March 7, 1950 P. A. MARCEAU 2,499,516

CREEPER

Filed April 21, 1948

Fig. 1.

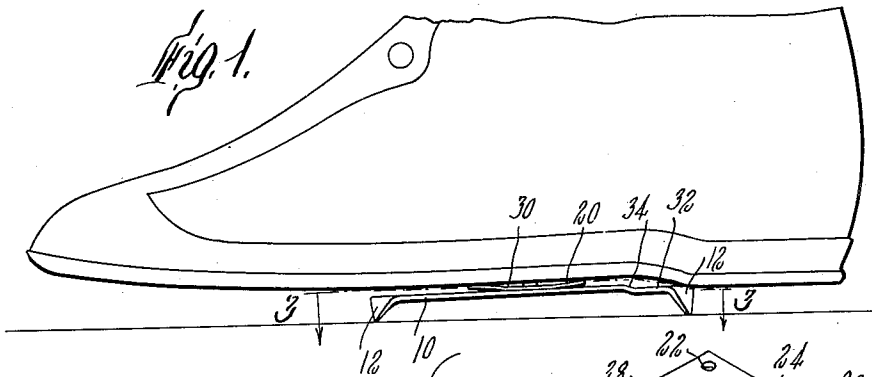


Fig. 2.

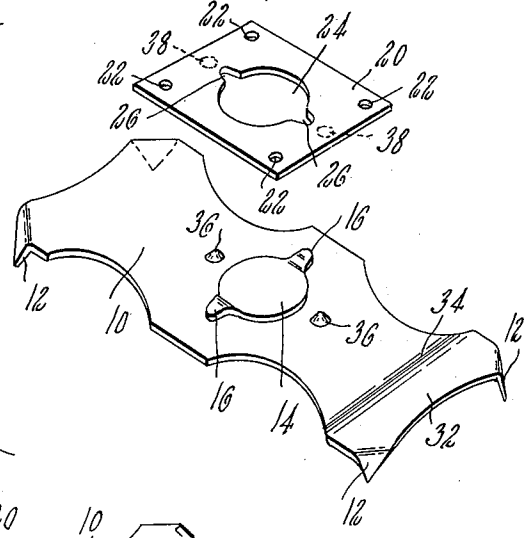
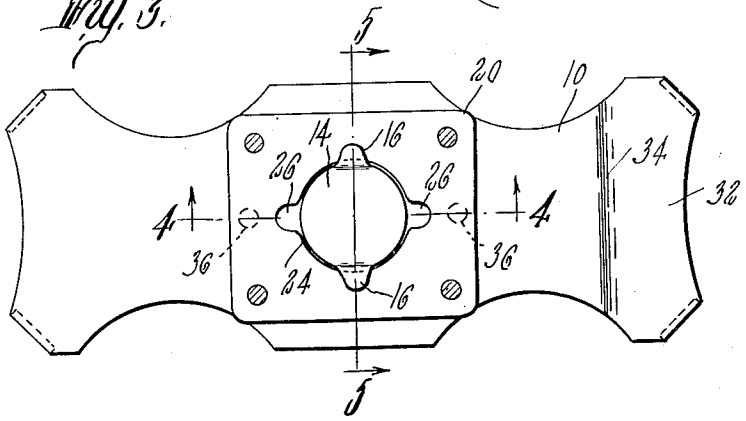


Fig. 3.



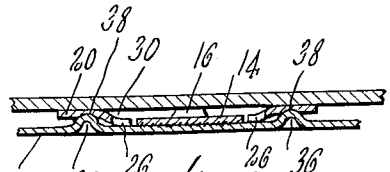


Fig. 4.

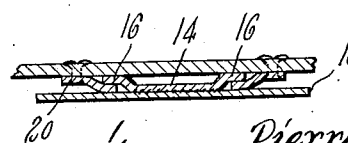


Fig. 5.

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CREEPER

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3 Claims. (Cl. 36—66)

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This invention relates to a device to be attached to the bottoms of shoes, overshoes, or the like, to prevent a pedestrian from slipping when walking on slippery surfaces, such as ice. It is an object of the invention to provide a creeper which can quickly and easily be attached to or removed from the bottom of a shoe or overshoe without cutting into the sole of the shoe, which is relatively inexpensive to make and which is effective in use.

According to the present invention, an anchor plate is permanently fixed to the shank portion of the shoe sole where it does not interfere with walking since it is not on a ground-engaging part of the surface of the sole. For a more complete understanding of the invention, reference may be had to the following description thereof and to the drawing, of which—

Figure 1 is an elevational view of an overshoe to which is secured a creeper embodying the invention;

Figure 2 is a perspective view of the creeper and its anchor plate;

Figure 3 is a section on line 3—3 of Figure 1;

Figure 4 is a section on line 4—4 of Figure 3; and

Figure 5 is a section on line 5—5 of Figure 3.

For convenience of description in the following specification and claims, the creeper will be considered to be in the position illustrated in Figures 1, 2, 4 and 5 of the drawing, that is, with its upper surface toward the shoe. It is evident that when the device is inverted, the terms "upper," "lower," etc., will be reversed.

