Feb. 27, 1934. A. A. SAUNDERS 1,949,333

ATTACHING MEANS FOR CLEATS

Filed June 14, 1932

FIG. 1.

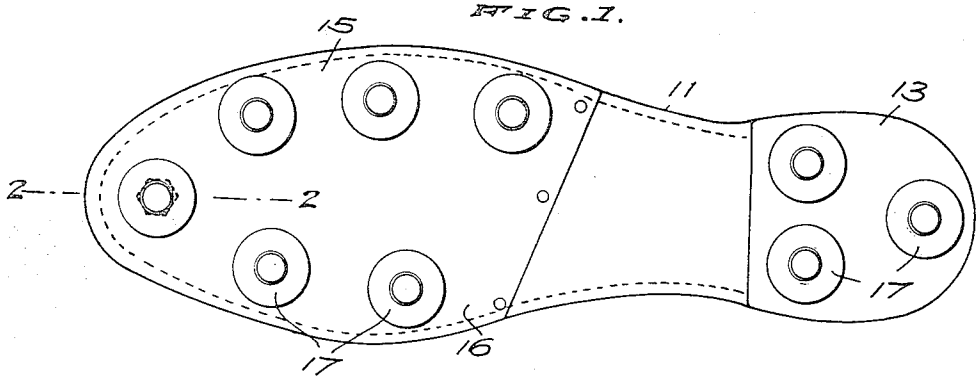


FIG. 2.

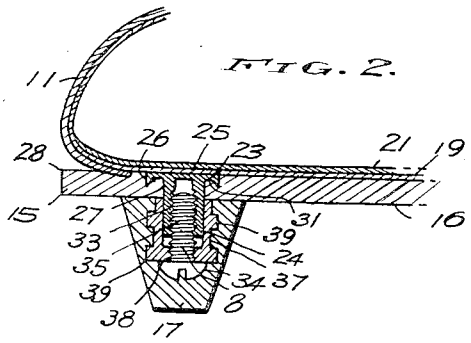
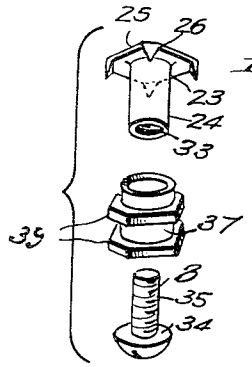


FIG. 3.



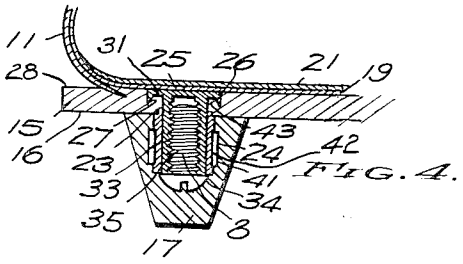


FIG. 4.

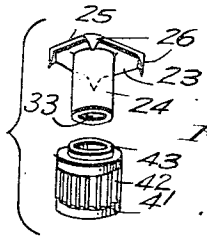


FIG. 5.

FIG. 6.

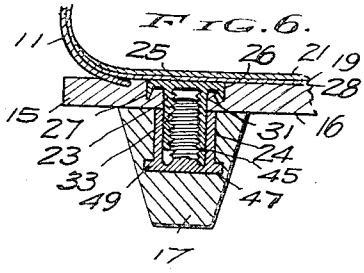


FIG. 7.

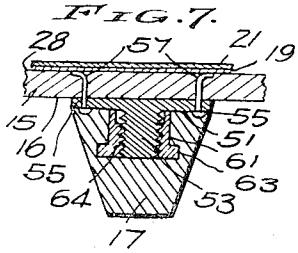
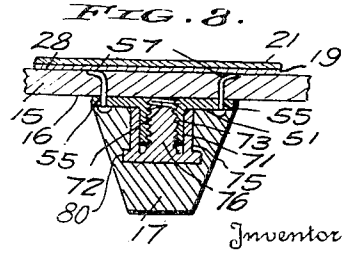


FIG. 8.



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ATTACHING MEANS FOR CLEATS

Aaron A. Saunders, Brockton, Mass.

