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(54) **Ski or snowboarding boot having a custom fitting device**

Ski- oder Snowboardstiefel mit einer individuell angepassten Einpassvorrichtung

Chaussure de ski ou de snowboard dotée d'un dispositif personnalisable d'ajustement

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Description

[0001] The present invention refers to a ski or snowboard boot, having a custom fitting device comprising a plurality of expandable bladders arranged within the boot. The expansion of the bladders is obtained by means of a pneumatic system, through which air or any other suitable gas is pumped to inflate the bladders, or by injecting polyurethane or silicone foam.

[0002] Custom fitting pneumatic devices have been known over the years in the sports footwear industry, and in particular in the ski boots industry; for example, US 4,232,459 discloses a ski boot comprising an air chamber arranged between the shell and the inner boot connected, by means of a delivery circuit and a release circuit, to a pump incorporated in the boot.

[0003] A drawback of this solution in which a single air chamber is provided lies in the poor efficiency in holding the wearer's foot firm during sports activity: actually, when the foot is subjected to external dynamic stresses, the air contained within the chamber flows towards the lower pressure areas; thus, the reaction of the air chamber is not enough to counter the movement of the foot caused by the external stresses.

[0004] US 6,655,050, on which the preamble of claim 1 is based, discloses a snowboard boot incorporating, between the shell and the inner boot, several air chambers separated and independent from each other and arranged in different areas of the foot; the various areas can be inflated separately by means of an external pump, available to the wearer, which can be applied in succession at the air inlet opening of each chamber; this solution allows the wearer to adjust the pressure of each air chamber independently with respect to the other and according to the contingent needs.

[0005] However, such known solution reveals some drawbacks: a first drawback lies in the fact that the pump can be easily lost by the user given that it is separate from the footwear; furthermore, the pump can be a hindrance to the sports activity if kept in the pocket after use.

[0006] Another drawback lies in the difficulty related to positioning and mounting each air chamber within the shoe: actually, each air chamber should be constrained to the shell to prevent removal thereof when removing the inner boot.

[0007] US5,253,435 discloses a bladder assembly for an athletic shoe having at least first and second chambers. The chambers are independently and separately pressure adjustable by the user to conform to different concavity areas of his foot, such as the arch, ankle and metatarsal areas, to thereby enhance fit, comfort and athletic performance. Both chambers are inflatable by the same articulated on-board pump and deflatable by the same on-board depressible plunger. A dial on the lateral side of the upper allows the user to select which of the chambers is to be pressure adjusted, that is, which of the chambers is in pressure communication with the pump and the plunger. When the dial is in a neutral position, accidental inflation or deflation of either chamber is prevented.

[0008] US 5,113,599 discloses an athletic shoe provided with an inflatable tongue or bladder for a more secure fit to the user's foot. The bladder may include a plurality of chambers with a valve disposed therebetween to selectively inflate the chambers. The inflatable tongue or bladder has a lightweight pump disposed thereon. Document EP 0 229 273 discloses a ski boot comprising a shell, a cuff and internally having a removable inner boot, said boot being provided with a custom fitting device comprising a plurality of expandable chambers arranged within said boot at a respective plurality of regions of the wearer's foot, an actuation unit for actuating the selective expansion of said plurality of chambers being associable to said boot, said actuation unit being in fluid communication with said plurality of chambers by means of suitable connection means, said custom fitting device being interposed between said shell and said removable inner boot, said connection means comprising a first tube and a second tube separate and independent from said first tube, said actuation unit further comprising a first release control in fluid communication with said first chamber through said first tube and a second release control in fluid communication with said second chamber through said second tube, said first release control and second release control being adapted to actuate the controlled release of fluid from said first chamber and second chamber, respectively. In the end, prior art solutions are either inefficient or unpractical, and thus scarcely applicable, or they are complex in terms of construction, and hence disadvantageous from an economical point of view.

[0009] The aim of the present invention is to overcome the previously outlined drawbacks of the prior art, by providing a ski or snowboarding boot having a custom fitting device capable of efficiently holding the foot firm in the boot during skiing or snowboarding. Within the previously described aim, an object of the present invention is to provide a ski or snowboarding boot having a custom fitting device that is easy to obtain and economically advantageous.

[0010] Another object of the present invention is to provide a custom fitting device that can be positioned and mounted within the boot in an extremely simple, quick and easy manner.

[0011] Another object of the present invention is to provide a ski or snowboarding boot having a custom fitting device that can be used by the wearer in an easy and practical manner.

[0012] Last but not least, an object is to provide a ski or snowboarding boot having a custom fitting device obtainable at competitive costs and by using known equipments, machinery and tools.

[0013] The aim, objects and advantages indicated above as well as others that will be more apparent hereinafter, are reached by a ski or snowboarding boot having a custom fitting device as defined in claim 1.

