

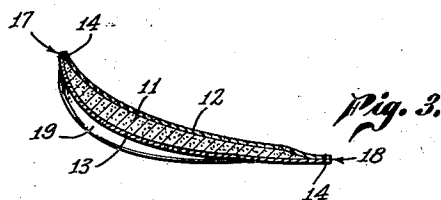
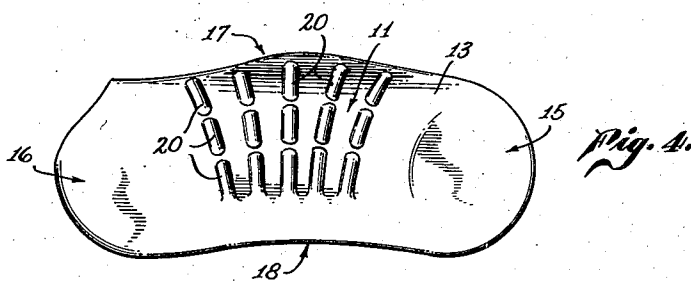
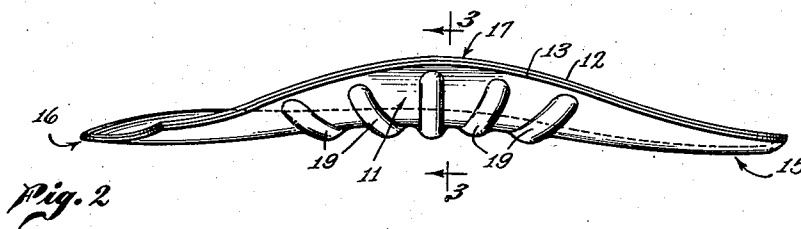
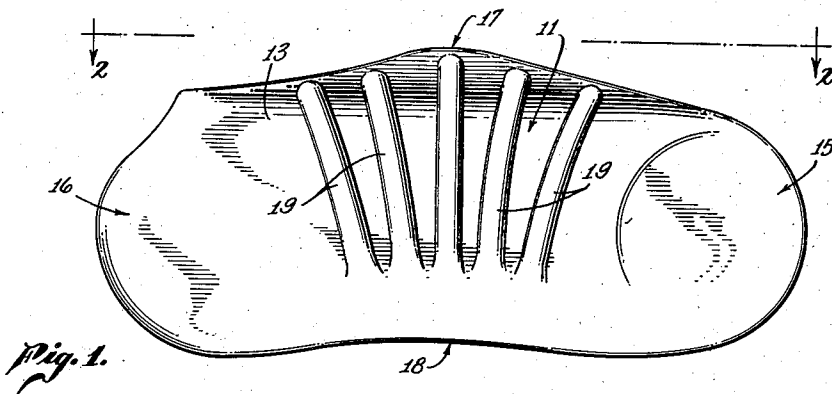
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J. R. PAVA

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ARCH SUPPORT

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Inventor

Jack R. Pava

By

Anna R. Pava

Attorney

UNITED STATES PATENT OFFICE

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ARCH SUPPORT

Jack R. Pava, Los Angeles, Calif.

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5 Claims. (Cl. 36-71)

This invention relates generally to arch supports for the human foot and particularly to such arch supports as are adaptable to be used inside of the ordinary shoes.

5 It is well known in the art that the foot in the normal healthy condition has a longitudinal arch extending from the extremity of the heel to the balls of the toes and known as the plantar arch. The astragalus bone forms the summit
10 or keystone of this arch. The foot also has a transverse arch springing from the cuboid bone on the outside center of the foot to the inner cuneiform bone on the inside of the foot. It not infrequently happens that the astragalus,
15 from being either insufficiently supported or overweighted, descends slightly below its proper level, causing a lowering of the arch and a flattening of the sole of the foot. This is an undesirable and unhealthy condition and the flattening may continue if the arch is not artificially supported.

It therefore is a primary object of this invention to provide an arch support which may be used in an ordinary shoe and which will efficiently provide a resilient support for both the longitudinal and transverse arches of the foot. It is also an object of this invention to provide an arch support, the upper surface of which is curved to shape the natural curvature of the arches of the foot.

30 It has been found that massage is often of great benefit to the ligaments, tendons and muscles of the foot in the region of the arches, and therefore it is a further object of this invention to provide an arch support which will have a massaging effect upon the ligaments, tendons and muscles in the region of the central and inside portion of the transverse and longitudinal arches.

It is also an object of this invention to provide an arch support which is so constructed as to tend to remain in the proper place in the shoe and not tend to slip about therein.

These and other objects will be apparent from the accompanying drawing and the following description thereof. Referring to the drawing,
45 which is for illustrative purposes only.

Fig. 1 is an inverted plan view of the arch support of this invention.

Fig. 2 is a side elevation of the arch support of Fig. 1 taken in a plane indicated by line 2-2 of Fig. 1.

Fig. 3 is a cross section on line 3-3 of Fig. 2. Fig. 4 is an inverted plan view of a modified form of the invention.

