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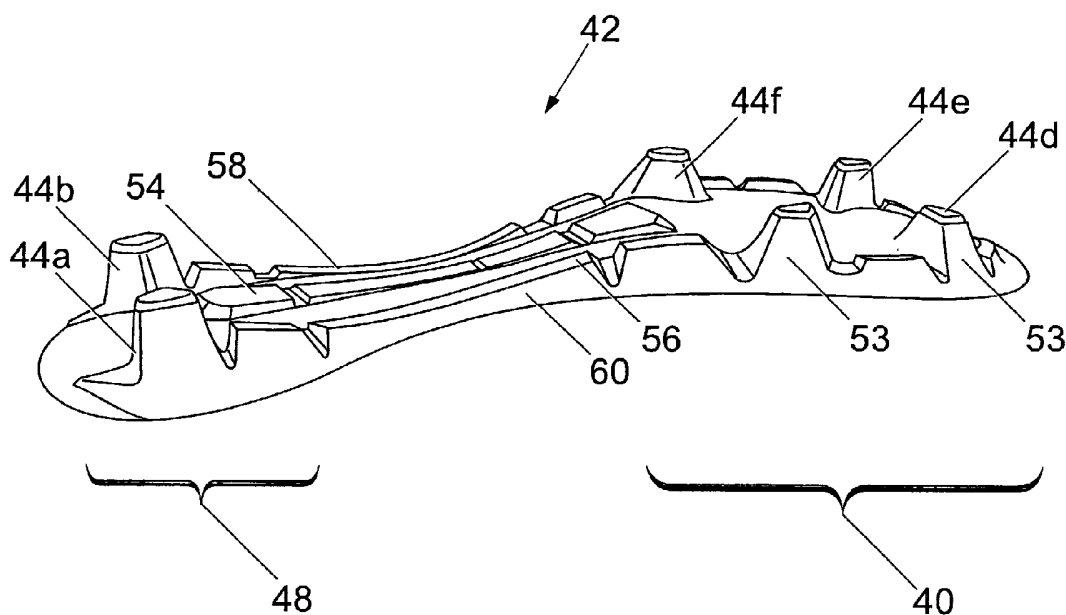
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(54) Title: GRIP FOR FOOTWEAR



(57) Abstract: A grip (10) can be attached to the sole of an article of footwear such as a football boot by fastenings inserted through holes (14). The grip (10) has a number of profiled elements (12) which act both as ground-engaging elements and as tactile elements giving improved contact with and control of a ball. The profiled elements (12) may be of rubber or the like to give a gripping action. The grip (10) may alternatively be made integral with the sole of an article of footwear.

**GRIP FOR FOOTWEAR**

The present invention relates to a grip for footwear. Specifically, but not exclusively, the present invention relates to a grip or stud-like assembly which can be removably attached to, or made integral with, the sole of a boot or trainer intended for use in kicking or controlling a ball. The grip or stud-like assembly may equally well be removably attached to, or made integral with, the sole of any type of footwear to provide added grip.

Currently football boots are known which have fixed or removable studs which vary in shape, number, size and arrangement. Particular stud types can be used depending on the surface type and conditions of the pitch such that the player can obtain the optimal performance.

The term "studs" is taken to include any ground engaging elements which are arranged on the sole of

football boots such as blades, cleats and circular studs.

The term "football boot" refers to an article of footwear suitable for use when playing with a ball.

Traditionally studs of a cylindrical shape were used which were simply screwed into the sole of the football boot, this allowing the studs to be changed if they became worn, or for studs of specific shape and length to be selected and used according to specific pitch or playing surface conditions as mentioned above.

The use of such cylindrical studs has decreased, with elongate studs such as blades being preferred, such elongate studs providing optimum grip for use in change of direction and sprinting.

Advancing training methods and newly developed skills have dictated that the use of the sole of the football boot or shoe now has a much more prominent role in controlling the ball. However with the studs currently known and incorporated into football boots, particular problems are observed when for example attempting to control the football using the sole of the football boot, for example in rolling of the ball.

Furthermore, when playing football indoors or on artificial playing surfaces such as ASTROTURF®, football trainers are preferred to football boots as

footwear. It is therefore desirable that football trainers are also able to offer the same kind of optimum grip for use in change of direction and sprinting.

The present invention provides a grip adapted to be fitted onto the sole of an article of footwear, the grip comprising a plurality of profiled elements which have a tactile surface, the profiled elements being arranged in a predetermined orientation.

Preferably, the tactile surface exhibits friction when in contact with a ball.

The profiled elements preferably act as ground-engaging elements.

Each of said profiled elements may present at least one downwardly facing surface inclined in a direction away from the outer periphery of the sole. Each of the profiled elements suitably has other side surfaces which also slope and a substantially flat end surface, whereby the profiled element has the general form of a truncated pyramid or cone.

In one preferred form of the invention, said profiled elements are provided on a heel portion and a sole portion, the heel and sole portions being joined by an instep portion, and the instep portion is provided with at least one longitudinal rib which is curved in side view to form a concave surface.

There may be a said rib in the centre of the instep portion, or two said ribs, one at either side of the instep portion. Preferably, however, there are three said ribs, one in the centre and one at either side, and most preferably the three ribs provide a common concave surface having a curvature approximating to that of a football.

The grip may be removably attachable to the sole of an article of footwear, or may be integral with the sole of an article of footwear.

From another aspect, the present invention provides an article of footwear comprising an upper and a sole, and in which the sole is provided with a grip of the invention as defined above.

