April 5, 1966 J. NEU 3,244,176

CUSHION FOR SPUR HEEL

Filed June 6, 1963

Fig. 1

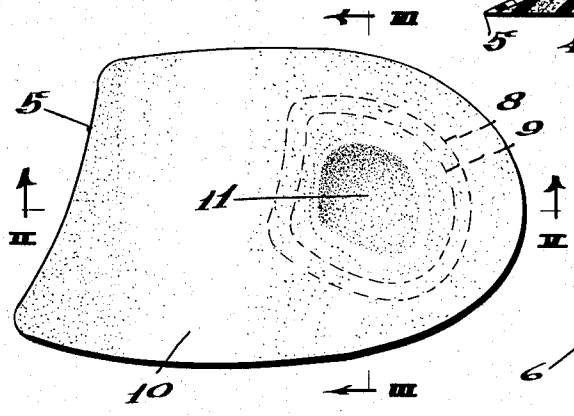


Fig. 2

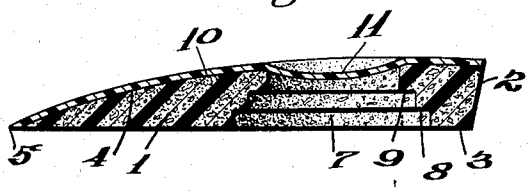


Fig. 3

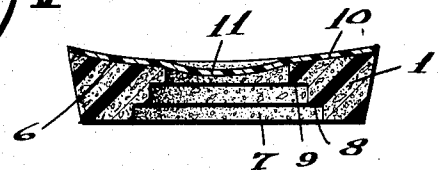


Fig. 4

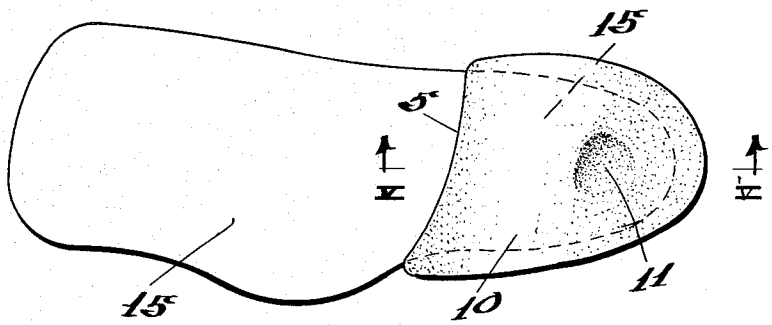
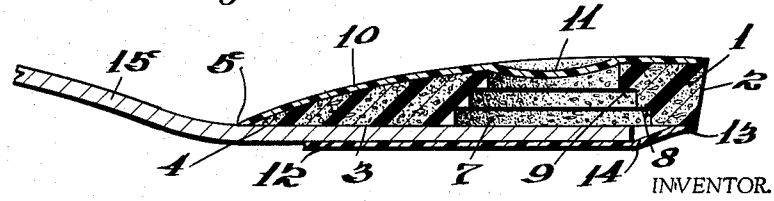


Fig. 5



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CUSHION FOR SPUR HEEL

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6 Claims. (Cl. 128—581)

This invention relates to improvements in a cushion for spur heel, and more particularly to a cushion-type heel seat which may be freely disposed in an article of footwear or adhesively affixed in position in an article of footwear, and which is particularly designed to relieve aggravation resulting from the growth of a spur on the calcaneous or os calcis by the elimination of any positive back pressure in the region of the spur, although the invention may have other uses and purposes as will be apparent to one skilled in the art.

Calcaneo exostosis or spur is an overgrowth or spur of bone which most frequently projects forwardly from the inner tuberosity of the os calcis. In the greater number of cases such spurs are painful, and frequently that pain is excruciating especially upon standing or walking and it is referred accurately to the tissues which are being pressed upon. Mechanical treatment of such an affliction consists in supporting the foot in such a manner as to remove direct pressure from the region under and immediately adjacent the spur.

In the past, various devices have been developed to relieve a spur heel, and in some instances such devices were in the form of a heel seat having a recess or aperture therein beneath the spur. However, such devices were not as satisfactroy as desired because the relief was not fully effective and the pain was not substantially reduced or eliminated as quickly as desired. In other instances, formerly known devices of this character were objectionally bulky in an article of footwear giving rise to an uncomfortable overcrowded condition of the foot; and such devices were frequently irritating to the fleshy parts of the foot around the spur. In other cases where special forms of arch supports were utilized to hold the foot in a manner to eliminate pressure from the spur, the devices were obviously objectionably expensive.

With the foregoing in mind, it is an important object of the instant invention to provide a cushioning device capable of more rapidly and more effectively relieving pain from a spur heel than devices heretofore made for the same purpose.

It is also an important object of this invention to provide a cushioning device for disposition under the foot of the wearer and so constructed as to provide a springy suspension for the part of the foot beneath the os calcis.

A further object of this invention resides in the provision of a foot cushioning device capable of relieving the aggravating effects of a spur heel and arranged to support the fleshy parts of the heel beneath the os calcis by suspending the same in a relatively thin flexible member under which there is no back pressure from the floor or an article of footwear.

Still another feature of this invention is the provision of a device capable of affording almost instantaneous relief from the aggravation and pain of the spur heel, and which is extremely economical to manufacture, and which requires no expert attention to properly use.

While some of the more salient features, characteristics and advantages of the instant invention have been above pointed out, others will become apparent from the following disclosures, taken in conjunction with the accompanying drawing, in which:

FIGURE 1 is a top plan view of a device embodying principles of the instant invention;

FIGURE 2 is a longitudinal vertical sectional view through the device taken substantially as indicated by the line II—II of FIGURE 1, looking in the direction of the arrows;

FIGURE 3 is a transverse vertical sectional view taken substantially as indicated by the line III—III of FIGURE 1;

FIGURE 4 is a plan view of a slightly modified form of the device showing the same associated with another foot corrective item in the form of an arch support; and

FIGURE 5 is an enlarged fragmentary vertical sectional view taken substantially as indicated by the line V—V of FIGURE 4.

