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A. FOSS

3,292,612

FOOT EXERCISING APPARATUS

Filed Dec. 10, 1963

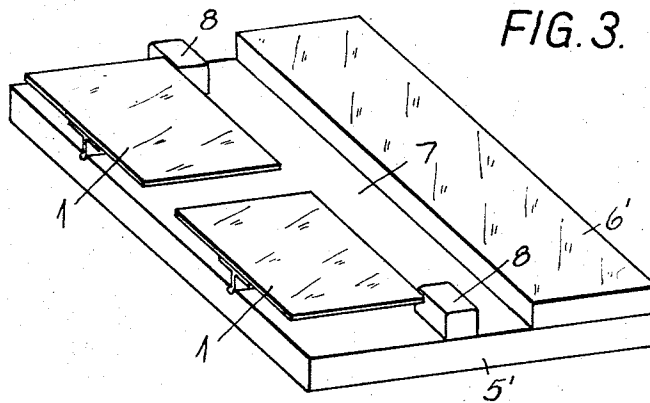


FIG. 3.

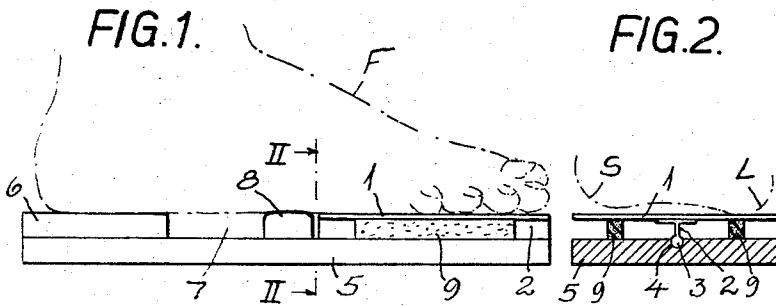


FIG. 1.

FIG. 2.

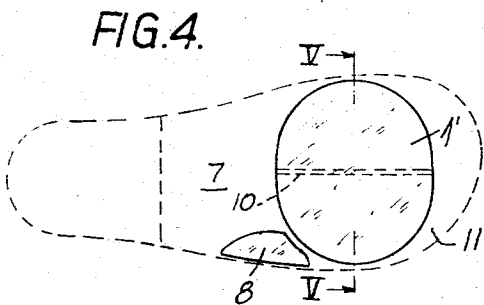


FIG. 4.

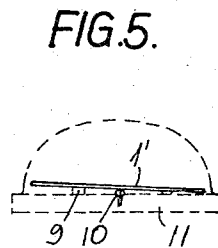


FIG. 5.

INVENTOR.

ARNE FOSS

By Kurt Helman
att.

1

3,292,612

FOOT EXERCISING APPARATUS

Arne Foss, Etterstadletta 29 c, Oslo, Norway

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146,870

5 Claims. (Cl. 128—25)

The present invention relates to a foot exercising apparatus for influencing and strengthening certain muscles, ligaments etc. In walking, the tendency is to roll the forefoot inwardly so as to bring the weight-bearing point closer to the ball of the great toe producing what is commonly termed "flat foot."

The object of the present invention is to counteract or eliminate this inward turning of the foot by producing a substantially simultaneous and equal support for both balls of the foot and at the same time support the outer margin of the middle portion of the foot adjacent the ball of the little toe.

According to the invention this is attained by means of an apparatus comprising a plane, normally horizontal plate adapted to support the forefoot, which plate is mounted laterally rockable about a longitudinal axis on a base member which extends rearwardly of said plate and is provided with a raised portion to support the heel, and a solid supporting pad projecting upwardly from the base member at the rear edge of the rockable plate and adapted to support the outer margin of the middle portion of the foot.

The apparatus may be fastened to the foot, inserted into a shoe, or constituted as a unit in which two plate members for each of the feet are mounted side by side for use in a gymnasium or the like.

The invention will be hereinafter more fully described with reference to the drawing, in which:

FIG. 1 is a side elevation of an apparatus according to the invention,

FIG. 2 is a cross-sectional view along the line II—II in FIG. 1,

FIG. 3 is a perspective view illustrating an apparatus for each of the feet assembled to a unit.

