Aug. 17, 1948. E. K. BRUCKNER 2,447,231

ORTHOPEDIC INSOLE

Filed Sept. 11, 1946

Fig. 1.

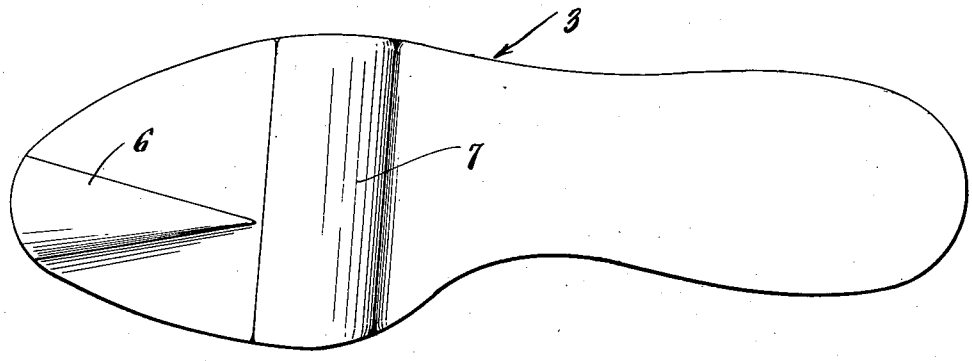


Fig. 2.

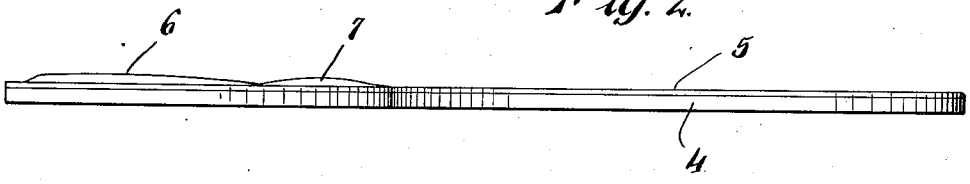


Fig. 3.

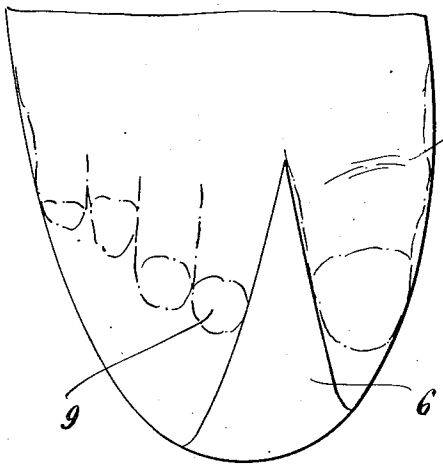
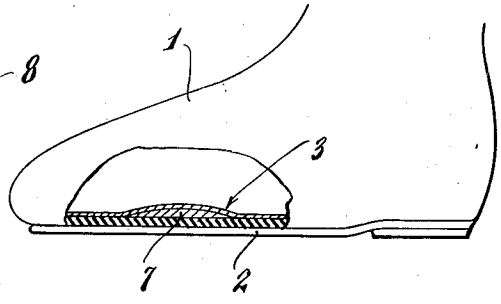


Fig. 4.



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Patented Aug. 17, 1948

2,447,231

UNITED STATES PATENT OFFICE

2,447,231

ORTHOPEDIC INSOLE

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Application September 11, 1946, Serial No. 696,209

2 Claims. (Cl. 36—71)

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This invention relates to an inner sole for shoes, and it is one object of the invention to provide an inner sole of such construction that it will serve to absorb shocks when walking, spread the big toe and properly space it from the next toe, brace and support the metatarsal arch of the foot, and hold the shoe in shape so that it will not become warped and distorted from being worn.

Another object of this invention resides in the provision of an inner sole having a wedge formed in the construction thereof that will separate the great toe from the adjoining toes in such manner as to prevent an enlarged joint or bunion from forming, or where it may have been formed, to relieve the pressure on the bunion or enlarged joint, thus relieving severe pain and aiding to gradually straighten the great toe, and preventing the shoe from being distorted in appearance.

