

Oct. 12, 1937.

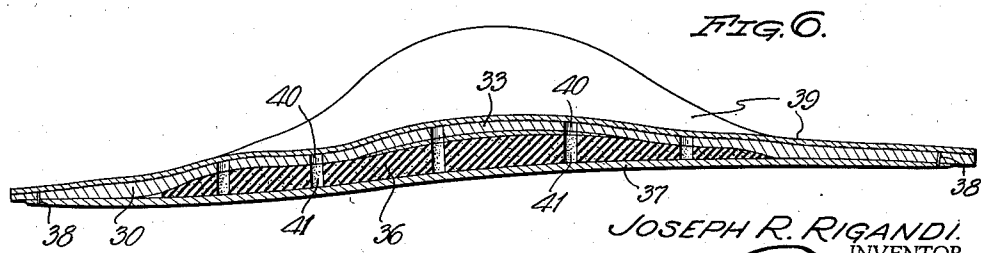
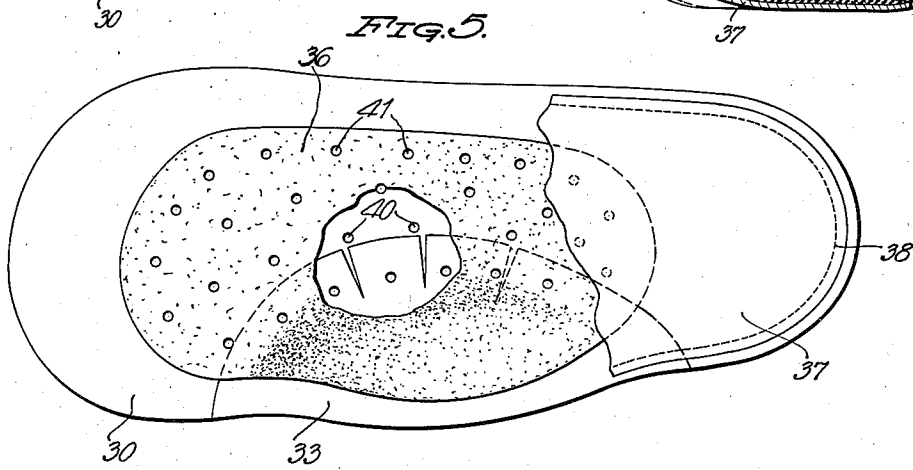
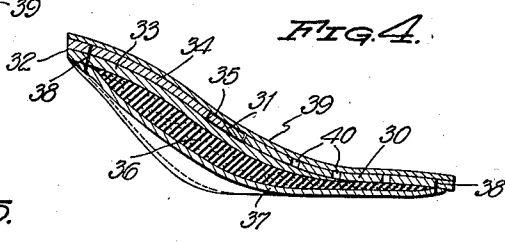
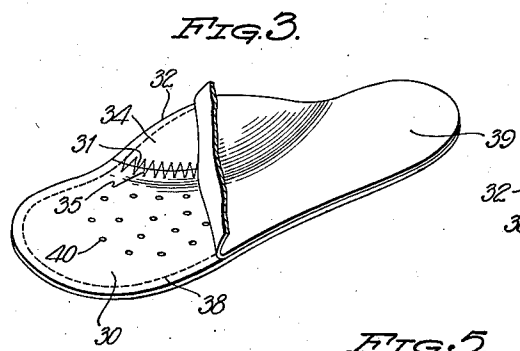
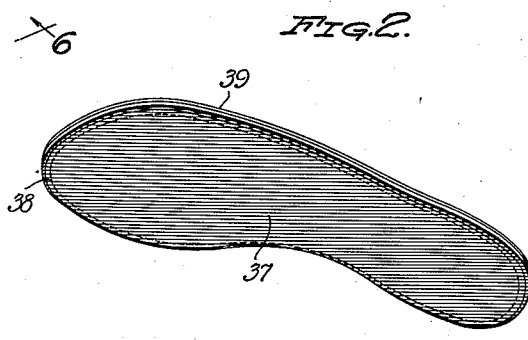
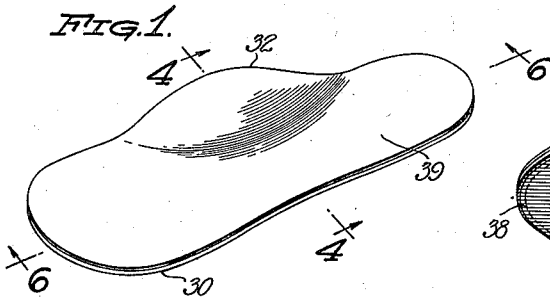
J. R. RIGANDI

