July 7, 1925. 1,544,625

A. L. AUSTIN

FOOTWEAR

Filed Jan. 4, 1921

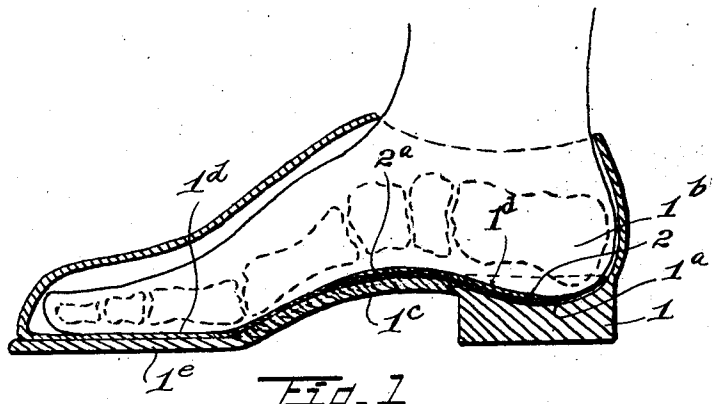


Fig. 1

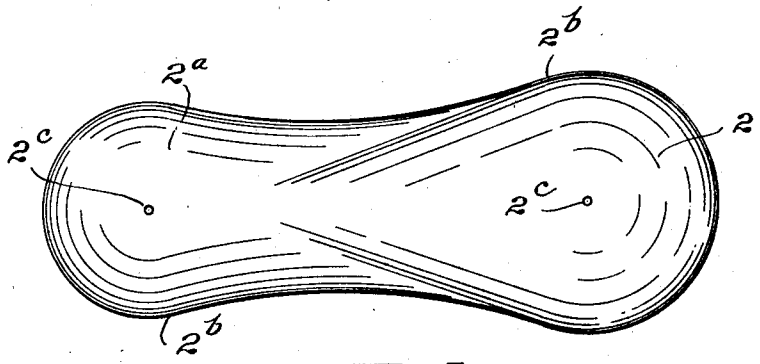


Fig. 2

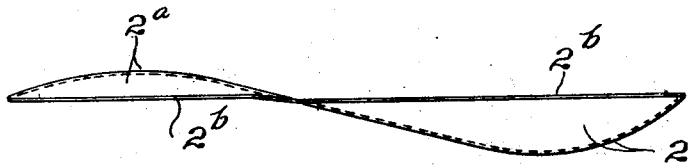


Fig. 3

Inventor
Albert L. Austin

By Ackb. Dillman Attorney

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UNITED STATES PATENT OFFICE.

ALBERT L. AUSTIN, OF CLEVELAND, OHIO.

FOOTWEAR.

Application filed January 4, 1921. Serial No. 434,924.

To all whom it may concern:

Be it known that I, ALBERT L. AUSTIN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Footwear, of which the following is a specification.

My invention relates to improvements in footwear, the primary object of the invention being to so form and reinforce the heel and shank portions of a boot or shoe as to properly maintain and support at all times in proper normal or relative position the heel bone or os calcis and other bones of the tarsus group and the rear portions of the metatarsus bones as to permit a relatively free and unimpaired movement of the latter and the phalanges or bones of the toes while at the same time maintaining and supporting the normal arch of the foot and preventing any impairment or breaking down of such arch.

A further object is to improve the construction and arrangement of the foot heel and arch supporting or shank portions of the shoe or boot thru the provision of a concave recess or pocket in the top of the shoe or boot heel, said recess or pocket being preferably shaped to conform to the contour of the heel portion of the foot thereby giving efficient support to the heel and being arranged below the horizontal plane of the shank or arch supporting portion of the shoe, the tendency of the foot to move forward in the shoe is counteracted. Furthermore, by this arrangement the extreme forward portion of the arch supporting member of the reinforcement may be shortened, as contradistinguished from the ordinary arch support, to a point at or near the base portions of the metatarsus bones thereby permitting a free and unimpaired movement for the latter and the phalanges.

