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(72) Inventor: **Tomat, Andrea**  
**30144 Montebelluna(Treviso) (IT)**

(74) Representative: **Ponchiroli, Simone**  
**Bugnion S.p.A.**  
**Via Garibaldi, 19**  
**37121 Verona (IT)**

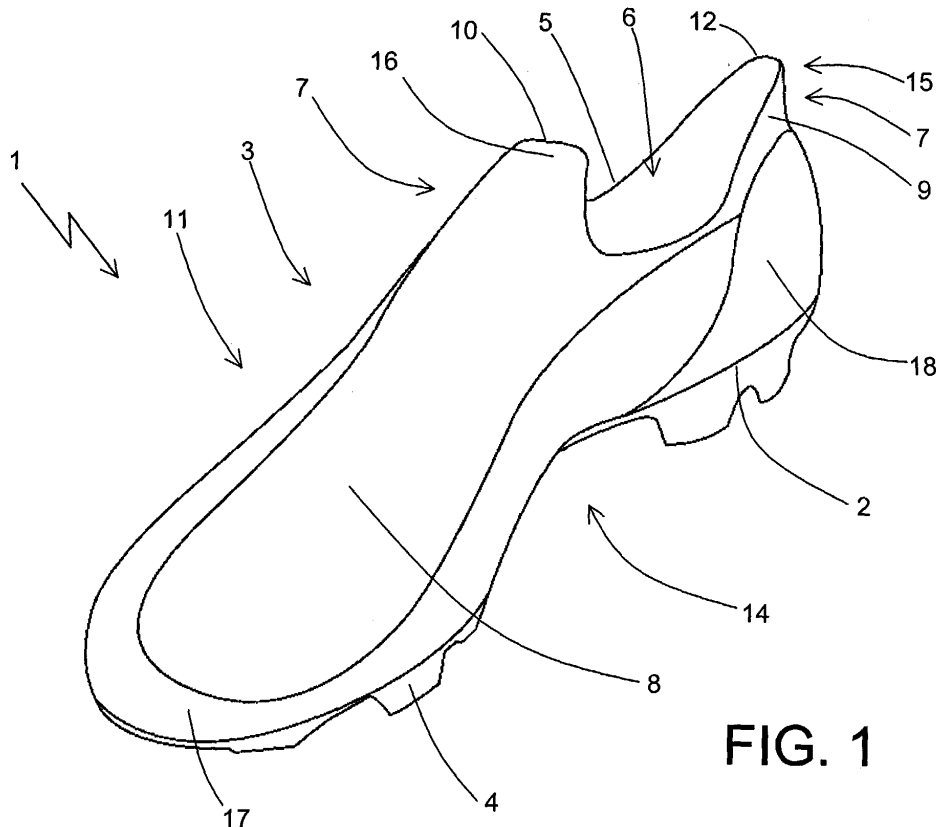
(71) Applicant: **Lotto Sport Italia S.p.A.**  
**31040 Trevignano TV (IT)**

Remarks:  
Amended claims in accordance with Rule 86 (2) EPC.

(54) **Sports shoe**

(57) A sports shoe comprising a bottom sole (2) and a top upper (3) attached to the sole (2), and having a continuous top edge (5) forming an opening (6) for insertion of a foot in the shoe. The shoe (1) also has elastic means (7) for tightening the upper (3) on a foot inserted in the shoe (1), comprising a first portion (8) of the upper

(3) which is elastically deformable and forms, from a front part (10) of the continuous top edge (5), part of a top zone (11) of the upper (3), and at least a second portion (9) of the upper (3), elastically deformable and forming, from a rear part (12) of the continuous edge (5), part of a rear zone (13) of the upper (3).



**FIG. 1**

## Description

**[0001]** The present invention relates to a sports shoe comprising a bottom sole, a top upper and elastic means for tightening the upper on a foot inserted in the shoe.

**[0002]** In particular, the present invention relates to a football (or five-a-side football) shoe to which specific reference is made in the description which follows.

**[0003]** Conventional football shoes consist of a bottom sole above which an upper is attached, normally made of leather or imitation leather, closed at the top with laces at a closer tongue.