[0014] Further characteristics of the invention will be

illustrated further in the description of a particular, but not exclusive, embodiment illustrated purely by way of non-limiting example in the attached claims, wherein:

- figures 1 and 2 show, according to a partly cross-sectional perspective view, a sports footwear having a custom fitting device according to the present invention respectively during the steps of expansion and contraction of a first expandable bladder;
- figures 3 and 4 show, according to a partly cross-sectional perspective view, the footwear illustrated in the previous figures respectively during the steps of expansion and contraction of a second expandable bladder;
- figure 5 represents a plan development of the custom fitting device according to the previous figures.

[0015] With reference to the previously mentioned figures, a ski boot, comprising a shell or upper 2 and a cuff 3 internally containing a padded lining or a removable inner boot (not illustrated) is indicated with reference number 1.

[0016] A custom fitting device, generally indicated with reference number 4, which allows customising the fitting to the particular anatomy of the wearer's foot or to specific technical-sports requirements thereof, is interposed between the shell or upper 2 and the lining or inner boot.

[0017] The custom fitting device 4 comprises a plurality of expandable bladders 5, 6 independent with respect to each other and arranged within the footwear 1 at different regions of the wearer's foot.

[0018] With reference to the embodiment illustrated by way of example in the attached figures, the custom fitting device 4 comprises at least one first expandable bladder 5 arranged approximately at the upper and lateral region of the forefoot and at least one second expandable bladder 6, independent from the first bladder 5, arranged around the malleolar region.

[0019] Preferably, the custom fitting device 4 will be obtained according to a substantially symmetric configuration, and thus the first bladder 5 can at least partly wrap both sides of the forefoot and the second bladder 6 can at least partly surround both sides of the malleolar regions.

[0020] An actuation unit, generally indicated with reference number 7, is associated to the ski boot 1, and possibly selectively release a fluid into the plurality of bladders 5, 6 with the aim of selectively expanding, and possibly contracting, the bladders; the actuation unit 7 is in fluid communication with the bladders 5, 6 through suitable connection means.

[0021] In the embodiment illustrated in the attached figures, in which the custom fitting device 4 is constituted by a pneumatic system for inflating the bladders, the actuation unit 7 comprises a first pump 8 and a second pump 9 respectively in communication with the first bladder 5 and with the second bladder 6 to convey air or any other suitable gas into the bladders; the connection means comprise a first tube 10 and a second tube 11, separate and independent from the first tube 10, which connect the first bladder 5 in fluid communication with the first pump 8 and, respectively, the second bladder 6 with the second pump 9 through suitable generally known check-valves.

[0022] The actuation unit further comprises a first release control 12 and a second release control 13 in fluid communication with the first bladder 5 and, respectively, with the second bladder 6 through the respective first tube 10 and second tube 11. The first release control 12 and the second release control 13 actuate the controlled release of air, or any other gas, from the bladders 5, 6 for the contraction of the bladders.

[0023] Advantageously, the actuation unit 7 is connected at the outer rear wall of the cuff 3 adjacent to the upper edge of the cuff 3 so as to allow the user a simple and easy access.

[0024] A peculiar characteristic of the present invention lies in the fact that the plurality of bladders 5, 6 and the relative tubes 10, 11 are integrally formed on a support element 14 made in one piece at least partly wrapping the wearer's foot.

[0025] The support element 14 is obtained by superimposing two material sheets preferably thermoweldable, for example polyurethane, which are joined to each other along predefined lines or areas; in particular, upon defining the design and arrangement of the bladders 5, 6 and the tubes 10, 11 on the support element 14, the sheets are joined, preferably by means of thermowelding, at least at the peripheral areas of the bladders 5, 6 and the tubes 10, 11 and, preferably, also at the peripheral areas of the sheets so as to obtain a sufficiently compact assembly. Figure 5 illustrates the assembly of the custom fitting device 4 thus obtained, in which the support element 14 incorporates the first bladder 5, the second bladder 6, the first tube 10 and the second tube 11 therein; lastly, the latter are connected, passing through the cuff 3, to the actuation unit 7 arranged outside the cuff 3.

[0026] The areas indicated with A, B, C, D and E of the support element 14 are joined, preferably welded, to each other, and one or more of such areas can advantageously have an anti-skid knurled surface finishing so as to limit the movements of the custom fitting device 4 within the footwear 1, when the foot is fitted.

[0027] Furthermore, the bladders 5, 6 can be designed to be advantageously provided with further weldings within the bladders so as to obtain a three-dimensional distribution of the air or of the gas or a differentiation of the expansion, and thus of the thickness, of the bladders.

[0028] The flat support element 14 thus obtained is joined, for example by stitching or welding, at the edges indicated with F and G in figure 5 so as to allow shaping to wrap, at least partly, the wearer's foot and thus acquire the volume of the footwear into which it is subsequently fitted and constrained; the support element 14 is preferably fastened onto the lateral inner walls of the shell or upper 2 at the lateral holes 15, 16 of the support element

14.

[0029] Furthermore, the support element 14 can be advantageously associated - at the edges indicated with H and J - for example by means of stitching or welding, to a base 17 also to allow fastening to the bottom, i.e. on the inner surface of the sole or insole, of the shell or upper 2, both to further reduce any movement of the support element during sports activity and to avoid interference when removing a possible removable inner boot.

