Nov. 11, 1941. R. R. REEVES 2,262,371

HEEL WEDGE FOR FOOTWEAR

Filed Nov. 29, 1939

Fig. 1

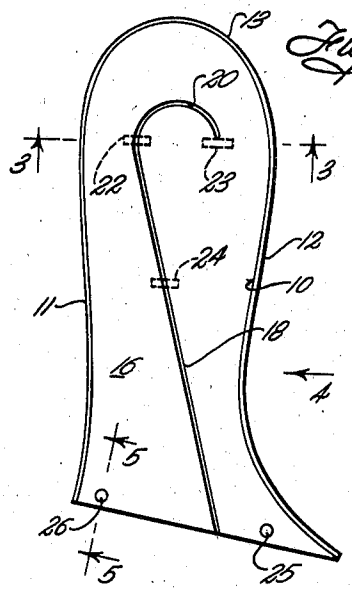


Fig. 3

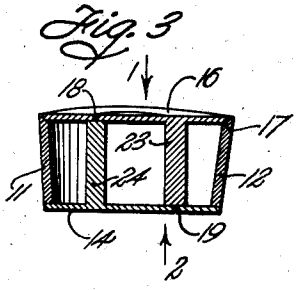


Fig. 2

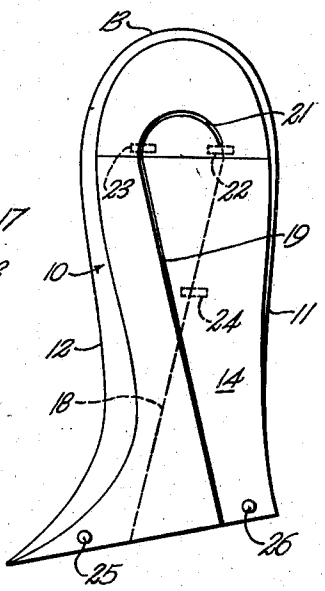


Fig. 4

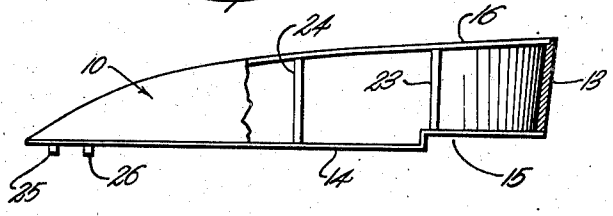


Fig. 6

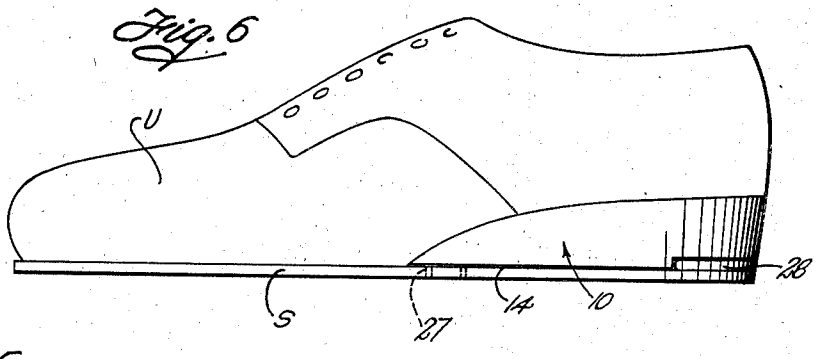
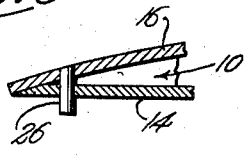


Fig. 5



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HEEL WEDGE FOR FOOTWEAR

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Application November 29, 1939, Serial No. 306,666

4 Claims. (Cl. 36—2.5)

This invention relates to improvements in footwear, and concerns particularly the construction of what is generally referred to as a heel wedge which forms or provides the heel of the footwear and serves to support the heel and the back of the instep of the wearer.

An object of the invention is to provide an improved heel wedge formed of a self-hardening plastic material such as modified cellulose plastic which is laterally expansible so that the same construction of wedge may be laterally expanded for use on footwear of varying widths.

Another object of the invention is to provide a wedge for footwear which will be very light in weight, sturdy, and possessing the qualities of being neat and attractive in appearance as well as substantially waterproof.

