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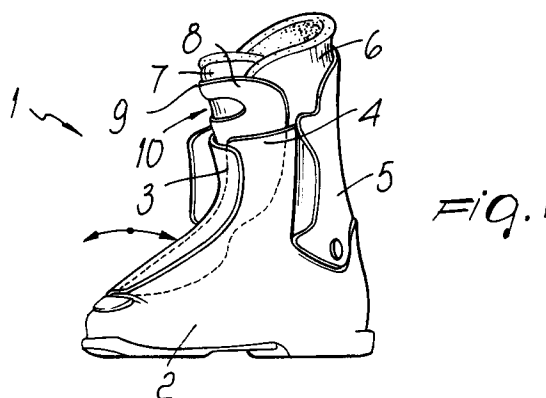
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I-20123 Milano (IT)(54) **Ski boot with improved foot insertion.**

(57) Ski boot of the type including a shell (2) with overlapping flaps (3,4) to which at least one quarter (5) is articulated and with which a soft innerboot (6) is internally associable. The boot also has a semi-rigid tab (8) that can be gripped by the user and is at least partially interposed between the innerboot and the overlapping flaps. This tab allows the user to rapidly and easily open the flaps to allow better and easier insertion of the foot in the innerboot.

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The present invention relates to a ski boot, comprising a shell with overlapping flaps to which at least one quarter is articulated and with which a soft innerboot can be internally associated.

Currently, these conventional ski boots have the drawback that they require the user to open out the ends of the flaps in order to open the front tongue of the innerboot and thus insert the foot inside it.

Since the shell is obtained by injection-molding thermoplastic material, which has a given degree of rigidity, this operation is not easy, also because the user is usually wearing gloves in this situation.

This problem worsens especially at low temperatures, when plastics tends to become more rigid.

Furthermore, the quarter is usually secured at the upper overlap region of the shell flaps, creating further difficulties for inserting the foot due to the presence of the flaps of the quarter, which must also be kept open.

The principal aim of the present invention is therefore to solve the described technical problems, eliminating the drawbacks of the mentioned prior art, by providing a ski boot, comprising at least one quarter articulated to a shell having overlapping flaps and comprising a soft innerboot, that allows the skier to rapidly and easily insert his foot inside said innerboot.

Within the scope of the above aim, an important object is to provide a ski boot which allows optimum foot insertion even in case of low temperatures and if the user is wearing gloves.

Another important object is to provide a ski boot which allows to achieve optimum distribution of efforts at the metatarsal region.

Another object is to provide a ski boot which associates with the preceding characteristics that of allowing to vary its technical characteristics without specific mechanical devices.

Another object is to provide a ski boot which is structurally simple and has low manufacturing costs.

This aim, these objects and others which will become apparent hereinafter are achieved by a ski boot comprising at least one quarter articulated to a shell having overlapping flaps and a soft innerboot, characterized in that it further comprises a semirigid tab that can be gripped by the user and is at least partially interposed between said innerboot and said flaps.

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

figure 1 is a lateral perspective view of the ski boot with the end flaps of the quarter in open position;

figures 2, 3, 4, and 5 are lateral perspective views of the boot with an adjustable-height quarter associated therewith;

figure 6 is a view, similar to figure 1, of another embodiment illustrating a connection between the tongue of the innerboot and the tab;

figure 7 is a view, similar to the preceding one, of another embodiment in which there are means for temporarily locking the position of the tab with respect to the flaps and means for limiting the opening of said flaps;

figure 8 is a partial side view of a boot according to a further aspect of the invention;

figure 9 is a detailed section view of the toe portion of the boot of figure 8;

figure 10 is a partial side view of a boot according to still a further aspect of the invention;

figure 11 is a detailed section view of the toe portion of the boot of figure 10.

With reference to the above figures, the reference numeral 1 designates the ski boot, which comprises a shell 2 having a first flap 3 and a second flap 4 which can be moved mutually apart and can be mutually overlapped and secured by conventional fastening means, such as levers for example, during use.