[0030] The ski or snowboarding boot having a custom fitting device according to the present invention operates as follows: upon fitting and closing the foot in the boot 1, the wearer may adjust and customise the fitting, i.e. the inner volume of the boot, to the foot thereof independently on the first and/or on the second bladder 5, 6 by actuating the first and/or, respectively, the second pump 8, 9, as schematically illustrated in figures 1 and 3; by so doing, the wearer can inflate the first and/or the second bladder 5, 6, up to the desired degree of expansion, so that the foot is suitably held firm in the footwear 1.

[0031] The wearer should simply operate on the first and/or on the second release control 13, 14 so as to cause partial or total release from the respective bladders, as schematically illustrated in figures 2 and 4, in order to reduce the pressure of one or the other bladder in a controlled manner, or to completely deflate the bladders to remove the foot from the boot 1.

[0032] Thus, the description above shows how the present invention reaches the preset objects and advantages: actually, a ski or snowboarding boot 1 having a custom fitting device 4 capable of efficiently and selectively holding, according to the different areas, the foot firm within the boot during skiing or snowboarding has been provided. In particular it is shown how the independence between the different bladders prevents the air (or the gas) from flowing into the lower pressure areas, hence guaranteeing the ideal stability of the firm holding.

[0033] The positioning of the foot within the boot 1 can also be customised by making the lateral portions of the first bladder 5 and/or of the second bladder 6 independent from each other; thus, the foot can be pushed against the inner wall or the outer wall of the shell or upper 2 to facilitate a wearer's determined posture, for example the skier's posture with respect to the ski.

[0034] Furthermore, the custom fitting device is extremely simple from a construction point of view, and thus economically advantageous, due to the method of construction thereof, by integrally forming the bladders 5, 6 and tubes 10, 11 on the support element 14, obtained in a single piece by superimposing and joining the second predetermined lines or areas of two superimposed material sheets having characteristics that allow thermowelding or analogous processes.

[0035] Another advantage of the present invention lies in the quick and easy positioning and mounting of the custom fitting device 4 within the footwear 1; actually, upon providing the support element 14 and joining at the edges F and G to confer it the volume shape suitable to be inserted into the boot 1, and possibly joined to the base 17, fastening to the footwear 1 is extremely simple, quick and immediate given that constraining the support element 14 to the inner walls of the footwear 1 and, possibly, also to the bottom thereof, is sufficient.

[0036] A further considerable advantage of the present invention lies in the practical and easy use of the custom fitting device 4 by the wearer, both due to the integration of the actuation unit 7 on the boot 1, which prevents possible loss of the components required for operation thereof and the positioning thereof on the footwear, capable of allowing the user to comfortably operate on the actuation unit 7.

[0037] Obviously, the invention is susceptible to numerous modifications or variants without thereby departing from the scope of protection of the present invention as defined in claim 1.

[0038] For example the bladders 5, 6 can be filled independently with an expandable material, such as, for example, a polyurethane or silicone foam, which can be injected through the actuation unit 7 which in this case will simply comprise a pair of nozzles provided with a valve.

[0039] Lastly, the materials used to carry out the present invention, as well as the shapes and dimensions of the single components, may suitably vary according to the specific needs.

Claims

1. A ski or snowboarding boot comprising a shell (2), a cuff (3) and internally having a padded lining or a removable inner boot, said ski or snowboarding boot (1) being provided with a custom fitting device (4) comprising a plurality of expandable bladders (5, 6) arranged within said boot (1) at a respective plurality of regions of the wearer's foot, an actuation unit (7) for actuating the selective expansion of said plurality of bladders (5,6) being associable to said boot (1), said actuation unit (7) being in fluid communication with said plurality of bladders (5, 6) by means of suitable connection means (10, 11), said plurality of bladders (5, 6) and said connection means (10, 11) being integrally formed on a support element (14) made in one piece at least partly wrapping the wearer's foot and fastened to said boot (1), **characterized in that** said custom fitting device (4) is interposed between said shell (2) and said padded lining or removable inner boot, said connection means (10, 11) comprising a first tube (10) and a second tube (11) separate and independent from said first tube (10), said actuation unit (7) comprising a first pump (8) and a second pump (9) in fluid communication respectively with said first bladder (5) and with said second bladder (6), said first tube (10) connecting said first bladder (5) in fluid communication with said first pump (8) and said second tube (11) connecting

said second bladder (6) in fluid communication with said second pump (9), said actuation unit (7) further comprising a first release control (12) in fluid communication with said first bladder (5) through said first tube (10) and a second release control (13) in fluid communication with said second bladder (6) through said second tube (11), said first release control (12) and second release control (13) being adapted to actuate the controlled release of fluid from said first bladder (5) and second bladder (6), respectively.

2. A ski or snowboarding boot according to claim 1, wherein said support element (14) is formed by at least two material sheets superimposed and joined to each other at least at the peripheral areas of said plurality of bladders (5, 6) and said connection means (10, 11).

