March 26, 1963 A. W. DOLCEAMORE 3,082,549

SLANTED CLEAT ASSEMBLY FOR ATHLETIC SHOES

Filed May 1, 1962

Fig. 1

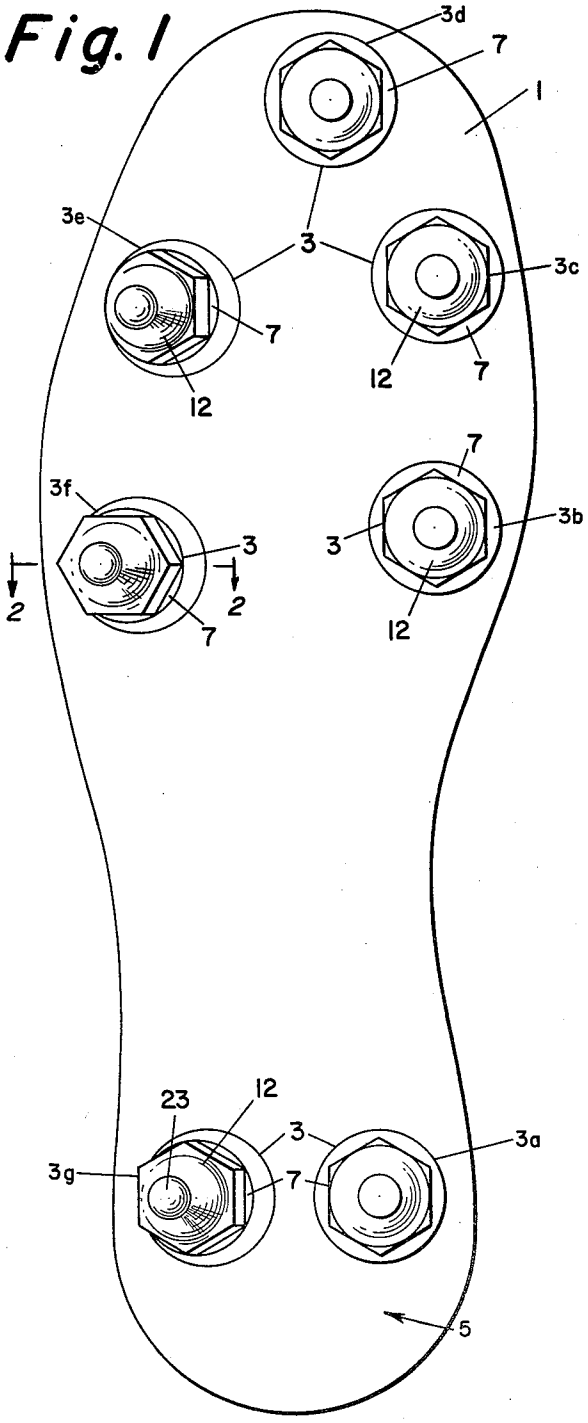


Fig. 2

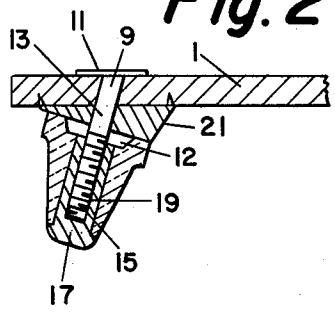
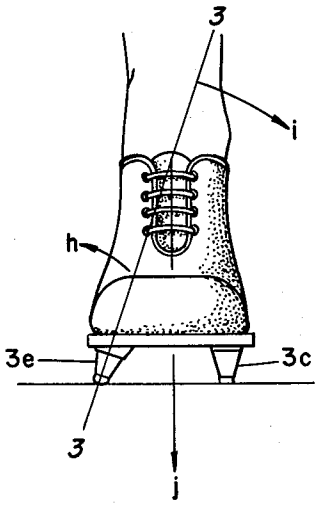


Fig. 3



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SLANTED CLEAT ASSEMBLY FOR ATHLETIC SHOES

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This invention relates to athletic shoes of the cleated type and more particularly to football shoes but is applicable to other types of shoes such as those used in soccer, track, golf, etc. Cleats for football shoes are customarily of frusto-conical shape and are removably secured to the soles of the shoes.

