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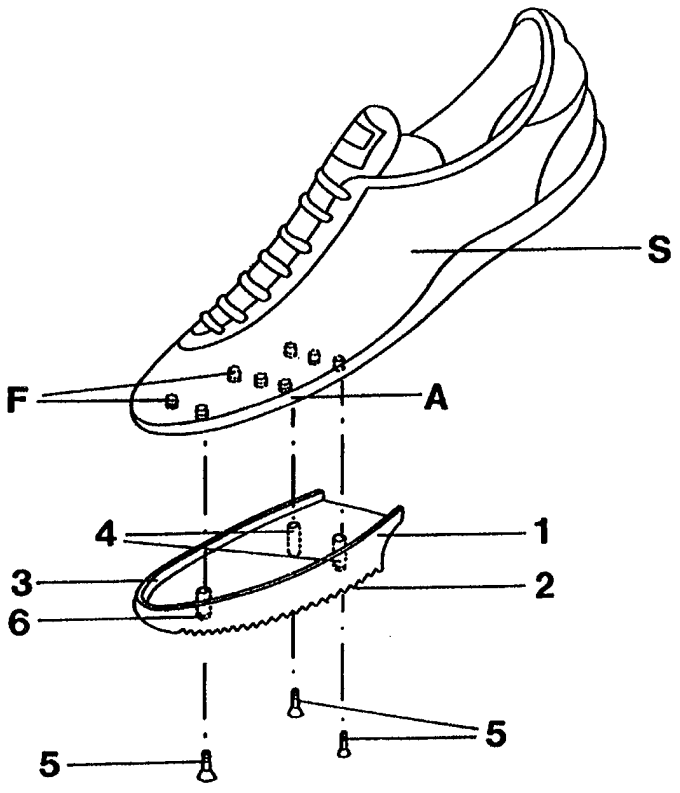
(54) Title: AN ANATOMIC DEVICE THAT MAY REPLACE THE SPIKES ON RUNNING SHOES

(57) Abstract

An anatomic device that may replace, even temporarily, the spikes on spiked running shoes, for the runs of athletes and of anyone training, on different soils, consisting of a sole portion (1) provided with means (3, 4, 5, 6) for its application to the lower structure of the front part (A) of running spiked shoes (S), for replacement or as an alternative, even temporarily, of the spikes used on rubber tracks and similar, so as to fit one and the same running shoes to the optimal running conditions on any soil: field, asphalt or other.



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AN ANATOMIC DEVICE THAT MAY REPLACE THE SPIKES ON RUNNING SHOES.

The present invention concerns an anatomic device that may replace, even temporarily, the spikes on spiked running shoes, for the runs of athletes and of anyone training, on different soils.

From the orthopaedic physiology it is known that for the correct running of human beings, the contact with the soil only with the front part of the foot is fundamental, for obtaining the necessary prolulsive effort as well as for preventing possible problems with one's heels or with the backbone.

Until now, from the point of view of sports outfit and of the competition results of this correct manner of running, only the track-and-fields sports on the track fully exploits human anatomy: infact, the spiked shoes for sprinters and similar are completely lacking heels and are spiked only in correspondence with the front part of the foot.

It is the aim of the present invention determine a correct running for anyone and on any soil, even on asphalt, besides on rubber tracks and similar, where spiked shoes are used.

It is a further aim of the present invention to prevent, for anyone who wants to train in running, problems with the heels or the backbone, as well as to obtain considerable savings for athletes and sprinters.

The aims set forth are reached by means of the device according to the present invention, consisting of a portion of sole, provided with means for its application to the lower structure of the front part of running shoes, as a replacing or an alternative, even temporarily, so as to fit the same shoe to the optimal conditions of running on any soil: field, asphalt or of any other kind.

The advantages of the device according to the present invention are many and considerable:

- the cost of each replaceable sole portion is moderate;
- the replacing of the whole training shoe, due to use and wear of the soles, is prevented;

- with one single pair of running shoes or similar - which are notoriously cheap - the fitting for running on a track or on any other soil is obtained;
- even if the running shoes are not used on a track, a method benefit is obtained for what concerns the correct development of the muscles.

The present invention will be described more in detail hereinbelow relating to the enclosed drawings, in which one embodiment is shown.

Figure 1 shows an exploded axonmetric view of an anatomic device that may replace, even temporarily, the spikes on spiked running shoes, for the runs of athletes and of anyone training, on different soils.

Figure 2 shows a running spiked shoes provided with the device according to the present invention.

The enclosed figures show an anatomic device that may replace, even temporarily, the spikes on spiked running shoes, for the runs of athletes and of anyone training, on different soils, comprising:

- a replaceable sole portion 1, provided with treads 2 differentiated according to the runing soil, and shaped with an upper structure 3 corresponding and fitting to the lower surface of the front part A of the running shoe S;
- a plurality of passing-through holes 4, realized in said sole portion 1, and corresponding to some of the holes F performed during realization in the lower structure of the front part A of the shoe, which are usually seat of the spikes to be inserted;
- a plurality of screws 5 or similar, that may be inserted into said holes 4, with the possible interposition of conic guides 6, for screwing into said holes F, for a linked application, that may be performed with the same key or tool usually provided for the insertion into said holes F of the conventional spikes for running on rubber tracks or similar.

