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H. J. NICHOLL

2,343,790

SHOE INNER SOLE

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Fig. 1.

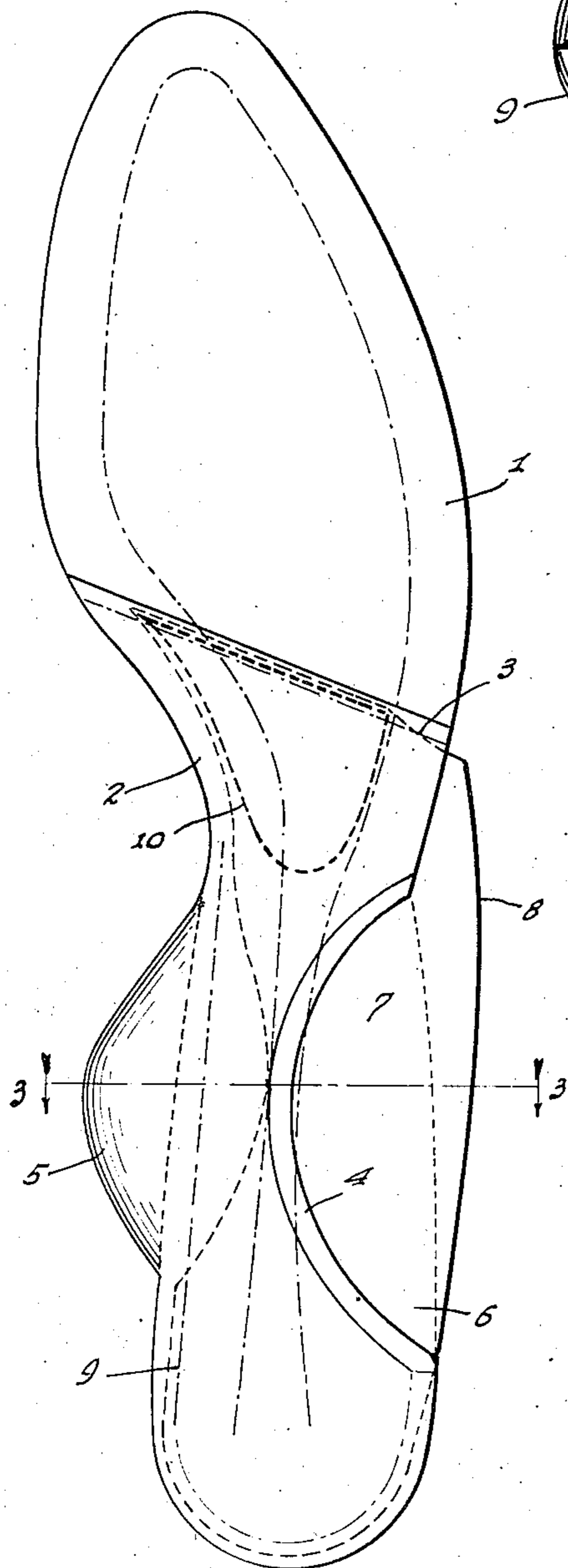


Fig. 2.