3. A ski or snowboarding boot according to claim 2, wherein said at least two sheets are also joined to each other at the peripheral areas of said support element (14).

4. A ski or snowboarding boot according to claims 2 or 3, wherein said at least two sheets are joined to each other at one or more internal areas of one or more bladders of said plurality of bladders (5, 6).

5. A ski or snowboarding boot according to any of the preceding claims, wherein said support element (14), obtained flat and in which said plurality of bladders (5, 6) and said connection means (10, 11) are formed, is joined at at least two peripheral edges (F, G) to be shaped so as to at least partly wrap the wearer's foot.

6. A ski or snowboarding boot according to claim 5, wherein said support element (14) can be constrained to the lateral inner walls of said shell (2).

7. A ski or snowboarding boot according to claims 5 or 6, wherein said support element (14) can be constrained to the inner surface of the sole or of the insole of said shell (2).

8. A ski or snowboarding boot according to claim 7, wherein said support element (14) can be constrained to the inner surface of said sole or said insole by means of a base (17) to which said support element (14) can be associated.

9. A ski or snowboarding boot according to any of the preceding claims, wherein said custom fitting device (4) comprises at least one first expandable bladder (5) arranged approximately at an upper and lateral region of the forefoot and at least one second expandable bladder (6), independent from said first bladder (5), arranged around a malleolar region.

10. A ski or snowboarding boot according to claim 9, wherein said custom fitting device (4) is provided according to a substantially symmetric configuration, said first bladder (5) at least partly wrapping both sides of the forefoot and said second bladder (6) at least partly surrounding both sides of the malleolar regions.

11. A ski or snowboarding boot according to claim 1, wherein said custom fitting device (4) comprises a system for filling said plurality of bladders (5, 6) by injecting an expandable material through said actuation unit (7) and along said connection means (10, 11), said actuation unit comprising a pair of nozzles provided with a valve.

Patentansprüche

1. Ski- oder Snowboardstiefel, der eine Außenhaut (2), eine Manschette (3) und eine innere gepolsterte Auskleidung oder einen abnehmbaren Innenstiefel aufweist, wobei der Ski- oder Snowboardstiefel (1) mit einer Anpasseinrichtung (4) versehen ist, die mehrere ausdehnbare Blasen (5, 6), die in dem Stiefel (1) an entsprechenden Stellen des Fußes des Trägers angeordnet sind, eine Einstelleinheit (7) zum Veranlassen der selektiven Ausdehnung der Blasen (5,6), die im Stiefel (1) angebracht werden kann, aufweist, wobei die Einstelleinheit (7) mit den Blasen (5,6) in über entsprechende Verbindungsmittel (10, 11) Fluidverbindung steht, wobei die Blasen (5, 6) und die Verbindungsmittel (10, 11) integral auf einem Trägerelement (14) ausgebildet sind, das einstückig den Fuß des Trägers zumindest teilweise umgibt und an dem Stiefel (1) befestigt ist, **dadurch gekennzeichnet, dass** die Anpasseinrichtung (4) zwischen der Außenhaut (2) und dem gepolsterten Innenfutter oder abnehmbaren Innenstiefel angeordnet ist, die Verbindungsmittel (10, 11) ein erstes Rohr (10) und ein zweites Rohr (11), das separat und unabhängig von dem ersten Rohr (10) ist, aufweisen, wobei die Einstelleinheit (7) eine erste Pumpe (8) und eine zweite Pumpe (9) aufweist, die mit der ersten Blase (5) bzw. mit der zweiten Blase (6) in Fluidverbindung stehen, wobei das erste Rohr (10) die erste Blase (5) fluidisch mit der ersten Pumpe (8) verbindet und das zweite Rohr (11) die zweite Blase (6) fluidisch mit der zweiten Pumpe (9) verbindet, wobei die Einstelleinheit (7) zudem eine erste Abgabesteuerung (12) aufweist, die mit der ersten Blase (5) über das zweite Rohr (10) in Fluidverbindung steht, und eine zweite Abgabesteuerung (13), die über das zweite Rohr (11) mit der zweiten Blase (6) in Fluidverbindung steht, wobei die erste Abgabesteuerung (12) und die zweite Abgabesteuerung (13) dafür ausgebildet sind, die gesteuerte Abgabe von Fluid aus der ersten Blase (5) und der zweiten

Blase (6) einzuleiten.

2. Ski- oder Snowboardstiefel nach Anspruch 1, wobei das Trägerelement (14) aus wenigstens zwei aufeinander liegenden Materiallagen gebildet ist, die zumindest an den Randbereichen der Blasen (5, 6) und der Verbindungsmittel (10, 11) miteinander verbunden sind.

3. Ski- oder Snowboardstiefel nach Anspruch 2, wobei die wenigstens zwei Lagen miteinander auch an den Randbereichen des Trägerelements (14) verbunden sind.