2,095,532

ARCH SUPPORTER

Filed Aug. 26, 1936

3 Sheets-Sheet 1



WITNESS:
E. J. [Signature]

JOSEPH R. RIGANDI,
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BY *Ely Patterson*
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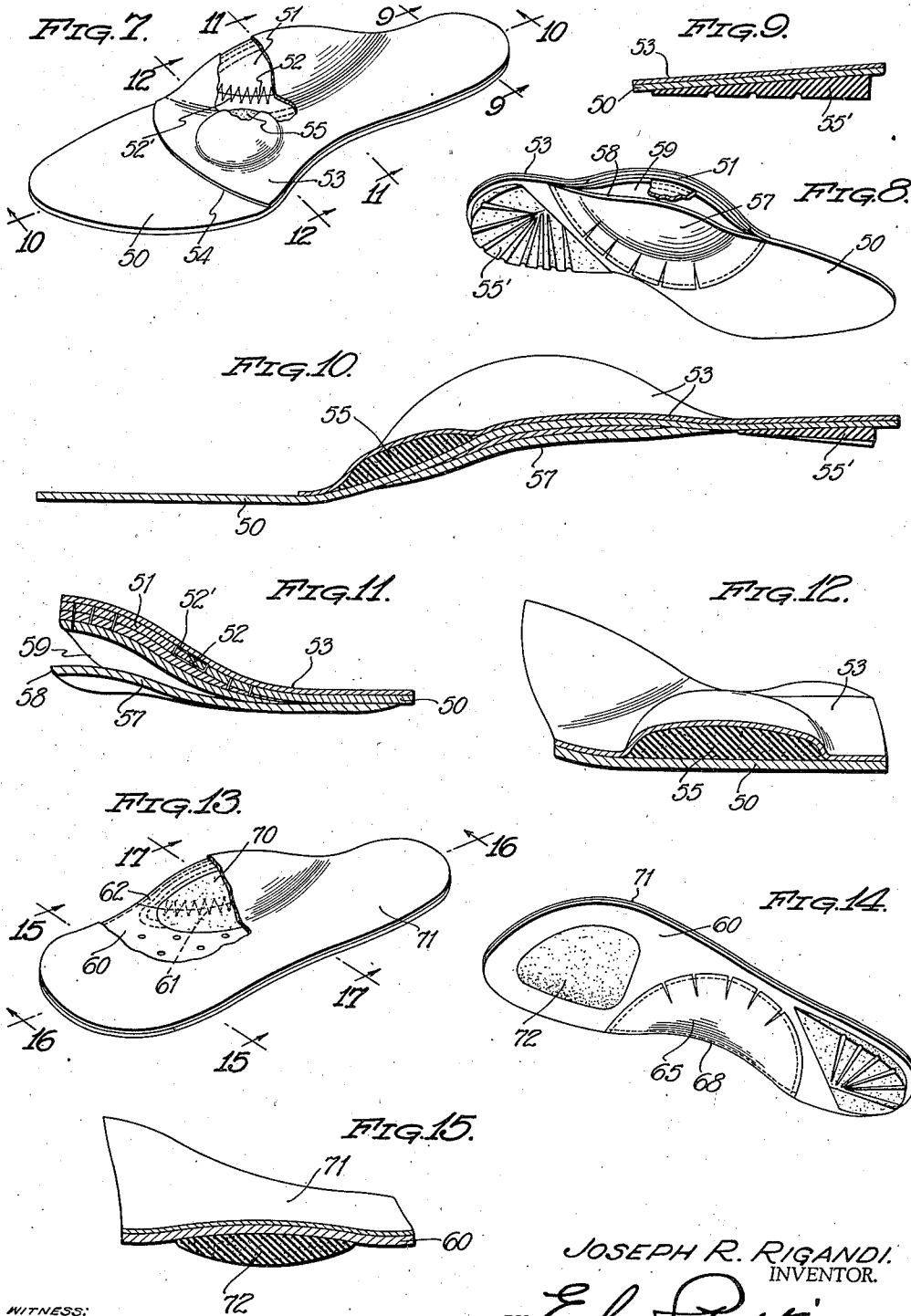
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J. R. RIGANDI
ARCH SUPPORTER