With the foregoing and other objects in view, which will be made manifest in the following detailed description and specifically pointed out in the appended claims, reference is had to the accompanying drawing for an illustrative embodiment of the invention, wherein:

Figure 1 is a top plan view of the improved wedge for footwear embodying the invention;

Fig. 2 is a bottom plan view of the same;

Fig. 3 is a transverse vertical section taken substantially upon the line 3—3 upon Fig. 1;

Fig. 4 is a view in side elevation taken substantially in the direction of the arrow 4 upon Fig. 1, parts being broken away and shown in longitudinal section;

Fig. 5 is a partial view in vertical section taken substantially upon the line 5—5 upon Fig. 1; and

Fig. 6 is a view in side elevation of a shoe illustrating the improved wedge as having been incorporated therein.

Referring to the accompanying drawing wherein similar reference characters designate similar parts throughout, the improved wedge for footwear comprises a section of yieldable material 10 shaped so as to conform to the shape of approximately the rear half of the bottom of a shoe. This section provides opposed sides 11 and 12 joined by a curved back 13, the sides converging downwardly as shown in Fig. 3 and tapering forwardly. The section 10 is preferably, but not necessarily, formed of a self-hardening plastic material of the Celluloid or modified cellulose type. Quite a number of plastics of this general type are now on the market and any one of them may be advantageously employed. Most of these plastics possess the property of being substantially waterproof and of being quite strong per unit of weight, and many have pigments incorporated therein and are capable of taking a finished surface possessing a pleasing and attractive luster. Most of these plastics possess the property also of being to some extent yieldable or resilient and in accordance with the present invention, it is highly desirable that the material employed possess a sufficient degree of resiliency to permit of its being flexed for a purpose hereinafter to be described.

Beneath the member 10 there is provided a bottom 14 extending from the back 13 to the forward ends of the sides. This bottom is preferably formed of the same material and extends from side 11 to side 12. The bottom 14 may be perfectly flat from front to back, but in the preferred form of construction there is formed a slight rebate or recess indicated at 15 in the back formed by the rear portion of the bottom being slightly elevated. Where this elevated portion is employed the sides and back of member 10 are also rebated or recessed to accommodate the elevated portion.

A top 16 is provided which fits in a rebate or recess 17 formed in the top edges of the side and back walls. In the completed construction of the wedge the top 16 and the bottom 14 are cemented or otherwise permanently secured to the top and bottom of member 10. The top joins the sides 11 and 12 and slopes downwardly and forwardly contacting with the forward edge of the bottom 14 as shown in Fig. 5. The top and bottom are longitudinally split for the major portions of their lengths, the splits being indicated at 18 and 19, respectively. These splits in the preferred form of construction are disaligned, the split 18 in the top extending diagonally rearwardly toward the outer side of the wedge and the split 19 in the bottom extending diagonally rearwardly toward the inner side of the wedge. The rear ends of the splits are preferably semi-circularly curved as indicated at 20 and 21, respectively.

Supporting posts 22, 23, and 24 are arranged between the top and bottom. The supporting post 23 is preferably made integral with the top or it may be a separate post cemented or otherwise attached thereto. This supporting post is arranged adjacent the end of the semi-circular portion 20 of split 18. Its bottom is so arranged as to extend across or traverse the split 19 in the bottom 14. The bottom of the post 23, however, is not cemented or otherwise secured to bottom 14. Posts 22 and 24 are formed integral with or are rigidly attached to the bottom 14. Post 22 is arranged adjacent the end of the semi-circular

portion 21 of split 19. Its top is arranged to traverse the split 18 in the top 16. Similarly, post 24 is integral with or rigidly attached to the bottom 14 and has its top arranged to traverse or to extend across split 18. The tops of the posts 22 and 24 are secured to the bottom of the top 16.

Small dowels or pins 25 and 26 extend through the bottom and top adjacent the forward ends as shown in Fig. 5. These dowels or pins form lugs projecting downwardly from the forward portion of the wedge.

The advantages of the improved wedge are as follows. When the wedge is to be incorporated in a shoe having an upper U and a sole S, the sole is provided with holes 27 arranged to receive the lugs formed by the pins 25 and 26. The wedge is then applied to the sole between the rear portion of the sole and the rear portion of the upper U. It may be cemented or otherwise fastened in place between the sole and the upper. The lugs extending through holes in the sole assist in maintaining the wedge in proper position during the cementing and also serve to maintain the wedge in proper position during wear.

If the bottom is recessed as indicated at 15 on Fig. 4, it permits of the insertion of an additional lift 28 of leather or other material used for the sole S so that as the rear edge of the heel becomes rounded during wear, such wear will be taken by the additional lift rather than by the wedge itself.