FIG. 4 is a schematic, plan view of a shoe having an apparatus according to the invention mounted therein, and

FIG. 5 is a cross-sectional view along the line V—V in FIG. 4.

The apparatus shown in FIGS. 1 and 2 is designed for a single foot and comprises a rigid, plane plate adapted to support the forefoot of a foot F. The plate 1 on the under side thereof is provided with a rail 2 secured, such as by welding, in the longitudinal middle plan of the plate, which rail is provided with a head 3 having circular cross-section. The head 3 is rockably supported in a corresponding groove 4 formed in the upper side of a base plate 5 so that the support plate 1 is laterally rockable about the axis of the rail head 3.

The base plate 5 extends rearwardly of the plate 1 and has secured thereto a raised portion 6 having a plane upper surface which is level with the upper surface of the plate 1 and serves to support the heel of the foot. Between the plate 1 and the heel support 6 an open room 7 is formed where the foot receives no support.

At the back of the plate 1 and close to the rear edge thereof a supporting pad 8 projects upwardly from the base plate 5 and is positioned so that it supports the outer margin of the middle foot. Said pad 8, having its

2

top level with or somewhat above the upper side of the plate 1, may be covered on the upper side with a suitable layer of a soft material, such as foam plastic or the like.

An elastic or resilient member 9, such as a strip of foam plastic or the like, may be secured, for instance by an adhesive, to the plate 1 or the base plate 5 at each side of the rocking axis of plate 1 to hold the plate normally in a horizontal position parallel to the ground.

When walking, the weight-bearing points of the forefoot contact the rockable plate 1. The ball L of the little toe initially contacts the plate 1 (FIG. 2) and imparts an outwardly rocking movement thereto, whereby the inner portion of the plate 1 is swung upwardly to contact and support the ball S of the great toe so that the weight may be transmitted medially across the forefoot portion to its inner side in the region of the great toe for the final propelling action of the foot. Simultaneously the pad 8 supports the outer rim portion of the middle portion of the foot and exercises a massage-like effect on this portion.

The apparatus above described may be fastened to the foot and used in walking.

As shown in FIG. 3 two plates, one for each foot, may be assembled side by side for exercising in place. In this embodiment of the invention two rocking plates 1 are mounted side by side on a common base plate 5' with heel support 6', an intermediate open room 7, and supporting pads 8 for the respective rim portions of the feet, in similar manner as described in connection with FIGS. 1 and 2. A person standing on the apparatus with one foot on each of the plates 1, as above described, carries his body weight the desired number of times from behind and forwardly in a similar manner as in walking.

FIGS. 4 and 5 show schematically an apparatus according to the invention mounted within a shoe. In this embodiment an approximately circular rocking plate 1' by means of a hinge connection 10 is supported rockably on the sole 11 in connection with a supporting pad 8 positioned as above described.

The sole 11 may be formed as an insole so that the apparatus may be placed detachably in footwear.

I claim:

1. In a foot exercising apparatus, the combination of a plane, normally horizontal plate member adapted to support the forefoot, a flat, longitudinally extending base member, means supporting said plate member laterally rockable on the front end of said base member and about the longitudinal axis of said base member, a heel supporting surface secured on said base member rearwardly of said plate member and level with the upper surface thereof, and a firm pad projecting upwardly from said base member at the rear edge of the plate member, adapted to support the outer rim portion of the middle portion of the foot.

2. In a foot exercising apparatus as in claim 1, elastic means interposed between said plate member and said base member to retain said plate member normally in a horizontal position.

3. In a foot exercising apparatus as in claim 1, wherein the base member is an insole for foot wear.

4. In a foot exercising apparatus as in claim 1, wherein the base member is a sole of a shoe.

5. In a foot exercising apparatus, the combination of a flat, longitudinally extending base member, a pair of normally horizontal plate members, each adapted to sup-

port a forefoot of a foot, means to support said plate members laterally rockable in a side by side position on the front end of said base member, the plate members being rockable about the longitudinal axis of said base member, a heel supporting member secured on said base member rearwardly of said rockable plate members, and a firm pad positioned at the rear edge of each plate member adapted and positioned to support the outer rim portion of the respective middle portions of each foot.

5

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RICHARD A. GAUDET, *Primary Examiner.*L. W. TRAPP, *Assistant Examiner.*