4. Ski- oder Snowboardstiefel nach Anspruch 2 oder 3, wobei die wenigstens zwei Lagen miteinander an einer oder mehreren inneren Stellen von einer oder mehreren der Blasen (5, 6) verbunden sind.

5. Ski- oder Snowboardstiefel nach einem der vorstehenden Ansprüche, wobei das Trägerelement (14) flach erhalten wird und in ihm die Blasen (5, 6) und das Verbindungsmittel (10, 11) gebildet sind, wobei das Trägerelement (14) an wenigstens zwei Rändern (F, G) verbunden ist, um so geformt zu werden, dass es den Fuß des Trägers wenigstens teilweise umgibt.

6. Ski- oder Snowboardstiefel nach Anspruch 5, wobei das Trägerelement (14) gegen die seitlichen Innenwände der Außenhaut (2) gedrückt werden kann.

7. Ski- oder Snowboardstiefel nach Anspruch 5 oder 6, wobei das Trägerelement (14) gegen die Innenfläche der Sohle oder die Innensohle der Außenhaut (2) gedrückt werden kann.

8. Ski- oder Snowboardstiefel nach Anspruch 7, wobei das Trägerelement (14) gegen Innenfläche der Sohle oder die Innensohle mittels einer Basis (17) gedrückt werden kann, der das Trägerelement (14) zugeordnet werden kann.

9. Ski- oder Snowboardstiefel nach einem der vorstehenden Ansprüche, wobei die Anpassvorrichtung (4) wenigstens eine ausdehnbare Blase (5) aufweist, die näherungsweise in einer oberen und seitlichen Region des Vorderfußes und wenigstens eine zweite ausdehnbare Blase (6) unabhängig von der ersten Blase (5) um die Knöchelregion angeordnet ist.

10. Ski- oder Snowboardstiefel nach Anspruch 9, wobei die Anpassvorrichtung (4) gemäß einer im Wesentlichen symmetrischen Anordnung vorgesehen ist, wobei die erste Blase (5) wenigstens teilweise beide Seiten des Vorderfußes umgibt und die zweite Blase (6) zumindest teilweise beide Seiten der Knöchelregion umgibt.

11. Ski- oder Snowboardstiefel nach Anspruch 1, wobei die Anpassvorrichtung (4) ein System zum Füllen der Blasen (5, 6) durch Einleiten eines ausdehnbaren Materials mittels der Stelleinheit (7) und entlang der Verbindungsmittel (10, 11) aufweist, wobei die Betätigungseinheit ein Paar Düsen aufweist, die mit einem Ventil versehen sind.

Revendications

1. Chaussure de ski ou de snowboard comprenant une coque (2), un manchon (3) et ayant intérieurement une doublure interne rembourrée ou un chausson intérieur amovible, ladite chaussure de ski ou de snowboard (1) comportant un dispositif personnalisable d'ajustement (4) comprenant une pluralité de vessies extensibles (5, 6) disposées à l'intérieur de ladite chaussure (1) à une pluralité respective de régions du pied du porteur, une unité d'actionnement (7) pour actionner l'extension sélective de ladite pluralité de vessies (5, 6) étant apte à être associée à ladite chaussure (1), ladite unité d'actionnement (7) étant en communication fluidique avec ladite pluralité de vessies (5, 6) à l'aide de moyens de liaison appropriés (10, 11), ladite pluralité de vessies (5, 6) et lesdits moyens de liaison (10, 11) étant formés d'un seul tenant sur un élément de support (14) fait d'une pièce recouvrant au moins partiellement le pied du porteur et fixée à ladite chaussure (1), **caractérisée par le fait que** ledit dispositif personnalisable d'ajustement (4) est interposé entre ladite coque (2) et ladite doublure rembourrée ou le chausson intérieur amovible, lesdits moyens de liaison (10, 11) comprenant un premier tube (10) et un second tube (11) séparé et indépendant du premier tube (10), ladite unité d'actionnement (7) comprenant une première pompe (8) et une seconde pompe (9) en communication fluidique avec respectivement ladite première vessie (5) et avec ladite seconde vessie (6), ledit premier tube (10) reliant ladite première vessie (5) en communication fluidique avec ladite première pompe (8) et ledit second tube (11) reliant ladite seconde vessie (6) en communication fluidique avec ladite seconde pompe (9), ladite unité d'actionnement (7) comprenant en outre une première commande de relâchement (12) en communication fluidique avec ladite première vessie (5) par l'intermédiaire dudit premier tube (10) et une seconde commande de relâchement (13) en communication fluidique avec ladite seconde vessie (6) par l'intermédiaire dudit second tube (11), lesdites première commande de relâchement (12) et seconde commande de relâchement (13) étant aptes à actionner le relâchement contrôlé de fluide à partir respectivement desdites première vessie (5) et seconde vessie (6).

2. Chaussure de ski ou de snowboard selon la reven-

dication 1, dans laquelle ledit élément de support (14) est formé par au moins deux feuilles de matériau superposées et jointes l'une à l'autre au moins au niveau des zones périphériques de ladite pluralité de vessies (5, 6) et desdits moyens de liaison (10, 11).