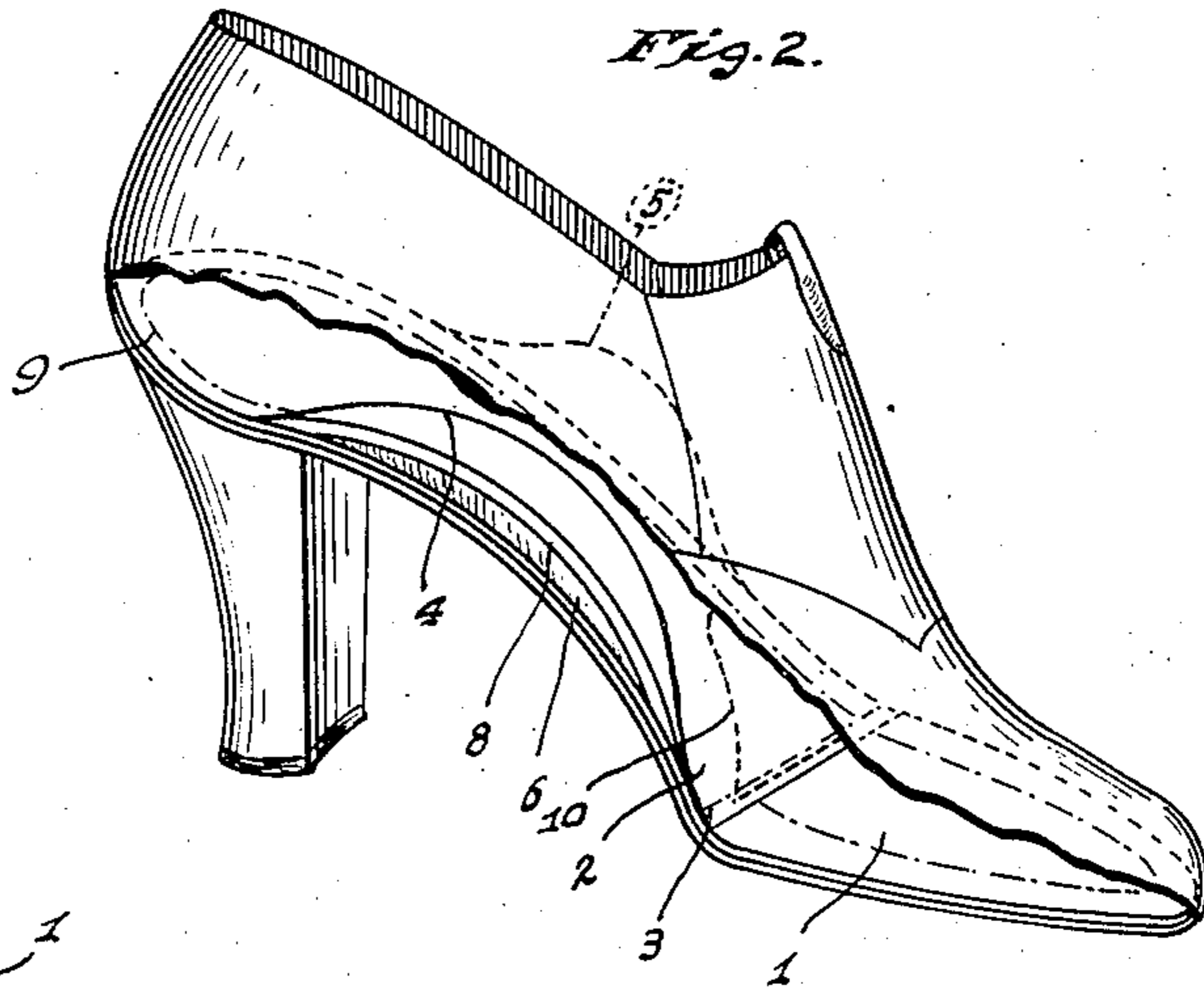
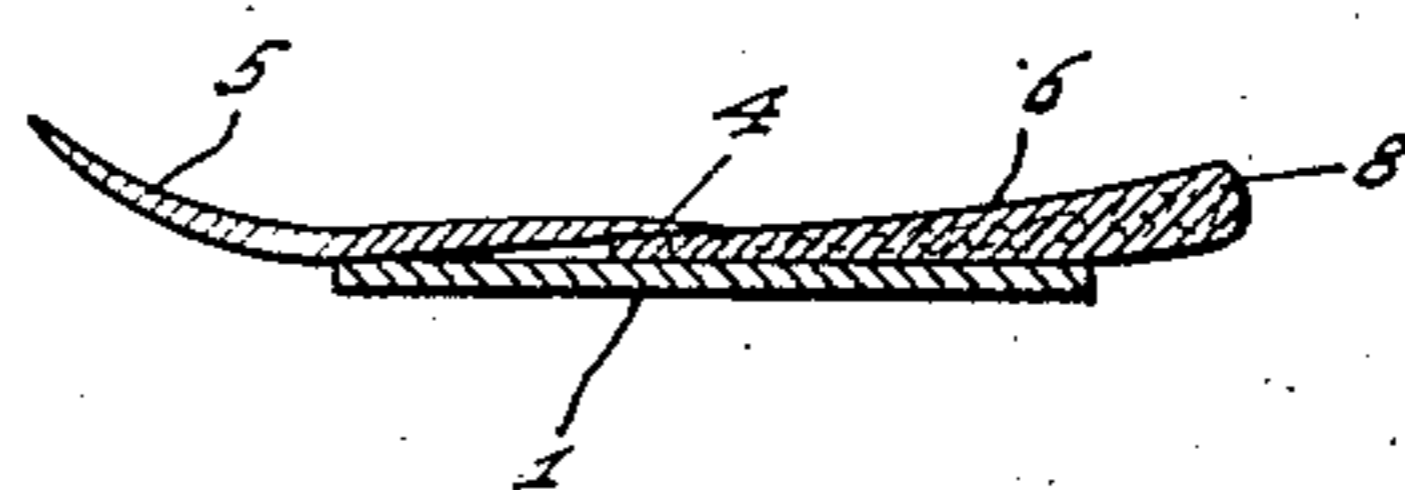


Fig. 3.



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SHOE INNER SOLE

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Application September 22, 1941, Serial No. 411,772

3 Claims. (Cl. 36—71)

The invention relates to improvements in foot wear and more particularly the invention relates to improvements in inner soles for shoes.

