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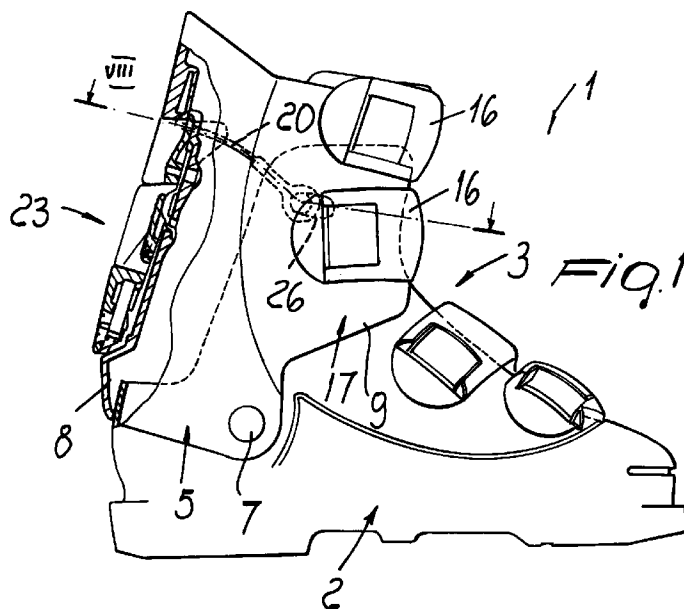
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(54) Ski boot

(57) A ski boot comprising a shell (2) that is constituted by a first element (5) and by a second element (6) that are asymmetrical with respect to the longitudinal median plane of the shell. The first element and the second element can also mutually partially overlap so as to

allow optimum foot and leg securing, and also to walk satisfactorily although the quarter and the shell are fastened.



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Description

The present invention relates to a ski boot.

Conventional ski boots are manufactured according to three different structures: a shell formed by a rigid body, with which a front quarter and a rear quarter are associated; an overlap-style shell, with which a single quarter is associated and has front flaps that can partially mutually overlap and interact with closure means such as levers; and overlap-style shells with which a front quarter and a rear quarter are associated.

This last type is currently the most interesting, because it attempts to combine the typical advantages of an overlap-style boot with those of a rear-entry boot; however, this solution is so far not optimum.

Patent EP 0172158 discloses a ski boot having a rear part that can be tilted down or folded, for rear-entry foot insertion, and comprises a lower part (shell) made of synthetic material and a portion of upper that is constituted by a quarter that can be orientated with respect to the shell. This ski boot is characterized in that the shell is provided, with respect to the quarter, with a slit in the region that is directed towards the tip and runs transversely to the central-longitudinal plane of the boot, and with a flap that is directed towards the tip above the slit and also passes transversely with respect to the central-longitudinal plane of the boot, in which the free end region can be locked at various distances that are normal with respect to the orientation axis that passes through the shell.

This solution substantially has one drawback: if the user needs to walk, for example to reach the ski-lifts, he has to fully open the fastening levers.

This forces the user to consequently reset the desired degree of fastening and therefore to perform several operations before he can start skiing again.

The aim of the present invention is to solve the described technical problems, eliminating the drawbacks of the prior art by providing a ski boot that in addition to allowing optimum adjustment of the closure of the quarters and of the shell, allows the user to temporarily achieve a substantially vertical position for the leg quickly and easily, at the same time being able to restore the desired degree of fastening of the quarters.

Within the scope of this aim, an important object is to provide a ski boot in which, during the substantially vertical position that can be assumed by the leg, which is adapted to allow optimum walking, the foot can remain optimally fastened in the shell.

Another important object is to provide a ski boot which, in addition to allowing to achieve a temporary condition that is appropriate for walking, at the same time prevents the foot from slipping out.

Another important object is to provide a ski boot that allows the skier's leg to stay in a substantially vertical position while keeping fastening elements, such as levers arranged transversely to the quarters, in the closed position.