2,095,532

Filed Aug. 26, 1936

3 Sheets-Sheet 2



WITNESS:

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2,095,532

ARCH SUPPORTER

Filed Aug. 26, 1936

3 Sheets-Sheet 3

FIG. 16.

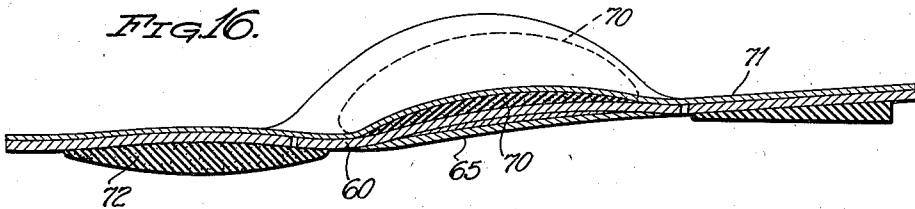


FIG. 17.

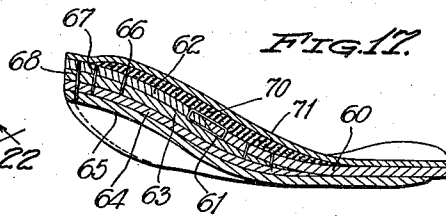


FIG. 18.

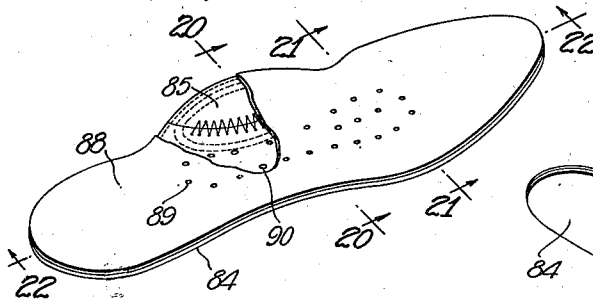


FIG. 19.

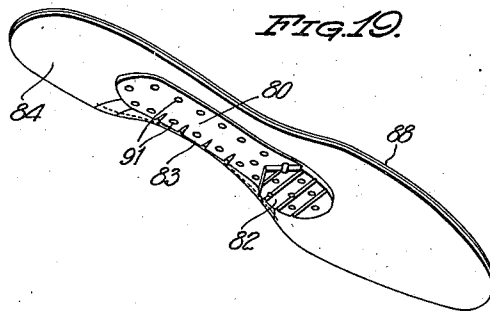


FIG. 20.

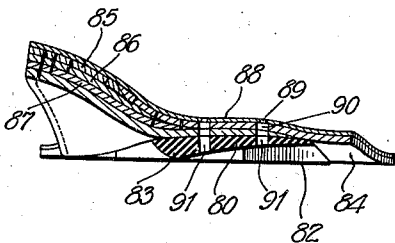


FIG. 21.

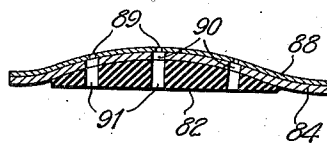
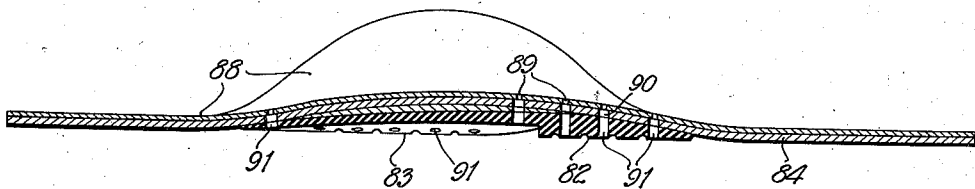


FIG. 22.