A single size of wedge may be used on footwear of various widths. The wedge is preferably made so that in its normal position it is of the size of the narrowest width of shoe on which it is to be used. It may be used on shoes of larger widths by forcibly springing the sides of the wedge apart. As the material from which the member 10 and the top and bottom are formed is resilient, the sides of member 10 may be sprung apart and the splits or slots 18 and 19 permit of the top and bottom to be sprung and widened. The shape of the rear ends of the splits 18 and 19 is such that in spreading the wedge there is little danger of the top and bottom becoming broken and split to the back of the top and bottom respectively.

Although the top and bottom are split in order to permit of this spreading of the wedge, the supporting posts 22, 23, and 24 permit of the opening of the splits and serve to adequately support the weight of the wearer.

From the above-described construction it will be appreciated that the improved wedge is highly advantageous in that it is inherently waterproofed that it may be given an attractive, smooth surface on its external surfaces which may or may not be left exposed between the upper U and the sole S. The wedge is quite light in weight and at the same time very sturdy and capable of supporting the weight of the wearer adequately. At the same time wedges of one size may be expanded laterally to enable their being used on footwear of varying widths. Thus, by making the wedge of varying sizes with relation to length, these sizes may be adjusted of themselves to enable their use on various widths of footwear of any given size.

It will of course be understood that it is possible to dispense with the features of the construction which enable adjustment as to width and that a perfectly feasible wedge can be provided in which the slots 18 and 19 and the supporting posts 22, 23, and 24 are omitted. In such a construction the wedge is not only light in weight, but has the other advantages above set forth. However, it is necessary then to make the wedge in various sizes not only with respect to their length but also with respect to their width. Such a wedge would otherwise be constructed as above described.

Various changes may be made in the details of construction without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

1. A hollow wedge for footwear adapted to occupy a position between the sole and the body of the upper of footwear and to extend from the back of the heel forwardly to a point beneath the instep so as to be capable of supporting the arch of the foot comprising a section of flexible material bent and shaped to provide the sides and back of the wedge, the sides of said section tapering forwardly, a bottom connecting the bottom edges of the sides and secured thereto and a top connecting the top edges of the sides and secured thereto and sloping downwardly and forwardly so as to meet the bottom adjacent the forward edge thereof, the space between the sides and between the top and bottom being largely empty, the top and bottom being split from their forward edges rearwardly to enable the wedge to be spread to accommodate itself to various sizes of footwear.

2. A hollow wedge for footwear adapted to occupy a position between the sole and the body of the upper of footwear and to extend from the back of the heel forwardly to a point beneath the instep so as to be capable of supporting the arch of the foot comprising a section of flexible material bent and shaped to provide the sides and back of the wedge, the sides of said section tapering forwardly, a bottom connecting the bottom edges of the sides and secured thereto and a top connecting the top edges of the sides and secured thereto and sloping downwardly and forwardly so as to meet the bottom adjacent the forward edge thereof, the space between the sides and between the top and bottom being largely empty, the top and bottom being split from their forward edges rearwardly to enable the wedge to be spread to accommodate itself to various sizes of footwear, the splits in the top and bottom being disaligned.

3. A hollow wedge for footwear adapted to occupy a position between the sole and the body of the upper of footwear and to extend from the back of the heel forwardly to a point beneath the instep so as to be capable of supporting the arch of the foot comprising a section of flexible material bent and shaped to provide the sides and back of the wedge, the sides of said section tapering forwardly, a bottom connecting the bottom edges of the sides and secured thereto and sloping downwardly and forwardly so as to meet the bottom adjacent the forward edge thereof, the space between the sides and between the top and bottom being largely empty, the top and bottom being split from their forward edges rearwardly to enable the wedge to be spread to accommodate itself to various sizes of footwear, the splits in the top and bottom being disaligned, and braces secured to the top and bottom respectively bearing on the bottom and top respectively across the splits thereof.

4. A hollow wedge for footwear adapted to occupy a position between the sole and the body of the upper of footwear and to extend from the back of the heel forwardly to a point beneath the instep so as to be capable of supporting the arch of the foot comprising a section of flexible ma-

terial bent and shaped to provide the sides and back of the wedge, the sides of said section tapering forwardly, a bottom connecting the bottom edges of the sides and secured thereto and a top connecting the top edges of the sides and secured thereto and sloping downwardly and forwardly so as to meet the bottom adjacent the forward edge thereof, the space between the sides and between the top and bottom being largely empty, the top and bottom being split from their forward edges rearwardly to enable the wedge to be spread to accommodate itself to various sizes of footwear, the rear portions of the splits being semi-circularly curved and being arranged in vertical alignment with the remaining portions of the splits being disaligned.

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