At least one quarter 5 is articulated to the shell 2 and has a third flap and a fourth flap which can be secured at the first and second flaps by conventional means, such as levers for example.

A soft innerboot 6 is arranged inside the shell 2 and is provided with a tongue 7 at the front. One end of the tongue is associated with the innerboot 6 approximately at the toe region, so as to allow it to shift forwards during foot insertion.

The ski boot comprises a tab 8 made of semi-rigid material and interposed between the tongue 7 of the innerboot 6 and the first 3 and second 4 flaps of the shell 2.

The tab 8 can be rigidly coupled to the shell 2 at one end, preferably proximate to the toe region, where it can protrude for better locking of the assembly.

Advantageously, said tab 8 has, proximate to its upper perimetric edge 9, a grip means for the user, such as an opening 10 formed transversely to said tab.

The user can in fact grip the tab at its opening so as to move the first flap 3 and the second flap 4 mutually apart simply by applying forward traction to said tab.

Accordingly, the opening out of the first and second flaps is assigned to a passive element which by virtue of its shape and arrangement allows to easily achieve this opening when the user

simply grips said element and applies a slight effort to it.

A second aspect of the present invention is the fact that if the quarter 5 is articulated to the shell 2 by virtue of suitable studs 11 that are slideable within suitable first slots 12 formed on said shell, so as to obtain a quarter 5 whose height is adjustable, a boot is obtained in which it is possible to vary the flexibility simply by varying the height of said quarter.

This variation in fact entails affecting a larger or smaller part of the tab 8, which reacts differently by virtue of a "flat-spring" effect that can be obtained.

Accordingly, one obtains greater rigidity if the quarter 5 is arranged in the lowest possible condition, whereas there is a higher flexibility effect when the quarter is placed in its uppermost position.

It has thus been found that the invention has achieved the intended aim and objects, a ski boot having been provided that allows the user to rapidly and easily open out the flaps of the shell, so as to insert his foot in the innerboot rapidly and easily.

This solution remains effective even at low temperatures, since the flap opening effort is assigned only to the tab and the effort that can be applied by the user is at the same time very small.

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

Thus, for example, figure 6 shows a ski boot 101 in which the tab 108 is associated not only with the shell 102 at one of its ends but also with the tongue 107 of the innerboot 106.

Advantageously, this connection occurs proximate to the opening 110 and can be achieved by providing a suitable second slot 113 formed longitudinally with respect to the tab 108; a first lug 114 is slidingly associated at the second slot, is rigidly coupled to the underlying tongue 107, and protrudes therefrom.

As shown in figure 7, it is also possible to provide means for limiting the mutual spacing of the first flap 103 and of the second flap 104; said means can be constituted for example by a suitable wing 115 which protrudes from the perimetric edge 116 of the first flap 103 towards the second flap 104. A suitable third slot 117 is formed transversely to the shell 102 on said wing, and a second lug 118, which is rigidly coupled to the outer surface of the second flap 104 and protrudes therefrom, is selectively slideable at said third slot.

Figure 7 also shows means for temporarily locking the position of the tab 108 with respect to the first flap 103 and the second flap 104. These means are preferably constituted by one or more notches 119 formed at the lateral edges 120 of

said tab 108.

Said notches can in fact be arranged selectively at the upper edge 121 of the shell or at the lateral edges 122 of the first and second flaps, so as to allow to keep the tab 108 in the chosen open position.

Figures 8-9 show a ski boot 201, according to a further aspect of the invention, comprising a waterproof seal member 220, arranged between the first flap 203 and the semirigid tab 208. The waterproof seal member 220 is preferably made of rubber, or other resilient material, and prevents water from infiltrating the boot.

Figures 10-11 show a ski boot 301, according to still a further aspect of the invention, comprising a waterproof seal member 320, arranged between the first flap 303 and the semirigid tab 308, as in the boot of figures 8-9.

The waterproof seal member 320 also has a fastening member 321 for fastening the seal member 320 to the shell.

The fastening member 321 is illustrated as a mushroom-shaped projection inserted in an adapted hole in the shell but it can also be a rivet or similar. The upper head of the rivet would have to be waterproofed to prevent water infiltration.

