April 11, 1944. R. M. ANDERSON 2,346,344

SHOE REARCHING AND STRAIGHTENING DEVICE

Filed May 17, 1943

Fig. 1

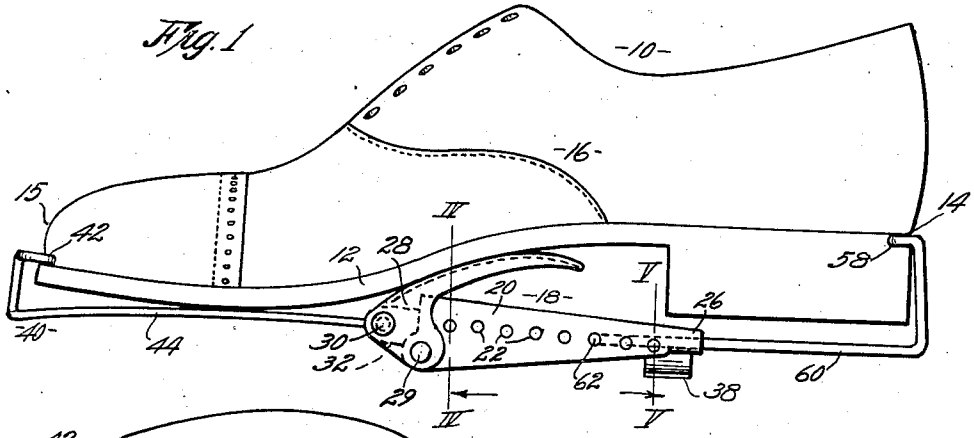


Fig. 2

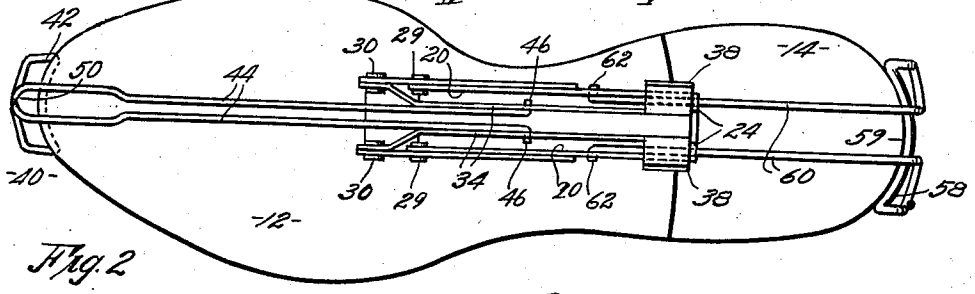


Fig. 3

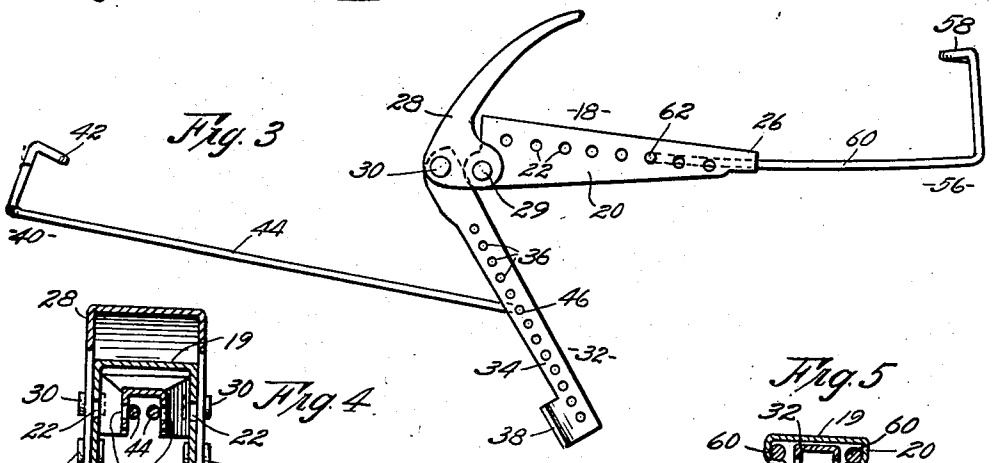


Fig. 4

Fig. 5

Fig. 6

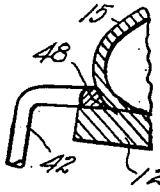
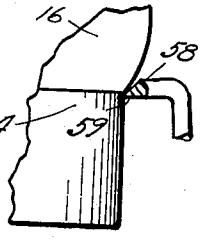


Fig. 7



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SHOE REARCHING AND STRAIGHTENING DEVICE

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Application May 17, 1943, Serial No. 487,386

9 Claims. (Cl. 12—129.1)

This invention relates to improvements in shoe rearching and straightening device and has particular reference to a device which is applied externally upon the sole of the shoe whereby the sole may be rearched and straightened.

