Sept. 5, 1939. E. D. GIBB 2,171,692

ANTISLIPPING ATTACHMENT FOR SHOES

Filed Aug. 30, 1937

Fig. 1.

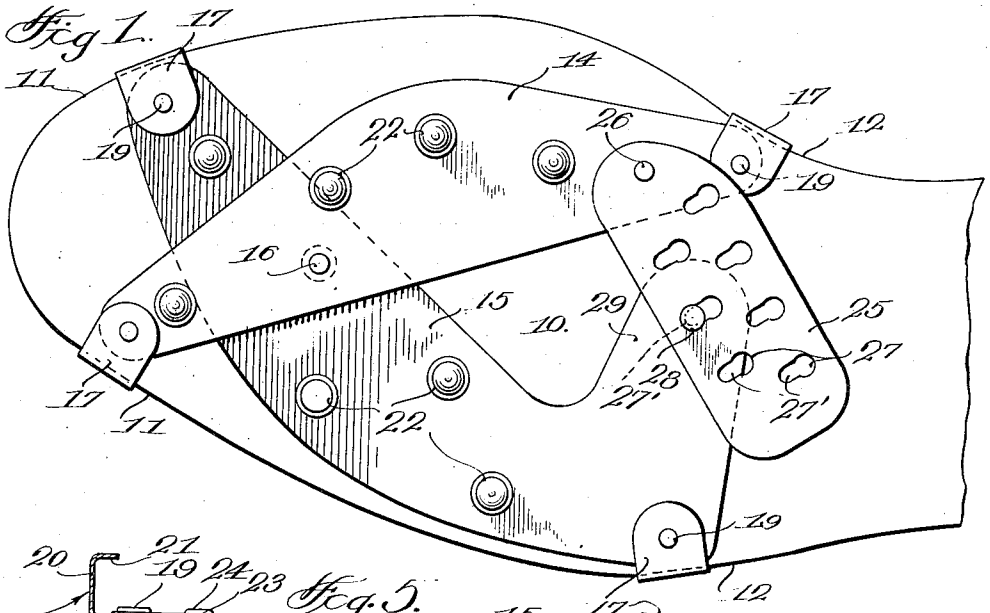


Fig. 5.

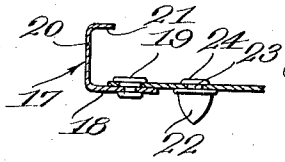


Fig. 2.

Fig. 3.

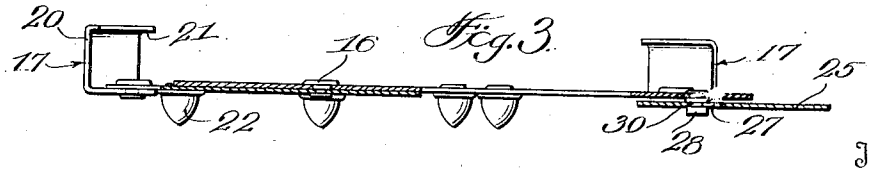
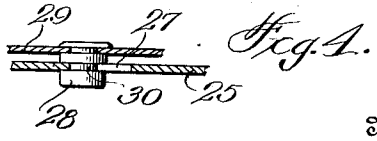


Fig. 4.



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ANTISLIPPING ATTACHMENT FOR SHOES

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Application August 30, 1937, Serial No. 161,661

4 Claims. (Cl. 36—7.7)

This invention relates to an anti-slipping attachment for shoes, adapted to be readily secured to and removed from the soles thereof to convert an ordinary pair of shoes into a non-slipping pair. The invention is particularly useful in playing the game of golf or the like, or for mountain climbing, walking on ice or in snow, or on any other surface where slipping is likely.

It is an object of the invention to provide a new and improved construction in a device of this general class. More particularly, the invention aims to simplify such devices and to provide an improved means for securing them on the shoe.

A further object of the invention is to provide a detachable anti-slipping device which is adjustable, to fit substantially all sizes of shoes and which can be readily, quickly, and easily secured to and removed from the shoes of the user.