These shown solutions therefore also allow to achieve the intended aim and objects, further increasing comfort for the user as regards inserting his foot in the boot.

The materials and the dimensions of the components of the structure, as well as the number of notches and the position of the second slot 113 and of the wing 115, 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 scope of each element identified by way of example by such reference signs.

Claims

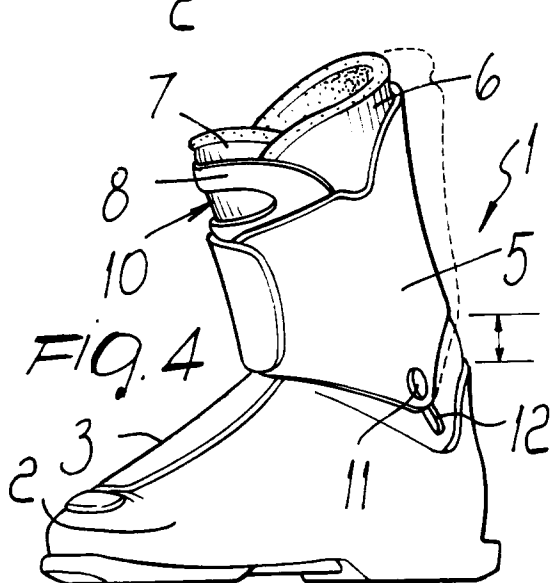
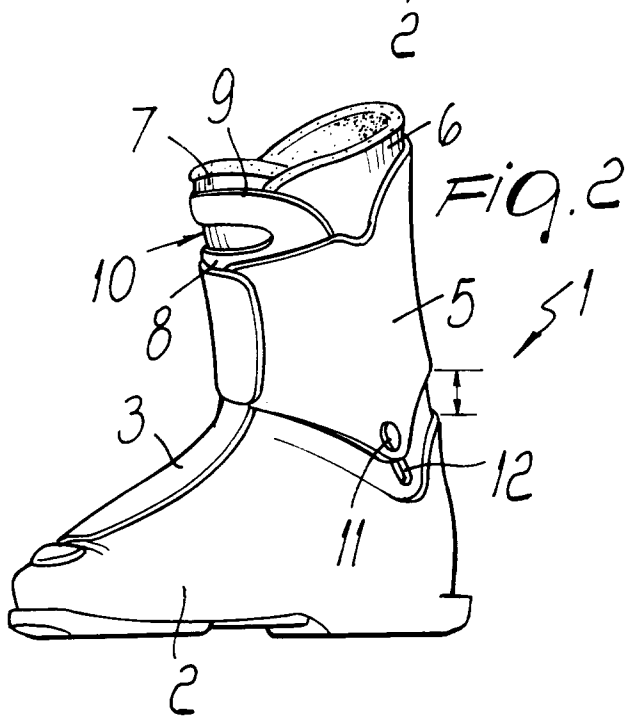
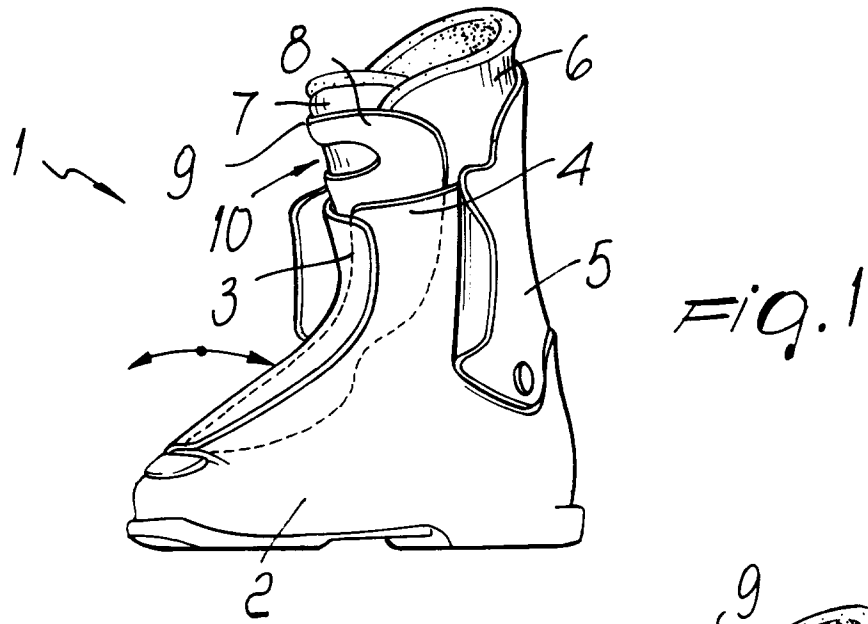
1. Ski boot comprising at least one quarter (5) articulated to a shell (2,102) with overlapping flaps (3,4) having a soft innerboot (6,106), characterized in that it further comprises a semirigid tab (8,108,208,308) that can be gripped by the user and is at least partially interposed between said innerboot and said flaps.
2. Ski boot according to claim 1, characterized in that said shell has a first flap (3) and a second flap (4) which can be moved mutually apart

