April 6, 1937. E. M. BEALS, JR 2,076,316

REMOVABLE OUTSOLE FOR SPORT SHOES

Filed Oct. 12, 1935

Fig. 1.

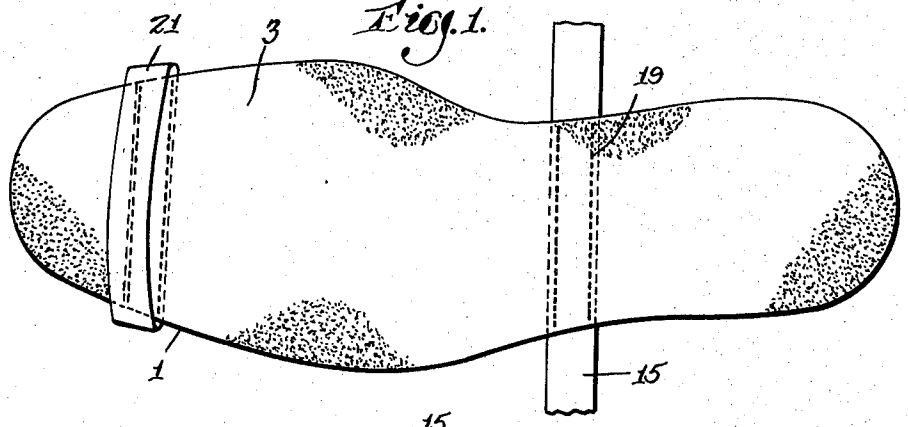


Fig. 2.

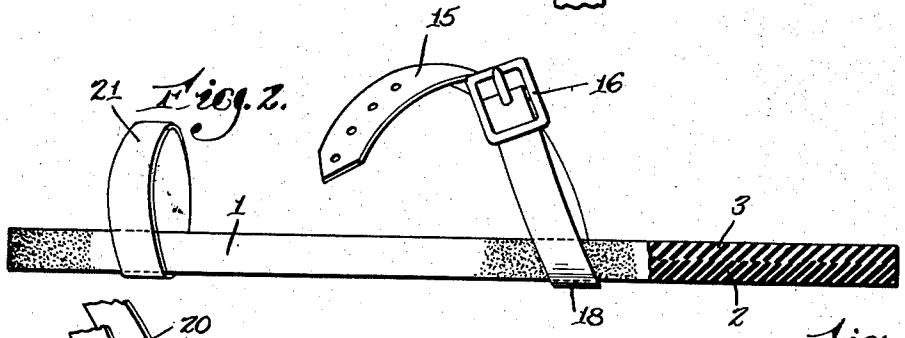


Fig. 3.

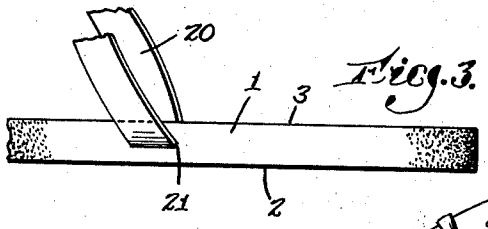
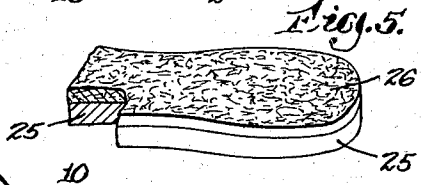


Fig. 5.



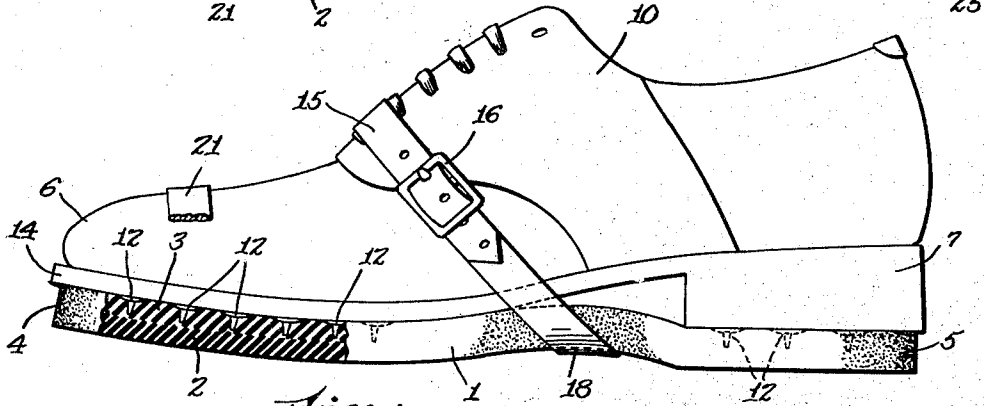


Fig. 4.

