W. M. SCHOLL.

INSTEP ARCH SUPPORT.

APPLICATION FILED JAN. 27, 1903.

990,458. Patented Apr. 25, 1911.

Fig. 1.

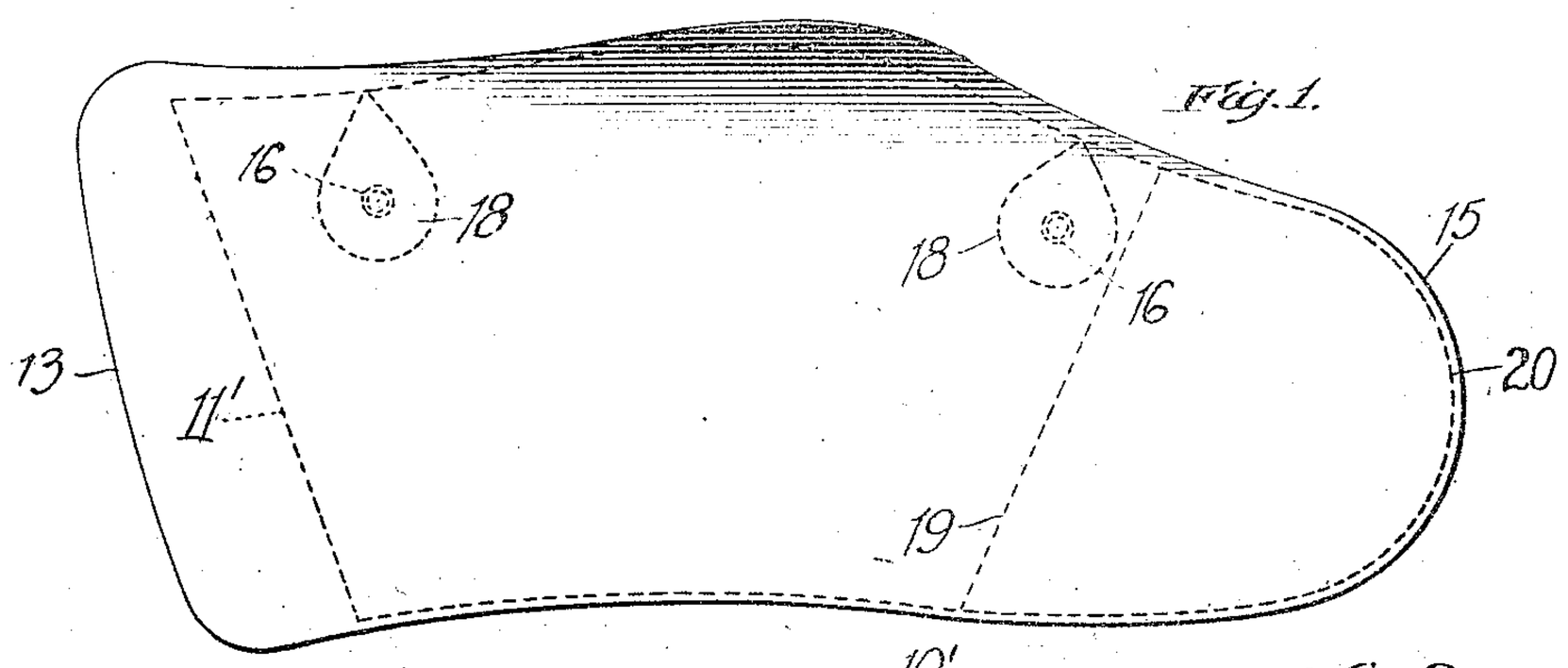


Fig. 2.