**[0004]** However, such a type of shoe has proved to have several disadvantages, the most significant being the fact that the laces (in particular the knot that they form) and the tongue of the shoe, partially overlapped by two flaps of the upper, reduce the foot's sensitivity to the ball when kicking it, and so represent an obstacle to correct ball control.

**[0005]** Therefore, to overcome this disadvantage various solutions have been proposed over time.

**[0006]** In particular, solutions were proposed in which the shoe is closed with a strap (US patent 5,555,650), solutions with elastic closing on the front of the upper (patent EP 283 419), mixed solutions (patent DE 11 22 411), solutions in which the lacing is moved to the outer side of the shoe (patents EP 184 996, SU 1 618 372), hook and loop fastener solutions (patent GB 2360926), solutions in which there is an element covering the top part of the shoe (patent DE 38 37 504), and so on.

**[0007]** Construction solutions without lacing have also been developed for shoes not necessarily intended for use when playing football, for example in patents WO 99/37176, EP 1 340 436, GB 2 131 677, US 4 451 995, GB 1 442 343 and US 5 513 450.

**[0008]** Patent US 5 765 296 also makes known the fitting of an elastic insert to facilitate shoe adhesion to the foot during movements of the foot.

**[0009]** Despite the many solutions proposed, it has never been possible to obtain a football shoe which not only guarantees good sensitivity to the ball, but also ideal adhesion of the shoe to the foot, that is to say, able to make the sports shoe at one with the foot.

**[0010]** Indeed, in both the case of shoes with side lacing and the case of shoes in which the part of the upper corresponding to the instep has elastic closing means, adhesion of the shoe to the foot never reaches the level which can be achieved with a conventional shoe where the laces are on the part corresponding to the instep.

**[0011]** In this situation the technical need which forms the basis of the present invention is to provide a sports shoe which overcomes the above-mentioned disadvantages.

**[0012]** In particular, the technical need of the present invention is to provide a sports shoe which guarantees perfect adhesion to the foot simultaneously with optimum sensitivity while kicking a ball.

**[0013]** Another technical need of the present invention

is to provide a sports shoe with limited weight.

**[0014]** A further technical need of the present invention is to provide a sports shoe with a high level of practicality in terms of putting on the shoe.

5 **[0015]** The technical need and aims specified are substantially achieved by a sports shoe as described in the claims herein.

**[0016]** Other characteristics and advantages of the present invention are more clearly illustrated in the detailed description which follows, with reference to the accompanying drawings, which illustrate a preferred embodiment of a sports shoe without limiting the scope of the inventive concept, and in which:

- 15 - Figure 1 is an inside front perspective view of a football sports shoe made in accordance with the present invention;
- Figure 2 is an inside side view of the shoe illustrated in Figure 1;
- 20 - Figure 3 is an outside front perspective view of the sports shoe illustrated in Figure 1;
- Figure 4 is an outside side view of the shoe illustrated in Figure 1; and;
- 25 - Figure 5 is a partial cross-section of the shoe illustrated in Figure 1.

**[0017]** With reference to the accompanying drawings the numeral 1 denotes as a whole a sports shoe 1 according to the present invention.

30 **[0018]** The sports shoe 1 comprises a bottom sole 2 and a top upper 3 attached to the sole 2.

**[0019]** In the accompanying drawings in which the shoe 1 is a football shoe, the sole 2 has the typical configuration of football shoes and, therefore, has a plurality of studs 4 in it.

35 **[0020]** In other embodiments, for example when the shoe 1 is a five-a-side football shoe, the sole 2 will have different configurations suitable for the relative use.

**[0021]** The upper 3 has a continuous top edge 5 which forms the opening 6 for insertion of a foot in the shoe 1.

**[0022]** The shoe 1 also has elastic means 7 for tightening the upper 3 on a foot inserted in the shoe 1, comprising at least a first and a second portion 8, 9 of the upper 3 which are elastically deformable.

45 **[0023]** The first portion 8 forms, starting from a front part 10 of the continuous top edge 5, part of a top zone 11 of the upper 3, whilst the second portion 9 forms, starting from a rear part 12 of the continuous edge 5, part of a rear zone 13 of the upper 3.

