

March 31, 1925.

1,531,764

E. C. STERNAMAN

ATHLETIC SHOE

Filed July 5, 1922

Fig. 1.

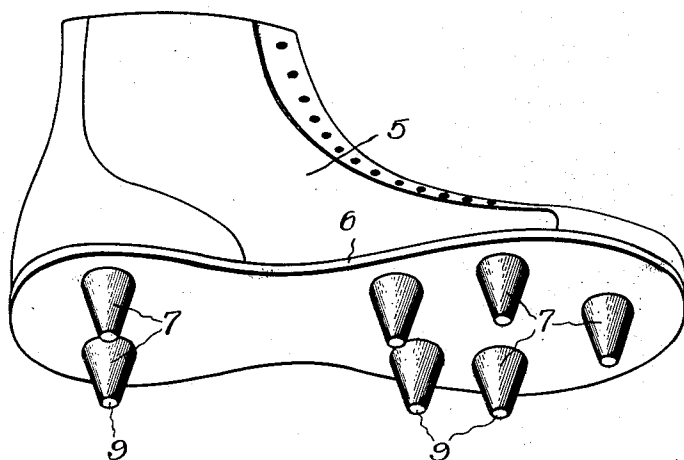


Fig. 2.

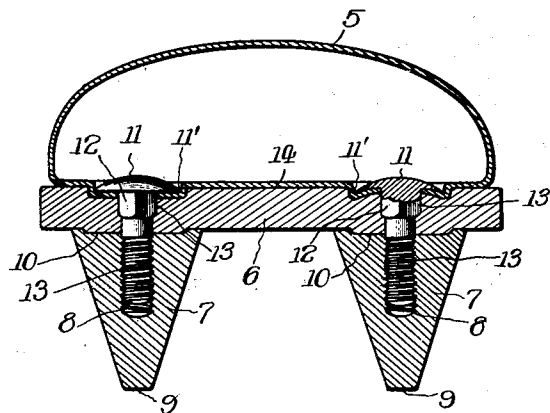


Fig. 3.

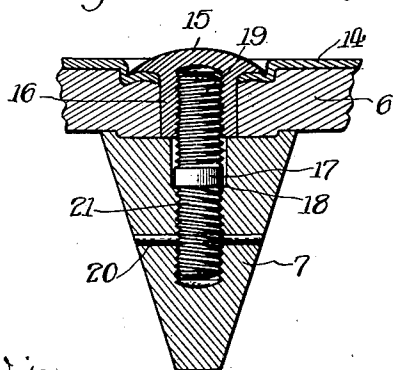
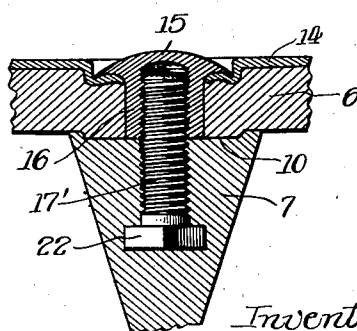


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDWARD C. STERNAMAN, OF CHICAGO, ILLINOIS.

ATHLETIC SHOE.

Application filed July 5, 1922. Serial No. 572,979.

To all whom it may concern:

Be it known that I, EDWARD C. STERNAMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Athletic Shoes, of which the following is a specification.

This invention relates to athletic shoes of that type which are provided with cleats or spurs on the under side of the sole to prevent slipping and afford a secure foothold for the wearer; and the invention has been designed more especially as an improvement in athletic shoes of the kind usually worn by football players, and which are ordinarily equipped with a group (usually five) of conical spurs on the under side of the sole, and a pair of similar spurs on the under side of the heel.

Most athletic shoes of this type involve a more or less special structure of shoe sole adapted to the special constructions of cleats and their attaching or securing devices. One important object of my present invention is to provide a construction which shall not involve or require any special structure of shoe sole, but which shall be applicable to known and standard makes of shoes.

Another objection inherent in many of the athletic shoes of this type at present known resides in the fact that the cleat or spur-attaching devices render the sole unduly stiff and non-flexible, so that the free movements of the legs and feet of the wearer are somewhat hampered by the stiff and unyielding character of the shoe sole. Another object of my present invention is to provide a construction of cleat-attaching means which shall not destroy or impair the natural flexible quality of the sole.

Another object of the invention is to provide a construction which will permit ready interchangeability by the wearer of the cleats or spurs, so that longer or shorter cleats or spurs may be applied according to the conditions of the ground, the preferences of the wearer, or any other conditions.

Finally, my present invention aims to simplify the structure and reduce the cost of cleat-equipped shoes of this type, and more especially shoes worn by players in football games.

Other objects and attendant advantages of the invention will be apparent to persons skilled in the art as the same becomes better understood by reference to the following de-

tailed description, taken in connection with the accompanying drawing wherein I have illustrated two practical and approved embodiments of the invention, and in which—

Fig. 1 is a perspective view of a football shoe equipped with my improved spurs or cleats;

Fig. 2 is an enlarged vertical section through a fragment of the sole and one of the spurs, illustrating the attaching means for the latter;

Fig. 3 is a view similar to Fig. 2, showing a modified form of cleat-attaching means; and

Fig. 4 is a view similar to Figs. 2 and 3 illustrating a further modification of cleat-attaching means.

