United States Patent

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[15] **3,685,174**

[45] **Aug. 22, 1972**

[54] **DETACHABLE CLEATS**

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[22] Filed: **Dec. 4, 1970**

[21] Appl. No.: **95,023**

[52] **U.S. Cl.** **36/7.6**
[51] **Int. Cl.** **A43b 3/10**
[58] **Field of Search** 36/7.5, 7.6, 62, 59

[56] **References Cited**

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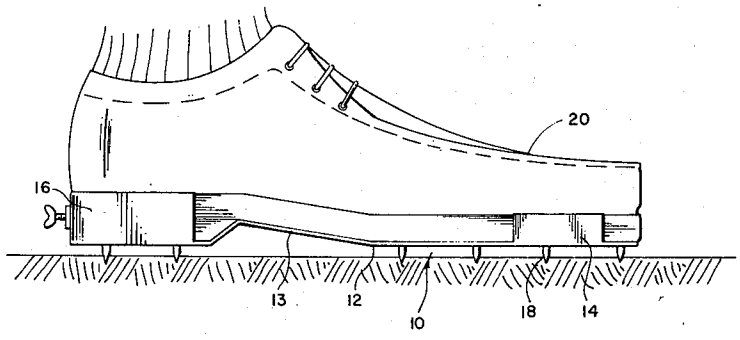
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[57] **ABSTRACT**

A device for use in removably attaching cleats or the like to the sole of an ordinary shoe. Ground engaging cleats are attached to a plate which is of a design and shape to fit under the sole of an ordinary shoe and is provided with means for removably attaching itself to the sole. These attachment means have a sole engaging portion adjacent the toe of the device and a heel engaging portion which attaches to the heel of the shoe.

