(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 346 624 A2**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **89108745.4**

(51) Int. Cl.4: **A43C 15/16 , A43B 5/02**

(22) Date of filing: **16.05.89**

(30) Priority: **15.06.88 IT 2143288**

(43) Date of publication of application:
20.12.89 Bulletin 89/51

(84) Designated Contracting States:
AT BE CH DE ES FR GB GR IT LI LU NL SE

(71) Applicant: **ICARO OLIVIERI & C. S.P.A.**
MINUTERIE METALLICHE
Via Feltrina Sud, 172
I-31044 Montebelluna Treviso(IT)

(72) Inventor: **Olivieri, Oliviero**
Via Monte Pelmo, 14
I-31044 Montebelluna Treviso(IT)

(74) Representative: **Vannini, Torquato et al**
JACOBACCI-CASETTA & PERANI S.p.A. 7 Via Visconti di Modrone
I-20122 Milan(IT)

(54) A spiked sport shoe for playing soccer and the like games.

(57) A shoe for soccer playing is disclosed whose sole (2) is provided with a plurality of sockets (3) adapted to receive respective spikes (4). Secured across each of the sockets (3) is a wire (5) with which the tang (7) of a spike (4) is engageable bayonet-fashion which is suitably slotted (8). The spike fitting and replacement are greatly facilitated and quickly performed.

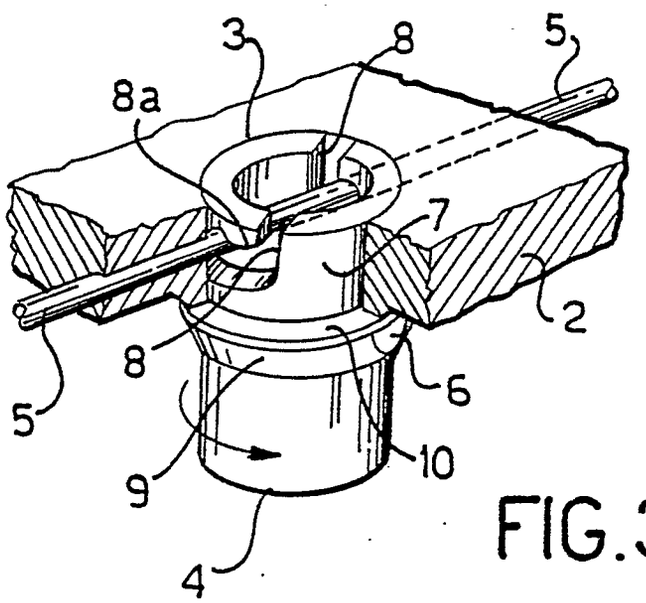

FIG.3

EP 0 346 624 A2

This invention relates to a sport shoe for playing soccer and the like games, being of a type which comprises a sole carrying a plurality of spikes removably attached thereto.

As is known, sport shoes of the above-noted variety require that the spikes be readily replaceable in a simple manner because, on the one side, they are liable to wear out in use within a short time, and on the other side, different design spikes are generally to be mounted to suit changing terrains.

Quite popular are at present shoes wherein the spikes are thread-engaged into threaded sockets provided in the sole, which sole is therefore to incorporate metal inserts effective to provide threaded bores of appropriate dimensions.

Such approaches, while bringing about some benefits, have the well-recognized drawback that they are relatively expensive and elaborate to make, and above all, that the threads are easily damaged such that the spikes become locked in their sockets and no longer removable therefrom.

It is the primary object of this invention to provide a sport shoe as indicated, which has such construction and performance characteristics as to overcome the cited drawbacks with which the prior art is beset.

This and other objects to become apparent hereinafter are achieved by a sport shoe for playing soccer and the like games, comprising a sole carrying a plurality of spikes removably attached thereto, and being characterized in that it comprises for each spike a respective cylindrical socket formed in said sole, a wire stretched across said cylindrical socket and secured to the sole, and that each spike has a cylindrical tang matingly engageable in said respective cylindrical socket in the sole and provided with at least one angled slot extending across its lateral surface for substantially bayonet-like engagement with said wire.

Advantageously, according to a further aspect of this invention, said cylindrical tang is a hollow construction with two angled slots located at diametrically opposite locations for bayonet-like engagement with said wire.

