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(54) Improved watertight ski boot.

(57) Ski boot comprising a shell (2) with overlapping flaps (3,4) and improved watertightness. An elastically deformable tab (6) is in fact provided on the lateral edge (5) of at least one of the flaps (3) and is partially or fully folded toward the other flap (4). This allows optimum tightness when the shell is secured and equally optimum tightness while walking, once sports activity has ended.

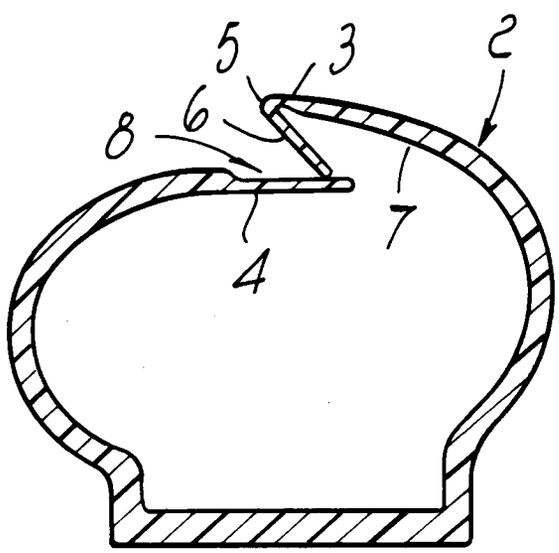

Fig. 2

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The present invention relates to an improved watertight ski boot comprising a shell with overlapping flaps and in which watertightness is improved.

The problem of reducing the infiltration of water in the ski boots during sports practice is strongly felt: in the ski boot shells, the overlap of the flaps in fact does not eliminate the possibility of water infiltrations inside the boot.

The flaps are in fact made of relatively rigid material, and during use undergo mutual sliding movements that lead to the forming of small openings, especially along the edges of the flaps.

As a partial solution to these drawbacks it is known to apply a rubber or plastic block, especially at the transverse edges of the flaps, which has the purpose of creating a mechanical obstacle against the flow of water from the toe to the flaps during sports practice.

Watertight sealing devices are also known which are constituted by two separate inserts applied separately on different edges of the flaps of the shell; one of the two inserts is arranged at a longitudinal edge of a flap.

The second insert is in turn constituted by two parts: one is inserted at the transverse edges of the flaps of the shell, whereas the other one is associated transversely to the first one toward the toe of the ski boot.

Even this known solution, illustrated in Italian patent no. 1,039,942 filed on 18 July 1975, has drawbacks: first of all there are three components which must be partially assembled to one another and to the shell, and secondly the interaction of all these components with one another and with the flaps still does not ensure optimum watertightness between them.

In any case, all these solutions have the additional drawback of allowing considerable water infiltration once the shell closing levers have been disengaged, for example to allow the skier to walk.

In such conditions, the flaps no longer interact with one another, thus forming wide gaps for water infiltration.

An aim of the present invention is to solve the described technical problems, eliminating the drawbacks of the prior art and providing a ski boot which allows optimum tightness against water infiltrations in ski boots that comprise a shell with overlapping flaps.

Another object is to provide a ski boot which is structurally simple and equally simple to industrialize.

Another important object is to provide a ski boot which is reliable and safe in use and thus ensures watertightness both during sports practice and if the skier loosens the levers in order to walk.

Another object is to provide a ski boot having low manufacturing costs.

This aim, these objects and others which will become apparent hereinafter are achieved by an improved watertight ski boot, comprising a shell with overlapping flaps, characterized in that at least one of said flaps has an elastically deformable tab that is at least partially folded toward the other flap.

Further characteristics and advantages of the present invention will become apparent from the following detailed description of some embodiments thereof, given by way of non-limitative example in the accompanying drawings, wherein:

figure 1 is a front view of a ski boot with the shell provided with overlapping flaps;

figure 2 is a cross section view of the shell;

figures 3 and 4 are views, similar to the preceding one, of two shells respectively according to a second and third aspects of the invention;

figure 5 is a front view of a ski boot according to a further aspect of the invention;

figures 6-9 are cross section views of the shell according to different aspects of the invention;

figure 10 is a cross section partial view of a detail of a shell according to still a further aspect of the invention.