Another object is to provide a ski boot that combines with the preceding characteristics that of being reliable and safe in use and having low manufacturing costs.

This aim, these objects, and others which will become apparent hereinafter are achieved by a ski boot that comprises an overlap-style shell or a shell with a rigid body and at least one quarter, characterized in that said at least one quarter is constituted by a first element and by a second element that are asymmetrical with respect to the longitudinal median plane of said shell and can mutually partially overlap.

Further characteristics and advantages of the invention will become apparent from the detailed description of a particular but not exclusive embodiment, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

figure 1 is a partially sectional right hand side view of the boot in the fully closed condition;

figure 2 is a left hand side view of the boot in the condition shown in the preceding figure;

figure 3 is a right hand side view of the boot in the condition in which the rear lever is open and the transverse levers for connecting the first element and the second element are closed;

figure 4 is a left hand side view of the boot in the condition shown in figure 3;

figure 5 is a right hand side view of the boot in the condition in which the rear lever is open and the transverse levers are open;

figure 6 is a left hand side view of the boot in the condition shown in figure 5;

figure 7 is a sectional view, taken along the plane VII-VII of figure 2;

figure 8 is a sectional view, taken along the plane VIII-VIII of figure 1.

With reference to the above figures, the reference numeral 1 designates a ski boot, which is constituted by a shell 2, of the overlap style or with a rigid body. Shell 2 has at least one closure point in the instep region 2, and/or in the metatarsal region. The boot also comprises a quarter 4 that is constituted by a first element 5 and by a second element 6 that partially surround the user's leg.

First element 5 is articulated to shell 2 at a first pair of studs 7 located approximately at the malleolar region. First element 5 is asymmetrical with respect to the longitudinal median plane of the shell 2.

In the illustrated embodiment, first element 5 surrounds the user's leg over at least 270°. First element 5 also has a body 8 that surrounds the rear part of the user's leg and from which there protrudes a first tab 9, which fully surrounds the front region 10 of the user's leg, partially affecting the internal lateral region 11 thereof.

A second tab 12 protrudes from body 8 in the opposite direction with respect to first tab 9 and also partially affects the inner lateral region 11 of the leg and is arranged so as to face the end of first tab 9, so as to form an opening 13 between said two tabs.

Second element 6 is articulated, by means of a second stud 14, at second tab 12 and externally partially overlaps second tab 12 and first tab 9, thus closing opening 13.

As an alternative, second element 6 can of course be articulated to shell 2 at second stud 14; in this case there is no second tab 12.

Second element 6 also has a free end 15, with which adapted levers 16 are associated. Levers 16 can be fastened at first tab 9, of first element 5, at the outer lateral region 17 of the user's leg.

Second element 6 is also connected to shell 2 by means of an adapted third stud 18 that is slideable at an adapted first slot 19 that is formed transversely to shell 2 at opening 13, between said first and second elements.

Said first and second elements mutually interact by means of adapted interconnection means, which are constituted by a traction element, such as a cable 20, which is associated, at a first end 21, at the end of second element 6 that lies opposite to end 15. Cable 20 then passes outside first element 5 and affects adapted tensioning devices 22, such as a rear lever 23, and is then guided outside first element 5 and, through an adapted opening 24 formed thereon, is associated with a rivet 25 that is slideable in an adapted second slot 26 that is formed transversely to shell 2, preferably on the opposite side with respect to first slot 19.

The use of the invention is thus as follows: starting from the condition in which the boot is closed, as shown in figures 1 and 2, rear lever 23 is closed and therefore first element 5 is adjacent to second element 6 and thus locks the leg inside the boot together with second element 6.

If the user wishes to walk, it is sufficient for him to lift rear lever 23, while keeping levers 16 closed, both to lock the flaps of shell 2 and to mutually lock the free end 15 of second element 6 and the adjacent surface of first element 5, as shown in figures 3 and 4.

In this manner, the first element can oscillate about the first pair of studs 7, moving away from second element 6, since the rotation of rear lever 23 makes a preset portion of cable 20 available.