50 **[0024]** In particular, preferably, at the first and the second portions 8, 9 the continuous top edge 5 consists of the portions 8, 9 themselves and therefore is also elastically deformable.

55 **[0025]** In some embodiments the first and the second portions 8, 9 are also in direct contact with one another and form a single elastically deformable portion extending along most of the top edge 5, encompassing the foot on the inside, the outside or all around it.

**[0026]** Generally speaking, in the preferred embodiment of the present invention at least the first and the second portions 8, 9 are made of bielastic material so that they are deformable in at least two directions which are transversal to one another.

**[0027]** Moreover, the portions 8 and 9 may also have different thicknesses from one another, to limit the elasticity of the portions 8 and 9 when putting on the shoe and to improve its ability to hold the foot during play.

**[0028]** As illustrated in the accompanying drawings, in the preferred embodiment the first portion 8 of the upper 3 extends over most of the top zone 11 of the upper 3, and, in particular, it extends mainly towards an inner side 14 of the shoe 1 corresponding, in practice, to the inside of the foot.

**[0029]** To improve shoe 1 adhesion to the foot, according to requirements, the second portion 9 may at least partly converge towards the inside of the opening 6 (as illustrated in Figure 2 in particular the part 15 of the second portion 8 closest to the continuous top edge 5 converges), and the first portion 8 forms, at the front part 10 of the continuous top edge 5, an appendage 16 also extending towards the inside of the opening 6.

**[0030]** However, in the preferred embodiment of the present invention, the upper 3 is completely made of elastically deformable material.

**[0031]** In particular, it may be made completely of a single piece of elastically deformable material.

**[0032]** In addition, to increase the stiffness of the shoe 1 and prevent it from yielding excessively during movements by the wearer, there may also be at least one piece of stiffening material 17, 18 applied to the upper 3 and substantially delimiting the first and the second elastically deformable portions 8, 9.

**[0033]** The stiffening material 17, 18 is a substantially non-elastically deformable material which, when attached locally to the upper 3, prevents elastic deformation of the latter in the zones in which it is applied.

**[0034]** In particular, although in the preferred embodiment the stiffening material 17, 18 is applied to the outside of the upper 3 (accompanying drawings), there are also other embodiments in which the stiffening material 17, 18 is applied inside the upper 3.

**[0035]** In the embodiment illustrated, there are two pieces of stiffening material 17, 18, a first piece 17 extending on the two sides and on the tip of the shoe from the sole 2, and a second piece 18 substantially constituting a shoe 1 rear stiffener. The present invention brings important advantages.

**[0036]** Firstly, the sports shoe disclosed guarantees on one hand optimum sensitivity when kicking a ball thanks to the absence of bulky elements at the instep, and on the other hand perfect adhesion to the foot.

**[0037]** In particular, adhesion of the shoe to the foot is accentuated when the second elastically deformable portion is angled towards the front of the shoe and converges towards the opening 6 for the foot.

**[0038]** Secondly, since all unnecessary parts of the

shoe have been eliminated, thanks to the present invention sports shoes with very limited weight can be produced.

**[0039]** In addition, sports shoes made in accordance with the present invention are very practical to put on, since, to insert one's foot, it is sufficient to elastically deform the first and the second portions, widening the opening (for example acting on the appendage of the first portion and the converging part of the second portion). Then, once the foot is inserted, the elastic spring-back of the two portions guarantees adhesion of the shoe to the foot.

**[0040]** If the upper is made of a single piece of elastically deformable material, the shoes can be made with a completely smooth interior surface.

**[0041]** It should also be noticed that the present invention is relatively easy to produce and that even the cost of implementing the invention is not very high.

**[0042]** The invention described may be subject to modifications and variations without thereby departing from the scope of the inventive concept.

**[0043]** All details may be substituted with other, technically equivalent elements and in practice all of the materials used, as well as the shapes and dimensions of the various components, may be any according to requirements.

