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(71) Applicant: **Aberdin, S.L.**
03202 Elche (Alicante) (ES)

(72) Inventor: **Quirant Anton, D. Miguel Angel**
03202 Elche (Alicante) (ES)

(74) Representative: **Suarez Diaz, Jesus**
Hermosilla, 30,
3 Dcha.
28001 Madrid (ES)

(54) Movable studs for sports footwear

(57) It consists in incorporating a metal female part (4) provided with an internally hollow emergent rod (3), provided or not with a helical thread, which will emerge through a reinforcing area (8) provided with an opening (8') having a cavity or recess inside the sole in which the female part (4) is incorporated, in cooperation with two side fixing parts (6) and (6'), or else in a sole provided with circular reinforcements (11) having a cross-like opening (11') which enable multidirectional movements, in cooperation with fixing parts (5) provided with bores (5') in the case of the multidirectional parts, along with an external coupling of a protecting part (12) carrying a bore (12') through which the threaded or non-threaded rods of the studs extend, or else with the cooperation of an elongated part (9), in the bidirectional embodiment, provided with a central bore (9') and acting in the same way as the part (12) as an anchorage protection.

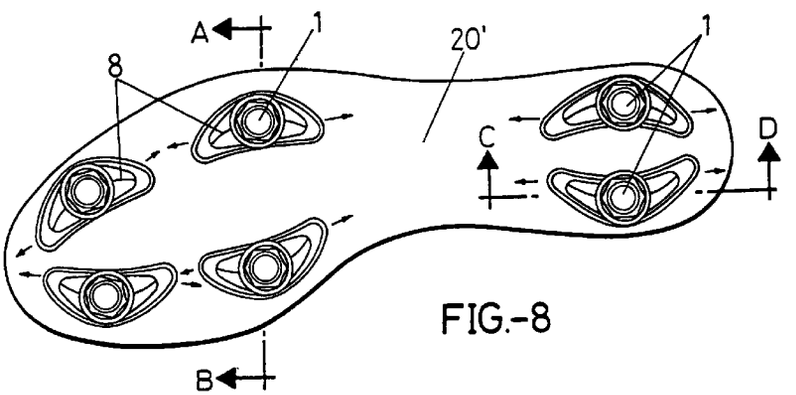

FIG.-8

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Description

OBJECT OF THE INVENTION

The present specification relates to an application for a patent of invention concerning a new arrangement for regulating multidirectional movements of the studs incorporated in sports footwear, particularly sports footwear used in football, rugby, etc., the obvious purpose of which is to place the studs themselves in suitable points of the sole of the footwear in such a way that as a result thereof an adaptation of same is achieved to the characteristics of the sportsman and to the conditions of the ground where the competition takes place.

FIELD OF THE INVENTION

This invention is applicable within the industry devoted to the manufacturing of sports footwear.

BACKGROUND OF THE INVENTION

As far as the applicant knows, nowadays there is different types of footwear, generally used to practice specific sports, such as football or rugby competitions, etc., that inexcusably require the use of footwear provided with studs.

Those studs are located on the sole of the footwear according to a general location criterion, and particularly in very special cases they are located in a specific way in accordance with the physical features of the sportsman himself.

In order to fix these studs, reinforcing areas have been provided on the underside of the sole, in which they are driven, screwed or adjusted, and once the studs have been located and fixed, they cannot be mobilized in a simplified manner.

The steps for locating the studs in a specific way require the use of the services of a specialist.

The obvious solution for the present existing problem would be that the studs were able to be located unidirectionally or multidirectionally without requiring the intervention of a specialist, and at the same time they could be mobilized in accordancde with the features of the ground where the competition takes place or according to specific conditions of the player.

However, so far we are not aware of the existence of an invention provided with the features which have been pointed out as suitable.

DESCRIPTION OF THE INVENTION

The new arrangement for regulating multidirectional movements of the studs incorporated in sports footwear as proposed by the invention constitutes an obvious innovation in itself within their application field, since the use of this new arrangement will allow the users of this type of footwear to be able to locate the studs of their footwear in a proper form consistent with their needs or particularities, both multidirectionally and unidirectionally.

