March 17, 1931. P. F. HAVEY 1,797,143

FOOT LEVELING CUSHION AND SUPPORT

Filed Aug. 5, 1930

Fig. 1.

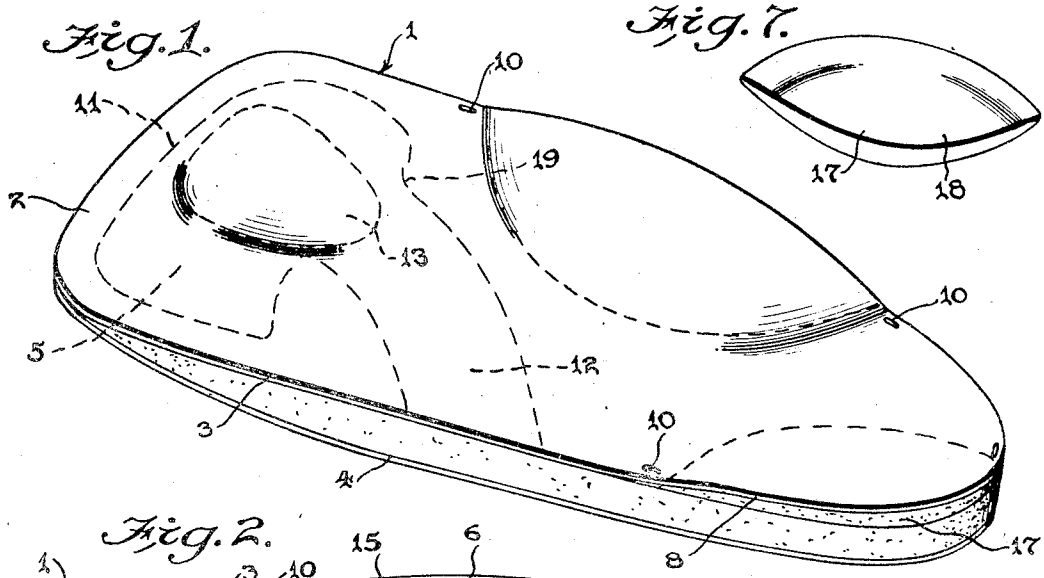


Fig. 7.

Fig. 2.

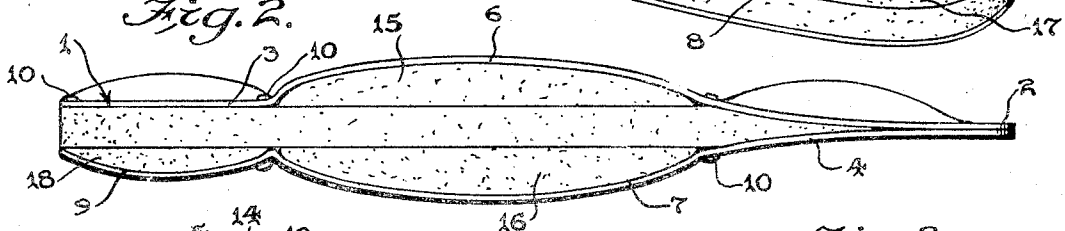


Fig. 3.

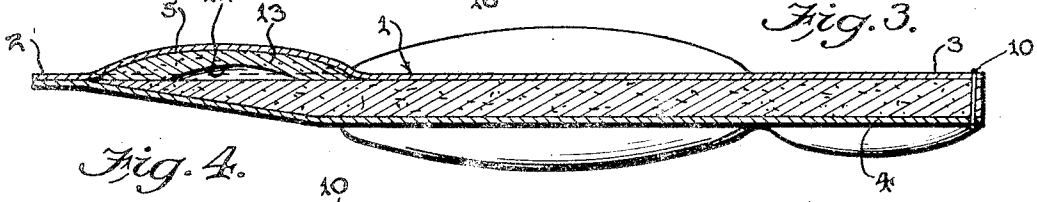


Fig. 4.