The article of footwear is preferably a football boot or football trainer.

Embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Fig. 1 is an underneath plan view of one embodiment made in accordance with the present invention;

Fig. 2 is a perspective view of the embodiment in Fig. 1;

Fig. 3 is an underneath plan view of an alternative embodiment made in accordance with the present invention;

Fig. 4 is a perspective view from below of the embodiments of Fig. 3 attached to an article of footwear;

Fig. 5 is a plan view of a detail of the embodiment of Fig. 4;

Fig. 6 is an underneath plan view of the embodiments of Fig. 4;

Fig. 7 is a view from one side of a football boot forming a further embodiment of the invention;

Fig. 8 is a view of the boot from the other side;

Fig. 9 is an underneath plan view of the sole of the boot; and

Fig. 10 is a perspective view of the sole of the boot.

A first embodiment of the present invention provides a grip for an article of footwear generally designated 10 as shown in Fig. 1.

The grip 10 includes a base plate 11, which bears a plurality of profiled elements 12a, 12b, 12c, 12d.

The base plate 11 has at least one aperture 14 passing therethrough. This aperture or apertures 14 serve to allow the attachment of the grip 10 to a sole of an article of footwear 50 by way of screws or other suitable attachment means (not shown).

The profiled elements 12a, 12b, 12c, 12d are specifically positioned and orientated in such a way to equally support the weight of a sportsperson, in

this example a footballer, giving balance and maximising the grip to a playing surface for a quick turn of pace or change of direction. The profiled elements 12a, 12b, 12c, 12d are made from a grippier, softer rubber type material than conventional football studs. When the profiled elements 12a, 12b, 12c, 12d wear out, the profiled elements 12a, 12b, 12c, 12d can be replaced by removing and replacing the grip 10. Alternatively, the profiled elements 12 may be removably attached to the base plate 11.

In use, the grip 10 with the profiled elements 12a, 12b, 12c, 12d is removably attached onto the article of footwear such as a football boot, by an attachment means (not shown) using the apertures 14. Alternatively, the grip 10 and profiled elements 12a, 12b, 12c, 12d may be made integral with the article of footwear by being incorporated in the sole.

The football boot may have conventional studs located towards the periphery of the sole of the football boot with the grip 10 located between the studs. When a footballer rolls a ball with the sole of the football boot, the profiled elements 12a, 12b, 12c, 12d come into contact with the ball first and grip a portion of the surface of the ball by way of the soft rubber type material. This gives the footballer added grip between the sole of the football boot and a portion of the surface of the

ball which allows the footballer to easily roll the ball with the underside of his football boot.

The grip 10 may be removably attached to or integral with a football trainer rather than a football boot.

When a footballer rolls a ball with the sole of the football trainer 50, the profiled elements 12a, 12b, 12c, 12d come into contact with the ball first and grip a portion of the surface of the ball by way of the soft rubber type material. This gives the footballer added grip between the sole of the football trainer 50 and a portion of the surface of the ball which allows the footballer to easily roll the ball with the underside of his football trainer 50.

In yet a further use, the grip 10 may be removably attached or made integral with the article of footwear 50 in the form of a rugby boot, sports shoe, running shoe, hill walking shoe or other footwear where it is desirable to have improved grip.

In a second embodiment, shown in Figs. 3, 4 and 5, there is provided a grip 20 provided with a base plate 21, which bears a plurality of profiled elements 22a, 22b, 22c, 22d, 22e, 22f.

The base plate 21 has at least one aperture 24 passing therethrough which serves to allow attachment of the grip 20 to a sole of an article of



footwear 50 by way of screws or other suitable attachment means (not shown). The base plate 21 also has other apertures 23a, 23b, 23c, 23d, 23e, 23f which are adapted to receive conventional football studs.

The profiled elements 22a, 22b, 22c, 22d, 22e, 22f, shown in Figs. 3, 4, 5 and 6, are generally pyramid shaped with an inclined front facing surface 32 and inclined side facing surfaces 34 as seen in Fig. 5. The profiled elements 22a, 22b, 22c, 22d, 22e, 22f are specifically positioned and orientated in such away to be affixed directly in front of existing football studs 36, as shown in Figs. 4 and 6.

In use, the grip 20 and profiled elements 22a, 22b, 22c, 22d, 22e, 22f are removably attached onto the article of footwear in the form of a football boot 50, by an attachment means (not shown) using the apertures 24. Alternatively, the grip 20 and profiled elements 22a, 22b, 22c, 22d, 22e, 22f may be made integral with the football boot 50.

When a footballer rolls a ball under his feet, the inclined front facing surface 32 of the profiled elements 22a, 22b, 22c, 22d, 22e, 22f gives a footballer added contact with the surface of the ball which gives the footballer added control. This allows the footballer to easily position the ball under the sole of the football boot 50 and roll the ball with the underside of the football boot 50. Likewise, inclined side facing surfaces 34a, 34b,

34c, 34d, 34e, 34f allow the ball to be rolled in a side to side fashion.

In a further embodiment, the grip 20 is adapted to be removably attached or made integral with an article of footwear 50 in the form of football trainers 50. Instead of the profiled elements 22a, 22b, 22c, 22d, 22e, 22f being shaped to abut with conventional football studs, the profiled elements 22a, 22b, 22c, 22d, 22e, 22f are of a solid pyramid shape. The inclined side facing surfaces 34a, 34b, 34c, 34d, 34e, 34f are used as described above.

In yet a further embodiment, the grip 20 is adapted to be removably attached or made integral with an article of footwear 50 in the form of a rugby boot, sports shoe, running shoe, hill walking shoe or other footwear to give improved grip.