One of the objects of the invention is to provide an inner sole for a shoe which will be provided with means for properly supporting the foot and more particularly the arch of the foot, whereby not only will the five metatarsal bones be supported but also the cuboid bone will be supported and the rear of the foot, particularly at the heel, will be cushioned, whereby the entire foot will be so supported and cushioned as to relieve the body materially of shocks and jars, to which it is subjected when walking.

For the purpose of disclosing the invention, one embodiment thereof has been illustrated in the accompanying drawing, in which

Fig. 1 is a plan view of an inner sole embodying the invention;

Fig. 2 is a perspective view of a shoe, partially broken away to show the position of the parts of the inner sole in the shoe; and

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1.

Referring to the structure illustrated in the accompanying drawing, there is provided an inner sole 1 of the usual construction, to which the upper is adapted to be attached and also to which the outer sole is to be attached. Secured to the upper face of this inner sole is a supplemental or supporting sole 2 which, at its front end, is secured to the inner sole by stitching or otherwise along the line 3 and it is to be noted that this front end of the supporting sole extends diagonally rearwardly from the inner to the outer edge of the sole 1 and is located just beneath the base of the five metatarsal bones. The upper sole 2 extends rearwardly and beneath the cuboid bone is cut away on a curved line 4 which cut-away portion extends rearwardly to approximately the beginning of the heel.

On the inner edge of the supporting sole, there is provided an integral lip or projection 5 which is extended outwardly on a curved line and when the sole is assembled, as is illustrated in Fig. 2, turns upwardly along the inside face of the upper in a position to embrace the inside longitudinal arch. Interposed between the supporting sole 2 and the sole 1 is a pad 6 which is preferably made of sponge rubber, felt, or other cushioning material, and which extends from the forward end behind the joint of the two soles rearwardly to a point adjacent the heel forming, at the cut-away portion of the supporting sole, a pad surface 7 and this pad is of sufficient width

so that it extends beyond the edge of the sole portion 1 a slight distance as indicated at 8 whereby when the parts are assembled in a shoe, this pad portion will turn slightly upwardly along the outer edge of the instep, so that when the shoe is worn, the extension 5, on one side, and the projection 8, on the other side, fit around the instep.

To hold the pad against any positive shifting, and further to provide an area of maximum cushioning beneath the metatarsal arch, I prefer to provide a line of stitching 10 defining the area which lies beneath the metatarsal arch of the wearer. The padding will preferably extend back over the heel platform, and will be specifically secured in place at its rear end by the stitching 9.

When the inner sole is assembled in the shoe, the upper sole forms a supporting pad extending from beneath the base of the five metatarsal bones up well under the instep and at the heel, with the extension snugly embracing the inner longitudinal arch and the extension portion 8 snugly embracing the outer longitudinal arch. Due to the cut-away portion 4 the cushioning pad 6 proper is exposed beneath the cuboid bone to softly cushion the bone at this point and permit the pad to readily adjust itself to the foot at this point.

As is usual in the manufacture of shoes of this character, after the shoe has been assembled with the outer sole secured to the inner sole, as well as the upper secured to the inner sole, the inner sole is covered with a sock lining so that beneath the foot a perfectly smooth surface is presented.

I claim as my invention:

1. An inner sole for shoes having secured on the upper surface thereof a supplemental sole extending from a point approximately beneath the base of the five metatarsal bones of the foot to the rear of the foot arch, said supplemental sole having a portion intermediate of its ends cut away at a point approximately beneath the cuboid bone of the foot and being of a width at its forward end equal to the width of the inner sole, and a cushioning pad interposed between the supplemental sole and the inner sole, said pad being exposed by the cut-away portion of the supplemental sole, forming a self-adjusting socket to support the outer longitudinal arch and relieve pressure on the cuboid bone.

2. An inner sole for shoes having secured on the upper surface thereof a supplemental sole extending from a point approximately beneath

the base of the five metatarsal bones of the foot to the heel of the inner sole, said supplemental sole having an extension on the inner edge thereof projecting beyond the edge of the inner sole and adapted to be curved upwardly to embrace the inner longitudinal arch, and a cushioning pad interposed between said supplemental sole and said inner sole, said supplemental sole being cut away on its outer edge at a point beneath the cuboid bone of the foot to expose said cushioning pad.

3. An inner sole for shoes having secured on the upper surface thereof a supplemental sole extending from a point approximately beneath

the base of the metatarsal bones of the foot to the heel of the inner sole, a cushioning pad interposed between said supplemental sole and inner sole, said supplemental sole having extending from its inner edge a portion projecting beyond the edge of the inner sole and adapted to be upwardly curved to embrace the inner surface of the foot and having its opposite edge cut away to expose said cushioning pad, said cushioning pad being adapted to project beyond the outer edge of the inner sole and being adapted to be curved upwardly when in position in the shoe to embrace the outer surface of the foot arch.

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