Feb. 9, 1954 E. B. WARD 2,668,375

FOOT SUPPORTING DEVICE

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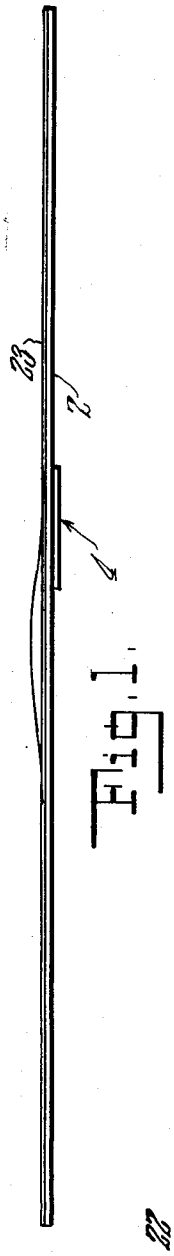


Fig. 1

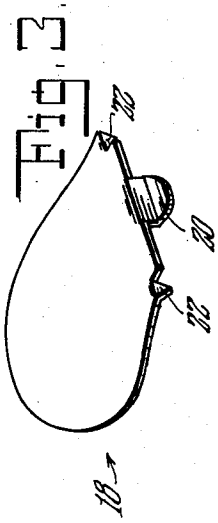


Fig. 3

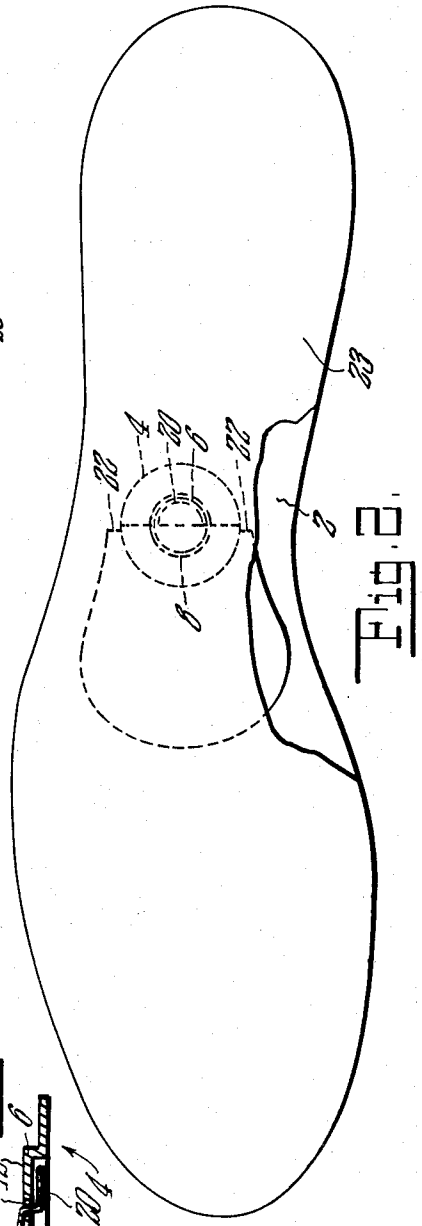


Fig. 2

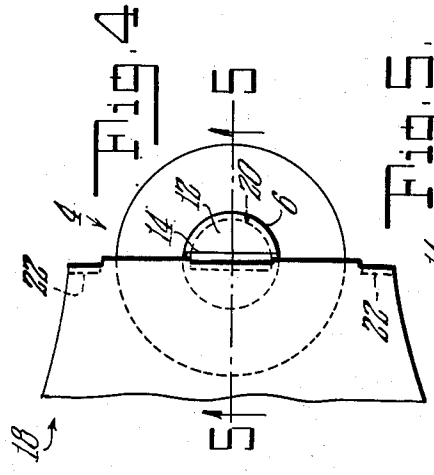


Fig. 4

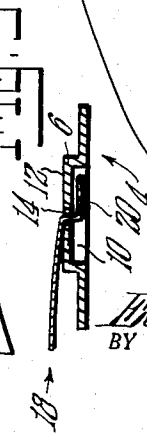


Fig. 5

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FOOT SUPPORTING DEVICE

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1 Claim. (Cl. 36—71)

1

This invention relates to improvements in devices for supporting the foot in the vicinity of the metatarsal arch or head.

The principal objects of the invention are directed to the provision of means adapted to be incorporated in a shoe or other type of footwear or which may be in the form of a device adapted for insertion in a shoe or the like.

According to novel features of the invention, the device is adapted by reason of its flexibility to support the arch region of the foot as the foot and shoe are flexed and is adjustable for supporting that portion of the arch region desired.

Attempts have been made to provide arch supporting means in shoes but these require special lasts or modified lasts for the manufacture of the shoes.