In a modification of this embodiment, the profiled elements 22a, 22b, 22c, 22d, 22e, 22f can be provided without a base plate 21 for individual temporary attachment to a conventional football stud. The profiled elements 22a, 22b, 22c, 22d, 22e, 22f may have one inclined surface, for example, an inclined front facing surface 32, but may also have a number of inclined surfaces surrounding the periphery of conventional football studs. Shown herein as a pyramid shape, the profiled elements 22a, 22b, 22c, 22d, 22e, 22f could in an alternative embodiment be generally frustoconical.

A further embodiment of the invention is shown in Figs. 7 to 10. In this embodiment, a football boot 50 has an upper 51 and a sole 42 formed with integral grips 44a-f.

Two of the grips 44a and 44b are formed on the inner and outer edges of a heel portion 48 of the sole 42, and have the general form of a truncated pyramid.

Four of the grips 44 c-f are formed on the inner and outer edges of a sole portion 40 of the sole 42. The grips 44c-f have the form of approximately a truncated pyramid in that they taper inwardly away from the sole 42 and have substantially flat tops. The grips 44c-f are elongated along axes 46 which are directed in a converging manner approximately towards a central region of the sole portion 40. The shape and orientation of the grips 44c-f provide gripping surfaces useful for controlling a ball held between the sole portion 40 and the ground.

The grips 44c-f are also formed to present outer faces 53 which follow the line of the edge of the sole 42 when seen in plan, and which are curved transversely to the sole edge. The outer faces 53 thus provide curved faces beneath the sole of the user's foot, which are useful in controlling the ball when sweeping it sideways.

The other faces of the grips 44c-f, as also the faces of the grips 44a, 44b, slope inwardly to provide better contact of the grips when engaged

sideways with the ball, in a similar manner to the second embodiment above.

The sole 42 is further formed with a central rib 54 extending from the heel portion 48 under the instep and up to the rear edge of the sole portion 50. The rib 54 is curved when viewed from the side to form a concave surface. Also, ribs 56 and 58 are formed along the inside and outside edges of the sole 42 in the instep area, the ribs 56, 58 also being curved when viewed from the side in a concave form. The arrangement of the ribs 54, 56, 58 is such as to form part of a common concave surface having approximately the same radius of curvature as a football.

This concave surface is useful in controlling the ball while it is being rolled or otherwise manipulated between the foot and the ground.

The inner rib 56 also provides a sloping side face 60 which, together with the adjacent area of the upper 51, forms a smoothly curved arch structure which is useful in controlling the ball with the inside of the foot.

The sole 42 of this embodiment may be moulded in one piece from any suitable material such as polyurethane in which case the grips 44 will have a relatively hard, smooth, low-friction surface. Alternatively, the sole could be moulded in one piece from a higher-friction material such as

rubber, or the grips could be formed of, or be surfaced with, a material such as rubber and attached to a moulded base.

The invention thus makes possible the provision of footwear having improved contact properties, particularly football boots and trainers which allow greater ball control.

1     CLAIMS

2

3     1.    A grip adapted to be fitted onto the sole of an  
4     article of footwear, the grip comprising a plurality  
5     of profiled elements which have a tactile surface,  
6     the profiled elements being arranged in a  
7     predetermined orientation.

8

9     2.    A grip according to claim 1, in which the  
10    tactile surface exhibits friction when in contact  
11    with a ball.

12

13    3.    A grip according to claim 1 or claim 2, in  
14    which the profiled elements act as ground-engaging  
15    elements.

16

17    4.    A grip according to any preceding claim, in  
18    which each of said profiled elements presents at  
19    least one downwardly facing surface inclined in a  
20    direction away from the outer periphery of the sole.

21

22    5.    A grip according to claim 4, in which each of  
23    the profiled elements has other side surfaces which  
24    also slope and a substantially flat end surface,  
25    whereby the profiled element has the general form of  
26    a truncated pyramid or cone.

27

28    6.    A grip according to any preceding claim, in  
29    which said profiled elements are provided on a heel  
30    portion and a sole portion, the heel and sole  
31    portions being joined by an instep portion, and in  
32    which the instep portion is provided with at least

1 one longitudinal rib which is curved in side view to  
2 form a concave surface.

3

4 7. A grip according to claim 6, in which the  
5 instep portion is provided with a said rib in the  
6 centre of the instep portion.

7

8 8. A grip according to claim 6, in which the  
9 instep portion is provided with two said ribs, one  
10 at either side of the instep portion.

11

12 9. A grip according to claim 7 and claim 8 having  
13 three said ribs, one in the centre and one at either  
14 side.

15

16 10. A grip according to claim 9, in which the three  
17 ribs provide a common concave surface having a  
18 curvature approximating to that of a football.

19

20 11. A grip according to any preceding claim, which  
21 is removably attachable to the sole of an article of  
22 footwear.

23

24 12. A grip according to any of claims 1 to 10,  
25 which is integral with the sole of an article of  
26 footwear.

27

28 13. An article of footwear comprising an upper and  
29 a sole, and in which the sole is provided with a  
30 grip in accordance with any preceding claim.

