



(43) International Publication Date
20 November 2014 (20.11.2014)

(51) International Patent Classification:
A43B 5/02 (2006.01)

(21) International Application Number:
PCT/AU2014/050040

(22) International Filing Date:
15 May 2014 (15.05.2014)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2013901726 15 May 2013 (15.05.2013) AU

(71) Applicant: CONCAVE GLOBAL PTY LTD [AU/AU];
Suite 410, Level 4, 91 Murphy Street, Richmond, Victoria
3121 (AU).

(72) Inventors: THEOKLITOS, Andrew; Suite 410, Level 4,
91 Murphy Street, Richmond, Victoria 3121 (AU).
NEOPHITOU, Andrew; Suite 410, Level 4, 91 Murphy
Street, Richmond, Victoria 3121 (AU).

(74) Agent: FREEHILLS PATENT ATTORNEYS; Level 43,
101 Collins Street, Melbourne, Victoria 3000 (AU).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: FOOTWEAR FOR PLAYING FOOTBALL

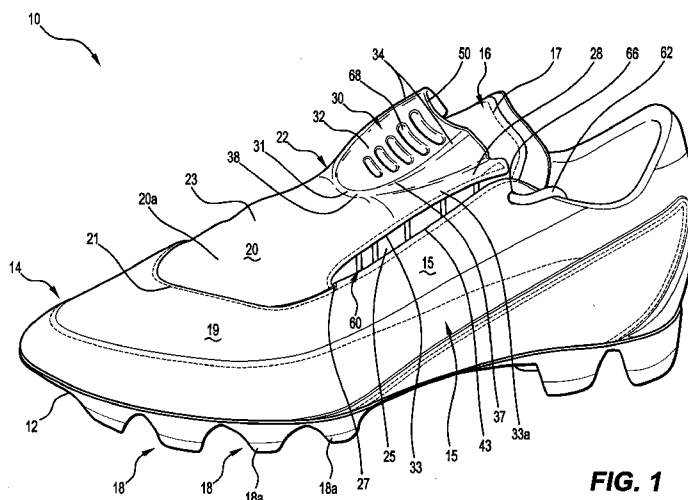


FIG. 1

(57) Abstract: A football shoe or boot including a sole (12), an upper (14) and a tongue (16), wherein the upper includes a flap (22) that overlies the tongue and at its lateral edges (33) is separated from side portions (15) of the upper by respective slits (25) open at their rear ends (26) and closed at their forward ends (27). The flap has an upper surface (23) that includes a ball control region (30). In one aspect the ball control region extends rearwardly from a foremost extremity located rearwardly of the forward ends of said slits. In another aspect, the slits are provided with lacing (60) whereby, when the shoe or boot is being worn, the relative positions of said lateral edges and the opposed side portions of the upper may be controlled.

Footwear for playing football

Field of the invention

This invention relates generally to footwear worn when playing football. The invention is suitable for all codes including soccer, rugby, and Australian, American and Gaelic football but is especially useful when playing what is known in most countries as football and distinguished in others as soccer.

Background of the invention

There have been a number of proposals over time for football shoes or boots with uppers to enhance the outcome of kicking a ball. For example, U.S. patent 6,421,936 discloses a football shoe having an upper with an instep defined by a pair of longitudinally extending spaced apart ridges laterally of a transversally concave surface for substantially cupping a ball that contacts the instep. The upper further has a toe region and the ridges have, at their front ends behind the toe region, front surfaces with respective upper peaks.

The broad concept of a concave ball contacting surface is also disclosed in European patent 359081, in which a pair of ridges are disposed along the sides of the lace region, and in European patent 496931 in which the concave surface extends from a planar shoe tip almost to the ankle opening. International patent publication WO96/22712 describes a soccer shoe in which a mix of external leather patches and ribs in the toe region are thought to give the player a more accurate control of the ball during kicking.

With the configuration of U.S. patent 6,421,936, objective tests have established that the modified upper increases the departure velocity of the ball when all other factors are substantially equal, and subjective player experience is that the configuration increases kicking accuracy. Both these benefits are clearly valuable when kicking for goal in soccer and other football codes. However, player experience is that football shoes with modified uppers of the kinds disclosed in the aforementioned patents can be less comfortable than unmodified shoes, especially when running down the ground, because of reduced flexibility in the upper. This was a reason why the modified region is set back behind the toe region in embodiments described in U.S. patent 6,421,936, and in a commercial shoe made pursuant to that patent and marketed under the brand Concave™. While these shoes have been found beneficial for their improved kicking

accuracy and ball speed, players have suggested that comfort might be improved during running, and have also expressed some concern about the additional weight of the shoe arising from the inserted material to achieve the modified upper configuration.

It is an object of the invention to at least in part address these concerns.

- 5 Reference to any prior art in the specification is not, and should not be taken as, an acknowledgment or any form of suggestion that this prior art forms part of the common general knowledge in Australia or any other jurisdiction or that this prior art could reasonably be expected to be ascertained, understood and regarded as relevant by a person skilled in the art.

10

Summary of the invention

It has been realised, in accordance with the invention, that it is possible to address concerns about comfort and weight and still achieve enhanced ball kicking if the overall length of the modified region of the upper is reduced and confined within a flap of the upper that overlies the tongue of the shoe. In an alternative or supplementary approach,
15 an acceptable outcome can be obtained by providing the concave region at least in part in a flap overlying the tongue, with the flap location controlled by lacing between opposed lateral edges of the flap and the upper.