3. Chaussure de ski ou de snowboard selon la revendication 2, dans laquelle lesdits au moins deux feuilles sont également jointes l'une à l'autre au niveau des zones périphériques dudit élément de support (14).

4. Chaussure de ski ou de snowboard selon les revendications 2 ou 3, dans laquelle lesdites au moins deux feuilles sont jointes l'une à l'autre au niveau d'une ou plusieurs zones internes d'une ou plusieurs vessies de ladite pluralité de vessies (5, 6).

5. Chaussure de ski ou de snowboard selon l'une quelconque des revendications précédentes, dans laquelle ledit élément de support (14), obtenu plat et dans lequel ladite pluralité de vessies (5, 6) et lesdits moyens de liaison (10, 11) sont formés, est joint au niveau d'au moins deux bords périphériques (F, G) pour être mis en forme de façon à recouvrir au moins partiellement le pied du porteur.

6. Chaussure de ski ou de snowboard selon la revendication 5, dans laquelle ledit élément de support (14) peut être contraint vers les parois latérales internes de ladite coque (2).

7. Chaussure de ski ou de snowboard selon les revendications 5 ou 6, dans laquelle ledit élément de support (14) peut être contraint vers la surface interne de la semelle ou de la semelle intérieure de ladite coque (2).

8. Chaussure de ski ou de snowboard selon la revendication 7, dans laquelle ledit élément de support (14) peut être contraint vers la surface interne de ladite semelle ou de ladite semelle intérieure à l'aide d'une base (17) à laquelle ledit élément de support (14) peut être associé.

9. Chaussure de ski ou de snowboard selon l'une quelconque des revendications précédentes, dans laquelle ledit dispositif personnalisable d'ajustement (4) comprend au moins une première vessie extensible (5) disposée approximativement au niveau d'une région haute et latérale de l'avant-pied et au moins une seconde vessie extensible (6), indépendante de ladite première vessie (5), disposée autour d'une région malléolaire.

10. Chaussure de ski ou de snowboard selon la revendication 9, dans laquelle ledit dispositif personnalisable d'ajustement (4) est disposé selon une configuration sensiblement symétrique, ladite première vessie (5) recouvrant au moins partiellement les deux côtés de l'avant-pied et ladite seconde vessie (6) entourant au moins partiellement les deux côtés des régions malléolaires.

11. Chaussure de ski ou de snowboard selon la revendication 1, dans laquelle ledit dispositif personnalisable d'ajustement (4) comprend un système pour remplir ladite pluralité de vessies (5, 6) par injection d'un matériau extensible par l'intermédiaire de ladite unité d'actionnement (7) et le long desdits moyens de liaison (10, 11), ladite unité d'actionnement comprenant une paire de buses munies d'un clapet.

