March 30, 1937. C. H. STEMMONS 2,075,552

SOCK LINER FOOT CORRECTOR

Filed Nov. 2, 1936

Fig. 1.

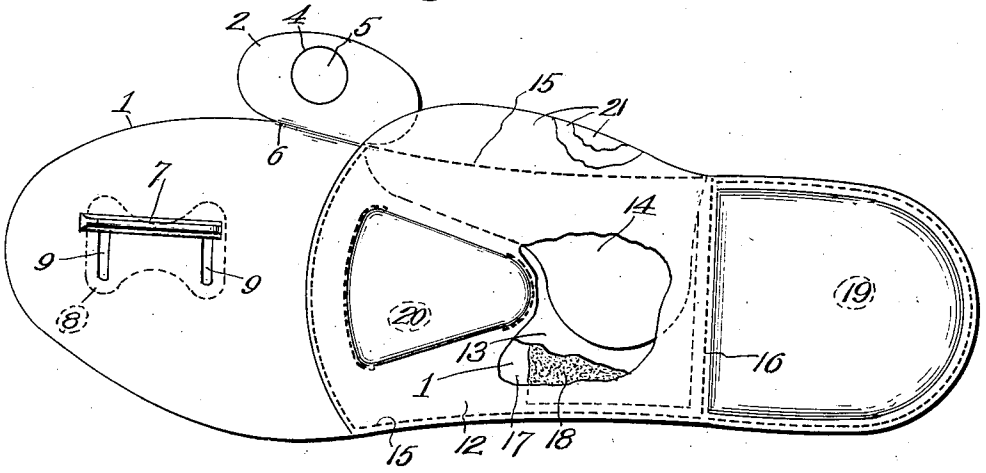


Fig. 2.

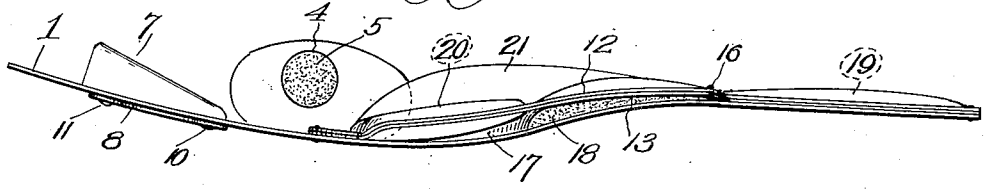


Fig. 3.

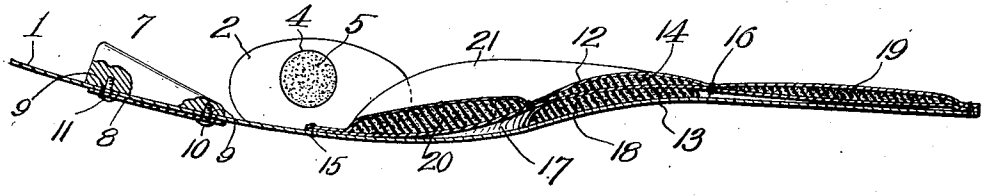
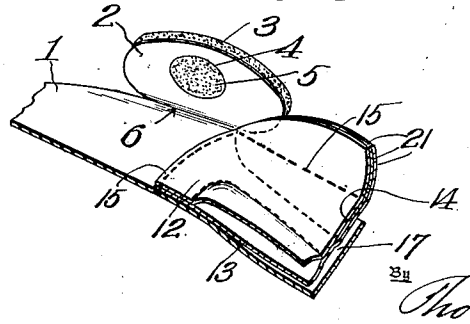


Fig. 4.



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2,075,552

SOCK LINER FOOT CORRECTOR

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Application November 2, 1936, Serial No. 108,695

5 Claims. (Cl. 36—8.5)

This invention relates to foot corrective devices, and my object is to provide a device to function as a sock liner arch support and a means for minimizing or cushioning pressure at the point where bunions develop and for relieving the small toes of lateral outward pressure from the great toe. In attaining the objectives mentioned, I employ a sock liner arch support of any general type, such for example, as disclosed in my pending application Serial No. 32,518 filed July 22, 1935, but equip it with a base member which extends to the front end of the sole of the shoe in which the device is to be used, and provide such base member with a foldable offset cushion at the point where, when in operative position, it will bear against the inner side of the base of the great toe, and with an upstanding stiff division piece for interposition normally between the great toe and the adjacent toe, the division piece being so disposed relative to the offset cushion, that it will press the great toe laterally inward to relieve the other toes from outward pressure, and incidentally subject the base of the great toe to a relative outward or reverse pressure by the offset cushion interposed snugly between the foot and the inner side portion of the shoe vamp. In this connection, it is to be noted that the cooperative action of the division piece and offset cushion is made more effective by the use of cushions which underlie the foot, especially that which underlies and prevents undue sagging of the intermediate metatarsals at or near their head ends.