The features and advantages of a shoe for playing soccer and the like games, according to this invention, will become apparent from the following detailed description of a preferred, but not exclusive embodiment thereof, given with reference to the accompanying illustrative and non-limitative drawings.

In the drawings:

Figure 1 is a perspective bottom view of a sport shoe according to the invention, and

Figures 2 and 3 are enlarged scale views showing in perspective a detail of Figure 1 in two different positions.

With reference to the cited drawing views, generally indicated at 1 is a sport shoe for playing soccer and the like games, which comprises a sole 2, e.g. a molded one from some suitable plastics, provided with a plurality of spikes, collectively indicated at 4.

The sole 2 is formed with a corresponding plurality of cylindrical sockets 3, quite conventional in number and location, each socket being adapted to receive a respective one of the spikes 4 in a manner to be explained.

A wire 5, secured to said sole 2, is stretched across each socket 3.

Advantageously, a single wire would serve the plural sockets 3 and be encapsulated in the sole 2 during the sole molding process.

Each spike 4 has a cylindrical tang 7 of hollow construction whose outside diameter is substantially equal to the inside diameter of its respective cylindrical socket 3 in which it will be matingly and pivotally engaged. The tang 7 is formed, at diametrically opposite locations thereon, with two angled sockets 8 which are identical with each other and dimensioned for bayonet-like engagement with the wire 5 stretched across its respective socket 3.

In addition, the spike 4 has a centrally located frusto-conical portion 9 of a larger diameter which defines, in cooperation with the tang 7, a flat annular shoulder 10.

The frusto-conical portion 9 has two flats 6 formed at diametrically opposite locations thereon for engagement by a wrench or the like tool for assembling and disassembling the spike 4 to/from the sole 2.

Using said tool, each spike 4 would be mounted in its respective socket 3 to a bayonet fit, that is, the tang 7 of said spike 4 is first inserted into a cylindrical socket 3, then pushed to the bottom thereof so as to cause the wire 5 to become engaged with the starts of the oppositely located angle slots 8 past their angles 8a, and ultimately turned to a fully engaged position bayonet-fashion, thereby said wire 5 is finally set at the bottoms of said slots.

By pushing the tang 7 against the bottom of the cylindrical socket 2, the frusto-conical portion 9 of the spike 4 considered is driven in turn against the outer surface of the sole 2 to produce a slight elastic deformation in the latter.

With the spike 4 fully engaged in its respective socket 2, and the pressure force released therefrom, the sole return to its initial condition effectively contributes toward retaining the spike in its respective socket in an optimum manner, taking up any play therebetween. As a result, the sole will act as a pre-loaded spring on account of the elastic deformation undergone as a spike is being fitted

bayonet-fashion in its socket.

To replace a spike 4 with another spike to a different design, one would proceed in the reverse order of the above.

On a sport shoe according to this invention, the spike mounting and replacement can be carried out in a most simple and ready manner, which advantage is achieved for a spike and sole manufacturing cost which is indeed modest and in all cases lower than has been afforded by the prior art.

Claims

1. A sport shoe for playing soccer and the like games, comprising a sole (2) carrying a plurality of spikes (4) removably attached thereto, characterized in that it comprises for each spike (4) a respective cylindrical socket (3) formed in said sole (2), a wire (5) stretched across said cylindrical socket (3) and secured to the sole (2), and that each spike (4) has a cylindrical tang (7) matingly engageable in said respective cylindrical socket (3) in said sole (2) and provided with at least one angled slot (8) extending across its lateral surface for substantially bayonet-like engagement with said wire (5).

2. A sport shoe according to Claim 1, characterized in that said cylindrical tang (7) is hollow inside and provided, at diametrically opposite locations thereon, with two like angled slots (8) for bayonet-like engagement with said wire.

3. A sport shoe according to Claim 1, characterized in that, on each said spike (4), a frustoconical portion (9) is formed which defines, in cooperation with said tang (7), an annular shoulder (10) for abutment against the outer surface of the sole (2).

4. A sport shoe according to Claim 1, characterized in that said wire (5) is a single wire shared by all of the plural cylindrical sockets (3) formed in said sole (2), said wire (5) being encapsulated in said sole (2) during the manufacturing process thereof.

