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C. M. ELSEY

2,736,971

CORRECTIVE SHOE

Filed Sept. 20, 1954

Fig. 1

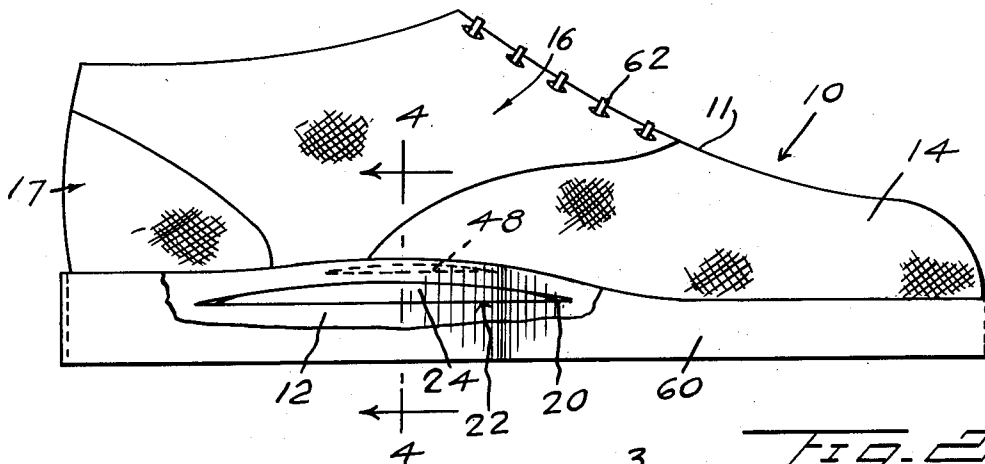


Fig. 2

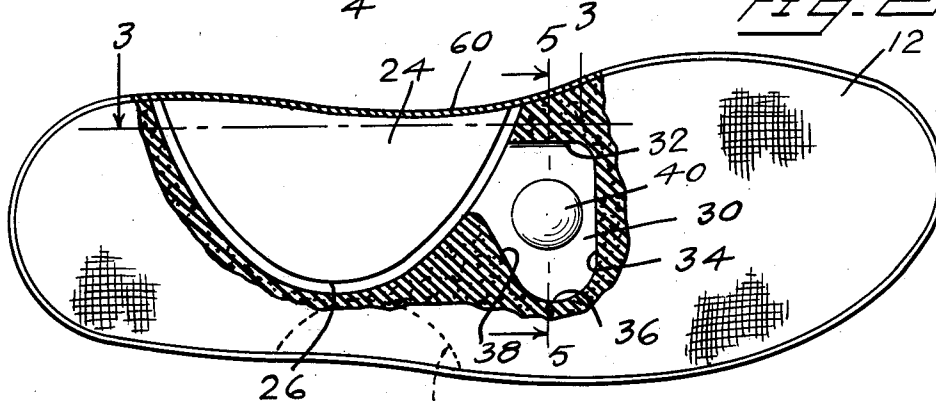


Fig. 3

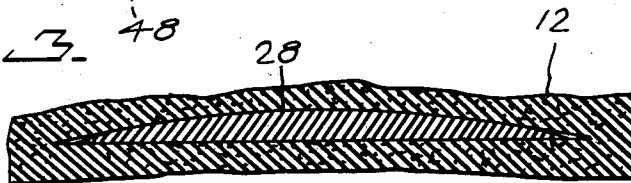
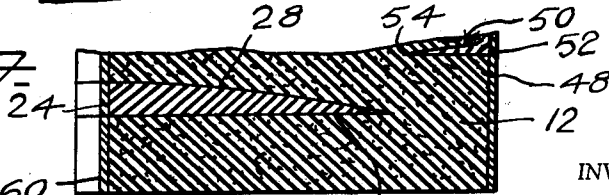
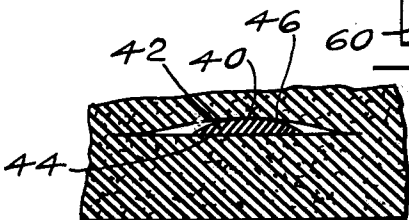


Fig. 4



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2,736,971

CORRECTIVE SHOE

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3 Claims. (Cl. 36—8.5)

This invention relates to wearing apparel, and more specifically the invention is especially directed to the provision of corrective shoes.