18 Claims, 9 Drawing Figures



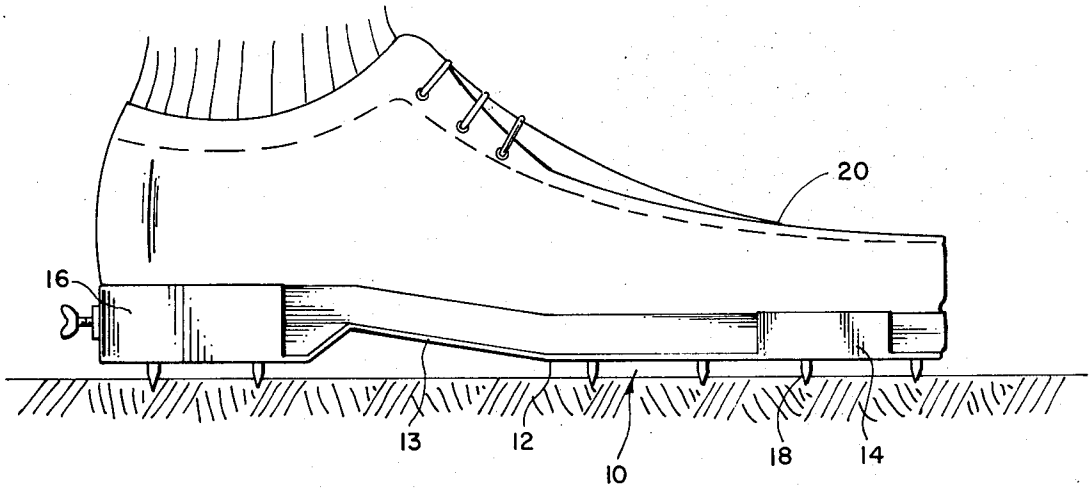


FIG. 1

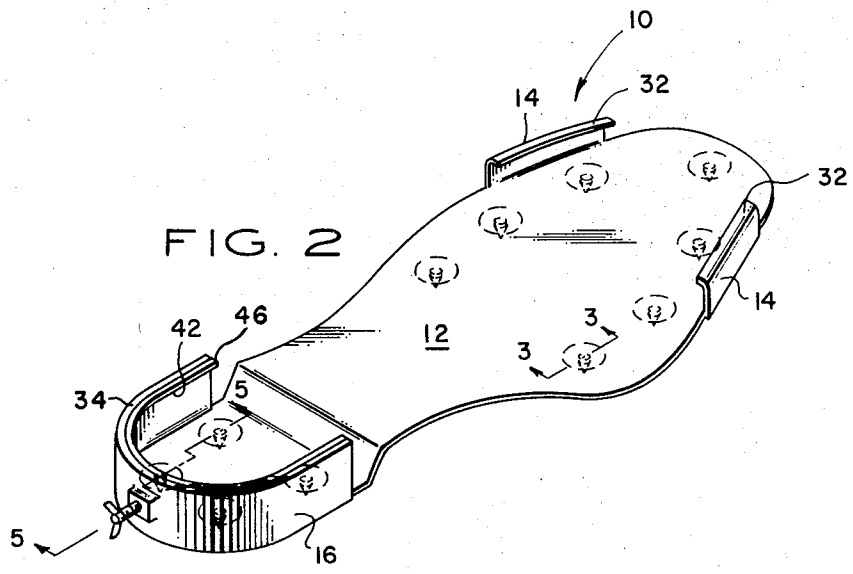


FIG. 2

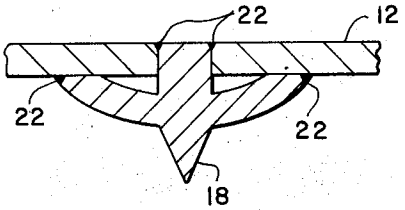


FIG. 3

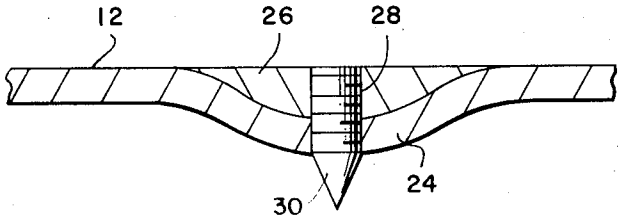


FIG. 4

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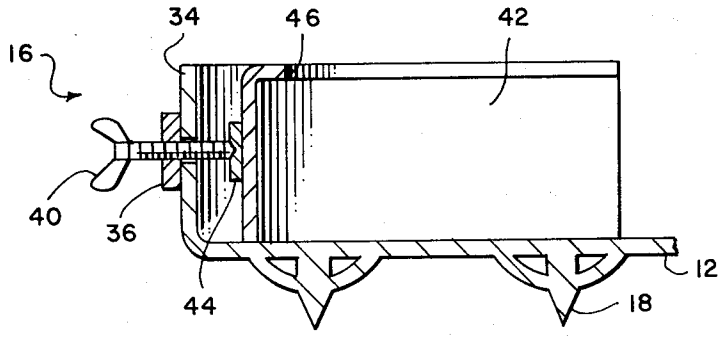