5. A spike for sport shoes for playing soccer and the like games, characterized in that it comprises a cylindrical tang (7) having at least one angled slot (8) for bayonet-like engagement with a mating means (5) provided in the sole (2) of said shoe.

6. A spike for sport shoes according to Claim 5, characterized in that said cylindrical tang (7) is hollow inside and provided, at diametrically opposite locations thereon, with two like angled slots (8) for bayonet-like engagement with said mating means (5).

7. A sole for sport shoes for playing soccer and the like games, comprising a plurality of sockets for receiving a corresponding plurality of spikes, characterized in that it comprises a wire (5) secured in said sole (2) and stretched across each said cylindrical socket (3).

8. A sole for sport shoes according to Claim 7, characterized in that said wire (5) is a single wire shared by all of said plural cylindrical sockets (3), being encapsulated in said sole during the manufacturing process thereof.

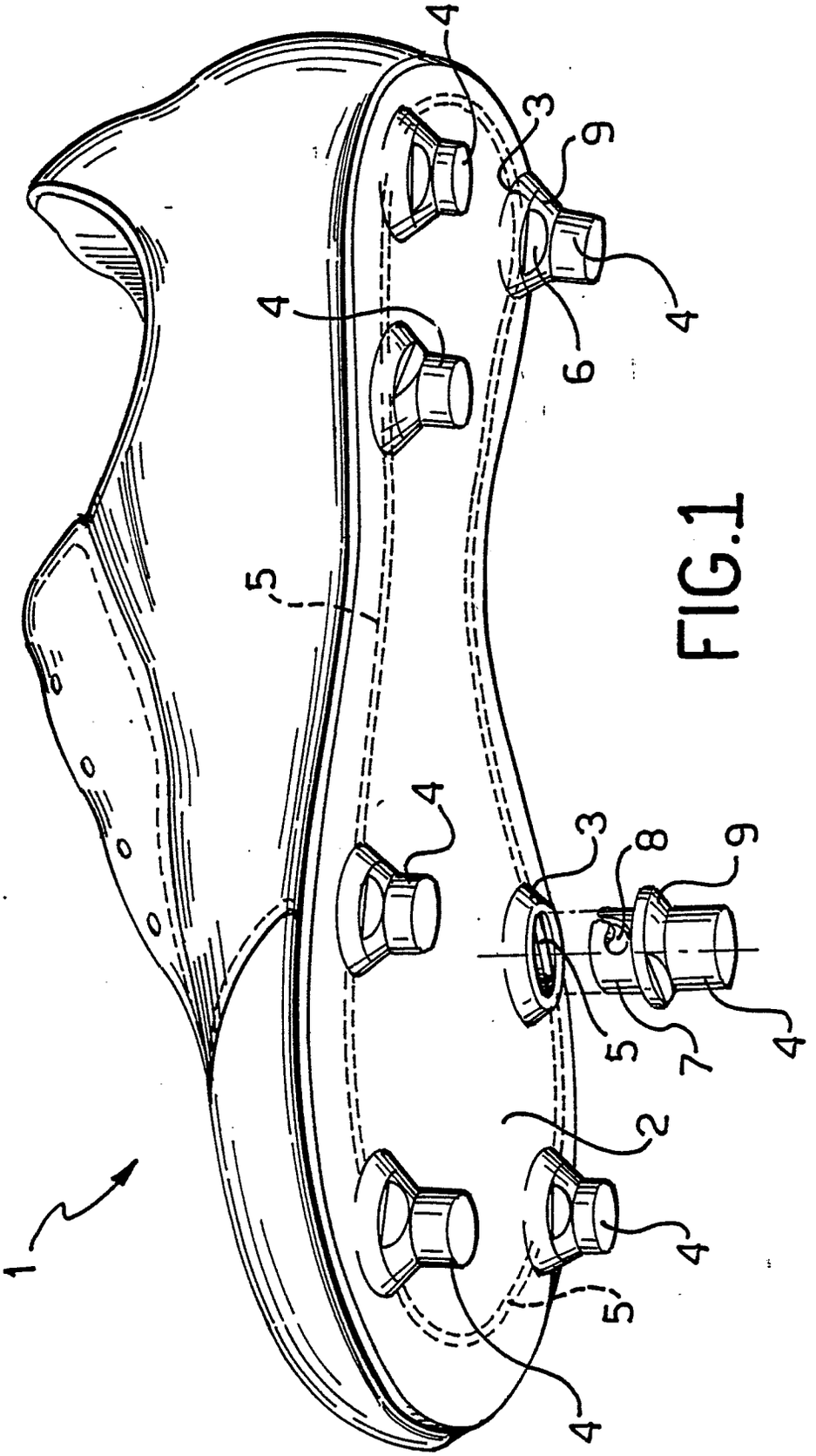

FIG.1

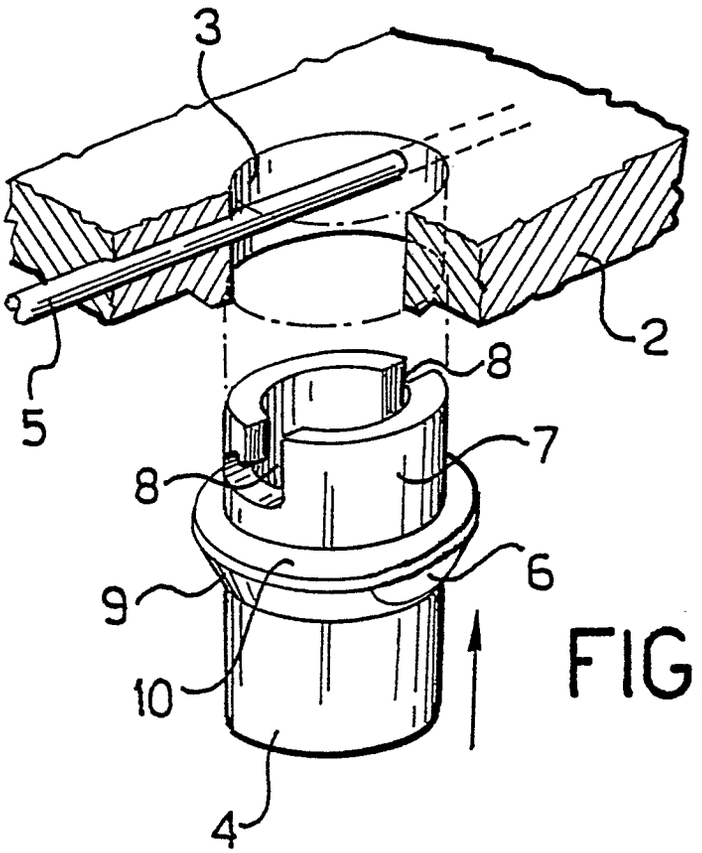

FIG.2

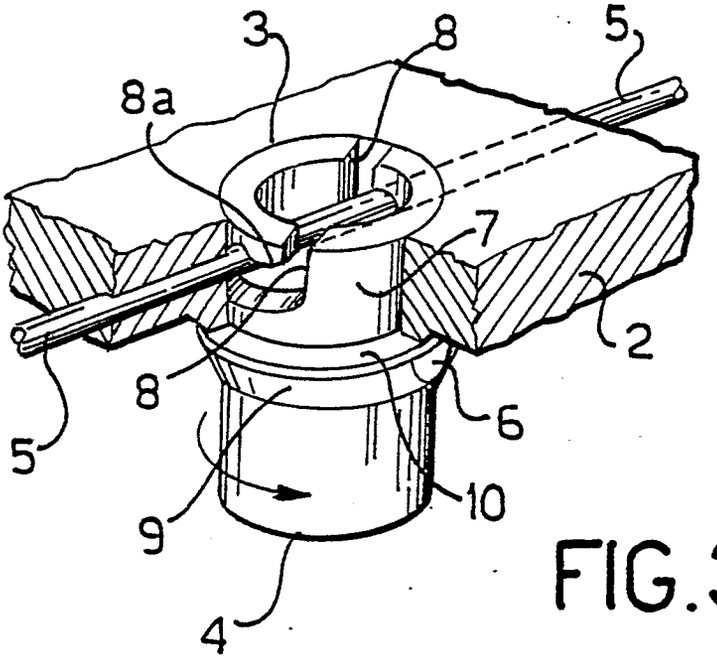

FIG.3