July 22, 1947. E. C. HOGG 2,424,463

MULTIPLE ANTISKID RIBBED SUCTION SOLE FOR SHOES AND RUBBER FOOTWEAR

Filed June 9, 1945

FIG. 1.

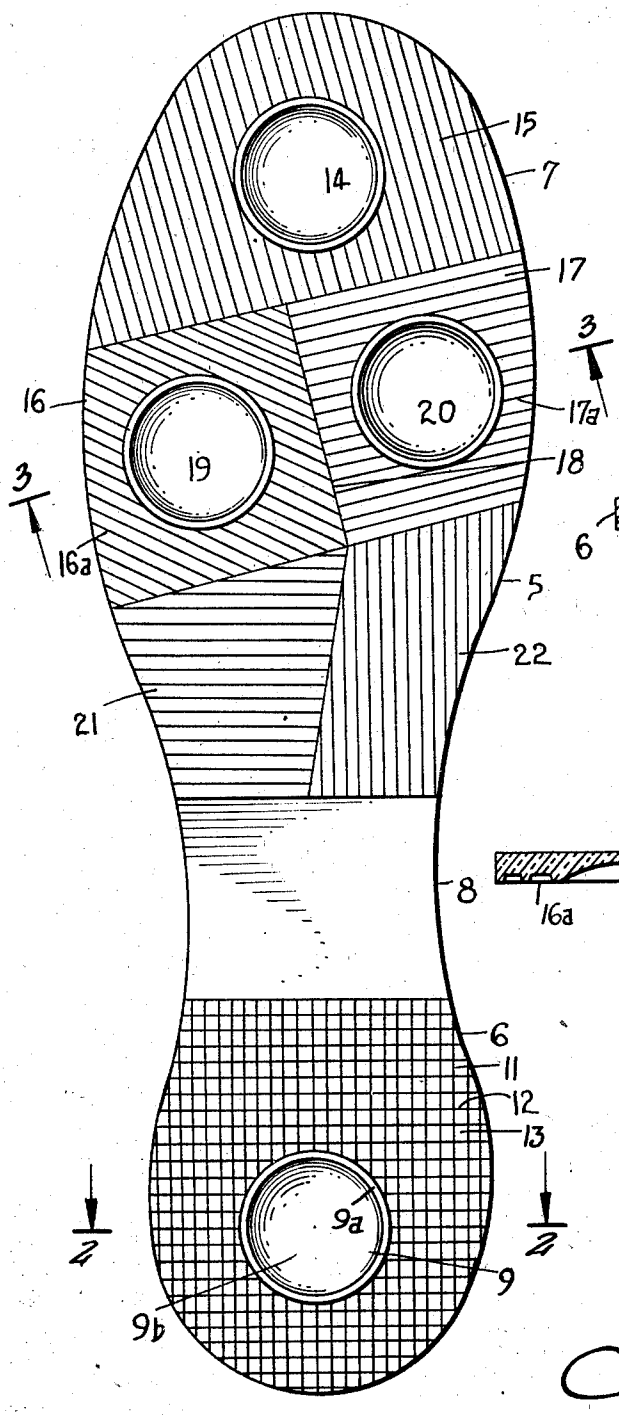


FIG. 2.

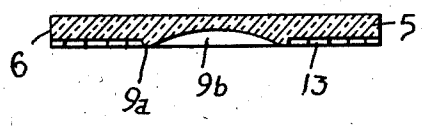
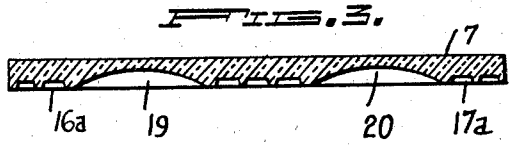


FIG. 3.



INVENTOR.
ELSIE C. HOGG.
BY
Carl Miller
ATTORNEY.

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MULTIPLE ANTISKID RIBBED SUCTION SOLE FOR SHOES AND RUBBER FOOTWEAR

Elsie Claire Hogg, Elizabeth, N. J.

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4 Claims. (Cl. 36—59)

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This invention relates to an improved antiskid shoe sole, and one of its objects is to provide a shoe sole or rubber footwear with a plurality of molded suction cups and an area surrounding each skid cup which is provided with skid resisting integral ribs, the ribs extending in divergent or non-parallel directions when compared with the skid resisting ribs of adjacent areas, so that some of the skid resisting ribs will be in angular relation to any sliding movement of the shoe, and will thereby effectively resist skidding or slipping of the shoe on ice or ice covered pavements, or upon other slippery surfaces.

With the above and other objects in view the invention comprises certain new and useful constructions, combinations, and arrangements of parts, clearly described in the following specification, and fully illustrated in the accompanying drawings, in which—

Fig. 1 is a bottom plan view of the improved sole for shoes or rubber footwear.

