March 31, 1953 W. M. SCHOLL 2,633,130

ARCH SUPPORT

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Fig. 1

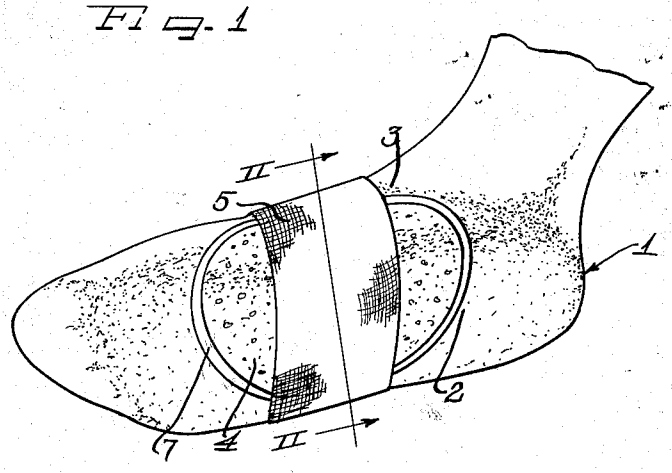
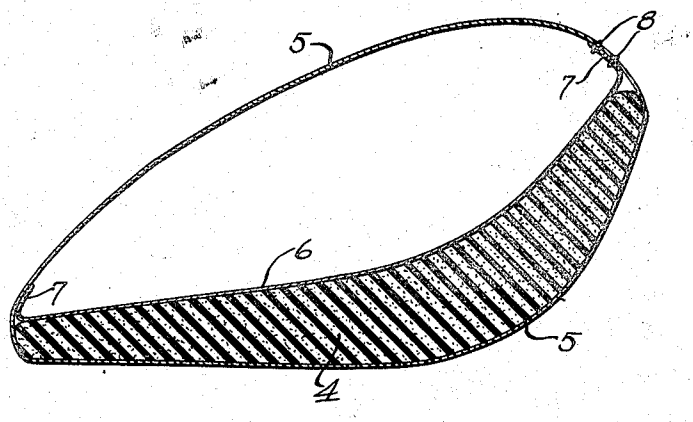


Fig. 2



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ARCH SUPPORT

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3 Claims. (Cl. 128—166.5)

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This invention relates to improvements in an arch support, and more particularly to a light weight arch support to be directly carried by the human foot, rather than be inserted in an article of footwear, and more particularly to an arch support designed to lend corrective supporting aid to the inner longitudinal arch of the human foot, 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 longitudinal arch supporting devices have been developed, some of which were built in the shoe during manufacture, some of which were inserted in the shoe at a later date either freely or adhesively attached to the insole of the shoe, and others were associated in some manner with the foot of the user. However, these formerly known arch supporting structures while lending corrective aid to weak or fallen arches, did not provide the gentle support desirable in a case of mild arch disorder or mild arch weakness, and in most cases they could not be associated as intimately with the foot of the user as may be desired.

With the above thoughts in mind, it is an important object of the instant invention to provide an arch supporting element particularly designed for relief of tired, aching, or burning feet when the trouble is due to a relatively minor or mild weakness of the inner longitudinal arch of the foot.

It is also an object of this invention to provide a device of the character set forth herein which may be attached directly to the foot of a user, either inside or outside the hosiery, and thus eliminate the need of changing arch supports when changing shoes and also providing the same corrective aid when the user changes from shoes worn during the daytime to comfortable soft slippers in the evening.

Also an object of this invention is the provision of a device for lending corrective support to the inner longitudinal arch of the human foot, which device embodies a cushioning element of angular shape to intimately fit against the plantar and side surfaces of the inner longitudinal arch, with means for holding the cushioning element in intimate contact with the foot of the user.

Still another object of the invention resides in the provision of a device for lending corrective support to the inner longitudinal arch of the human foot, embodying a cushioning element, and means for holding the cushioning element in intimate contact with the foot, such means also firmly but gently holding adjacent muscles and bones of the foot in normal position.

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It is still a further object of the invention to provide a support for the inner longitudinal arch of the human foot, embodying a molded foam latex cushioning element of angular shape, to fit the lateral curvature of the inner longitudinal arch, such foam latex element being covered with soft fabric to prevent any possibility of objectionable friction.

It is a still further object of this invention to provide an arch supporting element for the inner longitudinal arch of the foot, embodying a supporting member which is held in intimate contact with the foot by the aid of an elastic band encircling the foot.

