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(54) **Sports boot, such as a ski boot or suchlike, and opening device for said sports boot**

Sportstiefel, wie z.B. ein Skistiefel oder dergleichen, und Öffnungsvorrichtung für diesen Sportstiefel
Chaussure de sport, telle une chaussure de ski ou similaire, et dispositif d'ouverture de ladite chaussure de sport

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Description

FIELD OF THE INVENTION

[0001] The present invention concerns a sports boot, such as a ski boot or suchlike, conformed to define a plurality of selective closed conditions and at least a condition of controlled extra-opening, in order to optimize the conditions for putting on the sports boot for the wearer. DE 3132042 A1 discloses an opening device for a sport boot having the features of the preamble claims 1 and 6.

BACKGROUND OF THE INVENTION.

[0002] Sports boots with a central opening entrance are known, such as ski boots, whether they are for alpine skiing, downhill, snowboard or other, which comprise a rigid outer casing and ankle section, the latter pivoted on the outer casing in correspondence with the malleolar part of the foot.

[0003] These known boots comprise a plurality of closing hooks attached to the outer casing and/or to the ankle section, in correspondence with the central opening, so as to allow the selective adjustment of the intensity of the closure of the outer casing and of the ankle section, around the foot and the tibial area of the user's leg.

[0004] The closing hooks generally comprise a lever-type tensioner attached on one side of the central opening, and a closing rack attached to the other side of the central opening, and in which the lever element can be selectively and adjustably associated so as to determine different degrees of closure of the boot.

[0005] It is also known that, in order to put on or take off the boot, the user, after having released the closing hooks, performs a manual operation to open out the edges of the outer casing and the ankle section which define the central opening, in order to widen the central opening and the inside volume of the outer casing and the ankle section, so as to allow a slight turning of the ankle and to prepare the foot anatomically for insertion or extraction.

[0006] This opening operation happens in a uncontrolled and unrepeatable way, however, inasmuch as it varies depending on the strength applied by the user, thus entailing, over time, a reduction in the elastic characteristics of the material, and also compromising the correct closing of the boot.

[0007] Moreover, the edges of the outer casing are normally overlapping in the metatarsal area of the foot and therefore cannot be opened wide by manual operations, as happens on the contrary for the tarsal and tibial areas.

[0008] Furthermore, the opening operation, which must of necessity be done with both hands, cannot always be done autonomously, for example by children, and in particular environmental conditions, for example in the presence of ice, it can be particularly difficult.

[0009] Purpose of the present invention is to make a sports boot which is simple and economical to make, and

which allows a controlled and repeatable opening of all the parts of the outer casing and ankle section, without limiting the functionality for a correct and secure closure.

[0010] The Applicant has devised, tested and embodied the present invention to overcome the shortcomings of the state of the art and to obtain these and other purposes and advantages.

SUMMARY OF THE INVENTION

[0011] The present invention is set forth and characterized in the independent claims, while the dependent claims describe other characteristics of the invention or variants to the main inventive idea.

[0012] In accordance with the above purpose, a sports boot according to the present invention comprises a lower part, or outer casing, able to contain the user's foot, and an upper part, or ankle section, pivoted on the outer casing and able to contain the ankle joint and possibly the tibial area of the user's leg.

[0013] Both the outer casing and the ankle section comprise a central opening defined laterally by respective edges of the outer casing and the ankle section. The edges can be selectively brought together by means of at least a closing device disposed astride the central opening and attached on opposite sides to the two edges of the outer casing and/or the ankle section, in order to determine at least the closing of the central opening, with a desired degree of closing force.

[0014] According to a characteristic feature of the present invention, the sports boot comprises at least an opening device with at least a first element attached to a first of the two edges, and a second element attached to the second of the two edges.

[0015] The first element comprises positioning means of the adjustable type and able to define one or more determinate reciprocal stable positions of the first element and the first edge, in which the first element is maintained in a stable way toward the central opening with respect to a normal resting position.

[0016] According to another characteristic feature, the second element comprises constraint means, in which the first element is able to be temporarily constrained, so that, when it is in one of the above stable positions defined by the positioning means, it determines a condition of controlled extra-opening of the outer casing and/or ankle section.

[0017] In this way, the combination of the constraint of the first and the second element, and the reciprocal positions of the first element and the first edge, determine a thrust by the first element against the second element.

[0018] The thrust has an effect on both edges, determining a controlled reciprocal distancing thereof, and defining the condition of controlled extra-opening of the boot.

[0019] With the present invention it is therefore possible to carry out a controlled opening of the edges of the outer casing and/or ankle section.

[0020] This opening, being controlled, happens in a repeatable, stable and adjustable way, and in a substantially secure way as far as concerns the maintenance of the original elastic characteristics of the material which makes up the outer casing and ankle section.

[0021] Moreover, since the opening is carried out by means of the opening device, it can be actuated indiscriminately in any area of the outer casing and/or ankle section, without requiring excessive force from the user, and without needing to use both hands.

[0022] In this way, the operations of putting in or removing the foot can be carried out easily, completely autonomously and substantially in any environmental condition.

[0023] According to a variant, the first element and the second element of the opening device are integrated in the normal elements which make up the closing device of the sports boot, such as for example a lever-type hook and a coordinated adjustment rack.