A primary advantage of the device of the present invention resides in the fact that it embodies a pair of pivoted lever members or plates and makes use of the principle of the lever to attach the device securely in place.

Other and further objects and advantages of the invention will become apparent upon consideration of the following description of a specific embodiment thereof, shown in the accompanying drawing. It must be understood that the drawing and the following description are illustrative only and are not restrictive of the invention, since many changes in the details of construction will readily occur to one skilled in the art. All such changes as come within the scope of the appended claims and their equivalents, are within the present invention.

In the accompanying drawing,

Figure 1 is a plan view of a shoe sole with the the anti-slipping device attached thereto.

Figure 2 is a top plan view of the device of Figure 1, with the shoe removed.

Figure 3 is a vertical sectional view, taken on line 3—3 of Figure 2.

Figure 4 is a sectional view of a detail, taken on line 4—4 of Figure 2.

Figure 5 is another sectional detail, taken on line 5—5 of Figure 2.

Referring to Figure 1, a conventional shoe sole is shown at 10, having a forwardly tapering, toe portion 11, and a rearwardly tapering in-step or shank portion 12. The anti-slipping attachment of the present invention comprises a pair of elongated plates 14, 15 pivoted together at 16 and extending in crossed relation, diagonally of the shoe sole. As shown in Figure 3, the plates may be pivoted together by a headed rivet 16 or the like.

Each of the plates is provided, adjacent both of its ends, with a sole engaging clip 17. As shown in Figure 5, the clips each comprise an inwardly extending bottom portion 18 pivotally connected to the plate by a headed rivet 19 or the like. An upwardly bent portion 20 is adapted to engage the edge of the sole, and the inwardly turned portion 21 overlies the sole edge.

Each of the plates 14, 15 also is provided with a plurality of downwardly projecting, anti-slipping studs 22 or the like. These studs are provided with reduced shanks 23 disposed in apertures in the plates and they are secured in place by the rivet-like heads 24. Although each plate is shown as being provided with four such studs, more or less may be used.

Adjacent the rear end of the plate 14, there is a fastening device or locking plate 25, pivoted at 26. The plate preferably has a plurality of keyhole shaped apertures 27 formed therein, each of which is adapted, selectively, to engage a downwardly projecting post or stud 28, fixed to the inwardly extending rear end 29 of the plate 15. The periphery of the stud 28 is provided with a circumferential groove or shank 30, adapted to receive the edges of the narrow portion 27' of any one of the keyhole slots.

The plates 14, 15 are preferably constructed of resilient, spring-like sheet metal, such as sheet steel or spring bronze so that the device as a whole is entirely flexible and will bend with the shoe sole as the user walks.

In the use of the device, of the present invention, the four sole engaging clips 17 are placed adjacent the positions shown in Figure 1 and the rear ends of the plates 14, 15 are drawn together. Obviously, the forward ends of the plates and the sole engaging clips carried thereby also move toward one another. The device is then moved forwardly or rearwardly slightly until the rear ends of the levers are in snug engagement with the edges of the sole and can be moved no farther. At that time, the forward ends of the levers will also be in tight engagement with the edges of the sole. Each of the clips 17 pivots about its attaching pin 19 until the vertical surface 20 thereof is disposed snugly in contact with the adjacent portion of the edge of the sole. When the parts have been placed in the proper relationship to the shoe sole, so that all four of the clips are in firm engagement therewith, the locking plate 25 is swung over the stud 28 and the appropriate aperture 27 is used to embrace

the stud. After the head of the stud 28 passes through the enlarged portion of the aperture 27, the locking plate is moved rearwardly a slight distance so that the edges of the narrow portion 27' lie within the groove or shank 30 in the stud, thus locking the plate in place.

It should be noted that the locking plate is provided with two rows of apertures 27, the apertures in each row being staggered between the apertures of the other. By this means, a very fine adjustment is provided, and the pivoted plates 14, 15 can be locked together in a great plurality of different adjustments, to accommodate practically any size of shoe.