A further and very important object of the invention is the provision of a generally improved arch and heel support for footwear, which may be either formed as a part of and as a reinforcement for shoes or boots as originally manufactured, or as an auxiliary or additional appliance in lieu of the ordinary arch support and as an improvement thereon.

With the above mentioned and other ends in view, the invention consists in the novel construction, arrangement and combination of parts, hereinafter described, illustrated in one of its embodiments in the accompanying drawings and particularly pointed out in the appended claims.

Referring to the drawings, forming a part of this specification, Figure 1 is a longitudinal sectional view of a shoe constructed in accordance with this invention, and embodying my improved arch and heel support as an internal reinforcement.

Fig. 2, a top plan view of the improved arch and heel support, detached.

Fig. 3, a side elevation or edge view of the same.

Similar numerals of reference designate like parts thruout all the figures of the drawings.

The general form of the boot or shoe, except as hereinafter referred to in connection with my improved construction and arrangement of parts, may be of any suitable and convenient construction. The term "shoe" as hereinafter referred to is understood to include a "boot" and in which similar parts and features may be included.

In carrying out my invention, I provide the top or upper portion of the heel 1, with a concaved pocket or cup-shaped recess 1^a, preferably conformed in outline to the general contour of the normal foot heel and adapted in particular to receive and support the "os calcis" or heel bone 1^b. When the shoe is thus formed the shank portion 1^c, of the shoe, is given a more arched form and such shank or arched portion 1^c, of the shoe, in conjunction with the form of the heel referred to, is better adapted to support the bones of the foot comprised in the "tarsus" and "metatarsus" groups in proper relative position, as will clearly appear upon reference to Fig. 1 of the drawings.

As a means of providing a suitable arch and heel support for the foot, and particularly as a means of reinforcing a shoe and causing the same to retain the form above described, a relatively rigid reinforcement, preferably of metal or other suitable and convenient material, is provided, said support or reinforcement having the general form and contour shown most clearly in Figs. 2 and 3 of the drawings.

The improved support or reinforcement is preferably formed of a single blank of metal or other material comprising a concavo-convex shaped foot heel supporting member 2, and a convex-concavo shaped arch supporting member 2^a.

When used as a reinforcement and as a part of the shoe as originally manufactured, the support or reinforcement is preferably interposed between the inner sole 1^d, and the outer sole 1^e, as shown in Fig. 1 of the drawings, or may be otherwise incorporated therein, and in such instance the marginal edges 2^b, of the support may be sufficiently spaced from the marginal attached edges of the shoe upper as not to interfere with the sewing or fastening operation.

If desired, the support or reinforcement may be initially secured in the shoe thru the medium of suitable nails or fastening elements passed thru the openings 2^c (see Fig. 2), in the heel and arch supporting members of the support.

It will be observed that the heel and arch supporting portions or members 2 and 2^a, are curved both longitudinally and transversely, thus conforming to and supporting the normal transverse arch of the "tarsus" and "metatarsus" bones.

When it is desired to use the arch and heel support as a substitute for and an improvement on the ordinary arch support, the upper top portion of the heel 1, will necessarily have to be provided with a pocket or recess 1^a, by means of a suitable tool, or the heel may be rebuilt in the form substantially indicated in Fig. 1 of the drawings.

Having thus described one of the embodiments of my invention, without having attempted to set forth all the forms in which it may be made or all the modes of its use, what I claim and desire to secure by Letters Patent, is,—

1. A support for use in shoes, embodying reversely arranged longitudinally and transversely curved arch and heel supporting members having their edges extending in approximately the same plane.

2. A shoe including an arched portion and a heel the latter being provided with a cup-shaped heel receiving recess in its top extending below said arched portion and forming a heel seat, and a metallic reinforcement embodying reversely arranged longitudinally and transversely curved arch and heel supporting members having their edges extending in approximately the same plane fitting said arched portion and heel seat.

In testimony whereof I have affixed my signature.

ALBERT L. AUSTIN.