[0024] According to this variant, with the same device with which the sports boot is typically closed, the controlled opening is also carried out in order to remove or insert the foot.

[0025] According to a variant, the positioning means of the first element comprise a U-shaped clasp and at least a coordinated coupling seating for the clasp. The reciprocal conformation of the at least one seating and of the clasp are such that, in their coupled condition, they maintain the first part in one of said reciprocal positions with the first edge.

[0026] In the solution in which the opening device and the closing device are integrated, the clasp and the seating are constrained to and made on the lever-type hook.

[0027] According to a variant, the positioning means comprise a latch-type element elastically constrained to the first element and a stop tooth mounted on the first edge.

[0028] The stop tooth is able to cooperate with the latch element so as to define said determinate reciprocal positions of the first element and the first edge.

[0029] According to a main aspect of the invention, the second element comprises a constraint tooth facing the opposite side with respect to the attachment teeth, and conformed so as to temporarily house inside it at least one leading end of the first element.

[0030] In the solution in which the opening device and the closing device are integrated with each other, the stop tooth is made on the head of the rack, normally provided with a plurality of attachment teeth with which the lever-type hook cooperates in order to define the desired degree of closing force.

BRIEF DESCRIPTION OF THE DRAWINGS

[0031] These and other characteristics of the present invention will become apparent from the following description of a preferential form of embodiment, given as a non-restrictive example with reference to the attached

drawings wherein:

- fig. 1 shows schematically a sports boot according to the present invention;
- fig. 2 shows an enlarged cross section of the sports boot in fig. 1, in a first operating condition;
- fig. 3 shows an enlarged cross section of the sports boot in fig. 1, in a second operating condition;
- fig. 4 shows an enlarged cross section of a variant of the sports boot in fig. 1, in a first operating condition;
- fig. 5 shows an enlarged cross section of the variant in fig. 4, in a second operating condition.

DETAILED DESCRIPTION OF A PREFERENTIAL FORM OF EMBODIMENT

[0032] With reference to the attached drawings, a sports boot according to the present invention is indicated generally by the number 10, in this case a ski boot, of the type substantially comprising a rigid lower part or outer casing 12, inside which a user's foot can be disposed, and an upper part, or ankle section 13, also rigid and able to contain the ankle joint and tibial part of the user's leg.

[0033] The ankle section 13 is pivoted to the outer casing 12 in correspondence with the malleolar part, and able to partially rotate with respect to the outer casing 12.

[0034] The outer casing 12 and the ankle section 13 centrally comprise a central opening 11 defined at the sides by two edges, respectively a first 11a and a second 11b.

[0035] The sports boot 10 also comprises three closing hooks 15 disposed astride the central opening 11, respectively, a first on the outer casing 12 in correspondence with the metatarsal zone of the foot, a second in correspondence with the instep, and a third on the ankle section 13, in correspondence with the tibial zone of the leg.

[0036] Each closing hook 15 comprises an anchorage lever 16 assembled on the first edge 11a, and an adjustment rack 17 assembled on the second edge 11b.

[0037] Both the anchorage lever 16 and the adjustment rack 17 are assembled on the respective edges 11a and 11b, in a substantially known way, for example by means of screws, rivets, pins or other.

[0038] The traditional closing and opening operations of the closing hooks 15 determine the reciprocal positioning of the edges 11a and 11b, so as to define, respectively, a plurality of closed conditions and an open condition of the boot 10, so as to allow the user to put on and take off the boot, as well as to use it correctly.

[0039] In this case, the anchorage lever 16 comprises a command element 19 hinged to the first edge 11a through a hinging base 24, a central segment 20 constrained to the command element 19, and a terminal segment 21 constrained to the central segment 20 and provided with an attachment peg 22.

[0040] The adjustment rack 17 comprises a plate 23

attached to the second edge 11b and on which a plurality of attachment teeth 25 are made.

[0041] Each attachment tooth 25 is oriented and conformed so as to allow the housing of the attachment peg 22 of the anchorage lever 16, and to cooperate with the latter so as to define defined closed positions of the boot 10.

[0042] In this case, a constraint tooth 26 is also made on the plate 23, oriented in the opposite direction to the closing teeth 25 and conformed so as to allow the temporary housing inside it of the attachment peg 22 of the anchorage lever 16.

[0043] According to the invention, the boot 10 also comprises a plurality of opening devices 18, in this case integrated with each of the closing hooks 15, and able to define a condition of controlled extra-opening of the boot 10.

[0044] In particular, each opening device 18 comprises a substantially U-shaped clasp 30, and a coupling seating 27 having a shape coordinated with the clasp 30, to allow the selective and stable positioning of the latter inside it.

[0045] The clasp 30 is pivoted to the command element 19, while the coupling seating 27 is made in correspondence with the hinging base 24 of the command element 19.

[0046] As can be seen by comparing figs. 2 and 3, the disposition of the clasp 30 inside the coupling seating 27 determines a condition of stable positioning of the command element 19, and consequently also of the central segment 20 and the terminal segment 21, toward the entrance opening 11. In other words, the positioning of the clasp 30 in the coupling seating 27 determines a determinate reciprocal position of the anchorage lever 16 and the first edge 11a.