Referring to the drawings, 5 designates as an entirety the upper, and 6 the sole of a shoe of the type commonly worn by athletes. 7 designates as an entirety a conical cleat or spur, a plurality of which are attached to the under side of each of the foot and heel portions of the sole 6. These cleats may be of any suitable material, but preferably are made of compressed fibre or hard rubber, and each is provided with a central tapped bore 8 in its upper or wide end, said bore extending somewhat more than half the length of the cleat, thereby leaving a solid or imperforate lower end 9. The upper end of the cleat is slightly concaved to form a shallow recess 10 for a purpose hereinafter disclosed.

In all of the forms of the invention illustrated the cleat is separably attached to the sole by means comprising a fastening stud which is non-rotatably mounted in one of said parts and has a threaded portion screwed into the other. Fig. 2 illustrates the preferred form of attaching means comprising a stud having a round head 11, a square shank 12 which fits a correspondingly shaped hole 13 formed in the sole, and a projecting threaded stem 13 that screws into the tapped socket 8 of the cleat. Preferably, and as herein shown, the head 11 is formed with a down-turned comparatively sharp edge 11' that, when the cleat is screwed tightly against the bottom of the sole, is drawn down into the upper surface of the latter, or of the usual sole cover slip 14, so that the edge of the head is embedded in the sole, with the upper surface of the head substantially flush with the upper surface of the sole, whereby any chafing or abrasion of the sole of the

foot of the wearer is avoided. This counter-sinking of the head of the stud in the upper surface of the sole is facilitated by the shallow concavity 10 in the upper wide end of the cleat, since, when the latter is screwed hard up against the bottom of the sole, the portion of the latter directly above the cleat is slightly offset downwardly, filling said shallow recess. A further advantage of this construction lies in the fact that the downwardly offset portion of the sole which fills the shallow recess in the top of the cleat serves as an auxiliary to the stud itself in resisting strains tending to displace the cleat laterally.

It will also be noted that the head of the stud is a smaller diameter than the upper wide end of the cleat; and, further, that the fastening means for the individual cleats are all independent. As a result of this, the inherent flexibility of the sole is not lessened to any appreciable extent by the cleats, and this is a great advantage in shoes of this character. The described construction, furthermore, renders the cleats interchangeable without requiring the removal of the fastening means, since they can be unscrewed and replaced by longer or shorter cleats as desired.

I am aware that conical cleats or spurs have heretofore been attached to a sole by means of rivets extending entirely through the cleat. Where the metal rivet heads are exposed on the lower end of the cleat they are dangerous to the players; and where they are counter-sunk in the lower end of the cleat, this leaves a sharp annular edge which is also dangerous and a hollow lower end which fills with dirt and moisture, allowing the latter to reach and rust the rivet, and, furthermore, the annular lower end of the cleat very rapidly wears down.

I am also aware that cleats and spurs have been attached to shoe soles by nails which are clinched to the under side of the sole. This method is very detrimental to the foot of the wearer on account of the chafing and soreness which inevitably occurs.

In Fig. 3 I have illustrated a modification of the invention in which the fastening stud itself is made in two co-operating parts, and comprises a head 15 formed with an integral internally threaded square shank 16 fitted into the sole, and a stud 17 fitted into a socket 18 in the cleat and having a

threaded projecting portion 19 which screws into the threaded socket of the shank 16. The stud 18 is held non-rotatable in the cleat by means of a cross-pin 20. To more strongly fasten the cleat on the stud, the lower half of the latter is preferably threaded, as shown at 21, and the corresponding portion of the socket is tapped for engagement therewith.

In Fig. 4 I illustrate a construction generally similar to Fig. 3, but wherein a threaded stud 17' having a square head 22 is embedded in the cleat during the molding of the latter. Where the constructions of Figs. 3 and 4 are employed, the studs themselves are permanently associated with the several sizes of cleats; the exchange of one size for another being effected by simply unscrewing the stud from the threaded socket embedded in the sole and then applying another cleat equipped with a similar stud.

In addition to the advantages of the invention already noted, I may mention that it makes possible the reclaiming of old football shoes so that they can be used again.

I claim—

1. The combination with a shoe sole, of a tapered cleat having a solid lower narrow end and a concave upper wide end bearing against the under side of said sole, and a screw stud attaching said cleat to said sole, said stud having a head formed with a down-turned sharp edge overlying the upper surface of the sole, whereby, when said cleat is drawn against the under side of the sole by said screw stud, the portion of the sole directly above the cleat is downwardly displaced into the concavity in the upper end of the cleat.

2. The combination with a shoe sole, of a tapered cleat having a solid lower narrow end and a concaved upper wide end formed with a central tapped socket, a fastening stud non-rotatably mounted in said sole, said fastening stud having a round head with a down-turned sharp edge overlying the upper surface of the sole, and a threaded portion screwing into the socket of said cleat, whereby, when said cleat is screwed against the under side of the sole the portion of the latter directly above the cleat is downwardly displaced into the concavity in the upper end of the cleat.

EDWARD C. STERNAMAN.