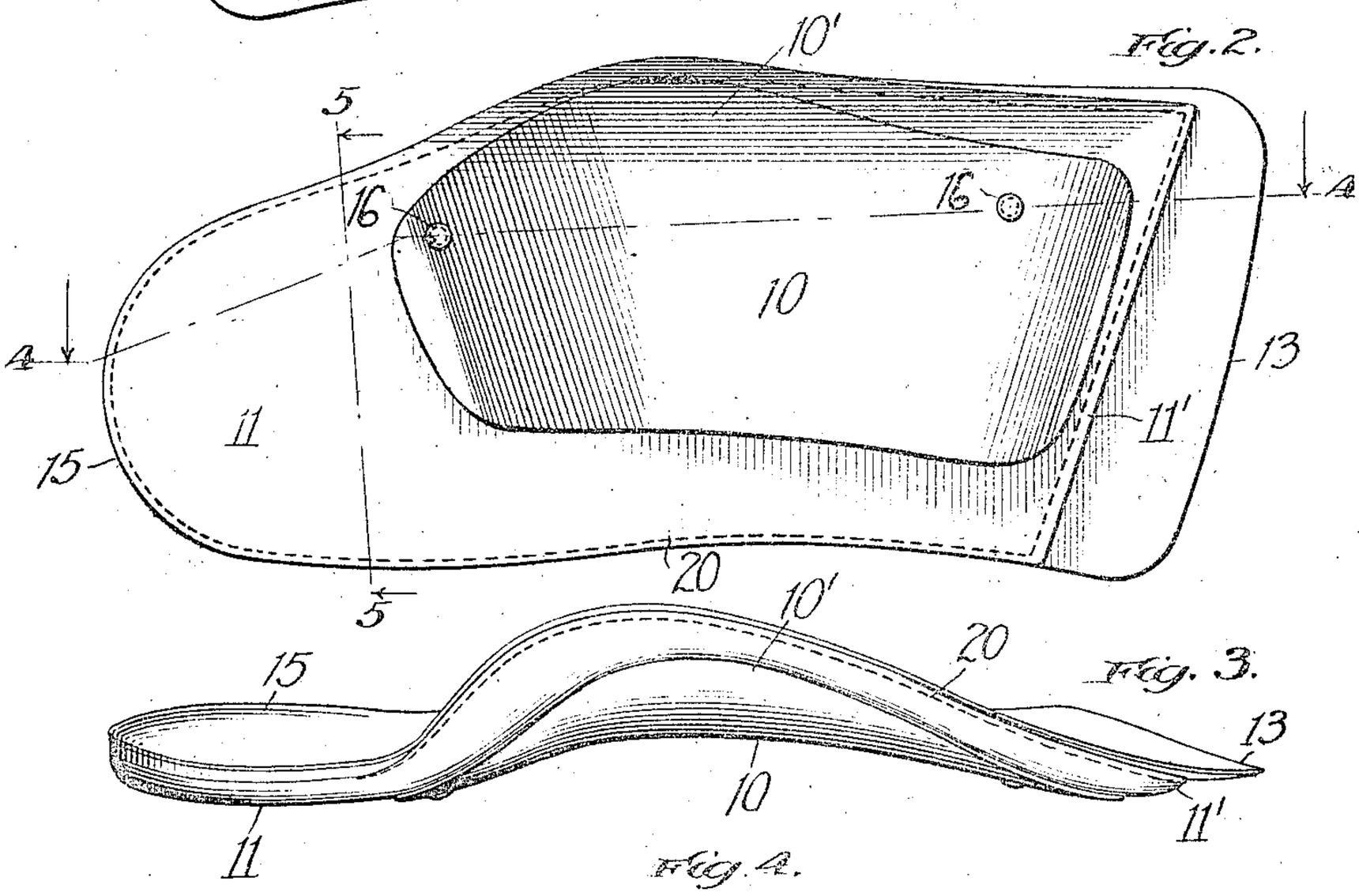


Fig. 3.

Fig. 4.

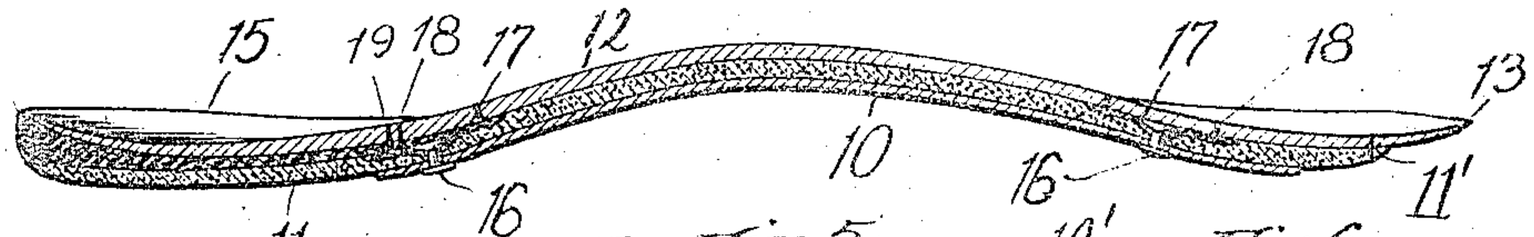


Fig. 5.