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2,095,532

ARCH SUPPORTER

Joseph Ruig Rigandi, Westerleigh, N. Y.

Application August 26, 1936, Serial No. 97,890

18 Claims. (Cl. 36—71)

This invention relates to new and useful improvements in arch supporters.

It is one of the objects of the present invention to provide an arch supporter which may be constructed either as a permanent part of a shoe or in the form of a removable member adapted to be inserted into a shoe.

It is a further object of the invention so to construct the device that the supporting arch will at all times retain its arch supporting position.

It is a further object of the invention so to construct the device that the upper surface, or that surface upon which the foot rests, will be smooth and even.

It is a further object of the invention to provide a device of the afore-mentioned character which may, if desired, be ventilated.

Still a further object of the invention resides in an arch supporter in which the device may be built up properly to position the foot of a wearer within a shoe.

Other objects of the invention will become apparent as the nature thereof is better understood for which purpose reference will be had to the following specification and claims and the accompanying drawings, wherein:

Figure 1 is a top perspective view illustrating an arch supporter constructed in accordance with one form of the present invention,

Figure 2 is a bottom perspective view thereof,

Figure 3 is a top perspective view with a portion of the completed article removed,

Figure 4 is a transverse sectional view taken substantially on the line 4—4 of Figure 1,

Figure 5 is a top plan view on an enlarged scale with certain portions of the device broken away,

Figure 6 is a longitudinal sectional view on an enlarged scale taken substantially on the line 6—6 of Figure 1,

Figure 7 is a top perspective view illustrating a modified form of the invention,

Figure 8 is a bottom perspective view of that form illustrated in Figure 7,

Figure 9 is a transverse sectional view taken substantially on the line 9—9 of Figure 7,

Figure 10 is a longitudinal sectional view on an enlarged scale taken substantially on the line 10—10 of Figure 7,

Figure 11 is a transverse sectional view taken substantially on the line 11—11 of Figure 7,

Figure 12 is a transverse sectional view taken substantially on the line 12—12 of Figure 7,

Figure 13 is a top perspective view of still a further modified form of the invention,

Figure 14 is a bottom perspective view of that form of the invention illustrated in Figure 13,

Figure 15 is a transverse sectional view taken substantially on the line 15—15 of Figure 13,

Figure 16 is a longitudinal sectional view on an enlarged scale taken substantially on the line 16—16 of Figure 13,

Figure 17 is a transverse sectional view taken substantially on the line 17—17 of Figure 13,

Figure 18 is a top perspective view of still a further modified form of the invention,

Figure 19 is a bottom perspective view thereof,

Figure 20 is a transverse sectional view taken substantially on the line 20—20 of Figure 18,

Figure 21 is a transverse sectional view taken substantially on the line 21—21 of Figure 18; and,

Figure 22 is a longitudinal sectional view on an enlarged scale taken substantially on the line 22—22 of Figure 18.

Referring more specifically to the drawings, particularly to Figures 1 to 6, inclusive, an arch supporter constructed in accordance with the present invention comprises an insole member 30 having a cut-out portion in one of its side edges, the cut-out portion being designated 31. Intermediate of its ends, the insole is provided with an arched portion 32 which is a separate element. This arched portion 32 comprises a member 33 which is arch shaped in transverse cross sectional form and is secured to the under side of the insole 30 with its arched portion projecting upwardly through the cut-out portion of the insole. Mounted upon the top of the arched member 33 there is a second arched member 34. This arched member 34 has one of its edges shaped to conform to the edge of the cut-out portion 31 of the insole, and when placed upon the arched member 33, provides a smooth upper surface. The two arched members may be secured together and to the insole by gluing, and I preferably employ in addition to gluing, a stitching 35 for this purpose. Directly under the arched member 33 there is a pad 36 preferably of sponge rubber, although any other relatively soft pliable material may be employed for this purpose. The reference numeral 37 designates a reinforcing member which is secured to the structure thus far described by a series of stitches 38 which pass through the member 37, the arched member 33 and the arched member 34. The reference character 39 designates a liner or facing piece which is placed upon the top surface to provide a finish for the same, this top piece being preferably secured to the insole member by glue. The insole 30 and the supporting pad 36 are preferably provided with passages 40 and 41,

respectively, which passages are adapted to register when the device is in its assembled form.

