effectively alleviate shock and at the same time avoid creating a crowded condition of the foot in the shoe.

Also an object of this invention is the provision of an insole of the cushioning type so constructed as to underlie the entire plantar surface of the human foot, but provide an excess amount of toe room within the shoe over and above the toe room available with the use of insoles of the type heretofore known.

It is also a feature of this invention to provide an insole which will not slip when placed in a shoe or the like, and which will lie substantially flatly as to its upper surface in that shoe, notwithstanding the normal upward inclination of the insole built into the shoe and forming a part thereof, where that built-in insole overlies the junction of the upper with the welt.

Still a further feature of the invention resides in the provision of an insole of the cushion type which is thicker in the heel portion thereof than in the anterior portion thereof so as to allow ample toe room, and yet afford ample shock absorption beneath the heel, the change in thickness between respective portions of the insole being in the form of a smooth gradual taper that will not be felt by the foot of the user.

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While some of the more salient features, characteristics and advantages of the instant invention have been above pointed out, others will become apparent from the following disclosures, taken in conjunction with the accompanying drawing, in which—

Figure 1 is a bottom plan view of an insole embodying principles of the instant invention;

Figure 2 is a longitudinal vertical sectional view taken substantially as indicated by the line II—II of Fig. 1, looking in the direction of the arrows; and

Figure 3 is a transverse sectional view taken substantially as indicated by the line III—III of Fig. 1.

As shown on the drawings:

It is to be definitely understood that, for purposes of clarity, all three views of the drawings illustrate the instant insole in inverted position. Thus, the inverted insole is for disposition beneath the left foot of the wearer.

The illustrated embodiment of the instant invention comprises a sheet of cushioning material such as foam latex, designated 1. Preferably this foam latex sheet is molded, and while molding results in a so-called skin effect on the surface of the foam latex, it does not entirely occlude or block the open pores in the foam latex. Consequently, each surface of the molded sheet of foam latex will have minute pores in profusion.

Foam latex is preferred over and above other varieties of cellular rubber, such as sponge rubber, owing to the fact that the cells in foam latex are intercommunicative, whereas in sponge rubber they are not, and thus adequate ventilation is provided by virtue of the alternate applications and release of pressure on the insole during walking. Further, foam latex is exceedingly long lived, will not compact as sponge rubber frequently does under heat and pressure of the foot, and will retain its resiliency and restorative powers indefinitely.

Over the upper face of the latex sheet 1 a cover 2 is mounted and secured to the latex sheet cementitiously or by vulcanization, as may be preferred. This cover sheet 2 is preferably very thin, and may be of any smooth, non-skid material such as rayon, silk, nylon, a plastic film, a thin sheet of leather, or any equivalent material providing a smooth surface to permit a stocking to slide freely thereover so that the insole will offer no significant resistance to the insertion of a foot within the shoe and will not tend to buckle during use by virtue of pressure and friction from the foot. Should the cover be pervious to

air, more effective ventilation is afforded the foot while in the shoe.

With reference more particularly to Fig. 2, it will be noted that the insole gradually lessens in thickness from the heel to the forefoot portion thereof. This lessening in thickness is preferably more noticeable from the heel to substantially the ball of the foot and the taper from thereon may be less in character. With this gradual taper lengthwise of the insole, adequate shock absorbing cushioning effect is provided beneath the heel of the wearer, support is given to the heel and adjacent arch portion of the foot, and yet ample toe room remains over the anterior part of the insole. Therefore, while the adequate cushioning is provided, the insole does not crowd the foot in the shoe.

It will also be noted especially from the showing in Fig. 1, that the underside of the insole is provided with a relatively wide skive or bevel around the forefoot portion of the insole. This relatively wide skiving permits the insole to lie substantially flat in the shoe, notwithstanding the fact that the construction of the shoe may provide an interior deviating considerably from the flat. The usual built-in insole of a shoe curves upwardly in the marginal portion thereof, but the present insole will not respond to that upward curvature and shape itself accordingly by virtue of the deep skiving, but on the other hand will overlie the upward curvature in the shoe, present a flat upward face, and thus crowding of the foot in the shoe is further alleviated.

In addition, it may be mentioned that the under face of the insole is an exposed latex face providing adequate clinging adherence to the

inside of the shoe so as to prohibit any slipping of the insole. Obviously, too, the instant invention may be very economically manufactured, laundered when desired, and is extremely long lived.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

I claim as my invention:

A laminated insole for free disposition in an article of footwear, comprising a single relatively thin sheet of molded foam latex, said sheet being substantially flat and steadily and evenly decreasing in thickness from the rear end to the forward end to leave ample toe room in the article of footwear, said sheet being widely skived on the margin of the underside only and only around the forward portion thereof to compensate for variances from the flat in the footwear construction, the area within the skiving being substantially flat, and a thin smooth cover over the upper face of said sheet and of the same overall size as said sheet.

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