March 11, 1941. F. D. REYNOLDS 2,234,453

SHOE PLATE

Filed July 22, 1939

Fig. 1.

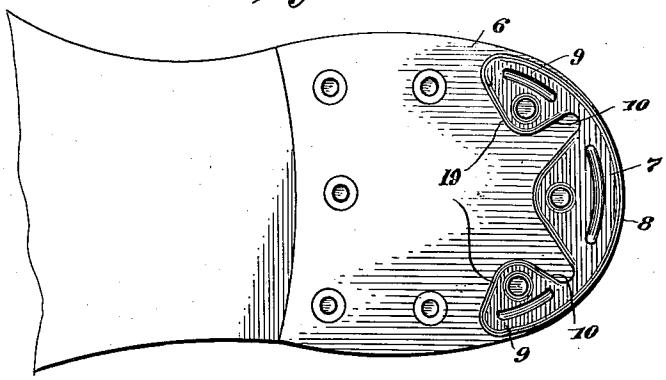


Fig. 2.

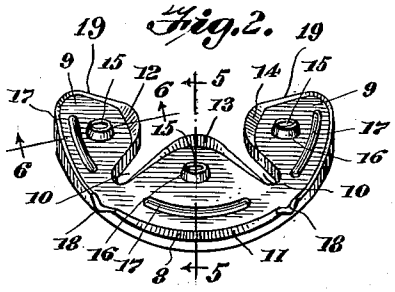


Fig. 5.

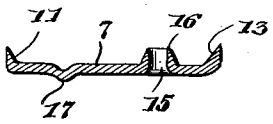


Fig. 6.

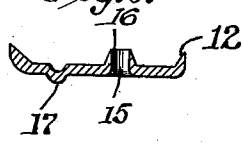


Fig. 3.

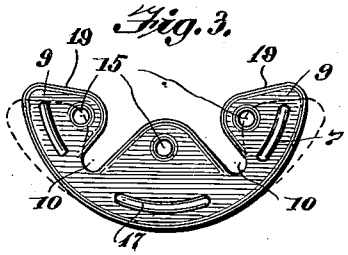
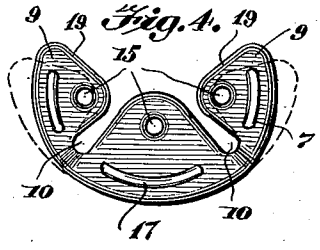


Fig. 4.



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SHOE PLATE

Frederick D. Reynolds, University City, Mo.

Application July 22, 1939, Serial No. 287,303

1 Claim. (Cl. 36—73)

This invention relates to new and useful improvements in shoe plates of the type which is adapted to be nailed to the toe or heel portion of a shoe and thereby protect that portion of the shoe from undue wear. This invention is also applicable to rubber heels to protect said rubber heels from undue wear.

An object of the invention is to provide such a shoe plate of such thinness that it can easily and conveniently be adjusted in shape to fit a variety of sizes of shoes.

Another object of the invention is to provide a shoe plate with the nail holes set well in from the outer edge of the same and thereby permit a certain portion of the plate to be bent to the contour of a worn shoe without affecting the nail and its holding quality. When applied to a rubber heel, the nail holes being set well in from the outer edge of the plate permit the plate to give with the springiness of the rubber heel without causing the nail to work out by virtue of such movement.

Another object of the invention is to provide a relatively thin shoe plate with reinforcing ribs on its outer side to prevent the plate from buckling during adjustment. Said reinforcing ribs also serve to prevent wear on the portion where the least amount of metal is provided, and also to present a level surface if and when the plate is bent to conform to a worn portion of the heel or sole.

Another object of the invention is the provision of an upwardly directed flange extending completely around the outer edge of the plate, the flange being deeper at various points around its periphery to form attaching prongs whereby the same are driven into the shoe when the plate is attached and thus tending to hold the plate firmly in place on the shoe, before and after the nails are driven home.

Other objects and advantages will appear from the accompanying drawing and following description, in which—

Fig. 1 is a plan view showing the plate attached to a heel.

Fig. 2 is a perspective view of the shoe plate.

Fig. 3 is a bottom plan view showing the plate expanded to fit a larger shoe, the enlarged shape being shown in dotted lines.

Fig. 4 is a bottom plan view showing the plate compressed to fit a smaller shoe, the original shape being shown in dotted lines.