Fig. 2 is a transverse sectional view, taken on line 2—2 of Fig. 1, looking in the direction of the arrows.

Fig. 3 is a similar view, taken on line 3—3 of Fig. 1, looking in the direction of the arrows.

Referring to the accompanying drawings, which illustrate the practical embodiment of my invention, 5 designates the body of the sole for shoes or rubber footwear, which is constructed of natural or synthetic rubber, or compositions which include rubber, or any other suitable material.

The sole is constructed with a heel part 6 and a foot supporting part 7, which are separated from each other by the neutral shank or connecting part 8.

The heel engaging or supporting part 6 is formed with one or more rubber suction cups 9, which includes the circular rim portion 9a and the concave socket portion 9b. The outer surface of the circular rim portion is disposed flush with the tread surface of the heel part. The area 10 surrounding the suction cup 9 is formed with intersecting molded skid resisting ribs 11 and 12, which extend at right angles to the main axis of the shoe sole and at right angles thereto, and therefore at right angles to each other. Those intersecting skid resisting ribs thereby provide small rectangular suction cups 13, in considerable number, around the main suction cup 9, and make up a tread surface which will yield slightly in all directions to resist sliding, and which will develop a suctional pull upon any wetted or slippery surface, which will effectively oppose free sliding.

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The sole part 7 is provided at the forward end of the same with a suction cup 14 and a series of parallel skid resisting molded ribs 15, which extend in the general direction of the length of the sole, and on all sides of the cup.

Rearwardly of the group of molded ribs 15, two other groups 16 and 17 are provided, which are shown to cover an approximately equal area, so that the dividing line between the two groups falls at approximately the median line of the sole at 18. The ribs 16a of the group 16 are shown to extend diagonally, and the ribs 17a of the group 17 are shown to extend at right angles to the length of the sole. In the center of the group 16 a suction cup 19 is formed, which has the general characteristics of the suction cup 9, of the heel part 6. In the approximate center of the group 17 a suction cup 20 is formed, which is of similar construction.

Rearwardly of the two groups 16 and 17 two additional groups of skid resisting ribs are provided, at 21 and 22. The ribs of the group 21 extend at approximately right angles to the direction of the length of the sole, and the ribs 22 extend in the general length of the sole, and at approximately right angles to the direction of the ribs 21.

The impact of the walking step is initially received by the suction cup 14, and then by the suction cups 19 and 20, and the skid resisting ribs supporting the areas around these cups, and the groups 21 and 22 have a decreasing contact with the ground surface, due to the rise of the arch of the shoe.

In the area of the sole part forwardly of the groups 21 and 22 three angular directions are provided for the skid resisting ribs. The forward ribs are disposed on approximately parallel relation to the length of the sole, the group 16 is disposed in diagonal relation thereto, and the group 17 is disposed at right angles to the group 15. This combination thus includes skid resisting ribs which will resist effectively slipping either at right angle to the direction of walking, or in diagonal relation thereto, or in the direction of walking, or in an opposite direction. The groups 21 and 22 increase this measure of lateral protection against skidding.

It is understood that various changes in the details of construction, their combination and arrangement, may be made, within the scope of the claims hereof.

Having described my invention, I claim as new:

1. A skid resisting sole for shoes and rubber footwear, comprising a sole part and a heel part,

the heel part having a suction cup provided with a circular rim having tread engagement with the ground and intersecting ribs providing a plurality of smaller suction cups of rectangular shape, and the sole part having a plurality of suction cups and skid resisting ribs between said suction cups.

2. A skid resisting sole for shoes and rubber footwear, comprising a sole part and a heel part, the heel part having a series of intersecting skid resisting ribs, the sole part having a suction cup located in the forward portion thereof and a pair of suction cups located rearwardly of the first suction cup and in opposition to each other near the side edges of the sole part but spaced inwardly thereof, the sole part having a series of parallel skid resisting ribs extending in the general direction of the length of the sole part and surrounding the first-named suction cup, and further having skid resisting ribs surrounding each of the second-named suction cups and disposed in different angular relation to each other and to the skid resisting ribs first-named.

3. A skid resisting sole for shoes and rubber footwear, comprising a sole part and a heel part, the sole part having a suction cup located near the forward area thereof and suction cups located rearwardly of the first-named suction cup, the sole part having skid resisting ribs surrounding the first-named suction cup which extend in the general direction of the sole part, and the last-named suction cups being surrounded by skid resisting ribs which extend in different angular directions to the ribs at the forward part and in non-parallel directions to each other.

4. A skid resisting sole for shoes and rubber footwear, comprising a sole part having a suction cup located near the tip thereof and provided with skid resisting ribs extending forwardly and rearwardly thereof and further provided with groups of skid resisting ribs located rearwardly of said first-named ribs and extending in diagonal relation to the first-named ribs and at right angles thereto, and further provided with a suction cup located in each of such groups of ribs.

ELSIE CLAIRE HOGG.

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