April 27, 1926. 1,582,229

D. D. SMITH

RUBBER HEEL

Filed August 28, 1924

Fig. 1.

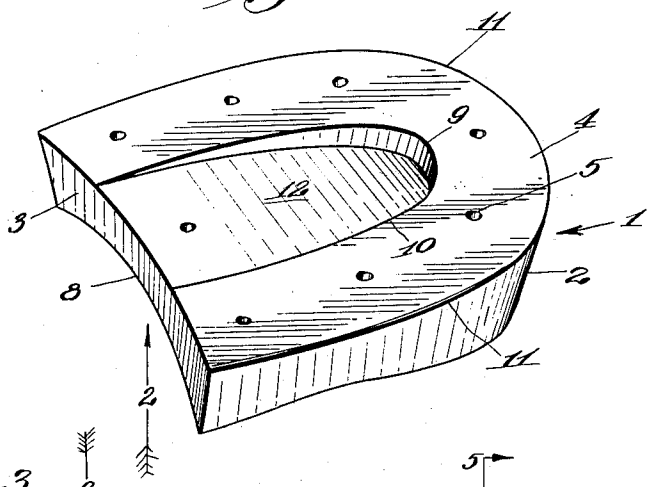


Fig. 3.

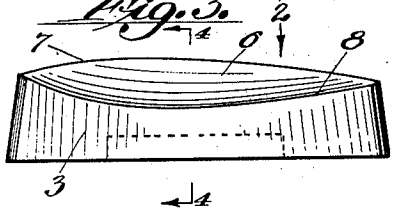


Fig. 2.

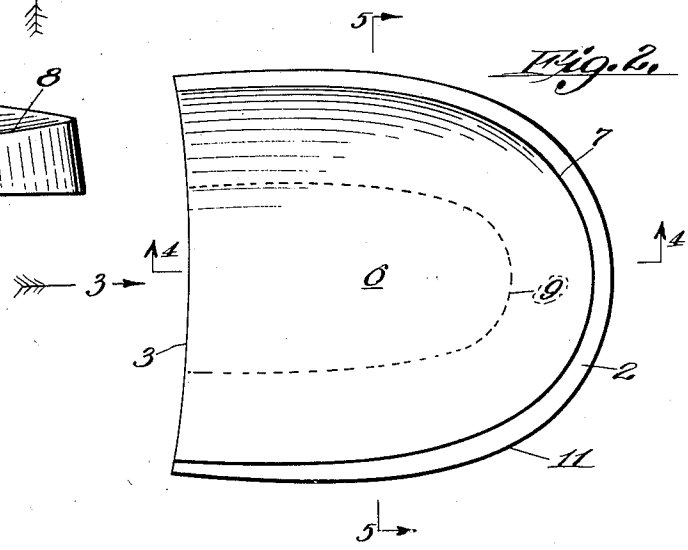


Fig. 5.

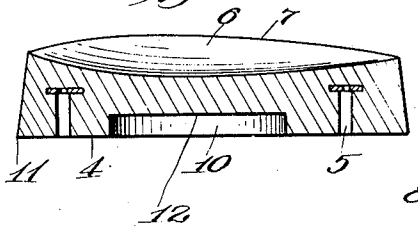
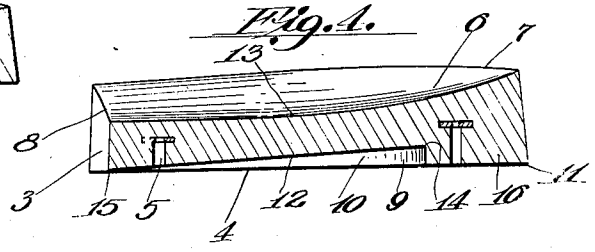


Fig. 4.



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Patented Apr. 27, 1926. 1,582,229

UNITED STATES PATENT OFFICE.

DAVID D. SMITH, OF HOLLYWOOD, CALIFORNIA.

RUBBER HEEL.

Application filed August 28, 1924. Serial No. 734,643.

To all whom it may concern:

Be it known that I, DAVID D. SMITH, a citizen of the United States, residing at Hollywood, in the county of Los Angeles and State of California, have invented new and useful Improvements in Rubber Heels, of which the following is a specification.