31

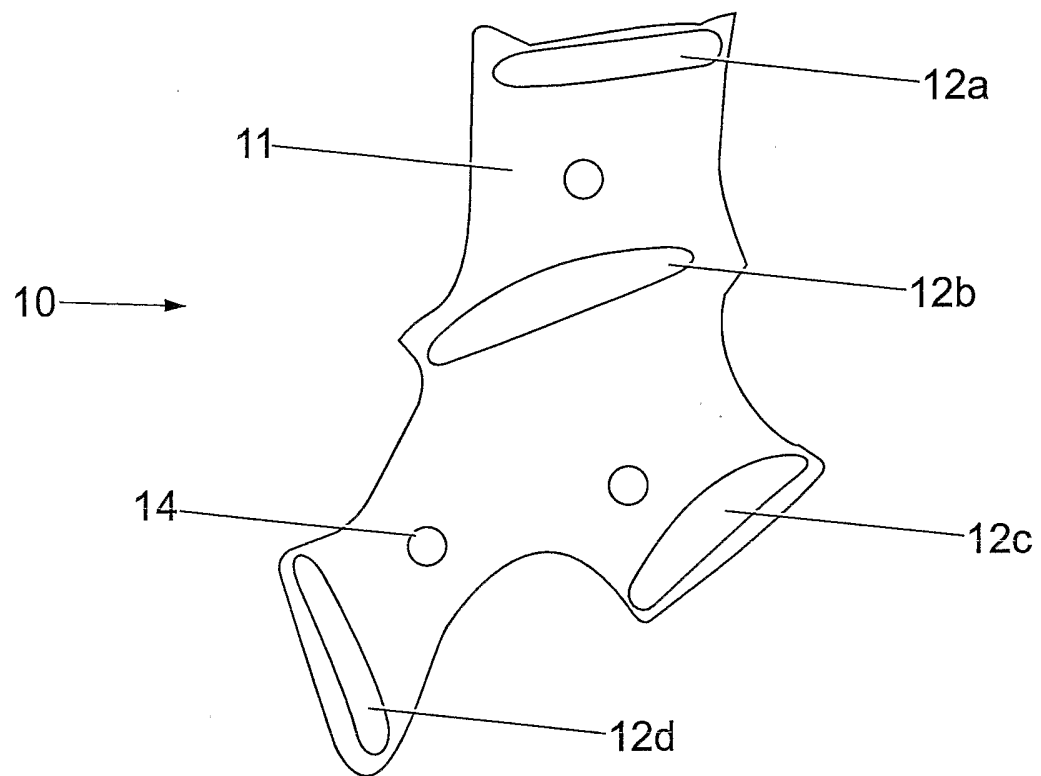
1     14. An article of footwear according to claim 13,  
2     being a football boot or football trainer.