[0047] In this condition, by constraining the attachment peg 22 to the constraint tooth 26 of the adjustment rack 17, a thrust is determined against the adjustment rack 17, entailing a controlled and stable opening of the edges 11a and 11b.

[0048] With particular reference to fig. 3 it should be noted how the constrained condition of the attachment peg 22 in the relative constraint tooth 26, together with the positioning of the clasp 30 in the coupling seating 27, brings the edges 11a and 11b to move away from each other, with respect to a normal open condition of the boot 10 (shown with a broken line).

[0049] According to a variant, two or more coupling seatings 27 can be provided, able to determine different positions of the attachment lever 16 with respect to the first edge 11a, so as to define an equal number of different open conditions of the boot 10.

[0050] The release of the thrust condition is determined by removing the clasp 30 from the relative coupling seating 27.

[0051] According to the variant shown in fig. 4, each opening device 118 is integrated with a relative closing hook 15 and comprises, on its edge 11a, a stop tooth 127 provided in this case with three stop grooves 129.

[0052] Moreover, on the terminal segment 21 of the anchorage lever 16 a latch-type element 130 is elastically pivoted, provided with a constraint lip 131, able to selectively cooperate with each of the stop portions 129, so as to define three different positions of the attachment lever 16 with respect to the first edge 11a.

[0053] As in the solutions shown in figs. 1, 2 and 3, in the case of the variant in fig. 4 also, the three positions of the anchorage lever 16 defined by the cooperation between the constraint lip 131 and one or another of the stop grooves 129, determines a more or less intense thrust of the attachment peg 22 against the constraint tooth 26, thus determining a reciprocal opening of the edges 11a and 11b, and therefore an extra-opening of the boot 10.

[0054] In this case, the release of the thrust condition is determined by manual pressure on the latch-type element 130, so as to determine the exit of the constraint lip 131 from the relative stop groove 127.

[0055] The elasticity of the material that makes up the edges 11a and 11b determines the repositioning of the latter in the normal open condition of the boot 10.

[0056] It is clear that modifications and/or additions of parts may be made to the sports boot 10 as described heretofore, without departing from the field and scope of the present invention.

[0057] For example it comes within the field of the present invention to provide a pair of laces, or similar flexible gripping elements, constrained to the respective edges 11a and 11b of the upper part of the ankle section 13.

[0058] The laces are suitable to be pulled by the user, from opposite sides with respect to the opening 11, so as to further increase the opening of the ankle section 13, and therefore to further facilitate the operations of putting in and taking out the foot.

[0059] It also comes within the field of the present invention to provide that the opening devices 18, 118, are independent with respect to the closing hooks 15.

[0060] It is also clear that, although the present invention has been described with reference to specific examples, a person of skill in the art shall certainly be able to achieve many other equivalent forms of sports boot such as a ski boot or suchlike, having the characteristics as set forth in the claims and hence all coming within the field of protection defined thereby.

Claims

1. Sports boot comprising a lower part (12) able to contain a user's foot, and an upper part (13) pivoted on said lower part (12) and able to contain the ankle joint, both said lower part (12) and said upper part (13) comprising a central opening (11) defined laterally by respective edges (11a, 11b), and at least a closing device (15) disposed astride each of said central openings (11) and attached on opposite sides

on said two edges 11a, 11b) to determine at least the closing of said central opening (11), with a desired degree of force, the boot further comprising at least an opening device (18, 118) provided with at least a first element comprising a lever (16) having a terminal attachment pin (22) and attached to a first of said two edges (11a), the first element further comprising positioning means (27, 127, 30, 130) of adjustable type and able to define one or more determinate reciprocal and stable positions of said lever (16) and said first edge (11a), in which said lever (16) is maintained stably toward said central opening (11), and with a second element comprising a rack (17) provided with a plurality of attachment teeth (25) attached to a second of said two edges (11b) and comprising constraint means (26), in which said lever (16) is temporarily constrained, in the active condition of said positioning means (27, 127, 30, 130), maintaining said first edge (11a) and said second edge (11b) in a condition of reciprocal distance and defining a condition of controlled extra-opening of said opening (11), **characterized in that** said constraint means comprises at least a tooth (26) for temporarily housing said attachment pin (22) in the extra-opening condition of said opening (11), said tooth (26) being oriented in the opposite direction of the teeth (25) of said rack (17).

2. Boot as in claim 1, **characterized in that** said opening device (18, 118) and said closing device (15) are integrated with each other.
3. Boot as in claim 1, **characterized in that** said positioning means comprise at least a clasp (30) pivoted to said first element, and at least a coordinated coupling seating (27) conformed so as to house said clasp (30) inside it, in order to define said determinate reciprocal positions of said first element (16) and said first edge (11a).
4. Boot as in claim 1, **characterized in that** said positioning means comprise at least a latch-type element (130) elastically constrained to said first element and a stop tooth (127) mounted on the first edge (11a), and able to cooperate with said latch-type element (130) so as to define said determinate reciprocal positions of said first element (16) and said first edge (11a).
5. Boot as in any claim hereinbefore, **characterized in that** it comprises at least a pair of flexible gripping elements, constrained to the respective edges (11a, 11b) of said upper part (13), and able to allow a manual traction to open said edges (11a, 11b).
6. Opening device for a sports boot (10) comprising a lower part (12) able to contain the user's foot, and an upper part (13) pivoted on said lower part (12)