As is well known to those familiar with the game of football, the ankles of the player are subjected to sudden stresses and strains in running, jumping, dodging, turning, and cutting. Under the prior art many attempts have been made to reinforce the shoe so that injuries to the ankles may be minimized; but, so far as I am aware from my experience in the game no shoe now on the market is able to accomplish this result without incurring certain disadvantages to the performance of the player. The shoes under the prior art are heavy and cumbersome thereby interfering with the speed and agility of the player, particularly upon a wet heavy and soggy field, and in addition thereto do not thoroughly stiffen or brace the ankle against sudden sharp stresses and strains to which the feet and ankles of the player are constantly subjected during the game.

It is an object of this invention to provide a cleat assembly which may be arranged on a conventional football shoe so that the tendency of such injury is greatly reduced, if not entirely eliminated.

Another object of this invention is to provide a football shoe having an improved cleat assembly having its cleats arranged so as to enable the weight of the wearer to create a moment of force opposite to the outward bend of the ankle so that when the player is running along on an uneven field or is attempting to make a sharp turn his foot will be forced to the inside to a flat and proper position rather than to the outside causing an ankle break or sprain.

Yet another object of the present invention is to provide a football shoe having an improved cleat assembly which will embody the desired features of strength, efficiency, simplicity, durability and which is relatively light thereby conducing to the speed of the wearer.

A further object is to provide an improved cleat assembly easily adaptable to use the conventional cleats now on the market.

A still further object of the present invention is to provide an improved assembly for securing football cleats to shoes in such a manner that they can be easily secured to the shoes or removed for replacement, will stay in place while in service, and are less liable to failure than the cleat assemblies previously available.

Various other objects and advantages will be apparent from the following description of one embodiment of the invention, and the novel features will be particularly pointed out hereinafter in connection with the appended claims.

In the accompanying drawing:

FIGURE 1 is a bottom plan view of the sole portion of a football shoe on which a number of cleats are mounted.

FIGURE 2 is a fragmentary section on the line 2—2 of FIGURE 1.

FIGURE 3 is a front elevation of a football shoe with the improved cleat assembly attached showing the moment of forces that are in action when a player is wearing the shoe.

Referring more particularly to the drawings wherein I have illustrated a preferred embodiment of my invention, in FIGURE 1 the numeral 1 indicates the main sole portion and the numeral 5 indicates the heel portion of a shoe that is especially intended to be worn by a football player in play, this sole and heel portions being preferably made of some lightweight yet tough and durable material that is suitable for the purpose.

As is usual and needed to insure that the player have sufficient traction during play to insure accurate direction and rapid movement on the playing field, a plurality of cleats 3 are carried by the bottom or under face of the sole 1 and heel 5.

As shown clearly in FIGURE 2, cleats 3*a* and 3*g* are positioned at the heel 5. Cleats 3*b* and 3*f* are positioned at the rear ball portion of the sole 1. Cleats 3*c* and 3*e* are positioned across that portion of the sole that is intended to support the front ball portion of the foot of the wearer. Cleat 3*d* is positioned under the toes of the foot.

It should be understood that, while I have disclosed what I consider the preferred arrangement of cleats to obtain the maximum efficiency, this positioning may be varied and excellent results still obtained, within the spirit of my invention. The wide spacing of the cleats enables them to be "self-cleaning," since mud will not readily collect between them.

In the construction herein shown in FIGURE 2, each cleat 3 is of a generally frusto-conical shape. Bolts 9 are mounted on the shoe to receive and support the cleats 3, each bolt having a flat head 11 which is preferably thin so that it can readily be driven flush with the inner surface of the sole 1 and heel 5. Next to the head 11, the bolt 9 has an unthreaded shank portion 13. This portion of the shank is of sufficient length to extend through the sole 1 and heel 5. Beyond the unthreaded portion 13 is a threaded portion 15. On the projecting threaded shank portion 15 of the bolt is a nut 12. A thin circular fin 7 may also be formed on the nut. This fin can be pressed or spun in against the shank of the bolt after the nut has been set up thereon. This helps to prevent the nut from working loose on the bolt.