## Claims

1. A sports shoe comprising a bottom sole (2) and a top upper (3) attached to the sole (2), the upper (3) having a continuous top edge (5) forming an opening (6) for insertion of a foot in the shoe, the shoe (1) also having elastic means (7) for tightening the upper (3) on a foot inserted in the shoe (1), the shoe being **characterised in that** the tightening means comprise a first portion (8) of the upper (3) which is elastically deformable and forms, starting from a front part (10) of the continuous top edge (5), part of a top zone (11) of the upper (3), and at least a second portion (9) of the upper (3), elastically deformable and forming, starting from a rear part (12) of the continuous edge (5), part of a rear zone (13) of the upper (3).
2. The sports shoe according to claim 1, **characterised in that** the first portion and the second portion (9) are deformable in at least two directions which are transversal to one another.
3. The sports shoe according to claim 1 or 2, **characterised in that** the first portion and the second portion (9) are in direct contact with one another and form a single elastically deformable portion.
4. The sports shoe according to any of the foregoing claims, **characterised in that** the first portion and the second portion (9) have different thicknesses.

5. The sports shoe according to any of the foregoing claims, **characterised in that** the first portion (8) of the upper (3) extends over most of the top zone (11) of the upper (3).
6. The sports shoe according to any of the foregoing claims, **characterised in that** the first portion (8) extends mainly towards an inner side (14) of the shoe (1) corresponding in practice to the inside of the foot.
7. The sports shoe according to any of the foregoing claims, **characterised in that** the second portion (9) converges at least partly towards the inside of the opening (6).
8. The sports shoe according to any of the foregoing claims, **characterised in that** at the continuous top edge (5) the first portion (8) forms an appendage (16) extending towards the inside of the opening (6).
9. The sports shoe according to any of the foregoing claims, **characterised in that** the upper (3) is completely made of the elastically deformable material.
10. The sports shoe according to claim 8, **characterised in that** the upper (3) consists of a single piece of elastically deformable material.
11. The sports shoe according to claim 8 or 9, **characterised in that** it also comprises at least one piece of stiffening material (17), (18) applied to the upper (3) and delimiting the first and the second (9) elastically deformable portions.
12. The sports shoe according to claim 10, **characterised in that** the stiffening material (17), (18) is applied to the outside of the upper (3).
13. The sports shoe according to claim 10, **characterised in that** the stiffening material (17), (18) is applied to the inside of the upper (3).
14. The sports shoe according to any of the foregoing claims, **characterised in that** it is a football shoe.
15. The sports shoe according to any of the foregoing claims, **characterised in that** it is a five-a-side football shoe.

#### Amended claims in accordance with Rule 86(2) EPC.

1. A football shoe comprising a bottom sole (2) and a top upper (3) attached to the sole (2), the upper (3) having a continuous top edge (5) forming an opening (6) for insertion of a foot in the shoe, the shoe (1) also having elastic means (7) for tightening the upper (3) on a foot inserted in the shoe (1), the

shoe being **characterised in that** the tightening means comprise a first portion (8) of the upper (3) which is elastically deformable and forms, starting from a front part (10) of the continuous top edge (5), part of a top zone (11) of the upper (3), and at least a second portion (9) of the upper (3), elastically deformable and forming, starting from a rear part (12) of the continuous edge (5), part of a rear zone (13) of the upper (3), said continuous top edge (5) being elastically deformable in correspondence with said first and second portions (8), (9), and the second portion (9) converging at least partly towards the inside of the opening (6).

2. The sports shoe according to claim 1, **characterised in that** the first portion and the second portion (9) are deformable in at least two directions which are transversal to one another.

3. The sports shoe according to claim 1 or 2, **characterised in that** the first portion and the second portion (9) are in direct contact with one another and form a single elastically deformable portion.

4. The sports shoe according to any of the foregoing claims, **characterised in that** the first portion and the second portion (9) have different thicknesses.

5. The sports shoe according to any of the foregoing claims, **characterised in that** the first portion (8) of the upper (3) extends over most of the top zone (11) of the upper (3).

6. The sports shoe according to any of the foregoing claims, **characterised in that** the first portion (8) extends mainly towards an inner side (14) of the shoe (1) corresponding in practice to the inside of the foot.

7. The sports shoe according to any of the foregoing claims, **characterised in that** at the continuous top edge (5) the first portion (8) forms an appendage (16) extending towards the inside of the opening (6).