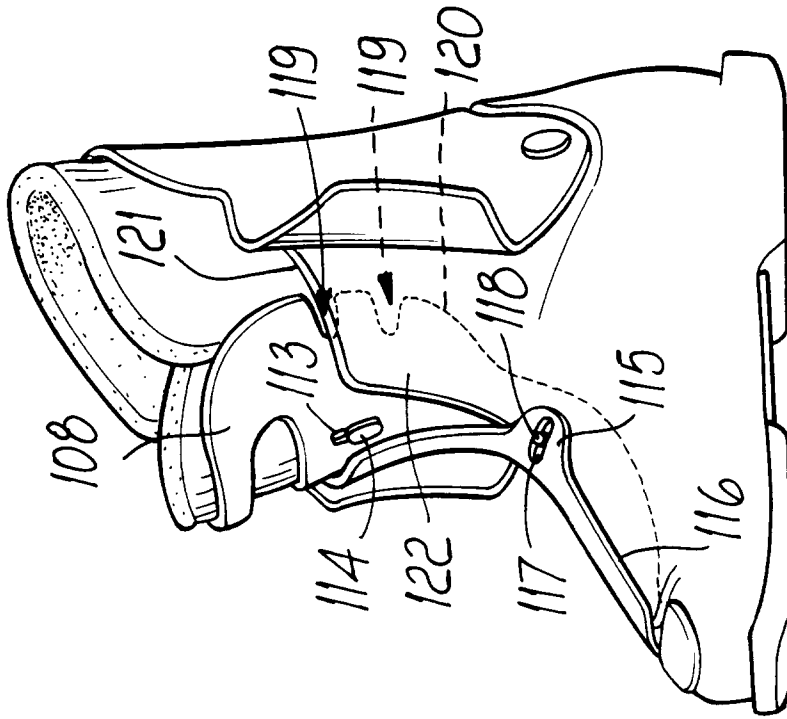
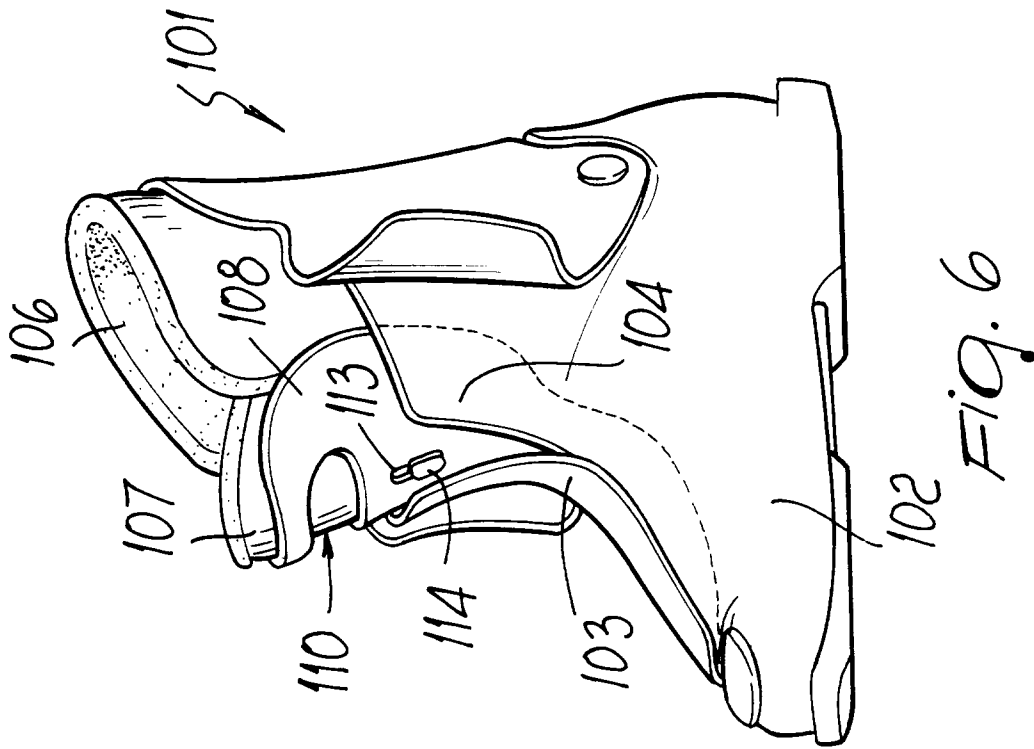
and can be mutually overlapped and secured during use, said soft innerboot (6,106) being provided with a tongue (7,107) at the front, said tab being interposed at least partially between said tongue of said innerboot and said first and second flaps of said shell.