and able to contain the ankle joint, both said lower part (12) and said upper part (13) comprising a central opening (11) defined laterally by respective edges (11a, 11b), and at least a closing device (15) disposed astride each of said central openings (11) and attached on opposite sides on said two edges (11a, 11b) to determine at least the closing of said central opening (11), with a desired degree of force, the opening device further comprising at least a first element having a lever (16) provided with a terminal attachment pin (22) and attached to a first of said two edges (11a) and comprising positioning means (27, 127, 30, 130) of adjustable type and able to define one or more determinate reciprocal and stable positions of said lever (16) and said first edge (11a), in which said lever (16) is maintained stably toward said central opening (11), and with a second element comprising a rack (17) provided with a plurality of attachment teeth (25) attached to a second of said two edges (11b) and comprising constraint means (26), in which said lever (16) is temporarily constrained, in the active condition of said positioning means (27, 127, 30, 130), maintaining said first edge (11a) and said second edge (11b) in a condition of reciprocal distance and defining a condition of controlled extra-opening of said opening (11), **characterized in that** said constraint means comprises at least a tooth (26) for temporarily housing said attachment pin (22) in the extra-opening condition of said opening (11), said tooth (26) being oriented in the opposite direction of the teeth (25) of said rack (17) .

Patentansprüche

1. Sportstiefel aufweisend einen unteren Teil (12), der fähig ist, einen Benutzerfuß aufzunehmen, und einen oberen Teil (13), der an dem besagten unteren Teil (12) schwenkbar ist und fähig ist, das Fußgelenk aufzunehmen, wobei sowohl der besagte untere Teil (12) als auch der besagte obere Teil (13) eine zentrale Öffnung (11), die durch jeweilige Ränder (11a, 11b) lateral definiert ist, und mindestens eine Schließvorrichtung (15) aufweisen, die rittlings an jeder der besagten zentralen Öffnungen (11) angeordnet ist und an gegenüberliegenden Seiten der besagten zwei Ränder (11a, 11b) befestigt ist, um mindestens das Schließen der besagten zentralen Öffnung (11) zu verursachen mit einem erwünschten Grad an Kraft, wobei der Sportstiefel ferner aufweist mindestens eine Öffnungsvorrichtung (18, 118), die ausgestattet ist mit mindestens einem ersten Element, das einen Hebel (16) aufweist, der einen endständigen Befestigungsstift (22) hat und der an einem ersten der besagten zwei Ränder (11a) befestigt ist, wobei das erste Element ferner Positionierungsmittel (27, 127, 30, 130) eines verstellbaren Typs aufweist, die fähig sind, eine oder mehrere be-

stimmte reziproke und stabile Positionen des besagten Hebels (16) und des besagten ersten Rands (11a) zu definieren, in denen der besagte Hebel (16) stabil in Richtung zu der besagten zentralen Öffnung (11) aufrechterhalten wird, und mit einem zweiten Element, das eine Zahnstange (17) aufweist, die mit einer Mehrzahl von Befestigungszähnen (25) ausgestattet ist und die an einem zweiten der besagten zwei Ränder (11b) befestigt ist und die Zwängmittel (26) aufweist, in welche im aktiven Zustand der besagten Positionierungsmittel (27, 127, 30, 130) der besagte Hebel (16) zeitweise gezwängt ist unter Aufrechterhalten des besagten ersten Rands (11a) und des besagten zweiten Rands (11b) in einem Zustand reziproken Abstands und unter Definieren eines Zustands kontrollierten Extra-Öffnens der besagten Öffnung (11), **dadurch gekennzeichnet, dass** die besagten Zwängmittel mindestens einen Zahn (26) aufweisen für das zeitweise Unterbringen des besagten endständigen Befestigungsstifts (22) in dem Extra-Öffnen-Zustand der besagten Öffnung (11), wobei der besagte Zahn (26) in die entgegengesetzte Richtung der Zähne (25) der besagten Zahnstange (17) ausgerichtet ist.

2. Sportstiefel gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die besagte Öffnungsvorrichtung (18, 118) und die besagte Schließvorrichtung (15) miteinander integriert sind.
3. Sportstiefel gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die besagten Positionierungsmittel mindestens einen Haken (30), der zum besagten ersten Element schwenkbar ist, und mindestens einen abgestimmten Kupplungssitz (27) aufweisen, der angepasst ist, um den besagten Haken (30) darin unterzubringen, um die besagten bestimmten reziproken Positionen des besagten ersten Elementes (16) und des besagten ersten Rands (11a) zu definieren.
4. Sportstiefel gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die besagten Positionierungsmittel mindestens ein Sperrklinken-Typ-Element (130), das elastisch am besagten ersten Element vorgespannt ist, und einen Stoppzahn (127) aufweisen, der an dem ersten Rand (11a) angebracht ist und fähig ist, mit dem besagten Sperrklinken-Typ-Element (130) zu kooperieren, um die besagten bestimmten reziproken Positionen des besagten ersten Elementes (16) und des besagten ersten Rands (11a) zu definieren.
5. Sportstiefel gemäß irgendeinem vorherigen Anspruch, **dadurch gekennzeichnet, dass** er mindestens ein Paar flexibler Greifelemente aufweist, das an den entsprechenden Rändern (11a, 11b) des besagten oberen Teil (13) gehalten ist und fähig ist,

manuelle Zugkraft zu ermöglichen, um die besagten Ränder (11a, 11b) zu öffnen.