3

4



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*Fig. 1*

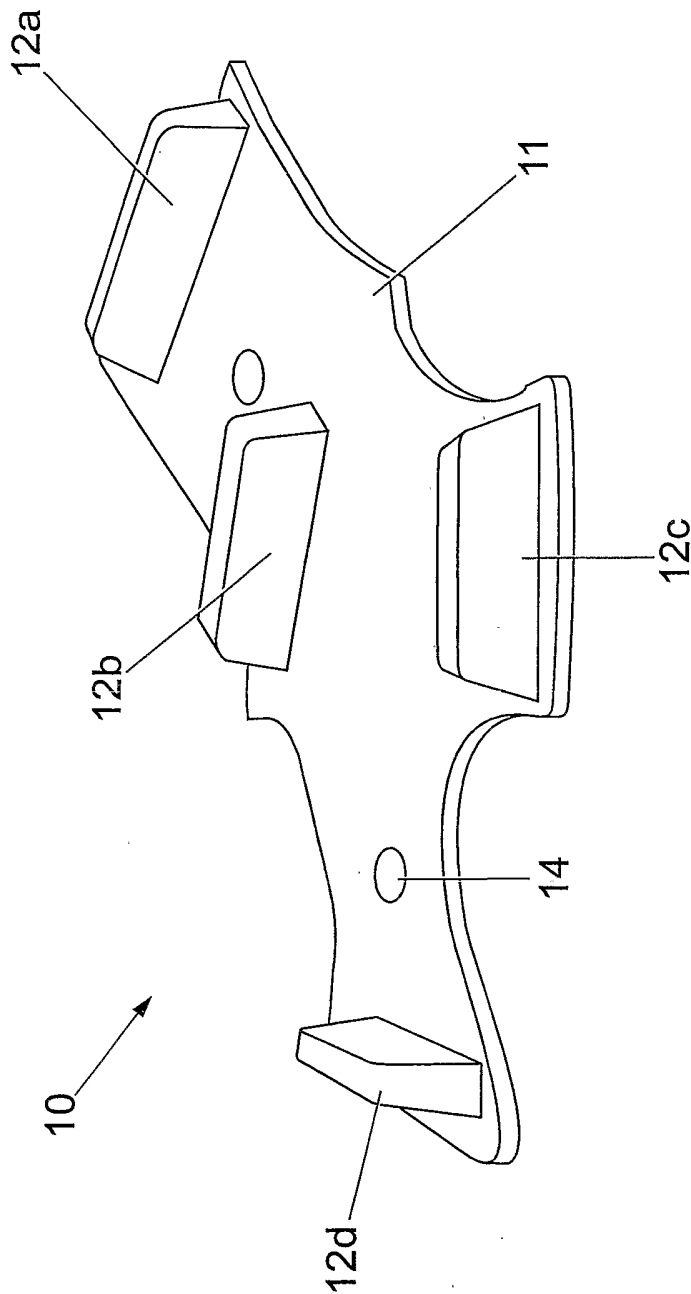