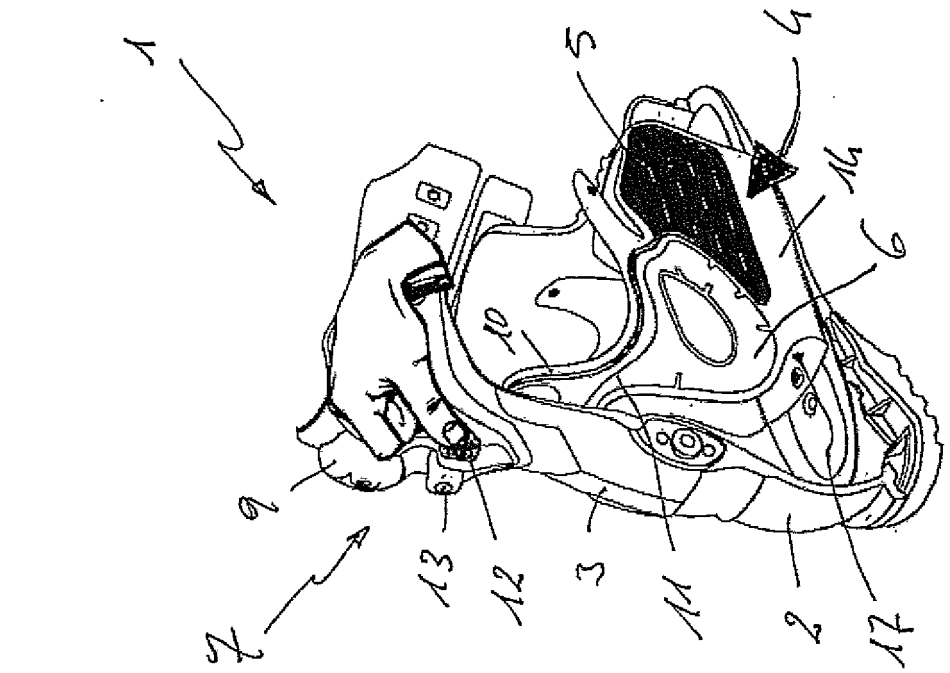


FIG. 2

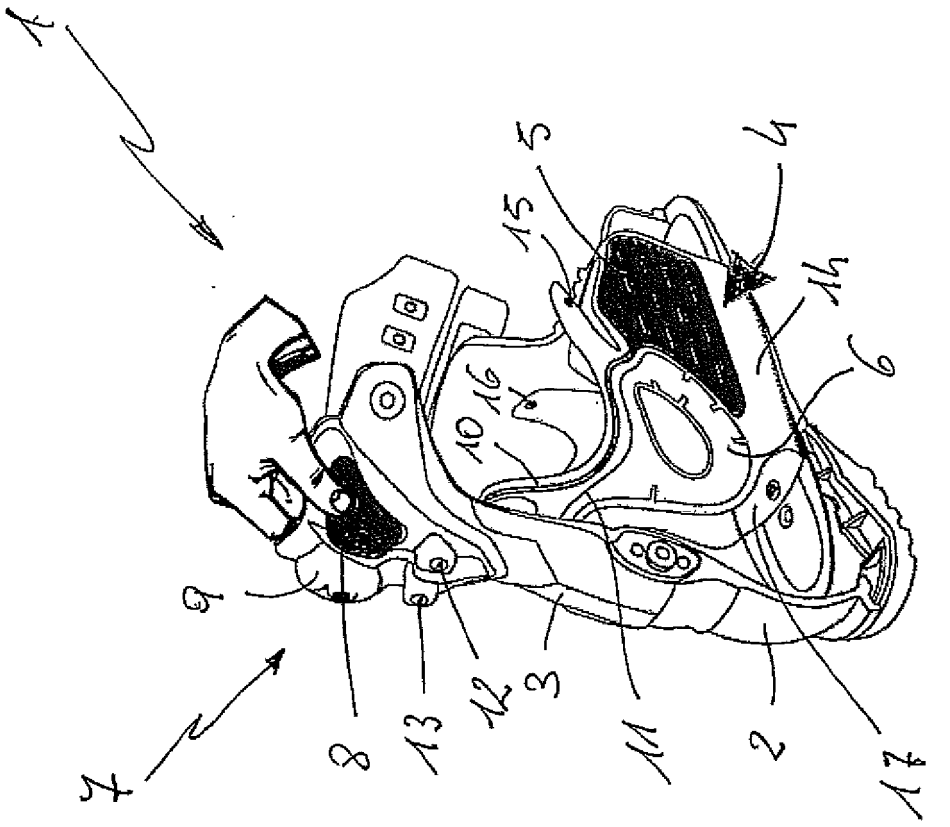


FIG. 1

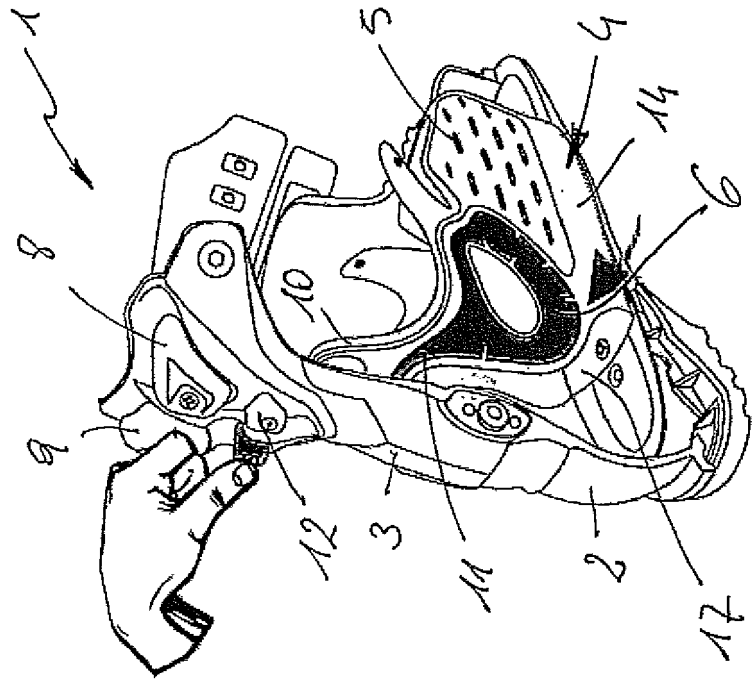


FIG. 4