More particularly describing the invention, the arch support comprises a main body 11 prefer-

ably of sponge rubber which is enclosed by a suitable leather top cover 12 and a bottom piece 13 of suede leather or other suitable material. These two members 12 and 13 are secured together at their marginal edges by stitching 14. The arch support illustrated herein is designed for the right foot of a user, and accordingly reference numeral 15 indicates the heel or rear portion of the arch support, and reference numeral 16 indicates the forward portion.

As indicated in Fig. 2 the arch support bows upwardly in the middle to form a longitudinally disposed arch. This arch is considerably greater on the inner side 17 than on the outer side 18 of the arch. A cross section through the central portion of the arch (see Fig. 3) illustrates this.

It has been pointed out as a principal object of this invention to provide means integral with the arch support which will function to provide a gentle massaging effect to the ligaments, tendons and muscles when the arch support is worn and that it is also an object to provide means integral with the arch support for holding the support in proper position in the shoe to prevent it from slipping therein. To accomplish these objects the main body 11 of the arch support is provided with radially disposed ridges 19 which extend transversely partially across the under surface of the arch support. These ridges extend substantially to the inside inner edge 17 of the arch support but are spaced from the outside edge 18. These ridges are disposed so as to come under the portion of a person's foot which requires support and massage. It should be noted that the arrangement of these ridges so that they are radially disposed with respect to a remote common center is a distinct feature of the invention and results in the placement of these ridges under the most elevated portion of the arches of the foot, the ridges being thereby disposed to cover an area of the arch support which closely approximates that portion of the arch of the foot which in a normal foot does not touch the walking surface.

It has been found that the disposition of the ridges in the manner described is particularly effective, both for holding the arch support within the shoes in the proper position and for accomplishing a massaging effect upon the ligaments, tendons and muscles in the region of the central portion of the arches of the foot. The massaging effect is accomplished by reason of the fact that the weight of the foot upon the arch support causes a slight undulation of the upper surface of the arch support immediately above the ridges. During walking the undula-

tions of the upper surface vary with the placement of the weight of the foot during locomotion causing the gentle massaging of the foot above the ridges of the arch support.

5 In Fig. 4 there is shown a modified form of the invention wherein the ridges have been broken up into a plurality of ridge segments which are generally indicated by reference numeral 20. The ridge segments are in the form
10 of elongated projections and, in the particular instance of the drawing, these have been grouped together in threes, each group of three being aligned to form a broken ridge, the ridges being radially disposed as shown in Fig. 1 and described in connection therewith. For the purpose of illustration only three projections have
15 been shown as constituting a single broken ridge, however any number might be used. This form of the invention provides a slightly greater massaging effect than is achieved with the simpler construction of Fig. 1.

It is contemplated that the arch support might be made simply of the sponge rubber of the main body 11 and the enclosing top and bottom cover portions 12 and 13 dispensed with without departing from the scope of the invention. It should be apparent that either of the constructions illustrated and described provides a novel arch support which tends to remain in place
30 in the shoe for resiliently supporting the longitudinal and transverse arches of the foot and for gently massaging the ligaments, tendons and muscles covering a portion of the arches.

I claim as my invention:

35 1. An arch support comprising a main cushioning body shaped to fit within the shoe and shaped to have its upper surface conform to the natural curvature of the arches of the foot, said main cushioning body having ridges on its under
40 surface in the central region thereof extending partially across said main body, the ends of said ridges being spaced from the outside edge of said main body, said ridges being substantially radially disposed with relation to a point beyond the
45 outside edge of the main body.

2. An arch support comprising a main cushioning body shaped to fit within a shoe and shaped to have its upper surface conform to the natural curvature of the arches of the foot, said
50 main cushioning body having ridges on its under surface in the central region thereof extending

partially across said main body, their ends being spaced from the outside edge of said main body, said ridges being substantially radially disposed with relation to a point beyond the outside edge of the main body; and leather cover means
5 enclosing said main cushioning body.

3. An arch support comprising a main cushioning body of sponge rubber shaped to fit within a shoe and shaped to have its upper surface curved to conform to the natural curvature of
10 the arches of the foot, said main cushioning body having ridges formed on its under surface in the area corresponding to the area of the foot which does not touch the walking surface in a normal foot, said ridges being substantially radially
15 disposed with relation to a remote point located beyond the outside edge of the arch support; and leather cover means enclosing said main cushioning body.

4. An arch support comprising a main cushioning body of sponge rubber shaped to fit within a shoe and shaped to have its upper surface curved to conform to the natural curvature of
20 the arches of the foot, said main cushioning body having ridges formed on its undersurface in the area corresponding to the area of the foot which does not touch the walking surface in a normal foot, said ridges being substantially radially disposed with relation to a remote point located
25 beyond the outside edge of the arch support; a smooth leather top cover for said main cushioning body; and a suede leather bottom cover for said main cushioning body; said top and bottom covers being secured at their margins by stitching

5. An arch support comprising a main cushioning body of sponge rubber shaped to fit within a shoe and shaped to have its upper surface curved to conform to the natural curvature of
35 the arches of the foot, said main cushioning body having elongated projections formed on its under surface in the area corresponding to the area of the foot which does not touch the walking surface in a normal foot, said elongated projections being grouped to form a plurality of broken ridges
40 substantially radially disposed with relation to a remote point located beyond the outside edge of the arch support; and leather cover means enclosing said main cushioning body.

JACK R. PAVA.

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