6. Öffnungsvorrichtung für einen Sportstiefel (10) aufweisend einen unteren Teil (12), der fähig ist, einen Benutzerfuß aufzunehmen, und einen oberen Teil (13), der an dem besagten unteren Teil (12) schwenkbar ist und fähig ist, das Fußgelenk aufzunehmen, wobei sowohl der besagte untere Teil (12) als auch der besagte obere Teil (13) eine zentrale Öffnung (11), die durch jeweilige Ränder (11a, 11b) lateral definiert ist, und mindestens eine Schließvorrichtung (15) aufweisen, die rittlings an jeder der besagten zentralen Öffnungen (11) angeordnet ist und an gegenüberliegenden Seiten der besagten zwei Ränder (11a, 11b) befestigt ist, um mindestens das Schließen der besagten zentralen Öffnung (11) zu verursachen mit einem erwünschten Grad an Kraft, wobei die Öffnungsvorrichtung ferner aufweist mindestens ein erstes Element, das einen Hebel (16) hat, der mit einem endständigen Befestigungsstift (22) ausgestattet ist und der an einem ersten der besagten zwei Ränder (11a) befestigt ist, und Positionierungsmittel (27, 127, 30, 130) eines verstellbaren Typs aufweist, die fähig sind, eine oder mehrere bestimmte reziproke und stabile Positionen des besagten Hebels (16) und des besagten ersten Rands (11a) zu definieren, in denen der besagte Hebel (16) stabil in Richtung zu der besagten zentralen Öffnung (11) aufrechterhalten wird, und mit einem zweiten Element, das eine Zahnstange (17) aufweist, die mit einer Mehrzahl von Befestigungszähnen (25) ausgestattet ist und die an einem zweiten der besagten zwei Ränder (11b) befestigt ist und die Zwängmittel (26) aufweist, in welche im aktiven Zustand der besagten Positionierungsmittel (27, 127, 30, 130) der besagte Hebel (16) zeitweise gezwängt ist unter Aufrechterhalten des besagten ersten Rands (11a) und des besagten zweiten Rands (11b) in einem Zustand reziproken Abstands und unter Definieren eines Zustands kontrollierten Extra-Öffnens der besagten Öffnung (11), **dadurch gekennzeichnet, dass** die besagten Zwängmittel mindestens einen Zahn (26) aufweisen für das zeitweise Unterbringen des besagten endständigen Befestigungsstifts (22) in dem Extra-Öffnen-Zustand der besagten Öffnung (11), wobei der besagte Zahn (26) in die entgegengesetzte Richtung der Zähne (25) der besagten Zahnstange (17) ausgerichtet ist.

Revendications

1. Chaussure de sport, comprenant une partie inférieure (12) pouvant contenir un pied d'un usager, et une partie supérieure (13), pivotant sur ladite partie inférieure (12) et pouvant contenir l'articulation de la cheville, ladite partie inférieure (12) et ladite partie su-

- périeure (13) comprenant une ouverture centrale (11) définie à ses côtés par des bords (11a, 11b) respectifs, et au moins un dispositif de fermeture (15) disposé à cheval de chacune desdites ouvertures centrales (11) est fixé sur des côtés opposés sur lesdits deux bords (11a, 11b) pour déterminer au moins la fermeture de ladite ouverture centrale (11) avec un niveau désiré de force, la chaussure comprenant par ailleurs au moins un dispositif d'ouverture (18, 118) pourvu d'au moins un premier élément comprenant un levier (16) possédant un goujon de fixation terminal (22) et fixé à un premier (11a) des deux bords, le premier élément comprenant par ailleurs des moyens de positionnement (27, 127, 30, 130) de type réglable et capable de définir une ou plusieurs positions stables et réciproques déterminées dudit levier (16) et dudit premier bord (11a), dans lesquelles ledit levier (16) est maintenu stable vers ladite ouverture centrale (11), et d'un second élément comprenant une crémaillère (17) pourvue d'une pluralité de dents de fixation (25) fixée à un second (11b) desdits deux bords et comprenant des moyens de liaison (26), dans laquelle ledit levier (16) est lié provisoirement, dans la condition active desdits moyens de positionnement (27, 127, 30, 130) et maintient ainsi ledit premier bord (11a) et ledit second bord (11b) à distance l'un de l'autre et définit une condition d'extra-ouverture contrôlée de ladite ouverture (11), **caractérisée en ce que** lesdits moyens de contrainte comprennent au moins une dent (26) pour le logement temporaire dudit goujon de fixation (22) dans la condition d'extra-ouverture de ladite ouverture (11), ladite dent (26) étant orientée en direction opposée aux dents (25) de ladite crémaillère (17).
2. Chaussure selon la revendication 1, **caractérisée en ce que** ledit dispositif d'ouverture (18, 118) et ledit dispositif de fermeture (15) sont intégrés l'un avec l'autre.
 3. Chaussure selon la revendication 1, **caractérisée en ce que** lesdits moyens de positionnement comprennent au moins une agrafe (30) pivotant vers ledit premier élément, et au moins un siège d'accouplement coordonné (27) conformé de manière à loger ladite agrafe (30) à son intérieur, de façon à définir lesdites positions réciproques déterminées dudit première élément (16) et dudit premier bord (11a).
 4. Chaussure selon la revendication 1, **caractérisée en ce que** lesdits moyens de positionnement comprennent au moins un élément de verrouillage (130) lié élastiquement audit premier élément et un cliquet d'arrêt (127) monté sur un premier bord (11a) et pouvant coopérer avec ledit élément de verrouillage (130) de façon à définir lesdites positions réciproques déterminées dudit première élément (16) et du-