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13 Claims. (Cl. 36—59)

My invention relates to improvements in means for removably attaching cleats to the soles and heels of shoes, and especially to such shoes as are worn by members of athletic teams in such sports as football, soccer, lacrosse and possibly other games. More particularly, my invention relates to such cleats as are formed of a molded plastic material though I do not limit myself to any specific material.

An object of my invention is to provide means whereby the cleat will be held in its proper place on the shoe regardless of the amount of strain to which it may be subjected.

Another object is to provide an attaching means partly carried by the shoe and partly by the cleat whereby the various strains are equally distributed and no one part is forced to bear the burden of a single strain.

A still further object is to provide a cleat attaching means that is relatively simple in design and structure yet which is strong and durable and which can be readily manufactured at a low cost.

Other objects and advantages reside in certain features of structure, combination and arrangement of the various parts, and in certain modes of operation which will become readily apparent to those skilled in the art, upon reference to the drawing in connection with the detailed description forming a part of this specification.

In the drawing:

Figure 1 is a plan view of the sole of a cleat-bearing sport shoe with one of the cleats shown in section.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a detail of the attaching means shown in Figure 2.

Figure 4 is a view similar to Figure 2 showing a slight modification of the attaching means.

Figure 5 is a detail of the attaching means shown in Figure 4, the attaching screw being omitted.

Figures 6, 7, and 8 are sectional views similar to Figure 2, showing further modifications of my attaching means.

In the drawing, wherein like reference characters have been used throughout to indicate like parts, 11 represents a sport shoe of usual design having the heel portion 13, outer sole 15, and cleats 17.

The shoe 11 is further provided with the usual integral inner sole 19 and the removable inner sole 21. The outer sole 15 and heel portion 13 are preferably formed of leather though it can be readily seen that other materials such as rubber or certain plastic compositions or even fabric might be used without departing from the spirit of the invention.

Referring to the attaching means disclosed in Figures 1, 2, and 3, 23 represents a metallic stud having a hollow cylindrical stud portion 24 and a flat anchor plate 25, which is preferably polygonal in plan and whose corners 26 are sharpened and bent into substantially parallel relationship to the stud portion 24 to dig into sole 15. The outer sole 15 and the heel portion 13 are provided with holes 27 equal in number to the number of the cleats and of a size to fit the portions 24 of the studs 23, which are extended therethrough.

The anchor plates 25 of the studs 23 are countersunk, as at 31, into the inner surface 28 of the sole 15 and heel portion 13 and are held in rigid relation thereto by the said countersunk portions 31 and the sharpened corners 26 of the anchor plate 25 which are imbedded in inner sides 28 of the sole 15 and heel 13.

Considering a single attaching means, the cylindrical stud member 24 which, as has been stated before, is hollow, extends outwardly through the holes 27 and protrudes slightly from the outer surface 16 of the outer sole 15 and is internally threaded as at 33 to receive the threaded screw bolt 35 which is carried by the cleat 17 which will now be described.

The screw bolt 35 is molded into the cleat 17 and carries an inverted cup-like metal sleeve 37 which has a threaded hole 38 in the bottom thereof and which is tightly screwed against the head 34 of the bolt 35. Space is provided between the shaft 8 of the bolt 35 and the inner wall of the sleeve 37 to allow the sleeve to fit snugly around the protruding end of the stud 24.

This interfitting of the parts is an important feature of my invention in that it serves to equally distribute, between the cleat and the supporting means carried by the shoe, the various strains to which the cleat is subjected. The sleeve 37 is further provided with a plurality of raised polygonal beads 39 which serve to prevent the cleat 17 from being stripped from the sleeve 37 when the former is subjected to undue wrenchings or twistings. The polygonal nature of the periphery of the beads 39 prevents the sleeve 37 from turning on its own axis within the cleat and materially lengthens the life of the cleat.

In practice, the shoe 11 is made up with the desired number of studs mounted, as has been

stated, on the outer sole. Cleats of any desired shape or height carrying the other half of my attaching means are attached to the studs by inserting the end of the bolt 35, which protrudes slightly from the cleat, into the threaded portion 33 of the stud 24. The cleat is then screwed tightly against the sole and is ready for use. In practice it is better to tighten up the cleat with a wrench or pliers, rather than manually, to obviate the danger of the cleat becoming accidentally unscrewed in the course of a game.

