DEVICE FOR THE CORRECTION OF WEAKNESS OF THE FEET

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This invention relates to a device for correction of weakness of the feet and more particularly relates to means for the correction of weakness, such as flat foot, and the like.

The device embodying this invention may take various forms as, for example, a shoe, sandal, slipper, or the like, or a combination of essential elements for attachment to the foot independent of the shoe, such as may be worn.

The device in accordance with this invention will function primarily to bring the various elements of the foot in proper relation to receive and sustain the superimposed body weight without undue strain on the ligaments of the foot and without interference with the normal functioning of the parts of the foot in walking.

Broadly speaking, the device in accordance with this invention will comprise as essential elements a heel engaging member and a member engaging the forefoot, the two members being connected at opposite sides of the foot by means of a tension member adapted for adjustment to effect aトルソナル pull on the foot, whereby the forefoot and heel are twisted in opposite directions causing the members of the foot to assume their normal intended relation for the support of superimposed body weight.

More particularly, the device may be embodied in any form of foot-gear comprising the usual elements, as heel counter, sole and upper, or the essential elements may be combined for application to the foot independently of foot-gear.

Having now indicated in a general way the nature and purpose of this invention, I will proceed to a detailed description of a preferred embodiment thereof with reference to the accompanying drawings, in which:

Figure 1 is a plan view of a shoe embodying this invention and, more particularly adapted for the correction of flat foot.

Figure 2 is a side view of the shoe shown in Figure 1.

Figure 3 is a front view of the shoe shown in Figures 1 and 2.

In the several figures the shoe illustrated comprises a sole a, a built-up heel b, upper c and heel counter d.

It will be appreciated that the shoe may be of any form or construction other than such as is illustrated and may be of the slipper or sandal type.

Secured to the heel cup at a point on the inner side of the anterior portion of the heel is a strap member e, which extends forwardly along the inside of the heel, while a strap member f is secured to the sole, or to the welt of the shoe, on the outside of the shoe at a point corresponding to the position occupied by the ball of the little toe.

One of the strap members, for example, member e, carries a buckle and the other strap member, as, for example, the member e is perforated at intervals to receive the tongue of the buckle whereby the strap members may be connected together.

The strap members e and f are arranged so that when they are connected together by the buckle and adjusted a tension member extending from the anterior portion of the heel to a point adjacent the ball of the little toe, in a spiral direction forwardly and upwardly along the inside of the heel, over the head of the astragatus and over the dorsum of the foot, is provided.

The shoe illustrated is provided with a usual tongue i and with holes h for a shoe lace, by adjustment of which the shoe will be retained on the foot.

In operation, assuming that the shoe illustrated is applied to the right foot of one suffering from flat foot, or weakness of the arch of the foot, the strap members e and f are connected by means of the buckle g and are tightened up to apply force acting between a point adjacent the ball of the little toe and the anterior portion of the heel along the inner side of the heel. The force is directed spirally over the dorsum of the foot, being directed forward and upward on the medial side of the heel, over the head of the astragatus and scaphoid and then over the dorsum, to the side of the head of the fifth metatarsal bone or the distal third of its shaft.

As the result of the force exerted and of the direction in which it is exerted with respect to the several parts of the foot, the forefoot and heel are held in a twisted relation to each other, bringing the various parts of the foot into normal relationship and inhibiting the foot from un-twisting or flattening out. The forefoot is adducted in relation to the heel and the head of the astragatus, which is prominent in weak feet, such as flat feet, affords a fulcrum against which the force is exerted and as a consequence receives pressure directed laterally outward of the foot which, in connection with the twisting of the forefoot with respect to the heel, causes it to assume its normal position.

In the application of the device in accordance with this invention to the treatment, for example, of club foot, the direction of extension of the strap formed by the members e and f will be reversed, that is to say, the strap will extend
along the outside of the heel, forwardly and upwardly over the dorsum of the foot, to a point adjacent the ball of the big toe, so that when the strap is tightened up and force applied, it will act to twist the foot oppositely from that in which it is desired to twist the foot in the case of flat foot, with the result that the tendency of the parts of the foot out of normal relationship in club foot will be to return to their normal relationship under the action of the applied force.

It will be appreciated that the device in accordance with this invention need not be embodied in a complete shoe, it being obvious that it may be wholly independent of such shoe or foot-gear, if any, as may be worn. Thus, it will be obvious that the device may comprise a suitable cup-like device for engaging the heel, a suitable strap or band for engagement of the fore-foot and an adjustable strap member, such as is described above, or an elastic member secured to the cup and band so that on application the strap member will extend along the heel and forwardly and upwardly over the dorsum of the foot to engagement with the band member at a point adjacent the ball of the little toe, or of the big toe, depending upon whether the tension is to be applied to one suffering from, for example, flat foot or one suffering from, for example, club foot.

It will be understood that this invention, from the broad standpoint, contemplates any means for the application of a twisting or torional force upon the foot extending from the anterior portion of the heel forwardly along the heel and upwardly and forwardly along the dorsum of the foot to a point adjacent the ball of the little toe, or of the big toe. It will be understood that the particular description of an embodiment of this invention given above is illustrative only and not intended to be in any way limiting on this invention from the broad standpoint, it being obvious that various modification in detail may be made without departing from the scope of this invention.

What I claim and desire to protect by Letters Patent is:

1. A device for correcting weakness of the feet comprising means for engaging the heel, means for embracing the ball of the forefoot and tension means connected to said two first mentioned means respectively at opposite sides of the foot and adapted to extend over the dorsum of the foot whereby the forefoot and heel are twisted oppositely.

2. An article of footwear adapted for correcting weakness of the feet comprising a shoe including a sole, an upper and a heel cup and a tension member connected to the heel cup and extending forwardly and upwardly along a side thereof and over and across the upper to connection with the edge of the shoe at a point corresponding to the position of the ball of the foot.

3. An article of footwear adapted for correcting weakness of the feet comprising a sole, an upper and a heel cup and a tension member connected to the heel cup and extending forwardly and upwardly along the inside thereof and over and across the upper to connection with the edge of the sole at a point corresponding to the position of the ball of the little toe.

4. A device for correcting weakness of the feet comprising means for exerting a twisting of the forefoot with respect to the heel, said means comprising a tension member connected to the heel on one side of the foot and to the other side of the foot adjacent to the ball thereof and said means extending over the dorsum.

5. A device for correcting weakness of the feet comprising a sole, a heel cup secured to the sole, a tension member connected to one side of the heel cup and to the sole at a point on the opposite side of the foot from the point of connection to the heel cup and adjacent to the position of the ball of the foot, said tension member being adapted, when the sole and heel cup are in place on the foot, to extend over the dorsum of the foot and exert a twisting of the forefoot with respect to the heel.

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