As shown on the drawings:

In the illustrated embodiment of this invention the device is shown in the form of a heel seat, although it is not essential the device have that particular shape nor be of that size since it could be formed as a part of a complete cushion insole.

The device comprises a body part **1** of cushioning material such as springy felt, sponge rubber, synthetic resin foam such as polyvinyl chloride foam or polyurethane foam or other suitable material. As seen best in FIGURE 2, the body **1** is preferably wedge-shaped, having a relatively high rear end **2**, a flat bottom **3**, with the upper portion of the device tapering forwardly as indicated at **4** to a relatively fine line front edge **5**. As seen in FIGURE 3, the body portion may also have a slightly transverse concavity in its upper face as indicated at **6** in order to better seat the heel of the user.

This body part **1** is provided with an aperture or opening **7** therein disposed so as to underlie the os calcis and a spur thereno. The aperture **7** gradually increases in size downwardly. Preferably this is accomplished by a stepped wall formation for the aperture, being a series of two steps **8** and **9** in the aperture wall as seen clearly in FIGURES 2 and 3, to define a plurality of successive diameters increasing in size downwardly.

A cover **10** is disposed over the body **1**, which cover may be of any suitable material such as leather, a plastic film or sheet, or the equivalent, and may be attached to the body in any desirable manner, such as by cementitious material. Preferably this cover **10** is of sufficient area that it sags slightly into the aperture **7** of the body as indicated at **11**.

In operation, the instant invention is extremely simple, and almost immediately effective in relieving the pain of of spur heel. As soon as the user stands upon the device, the upper portion of the stepped wall around the aperture **7** in the body sinks into the aperture and expands toward the bottom and the heel beneath the os calcis and a spur thereon is afforded a springy suspension with no direct back pressure from the insole of the shoe. If the cover **10** possesses slight stretchability, as is the case with a plastic sheet or film, the springy suspension of the heel is enhanced. Thus, the heel spur is gently supported and cradled with no hard and direct back pressure and relief from pain is effected virtually immediately. The wedge shape of the body **1** eliminates any forward abrupt termination of the device and permits the foot to assume a natural position when on the device owing to the gentle forward slope of the device. The foot may therefore assume a perfectly natural position and yet have a heel spur effectively cradled and supported away from any direct back pressure.

In FIGURES 4 and 5 I have illustrated a slight modification of the device to indicate how it may readily be associated with another foot corrective member, such as an arch support, in the event that other member is

needed. In this modification the device has the same body part 1 and cover 10 as above described. In addition the body 1 is provided with a bottom cover 12 of leather, plastic sheet, or other suitable material, and this bottom cover is secured to the body only adjacent the bounding edge of the body as indicated at 13 and left unsecured at the front end so as to form a pocket 14. The rear end of an arch support 15 may readily be inserted in this pocket to removably join the arch support and the cushioning device and insure that both may be disposed in proper position within an article of footwear. The composite structure of arch support and cushioning device may be handled as a unit and readily interchanged from one article of footwear to another. The cushioning device functions the same as the above described with the rear end of the arch support in the pocket 14.

From the foregoing, it is apparent that I have provided a simple but highly efficient form of foot cushioning device capable of almost immediately relieving pain resulting from a spur heel, which device may be associated with other foot corrective devices or used solely, which is highly economical and long lived.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

I claim as my invention:

1. A foot cushioning device for alleviating a spur heel, comprising

a wedge-shaped body of cushioning material having a flat bottom and gradually decreasing in thickness forwardly,

said body having an aperture therein,

a stepped wall defining said aperture and providing a plurality of diameters increasing in size downwardly, and

a relatively thin cover member overlying said body and said aperture.

2. A foot cushioning device for alleviating a spur heel, comprising

a wedge-shaped body of cushioning material having a flat bottom and gradually decreasing in thickness forwardly,

said body having an aperture therein,

a stepped wall defining said aperture and providing a plurality of diameters increasing in size downwardly, and

a relatively thin cover member overlying said body and said aperture, and

a bottom cover member having its forward edge free from said body and secured to said body only at its edge elsewhere to form a pocket for receiving a part of another foot aiding device.

3. A spur heel alleviating device, comprising

a body of cushioning material of substantial thickness shaped to form a heel seat,

said body having an aperture therein positioned to underlie the os calcis and a spur thereon,

said aperture gradually increasing in size downwardly, and

a thin flexible cover over said body and aperture and sagging into the upper portion of the aperture.

4. A spur heel alleviating device, comprising

a body of cushioning material shaped to form a heel seat,

said body having an aperture therein positioned to underlie the os calcis and a spur thereon,

said aperture gradually increasing in size downwardly, and

a thin filexible cover over said body and aperture,

said body having a relatively high rear edge and the upper face of said body sloping downwardly and forwardly to a thin forward edge.

5. A spur heel alleviating device, comprising

a body of cushioning material shaped to form a heel seat,

said body having an aperture therein positioned to underlie the os calcis and a spur thereon,

a wall having a plurality of steps therein defining said aperture, and

said steps increasing in diameter downwardly.

6. In a spur heel alleviating device,

a body of cushioning material shaped to underlie the heel of a foot, and

said body having an aperture therein defined by a wall increasing in diameter downwardly and located to be beneath the os calcis and a spur thereon, whereby the upper portion of said wall sinks into the aperture and expands toward the bottom so that the heel and the spur thereon is afforded a springy suspension.

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