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REMOVABLE OUTSOLE FOR SPORT SHOES

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1 Claim. (Cl. 36—7.5)

My present invention relates to sports shoes, and a removable outsole therefor adapted to cover and protect the spikes, caulks, or the like affixed to the bottom of the shoe; and the invention is directed also to the structure of a removable outsole.

Various types of sports shoes are provided with anti-slipping devices, spikes, studs, caulks, or the like affixed to the forepart of the shoe sole to prevent slipping, and such shoes are, of course, unsuitable for wear when walking over pavements, floors, floor coverings, or the like. Consequently, it has been a constant annoyance to the wearer to walk from a clubhouse, residence, or for any substantial distance along pavements with spiked shoes; and it is likewise annoying to wear ordinary shoes until the player gets to the field and then change to sports footwear.

While various attempts have been made to provide substitutes to overcome the difficulties above outlined, no such prior device, so far as I am informed, has been satisfactory or suitable and all such prior attachments or devices have been unsatisfactory in use.

My present invention is directed to a combined spiked sports shoe and removable outsole therefor, particularly adapted and intended for golf shoes, running shoes, or the like wherein a readily attachable and quickly detachable outsole is provided, preferably for combination with and as a part of a golf shoe, which will not only protect the spikes from wear but protect also the floor and floor covering from damage.

My invention will also enable the wearer to put on such shoes at his residence, clubhouse, or the like, walk in comfort to the golf links, and then quickly remove the outsole, enabling the spiked shoe to be thereupon utilized as is properly intended, and eliminating the difficulties of either walking on the spiked shoes to the field or changing shoes at the field. With my invention he can put on sports shoes, with the removable outsole, in the morning, wear them in a house, building, office, drive an automobile without danger or difficulty, and remove the outsole at the golf links, placing such removable soles in his golf bag to be replaced whenever it is desired to return to the clubhouse or residence or walk any substantial distance outside the greens and tees.

A further feature of the present invention is the provision of a novel outsole with a wear-resisting surface for the tread face and a relatively yielding and soft surface, in which the spikes or studs will be imbedded or buried. This feature is of considerable importance because if the removable outsole is of such soft substance—rubber, composition, or the like—as to permit the spikes to be embedded therein the wearing quality of the sole, as well as the protecting feature, will be negligible. On the other hand, if the removable outsole is made sufficiently tough to be wear-resisting then it would be too stiff to permit the studs to be embedded therein. As sports shoes usually have anti-slipping devices affixed more or less at random and varying as to size, shape, and whim of the wearer, it is scarcely feasible to have perforations entirely thru the removable outsole although such a construction might be possible.

A further objection to perforations is that they will pick up mud, dirt, etc. during walking, whereas in my improved construction of a removable outsole giving a smooth, efficient, and wear-resisting outer surface, and with a soft inner and shoe-contacting surface, will automatically fit any set or series of spikes no matter how positioned in the shoe sole.

My improved outsole may be formed of a plurality of layers, one of soft material, one relatively wear-resistant, and one of a compound or composition with a relatively soft portion on one face and relatively wear-resistant on the other.

Referring to the drawing illustrating preferred embodiments of the present invention,

Fig. 1 is a plan view of a typical removable outsole with the inner relatively soft surface shown uppermost;

Fig. 2 is a side view partly in cross-section;

Fig. 3 is a fragmentary view of a modification showing a different attachment for the retaining strap, and

Fig. 4 is a side view illustrating a golf shoe and sole in combination with a portion of the sole broken away illustrating the embedding of the studs in the softer surface of the outsole.

Fig. 5 is a fragmentary view, partly in cross-section, representing a laminated sole structure.