The form of the invention shown in Figures 4 and 5 differs from the preferred form only in that in this form the sleeve 41 is not threadedly mounted upon the shaft 8 of the bolt 35 but is loosely carried thereby. The sleeve 41 is further provided at its sole contacting end with a sharpened flange 43 which slightly penetrates the outer surface of the sole 15 and assists in the prevention of lateral movement of the cleat 17. Here again the parts divided the strains by their interfitting relationship with each other. The periphery of the sleeve 41 has no annular beads but is provided instead with a plurality of close set longitudinally extending grooves which, like the beads 39 of the preferred form, prevent the cleat from being accidentally stripped from the sleeve 41.

In the form of the invention shown in Figure 6 the bolt 45 is formed integrally with the sleeve 47 and the sleeve 47 is further provided with a polygonal flange 49 at its base to rigidly anchor the sleeve within the cleat 17. In both forms of the invention last described, the cleats are very similar in appearance to the preferred form and are attached and detached from the shoe in exactly the same manner.

In Figures 7 and 8 a slightly different form of the invention is seen. This form of attachment is designed for a shoe that does not have the anchor studs 23 integrally mounted in the soles. Obviously such studs can only be formed in the shoe at the time of its making and as large numbers of sport and other shoes especially those of a cheaper grade, will not be so formed, the variations now to be described here have been designed not only to be attached to the soles of the ordinary type of sport shoe, but they may be attached to the soles and heels of the ordinary street shoe for the purpose of converting it into a sport shoe.

In the form of the device shown in Figure 7 the attaching means consists of flat metal plate 51 corresponding in outline to that of the base of the cleat and provided adjacent its edge with a plurality of holes 55 by which the plate is nailed to the sole 15 by means of nails 57. Centrally located on the plate 51 and integral therewith is an outwardly extending threaded stud 53. The said stud 53 is designed for threaded attachment with the socket member 61 of the cleat 17. The socket member 61 is in the form of sleeve and is internally threaded as at 64 for attachment with the threaded stud 53. The said sleeve or socket member 61 is further provided at its inner end with a polygonal flange 63 to prevent the stripping of the cleat from the sleeve.

The form of invention disclosed by Figure 8 differs from that of Figure 7 in that on the plate 51, instead of a threaded stud, a centrally located hollow cylindrical stud 71 extends outwardly from the plate 51 and is internally threaded as at 73. It will be noted also that the threaded portion 73 of the said stud 71 extends entirely through the plate 71 as shown at 72.

The attaching means carried by the cleat 17 in this form of the invention is the same as that shown in Figure 6 but obviously either of the forms shown in Figures 2 and 4 may be substituted therefor. The stud 76 is integrally mounted within the sleeve 75 and space is provided between the stud 76 and the sleeve 75 to allow the hollow stud 71 of the plate 51 to fit therebetween when the cleat is screwed on to the base plate. A polygonal flange 80 is formed at the inner end of the sleeve 75 for the usual purpose of anchoring the sleeve in the cleat 17. It will be noted that in the form of the invention disclosed in Figure 8 the same interfitting of parts is provided as in the other forms of the invention and that any strains to which the cleat is subjected will be equally borne by all of the parts.

From the foregoing it is readily apparent that the invention has two main embodiments and provides cleat attaching means for both special and ordinary shoes. At the same time the various parts of the two main forms are of such a similar nature that it requires little imagination to conceive that they form but a single invention and that many variations may be made without departing from the spirit of the invention and scope of the appended claims.

Having thus described my invention, what I claim is:

1. In a device of the class described comprising hollow and internally threaded anchoring means carried by a shoe and extending outwardly thereof, a cleat having a non-threaded sleeve formed in its base thereof and threaded means complementary to said threaded means on said shoe centrally located in said sleeve, and providing a space therebetween for the accommodation of said anchoring means.

2. In a device of the class described a cleat attaching means carried by the outer sole of a shoe, said means comprising a base plate and a hollow internally threaded stud projecting outwardly of the sole a substantial distance, an externally threaded stud integrally carried by a cleat for threadedly connecting with said internally threaded stud, and said cleat being formed with a sleeve around the said externally threaded stud to accommodate the non-threaded portion of said internally threaded stud.