FIG. 5

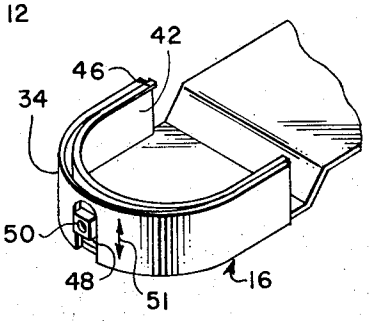


FIG. 6

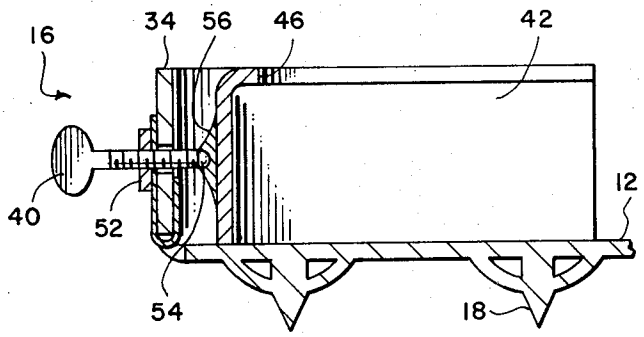


FIG. 7

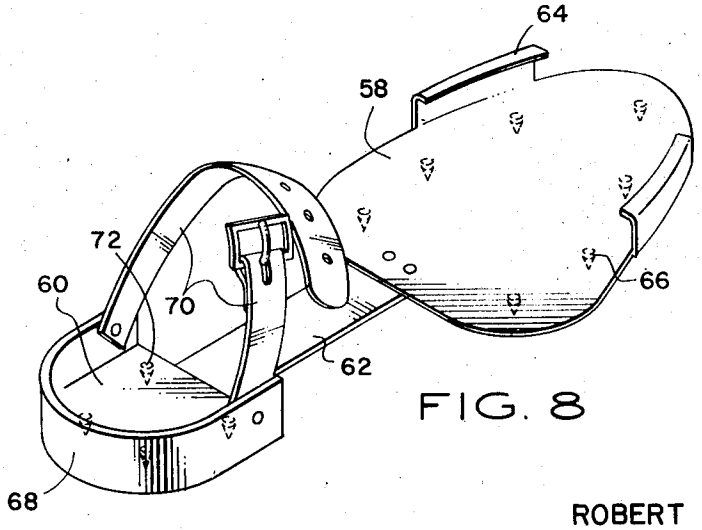


FIG. 8

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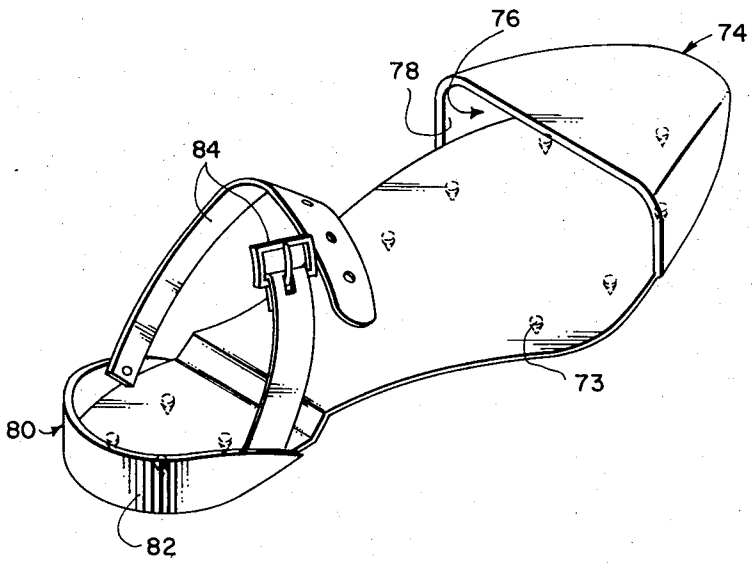


FIG. 9

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DETACHABLE CLEATS

BACKGROUND OF THE INVENTION

The present invention relates to devices for the attachment of ground engaging means to ordinary walking shoes and the like, and more particularly to a plate-like member having a plurality of cleats which are detachably carried by the shoe to enable the shoe to be used on hard walking surfaces when the device is removed therefrom.

DESCRIPTION OF THE PRIOR ART

In many outdoor sports, it has been a general practice to employ special shoes having cleats on the sole thereof to prevent the shoe from slipping on the surface of the ground. Although such devices have served their purpose, they have not proven entirely satisfactory especially with respect to golf shoes for the reason that the shoes must be removed before an individual can safely walk on a hard surface such as concrete or tile or the like. This is due to the fact that the cleats are designed for use in a soft penetrable surface and will slip on hard surfaces. There has also been considerable difficulty encountered in the use of cleated shoes on hard surfaces in that a cleated shoe tends to damage and scratch the floor surface, and many a Sunday golfer has found his matrimonial harmony jeopardized by such occurrences.

SUMMARY OF THE INVENTION

The general purpose of this invention is to provide an attachment for an ordinary walking shoe or the like which can be used to attach a plurality of ground engaging cleats to the shoe so that the cleats can be easily removed when it is desired to walk upon hard surfaces. To attain this, the present invention contemplates the use of a plate-like member formed to the shape of the outer sole of the shoe and provided with a plurality of cleats therein and means on the plate for attaching the device to the sole of the shoe.

OBJECTS OF THE INVENTION

An object of the present invention is the provision of a device for removably attaching cleats to an ordinary walking shoe.

Another object is to provide a device for removably attaching cleats to an ordinary walking shoe wherein the device is attached to the sole of the walking shoe.

A further object of the present invention is the provision of a removable cleat carrying assembly for ordinary shoes wherein the device is firmly held on the shoe.

Still another object is to provide a device which clamps to the sole of the shoe.