The invention accordingly provides, in a first aspect, a football shoe or boot including a sole, an upper and a tongue, wherein the upper includes a flap that overlies the tongue
20 and at its lateral edges is separated from side portions of the upper by respective slits open at their rear ends and closed at their forward ends, and wherein the flap has an upper surface that includes a ball control region that extends rearwardly preferably substantially rearwardly from a foremost extremity located rearwardly of said forward ends of said slits.

- 25 Preferably, said slits are provided with lacing by which, when the football shoe or boot is being worn, the relative positions of said lateral edges of the flap and the opposed side portions of the upper may be controlled.

In a second aspect, the invention provides a football shoe or boot including a sole, an upper and tongue, wherein the upper includes a flap that overlies the tongue and at its
30 lateral edges is separated from side portions of the upper by respective slits open at their rear ends and closed at their forward ends, which flap has an upper surface that includes a ball control region, and wherein said slits are provided with lacing whereby,

when the shoe or boot is being worn, the relative positions of said lateral edges and the opposed side portions of the upper may be controlled.

Advantageously, in both aspects, the ball control region comprises a transversely curved surface between respective lateral ridge portions

- 5 Preferably, said ridge portions are tapered rear to front so that the concave surface and the ridge portions substantially merge into a surface region of the upper in front of the ball control region.

Advantageously, the lower edges of the ridge portions are set back from the said lateral edges of the flap.

- 10 Preferably, the tongue extends further rearwardly than the flap and in addition advantageously provides cushioning between the rear edge of the flap and the wearer's ankle. The rear edge of the flap may be finished with an end piece that avoids a stitching edge that may irritate the wearer's skin.

- Advantageously, the length of each slit is 40 to 60 per cent of the length dimension from
15 the rear of the flap to the toe of the shoe or boot.

The flap may be an integral separate piece stitched or otherwise fastened to a surrounding piece of the upper that includes said side portions and also a toe region in front of the flap.

- Preferably, the upper including the flap apart from the ball control region comprises
20 highly flexible material for the wearer's optimum comfort, whereas the ball control region may typically include relatively more rigid material for defining the ridge portions and transversely curved surface and imparting greater velocity to a ball kicked by contact with the upper including the ball control region.

- The aforementioned lacing may typically extend between plural eyes or apertures at the
25 lateral edges of the flap and in the side portions of the upper. The laces may emerge to the outside of the upper for finger manipulation, through respective apertures in the side portions of the uppers adjacent the rear end of the flap.

- As used herein, except where the context requires otherwise the term 'comprise' and variations of the term, such as 'comprising', 'comprises' and 'comprised', are not
30 intended to exclude other additives, components, integers or steps.

Brief description of the drawings

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

5 Figure 1 is a front outer side perspective view of a left foot football shoe according to an embodiment of the invention;

Figures 2 and 3 are respective outer and inner side elevations, with some minor differences relative to Figure 1;

Figures 4 to 6 are respectively a plain view, an underneath view and a rear view of the shoe shown in Figures 2 and 3; and

10 Figure 7 is a fragmentary cross-section on the line 7-7 in Figure 2.

Detailed description of the embodiments

The illustrated embodiment of football shoe 10 is designed especially for playing the form of football also known in some countries as soccer. It includes a sole 12, an upper 14 and a tongue 16. The sole 12 is provided in a known fashion with an array of studs 15 18 having aluminium tips 18a. The sole and upper are made and assembled by known techniques.

In accordance with a preferred embodiment of the invention, upper 14, which is fashioned in a suitable highly flexible leather or polymer material, includes a separate central piece 20 that defines a flap 22 overlying most of tongue 16 apart from a rear most portion 17. Flap 22 is separated at its lateral edges 33 from side portions 15 of 20 upper 14 by respective slits 25 open at their rear ends 26 (Figure 2) and closed at their forward ends 27. The portion 20a of upper piece 20 forwardly of flap 22 extends some distance towards the toe and is sewn at its periphery 21 to a surrounding panel 19 of the upper that includes side portions 15.

25 Disposed centrally and in the rear of the upper surface 23 of flap 22 is a ball control region 30. This region 30 extends rearwardly from a foremost extremity 31 located rearwardly of, preferably substantially rearwardly of, the closed forward ends 27 of slits 25, and is defined by an insert 40 (Figure 7) of substantially rigid material retained by adhesive between top and bottom layers 28, 29 of flap 22. Bottom layer 29 is retained 30 by adhesive to the insert and by stitching 33a at lateral edges 33 of the flap 22.

Ball control region 30 exhibits a transversely curved or concave surface 32 between respective lateral ridge portions 34. Both surface 32 and ridge portions 34 taper downwardly from the rear to forward extremities 31, 37 located rearwardly of the closed forward ends 27 of slits 25. Surface 32 substantially merges into the forward portion of upper surface 23 of flap 22 but for a shallow continuously or partially curved shoulder 38 linking ridge portions 34 to define the foremost extremities of the ridges and of surface 32. Concave surface 32 has spaced shallow transverse grooves or channels 68.

It will be observed that the longitudinal extent of slits 25 is about half the length dimension from the rear flap 22 to the front tip of the shoe (and is preferably 40 to 60% thereof), and that the central longitudinal extent of ball control region 30 is about 70 to 75 per cent of the longitudinal distance from the centre top of the control region to the line joining the front ends 27 of slits 25. In general, this latter proportion is preferably in the range 50 to 90%, more preferably 60 to 80%.