Due to moisture and the natural tendency of shoe soles to turn up at their extremities, shoes become mis-shaped and need to be rearched and reshaped while not in use.

The principal object of the present invention which is an improvement over my Patent No. 2,313,417, issued March 9, 1943, is the provision of sole straightener which not only straightens the sole but also serves to rearch the sole by applying a predetermined pressure to the shoe arch while forcing the heel and the toe thereof downwardly.

A further object of this invention is the provision of a sole straightener having means whereby the shoe is easily engaged and maintained in the desired corrective position for any desired length of time.

Other objects are simplicity and economy of construction, ease and efficiency of operation and adaptability for use on shoes of various lengths and shapes.

Reference will now be had to the drawing wherein:

Figure 1 is a side elevation of a shoe to which is applied a shoe straightener embodying this invention.

Fig. 2 is a bottom view of the shoe with the shoe straightener in position.

Fig. 3 is a side elevation of the sole straightener extended preparatory to being applied to a shoe.

Fig. 4 is an enlarged sectional view taken on line IV—IV of Fig. 1.

Fig. 5 is an enlarged sectional view taken on line V—V of Fig. 1.

Fig. 6 is an enlarged fragmentary sectional view of the toe of the shoe with the toe engaging part of the straightener positioned thereon.

Fig. 7 is an enlarged fragmentary sectional view of the heel of the shoe with heel engaging portion of the straightener in the operating relation.

Throughout the several views like reference characters refer to similar parts and the numeral 10 designates a shoe of conventional construction having a sole 12, a heel 14, a toe 15, and a body 16.

The shoe straightener comprises a body member 18, preferably made of sheet metal of inverted trough shape to present an intermediate wall 19 and two longitudinal spaced apart side walls 20 each provided with like series of spaced apart holes 22 and each having an inturned flange 24 adjacent its narrower end 26.

Body member 18 is wedge shaped and is provided at its wider end with an arcuate instep lever 28 pivoted at 29 which is adapted to rest against the instep of the shoe when the straightener is in use. Pivotally mounted on the forward end portion of the instep lever 28 by means of pins 30 is a manually operable lever 32 which is made of sheet metal formed to present two spaced apart depending walls 34 each provided with a like series of holes 36 with like holes in the series in transverse alignment. The free end of lever 32 is provided with a pair of outturned flanges 38 which serve as finger grips for positioning the lever.

A toe engaging member 40 preferably made of wire formed to present a toe engaging section 42 adjacent its central portion and two substantially parallel longitudinal members 44 terminating in outturned sections 46 which are adapted to be selectively positioned in pairs of opposed holes 36. The toe engaging section 42 extends upwardly from members 44 and is sharpened at 48 to present a suitable form to fit between the sole and the body of the shoe. (See Fig. 6.)

The forward portion of members 44 are formed to present a closed eye at 50, which may be utilized for a supporting member whereby the shoe and hanger may be suspended.

A heel engaging member 56 is made of wire and formed to provide a heel engaging section 58 sharpened at 59 to engage the shoe heel, and two substantially parallel members 60 having their outer extremities turned outwardly at 62 to enter opposed holes 22 with the body of the wire member 60 disposed beneath the inturned lips 24 formed adjacent the reduced end of body member 18. It will be noted that with the parts in the position shown in Fig. 3 the heel engaging member may be easily and quickly moved to engage any pair of holes 22 also the toe engaging section 42 may be adjusted to any desired set of holes 36.

It is apparent that the distance between holes 36 and holes 22 differ, thus making it possible, by properly shifting the members 40 and 56, to obtain any desired distance between the heel and toe engaging portions of the device. Furthermore, with this double adjustment it is possible to properly position the instep engaging member 28 to engage the arch of the sole at the proper point.

When the shoe straightener is in the position shown in Figs. 1 and 2, sufficient force is exerted against the heel, toe, and instep of the shoe to force the shoe sole to the desired shape to preserve its proper shape.

The force exerted upwardly against the instep is in proportion to the pressure exerted against the heel and the toe, since the pivotal points 29 and 30 are off-set with relation to the direct line of pull. By varying this angle of off-set the degree of pressure upwardly is varied.

To position the straightener on the shoe the straightener is extended as shown in Fig. 3, positioned on the heel and toe, then lever **32** is moved to the position shown in Fig. 1. Because of the relation of the parts as shown in this position, lever **32** will retain its position, until the operator grips the outturned flanges **38** and forces it past dead center when the tension on the parts will cause it to open.