dit premier bord (11a).

5. Chaussure selon n'importe laquelle des revendications précédentes, **caractérisée en ce qu'elle** comprend au moins une paire d'éléments de saisie flexibles, liés aux bords respectifs (11a, 11b) de ladite partie supérieure (13) et capables de permettre une traction manuelle d'ouverture desdits bords (11a, 11b).
6. Dispositif d'ouverture pour une chaussure de sport (10), comprenant une partie inférieure (12) pouvant contenir le pied de l'utilisateur, et une partie supérieure (13), pivotant sur ladite partie inférieure (12) et pouvant contenir l'articulation de la cheville, ladite partie inférieure (12) et ladite partie supérieure (13) comprenant une ouverture centrale (11) définie à ses côtés par des bords (11a, 11b) respectifs, et au moins un dispositif de fermeture (15) disposé à cheval de chacune desdites ouvertures centrales (11) est fixé sur des côtés opposés sur lesdits deux bords (11a, 11b) pour déterminer au moins la fermeture de ladite ouverture centrale (11) avec un niveau désiré de force, le dispositif d'ouverture comprenant par ailleurs un premier élément comportant un levier (16) pourvu d'un goujon de fixation terminal (22) et fixé à un premier (11a) des deux bords, et comprenant des moyens de positionnement (27, 127, 30, 130) de type réglable et capable de définir une ou plusieurs positions stables et réciproques déterminées dudit levier (16) et dudit premier bord (11a), dans lesquelles ledit levier (16) est maintenu stable vers ladite ouverture centrale (11), et d'un second élément comprenant une crémaillère (17) pourvue d'une pluralité de dents de fixation (25) fixée à un second (11b) desdits deux bords et comprenant des moyens de liaison (26), dans laquelle ledit levier (16) est lié provisoirement, dans la condition active desdits moyens de positionnement (27, 127, 30, 130) et maintient ainsi ledit premier bord (11a) et ledit second bord (11b) à distance l'un de l'autre et définit une condition d'extra-ouverture contrôlée de ladite ouverture (11), **caractérisée en ce que** lesdits moyens de contrainte comprennent au moins une dent (26) pour le logement temporaire dudit goujon de fixation (22) dans la condition d'extra-ouverture de ladite ouverture (11), ladite dent (26) étant orientée en direction opposée aux dents (25) de ladite crémaillère (17).