At the rear of flap 22, the bottom side edges of ridge portions 34 are set back from the lateral edges 33 of the flap. The rear end of the ball control region 30 may be defined by a stitched edge (as in Figures 2 and 3) or by a shaped end plate 50 (as in Figure 1). The latter is preferred in order to minimise irritation to the wearer's leg, and it will be observed that this potential problem is also guarded against by having the tongue 16 extend further rearwardly than the flap 22.

The lateral edges 33 of flap 22 and the opposed edge 43 of side portions 15 that define the slits 25 are stitched and beaded for reinforcement and linked by lacing 60. The lace or laces 62 are retained in sewn-in eyes or sleeves 64 (Figure 2) on the under surface of flap 22 and either similar elements on upper side portions 15 (as in Figure 1) or apertures 44 in the side portions 15 (as in Figures 2 and 3). There may be a single lace which also crosses between the sides of the shoe under the flap or there may be separate laces each side, fixed at an inner end. In either case, the laces 62 emerge to the exterior of the shoe through respective apertures 66 in the upper side portions 15 adjacent the rear end of the flap (or through interior eyes or sleeve portions, or otherwise).

The lace or laces 62 are manipulated to comfortably secure the shoe on the wearer's foot by closing the slits 25 to the appropriate extent, i.e. by controlling the relative positions of lateral edges 33 of the flap and opposed edges 43 of upper side portions 15.

With the illustrated shoe configuration, the retraction, relative to prior shoes, of the ball control region with its curved or concave surface towards the ankle of the wearer, and in the illustrated embodiment into a region of the flap, retains the advantageous feature of a surface that substantially cups a ball as it is kicked and improves the accuracy and velocity of the kick, while leaving the majority of the upper instep with a level of flexibility that ensures comfort, especially when the wearer is running. At the same time, the smaller size of the insert defining the ball control region by means of substantially solid material assists in lightening the overall weight of the shoe.

CLAIMS

1. A football shoe or boot including a sole, an upper and a tongue, wherein the upper includes a flap that overlies the tongue and at its lateral edges is separated from side portions of the upper by respective slits open at their rear ends and closed at their forward ends, and wherein the flap has an upper surface that includes a ball control region that extends rearwardly from a foremost extremity located rearwardly of said forward ends of said slits.
2. A football shoe or boot according to claim 1, wherein said slits are provided with lacing by which, when the football shoe or boot is being worn, the relative positions of said lateral edges of the flap and the opposed side portions of the upper may be controlled.
3. A football shoe or boot according to claim 2, wherein the lacing extends between plural eyes or apertures at the lateral edges of the flap and in the side portions of the upper.
4. A football shoe or boot according to claim 2 or 3, wherein the lacing includes one or most laces that emerge to the outside of the upper for finger manipulation, through respective apertures in the side portions of the upper adjacent the rear end of the flap.
5. A football shoe or boot according to any one of claims 1 to 4 wherein the ball control region comprises a transversely curved surface between respective lateral ridge portions.
6. A football shoe or boot according to claim 5, wherein the upper including the flap apart from the ball control region comprises flexible material for the wearer's comfort, whereas the ball control region includes relatively more rigid material for defining the ridge portions and transversely curved surface and imparting greater velocity to a ball kicked by contact with the upper including the ball control region.
7. A football shoe or boot according to claim 5 or 6, wherein said ridge portions are tapered rear to front so that the concave surface and the ridge portions substantially merge into a surface region of the upper in front of the ball control region.
8. A football shoe or boot according to claim 5, 6 or 7, wherein the lower edges of the ridge portions are set back from the said lateral edges of the flap.

9. A football shoe or boot according to any one of claims 1 to 8, wherein the tongue extends further rearwardly than the flap to provide cushioning between the rear edge of the flap and the wearer's ankle.

10. A football shoe or boot according to claim 9, wherein the rear edge of the flap is finished with an edge piece that avoids a stitching edge.

11. A football shoe or boot according to any one of claims 1 to 10, wherein the length of each said slit is 40 to 60 per cent of the length dimension from the rear of the flap to the toe of the shoe or boot.

12. A football shoe or boot according to any one of claims 1 to 11, wherein the flap is an integral separate piece stitched or otherwise fastened to a surrounding piece of the upper that includes said side portions and also a toe region in front of the flap.

13. A football shoe or boot according to any one of claims 1 to 12 wherein the ball control region extends rearwardly from said foremost extremity located substantially rearwardly of the forward ends of the slits.

14. A football shoe or boot according to any one of claims 1 to 13, wherein the central longitudinal extent of the ball control region is 50 to 90%, preferably 60 to 80%, more preferably 70 to 75%, of the longitudinal distance from the centre top of the control region to a line joining the front ends of said slits.

15. A football shoe or boot including a sole, an upper and tongue, wherein the upper includes a flap that overlies the tongue and at its lateral edges is separated from side portions of the upper by respective slits open at their rear ends and closed at their forward ends, which flap has an upper surface that includes a ball control region, and wherein said slits are provided with lacing whereby, when the shoe or boot is being worn, the relative positions of said lateral edges and the opposed side portions of the upper may be controlled.

16. A football shoe or boot according to claim 15, wherein the lacing extends between plural eyes or apertures at the lateral edges of the flap and in the side portions of the upper.

17. A football shoe or boot according to claim 15 or 16, wherein the lacing includes one or most laces that emerge to the outside of the upper for finger manipulation, through respective apertures in the side portions of the upper adjacent the rear end of the flap.