Other objects and many of the attendant advantages of this invention will be readily appreciated by those of ordinary skill in the art as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings, in which:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation of the device attached to the sole of a shoe;

FIG. 2 is a perspective view of the device;

FIG. 3 is an enlarged partial sectional view taken on line 3—3 of FIG. 2, looking in the direction of the arrows;

FIG. 4 is a view similar to FIG. 3 of an alternative configuration;

FIG. 5 is an enlarged sectional view of the device taken on lines 5—5 in FIG. 2, looking in the direction of the arrows;

FIG. 6 is a perspective view of another configuration of the device;

FIG. 7 is a view similar to FIG. 6 of another configuration;

FIG. 8 is a perspective view of an alternative configuration of the device; and

FIG. 9 is a perspective view of an alternative configuration of the device.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, wherein like reference characters designate like or corresponding parts throughout the several views, there is shown in FIGS. 1 and 2 a device generally designated as 10 for attachment to the sole of a shoe. This device has a flexible flat plate-like base member 12 with toe engaging portions 14 and a heel engaging portion 16 formed thereon. As can be seen, this plate 12 is shaped in the general outline of the sole of the shoe and is bent to provide a portion 13 which conforms to the instep of the shoe. The toe engaging portions 14 extend at right angles to the plate 12 and are each provided with an upper sole engaging flange 32. This flange 32 will engage the upper surface of a sole to hold the plate on the shoe during use. As shown, the toe engaging portions 14 are integrally formed with the plate 12, but it is contemplated that they could be made of separate parts which are welded together during the fabrication process. It is to be understood that the portions of this device which engage or contact the shoe could be coated or lined with protective material to protect the shoe from damage during use.

A plurality of cleats 18 are attached to the base member 12 so that when the device 10 is attached to a shoe 20 to improve the traction between the shoe sole and the walking surface. In the present application the cleats are illustrated as being golf type, but it is contemplated that the invention could be used to attached other types of cleats such as those used in baseball, football, and the like.

FIG. 3 illustrates one method by which the cleats 18 can be attached to the plate 12. In this method, the cleats 18 are inserted in bores in the plate 12 and spot welded thereto at the points designated as 22.

In FIG. 4 an alternative mounting configuration is shown. In this configuration, the plate 12 is provided with stamped out or deformed portions 24 into which a metallic material 26 is cast. This cast material 26 is then provided with a threaded bore 28 into which cleats 30 with threaded portions are engaged.

A detail of the heel engaging portion 16 is shown in FIG. 5 as having a U-shaped upstanding flange 34. This flange 34 can have a threaded bore therein or as depicted in FIG. 5, a nut 36 can be spot welded thereto. A heel clamping portion 42 is movably mounted inside the flange 34 to clamp the heel of the shoe. This clamp-

ing portion 42 is U-shaped like the flange 34 and is provided with a flange 46 for fitting over the heel of the shoe. An adjustment screw 40 is in threaded engagement with the nut and extends through the flange 34 to contact a screw guide 44 connected to the movable heel clamping portion 42. The clamping portion 42 is thereby moved relative to the outer flange 34 to respectively clamp and unclamp the portion 42 to and from the heel of the shoe, the screw guide 44 holding the adjustment screw 40 in position.

An alternate configuration of the heel clamping portion is shown in FIG. 6. In this configuration, the U-shaped flange 34 is provided with a slot 48 into which a cage nut 50 is mounted, the adjustment screw 40 (not shown) extending through the nut 50. This cage nut 50 is mounted so as to slide up and down in slot 48, as shown by arrow 51, so that the insert 42 may be adjustable against heels of different thicknesses. In FIG. 7, another configuration of the heel engaging portion 16 is shown utilizing a slip nut assembly 52 for receiving the adjustment screw 40. In this configuration, the adjustment screw 40 is provided with a ball socket 54 which engages a guide member 56 suitably attached to the heel clamping portion 42.

To attach any of the above-described embodiments to the sole of the shoe, the device is first slipped under the toe of the shoe with the toe engaging portions 14 engaging the top of the sole of the shoe 20. Next, the heel is inserted inside the heel engaging portion 16 and the adjustment screw 40 is tightened to move the heel clamping portion 42 until the flange 46 clamps the device to the heel of the shoe. It is also contemplated that the device could be assembled without using a clamping insert portion 42, the adjustment screw 40 thereby directly contacting the heel of the shoe.

An alternate configuration of the device is depicted in FIG. 8 and has a toe portion 58 and a heel portion 60 which are connected by a flexible member 62. The toe portion 58 is provided with a sole engaging portion 64 which will fit over the toe portion of the sole of the shoe and engage the upper surface thereof. A plurality of cleats 66 are provided on the toe portion.

The heel portion 60 is provided with a flange 68 which approximates the contour of the heel of a shoe. A strap and buckle assembly 70 is attached to either side of the flange 68 to assist the attachment of the device to the shoe. A plurality of cleats 72 are also provided on the heel portion 60.