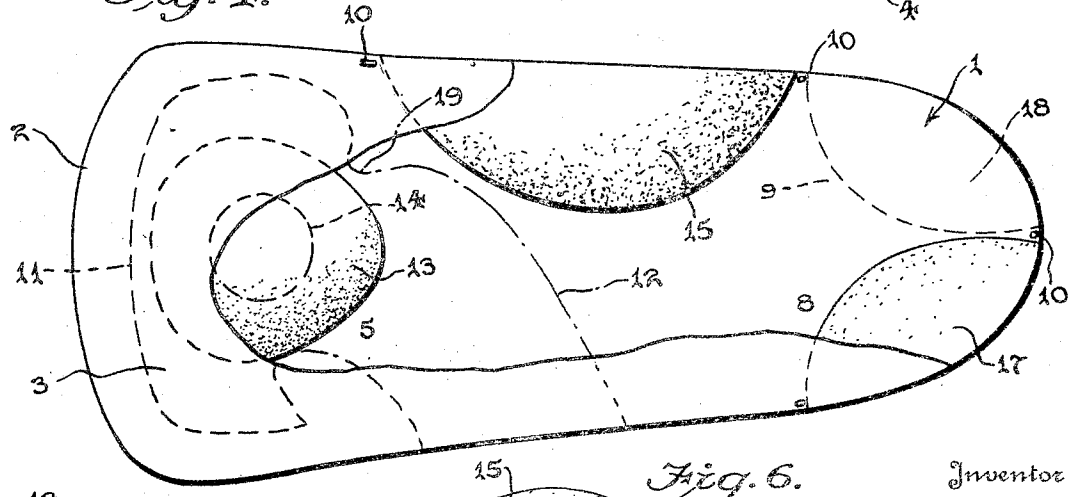


Fig. 5.

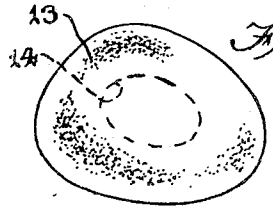
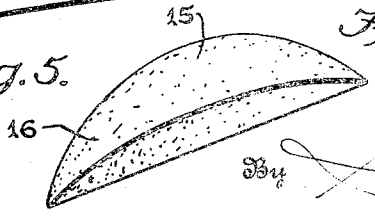


Fig. 6.



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UNITED STATES PATENT OFFICE

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FOOT-LEVELING CUSHION AND SUPPORT

Application filed August 5, 1930. Serial No. 473,193.

The invention relates to a foot leveling cushion support for shoes.

The object of the present invention is to provide a simple, practical and efficient foot leveling cushion support for shoes of comparatively inexpensive construction, designed to be arranged within a shoe to provide a combined heel cushion, longitudinal arch support, and metatarsal support, and capable of enabling a foot to be leveled from any angle at any point to substantially a horizontal or natural position of the foot.

A further object of the invention is to provide a foot leveling cushion support of this character adapted to operate as a shock absorber for the entire nervous system and to insulate the foot against heat, cold and dampness, and adapted also to effect an exercising of the muscles of the fore part of the foot, at the same time relieving the pressure upon the ball of the foot.

Another object of the invention is to provide a foot leveling cushion support equipped with an adjustable metatarsal insert pad, upper and lower intermediate longitudinal arch supporting pads, and upper and lower heel supporting pads located within convenient pockets and adapted to be readily removed and replaced therein so that the body portion of the foot leveling device may be provided with the size and character of insert pads required by the particular foot to be leveled or correctly positioned within a shoe.

With these and other objects in view, the invention consists in the construction and novel combination and arrangement of parts hereinafter described, illustrated in the accompanying drawings and set forth in the claims hereto appended, it being understood that various changes in the form, proportion, and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

In the drawings:

Figure 1 is a perspective view of a foot leveling cushion support constructed in accordance with this invention, looking at the outer side edge of the cushion support.

Fig. 2 is a side elevation, looking at the inner side edge.

Fig. 3 is a longitudinal sectional view.

Fig. 4 is a plan view, the top covering being broken away to illustrate the arrangement of the insert pads.

Fig. 5 is a detail perspective view of the metatarsal insert pad.

Fig. 6 is a similar view of one of the longitudinal arch supporting pads.

Fig. 7 is a detail perspective view of one of the heel supporting pads.