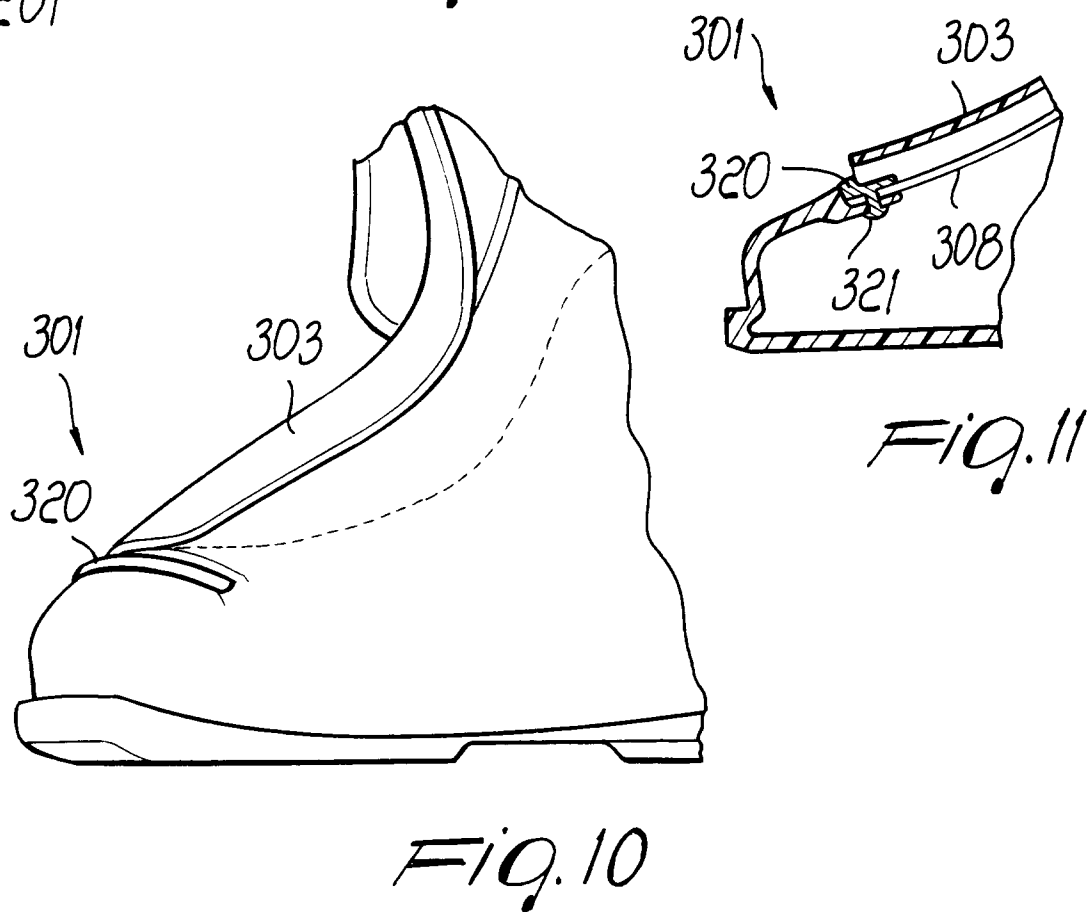
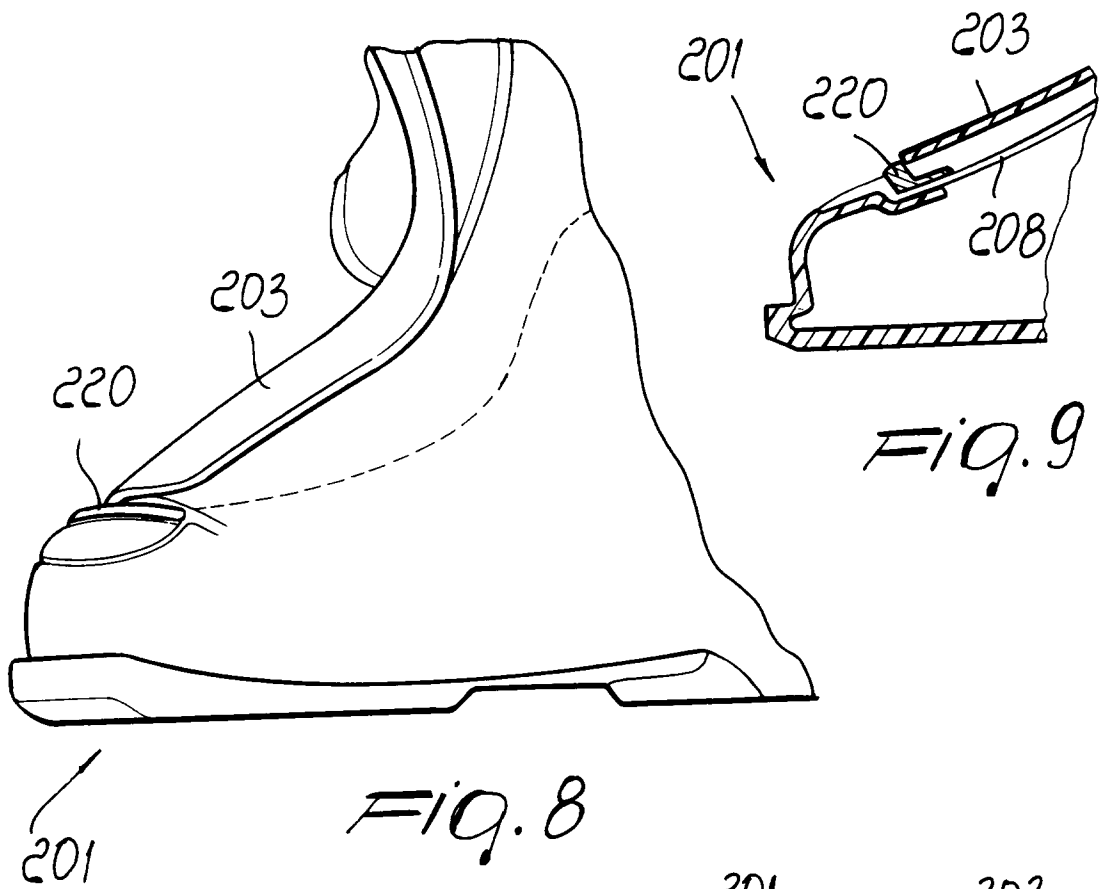
3. Ski boot according to claim 2, characterized in that said tab (8,108) has one end that can be rigidly coupled to said shell (2,102) at the toe region, partially protruding therefrom. 10
4. Ski boot according to claim 3, characterized in that said tab (8) has, proximate to its upper perimetric edge (9), a grip means for the user, said grip means being constituted by at least one opening (10) formed transversely to said tab. 15
5. Ski boot according to claim 4, characterized in that a movement of said tab (8) towards the tip of said shell (2) leads to the mutual spacing of said first (3) and second (4) flaps. 20
6. Ski boot according to claim 5, characterized in that said at least one quarter (5) is articulated to said shell (2) by means of suitable studs (11) which slide within suitable first slots (12) formed on said shell so as to vary the flexibility when the height of said quarter varies. 25
7. Ski boot according to one or more of the preceding claims, characterized in that said tab (108) is also associated with said tongue (107) of said innerboot (106). 30
8. Ski boot according to claim 7, characterized in that said connection between said tab (108) and said tongue (107) occurs proximate to a user grip means (110) by providing a suitable second slot (113) formed longitudinally to said tab, a first lug (114) being slidably associated at said second slot, said lug being rigidly coupled to said underlying tongue and protruding therefrom. 40
9. Ski boot according to one or more of the preceding claims, characterized in that it comprises means (115) for limiting the mutual spacing of said first (103) and second (104) flaps. 45
10. Ski boot according to claim 9, characterized in that said means are constituted by a wing (115) which protrudes from the perimetric edge (116) of said first flap (103) towards said second flap (104), a third slot (117) being formed on said wing transversely to said shell, a sec-