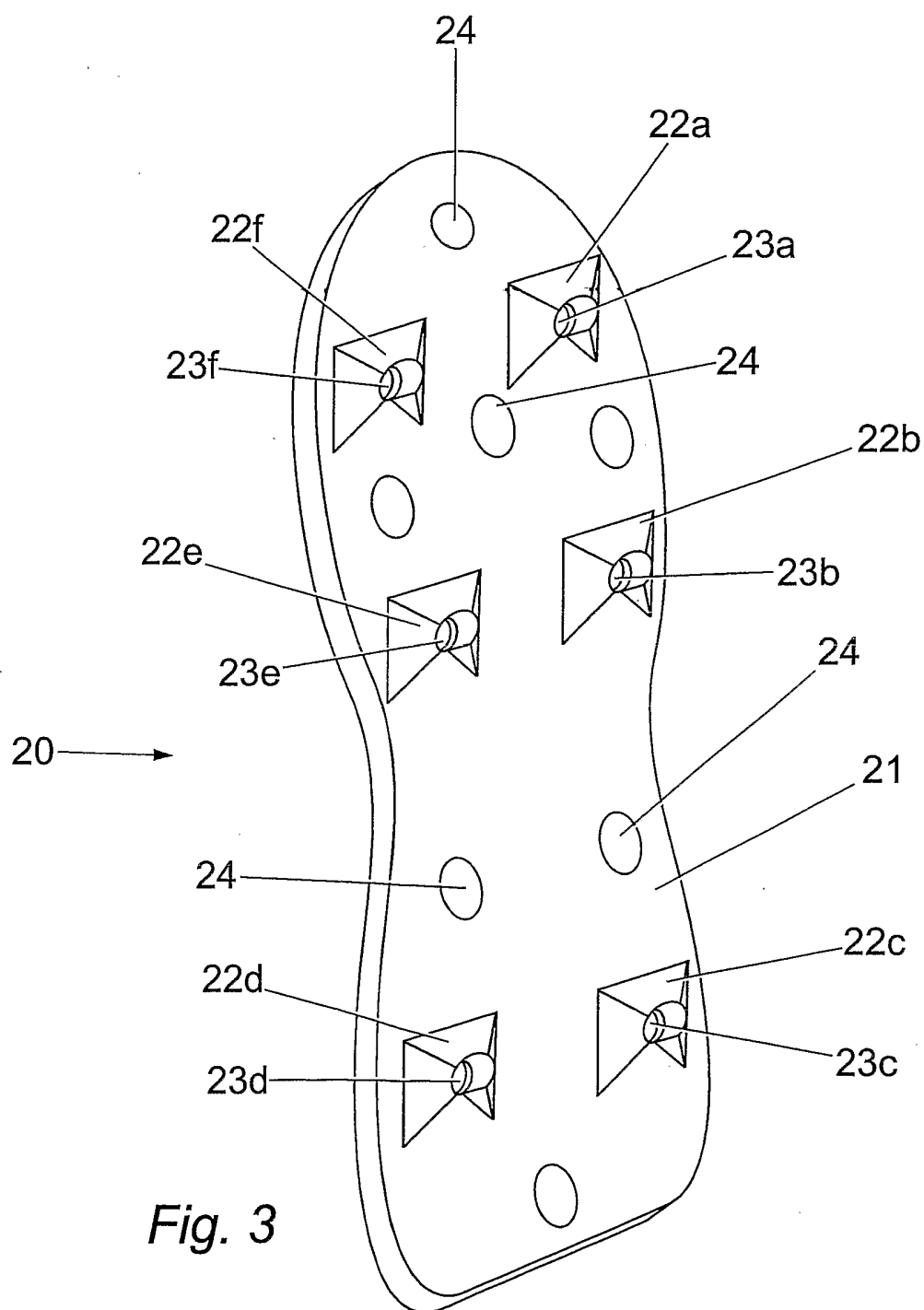
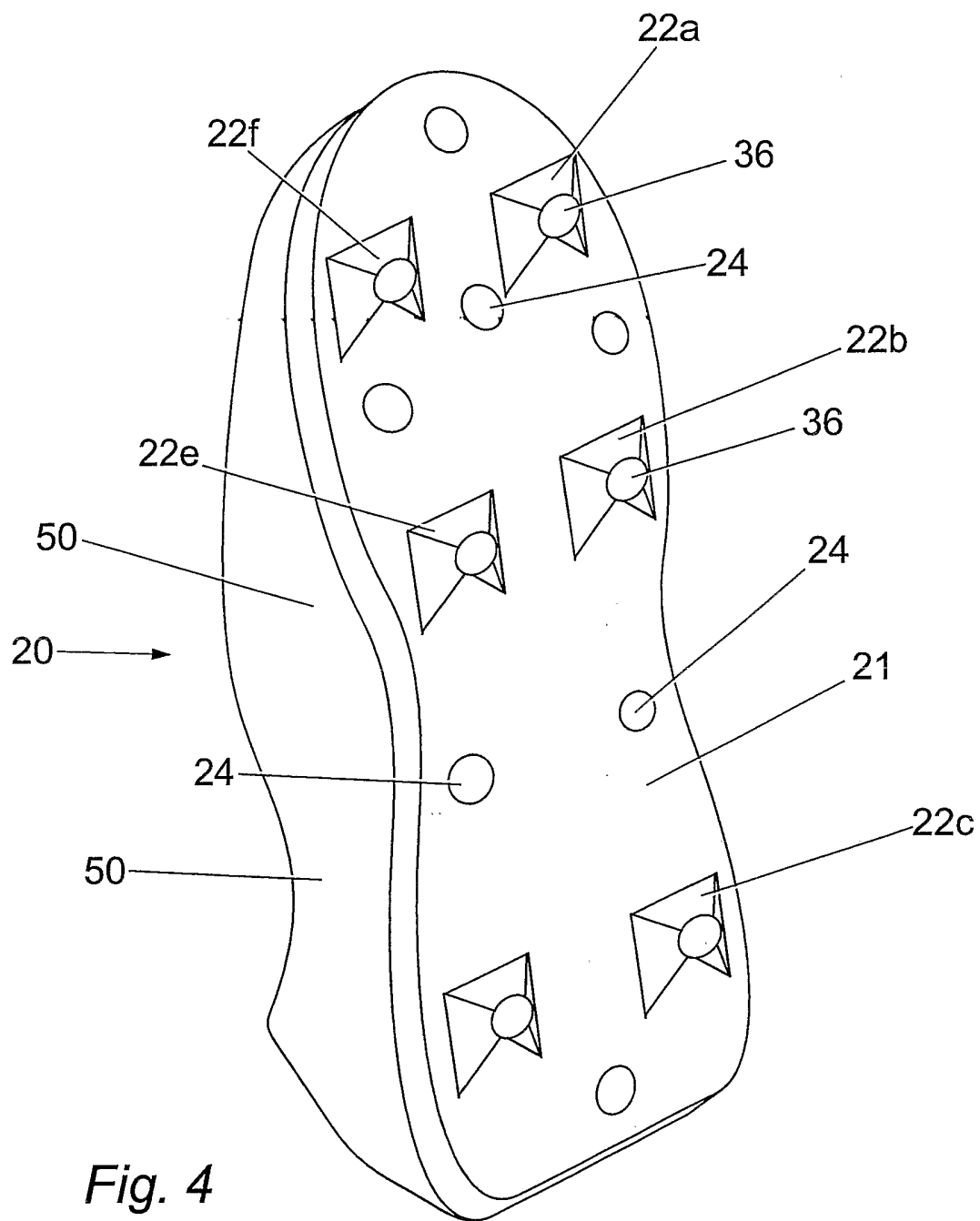