With the object named in view and others as will hereinafter appear the invention consists in certain novel and useful features of construction and organization of parts as hereinafter described and claimed; and in order that it may be fully understood, reference is to be had to the accompanying drawing, in which:—

Figure 1 is a top plan view of a foot corrective device embodying the invention, the same appearing as in flat form prior to application to a shoe.

Figure 2 is an outside edge view of the device in substantially the operative position it occupies when within a shoe.

Figure 3 is a central longitudinal section of the device.

Figure 4 is a fragmental perspective view of the device to more fully disclose the offset cushion.

Referring now to the drawing in detail, 1 is a base member of thin flexible soft leather or the like, of size and contour to fit with reasonable snugness within a shoe, and said member is formed at the inner edge, about where the corresponding edge of the base of the great toe occurs, with an elliptic offset 2, which when the device is inserted within a shoe, will fold to an upstanding position (see Figures 2–4), for interposition between the shoe vamp and the opposing part of the foot of the wearer of the shoe. As at this point—the base of the great toe—bunions develop, it is desirable to convert the offset 2 into a substantial cushion, and this is effected by affixing a sponge rubber backing 3 (Figure 4), to the offset. Where the foot to be corrected has a painful or well developed bunion I have found it desirable to provide the cushion with an opening 4 to receive the bunion so that the cushion shall apply as little pressure on the head of the bunion as possible, but shall apply substantial pressure around the head. If the bunion is small or not especially painful under soft pressure, the opening may be occupied by a filler cushion 5, and as the bunion responds to treatment or becomes reduced in size because progressively relieved of undue pressure through the forcing of the great toe inward from an unnatural outward inclination as hereinafter described, filler cushions of increased thickness may be employed so as to maintain pressure relation between the bunion and the inner side portion of the shoe vamp, as without the resistance offered by the latter, inward pressure on the toe would be ineffective.

It will be noted that when the elliptic offset cushion is in upright or operative position, its free upper rounded edge adapts itself or conforms to the curvature of the contacting overlying portion of the vamp of the shoe and hence avoids the formation of a ridge which might appear if the cushion was of such form or contour that it could readily become distorted or twisted. The avoidance of ridges or welts which would cause pain or discomfort, is attained not only because of the contour of the cushion, but also because it has a straight line bending junction with the base as at 6, materially shorter than the major axis of the cushion.

In a case where the great toe slants outwardly to such extent that it crowds the other toes uncomfortably, the base member is provided with a toe division piece 7, to restrain the great toe from crowding other toes and thereby leave them to assume natural and comfortable positions and thus minimize the chance of developing corns. This desirable result can be more efficiently attained where the member is also provided with the offset cushion to apply relative outward pres-

sure at the base of the great toe, but most efficiently attained where the cooperative corrective action of parts 2 and 7 is supplemented by the use of horizontal or arch support cushions, as they, in effect, tend to apply upward or arch support pressure on the foot and thus soften or lessen the resistance of the foot to the reversed pressures applied to the toe by the division piece and the offset cushion 2.

Before proceeding with reference to other features of construction, it is to be noted that the division piece is of stiff material and that it is adjustable so that it can be initially disposed at the proper point to slightly resist lateral outward movement of a particular toe or toes, and then be progressively adjusted laterally inward to eventually set the toe or toes in what should be the proper angle relative to the body of the foot. As the drawing indicates, the division piece can be set at an angle to the longitudinal center of the member 1, and at reasonable intervals be pivotally or slidingly adjusted slightly to the right. An attempt to initially hold a toe materially angling to the left, in a straight line, would probably cause unbearable pain. To provide for adjustment, member 1 has an attached underlying thin and relatively stiff plate 8, and with the latter, has a pair of short slots 9. A pivot bolt 10 extends through the rear slot and a similar bolt 11 through the front slot, and both screw into the division piece for use in clamping the latter firmly where needed to accommodate a particular great and second toe. The reference above to setting the division piece at an angle, is to indicate that while the bolts 10 and 11 are adjustable bodily together in their respective slots, they fit the latter loosely enough, to allow for slightly more adjustment of one pivot bolt than the other, the latter therefore serving as a pivot in setting the division piece 7, at a slight angle where such adjustment seems desirable, it being noted, in this connection, that the slots 9 are disclosed in Figure 3, as slightly wider than the diameter of the bolts to permit of slight pivotal adjustment of the division piece. Superimposed upon member 1, is an arch support sock liner member of contour to fit snugly within a shoe and of length to extend from the back of the heel to a point adjacent the head ends of the metatarsal bones of the foot, consisting of a top member 12, bottom member 13, and an intermediate member 14, the members 12 and 13 being united at the sides by stitching 15, and by cross stitching 16 at the junction of the heel and shank portions. The marginal stitching at the sides and back of the heel portion and the stitching at the front end, also engages the bottom member 1, the two stitchings last mentioned defining the front and rear ends of a pocket 17 between the arch support element and bottom element 1, which pocket at opposite sides and for the full length of the shank is open for the reception of a pad or cushion 18 to build up or raise the shank and heel portions or either of them, to a higher plane than is effected by a heel cushion 19 and a metatarsal cushion 20 permanently incorporated between the top and bottom members 12 and 13. The intermediate member 14 is of thin material generally, but at the point between the heel and metatarsal zone (see Figure 3), is preferably of substantial thickness to give a cushioning function in cases where the use of the cushion 18 is not desired.