Another object of the invention is to provide an inner sole wherein a base of soft sponge rubber is covered by a sheet of soft leather, or other suitable material, which prevents the rubber base sheet from having direct contact with a person's foot and thus prevents the foot from becoming overheated by the rubber base.

Another object of the invention is to provide an inner sole wherein wedges formed of rubber, leather, or other suitable material, are mounted between the sponge rubber base sheet and the thin leather top sheet and cemented to both sheets so that they will be firmly held and prevented from moving out of their proper positions in the inner sole.

Another object of the invention is to provide an inner sole formed as set forth and of such construction that it will be comfortable when in use.

Other objects of the invention will appear in the course of the following description.

The invention is illustrated in the accompanying drawing wherein:

Figure 1 is a top plan view of the improved inner sole;

Figure 2 is a side edge view thereof;

Figure 3 is a fragmentary diagrammatic view illustrating the manner in which the big toe is spread; and

Figure 4 is a view showing a shoe partially in side elevation and partially in section, the improved inner sole being shown in the shoe.

This improved inner sole is used in connection with a shoe 1 of conventional formation, and when it is in use, it rests flat upon the sole 2 of

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the shoe, its size and shape being such that it fits snugly in the shoe and will not move longitudinally or transversely therein.

The inner sole 3 is of laminated formation and has a base 4 formed from a sheet of sponge rubber which is preferably of about one-eight inch thick and of the same thickness throughout its area. The top sheet or covering 5 is formed from a thin sheet of kid, or other suitable material, and conforms to the shape and outline of the base sheet and has its marginal edges flush with edges of the base sheet. Between the base sheet and the cover sheet are disposed a wedge 6 and a transversely extending strip 7. The wedge 6 extends longitudinally of the inner sole from the toe end thereof and substantially triangular in shape and tapered to its rear end, the length of the wedge or spreader being such that when a shoe having the improved inner sole therein is worn, the wedge shaped spreader will extend between the big toe 8 and the toe 9 of a person's foot. Therefore, the big toe 8 will be spread away from the small toe 9 and prevented from being crowded towards the small toe and squeezing and pinching of the toes will be prevented. This will also prevent the joint of the big toe from being forced out of its proper position and a bunion formed.

The transversely extending strip or band 7 is located just rearwardly of the wedge or spreader in such position that the rear end of the spreader touches the front edge of the cross strip. It will thus be seen that the strip or band 7 is located just back of the toes of a person's foot and disposed under the ball portion of the foot and serves to raise the foot and give protection and support to the metatarsal arch of the foot and prevent bruising of the metatarsal heads. Side portions of the lower surface of the band or strip 7 are bevelled so that when the strip is cemented in place its upper surface is arcuate in cross section, as shown in Figure 4, and the strip provided with feathered side edge portions and prevented from forming ridges which would be uncomfortable when a shoe is worn. The fact that the spreader and the cross strip are disposed between the base sheet and the cover sheet and cemented to them causes the spreader and the cross strip to be very firmly held against movement out of their proper positions by action of the cement and also by action of the soft rubber from which the base sheet is formed.

From the foregoing description and the construction of my improved inner platform sole, the method of making same and the application

thereof to use will be readily understood and it will be seen that I have provided a comparatively simple, inexpensive and efficient means for carrying out the various objects of the invention.

Having thus described my invention, what I claim is:

1. An insole comprising a base sheet of sponge rubber, a top sheet of thin leather, and a wedge between the sheets extending longitudinally of the insole from the front end thereof and forming a rearwardly tapered ridge disposed in position for engaging between the big toe and an adjoining toe of a person's foot and spreading said toes, the said ridge being of appreciably less diameter than the toes and having side edges merging into the upper surface of the top sheet.

2. An insole for a shoe comprising a base sheet of thick sponge rubber, a top sheet of thin flexible material, a wedge between the sheets extending longitudinally of the insole from the front end thereof and tapered towards its rear end, said wedge being in position to engage between the big toe and the adjoining toe of a person's foot and spreading the said toes and being of appreciably less depth than the toes, and a cross strip extending transversely of the insole for the full width thereof between the said sheets adjacent to and rearwardly of the rear end of said wedge in position for supporting the metatarsal arch of the foot and preventing bruising of the metatarsal heads.

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