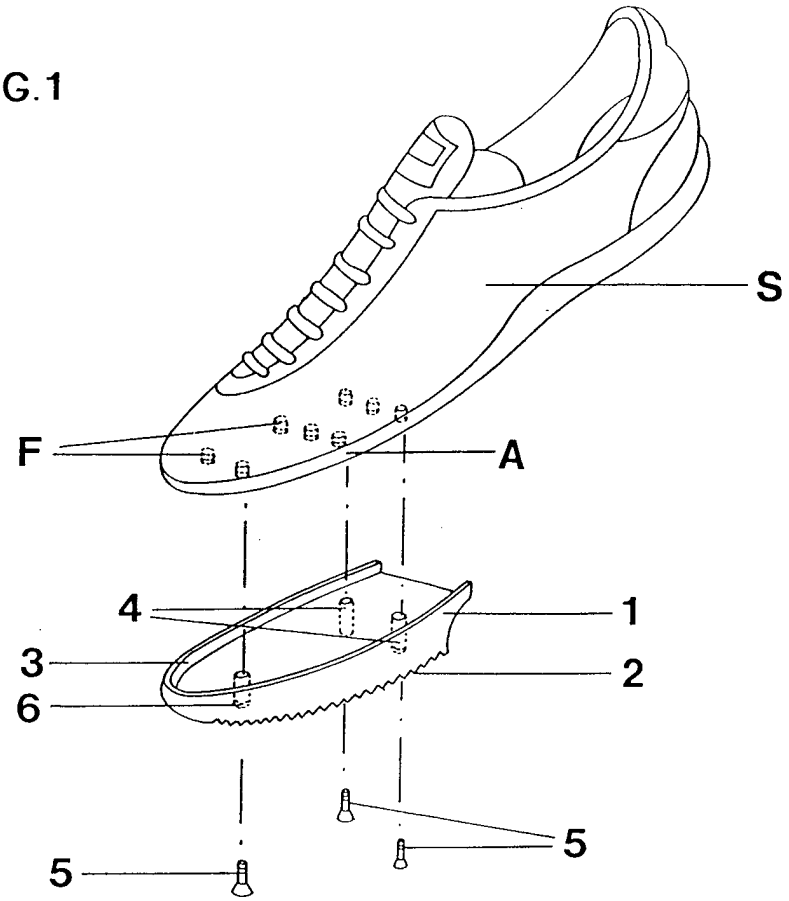
In possible variants according to the present invention, layers of silicone may be provided for allowing a better adherence of the sole portion 1 to the lower surface of the front part A of the shoe, that may be fitted by pressure or squeezing of screws 5, to the shape of said shoe S.

CLAIMS

1. An anatomic device that may replace, even temporarily, the spikes on spiked running shoes, for the runs of athletes and of anyone training, on different soils, characterized in:
   - a replaceable sole portion (1), provided with treads (2) differentiated according to the runing soil, and shaped with an upper structure (3) corresponding and fitting to the lower surface of the front part (A) of the running shoe (S);
   - a plurality of passing-through holes (4), realized in said sole portion (1), and corresponding to some of the holes (F) performed during realization in the lower structure of the front part (A) of the shoe, which are usually seat of the spikes to be inserted;
   - a plurality of screws (5) or similar, that may be inserted into said holes (4), with the possible interposition of conic guides (6), for screwing into said holes (F), for a linked application, that may be performed with the same key or tool usually provided for the insertion into said holes (F) of the conventional spikes for running on rubber tracks or similar.

2. A replaceable, anatomic device according to claim 1, characterized in the presence of silicone layers that may be fitted, by pressure and squeezing of screws 5, to the shape of said shoe (S).

FIG.1



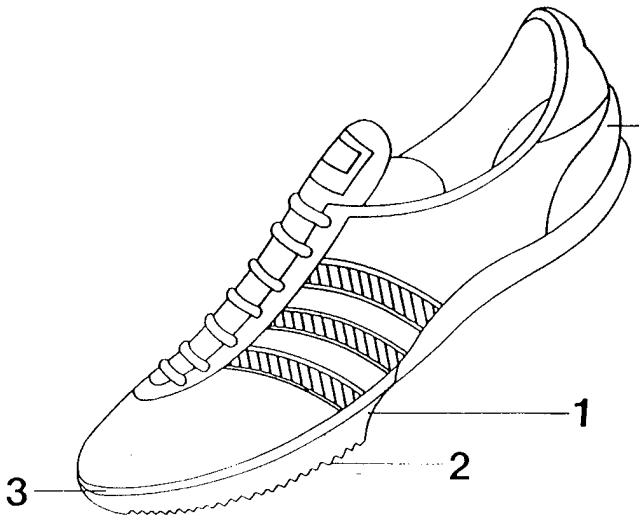


FIG. 2

INTERNATIONAL SEARCH REPORT

Inter ıal Application No
PCT/IT 97/00022

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A43C15/02 A43B13/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 A43C A43B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 43 29 186 A (S. LEDERER) 2 March 1995 see the whole document	1
A	US 3 807 061 A (J. KRUS) 30 April 1974 see the whole document	1
A	GB 789 807 A (W. PLOWMAN) 29 January 1958 see the whole document	1
A	US 3 538 628 A (A. EINSTEIN) 10 November 1970 see the whole document	1
A	US 3 328 901 A (R. STRICKLAND) 4 July 1967 see the whole document	1

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☒ Patent family members are listed in annex.

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1

Date of the actual completion of the international search	Date of mailing of the international search report
10 July 1997	18.07.1997

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 4329186 A	02-03-95	NONE	
US 3807061 A	30-04-74	NONE	
GB 789807 A		NONE	
US 3538628 A	10-11-70	NONE	
US 3328901 A	04-07-67	NONE	