When the plates 14, 15 have been drawn inwardly, the lever action between the plates will serve to engage the clips 17 with the tapered portions of the shoe sole at four points with great force and when the fastening device 25 is used to secure the parts in that position, the device will not become dislodged from the shoe. However, when it is desired to remove the attachment, it is only necessary to disengage the locking plate 25 from the stud 28 and swing the plates apart, whereupon all four clips 17 will be disengaged simultaneously.

It will thus be seen that I have provided a construction which accomplishes all of the objects set forth above. The attachment is extremely simple, being made up of only three principal parts. By reason of the lever action between the plates, the sole engaging clips may be drawn into gripping relation to the sole with great force. When locked in place by the simple locking plate, the clips will not become dislodged in use. As a result of the use of flexible, spring-like sheet metal, the flexibility of the wearer's shoes is not impaired.

I claim:

1. An anti-slipping attachment for shoes, comprising a pair of crossed plates pivoted together and each adapted to extend diagonally across the bottom of the shoe sole, the ends of the plates having means engageable with the edge of the sole at two points adjacent the forwardly tapering portion of the sole and at two points adjacent the rearwardly tapering portion thereof, inward pivoting movement of said plates serving to draw all of said sole engaging means into gripping engagement with the edge of the sole, and fastening means to prevent outward pivoting movement of the plates to release the sole engaging means, said fastening means comprising a headed stud projecting downwardly from one end of one of said plates and a locking plate pivoted to the adjacent end of the other plate and provided with a plurality of spaced, staggered, continuously bounded apertures, said apertures being selectively engageable with said stud above the headed portion thereof to secure the parts in a plurality of differently adjusted positions.

2. An anti-slipping attachment for shoes comprising a pair of crossed plates pivoted together and each adapted to extend diagonally across the bottom of the shoe sole, the ends of the plates having clips engageable with the edge of the sole at two points adjacent the forwardly tapering portion of the sole and at two points adjacent the rearwardly tapering portion thereof, inward pivoting movement of said plates serving to draw all of said clips into gripping engagement with the edge of the sole, and fastening means to prevent the outward pivoting movement of the plates to release the clips, said means comprising a headed stud projecting downwardly from one end of one of said plates and a flexible, spring-like locking plate secured to the adjacent end of the other of said plates and having a plurality of spaced, staggered, keyhole-shaped apertures therein, said apertures being selectively engageable with the shank of said stud to secure the parts in a plurality of differently adjusted positions.

3. An anti-slipping attachment for shoes comprising a pair of crossed plates pivoted together and each adapted to extend diagonally across the bottom of the shoe sole, the ends of the plates having means engageable with the edge of the sole at two points adjacent the forwardly tapering portion of the sole and at two points adjacent the rearwardly tapering portion thereof, inward pivoting movement of said plates serving to draw all of said sole engaging means into gripping engagement with the edge of the sole, and a locking plate pivoted to the rear end of one of said plates and having a plurality of apertures formed thereon, said apertures being arranged in a plurality of rows, the apertures of each row being staggered with respect to the apertures of the other, each of said apertures being engageable, selectively with a stud fixed to the adjacent end of the other plate to prevent outward pivoting movement of the plates to release the sole engaging means.

4. An anti-slipping attachment for shoes comprising a pair of crossed plates pivoted together and each adapted to extend diagonally across the bottom of the shoe sole, the ends of the plates having means engageable with the edge of the sole at two points adjacent the forwardly tapering portion of the sole and at two points adjacent the rearwardly tapering portion thereof, inward pivoting movement of said plates serving to draw all of said sole engaging means into gripping engagement with the edge of the sole, each of said plates being of flexible, spring-like sheet metal, and fastening means for the adjacent ends of the plates to prevent outward pivoting movement of the plates to release the sole engaging means, said fastening means comprising a stud projecting downwardly from one of said plates and a flexible, spring-like sheet metal locking plate pivoted to the adjacent end of the other plate, said locking plate having a plurality of spaced apertures within the margins thereof selectively engageable with said stud to secure the parts in a plurality of differently adjusted positions, the apertures being disposable over the head of the stud and removable therefrom by flexing said locking plate.

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