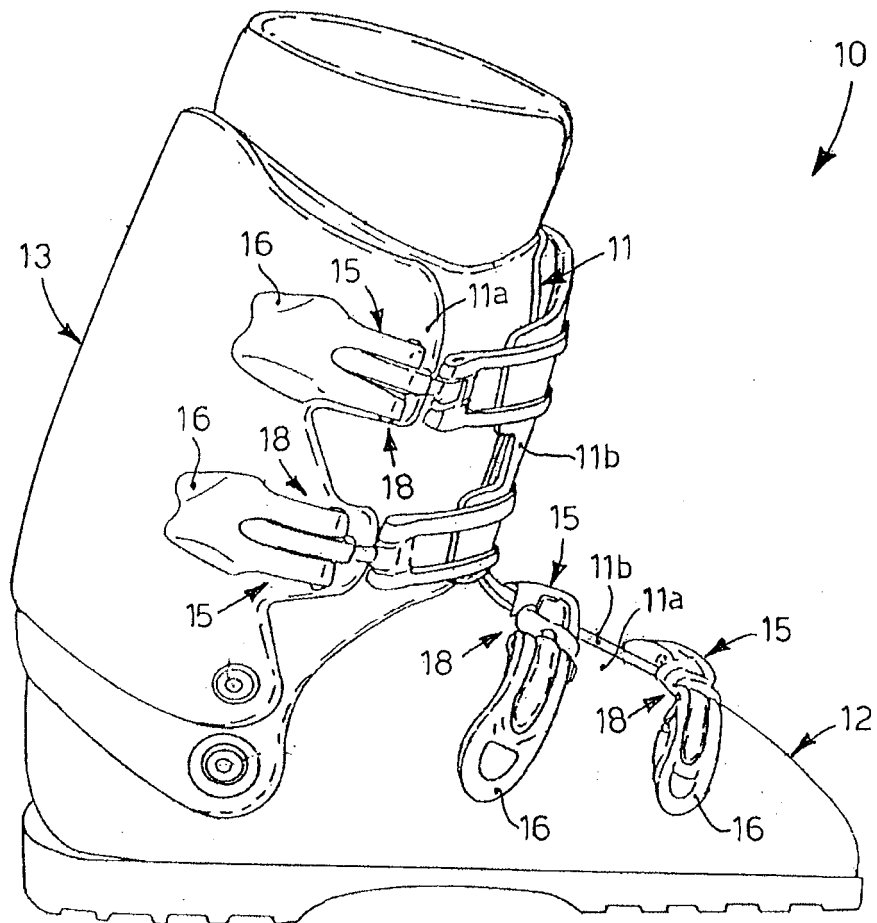


fig. 1

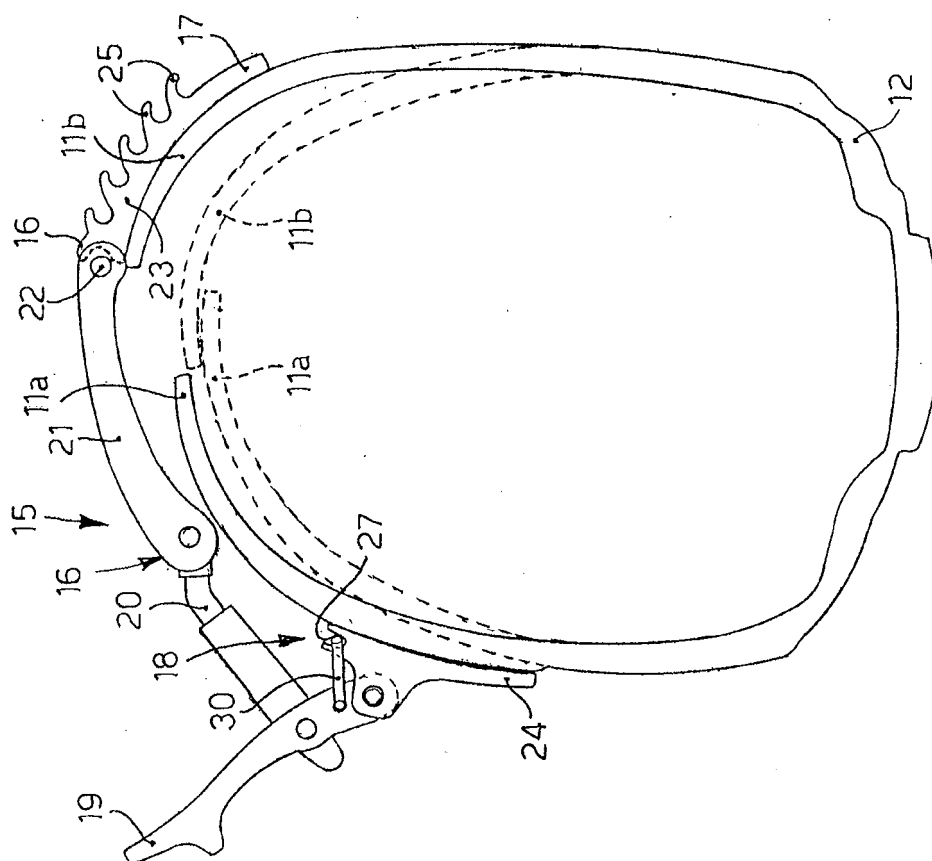


fig. 3

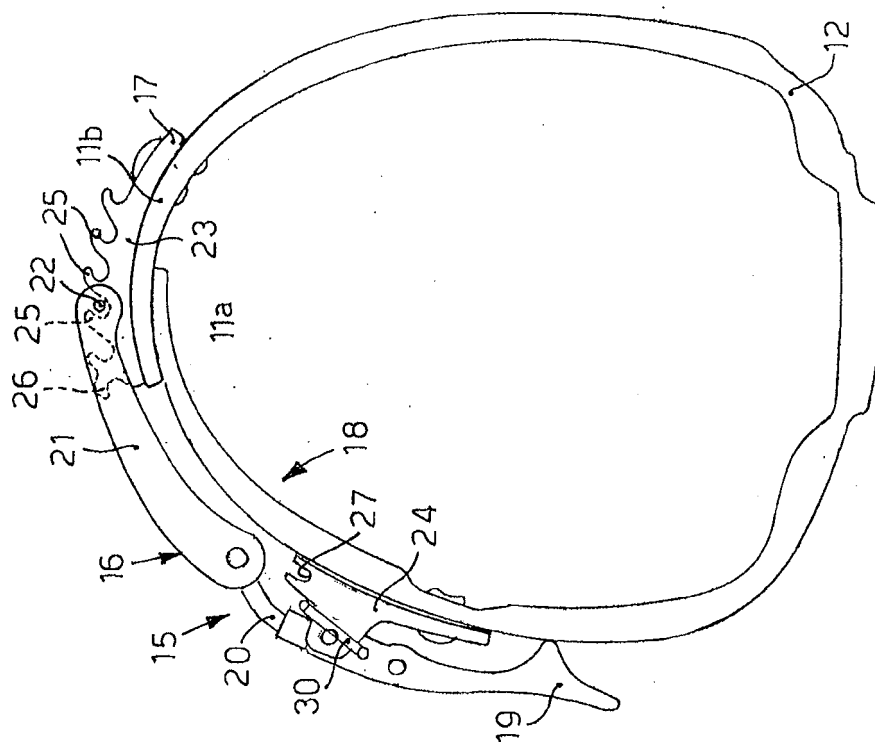


fig. 2

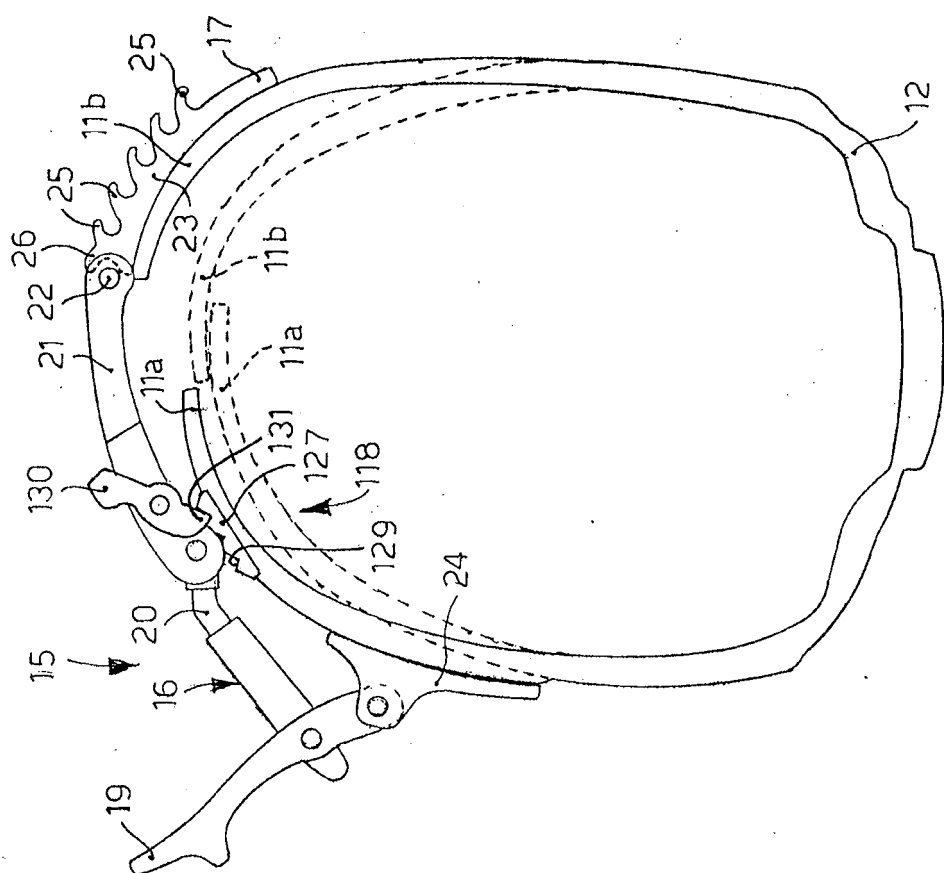