8. The sports shoe according to any of the foregoing claims, **characterised in that** the upper (3) is completely made of the elastically deformable material.

9. The sports shoe according to claim 7, **characterised in that** the upper (3) consists of a single piece of elastically deformable material.

10. The sports shoe according to claim 7 or 8, **characterised in that** it also comprises at least one piece of stiffening material (17), (18) applied to the upper (3) and delimiting the first and the second (9) elastically deformable portions.

11. The sports shoe according to claim 9, **charac-**

**terised in that** the stiffening material (17), (18) is applied to the outside of the upper (3).

**12.** The sports shoe according to claim 9, **characterised in that** the stiffening material (17), (18) is applied to the inside of the upper (3). 5

**13.** The sports shoe according to any of the foregoing claims, **characterised in that** it is a five-a-side football shoe. 10

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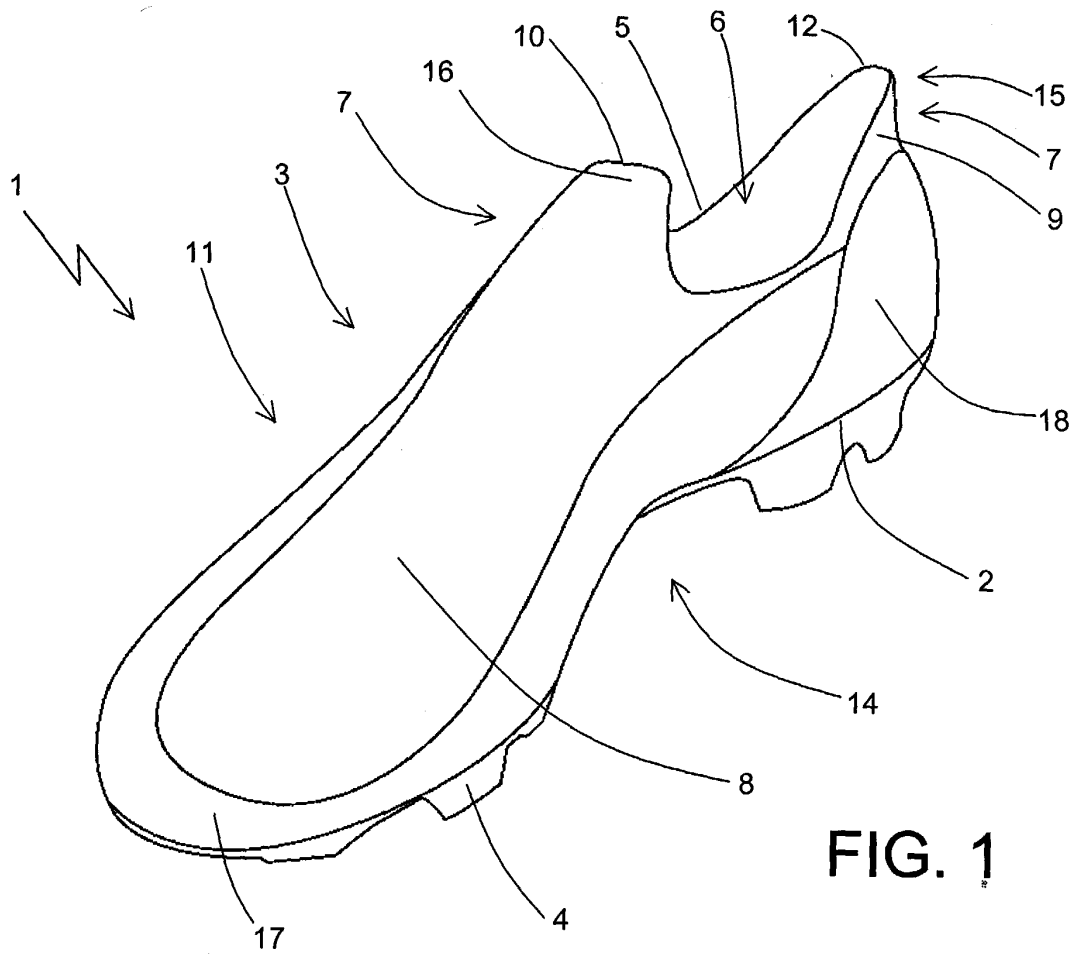