More specifically, the new arrangement for regulating multidirectional movements of the studs incorporated in sports footwear which is the subject matter of the invention consists in using a female part having a quadrangular shape, as seen in a plan view, made of a metallic material, which is provided in the central area of one of its major faces with an internally hollow emergent projection in the manner of a hollow cylinder.

Such female part will emerge from the lower side of the footwear, and once the same is held in a circular part, as seen in a plan view, provided with a central quadrangular opening, it will allow a stud provided with a threaded or non-threaded cylindrical protuberance to be set in place, whereby - on account of the mobilization caused by the body of the female part in the central opening of the holding part - it is made possible for the located studs to be positioned at a proper angularity consistent with the desired features, spaced apart in a greater or smaller extent or as considered convenient in accordance with the created possibilities due to the central opening of the holding part that enables a multidirectional mobility of the studs.

The invention also allows the female part itself to be located on the sole and, with the aid of two complementary side parts, to regulate the forward or backward movements of the stud itself, which will emerge from the underside of the footwear and will be assisted in locating and fixing it by means of the holding part which, in both cases provided with an emergent bolt and an upper surface substantially broader than the area of adaptation to the ground, vill prevent the mobility of the stud once the same has been adjusted on fixing it to the surface of the sole.

Apart from the fact that the footwear sole has the corresponding substantially elongated opening in which the stud slides in a bidirectional movement, the invention also allows the stud to be implemented on fixing it with an upper part located on the female part and its complementary side parts, and a lower part located on the interface with the footwear sole, provided with a central bore through which the rod of the female part will come out and will enable the corresponding screwing of the stud itself, the latter being able to optionally be formed without the emergent bolt and use a central bore in its upper portion with a greater diameter in which the rod of the female part will be screwed.

Obviously, a multidirectionally acting part can be placed in the slots existing on the footwear sole, the consequence thereof being that the stud can be provided with a lateral and angular mobility instead of a bidirectional mobility as in the previous case. In another embodiment the invention can be provided - in cooperation with the plan circular part having a rectangular opening - with an outer part attached to the surface of the footwear sole which has a cross-like slit, whereby it is made possible for the stud located on the central area to be oriented both forwardly and backwardly, or else

rightwardly and letfwardly.

The invention is further implemented, if desired, by incorporating a plan circular part in the fixing area on the footwear, said part being provided with a central bore through which the upper rod of the stud enters, whereby the connection of all parts forming the connection area is consequently stiffened.

Finally, it should be noted that the invention allows the footwear sole to be provided with multidirectionally or bidirectionally fixing areas, which can be either all of them multidirectional or all of them bidirectional.

Obviously, the soles used for this type of anchorages are specifically shaped as far as the inclusion of the openings or bores is concerned, the same being able to be made in any sole considered as convenient and complying with the adaptation regulations.

DESCRIPTION OF THE DRAWINGS

In order to complete the description being made and to assist in a better comprehension of the features of the invention, a set of drawings is attached to the present specification, forming an integral part thereof, in which in an illustrating but not limitating way the following has been represented:

Figura 1 shows a perspective view of the different parts forming the first embodiment of the invention relating to a new arrangement for regulating multidirectional movements of the studs incorporated in sports footwear.

Figura 2 also shows a perspective view of the different parts forming the main portion of the second embodiment of the invention.

Figure 3 shows a perspective view of the different parts harmoniously cooperating in order to achieve the bidirectional mobilization of the studs, this embodiment being able to be implemented with the cooperation of the part shown in figure 1, whereby the invention can be potentiated in a multidirectional sense by making use of the slit line or opening where the female part is inserted.

Figure 4 shows a third embodiment of the invention, similar to that represented in figure 1, but substantially implemented with additional parts.

Figure 5 shows a plan view of a footwear sole having multidirectionally acting parts.

Figure 6 shows a plan view of a sole in which the semi-curved openings are provided, that enable the incorporation of the studs and the new arrangement in a bidirectional sense.

Figure 7 shows a perspective view of the way of fixing a bidirectional part inside the footwear sole.