18. A football shoe or boot according to any one of claims 15, 16 or 17 wherein the ball control region comprises a transversely curved surface between respective lateral ridge portions.

5 19. A football shoe or boot according to claim 18, wherein the upper including the flap apart from the ball control region comprise flexible material for the wearer's comfort, whereas the ball control region includes relatively more rigid material for defining the ridge portions and transversely curved surface and imparting greater velocity to a ball kicked by contact with the upper including the ball control region.

10 20. A football shoe or boot according to claim 18 or 19, wherein said ridge portions are tapered rear to front so that the concave surface and the ridge portions substantially merge into a surface region of the upper in front of the ball control region.

21. A football shoe or boot according to claim 18, 19 or 20, wherein the lower edges of the ridge portions are set back from the said lateral edges of the flap.

15 22. A football shoe or boot according to any one of claims 15 to 21, wherein the tongue extends further rearwardly than the flap to provide cushioning between the rear edge of the flap and the wearer's ankle.

23. A football shoe or boot according to claim 22, wherein the rear edge of the flap is finished with an edge piece that avoids a stitching edge.

20 24. A football shoe or boot according to any one of claims 15 to 23, wherein the length of each said slit is 40 to 60 per cent of the length dimension from the rear of the flap to the toe of the shoe or boot.

25. A football shoe or boot according to any one of claims 15 to 24, wherein the flap is an integral separate piece stitched or otherwise fastened to a surrounding piece of the upper that includes said side portions and also a toe region in front of the flap.

25 26. A football shoe or boot according to any one of claims 15 to 25, wherein the central longitudinal extent of the ball control region is 50 to 90%, preferably 60 to 80%, more preferably 70 to 75%, of the longitudinal distance from the centre top of the control region to a line joining the front ends of said slits.