3. In a cleat attaching means for shoes, cleat anchoring means carried by the outer sole of said shoe, said means comprising a polygonal base plate countersunk in the inner face of said outer sole and a hollow internally threaded stud member carried by the said plate and extending through the said sole and outwardly thereof, a cleat, carrying a sleeve in its base portion to receive the outwardly extending portion of said stud and an externally threaded stud centrally located in said sleeve and extending outwardly of the base of said cleat.

4. In a cleat attaching means for shoes, cleat anchoring means carried by the outer sole of said shoe, said means comprising a polygonal base plate countersunk in the inner face of said outer sole and having its corners downwardly turned and outwardly beveled, a hollow internally threaded stud member carried by the said plate and extending through the said sole and outwardly thereof, a cleat, carrying a sleeve in its base portion to receive the outwardly extending portion of said stud, an externally threaded stud centrally located in said sleeve and extending outwardly of the base of said cleat, and said externally threaded stud and said sleeve provid-

ing a space therebetween to accommodate the non-threaded outer portion of said internally threaded stud.

5. In a cleat attaching means for shoes, cleat anchoring means carried by the outer sole of said shoe, said means comprising a plate member fastened on the outer surface of said sole, a hollow internally threaded stud member carried by said plate and extending outwardly thereof, a cleat carrying a sleeve in its base portion and an externally threaded stud centrally located in said sleeve and extending outwardly of the base of said cleat, and said externally threaded stud and said sleeve providing a space therebetween to accommodate the non-threaded outer portion of said internally threaded stud.

6. In a device for attaching a cleat to a shoe, separate threaded means carried by said cleat and said shoe to effect a threaded connection between the same, and non-threaded interfitting portions on said two threaded means for strengthening the connection between said shoe and said cleat, and said means on said cleat being formed of different material from said cleat.

7. In a device of the class described, comprising a hollow and internally threaded anchoring means carried by the sole of a shoe and extending outwardly thereof, a cleat having a non-threaded sleeve formed in its base thereof and a threaded stud complementary to said threaded means on said shoe centrally located in said sleeve, and said stud and sleeve being formed of different material from said cleat.

8. In a device for attaching a cleat to a shoe, separate threaded means carried by said cleat and the outer surface of the outer sole of said shoe to effect a threaded connection between the same, and non-threaded interfitting portions on said two threaded means for strengthening the connection between said shoe and said cleat, and said means on said cleat being formed of different material from the same.

9. In a device for attaching a cleat to a shoe comprising hollow and internally threaded anchoring means carried on the outer surface of the outer sole of a shoe and extending outwardly thereof, a cleat having a non-threaded sleeve formed in its base and a threaded stud complementary to said threaded means on said shoe centrally located in said sleeve, and said stud and sleeve being formed of different material from said cleat.

10. In a device of the class described, comprising hollow and internally threaded anchoring means carried on the inner surface of the outer sole of a shoe and extending outwardly thereof, a cleat having a non-threaded sleeve formed in its base and a threaded stud complementary to said threaded means on said shoe centrally located in said sleeve, and said stud and sleeve being formed of different material from said cleat.

11. In a device for attaching a cleat to a shoe, separate threaded means carried by said cleat and the inner surface of the outer sole of said shoe to effect a threaded connection between the same, and non-threaded interfitting portions on said two threaded means for strengthening the connection between said shoe and said cleat, and said means on said cleat being formed of different material from said cleat.

12. A device of the class described comprising a base plate carried by the sole of a shoe, a hollow internally threaded stud on said base plate and extending outwardly of the sole the outer periphery of said stud being non-threaded, a cleat, a non-threaded sleeve of different material from said cleat and molded into the base thereof, an externally threaded stud member centrally located in said sleeve for engagement with said hollow stud and so located as to provide a space between said member and said sleeve to accommodate the non-threaded portion of said hollow stud.

13. A device of the class described, comprising a base plate carried by the sole of a shoe, a hollow internally threaded stud on said base plate and extending outwardly of the sole the outer periphery of said stud being non-threaded, a cleat, a non-threaded sleeve of different material from said cleat and molded into the base thereof, an externally threaded stud member threadedly mounted in said sleeve and centrally thereof for engagement with said hollow stud and so located as to provide a space between said member and sleeve to accommodate the non-threaded portion of said hollow stud.

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