Figure 8 shows a plan view of a sole of sports footwear in which the parts forming the bidirectionally acting studs have been incorporated.

Figure 9 shows a side elevation view of the object represented in figure 8.

Figure 10 shows a view along A-B of the object represented in figure 8.

Figure 11 shows a view along C-D of the object represented in figure 8.

Figure 12 finally shows a plan view of a footwear sole in which studs have been incorporated, offering the possibility of acting in a multidirectional sense.

PREFERRED EMBODIMENTS OF THE INVENTION

As shown in the above figures, it can be seen that the new arrangement for regulating multidirectional movements of the studs incorporated in sports footwear according to the invention consists of a metal part 4 having a plan rectangular shape, from which - namely from one of its major faces - an internally threaded or non-threaded, hollow cylindrical projection 3 emerges, which is adapted to enable the attachment of a bolt 2 stemming from the upper face of a stud 1 usable in sports footwear.

In figure 1 it is seen how the above described two parts are complemented with a part 5 which is circular in a plan view and has in its central area a quadrangular opening 5' adapted to enable the mobilization of the bolt 3 inside the opening 5', the female part 4 being held on the upper portion of the part 5 and the stud 1 being located inside the cylindrical projection 3 in accordance with the previous location of the female part 4 inside the opening 5'.

Obviously, the upper area of the stud 1 holds the footwear sole on the underside thereof and is consequently inmobilized.

In a second embodiment represented in figure 2, the stud 1 along with its threaded bolt 2' is incorporated inside the protuberance or cylindrical projection 3 of the female part 4, the action of the female part 4 being assisted or complemented by means of two side parts 6 and 6' which allow the stud to be mobilized when the same is located on the footwear sole.

As can be seen in figure 3, this second embodiment is implemented in accordance with the presence of a longitudinal opening 8' found in a reinforcemente 8 of the footwear sole, said opening forming on the upper side a recess inside which the female part 4 is inserted with the cylindrical rod 3 emerging, the female part being held or supported on the upper side by means of the two complementary fixing parts 6 and 6' acting as stops on sliding, while on the underside a part 9 is provided, which has a central bore 9' serving as an element that immobilizes the stud 1' and - in cooperation with the rod 2 - is engaged into the cylinder 3, whereby the elements shaped as the female part 4 and the stud 1' are suitably fixed, said part 9 having the function of keeping the anchorage clean and being preferably made of nylon.

Figura 4 shows how the invention can be constituted in a third embodiment using a shape and implementation of parts corresponding to the multidirectional embodiment, similar to the bidirectional one, since in

this embodiment shown in said figure 4 the invention is implemented by means of an upper reinforcing area 10 located on the upper side of the circular part 4 provided with the quadrangular bore or opening 5', whereby this part - on incorporating the female part 4 from which the rod 3 will emerge - makes consequently possible for said rod to be inserted through a central opening 11' provided in a part 11 which, as seen in a plan view, is circular in shape and assumes a cross form, the rod 3 being consequently allowed to be located both to the right and to the left, or else in both a forward and rearward direction.

In order to keep the anchoring part clean, a circular part 12 is located, preferably made of nylon and provided with a central bore 12', whereby the threaded bolt 2' originated from the stud 1 can consequently be incorporated inside the cylindrical body 3 and in this way the whole set of parts is suitably positioned.

The part 11 is incorporated in the sole 20 of the footwear as shown in figure 5, but said sole 20 can also incorporate, as shown in figure 6, the embodiment formed by the parts 8 provided with their corresponding longitudinal openings 8' through which the rods 3 will emerge, and consequently it will allow the studs 1 to be located bidirectionally.

In figure 7 it can be seen how the sole 20', similar to the sole 20 represented in figure 6, has an inner area for locating the female part 4 and the side parts 6 and 6', the rod 3 emerging outwardly and the threaded protuberance 2' of the stud 1 being located inside the same.

In figure 8 it is seen the location of the studs 1 on a sole 20' that allows said studs to be located bidirectionally.

In figure 9 it is seen how the studs 1 emerge from the lower area of the sole 20' and are suitably located.

In figure 10 it is seen how the emergent openings, through which the female parts slide, appear on the inner side.