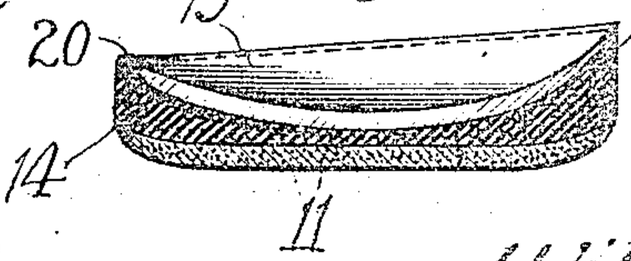
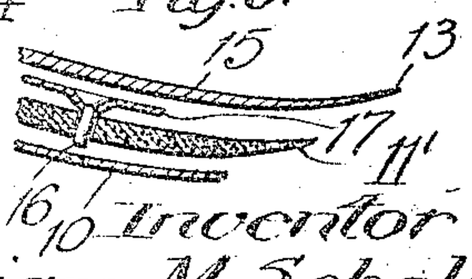


Fig. 6.



Witnesses
Harry R. L. White
Ray White.

Inventor
William M. Scholl
By Foster Bain & May
Attys

UNITED STATES PATENT OFFICE.

WILLIAM M. SCHOLL, OF CHICAGO, ILLINOIS.

INSTEP-ARCH SUPPORT.

990,458. Specification of Letters Patent. Patented Apr. 25, 1911.

Application filed January 27, 1908. Serial No. 412,691.

To all whom it may concern:

Be it known that I, WILLIAM M. SCHOLL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Instep-Arch Supports, of which the following is a specification.

My invention relates to improvements in instep arch supports.

One of the objects of my invention is to provide a support wherein there is contained a yielding pad between the metallic arch plate and the overlying foot-bearing cover surface.

Another object of my invention is to provide a support wherein the arch plate underlies the arch only, and the cushion or yielding pad is extended rearwardly beyond the plate, so that when said device is placed within the foot wear, wherein it is to be worn, the cushion or yielding pad underlies the heel of the wearer.

Still another object of my invention is to increase the resiliency of the heel portion of an arch support by the provision of a heel cushion of rubber or like resilient material, and to provide a hollowed heel-seat which will take form to accurately fit the wearer's heel.

A further object of my invention is to provide an arch support wherein the tendency of the side support for the arch to force the foot laterally outward is compensated for by a heel seat arrangement tending to resist such displacement. And yet another object of my invention is to provide a means whereby the parts of the device may be secured together without producing objectionable projections, indentations or other irregularities on the bearing leather surface to chafe or otherwise injure the feet of the wearer.

Other and further objects of my invention will become apparent to those skilled in the art from a consideration of the specification and drawing.

In the drawing; Figure 1 is a plan view showing the top or foot bearing surface of the device; Fig. 2 is a view of the bottom of the device showing the arch plate, the yielding pad and a portion of the leather cover; Fig. 3 is a side elevation of the device; Fig. 4 is a longitudinal section on line 4—4 of Fig. 2; Fig. 5 is the cross section taken on line 5—5 of Fig. 2. Fig. 6 is a longitudinal section of the riveted part in detail.

In all the views the same characters of reference indicate similar parts.

In the device I provide an arch supporting base structure, preferably consisting of a single metal arch plate 10 shaped longitudinally to conform to the normal arch of the foot, and to extend from just in front of the heel to a point back of the ball of the foot. Said arch plate 10 is also transversely curved for conformity to the normal arch and is provided with the usual side wing 10′ following the shape of the curved inner side of the instep-arch. Other base structures may be employed, however, but it is my preference to employ a base structure which does not underlie the heel of the wearer.

11 indicates a yielding pad, preferably of felt or like material, comfortably soft but not liable to easy destruction; and 12 indicates in general a cover piece, preferably of leather. The cover piece is shaped for conformity with the interior of the heel and shank of a shoe with a side extension to extend comfortably far up the inner curve of the shank of the shoe conforming to the most hollowed portion of the instep arch of the foot. The pad 11 is preferably about coextensive with the cover piece 12 save at its front edge where it preferably is somewhat shorter than the cover piece, both the pad and the cover being preferably skived off around their perimeters for the dual purpose of facilitating sewing and fitting smoothly in the shoe.