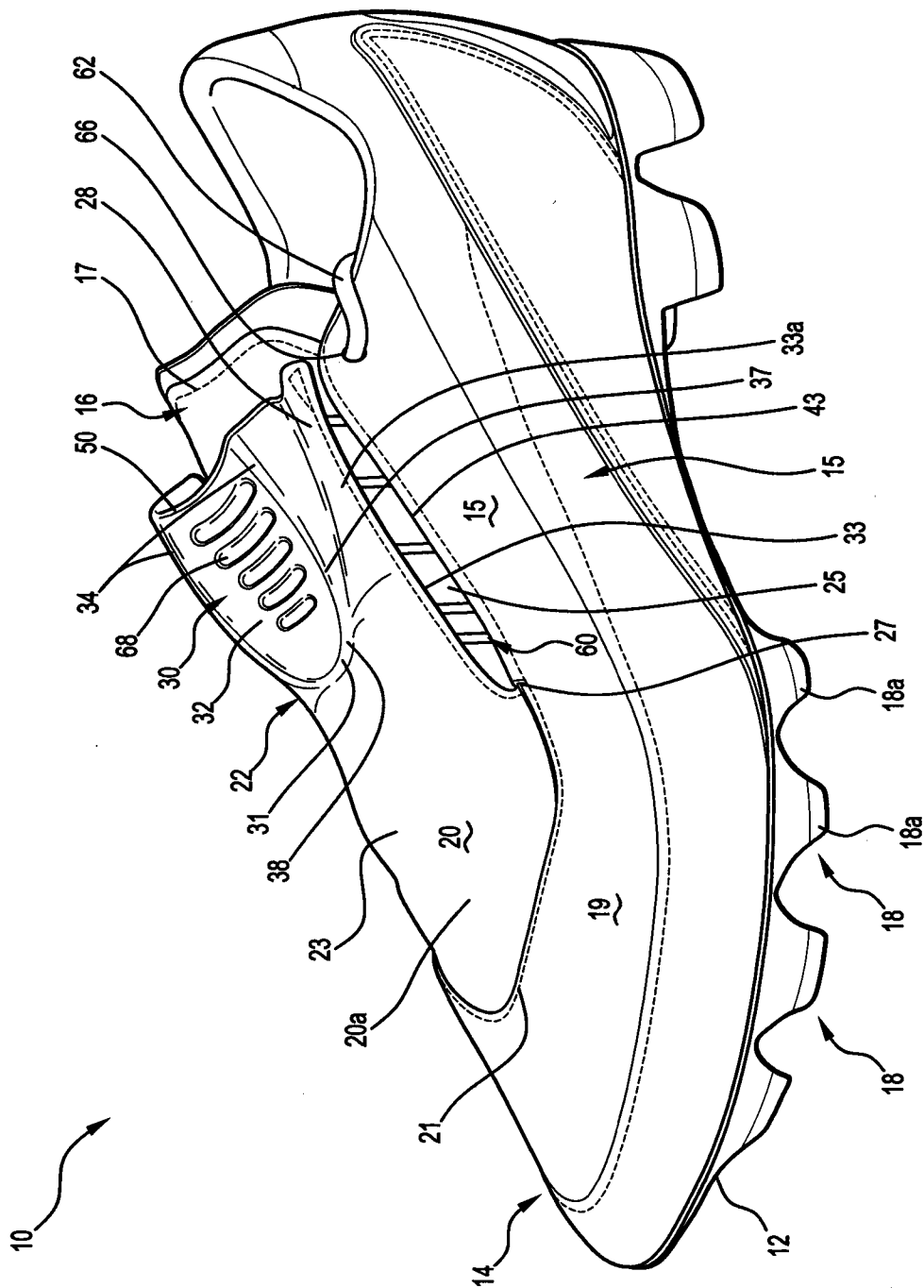


FIG. 1

27

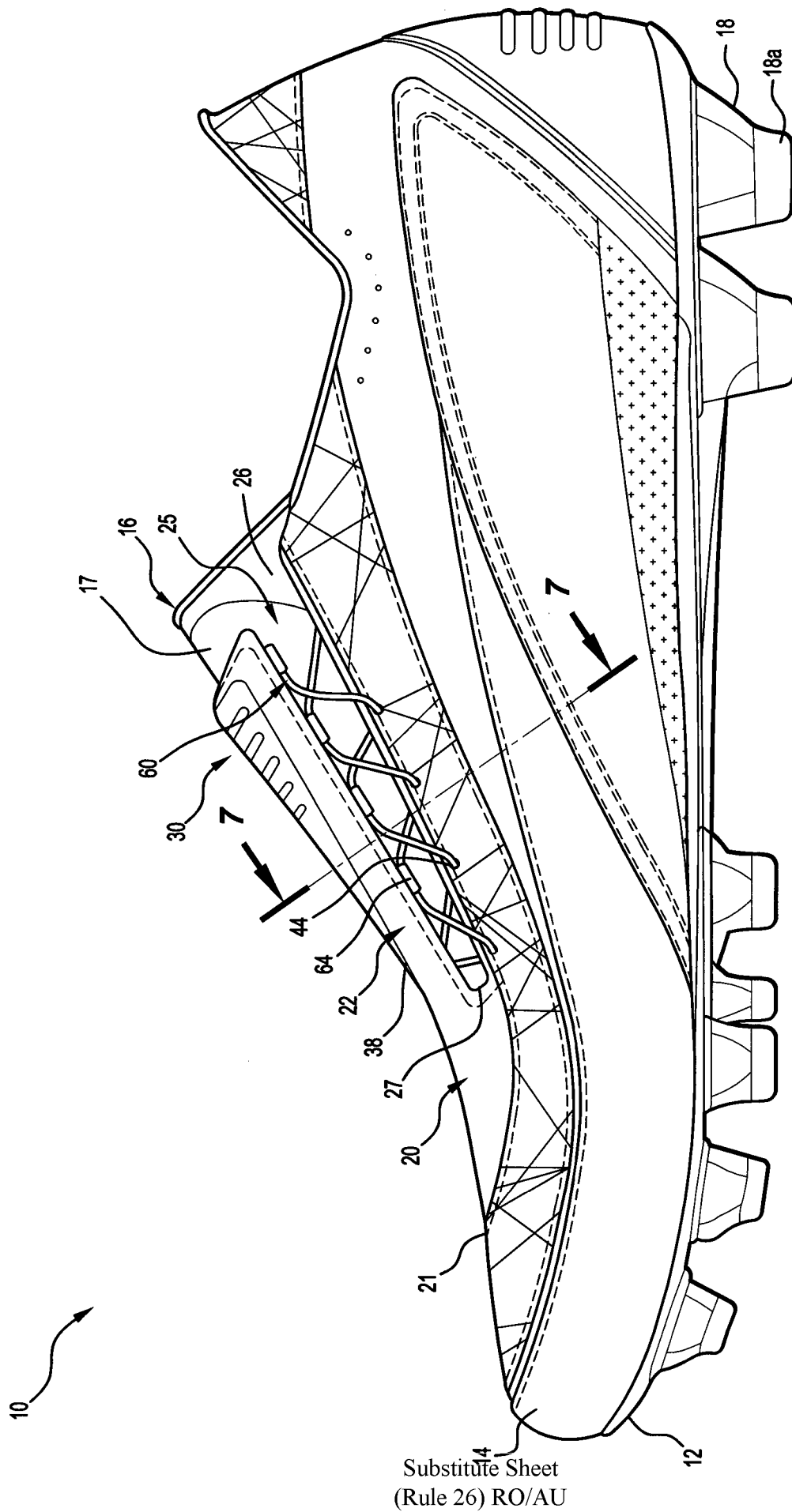


FIG. 2

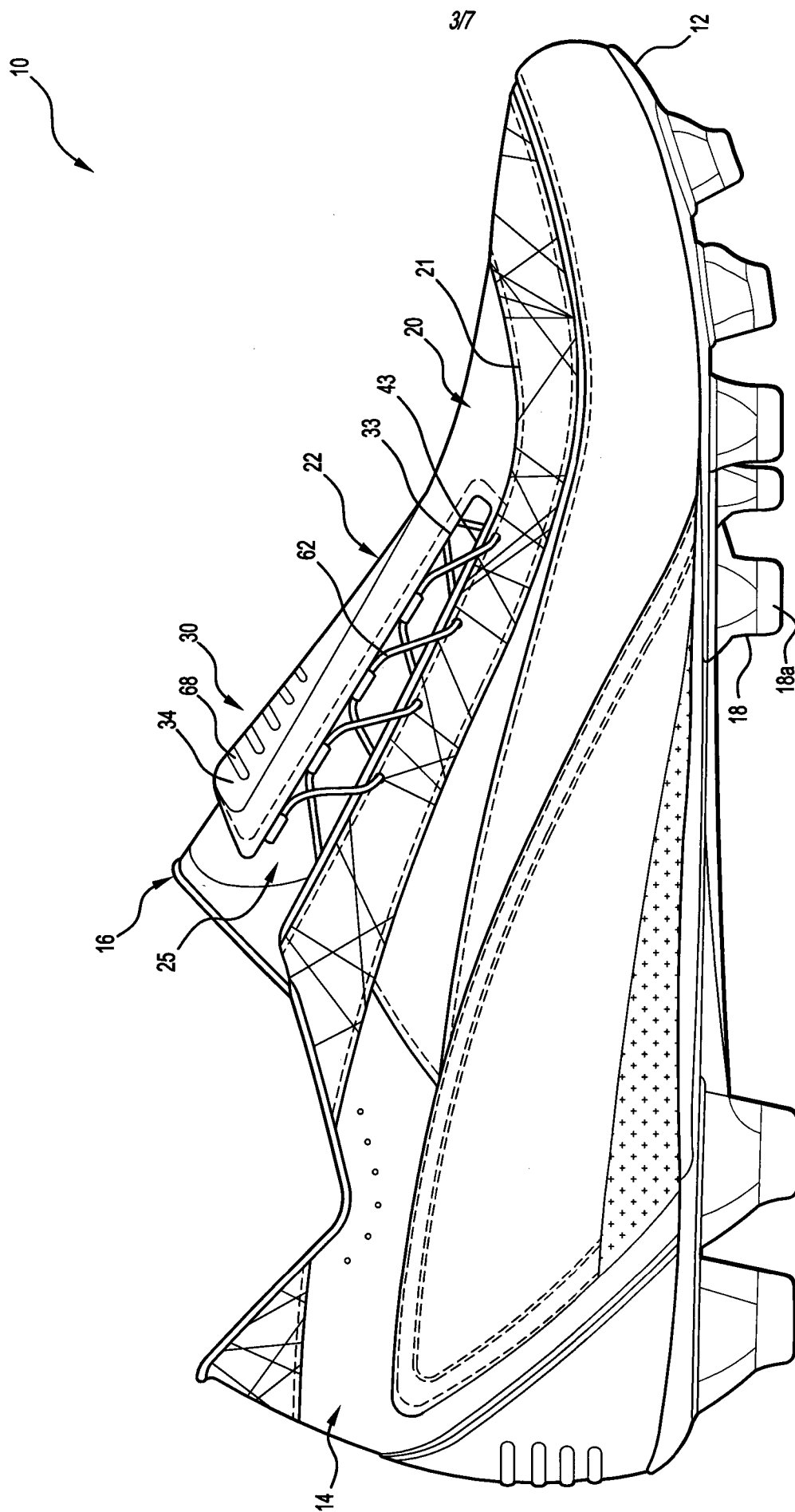


FIG. 3

4/7

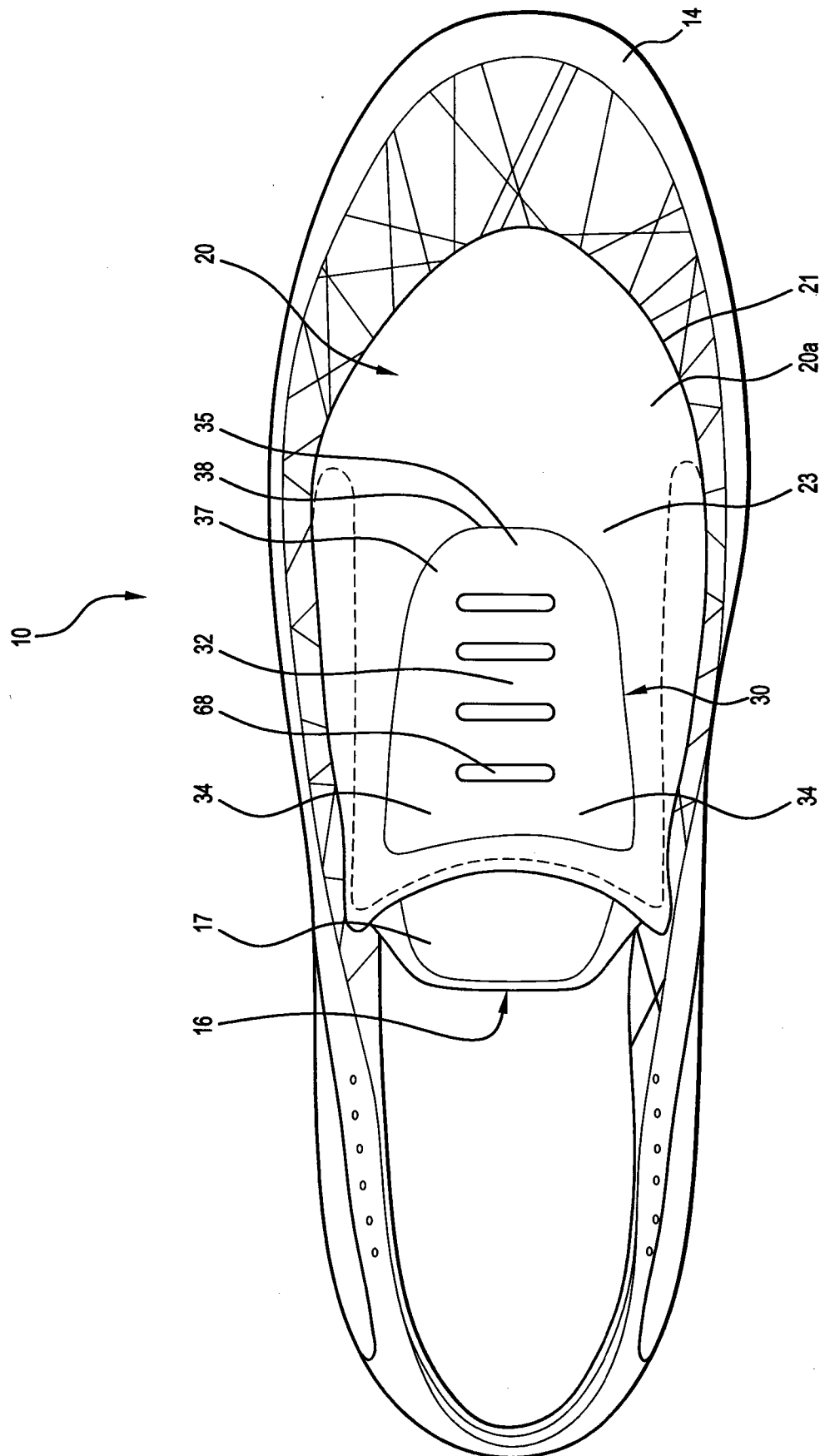


FIG. 4

5/7

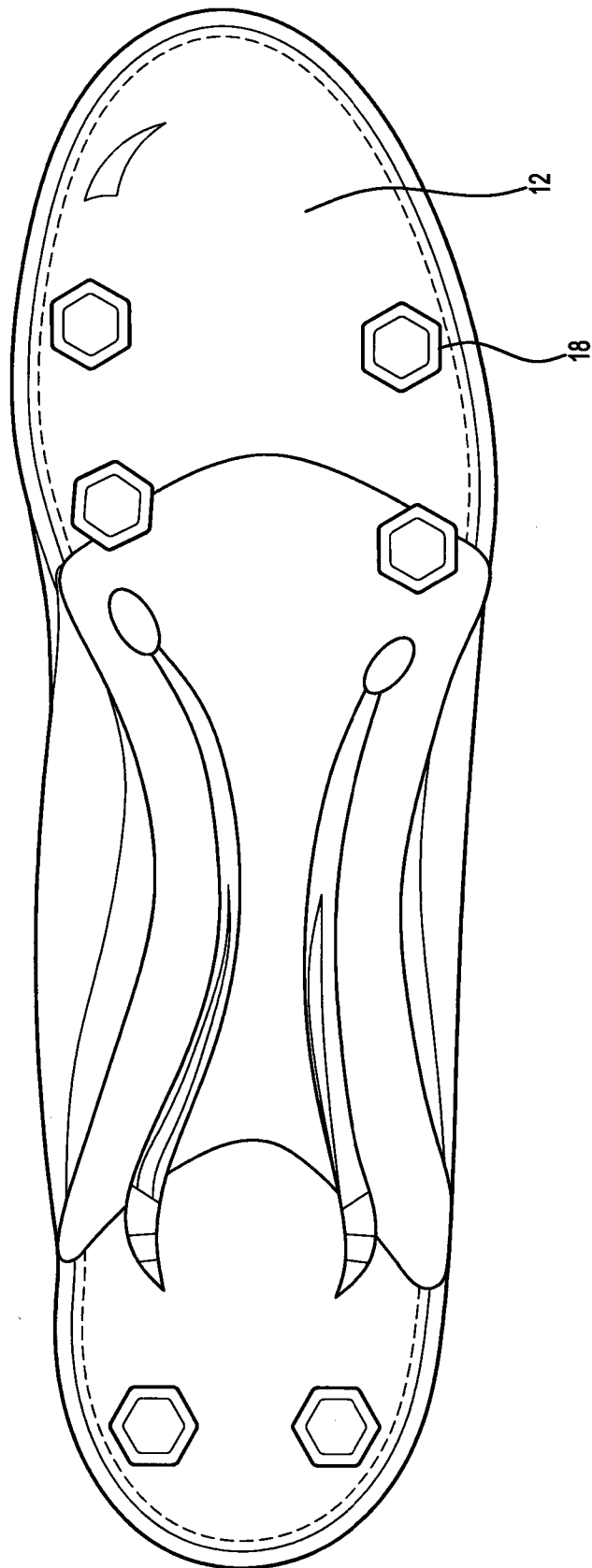


FIG. 5

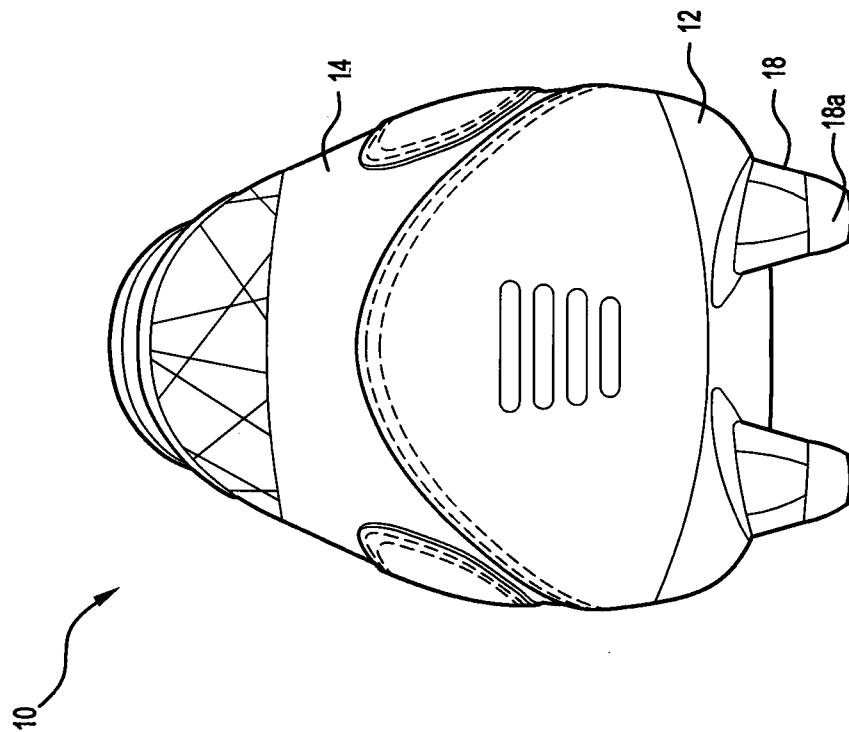


FIG. 6

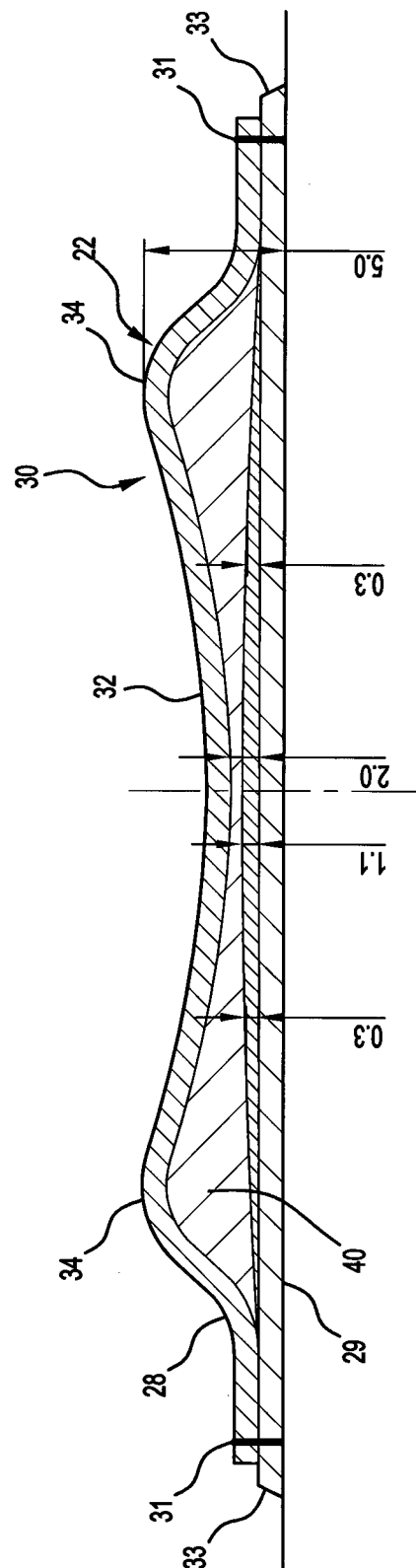


FIG. 7

A. CLASSIFICATION OF SUBJECT MATTER**A43B 5/02 (2006.01)**

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)

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 practicable, search terms used)

Databases: EPODOC, WPI

IPC/CPC marks: A43B5/02, A43B5/025; US classification marks: 36/128, 36/133; with keywords: flap, upper, cover, sleeve, slit, incision, split, opening, slot, gap, lace, lacing, thread, string, and like terms.