This invention relates to rubber heels, and consists of the novel features herein shown, described and claimed.

The leading object is to make a rubber heel having inherent qualities and shapes calculated to resist slipping on a pavement, or the like.

Other objects and advantages will appear from the drawings and specification.

The drawings illustrate a rubber heel embodying the principles of my invention.

Figure 1 is a perspective of the rubber heel bottom side up.

Fig. 2 is a top plan view as indicated by the arrows 2 in Figs. 1 and 3.

Fig. 3 is a front elevation as indicated by the arrows 3 in Fig. 2.

Fig. 4 is a vertical longitudinal sectional elevation on the lines 4—4 of Figs. 2 and 3.

Fig. 5 is a vertical cross section on the line 5—5 of Fig. 2.

The details and features of the rubber heel shown in the drawings are as follows:

The rubber heel 1 may be cast of the usual material in the usual way, and the vertical faces 2 and 3 may be of the usual forms. The bottom face 4 is perfectly flat and the usual nail holes 5 are formed from the bottom face 4. The upper face 6 is dished in all directions to produce a rim 7 all the way around where the face 6 meets the vertical face 2, and the rim 7 is interrupted at the forward ends of the face 2 so that the edge 8 where the face 6 meets the face 3 is bowed downwardly.

A recess 9 is formed from the face 4, the vertical wall 10 surrounding the recess being located substantially equi-distant from the lower edge 11 formed by the meeting of the vertical face 2 with the flat face 4, so that the contacting surface formed by the face 4 is U-shaped. The lower face 12 forming the top of the recess 9 is substantially parallel with the bottom 13 of the dished upper face, and the bottom face 12 is highest from the face 4 at the extreme back of the recess 9, and said face 12 is flat and inclines from the highest point 14 forwardly and downwardly until at the extreme forward edge 15 the face 12 is in the same plane as the face 4.

When the heel has been applied to suitable footwear and the footwear is in the operation of walking, the extreme rear portion 16 of the heel will strike the pavement first and will be compressed more or less by the weight of the operator, and as the foot drops forwardly the air or water in the recess 9 will be forced forwardly, the U-shaped surface 4 being gradually compressed from the rear to the front to reduce the height of the surface 12, and when the foot comes down flat upon the pavement, the recess 9 will be completely enclosed by the edge 15 pressing upon the pavement and more or less of a vacuum will be formed in the recess 9 as the weight upon the heel is lessened, and this action will reduce the tendency to slip.

Furthermore, the shape of the flat surface 4 having the sharp edges 11 all the way around the back and sides, the edge 15 at the front, and the edge 10 around the recess 9 are well calculated to grip the pavement, and under fair conditions there will be no slipping, and under extreme conditions the tendency to slip will be reduced to a minimum.

As the pressure of the operator's foot moves forwardly from the initial contact at the rear of the heel, the material above the face 12 and between the faces 12 and 13 will be depressed until the weight of the operator passes to the ball of the foot, and then the pressure will be somewhat reduced, allowing the face 12 to resume its normal position, thereby increasing the suction action to hold the surface 4 upon the pavement.

Various changes may be made without departing from the spirit of my invention as claimed.

I claim:

1. A rubber heel comprising a heel-shaped body, the upper surface of which is dished providing a rim along the sides and along the back of the heel, the bottom surface of the body being flat and being adapted to rest flatly against a walking surface, there being a recess formed in the bottom surface which is equi-distant from the sides and rear of the body, the top surface of the recess being downwardly and forwardly inclined toward the front of the heel with the for-

ward end of the top surface of the recess being substantially flush with the bottom surface of the heel.

2. A rubber heel comprising a heel-like body, the bottom surface of which is flat and which is adapted to rest flatly against a walking surface, there being a recess formed in the bottom surface which is arranged equidistant from the sides and rear of the heel, the recess having its top surface downwardly and forwardly inclined toward the front of the heel, the forward end of the top surface of the recess being substantially flush with the bottom surface of the heel, whereby when pressure is applied to the heel so as to compress it, any fluid which may be within the recess will be forced outwardly through its forward end, and when the pressure is released, a partial vacuum may be formed therein, thus preventing slipping.

In testimony whereof I have signed my name to this specification.

D. D. SMITH.