FIG. 1

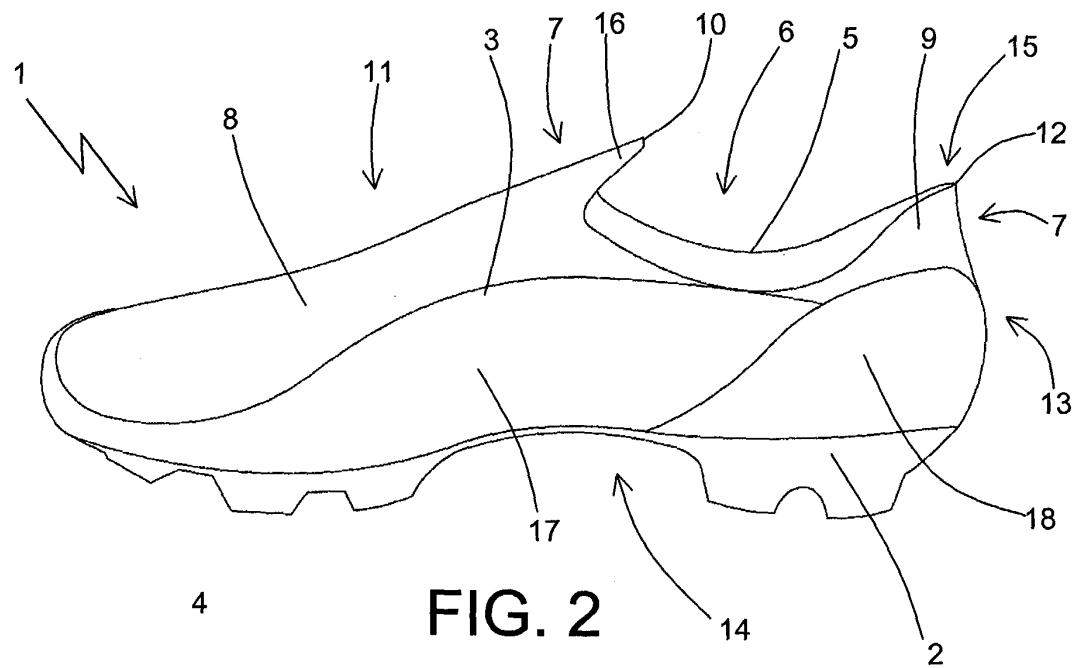