It is not considered necessary to make this description any longer so that anyone skilled in the art can understand the scope of the invention and the advantages derived from same.

The materials, shape, size and arrangement of the elements will be able to be varied, provided that it does not entail an alteration of the essence of the invention.

The terms used in the description of this specification should be construed in a broad and not limiting sense.

Claims

1. New arrangement for regulating multidirectional movements of the studs incorporated in sports footwear, characterized by comprising a metal female part (4) provided with an internally threaded or non-threaded, hollow cylindrical projection (3) originated from the central area of one of the major faces of the part (4), in which - with or without the cooperation of side parts - the emergent rod (2) of a stud (1), or else a threaded rod (2') emerging from the stud (1), is coupled, thereby enabling the incorporation of both the rod (2) and the rod (2') in a female part (4) provided with the cylindrical shape emerging in a vertical descending direction, engaged into a slot (8) made in the sole (20') of the footwear and provided with a perimetral reinforcement (8), whereby the forwardly or backwardly bidirectional mobilization of the stud is allowed before same being fixed, or else a multidirectional mobilization is allowed when the female part (4) emerges through the bore (5') of a reinforcing part (5) located on the footwear which, as seen in a plan view, assumes a circular shape, the stud being held in all positions admitted by the opening (5') by means of the adjustment of same in accordance with the fixation of the projection or bolt (2) inside the hollow cylindrical body (3).

2. New arrangement for regulating multidirectional movements of the studs incorporated in sports footwear according to claim 1, characterized in that, in a second embodiment, the female part (4) along with its internally hollow cylindrical projection or rod (3) can optionally be threaded, said female part being positioned on the upper recessed bed of the area (8) and emerging outside through the semicurved slot (8'), said female part (4) being located inside the footwear sole and being implemented by two side parts (6) and (6') which are held on the upper side by the inner fixation area (7) or inner basis of the sole and which are externally implemented by a part (9) provided with a central bore (9') having a shape similar to that of the reinforcing area (8) but slightly smaller, the threaded rod (2') passing through the bore (9) and the stud (1') being attached to the footwear sole in the desired position.

3. New arrangement for regulating multidirectional movements of the studs incorporated in sports footwear according to claims 1 and 2, characterized in that as a replacement of the parts (6) and (6') implementing the female part (4) a part (5) having a central bore (5') with a plan quadrangular shape can be incorporated inside the bed (8), whereby the multidirectional mobilization of the stud is allowed.

4. New arrangement for regulating multidirectional movements of the studs incorporated in sports footwear according to claim 1, characterized in that the first embodiment can be implemented by a plan circular part (11) provided with a central slot (11') that assumes a cross shape and enables the multidirectional movement of the stud (1') or the stud (1) provided with a threaded bolt (2') or a non-threaded bolt (2), the stud being held on the footwear sole by the incorporation of the female part (4) in a part (5) in such a way that it emerges through the bore (5')

and is held on the upper side by a plan circular reinforcement (10) of the sole, the cylindrical rod (3) emerging outwardly through the opening (11') of the part (11) attached to the sole, and a circular reinforcement (12) being subsequently incorporated, preferably made of nylon and provided with a central bore (12') through which the threaded or non-threaded rod enters so that it can be fixed in the cylindrical projection (3).

5. New arrangement for regulating multidirectional movements of the studs incorporated in sports footwear according to the preceding claims, characterized in that the soles (20) or (20') incorporate the reinforcements (11) or (8) attached thereto in order to obtain a mutidirectional or bidirectional mobility, respectively.

6. New arrangement for regulating multidirectional movements of the studs incorporated in sports footwear according to the preceding claims, characterized in that both the sole (20) and the sole (20') can incorporate multidirectionally acting parts (11) as well as bidirectionally acting parts (8), the ones combined with the others.