The creeper comprises an elongated plate 10 of steel or other rigid material, the corners of which are pointed and bend downwardly, as at 12, to form sharp prongs or spikes which are adapted to dig into an icy surface or the like sufficiently to prevent slipping thereon. Secured to the upper face of the plate 10 at its mid-portion is a disc 14 from the periphery of which two lugs 16 project radially, these lugs being arranged to extend transversely with respect to the long axis of the plate 10. The disc 14 is permanently secured in any suitable manner to the plate 10, as by welding, riveting or otherwise. The lugs 16 are offset from the plane of the disc 14 so that they are spaced from the surface of the plate 10. An anchor plate 20, which is considerably smaller than the plate 10, is secured to the shank portion of a shoe sole by rivets or otherwise. As shown in Figure 2, four holes 22 are provided near the corners of the plate 20 to receive rivets by which the plate may be secured to the sole of the shoe

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or overshoe. Hollow rivets may be furnished with the creeper and plate so that the plate can easily be secured in place without the use of any special tools. Centrally located in the plate 20 is an aperture 24 which has a contour similar to and slightly larger than the contour of the disc 14 with its lugs 16. Thus, the shape of the aperture 24 is preferably circular with diametrically offset extensions 26 adapted to receive the lugs 16. The plate is secured to the sole of the shoe in such manner that the aperture extensions 26 lie on the long axis of the shoe. The central portion or inner margin of the plate 20 surrounding the aperture 24 is bulged or offset downwardly from the outer margin so that when the plate is secured by its corners to the sole of a shoe or overshoe, as illustrated in Figure 1, there will be a clearance 30 between the inner margin of the plate immediately surrounding the aperture 24 and the adjacent surface of the shoe sole, this clearance being sufficient to receive the lugs 16 between the plate 20 and the sole of the shoe to which it is secured. After the plate 20 has been properly secured to the shank portion of the shoe sole, preferably near the break in the sole, the creeper 10 may quickly and easily be mounted in place by inserting the disc 14 and lugs 16 into the aperture 24. The offset of the inner margin of the anchor plate with respect to the outer margin thereof provides clearance for the lugs 16 without the necessity of making a recess in the sole itself. Owing to the arrangement of the lugs 16 and the aperture extensions 26 relative to the axes of the respective plates, the plate 10 must be applied to the shoe with its long axis extending transversely with respect to the long axis of the shoe. The lugs 16 are then in a position to enter the extensions 26. The offset of the lugs from the plane of the disc 14 permits the lugs to pass through the extensions 26 so that when the plate 10 is turned about the disc 14 as a center, the lugs will move to positions underneath the margin of the plate 20 surrounding the aperture 24, as indicated in Figure 3. The plate 10 is preferably given a 90° turn so that its long axis is in line with the long axis of the shoe sole. It is then in position for use, the forward prongs 12 being under the ball of the shoe sole, the rear prongs 12 being under the forward portion of the heel. The fitted engagement of the disc 14 in the aperture 24 and the engagement of the opposed radial lugs 16 under the inner margin of the anchor plate provide a strong joint between the plates well adapted to withstand the

stresses to which the creeper is apt to be subjected when in actual use.

In Figure 1, an overshoe is illustrated having a very low heel. The rear portion 32 of the plate 10 is downwardly offset from the remainder of the plate by bends at 34 so that the portion 32 can ride on the heel of the shoe. If it is desired to use creepers on shoes having heels of substantial height, the degree of offset of the rear portion 32 is considerably greater in accordance with the height of the heel.

In order to maintain the creeper releasably in its proper position, a pair of bosses 36 may be formed on the plate 10 adjacent to the disc 14 to fit into holes or dimples 38 in the plate 20. There is sufficient resilience in the material of the plates 10 and 20 to permit the bosses 36 to ride on the surface of the plate 20 when the lugs 16 first engage over the inner edge of the aperture 24. When the plate 10 is turned to its position for use, the bosses 36 snap into the edge of the holes 38 and hold the plate 10 against accidental rotation. The bosses 36 are conical or semispherical in shape so that they ride out of the holes 38 when force is applied to the plate 10 to turn it from its position for use to a position in which the lugs 16 register with the extensions 26. The plate 10 can be then removed from the plate 20.

I claim:

1. An anti-slip device for shoes and the like, comprising an anchor plate having a central circular aperture with two radial extensions, the inner margin of the plate adjacent to said aperture being offset downwardly from the outer margin, and an elongated pronged plate removably mounted on said anchor plate and interlocked therewith, said pronged plate having a disc secured to the upper face thereof and fitted in said aperture, said disc having upwardly offset lugs extending radially therefrom over the inner margin of the anchor plate and arranged to register with said extensions of the aperture when the pronged plate is turned about said disc through a predetermined angle from its normal position relative to the anchor plate.

2. An anti-slip device for shoes and the like, comprising an anchor plate having a central circular aperture with two radial extensions, the inner margin of the plate adjacent to said aperture being offset downwardly from the outer margin, an elongated pronged plate removably mounted on said anchor plate and interlocked therewith, said pronged plate having a disc secured to the upper face thereof near the center and fitted in said aperture, said disc having upwardly offset lugs extending radially therefrom over the inner margin of the anchor plate and arranged to register with said extensions of the aperture when the pronged plate is turned about said disc through a predetermined angle from its normal position relative to the anchor plate, and means for yieldingly retaining said plates in their normal relative position, said means comprising two small bosses projecting from a face of one said plate into corresponding dimples in a face of the other said plate.

3. In combination with an article of footwear having a sole and heel, an anti-slip device comprising an anchor plate secured on the surface of the shank portion of said sole, said plate having a central circular aperture with radial extensions, the inner margin of said plate adjacent to said aperture being offset away from the surface of the sole, and an elongated pronged plate in interlocked engagement with said anchor plate, said pronged plate having a forward portion bearing against the tread portion of said sole and a rear portion downawrdly offset to bear on the tread surface of said heel, said pronged plate having a disc on its upper face fitted in said aperture and provided with radial lugs normally extending over said inner margin of the anchor plate, said pronged plate being rotatable about said disc to move said lugs to register with the extensions of said aperture for the removal of the pronged plate from the anchor plate.

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