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Patented May 14, 1901.

M. MITCHELL.
COMBINED ANKLE AND ARCH SUPPORT.

(Application filed July 5, 1900.)

(No Model.)

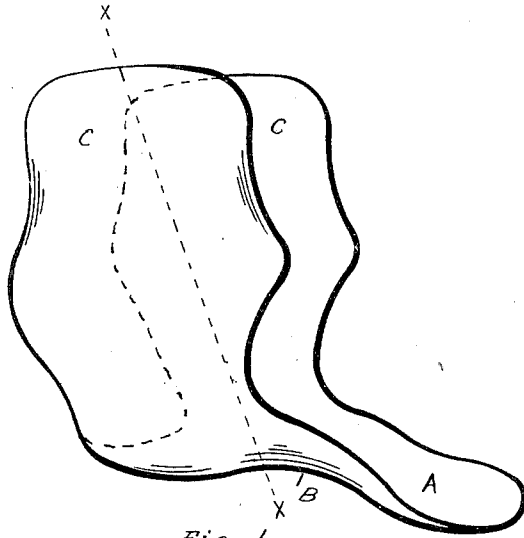


Fig. 1.

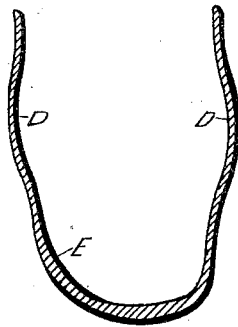


Fig. 2.

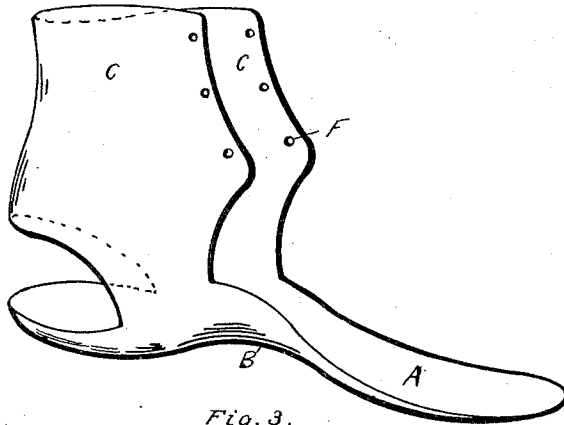


Fig. 3.

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UNITED STATES PATENT OFFICE.

MICHAEL MITCHELL, OF PORTLAND, MAINE.

COMBINED ANKLE AND ARCH SUPPORT.

SPECIFICATION forming part of Letters Patent No. 674,066, dated May 14, 1901.

Application filed July 5, 1900. Serial No. 22,528. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL MITCHELL, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in a Combined Ankle and Arch Supporter; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in a combined ankle and arch supporter and is designed to provide a rigid support for the ankle-bone combined with means for strengthening and supporting the arch of the foot.

In many cases weak ankles are caused from the fact that the arch of the foot is not sufficiently sustained, allowing the same to be flattened out, causing a stretching of the ligaments in the arch and general weakness in all the cords thereabout in the foot. My invention is designed to provide a support for the ankle which will allow free backward and forward movement of the heel and at the same time a rigid support for the ankle-bone.

In the drawings herewith accompanying and forming a part of this application, Figure 1 is a perspective view of my improved ankle and arch supporter. Fig. 2 is a section taken on line X X of Fig. 1. Fig. 3 is a perspective view of a slightly-different form of my improved device.

In said drawings same letters of reference refer to like parts in all the figures.

In said drawings, A represents a sole-piece adapted to extend along the foot from the heel to a point just beyond the arch of the foot. Said sole-piece is provided with a curved portion B, which is adapted to rest in the arch of the foot and serve as a support therefor. Rising from said sole-piece are upright portions C, provided with concave places D for the reception of the ankle-bone. This support may be made of any suitable material, preferably steel or iron. The sole portion B is made somewhat thicker than the upright portions, the thick part being carried a short distance up the sides, as shown at E in Fig. 2. The object of this is to provide a suitable and rigid support for the ankle. It

is not necessary that that portion of the support which incloses the ankle-bone proper should be of very rigid or heavy material, the prime object being to have a support which is rigid at its base—that is, at that point from which the upright portions start from the sole-piece—and which cannot by any movement of the foot easily be displaced. I accomplish this, as it will be seen from the drawings, by making the sole portion and that portion of the uprights which are contiguous with the sole-piece of heavier and thicker material than the other portions of the support.

Fig. 3 shows a slightly-modified form of my supporter in which the sole portion is carried the full length of the foot. The object of this is to present a firmer base from which the ankle-support proper can extend. This support can be loosely joined at the rear portion by some flexible material, only it is absolutely essential for the successful working of this device that a portion of the rear part be left entirely open, so as to allow for the natural movement of the heel up and down as the foot is used in walking, it not being necessary in the case of weak ankles to have the support extend back farther than the ankle-joint.

When it is desired to have a supporter that can be used either within a shoe or without it, I use the form shown in Fig. 3 in the drawings. This form can, by means of eyelets F and suitable lacings, be bound tightly about the ankle and serve as a rigid support both for the ankle and for the arch of the foot. This form is especially adapted to be used with a foot or ankle which has been strained or broken, and has been relieved of the usual cast in which it is placed, until the foot or ankle is strong enough to sustain the weight of the body without the bandage or support of any any kind. This device obviates the disadvantage of having the foot bound tightly with a series of bandages, because it allows of the free movement of the heel proper and at the same time serves as a rigid support for the ankle as well as a support for the arch of the foot.

I preferably make my improved device from one piece of material, although the same can be made in different parts and riveted together or put together in any suitable man-

ner, the principal idea being to present a rigid sole with sufficient curve to fit within the arch of the foot and to serve as a support for holding the cords in the arch from stretching and cause what is commonly known as "flat foot."

My supporter can be worn within the ordinary boot, and especially if used within a lace shoe the mere lacing of the upper surface is sufficient means for holding the uprights against the ankle and giving the requisite support. It also serves to hold the curved portion of the sole pressed within the arch of the foot and does not allow the ligaments to stretch.

I am aware that ankle-supporters have been invented which are adapted to fit underneath the foot, extend up either side of the ankle, and are open at the heel. I do not claim such a device. Such devices are not adapted to serve as a support for the arch of the foot, as

the sole-piece is flat and does not extend farther forward than the heel.

Having thus described my invention and its use, I claim—

In an ankle and arch supporter, a sole-piece extending from the extremity of the heel to a point beyond the arch of the foot, said sole-piece being curved so as to fit within the arch of the foot, uprights extending from said sole-piece and adapted to encircle the ankle, that portion of the uprights nearest the sole being of greater thickness than the remaining portions, said uprights having an open space between them at their front and rear ends.

In testimony whereof I affix my signature, in presence of two witnesses, this 2d day of July, 1900.

MICHAEL MITCHELL.

Witnesses:

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