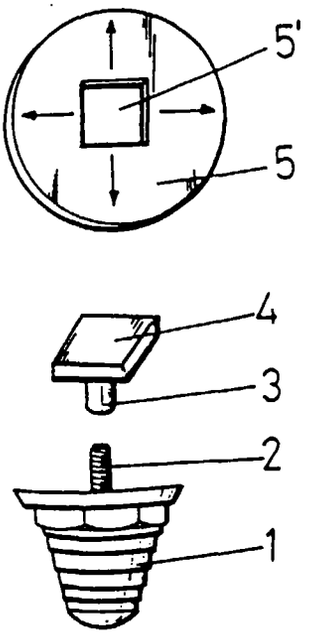

FIG.-1

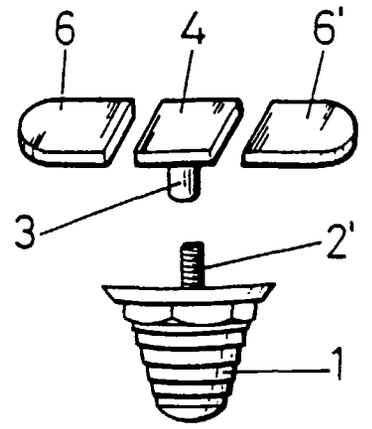

FIG.-2

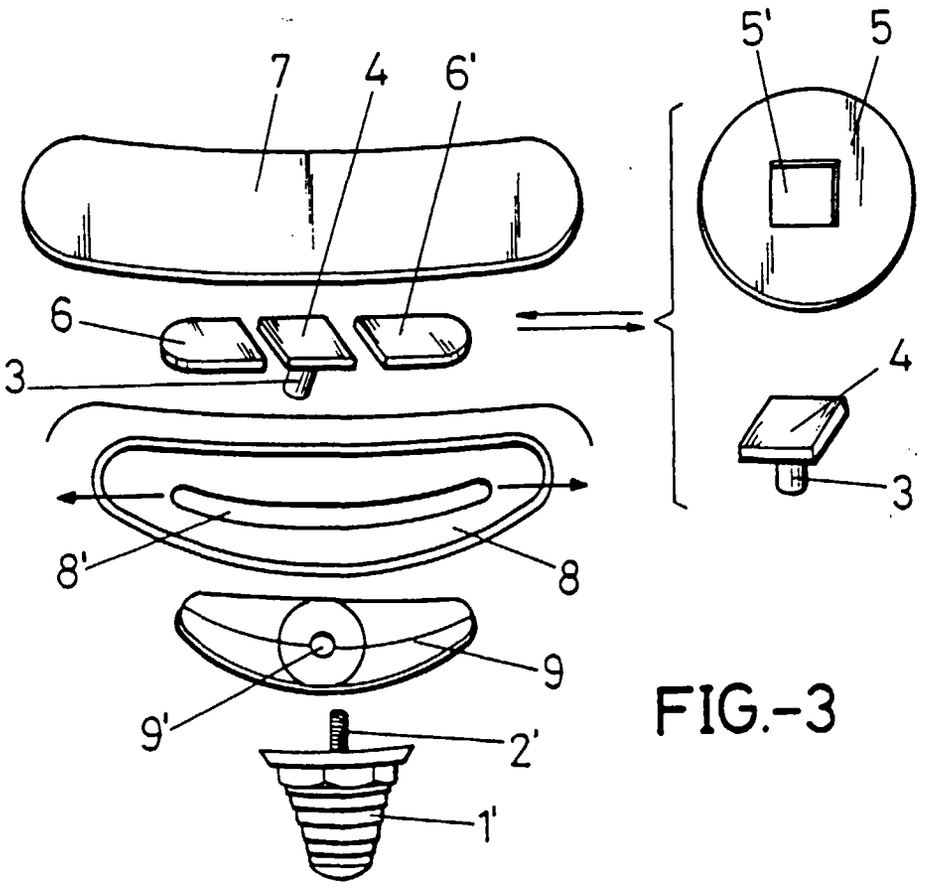