Due to properties of the heel and toe wire members, it has been deemed advisable to make wires **44** straight and to make a bow in the heel wires as shown in Fig. 3 so that when they are in the operative portion, the heel wire will be substantially straight and the toe wires will arch upwardly to contact the underside of the sole adjacent the ball of the foot.

While I have shown the preferred embodiment of the invention it is quite apparent that many modifications might be made in the structure without departing from the spirit of the invention as claimed.

I claim:

1. A shoe straightener comprising a heel member adapted to engage the rear portion of the heel and extend longitudinally beneath the shoe, a toe member adapted to engage the toe of the shoe and extend toward the forward end of said heel member, and means including an instep lever interconnecting said heel and toe member and manually operable to draw said heel and toe members toward each other to clampingly engage said heel and toe as said instep lever is urged against the instep of the shoe.

2. A shoe straightener comprising a heel member adapted to engage the rear portion of the heel and extend longitudinally beneath the shoe, a toe member, adapted to engage the toe of the shoe and extend toward the forward end of said heel member and means including an instep lever adjustably interconnecting said heel and toe member and operably to draw said heel and toe members toward each other to clampingly engage said heel and toe as said instep lever is urged against the instep of the shoe.

3. A shoe straightener comprising a resilient heel member adapted to engage the rear portion of the heel and extend longitudinally beneath the shoe, a resilient toe member adapted to engage the toe of the shoe and extend toward the forward end of said heel member, and means including an instep lever interconnecting said heel and toe member and manually operable to urge said heel and toe members toward each other to clampingly engage said heel and toe as said instep lever is urged against the instep of the shoe.

4. A shoe straightener comprising a heel member made of a single strand of wire formed to present a heel engaging section and an elongated section adapted to extend lengthwise beneath the sole of the shoe, a toe member made of a single strand of wire formed to present a toe engaging section and an elongated section disposed in substantial alignment with the elongated section of said heel member, means including an instep lever to adjustably interconnect said heel member and toe member operable to be positioned to constantly urge said heel and toe members against the heel and toe of a shoe as said instep lever is urged against the instep of the shoe.

5. A shoe straightener comprising a heel member made of a single strand of wire formed to present a heel engaging section and an elongated section adapted to extend lengthwise beneath the sole of the shoe, a toe member made of a single strand of wire formed to present a toe engaging section and an elongated section disposed in substantial alignment with the elongated section of said heel member, means including an instep lever and a manually operable lever to adjustably interconnect said heel member and toe member operable to be positioned to constantly urge said heel and toe members against the heel and toe of a shoe as said instep lever is urged against the instep of the shoe.

6. A shoe sole straightener comprising a heel engaging member, a body member having a series of longitudinally spaced holes adapted to selectively receive the forward end of said heel member, an instep lever pivoted to the forward end of said body member, a manually operable lever having a longitudinally disposed series of spaced apart holes and being pivoted to said instep lever, a resilient toe member positioned with its rear end engaging holes of said last named series whereby as said manually operable lever is moved toward said body member, said toe and hole members will clampingly engage the shoe, toe, and heel respectively, and the instep lever will be forced against the arch of the sole.

7. A shoe sole straightener comprising a shoe heel engaging member, a body member having a longitudinal series of spaced apart holes adapted to selectively receive the forward end of said heel member, an instep lever pivoted to the forward end of said body member, a manually operable lever pivoted to said instep lever and having longitudinal series of spaced apart holes, a resilient toe member having its one end engaged in one of the holes in said manually operable lever and its other end engaging the toe of a shoe, whereby when said manually operable lever is moved toward said body member the heel and toe will be forced downwardly and the shoe arch will be forced upwardly.

8. A shoe sole straightener comprising a heel engaging member, a body member having longitudinal series of spaced apart holes adapted to selectively receive the forward end of said heel engaging member, an instep lever pivoted to the forward end of said body member, a manually operable member pivoted to said instep lever and having longitudinal series of spaced apart holes, a resilient toe member secured at its one end in selected holes in said manually operable member and its other end adapted to engage the toe of the shoe, whereby when said manually operable lever is pivoted toward said body member said heel and toe members will be forced toward each other and the instep lever will be forced against the instep of the shoe.

9. A shoe sole straightener comprising a heel engaging member a body member having longitudinal series of equally spaced apart holes adapted to selectively receive the forward end of said heel engaging member, an instep lever pivoted to the forward end of said body member, a manually operable member pivoted to said instep lever and having longitudinal series of equally spaced apart holes, the spacing of these holes being unequal to the spacing of the first named series of holes, a resilient toe member secured at its one end in selected holes in said manually operable member and its other end adapted to engage the toe of the shoe, whereby when said manually operable lever is pivoted toward said body member said heel and toe members will be forced toward each other and the instep lever will be forced against the instep of the shoe.

RUSSELL M. ANDERSON.