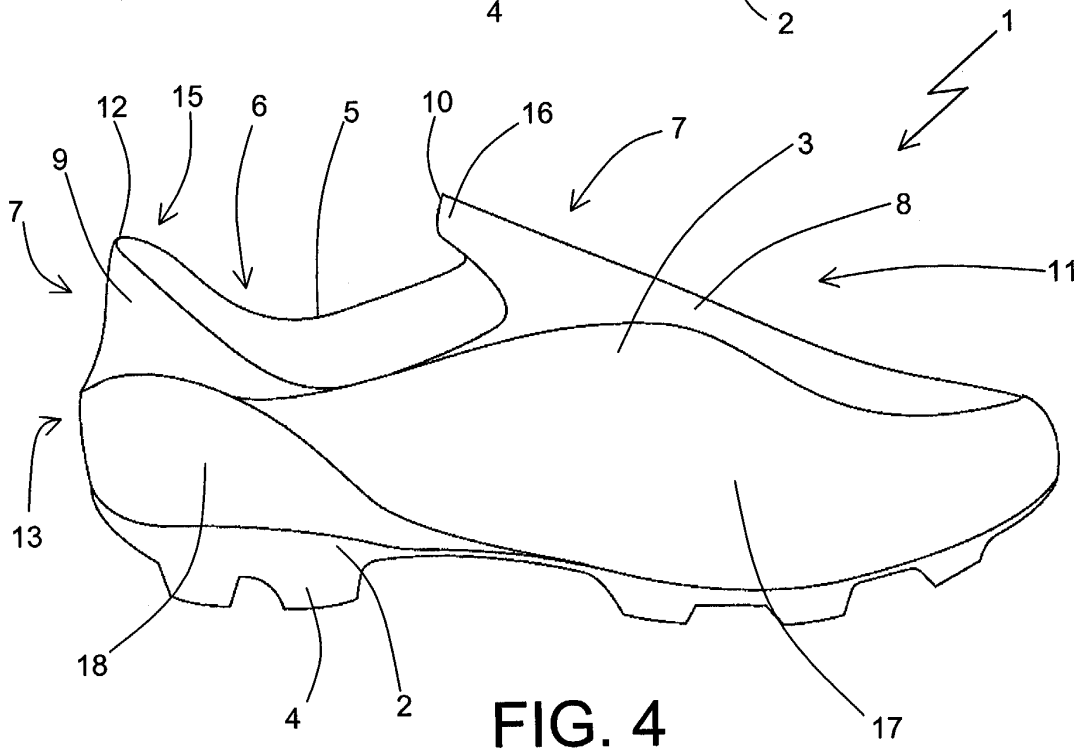
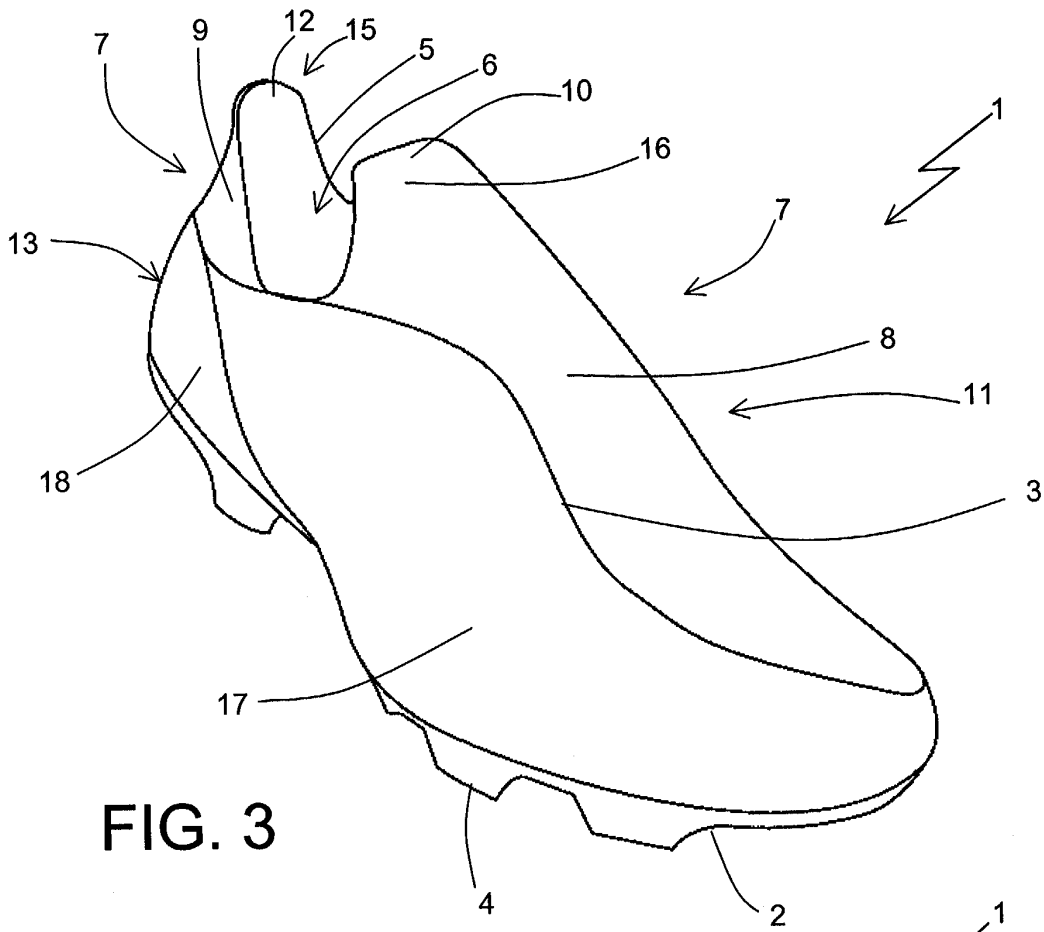