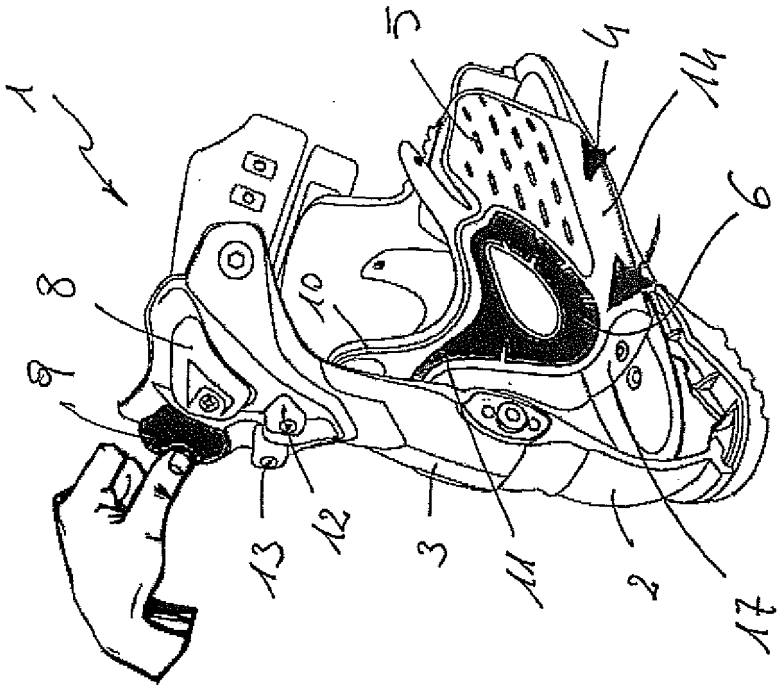


FIG. 3

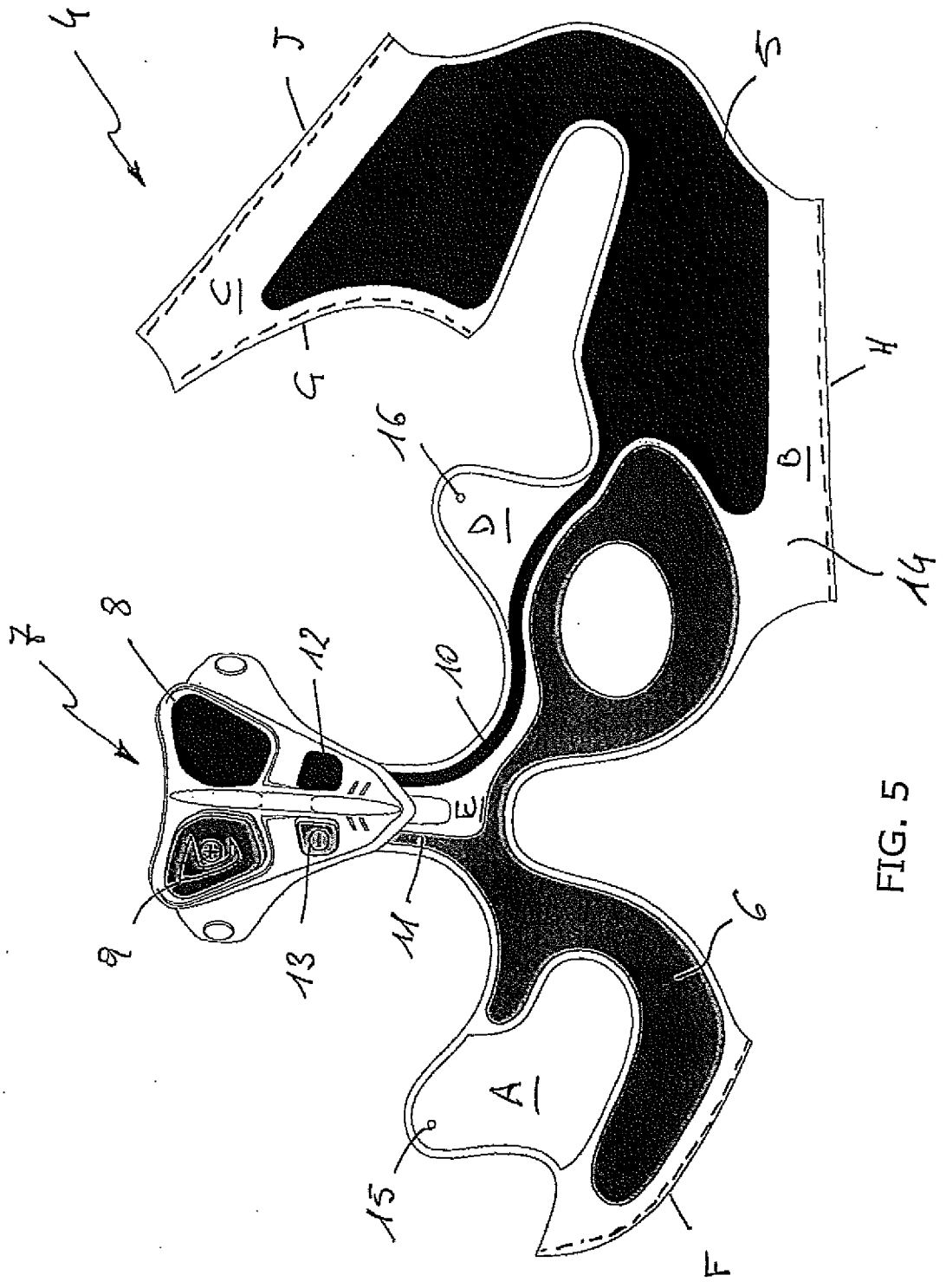


FIG. 5

REFERENCES CITED IN THE DESCRIPTION

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