Orthopedic shoes of known construction are subject to many disadvantages among which comprise the fact that the wearer cannot adjust the supports and other foot correcting appliance in accordance with the instant foot supporting demands. Shoes heretofore known in the art for effecting corrections in the foot are usually constructed of reinforcing steel and the support is disposed between the inner and outer soles which adds to the weight of the shoes, and in such shoes the foot engages against a shank portion of the support but it does not benefit therefrom due to the inflexibility of the shank.

Again, in most corrective shoes the heel portion thereof does not extend forward enough to provide a suitable support for any corrective measures which it may be necessary for an orthopedic surgeon to provide.

In the present invention, provision is made to provide means for relieving malaligned bones by the insertion of elements into pockets or slots formed in the sole of a shoe, whereby suitable supports can be provided for the longitudinal arch, the cuboid bone, and the metatarsal bones. The shoe is so designed as to provide means whereby the supports may be placed in the exact position to effect the required relief, and the supports may be interchanged at any time as a result of a change in the condition of the foot.

The present invention is also directed to the provision of an orthopedic shoe having a flexible sole provided with means for supporting the foot at desired locations, the support being positive in its operation despite the degree of flexibility of the shoe.

It is, therefore, one of the primary objects of this invention to provide an inexpensive shoe with means to receive orthopedic foot supporting accessories designed to help correct or relieve malformed or abnormal feet.

Another object of the invention is to provide an orthopedic shoe with interchangeable accessories whereby the user may increase or decrease the degree of the support as the condition varies throughout the day or over longer periods of time.

A further object of this invention is to provide an inexpensive shoe having a flexible sole formed of rubber or other similar material with means for receiving foot supporting elements which may also be formed of rubber or of similar materials.

The invention also contemplates the provision of an orthopedic shoe having means for supporting the longitudinal arch and simultaneously therewith effecting a snug fitting of the shoe about the instep.

A still further object of this invention is to provide in a shoe having a flexible sole, means for correcting the degree of pronation and pes planus.

It is still a further object of this invention to provide an inexpensive shoe having a flexible sole with means for supporting a longitudinal arch of the user's foot in such a manner as to cause the foot to pivot inwardly on

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each step in order to conform to the normal walking condition.

The present invention also contemplates the provision of an orthopedic shoe which is inexpensive to manufacture, non-complex in construction, and durable in use.

Other and further objects and advantages of the present invention will become more evident from a consideration of the following specification when read in conjunction with the annexed drawing, in which:

Figure 1 is a side elevation of an orthopedic shoe constructed in accordance with the teachings of this invention.

Figure 2 is a bottom plan view of the shoe illustrated in Figure 1, partly in cross-section, illustrating the relative position of a pair of foot supporting elements.

Figure 3 is a detail cross-sectional view taken on the horizontal plane of line 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is an enlarged detail cross-sectional view taken on the vertical plane of line 4—4 of Figure 1, looking in the direction of the arrows.

Figure 5 is an enlarged detail cross-sectional view taken on the vertical plane of line 5—5 of Figure 2, looking in the direction of the arrows.

Referring now more specifically to the drawing, reference numeral 10 designates, in general, an orthopedic shoe constructed in accordance with the teachings of the instant invention. As illustrated, the shoe 10 is seen to comprise a relatively thick sole 12 formed of rubber or other similar flexible material, and has secured to the upper side thereof, by conventional means, an upper which includes a toe portion 14, instep portion 16, and a heel portion 17. The shoe is of conventional construction and is presently available on the open market. Since the instant invention is not directed, per se, to this construction of the shoe, a more detailed description thereof is not deemed necessary.