In that form of the invention illustrated in Figures 7 to 12, inclusive, the insole is designated 5 50 and it is provided on one of its edges with a cut-out portion 52. In this form of the invention the arched member is built up in substantially the same manner as heretofore described, there being an arched member 51 secured in the cut-out portion 10 of the insole portion 50 by a line of stitching 52', which corresponds to the stitching 31 in the heretofore described form of the invention. In that form of the invention illustrated in Figures 7 to 12, the facing member 53 has its forward 15 edge 54 terminating short of the forward end of the insole 50 and in the forward portion of the insole but beneath the finish strip 53 there is a pad 55 which acts as a metatarsal arch support when the device is in use. At the heel portion of 20 the insole there is a wedge shaped heel supporting pad 55'. By varying the thickness of this pad and the thickness of the pad 55, the foot may be relatively positioned within the shoe between the two pads, as will be readily obvious, and thus 25 throw the arch of the foot into proper position with relation to the arched portion of the insole. In this form of the invention I also provide a member 57 which is secured to the under face of the insole 50, the edge 58 of the member 57 being 30 left free. This construction provides a pocket 59 in which may be mounted an arch supporting pad, or the device may be used without an arch supporting pad in this pocket if desired.

In that form of the invention illustrated in 35 Figures 13 to 17, inclusive, I have shown an arch supporting insole member which comprises a main body portion 60 which has a cut-out portion 61 similar to the other described forms of the invention. However, in this form of the invention, 40 the arched portion 62 of the insole member 60 is maintained in its arched form by a plurality of reinforcing elements 63, 64, and 65. The member 63 is secured to the insole member 60 by stitching 66; the member 64 is secured to the insole member 60 by stitching 66; the member 64 is secured 45 to the members 62 and 63 by stitching 67; while the entire structure may be secured together by stitching 68. In this form of the invention I prefer to place an arch supporting pad 70 between the finish piece 71 and the insole 60 at the arch portion, and in this form I place the metatarsal pad 72 on the under face of the insole 60.

In that form of the invention illustrated in 55 Figures 18 to 22, the arched portion of the insole may be constructed in the manner set forth in any of the heretofore described forms of the invention. In this form of the invention, however, I provide an elongated pad designated 80 in the 60 drawings. This pad 80 extends in opposite directions from the arched portion of the insole toward the toe and the heel thereof, and at its forward end it is provided with a thickened portion 82, and at one of its side edges, that side which is 65 adjacent the arch, the pad 80 is thicker, as designated by the reference character 83 in Figure 20.

In this last mentioned form of the invention, the insole is designated 84 and the arched portion thereof is formed by a plurality of arched 70 members 85, 86 and 87 secured together by gluing and suitable stitching.

The reference numeral 88 designates the finish strip or top facing member and this member 88 is provided with perforations 89. The reference 75 character 90 designates perforations in the pad

83. In its assembled position, the several perforations register to provide ventilating passages through the completed structure.

From the foregoing it will be apparent that in each of the forms illustrated the insole member 5 with the built in arch supporting portion has a smooth upper surface which is provided by the placing of an arched member in the cut-out portion of the side edge of the insole member. Furthermore, it will be obvious that in each instance, 10 the arch supporting portion of the device is sufficiently reinforced to stand up in use.

While the invention has been herein illustrated in its preferred forms it is to be understood that it may be constructed in other forms without departing from the spirit thereof and the scope of 15 the appended claims.