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 fragmentary pictorial view of a human foot equipped with a longitudinal arch supporting device embodying principles of the instant invention, the figure showing in the main the plantar surface of the foot and the bottom of the arch supporting device; and

Figure 2 is a greatly enlarged transverse sectional view through the device itself taken substantially as indicated by the line II—II of Fig. 1, looking in the direction of the arrows.

As shown on the drawings:

At the outset, it should be understood that while the instant invention is illustrated in association with a right foot, the same device, by a mere reversal of the ends may be equally as well utilized for a left foot. It is not necessary to make separate supports for left and right feet, since the one support is so uniform in character that it may be utilized on either foot.

In the normal human foot, the plantar surface in the region of the inner longitudinal arch is elevated, and curves upwardly transversely of the foot to the side of the longitudinal arch. The instant device is made to fit that curvature of the foot.

As illustrated in Fig. 1, a human foot, generally indicated by numeral 1, is shown in such position that the plantar surface 2 and the side surface of the inner longitudinal arch 3 is visible. A preferred form of the instant invention is shown attached to that foot in operative position, the supporting device including a cushioning element 4 and an elastic band 5 circumscribing or encircling the foot as well as the cushioning element 4 to hold the cushioning element in intimate association with the foot.

When in position on the foot, the elastic band helps to firmly but gently hold the adjacent muscles and bones of the foot in normal position, while the soft, resilient, cushioning pad or element 4 gently and effectively supports the inner longitudinal arch.

As seen best in Fig. 2, the cushioning element 4 is of angular shape so as to underlie the plantar surface of the inner longitudinal arch, and curve upwardly to the side of that arch, in keeping with the normal curvature of the arch. Of course, the cushioning element 4 is therefore thicker in the region of the apex of the angle than elsewhere as clearly seen in Fig. 2.

Preferably, the cushioning element 4 is made of molded foam latex, a cellular rubber very light in weight, highly resilient, and a material that maintains its resiliency and restorative powers indefinitely. This particular material will not tend to vulcanize and become compacted due to pressure and body heat as did the formerly known sponge rubber. Further, in view of the fact that the cells in foam latex are intercommunicative, the cushioning element 4 will provide a ventilative action or create a circulation of air during the continued and repeated pressure and release occurring when the user is walking. While other material might be satisfactory to a reasonable extent, no other material now known will provide all of the advantages above set forth.

In order to eliminate any objectionable friction of either the foot or an article of hosiery with the top surface of the cushioning element 4, this surface is preferably covered by a soft fabric 6 such as a suitable moleskin or flannel which may be adhesively or otherwise secured to the cushioning element.

As seen best in Fig. 2, the covering 6 extends slightly beyond the bounding edge of a generally ovate cushioning element 4 in all directions so that there is a protruding margin 7 of the covering 6 all around the cushioning element. The elastic band 5 is preferably attached by one or more lines of stitching 8 to one portion only of the free margin 7 of the cover 6, and otherwise the band is not attached to any portion of the structure. The band freely underlies the cushioning element 4, and freely engages over the foot, thus permitting any needed slight adjustment to increase the user's comfort by fitting the device properly and intimately to the foot.

From the foregoing, it is apparent that I have

provided a longitudinal arch supporting device that is simple in construction, intimately fitting, economical to manufacture, and extremely long lived. It will also be noted that the device may be used for either foot, and may be worn in intimate contact with the foot at all times so that if desired the device may be retained upon the foot during sleep or at other times when articles of footwear are not worn.

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:

1. In an arch support, a cushioning element of cellular rubber of angular shape to intimately fit the inner longitudinal arch of the foot, a soft fabric covering secured to said element, and an endless elastic band secured to one side edge only of said cover to freely circumscribe both said element and the foot of a user.

2. In an arch support, a cushioning element of cellular rubber of angular shape to intimately fit the inner longitudinal arch of the foot, a soft fabric covering secured over and to the upper surface of said element and extending therebeyond in all directions, an endless elastic band secured to the extension of said cover at one side only thereof and otherwise freely circumscribing said element and the foot of the user, the undersurface of said element being exposed on each side of said band.

3. In an arch support and binding for the tarsal region of the foot, a molded foam latex element of angular shape to underlie and extend up the side of the high portion of the inner longitudinal arch of the foot, a soft cover over a face of said element to be contacted by the foot, the other face of said element being exposed, and a resilient band connected to said cover in position to freely encircle said element and the foot of the user.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,685,155	Emeott	Sept. 25, 1928
1,703,895	Noble	Mar. 5, 1929
2,358,966	Einstoss	Sept. 26, 1944