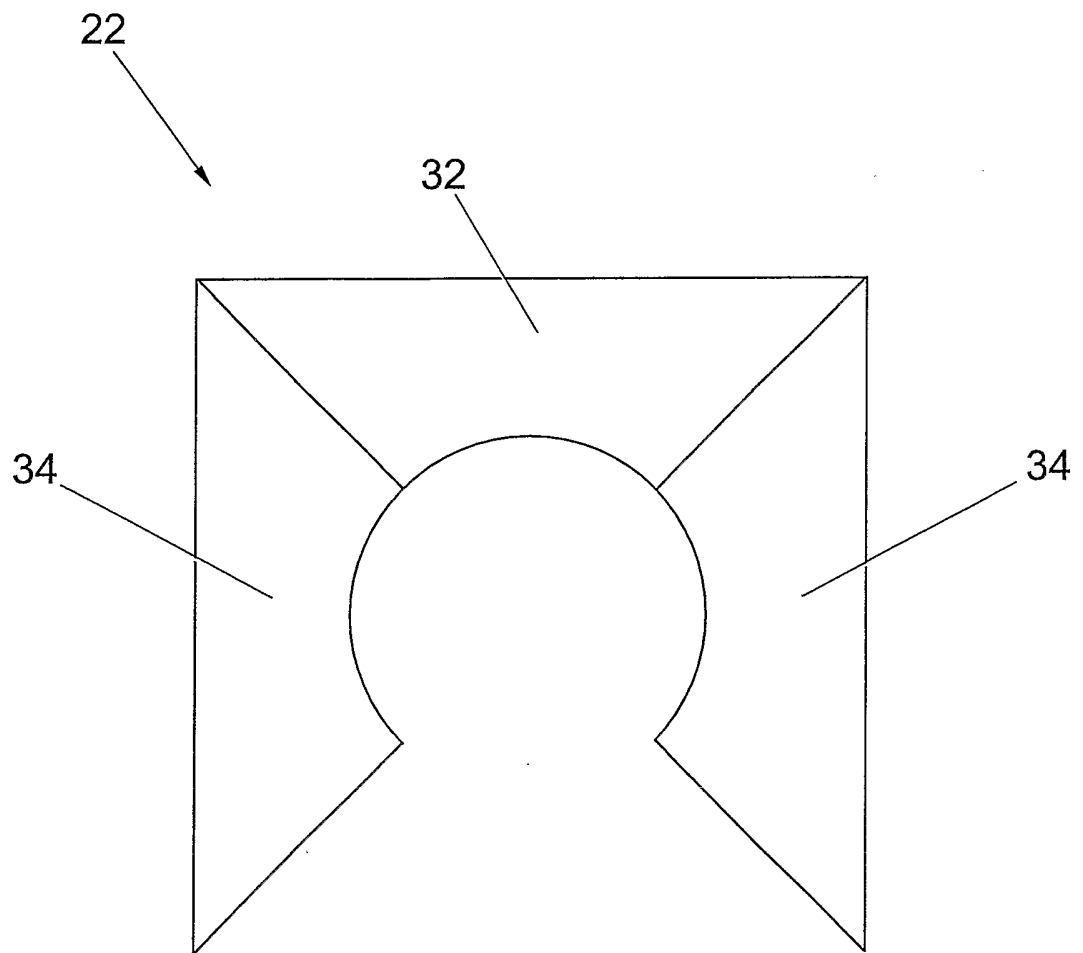
Fig. 2



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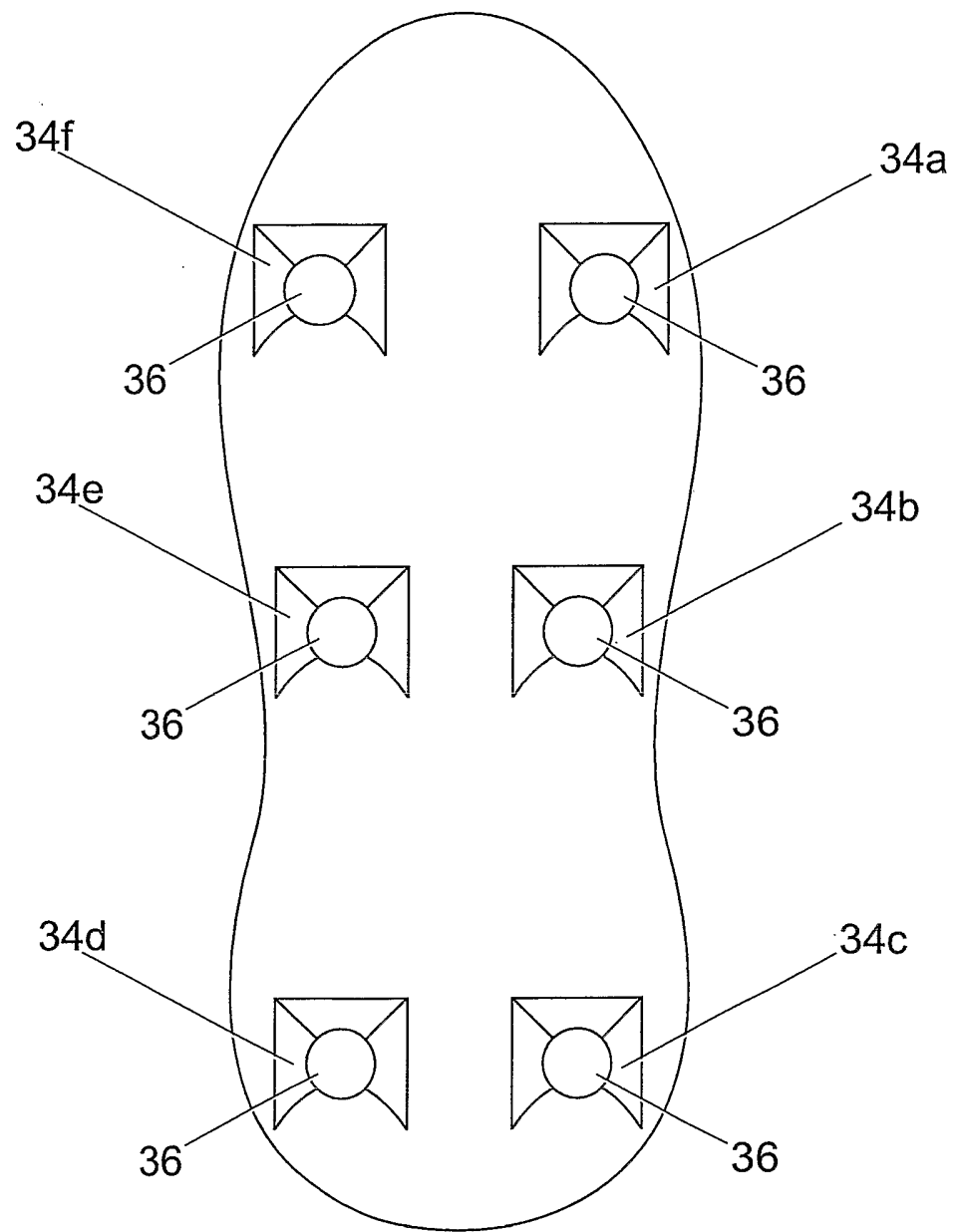