Having thus described the invention, what is claimed as new, is:

1. An arch supporter comprising in combination, 20 an insole having a cutaway portion in one of its side edges, an arched member secured to the under face of said insole member adjacent the cutaway portion thereof and extending upwardly through said cutaway portion, and a second 25 arched member superimposed upon the first mentioned member and having a curved edge conforming to the curved edge of the cutaway portion of the insole, the upper surfaces of the insole and the second mentioned arch member being 30 flush with each other.

2. An arch supporter comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member secured to 35 the under face of said insole with the arched portion thereof extending upwardly through the cutaway portion thereof, and a second arched member conforming in shape to the first mentioned arch member, said second mentioned arch member being superimposed upon the first mentioned arch member and having one of its edges 40 flush with the edge of the cutaway portion of the insole.

3. An arch supporter comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member secured to 45 the under face of said insole with the arched portion thereof extending upwardly through the cutaway portion thereof, and a second arched member conforming in shape to the first mentioned arch member, said second mentioned arch member being superimposed upon the first mentioned arch member and having one of its edges 50 flush with the edge of the cutaway portion of the insole, and an arch supporting pad secured to the under face of said insole member and the arched members. 55

4. An arch supporter comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member secured to 60 the under face of said insole with the arched portion thereof extending upwardly through the cutaway portion thereof, and a second arched member conforming in shape to the first mentioned arch member, said second mentioned arch member being superimposed upon the first mentioned arch member and having one of its edges flush with the edge of the cutaway portion of the insole, and an arch supporting pad secured to the 65 under face of said insole member and the arched members and conforming in shape to the arched member. 70

5. An arch supporter comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member secured to 75

the under face of said insole with the arched portion thereof extending upwardly through the cutaway portion thereof, and a second arched member conforming in shape to the first mentioned arch member, said second mentioned arch member being superimposed upon the first mentioned arch member and having one of its edges flush with the edge of the cutaway portion of the insole, and an arch supporting pad secured to the under face of said insole member and the arched members, said arch supporting pad having end extensions projecting in opposite directions from the arched portion of the insole.

6. An arch supporter comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member secured to the under face of said insole with the arched portion thereof extending upwardly through the cutaway portion thereof, and a second arched member conforming in shape to the first mentioned arch member, said second mentioned arch member being superimposed upon the first mentioned arch member and having one of its edges flush with the edge of the cutaway portion of the insole, and an arch supporting pad secured to the under face of said insole member and the arched members, said arch supporting pad having end extensions projecting in opposite directions from the arched portion of the insole, one of said extensions underlying the heel portion of the insole, the other extension underlying the ball portion of said insole.

7. An arch supporter comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member secured to the under face of the insole with its arched portion extending upwardly through the cutaway portion of the insole, a second arched member superimposed upon said first mentioned arched member, said second mentioned arched member having one of its edges conforming in shape to the edge of the cutaway portion of the insole to provide a smooth upper surface for the finished product, a reinforcing member secured throughout its entire surface to the first mentioned arched member upon the under face thereof, and a member secured at a portion of its edge only to the under face of the insole to provide a supporting pad receiving pocket beneath said arched members.

8. An arch supporter comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member secured to the under face of the insole with its arched portion extending upwardly through the cutaway portion of the insole, a second arched member superimposed upon said first mentioned arched member, said second mentioned arched member having one of its edges conforming in shape to the edge of the cutaway portion of the insole to provide a smooth upper surface for the finished product, a reinforcing member secured throughout its entire surface to the first mentioned arched member upon the under face thereof, and a member secured at a portion of its edge only to the under face of the insole to provide a supporting pad receiving pocket beneath said arched members, a metatarsal pad secured to the upper face of the insole, and a heel supporting pad secured to the under face of the insole at the heel portion thereof.

9. An arch supporter comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member secured to the under face of the insole with its arched portion extending upwardly through the cutaway

portion of the insole, a second arched member superimposed upon said first mentioned arched member, said second mentioned arched member having one of its edges conforming in shape to the edge of the cutaway portion of the insole to provide a smooth upper surface for the finished product, a reinforcing member secured throughout its entire surface to the first mentioned arched member upon the under face thereof, and a member secured at a portion of its edge only to the under face of the insole to provide a supporting pad receiving pocket beneath said arched members, a metatarsal pad secured to the under face of the insole and a heel supporting pad secured to the under face of the insole at the heel portion thereof.