The heel and toe portions of this configuration could be formed from plastic material which can be easily injection molded, or alternatively may be formed from sheet metal or other materials as required. To attach this device to the shoe, the toe portion 58 is placed around the toe of the shoe with the sole engaging portion 64 engaging the upper surface of the toe of the shoe. Next, the heel portion 60 is placed around the heel of the shoe by stretching the flexible member 62 and by attaching the buckle and strap assembly 70 around the body of the shoe. This flexible member 62 provides a resilient force which holds the device on the shoe during use.

A third configuration of the device is illustrated in FIG. 9 with a plurality of cleats 73 thereon and differs from FIG. 8 mainly in the fact that it is a one piece construction which can be molded from plastic material or the like. This configuration has a toe portion 74 with a hollow space 76 into which the toe of the shoe can be inserted to retain the device on the shoe. The interior of this toe portion 74 can be provided with a protective liner 78 of felt material or the like to prevent damage to the toe of the shoe.

A heel portion 80 is provided with an integrally molded upstanding flange 82 which generally conforms to the outline of the heel of the shoe. A buckle and strap assembly 84 is provided to attach the device around the shoe.

It should be understood, of course, that the foregoing disclosure relates only to preferred embodiments of the invention and that numerous modifications and alterations may be made therein without departing from the spirit and scope of the invention as set forth in the appended claims.

What is claimed and desired to be secured by Letters Patent in the United States is:

1. Shoe attachment means comprising a base member adapted to stretchably engage said shoe, said base member having heel and toe portions and resilient means for urging said heel and toe portions toward one another when said base member stretchably engages said shoe, and a plurality of cleat means extending from one side of said base member in a direction away from said shoe.

2. A device as defined in claim 1, wherein said cleat means comprises a plurality of pointed shafts.

3. A device as defined in claim 2, wherein said base member is provided with threaded bores, and said cleat means is threaded on one end to engage said bores to attach said cleats to said base.

4. A device as defined in claim 3, wherein said threaded bores are located in a deformed portions of said base.

5. An adjustable attachment for shoes comprising:

a. a base extending the full length of said shoe,

b. said base comprising toe and heel engaging portions, respectively, and having deformed portions thereof;

c. a plurality of cleat means extending from one side of said base, said plurality of cleat means being attached to said base at said deformed portions; and

d. means on said base for removably attaching said base to said shoe.

6. A device as defined in claim 5 wherein said base is in the outline of the sole of the shoe.

7. A device as defined in claim 6, wherein said base and said cleats are of materials which can be welded together.

8. A device as defined in claim 5, including attachment means comprising an extending portion on the front of said base to engage the toe of the shoe.

9. A device as defined in claim 8, wherein said attachment means engages the toe portion of the sole.

10. A device as defined in claim 8 wherein said attachment means further comprises a heel engaging portion.

11. A device as defined in claim 10 wherein said heel engaging portion comprises a clamping member which is movable with respect to said base, an upstanding portion on said base, and an actuation means on said base for moving said clamping member to engage said heel.

12. A device as defined in claim 10 wherein said actuation means comprises a drive screw means in threaded engagement with said upstanding member and contacting said clamping member.

13. A device as defined in claim 11 wherein said clamping member is U-shaped.

14. A device as defined in claim 10 wherein said heel engaging portion is adjustable to attach to heels of various thicknesses.

15. A device for attachment to the bottom of a shoe or the like comprising a base of thin flexible material having a plurality of cleat means extending from one side of said base, said base having heel and toe portions, resilient means linking said heel and toe portions, first means on said toe portion for attaching said toe portion to the sole of said shoe, second means on said heel portion for attaching the heel portion to the sole of said shoe, said heel and toe portions being linked by said resilient means so that when said device is attached to said toe said resilient means is stretched and exerts a resilient force to hold said device on said shoe.

16. A device as defined in claim 15 wherein said first means is an extending portion engaging the sole of said shoe.

17. A device as defined in claim 15 wherein said second means is a strap and buckle assembly which fits over said shoe and buckles to the required length.

18. A device for attachment to the sole of a shoe or the like comprising: a base of thin flexible material extending the length of the shoe, said base being provided with threaded bores located in deformed portions thereof, said base further having cleat means defined by a plurality of pointed shafts extending from one side of said base in a direction away from said sole, said cleat means being threaded on one end to engage said threaded bores to attach said cleat means to said base, and means on said base for removably attaching said base to said shoe.

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