14 indicates an elastic cushion preferably arranged beneath the heel of the cover piece for interposition between the cover piece and the shoe heel, said cushion being preferably secured between the cover piece and felt pad. I prefer that the elastic cushion 14 be made of sponge rubber, or the like, shaped to provide a heel seating recess 15 in its upper surface immediately underlying the cover piece, and preferably higher or thicker along the side 14′ of the recess toward the outside of the foot than along its opposite edge. The rear edge of the cushion 14 is quite thick and in general it tapers forward to a thin edge, which, by reason of the greater height or thickness of the outer side 14′ of the cushion extends angularly across the median longitudinal line of the support. In assembling these parts I preferably rivet the arch plate to the superposed structure and sew the cover piece to the subjacent structure in such

manner that the surface of the cover piece is smooth and not perforated to any material extent as by rivets. Also I preferably restrict the stitching of the felt pad to the edges thereof, and leave its middle portion free from stitching to avoid unduly compacting the felt in spots, and to leave it free to come and go somewhat, in shaping itself to the foot of the wearer, without bunching or wrinkling. For these purposes I preferably provide at the points where rivets 16 are used to secure the base structure to the pad, stay pieces 17 of firm fabric overlying the felt pad, and underlying respectively the cover member and the heel cushion. Through these pieces I pass the rivet-stems and then sew the pieces to the leather, as shown at 18—18 in Fig. 1. The rubber cushion 14 may then be secured to the cover piece if desired, by stitching 19 following the thin front edge of the cushion, and then the pad 14 sewed about its edge, as at 20 to the leather cover piece, and at the heel, through the rubber. The rivets 16, whereof I preferably use but two, as shown, of course pass through proper apertures in the pad and arch plate and are headed beneath the arch plate to complete the union of the parts.

It will be obvious that in use the leather cover piece will readily yield to the heel of the wearer where it overlies the recess in the heel cushion and will soon conform precisely to the heel of the wearer, and that the rubber heel cushion and felt padding will afford great comfort and ease to the user. Furthermore the conformation of the heel recess, with its high edge toward the outer side of the foot, tends to offset the tendency of the foot to work away from the high inner side of the arch support, adding comfort for the wearer and preventing "running over" of the shoe.

While I have herein described in some detail a specific embodiment of my invention which I believe to be new and which I have found to be practical in operation, it will be understood that numerous changes in the specific embodiment may be made without departure from the spirit and scope of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is;

1. In a device of the character described, the combination of an arch plate, a pad above the arch plate, a heel cushion above the heel portion of said pad, and a cover above said pad and heel cushion, rivets securing the pad to the arch plate, and stay pieces for securing the cover and heel cushion to said pad-and-arch structure.

2. In a device of the character described, the combination of an arch plate, a pad above the arch plate, rivets connecting the pad and arch plate, a cover above the pad, and stay pieces for connecting the cover and pad-and-arch structure.

3. In a device of the character described, the combination of an arch plate, a pad above the arch plate having a heel portion beyond the arch plate and extending slightly farther toward the front than said plate, a cover above the pad and heel portion thereof extending slightly farther toward the front than said pad, a heel cushion suitably tapered for fitting closely between the heel portions of said pad and cover, rivets connecting said pad and arch plate together, and stay pieces for connecting the cover and heel cushion together and to the pad-and-arch structure.

4. An arch plate, a pad, a heel cushion, and a cover secured to the pad and heel cushion, a stay piece between the cover and pad and a second stay piece between the heel cushion and pad, and rivets connecting the stay pieces, pad, and arch plate.

5. In a device of the character described, the combination of an arch plate, a pad, stay pieces above the pad, rivets connecting the stay pieces, pad, and arch plate, and a cover secured to the stay pieces.

6. In a device of the character described, a metal arch plate local to the arch proper of the foot, a compressible pad overlying said plate and extending in rear thereof to underlie the heel of the foot and form the lowermost member of the device at the heel portion thereof, a forwardly tapering rubber heel cushion overlying the entire heel portion of the pad, a cover lying directly upon said cushion and the forward portion of said pad, throughout substantially the entire exposed surface thereof, and means for securing said parts together.

7. In a device of the character described, a metal arch plate local to the arch proper of the foot, a compressible pad directly overlying said plate, extending backward beyond the arch plate to underlie substantially the entire heel of the foot, rivets connecting said plate and pad, a rubber heel cushion covering substantially the entire heel portion of said pad, and tapered toward its forward end for substantially smooth juncture with the curve of the pad portion overlying the arch plate, a cover directly imposed upon said cushion and the pad portion in front thereof, and means for securing said cover and cushion to the pad and plate structure.

8. In a device of the character described, a metal arch plate local to the arch proper of the foot, a compressible pad directly overlying said plate, extending backward beyond the arch plate to underlie substantially the entire heel of the foot, rivets connecting said plate and pad, a rubber heel cushion covering substantially the entire heel portion of said pad, and tapered toward its

forward end for substantially smooth juncture with the curve of the pad portion overlying the arch plate, a cover directly imposed upon said cushion and the pad portion in front thereof, and means connecting said cover to the rivets, with the rivets concealed by the cover.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

WILLIAM M. SCHOLL.

In the presence of—
GEO. T. MAY, JR.,
MARY F. ALLEN.