In the accompanying drawings, in which is illustrated the preferred embodiment of the invention, the foot leveling cushion support, which is designed to be arranged in a shoe similar to a removable inner sole, is adapted to fit snugly against the shoe at the heel portion thereof, and it conforms generally to the configuration of the shoe and gradually increases in width towards the front end to follow the outline of the side walls or upper of the shoe. The foot leveling cushion support is designed to be of a length to extend from the heel of the shoe to the front portion of the shoe so as to support the ball of the foot and it may be of any desired length and of sufficient length to extend the full length of the shoe to the toe thereof.

The foot leveling cushion support comprises in its construction a soft sponge rubber body portion 1 of sufficient thickness to provide an efficient cushion for the foot and tapered to a feather edge 2 at the front and provided with upper and lower coverings 3 and 4 of soft leather or other flexible material, preferably secured to the upper and lower faces of the body portion by a suitable adhesive and stitches, certain portions or areas being left unattached to form a front metatarsal pad-receiving pocket 5, intermediate upper and lower pad receiving pockets 6 and 7, and upper and lower heel pockets 8 and 9. The stitches 10 are preferably arranged at the ends of the intermediate and heel pockets, but they may be arranged at any other desired point or points and may be of any desired number to cooperate with the adhesive material in hold-

ing the upper and lower coverings 3 and 4 to the body portion 1.

The metatarsal pocket 5 extends substantially across the front of the cushion support from one side to the other, as clearly illustrated in Figs. 1 and 4 of the drawings, sufficient space being provided at 11 for cement or other adhesive material for securing the top covering 3 to the body portion of the support at the front or toe portion of the same. The metatarsal pocket communicates with the outer side edge of the cushion support by a substantially diagonal passage 12 of a width less than the width of the metatarsal pad-receiving pocket and extending from the central portion of the pocket at the rear thereof to the outer side edge of the cushion support at a point intermediate of the ends thereof, the top covering being cemented to the body portion at opposite sides of the diagonal entrance passage 12. The passage 12 will enable a metatarsal insert pad 13 to be readily introduced into the pocket 5 and the said metatarsal pad, which is constructed of soft rubber or other suitable material, is provided at its lower face, which is flat, with a vacuum cup 14, and the upper face of the metatarsal pad 13 is convex or rounded. The pressure on the metatarsal pad will expel the air from the vacuum cup, which will operate to maintain the metatarsal pad in its adjusted position, and the said pad may be arranged at different points in the metatarsal pad receiving pocket to enable the pad to properly fit and support the ball of the foot of the wearer of the shoe to which the cushion support is applied. The metatarsal pad is of irregular circular shape, the front portion being approximately semi-circular and the rear portion being slightly tapered, as shown, but any desired form of metatarsal pad may, of course, be employed to fit the foot to be leveled, cushioned and supported.

The upper and lower intermediate pockets are located at the inner side edge of the cushion support and are open at the said edge and are approximately segmental in configuration to receive segmental arch supporting pads 15 and 16 constructed of soft sponge rubber or other suitable material and having flat faces to fit against the flat upper and lower faces of the body portion, and convex or rounded faces to fit against the soft top and bottom covering. The longitudinal arch supporting pads may be of any desired thickness to produce the desired support for the arch of the foot, and one or both pads may be used. The said arch supporting pads, which are removably arranged in the intermediate pockets, may be readily taken out of the pockets and replaced, and one or more pads of the desired thickness may be easily and quickly applied to the foot leveling cushioning support.

The top heel pocket is arranged at the outer edge of the heel portion of the cushion support, and is open at the said outer edge to enable a top pad 17 to be placed in the pocket and removed therefrom, and the bottom pocket 9 is located at the lower face of the body portion and is open at the inner side edge thereof to permit a bottom pad 18 to be placed in and removed from the pocket. The inner and outer side edges of the top and bottom pockets are curved, as shown, the outer edge of the pocket conforming to the configuration of the adjacent portion of the side edge of the body portion and the inner edge of each pocket being curved as shown from one end of the pocket to the other to produce an approximately elliptical pocket. The pads 17 and 18 are similar in configuration and structure, so that a pad of the same form and structure may be arranged in either of the pockets. The pads may, of course, vary in thickness and one or more heel pads may be applied to either pocket.

By adjusting the arch supporting pads and the heel pads, a foot may be readily leveled from any angle and supported in substantially a horizontal or natural position within a shoe, and the latter will wear evenly and the foot will be properly supported and cushioned.