FIG.-3

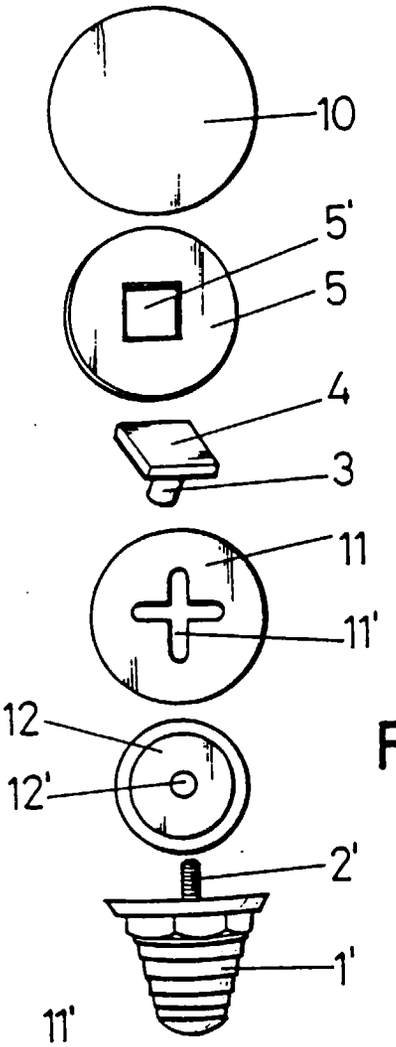

FIG.-4

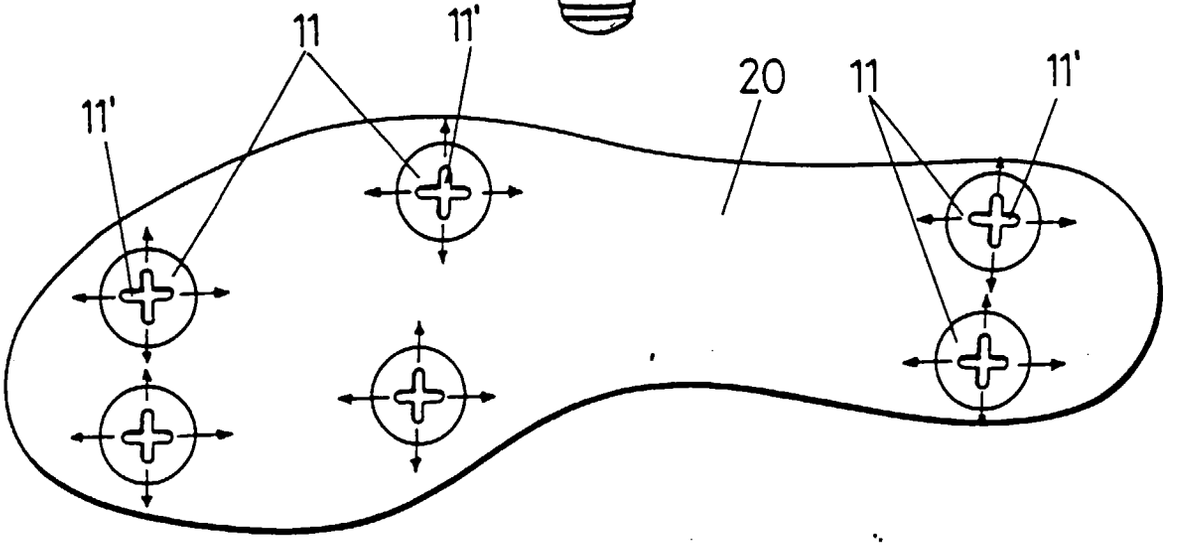

FIG.-5

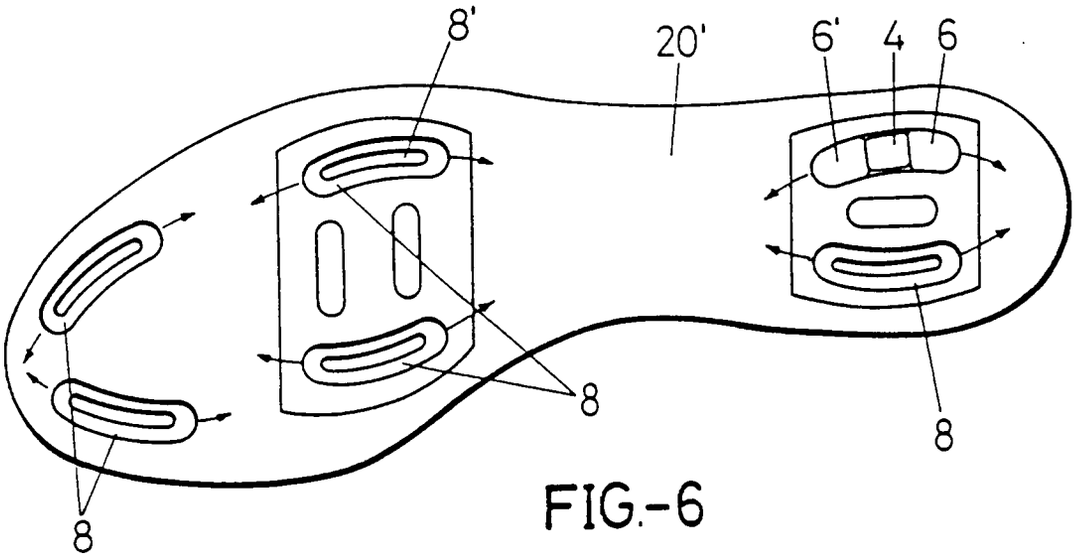