ond lug (118) being selectively slideable at said third slot, said second lug being rigidly coupled to the outer surface of said second flap and protruding therefrom.

11. Ski boot according to one or more of the preceding claims, characterized in that it comprises means (119) for temporarily locking the position of said tab (108) with respect to said first (103) and second (104) flaps.
12. Ski boot according to claim 11, characterized in that said means are constituted by a plurality of notches (119) formed at the lateral edges (120) of said tab (108).
13. Ski boot according to claim 12, characterized in that said plurality of notches (119) can be selectively arranged at the upper edge (121) of said shell (102) or at the lateral edges (122) of said first and second flaps, so as to allow to keep said tab in the preset open condition.
14. Ski boot according to claim 1, characterized in that it comprises a waterproof seal member (220,320) arranged between said first flap (203,303) and said tab (208,308).
15. Ski boot according to claim 14, characterized in that said waterproof seal member (320) comprises a fastening member (321) for fastening to said shell.









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EUROPEAN SEARCH REPORT

Application Number
EP 94 11 5583

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	DE-U-73 41 270 (STOCKO METALLWARENFABRIKEN HENKELS UND SOHN) * page 3, paragraph 3; figure * ---	1-3,7	A43B11/00 A43B23/26 A43B5/04
A	CH-A-436 034 (FESL) * claims; figures * ---	1	
A	EP-A-0 455 104 (NORDICA S.P.A.) * figures 17-19 * ---	6	
A	EP-A-0 442 436 (NORDICA S.P.A.) * figures * ---	6,8-13	
A	DE-U-92 13 810 (CALZATURIFICIO TECNICA S.P.A.) * figures * ---	1,4,7	
A	EP-A-0 317 798 (CALZATURIFICIO TECNICA S.P.A.) * column 3, line 43 - column 4, line 8; figures 2,4,5 * ---	4,8	
A	DE-U-83 36 239 (KOFACH SPORTGERÄTE G.M.B.H.) ---	14,15	TECHNICAL FIELDS SEARCHED (Int.Cl.6) A43B
P,A	US-A-5 276 983 (HATFIELD) 11 January 1994 * column 3, line 32 - column 4, line 9; figures * -----	1-13	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 December 1994	Examiner Scholvinck, T
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