The top covering is cemented between the pockets and also around the front of the metatarsal pad-receiving pocket at opposite sides of the same, and the entrance passage, and the portion 19 of the rear wall of the metatarsal pad-receiving pocket at the inner side of the cushioning device is concave and the portion 20 at the rear wall at the outer side is preferably convex, as shown, but the configuration of the pocket may be modified if desired, as well as the size of the metatarsal pad. The lower portion is cemented to the body portion except at the intermediate pocket and the bottom heel pocket.

The pads 17 and 18 for the heel pockets are designed to be in the nature of lifts, and are curved at their inner and outer edges to conform to the configuration of the pockets and are tapered longitudinally and transversely, the transverse taper extending from the outer edge to the inner edge of each heel pad.

What is claimed is:

1. A foot leveling cushion support for the foot designed to be arranged interiorly of a shoe and comprising a soft cushioning body portion conforming to the configuration of the shoe, upper and lower soft flexible coverings secured to the upper and lower faces of the body portion and having unattached portions forming an upper front metatarsal pad-receiving pocket, upper and lower intermediate pockets and upper and lower heel pockets, each of said pockets communicating with the exterior, and removable pads arranged in the said pockets.

2. A foot leveling cushion support for the foot designed to be arranged interiorly of a shoe and comprising a soft cushioning body portion conforming to the configuration of the shoe, upper and lower soft flexible coverings secured to the upper and lower faces of the body portion and having unattached portions forming an upper front metatarsal pad-receiving pocket, upper and lower intermediate pockets and upper and lower heel pockets, the metatarsal pad-receiving pocket being provided with a constricted approximately diagonally arranged entrance passage extending from the back of the pocket to the outer side of the cushion support, a metatarsal pad insertible through the said entrance passage and arranged within the metatarsal pocket, each of the other of said pockets opening at the marginal portion of the cushion support and adapted to removably receive a pad.

3. A foot leveling cushion support for the foot designed to be arranged interiorly of a shoe and comprising a soft cushioning body portion conforming to the configuration of the shoe, upper and lower soft flexible coverings secured to the upper and lower faces of the body portion and having unattached portions forming an upper front metatarsal pad-receiving pocket, upper and lower intermediate pockets and upper and lower heel pockets, the intermediate pockets being arranged at the inner side edge of the body and adapted to receive arch supporting pads, and the said heel pockets being located at the opposite edges of the heel portion and adapted to removably receive pads.

4. A foot leveling cushion support for the foot designed to be arranged interiorly of a shoe and comprising a soft cushioning body portion conforming to the configuration of the shoe, upper and lower soft flexible coverings secured to the upper and lower faces of the body portion and having unattached portions forming an upper front metatarsal pad-receiving pocket, upper and lower intermediate pockets and upper and lower heel pockets, the intermediate pockets being arranged at the inner side edge of the body and adapted to receive arch supporting pads, and the said heel pockets being located at the opposite edges of the heel portion and adapted to removably receive pads, the heel pads being tapered from their outer to their inner edges.

5. A foot leveling cushion support for the foot designed to be arranged interiorly of a shoe and comprising a soft cushioning body portion conforming to the configuration of the shoe, upper and lower soft flexible coverings secured to the upper and lower faces of the body portion and having unattached portions forming an upper front metatarsal pad-receiving pocket, upper and lower intermediate pockets and upper and lower heel pockets, the intermediate pockets being arranged at the inner side edge of the body and adapted to receive arch supporting pads, and the said heel pockets being located at opposite edges of the heel portion and adapted to removably receive pads, the pads of the intermediate pockets and of the heel pockets being tapered from their outer to their inner edges.

6. A foot leveling cushion support for the foot designed to be arranged interiorly of a shoe and comprising a soft cushioning body portion conforming to the configuration of the shoe, upper and lower soft flexible coverings secured to the upper and lower faces of the body portion and having unattached portions forming an upper front metatarsal pad-receiving pocket, upper and lower intermediate pockets and upper and lower heel pockets, and stitches located at the edges of the body portion and the top and bottom coverings and located between the pockets to supplement the fastening means for securing the said coverings to the body portion.

In testimony whereof I have hereunto set my hand this 2nd day of August, 1930.

PHILIP F. HAVEY.