As an inner arch support the members 12, 13 and 14 have similar arcuate wings 21 along the inner edge of the shank portion, and said wings overlie the rear portion of the offset cushion 2, up to the rear end of the fold or junction line of the latter with member 1. This relation of the wing and said cushion is established so that when the device is within a shoe and the wing and said cushion 2 are forced upward by contact with the vamp of the shoe, the latter can be fitted readily upon the foot, as the wing will guide the foot forward without chance of so abutting the rear end of the cushion as to bend or double it forward and cause it to act as a welt and impose sharp and painful pressure on the foot. As the toe division piece is smooth and tapers downward and rearward, it readily enters between the great toe and the adjacent one (or between the toes for which it is set), the wearer's stocking bowing upward without injury to accommodate the division piece.

As the parts of the device and their respective and cooperative functions have been detailed, no recapitulation is deemed necessary, it being apparent that through the use of a device embracing the features set forth, it is possible to exert a general curative effect guarding against undue sagging of the foot at the metatarsal region thereof principally, and through restraint of outward great toe movement, benefit the foot as regards the formation or development of corns and bunions. It will be apparent of course, that changes in minor features or details may be made within the spirit and scope of the appended claims.

I claim:—

1. A sock liner foot corrector, having at its inner side an offset cushion and an offset arcuate arch support, the front end of the arch support overlapping the rear end of said cushion.

2. A sock liner foot corrector, comprising a base member of form and size to snugly fit within a shoe and rest upon the bottom thereof and provided at its inner edge with a flexible foldable offset cushion and a soft flexible upper member to rest upon and cover the base member from the rear edge of the heel portion to a point for underlying the head ends of the metatarsal bones of the foot, and provided at the inner side of the shank portion with an arcuate foldable wing overlapping at its front end the rear end of the said offset cushion.

3. A sock liner foot corrector, comprising a base member of form and size to snugly fit within a shoe and rest upon the bottom thereof and provided at its inner edge with a flexible foldable offset cushion and a soft flexible upper member to rest upon and cover the base member from the rear edge of the heel portion to a point for underlying the head ends of the metatarsal bones of the foot, and provided at the inner side of the shank portion with an arcuate foldable wing overlapping at its front end the rear end of the said offset cushion; the upper member also having a cushion to underlie metatarsal bones of the foot rearward of the head ends of said bones.

4. A sock liner foot corrector, comprising a base member of form and size to snugly fit within a shoe and rest upon the bottom thereof and provided at its inner edge with a flexible foldable offset cushion, and a soft flexible upper member to rest upon and cover the base member from the rear edge of the heel portion to a point for underlying the head ends of the metatarsal bones of the foot, and provided at the inner side of the shank portion with an arcuate

foldable wing overlapping at its front end the rear end of the said offset cushion; the two members being connected together at the sides and rear end of the heel portions and at the front end of the upper member to provide a pocket of substantially equal length to the upper member and open at the side between said lines of stitching.

5. A sock liner foot corrector, comprising a base member of form and size to snugly fit within a shoe and rest upon the bottom thereof and provided at its inner edge with a flexible foldable offset cushion, and a soft flexible upper member to rest upon and cover the base member from the rear edge of the heel portion to a point for underlying the head ends of the metatarsal bones of the foot, and provided at the inner side of the shank portion with an arcuate foldable wing overlapping at its front end the rear end of the said offset cushion; the two members being connected together at the sides and rear end of the heel portions and at the front end of the upper member to provide a pocket of substantially equal length to the upper member and open at the side between the said lines of stitching, the upper member having a cushion overlying said pocket and adapted to underlie the metatarsal bones of the foot rearward of the head ends of said bones.

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