FIG.-6

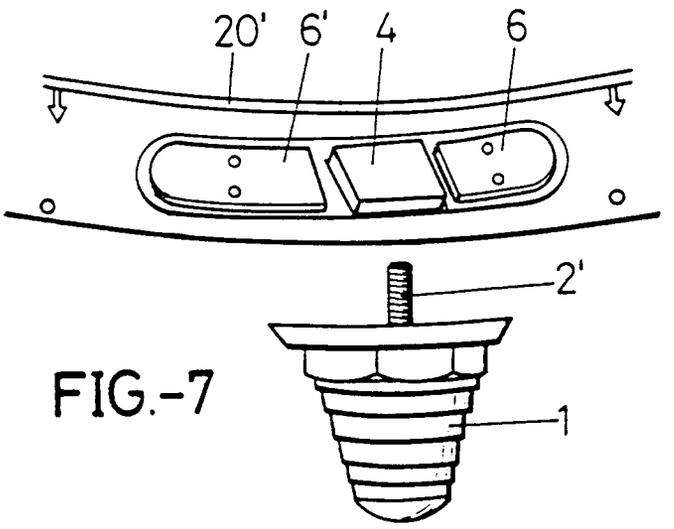

FIG.-7

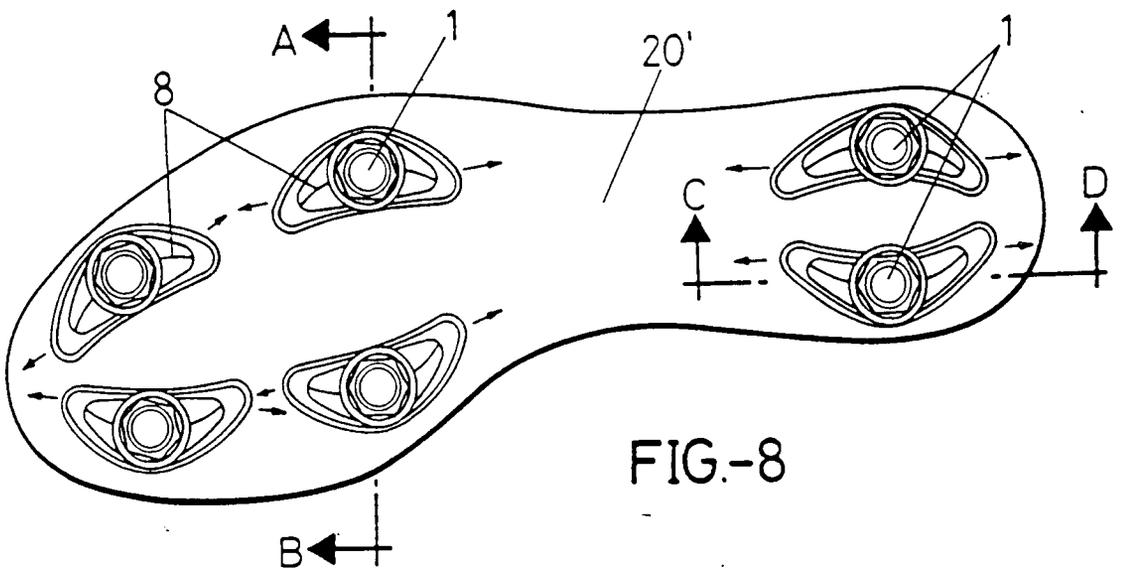

FIG.-8

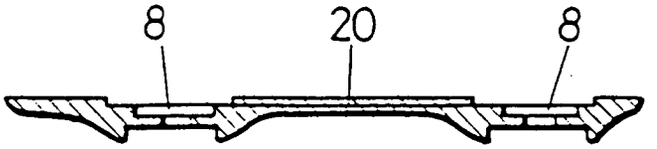

