July 15, 1947. A. E. GOETZ 2,424,159

WEIGHTED SHOE

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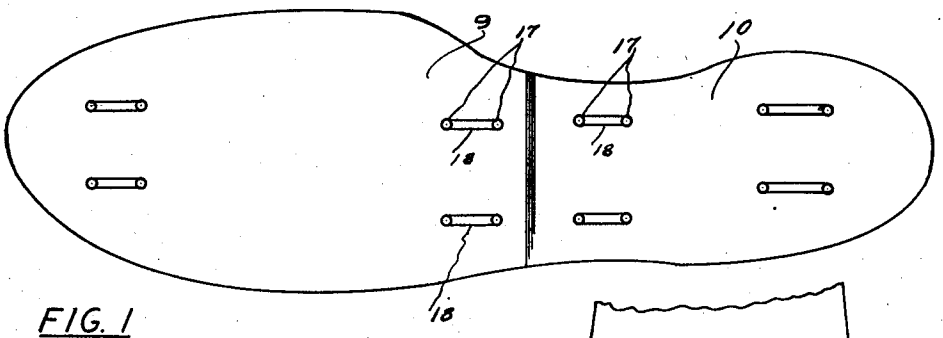



FIG. 1

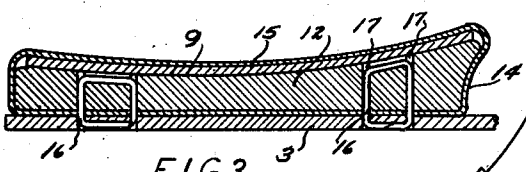



FIG. 3.




FIG. 2.

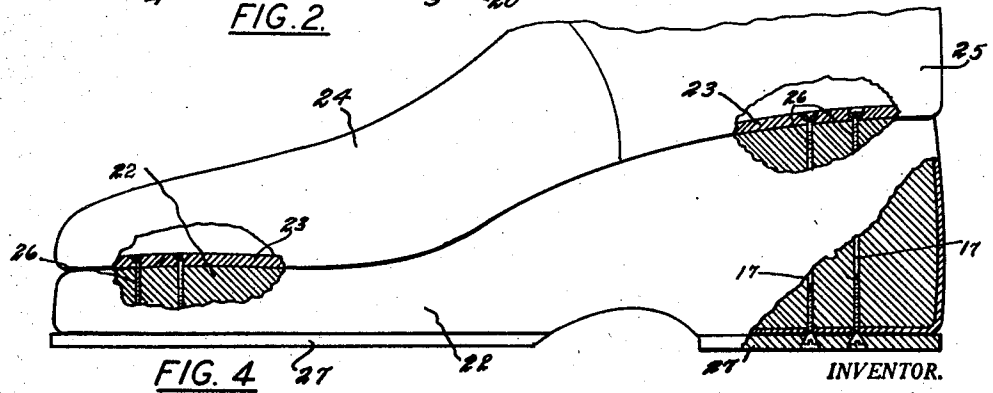



FIG. 4

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## WEIGHTED SHOE

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3 Claims. (Cl. 36—8.5)

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This invention relates to weighted shoes of a type to be used in connection with certain orthopedic treatments.

Devices of this kind can be used in treating certain types of bone and/or muscular ailments when traction is indicated as desirable, or exertion of muscles or tissues is prescribed to allay atrophy.

One of the objects is to provide a wearable comfortable shoe having a weighted bottom portion integral with the structure of the shoe body.

A further object is the provision of a shoe of standard or ordinary shape having a weighted removable insole formed of replaceable blocks of various desired weights, so as to provide traction on the user's foot or leg either on the heel portion or on the toe portion, as desired.

And a still further object is to provide a shoe structure having traction weights adapted to be attached to a shoe to take the place of heel blocks or other sole parts.

Other objects will appear hereinafter.

I attain the foregoing objects by means of the construction and devices hereinafter explained and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a shoe including one type of traction loading;

Figure 2 is a side elevation thereof, with portions of the shoe structure broken away to show interior construction;

Figure 3 is a longitudinal section elevation of a weighted filling block; and

Figure 4 is a side elevation of a modified form of my device.