It will be appreciated that I may construct my removable sole of any suitable material, composition, or series of layers, if desired, but preferably I make same of vulcanized rubber or equivalent material with approximately one-half of the entire thickness of the outsole, viz. that intended for the outer surface, of wear-resisting substance, and with the opposite—or spike-contacting surface—sufficiently soft to permit the spikes to be embedded therein. While two such layers of material may be formed and then cemented or

otherwise united, I prefer to make my improved outsole of a unitary mass, such as rubber or rubber composition and with the characteristics of the soft upper portion and a relatively harder bottom portion. Also, my removable outsole is, preferably, of a size and area to cooperate and fit with a number of different sizes of shoes, as it is not essential that the outsole be coextensive either with the length or breadth of the sole with which it is worn.

As shown in the drawing, the outsole is designated generally at 1, having a substantially tough or wear-resisting portion 2 for the bottom surface, and a relatively softer upper portion 3 for the spike-contacting surface of portion. The outsole also extends substantially to the toe portion, as shown at 4, and to the heel portion, as shown at 5, of the corresponding toe 6 and heel 7 of a golf or sports shoe 10.

A plurality of anti-slipping spikes 12—12 are illustrated projecting from the tread surface of the sole 14 of the shoe 10, as clearly shown in Fig. 4.

Any desired attaching means may be employed, but preferably I find that a single strap 15 with a suitable buckle, or the like, 16 and attached to the outsole 1 near the instep portion, as indicated at 18, by stitching or the like 19 is efficient and satisfactory. By having the strap thus positioned, it will hold the removable outsole snugly about both forepart and heel and also lift the strap 18 from contact or wear with the floor, pavement, or surface on which the wearer walks by arching the outsole 1 into the arch of the shoe.

As shown in Fig. 3, a modified form of fastening strap 20 onto the sole 1 is illustrated, wherein an opening 21 is provided thru the thickness of the sole 1 and thru which the retaining strap 20 is threaded.

Other methods of attaching will readily occur to those skilled in the art and, if necessary, a toe strap 21 may be added, as shown in Figs. 1, 2 and 4, and which, together with the normal rigidity of the outsole and the embedding and retaining action of the studs 12—12 therein, are sufficient to retain the sole snugly and firmly in position on the bottom.

While my invention is primarily directed to an improved golf shoe and removable outsole therefor, it is, of course, suitable for any sports shoe having anti-slipping spikes, studs, or projections, the thickness of the outsole being suited to the length of the studs or anti-slipping devices.

Thus, for example, in a similar shoe but made for the use of lumbermen, loggers, or the like where large and heavy spikes are applied to the logger's boots, such an outsole might be properly thickened to provide a suitable thickness in which to embed or bury such spikes.

While I prefer to utilize a composition sole structure, as shown in Figs. 1 to 4 inclusive and as above described, it is also within the scope of my present invention to provide a laminated sole structure wherein two or more layers of different material are united to constitute the sole, preferably with an outsole portion of wear-resistant material, and the upper or inner portion or relatively soft material, receiving the imbedded studs 12. A plurality of such layers may be utilized, if desired, intermediate the two outer surfaces.

As shown in Fig. 5, I have illustrated a fragmentary portion of such a laminated sole structure wherein the outer or wear-resistant surface 25 is of leather and an upper layer 26 of felt, fibre, or textile material, or of rubber or other compound. In this embodiment of the invention the layers are of appropriate thickness for the respective functions of each and are united by suitable adhesive.

I claim:

A removable outsole for cooperative attachment to sport shoes equipped with projecting spikes in the tread portion of the sole and a raised heel, said outsole being adapted to extend from substantially the toe portion of the shoe to the rear of the raised heel, and being of approximately similar peripheral contour to the sole of the shoe to which it is adapted to be attached, said removable outsole being formed of a composite unitary resilient material consisting of a relatively soft spike-receiving layer adapted to be positioned next to the outer surface of the shoe sole, said removable outsole having a relatively tough wear-resisting and somewhat rigid layer for its tread surface extending throughout its entire length and area to aid in maintaining the outsole in an approximately level plane and to span the arch portion of the shoe between the sole and heel, together with an attaching strip secured to the arch-spanning portion of the outsole and adapted to act with a forward thrusting action to produce a frictional engagement between the embedded spikes and the spike-receiving material of the outsole and to maintain said removable outsole in contact with the shoe sole.

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