FIG. 2



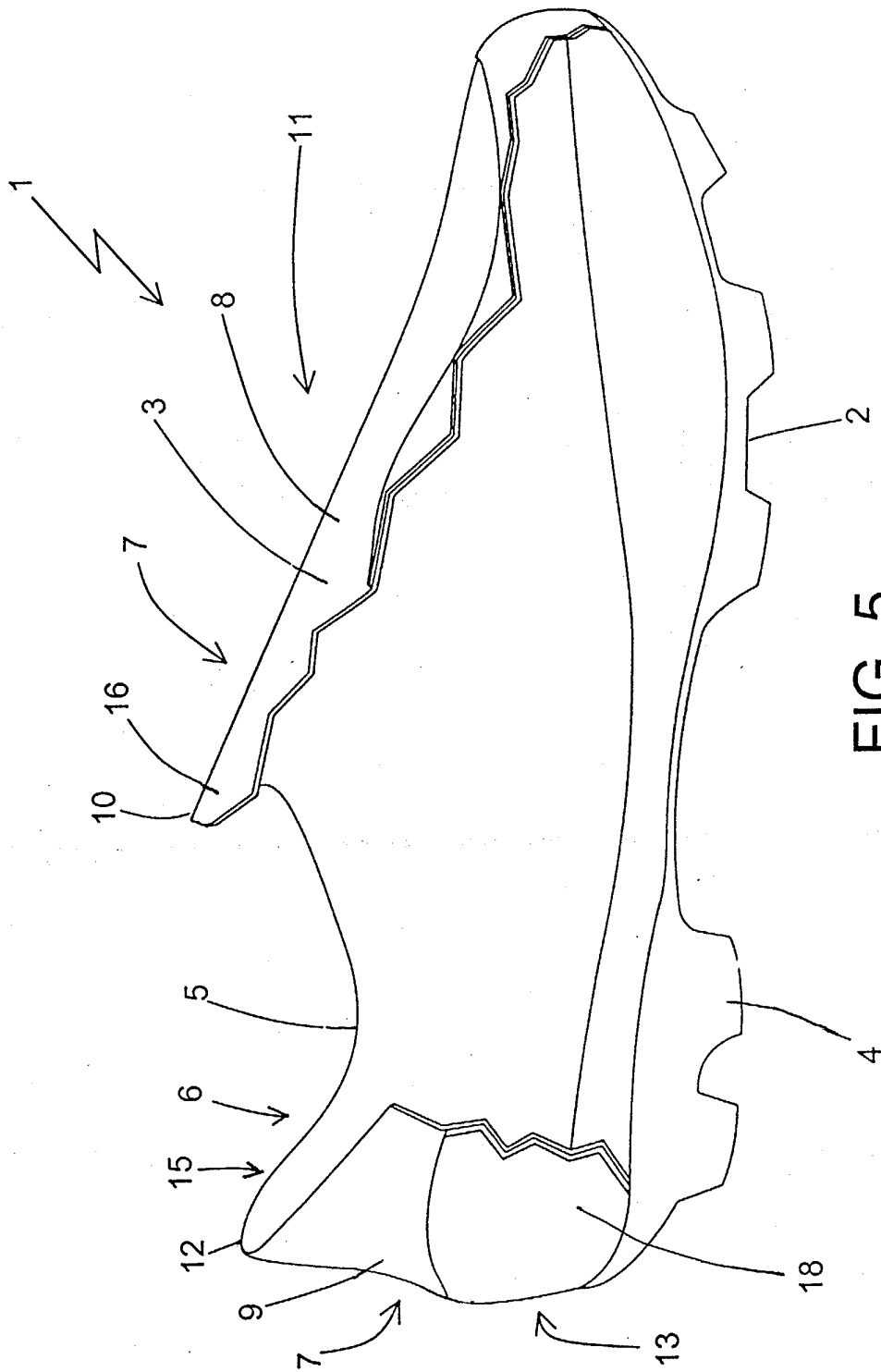


FIG. 5





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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 9 December 2004	Examiner Claudel, B
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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ANNEX TO THE EUROPEAN SEARCH REPORT  
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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