Similar numerals refer to similar parts in the several views.

Referring particularly to Figures 1 and 2, the shoe 2 is made with a flat insole 3 of rather stiff but pliant material.

An out-sole, a vamp 6 and back stay upper 7 are secured to the sole structure in the usual manner. Treads 4 may be added if desired.

The shoe body here illustrated is of the semi-sandal type, having flat soles and a forwardly pitched inner sole surface. The uppers are much deeper than ordinary, and are sized to accommodate weighted filling blocks together with the foot of the wearer.

Weighted filling blocks 9 and 10 are inserted into the bottom portion of this shoe body. They may be secured to the sole portion by screws or thongs. These blocks are masses of lead 12, or other suitable heavy substance, covered with leather 14 and provided with a padded top face 15.

These weights are shaped to fit into and occupy the lower portion of the shoe body. Their bottom surfaces rest on the insole, and their upper surfaces are shaped to conform to the bottom of the foot of the wearer and provide an elevated heel support. Each block is drilled with holes 17 connected by grooves 18 to receive screws or thongs 16 to secure the weights in position.

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The rear block 10 when made with a lead core will weigh approximately three and a half (3½) pounds. It fills the area above the heel and extends forward to the shank at 20.

The forward weight block 9 abuts the rear block and fills the forward or ball portion of the shoe body, which is enclosed by the vamp 6. A sufficient amount of clearance is provided between these parts to permit adequate flexing of the sole when this is desired.

With both weights 9 and 10 in position, traction is secured on both toe and heel of the foot. But, where it is undesirable to have toe or front leg traction the weight block 9 may be replaced by a filling block of light material such as wood or the like. This block can be made the same size and shape as the lead-filled block and can be secured to the insole in a similar manner.

Conversely, when treatment requires the user to have traction on the toe of the foot, or forward portion of the leg, the rear weighted block 10 may be replaced by a block having a light wooden core covered and secured as above stated.

Under certain conditions it is undesirable to flex the body of the foot, and in such cases a one-piece solid weighted block may be used. Such a block will have the same plan contour as the other two weighted blocks and may be similarly inserted within the shoe as above described. However, this type of traction weight may be applied to the modified shoe structure shown in Figure 4. In this case, weight 22 may be attached to the bottom of the insole 23. The top of the weight is contoured to conform to the bottom of the foot of the wearer and the insole is shaped accordingly. The vamp 24 and backstay upper 25 are secured beneath the insole, and the weighted block 22 is then attached to the insole by thongs or screws 26 in holes 17. A tread 27 of soft material may be added if desired. In this form, the top of the weighted block pitches forward and the block is much thicker thru the heel portion. The shoe, therefore, has an appearance similar to the "Wedgie" type of sandal, now commonly worn.

Whereas I have illustrated but one type of sandal style shoe, held in place by a buckle 28, it is conceivable that many other types of fastening and securing devices may be used.

The invention, as illustrated, is also subject to wide variation by the substitution of mechanical equivalents for the parts shown. Therefore, I wish to be limited only by the following claims.

I claim:

1. A weighted shoe for orthopedic treatments comprising a shoe body, having an insole, an out-

sole, a vamp, and a backstay upper secured thereby, together with weighted replaceable heel and ball insoles removably attached to said insole within said shoe body.

2. A weighted corrective shoe of the type disclosed, including replaceable forward and rear traction weight elements in a shoe body, said rear element overlying the heel space of the shoe and extending forward to the shank, and the forward element occupying and overlying the sole space forward of said shank, in combination with a shoe body having a sole and upper structure adapted to receive and retain said weight elements and the foot of the wearer.

3. Orthopedic corrective shoe structure comprising, in combination, a shoe body having an insole and outsole, a vamp and a backstay extending upward to form an upper having an ankle fastening means, and heel filling blocks of weighting material having vertically-extending attaching holes and padded covering removably attached to said insole within said shoe body by thongs passing through said holes, said blocks being shaped so as to fill the interior bottom portion of said shoe body and provide a forwardly-pitched upper face conformable to the bottom of the foot of the wearer, and said vamp and backstay being adapted to receive said filling blocks and the included portion of the foot of the wearer.



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

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