FIG.-9
A-B

FIG.-10
C-D

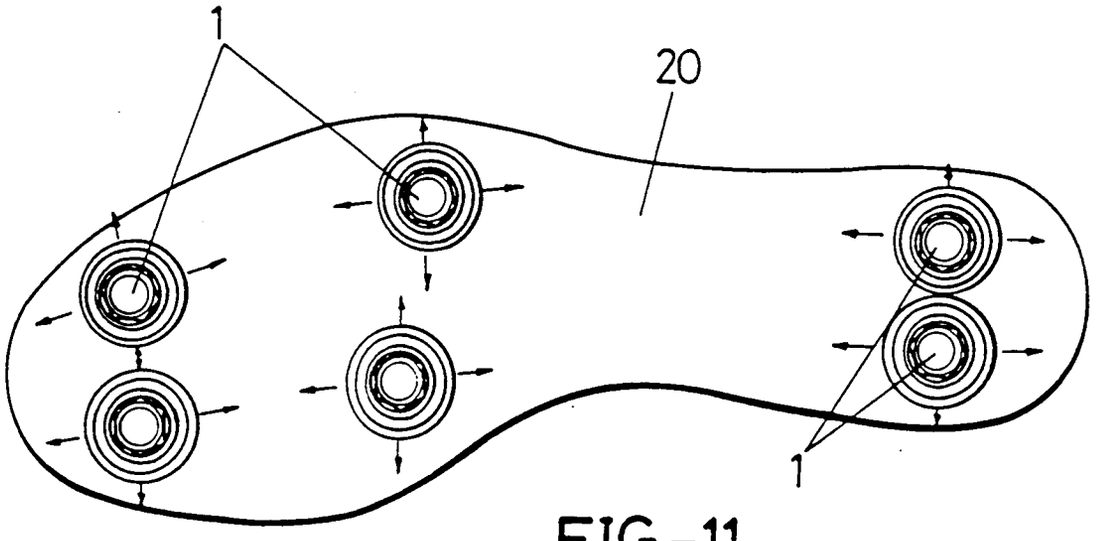

FIG.-11

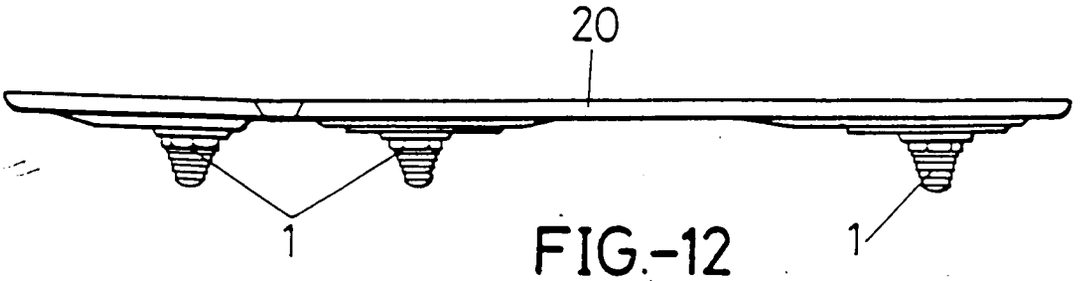

FIG.-12