10. An arch supporter comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member secured in the cutaway portion of the insole, said arched member comprising a laminated structure, one of the laminations of which has an edge conforming in shape to the edge of the cutaway portion of the insole whereby to provide a smooth upper surface upon the insole when the arched member is secured in position in the cutaway portion thereof, and an arch supporting pad secured to the upper face of the arched member.

11. An arch supporter comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member secured in the cutaway portion of the insole, said arched member comprising a laminated structure, one of the laminations of which has an edge conforming in shape to the edge of the cutaway portion of the insole whereby to provide a smooth upper surface upon the insole when the arched member is secured in position in the cutaway portion thereof, an arch supporting pad secured to the upper face of the arched member, and a metatarsal pad secured to the under face of the insole at a point forward of the arched member.

12. An arch supporter comprising in combination, an insole having a cutaway portion in one of its side edges and a perforated area, a laminated arched member secured to the under face of the insole and extending upwardly through the cutaway portion in the edge of the insole, the uppermost lamination of said arched member having one of its edges conforming in shape to the edge of the cutaway portion whereby to provide a smooth upper surface for the finished structure, a plurality of perforations extending through the arched member, and a perforated supporting pad secured to the under face of the insole and arched member, the perforations in the insole, the arched member and the supporting pad being arranged in registration in the finished structure.

13. An arch support comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member positioned in the cutaway portion of the insole with one of its side edges flush with the adjacent edge of the cutaway portion of the insole, cross stitches securing the arched member to the insole along said adjacent edges, and a second arched member having a plurality of slits in one of its side edges, said second mentioned arch member being secured to the under side of the first mentioned arch member with its slitted side edge disposed inwardly of the insole.

14. An arch support comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member having one

of its side edges conforming to and flush with the defining edge of the cutaway portion, with the arched member extending upwardly through the cutaway portion of the insole, a second arched member having a plurality of slits in one of its side edges, said second arched member being disposed beneath the first arched member and the insole, means including stitching and cement for securing together the two afore-mentioned arch members and the insole, and a finishing element secured to the upper face of the insole and the first mentioned arched member.

15. An arch support comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member having a plurality of slits in one of its side edges, said arched member being secured to the under face of the insole with its slitted edge disposed inwardly of the insole and its body portion extending upwardly through the cut out portion of the insole, a second arched member secured to said first mentioned arched member, said second arched member having a side edge conforming to and flush with the defining edge of the cutaway portion of the insole, cross stitches securing the arched members and the insole together, an elongated pad secured to the insole and extending in opposite directions from the arched members, and a finishing element secured to the upper face of the insole.

16. An arch support comprising in combination, an insole having a cutaway portion in one of its side edges, an arched member having one of its side edges conforming to and flush with

the defining edge of the cutaway portion, with the arched member extending upwardly through the cutaway portion of the insole, means including an adhesive and a plurality of cross-stitches for securing the arched member to the insole, and a pad secured to the under face of the insole, said pad being of elongated form and extending beyond the arched member in the direction of the heel and toe sections of the insole, and a finishing element secured to the upper face of the insole and covering the arched member.

17. An arch support comprising in combination, an insole having an upstanding arched portion intermediate of its ends, a slitted reinforcing arched member secured to the under face of the insole with its slits disposed inwardly of the insole, a laminated arched member fixedly secured to the under face of the afore-mentioned arched member, and a resilient pad secured to the under face of the insole at one side of the heel portion thereof.

18. An arch support comprising an insole member having a distorted side edge, a slitted reinforcing arched member fixedly secured to the under face of the insole member at the distorted portion thereof, with its slits disposed inwardly of the insole member, a slitted laminated arched member fixedly secured to the under face of the insole and the first mentioned arch member, a pad secured to the upper face of the insole member, and a finishing member secured to the upper face of the insole.

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