This movement of first element 5, and therefore its backward rotation, allows to arrange said first element in an approximately vertical position, thus allowing the user to walk comfortably although the first element and the second element remain mutually associated, the levers being still closed at said elements and at the shell.

The backward rotation of first element 5 is limited by the fact that third stud 18 and rivet 25 slide at first slot 19 and at second slot 26 and can thus perform a clearly defined movement.

If the user wishes to remove the boot, he merely needs to open levers 16, thus allowing mutual disengagement of the first and second elements and the opening of the shell.

If instead the skier puts the boot back on after a walking period, it is sufficient to reposition rear lever 23 in the

initial condition, thus restoring the set optimum conditions.

It has thus been observed that the invention has achieved the intended aim and objects, a ski boot having been obtained that allows both optimum insertion and removal of the foot and temporary optimum arrangement of the elements that are adapted to facilitate walking, without changing the degree of adjustment of the fastening levers.

Transition from the walking condition to the skiing condition is equally fast and easy; the latter condition can be achieved with the desired and preset degree of fastening for the levers.

The boot according to the invention is susceptible of numerous modifications and variations, all of which are within the scope of the same inventive concept.

The materials and the dimensions that constitute the individual components of the invention may of course be the most pertinent according to the specific requirements.

Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. Ski boot comprising an overlap-style shell (2) or a shell (2) with a rigid body and at least one quarter (4), characterized in that said at least one quarter (4) is constituted by a first element (5) and by a second element (6) that are asymmetrical with respect to the longitudinal median plane of said shell and can mutually partially overlap.
2. Boot according to claim 1, characterized in that said first element (5) partially surrounds the user's leg and is articulated to said shell (2) at first studs (7) that are arranged approximately at the malleolar region, said first element (5) being asymmetrical with respect to the longitudinal median plane of said shell (2).
3. Boot according to claim 2, characterized in that said first element (5) surrounds the user's leg over at least 270°.
4. Boot according to claim 2, characterized in that said first element (5) has a body (8) which surrounds the rear part of the user's leg and from which a first tab (9) and a second tab (12) protrude laterally, said first tab (9) fully surrounding the front region (10) of the user's leg and partially affecting the inner lateral region (11) thereof.

5. Boot according to claim 4, characterized in that said second tab (12) protrudes from said body (8) on the opposite side with respect to said first tab (9), also partially affects said inner lateral region (11) of the leg, and is arranged so as to face the end of said first tab, so as to form an opening (13) between said two tabs (9, 12). 5

6. Boot according to claim 5, characterized in that said second element (6) is articulated at said second tab (12) by means of a second stud (14) and externally partially overlaps said second tab (12) and said first tab (9) so as to close said opening (13). 10

7. Boot according to claim 2, characterized in that said second element (6) is articulated to the shell (2) at a second stud (14). 15

8. Boot according to one or more of the preceding claims, characterized in that said second element (6) has a free end (15), with which adapted levers (16) are associated, said levers (16) being fastenable at said first tab (9) of said first element (5) at an outer lateral region (17) of the user's leg. 20

9. Boot according to claim 8, characterized in that said second element (6) is connected to said shell (2) by means of an adapted third stud (18) that can slide at an adapted first slot (19) formed transversely to said shell (2) at said opening (13) between said first element (5) and said second element (6). 25 30

10. Boot according to one or more of the preceding claims, characterized in that said first (5) and second (6) elements mutually interact by means of adapted connecting means constituted by a traction element, such as a cable (20), that is associated, at a first end (21), at the end of said second element (6) that lies opposite to said free end (15) of said second element (6), said cable (20) then passing outside said first element (5) to affect adapted tensioning devices, such as a rear lever (23), and be then guided outside said first element (5) and, through an adapted opening (24) formed thereon, be associated with a rivet (25) that is slideable in an adapted second slot (26) that is formed transversely to said shell (2), preferably on the opposite side with respect to said first slot (19). 35 40 45

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