5 / 9

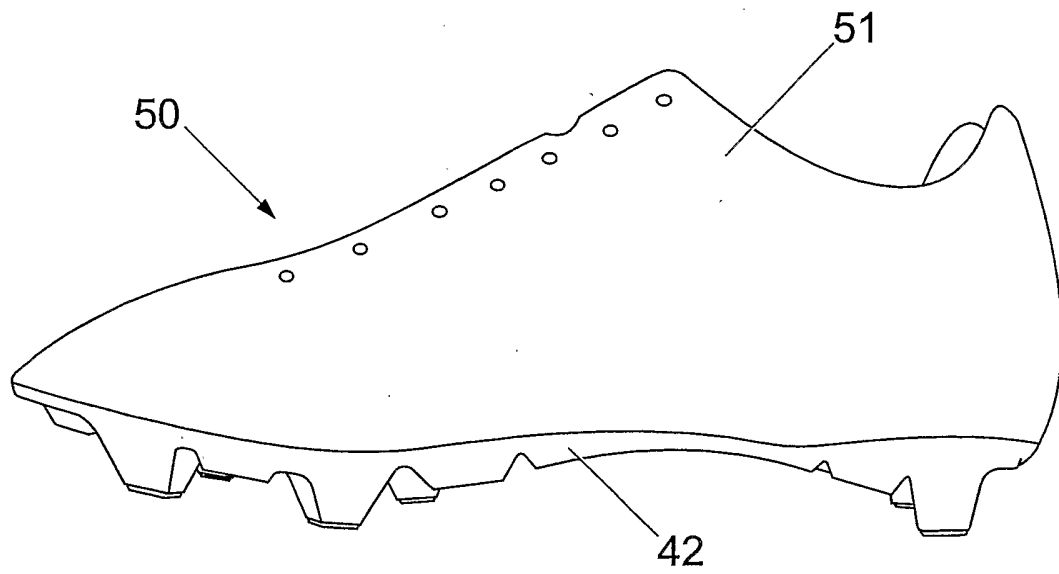


*Fig. 5*

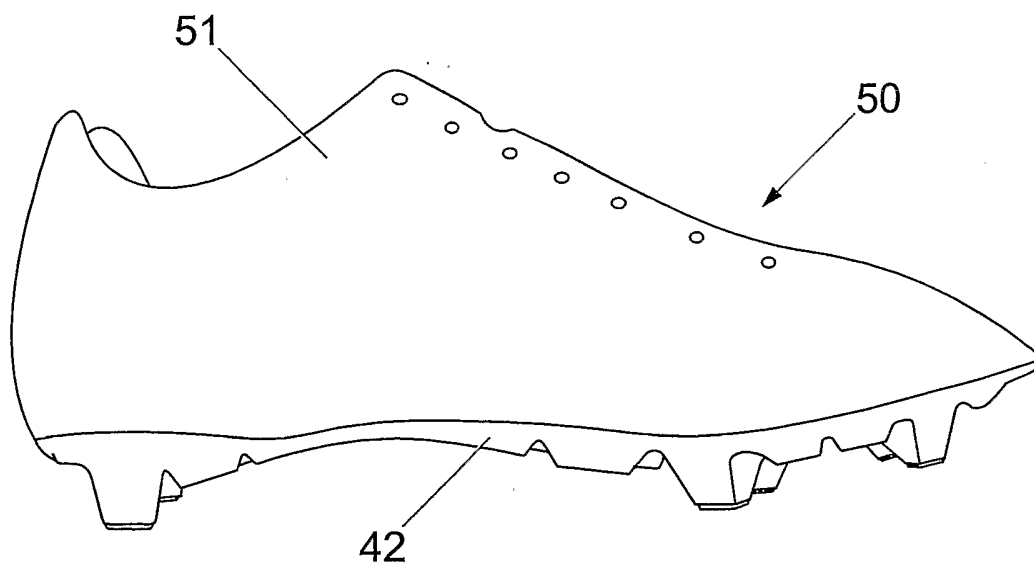
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*Fig. 6*

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*Fig. 7*

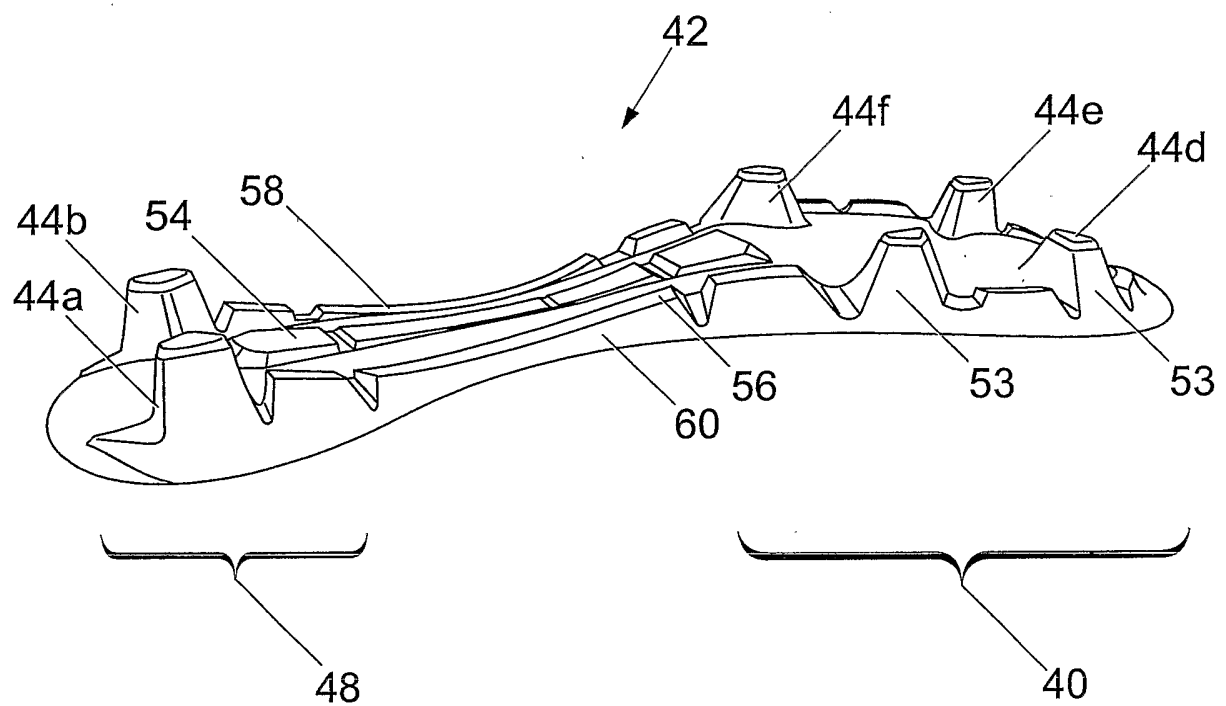


*Fig. 8*





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*Fig. 10*

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB 02/05238

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 A43B13/22 A43B5/02

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 7 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)

EPO-Internal, PAJ, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

12 March 2003

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19/03/2003

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# INTERNATIONAL SEARCH REPORT

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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