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

Fig. 6 is a section on the line 6—6 of Fig. 2.

Referring to the drawing, 6 indicates the heel of a shoe showing the heel plate 7 attached in place on the same. Of course, it will be understood that it could be applied to the toe or any other part of the shoe desired. The plate 7 comprises generally an arcuately shaped member having an outer edge 8. The plate is formed with a plurality of protuberances or lugs 9 produced by having the inner edge of the same cut to form a plurality of U-shaped slots 10. These slots permit of the adjustment of the plate to fit different sized shoes, as by compressing the end or lug portions 9 inwardly as shown in Fig. 4.

The edge of the plate is formed with an upwardly directed flange 11, said flange being deepened at the front edge of the plate and also at the outer edges of the protuberances or lugs 9, as shown at 12, 13, and 14, which in effect forms attaching prongs for the plate member. The object and advantage of deepening the flange at these places is to provide attaching prongs which produce a gripping action on the sole or heel of the shoe when the same is mounted in place, as by hammering or the like, the upwardly directed flange tending to slightly spread the plate and thereby keeping the same from rocking, and thereby tending to loosen the nails.

Each protuberance or lug is provided with a nail hole 15, formed by countersinking the metal inwardly to form the hole and leaving an inwardly projecting burr 16. The nail hole is also slightly depressed at its outer surface so that the nail head will position below the surface of the plate when driven in place. The nail holes, it will be noted, are placed inwardly substantially from the outer edge 8 of the plate, thus leaving a considerable surface between the outer edge of the plate and the nail hole. This is desirable so that if the plate be attached to a worn down heel a portion of the outer surface of the plate can be hammered down to conform to the contour of the worn heel. Thus the placing of the nail holes relatively inwardly permits such adjustment without affecting the effectiveness of the nail.

Each lug has formed on its outer surface a strengthening rib 17 which prevents the plate from buckling when being compressed and adjusted to fit different sized shoes. Also the outer flange 11 may be cut away at points 18, substantially opposite the U-shaped slots, which permits an easier bending or adjustment of the end lugs 9. This is optional, but not necessary.

The plate can be constructed of a desired number of lugs and is not limited to the exact number shown.

It will be noted in Fig. 3 that the edges 19 are inclined inwardly from the outer corners of the protuberances or lugs 9, so that when it is desired to expand the plate it can be rested vertically on the outer points, and by the use of a hammer the plate can be expanded evenly to such extent as may be desired, thereby causing the plate to fit a larger size heel.

It will thus be seen that I have provided an easily adjustable plate of a strong character, which when placed in position on a shoe readily and firmly grips the same, due especially to the attaching prongs produced by the deepened grooves, and after being nailed in place will not rock or wobble and thereby loosen the nails, the upward direction of the flange and the gripping prongs preventing such rocking movement. As the nails are located at the inner circumference of the plate some distance away from the outer edge, the outer edge may be bent to conform to a worn place on the shoe bottom without disturbing the position of the nails holding the plate in position on the shoe bottom. Also, by virtue of the U-shaped slots 10 such bending of the plate is readily accomplished due to the small amount of metal between the inner ends of the slots 10 and the outer edge of the plate. This permits of more ready bending of the plate than would otherwise be possible.

When applied to rubber heels, these plates by virtue of the positioning of the nails remote from the outer edge of the plate and the positioning of the U-shaped slots 10 permit said plate to move as the rubber heel is compressed in the act of walking, without causing said nails to work out and thereby release the plate from its firm contact with the outer surface of the rubber heel. The deepened portions of the flange as shown at 12, 13, and 14 being adjacent the nail holes 15, also serve when the plate is seated on the outer face of a rubber heel to prevent any movement of the plate that would cause said nails to be worked out of the rubber heel when the plate is in service.

The invention is not limited to the exact form shown, but may be varied within the scope of the following claim.

I claim:

A metallic shoe plate comprising an arcuate shaped member having at its outer edge an upwardly directed flange, and U-shaped recesses along its inner edge forming a plurality of lugs, said flange being recessed at its edges substantially opposite the base of the U-shaped recesses, each lug having an attaching prong the inner surface of which slopes upwardly, and apertures in each lug for fastening the plate to a shoe.

FREDERICK D. REYNOLDS.