The device of this invention may be readily and easily incorporated in shoes during manufacture without the necessity of special lasts or it may be used in association with an inner sole so as to be insertable in an existing shoe. It will be understood that in referring to an inner sole in connection with the following description, the inner sole may be the usual inner sole of a shoe or an inner sole which may be slipped into the shoe.

All of the above objects I accomplish by means of such structure and relative arrangements of parts thereof, as will fully appear by a perusal of the description below and by various specific features which will be hereinafter set forth.

To the above cited and other ends and with the foregoing and various other novel features and advantages and other objects of my invention as will become more readily apparent as the description proceeds, my invention consists in certain novel features of construction and in the combination and arrangement of parts as will be hereinafter more particularly pointed out in the claim hereunto annexed and more fully described and referred to in connection with the accompanying drawings wherein:

Figs. 1 and 2 are edge and plan views respectively of an inner sole and sock lining having the novel features of the invention associated therewith;

Fig. 3 is a perspective view of the art supporting cap of the invention;

Fig. 4 is a plan view of the turret of the device of the invention and showing the cap swingably associated therewith; and

Fig. 5 is a sectional elevational view on the line 5—5 of Fig. 4.

Referring now to the drawings more in detail, the invention will be fully described.

2

An inner sole is represented by 2 which may be built in and constitute a part of a shoe or the like, or it may be part of an appliance for inserting in an existing shoe. This member will be formed from leather or similar material so as to be flexible or bendable as the user bends the foot laterally, as in walking.

A turret 4 is provided which will be formed from substantially rigid material such as metal. This member will preferably be circular in shape and has a hub part 6 extending upwardly therefrom, as shown.

The hub part 6 will have a height substantially equal to the thickness of an ordinary inner sole and will preferably be round for insertion in and rotatable in an opening 8 in the inner sole.

The hub 6 is provided with a socket 10 open at the lower side thereof and an upper wall 12 of the socket is provided with a transverse slot 14 therethrough.

A cap or support 18 preferably formed from relatively thin metal is provided with a downwardly and outwardly extending lug 20 which is receivable in the slot 14 of the turret.

The cap 18 for the supporting function is bowed or crowned longitudinally and transversely and is provided with downwardly depending prongs 22 at opposite sides which are adapted to impinge the inner sole adjacent opposite sides of the turret 4.

The hub 6 of the turret is inserted in the opening 8 in the inner sole and the lug 20 of the cap is inserted in the slot 14 of the turret so that the turret is swingable in opposite directions and the cap is swingable up and down relative to the turret in the inner sole.

A lining 23 sometimes called a sock lining is secured to the inner sole and overlies the cap. This member will be formed from relatively thin pliable material adapted to permit free up and down movements of the cap 18.

The cap may be elevated so that the cap and turret are swingable in opposite directions for the positioning of the cap relative to that portion of the arch desired.

Different people will position the cap for supporting the first or the fifth metatarsal or the metatarsal heads therebetween as best suits their individual needs or demands.

When the cap is in the desired position of adjustment, the prongs of the cap impinge the inner sole to retain the cap in adjusted position.

In the desired position of the cap, it rocks on its swingable connection with the turret as the shoe and inner sole are flexed adjacent the cap. In that way, the non-hinged end of the cap slides

back and forth on the inner sole so that the cap assumes an arch supporting position in all positions of the foot.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. Hence, the present embodiments are therefore to be considered in all respects merely as being illustrative and not as being restrictive, the scope of the invention being indicated by the appended claim rather than by the foregoing description, and all modifications and variations as fall within the meaning and purview and range of equivalency of the appended claims are therefore intended to be embraced therein.

What it is desired to claim and secure by Letters Patent of the United States is:

The combination of a flexible inner sole for a shoe having an opening therethrough intermediate opposite end and side edges thereof with movable pulsating arch supporting means comprising, a revolvable turret having an upper central hub portion receivable in the opening of the inner sole and provided with a lower radially extending flange around said hub underlying the lower face of the inner sole, said turret having a recess extending upwardly from a lower face of said flange into said hub portion and terminating downwardly of the upper face thereof providing a top wall at the upper side of said hub portion, said top wall being provided with an elongated slot of a certain length transversely thereacross, an anterior arch supporting relatively thin metallic

cap for bearing on the upper side of the inner sole convexed transversely and longitudinally and provided with an elongated transverse rear edge, a lug slightly less in transverse width than the certain length of the slot in said top wall having an upper portion extending vertically downwardly from the rear edge of said cap intermediate opposite ends of said rear edge and through the slot of the top wall of said hub and a portion extending horizontally away from the said vertical portion beneath said top wall, said lug and slot arranged whereby said cap and turret are hingedly connected for rocking movements of said cap up and down relative to said turret during flexing movements of the inner sole, and spurs extending downwardly from opposite ends of the rear edge of said cap for impinging the upper side of said inner sole for holding said turret against rotation relative to said inner sole.

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