As has been stated supra, the present invention is directed to the provision of means for supporting the longitudinal arch. To achieve this object the sole 12 of the shoe is provided with a slot 20 which extends inwardly from the medial side of the sole which is disposed immediately below the longitudinal arch in the shank area of the shoe of such length as to extend approximately the full length of the shank area and of such depth at its greatest extent to near the other edge of the sole. As seen in the drawing, the slot 20 is elongated and upon relative movement of the upper side of the slot 20 away from the lower side thereof, a segmental opening is formed tapering in width from its outer side towards its inner side. The slot 20 is adapted to removably receive a wedge 22 which tapers in thickness from its outer end 24 toward its inner end 26, and is provided with a curved arcuately-shaped upper side 28 which rises from a substantially planar lower side 29. The wedge 22 raises that portion of the shoe sole 12 immediately over and adjacent thereto to support the longitudinal arch in its normal position.

In order to provide for means for supporting the metatarsal bones, the slot 20 continues into a pocket 30 which extends below the metatarsal bones and is defined by the side edges 32, 34, 36 and 38. Essentially, the pocket 30 is substantially rectangular in configuration and extends forwardly toward the toe portion of the shoe. The pocket 30 is adapted to receive an element 40 which is positioned to support the foot immediately below and behind the metatarsal bones.

In the instant case, the metatarsal support is illustrated in Figure 4 and is seen to comprise a substantially circular disc 42 having a planar base 44 and an upwardly extending curved upper side 46.

In use, the metatarsal support is inserted in the pocket

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30 in order to elevate that portion of the sole 12 immediately thereover at a point below and behind the mal-aligned metatarsal bone or bones, and provides a suitable support therefor.

Referring now to Figures 1, 2 and 4, the sole 12 is provided with a third slit 48 having a substantially arcuate configuration. The slit 48 extends inwardly from the other side of the sole 12 and is positioned above the slot 20 and is immediately below the cuboid bone of the user. The slot 48 is designed to receive an arcuately-shaped support element 50 which is also arcuately-shaped and tapers from its outer end 52 towards its inner end 54.

As before, upon insertion of the element 50 into its respective recess, the sole portion immediately above and adjacent thereto is elevated against the foot and to support the cuboid bone in its normal position.

The supporting elements described above may be made in various thicknesses to elevate and lower the foot at the described supports points as the condition of the foot improves or for the comfort of the user, and the inserts may be readily interchanged by pulling the foxing 60 of the sole 12 downwardly to expose the openings. When the foxing 60 is in its usual position the openings and the elements are concealed from vision.

On the other hand, if it is desired to permanently secure the supporting elements in a given position and to prevent the shifting thereof in the sole, this invention contemplates the use of cement or mechanical means, such as tacks.

If the shoe is not provided with a foxing, the inserts may be made of the same color as the sole to conceal to some degree the presence thereof.

A shoe constructed as described above and provided with shoe laces 62 possesses an inherent advantageous characteristic in that upon the tightening of the laces 62 the instep portion 16 is drawn snugly against the instep of the user due to the flexibility of the sole immediately

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above and over the slot which receives the longitudinal arch support, and effects a hugging of the upper to the foot with the upper portion of the slotted sole constantly engaging the arch in supporting relation thereto.

Having described and illustrated one embodiment of this invention in detail, it will be understood that the same is offered merely by way of example, and that the invention is to be limited only by the scope of the following claims.

10 What is claimed is:

1. A shoe having an upper, an outsole secured around the edge of the upper at least from one breastline to the other, said upper having flies, means for securing the flies together, said outsole on the medial edge provided with a slot in the shank area of such length as to extend approximately the full length of the shank area and of a depth at its greatest extent to near the other edge of the sole whereby tightening the flies of the upper will effect a hugging of said upper to the foot with the upper portion of said slotted sole constantly engaging the arch in supporting relation thereto.

2. The invention as set forth in claim 1, including an extension of said slot in the metatarsal region to provide a separate pad receiving space for a metatarsal button.

25 3. The invention as set forth in claim 1 wherein said slot is provided with an insert.

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