Databases: Espacenet, AusPat. Searched for applicant and inventor names

Database: Google Web search and Google Image search. keywords: football boot with slits and lacing, and like terms.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	Documents are listed in the continuation of Box C	



Further documents are listed in the continuation of Box C



See patent family annex

* "A"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search 16 July 2014		Date of mailing of the international search report 16 July 2014	
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA Email address: pct@ipaaustralia.gov.au		Authorised officer Aisha Qi AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service) Telephone No. 0262832951	

INTERNATIONAL SEARCH REPORT		International application No.
C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		PCT/AU2014/050040
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009/0100712 A1 (BAKER et al.) 23 April 2009 Figures 1-24, page 1 paragraph [0007] to page 6 paragraph [0114]	1-26
X	US 3703775 A (GATTI) 28 November 1972 Whole document	1-26
X	Australian Registered Design Registration AU 346884 S, Design Number 201216658 (CONCAVE GLOBAL PTY LTD) Application date 24 December 2012, Registration date 12 February 2013, Class 02-04Z Whole document	1-26
X	How to lace up your Concave boots [retrieved on 07 July 2014] Retrieved from internet <URL: http://www.youtube.com/watch?v=0kKdHyXh10 > published on 8 January 2013 as indicated on the webpage. Whole document	1-26

INTERNATIONAL SEARCH REPORT Information on patent family members		International application No. PCT/AU2014/050040	
This Annex lists known patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.			
Patent Document/s Cited in Search Report		Patent Family Member/s	
Publication Number	Publication Date	Publication Number	Publication Date
US 2009/0100712 A1	23 April 2009	US 7941943 B2	17 May 2011
		CN 101480282 A	15 Jul 2009
		CN 101480282 B	12 Jan 2011
		EP 2062490 A1	27 May 2009
		EP 2062490 B1	22 Feb 2012
		EP 2374365 A1	12 Oct 2011
		EP 2374365 B1	21 Aug 2013
		US 2011179676 A1	28 Jul 2011
		US 8484865 B2	16 Jul 2013
US 3703775 A	28 November 1972	None	
End of Annex			
Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001. Form PCT/ISA/210 (Family Annex)(July 2009)			