fig. 5

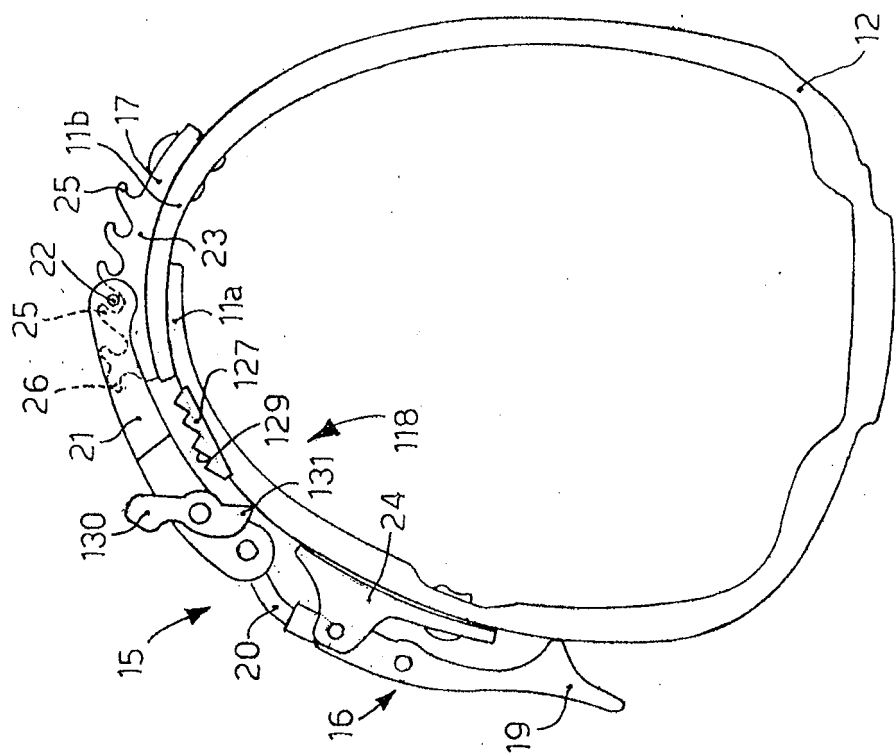


fig. 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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