As indicated in FIGURE 2, the cleat 3 is made with a deep central recess 17 extending in from the base end of the cleat 3. An internally threaded member 19 is embedded in the cleat within this recess, the member 19 being adapted for threaded engagement with the shank 15 of the bolt.

In accordance with the present invention for purposes of illustration FIGURE 1 would show the sole of the right shoe, for it will be noted that cleats 3*a*, 3*b* and 3*c* on the inner side of the sole and heel are attached perpendicular to the plane of the sole while cleats 3*e*, 3*f* and 3*g* on the outer side of the sole and heel are slanted toward the outside edge of the sole. The cleats are positioned sufficient far enough from the edge of the sole so that the cleat would not overhang the edge.

While the outer cleats may be held in an inclined position in many ways, in the herein illustrated form of the invention, they are held in this position by having a tapered metal disc 21 placed between the fin 7 and the outer surface of the sole 3 and heel 5 on the unthreaded shank portion 13 of the bolt. The disc is permanently affixed thereto by welding or the like.

The angle which the "slanted" cleats form with the plane of the sole is determined by the extent of build up in the support 21. With the low side of the support member 21 referenced at 0 inches, the high side of the member 21 can vary from 5/32 of an inch up to 1/4 of an inch. The only difference between the structure of the slanted cleats and the upright cleats is that the edges 23 of the slanted cleats are rounded off so that the cleat

will strike the ground evenly even though it is screwed on at an angle.

The forces involved during the phases of play are shown in FIGURE 3, it will be noted that in the flat or normal position, the slanted cleat 3*e* supports the weight of the player along the line 3—3, if a force should be developed to force the foot to the outside as indicated by the arrow *h*, the weight of the body along the axis 3—3 would create a moment of force *i* which would prevent the foot of the player from bending outwardly resulting in a break or sprain. It will be noted that in the case of the upright cleat 3*c*, the weight of the player is supported along its vertical axis *j*. Consequently when the foot is bent to the outside, there is no moment of force set up by the weight of the player to force it to the inside.

I have proven under actual trial periods of practice that the slanted cleat will force the foot to the inside to a flat and proper position rather than to the outside during the operations of stepping, running, jumping, turning, cutting back and etc. which a player is called upon to perform in the course of a game. This "slanted cleat" will react in the same manner when the player steps down on hard frozen or muddy ground which has been left uneven due to previous use in that it will prevent the player from turning his angle.

A 7/32" build-up in the support member 21 has been found to give the most effective slant. It will be noted that the traction or biting action of the cleat is not lessened by slanting it within the aforementioned limits. The durability and wear-life of the "slanted cleat" is the same as the upright cleat. The upright cleats and the slanted cleats are interchangeable; it would only become necessary to round off the edge of the cleat when it is desired to place it in a slanted position. By using the slanted cleats along the outside edge of a football shoe, eighty percent of the ankle injuries now caused by the slightest uneven footing, twisting, turning, etc. will be eliminated.

It will be understood that various changes in the details, materials and arrangements of parts which have been herein described and illustrated in order to explain the nature of the invention, may be made by those skilled in the art within the principle and scope of the invention as expressed in the appended claims.

It is claimed:

1. In a football shoe having a one piece leather sole and heel, cleats removably secured to the sole and heel and projecting downwardly therefrom; said cleats being positioned along the inner and outer edges of the sole the combination therewith of the improvement for reducing the tendency of ankles of players engaged in the game of football from being injured said improvement consisting of a tapered means disposed under those cleats positioned along the outer edge of the said sole, said means being tapered downwardly toward the said outer edge of the sole whereby the cleats on the outer edge of the sole are slanted outwardly.

2. A football shoe according to claim 1 wherein the tapered means comprises a metal disc having one side raised to at least 5/32 of an inch and not more than 1/4 of an inch.

3. A football shoe according to claim 2 wherein the one side of the metal disc is raised to 7/32 of an inch.

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