With reference to the above figures, the reference numeral 1 designates the ski boot comprising a shell 2 provided with a first flap 3 and with a second flap 4 which mutually overlap in normal use while skiing by means of adapted levers, not shown in the figure.

As shown in figure 2, a tab 6 is formed on the lateral edge 5 of the first flap 3 and is folded toward the inside of the shell in the direction of the second flap 4.

The tab 6 forms, when inactive, an acute angle with the internal lateral surface 7 of the first flap 3.

When the first and second flaps overlap, once the necessary levers have been secured, the tab 6 can be partially or fully accommodated within an adapted seat 8 formed longitudinally with respect to the second flap 4.

The use of the invention is thus as follows: when the first and second flaps overlap, during sports practice, the tab 6 improves the seal between the first flap and the second flap by virtue of its deformability.

If the skier stops skiing and loosens the levers to walk, the unavoidable mutual separation of the lateral edges of the first and second flaps is compensated by the tab 6, which still interacts with the second flap and forms a sealing region again by virtue of its elastic deformation.

It has thus been observed that the invention has achieved the intended aim and objects, since a ski boot with overlapping flaps has been obtained in which tightness between said flaps is ensured both during sports practice and while walking.

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

Thus, for example, a shell 102 is illustrated which has a first flap 103 and a second flap 104 that can mutually overlap.

An elastically deformable tab 106 protrudes toward the overlying first flap 103 at the lateral edge 105 of the second flap 104.

Said tab 106 forms an acute angle with the outer lateral surface 109 of the second flap 104, and its outward edge interacts with the inner lateral surface 107 of the first flap 102.

This second solution also allows to maintain excellent tightness while walking.

Figure 4 illustrates a shell 202 comprising a first flap 203 and a second flap 204 that mutually overlap.

A tab 206 protrudes toward the first flap 203 at the lateral edge 205 of the second flap 204 and forms an obtuse angle with the outer lateral surface 209 of the second flap 204.

The outward edge of the tab 206 instead interacts with the inner lateral surface 207 of the first flap 203.

In this condition, too, the tab 206 is elastically deformable, in that its free edge tends to maintain contact with the inner lateral surface 207 of the first flap 203.

Figures 5 and 6 illustrate a ski boot 301 wherein flaps 303 and 304 are not made integral with the shell but rather associated therewith by means of rivets 333.

The first flap 303 has a tab 306 formed at the edge 305 and, similarly to the embodiment illustrated in figures 1 and 2, the tab 306 can be arranged in an adapted seat 308 provided at the second flap 304.

Figure 7 illustrates a shell similar to the embodiment illustrated in figure 3, wherein, however, the flaps 403 and 404 are riveted to the shell by means of rivets 433.

Figure 8 illustrates a shell 502 having a first flap 503 and a second flap 504 associated therewith by means of rivets 533. The first flap 503 has a tab 506 which is adapted to be arranged in a seat 508 provided at the second flap 504, similarly to the embodiments illustrated in figures 2 and 6. In this case however the tab 506 is not provided at the edge of the flap but rather at a distance therefrom.

Figure 9 illustrates a shell 602 having a first flap 603 and a second flap 604. Flap 604 has a tab 606 projecting outward and provided at a distance from the edge 605 of the second flap 604.

Figure 10 illustrate a detail of a shell having a first flap 703 and a second flap 704. The first flap 703 has an outward projecting tab 706 adapted to engage the second flap 704 in a manner similar to that of the embodiment shown in figure 3, for example. A border member 707, made of rubber for example, is provided at the edge 705 of the second flap 704 to improve the sealing action.

The materials and the dimensions constituting the individual components of the ski boot may naturally 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. Improved watertight ski boot, comprising a shell (2,102,202) with overlapping flaps (3,103,203,4,104,204, 304,404,504,604,704,303,403,503,603,703), characterized in that at least one of said flaps has an elastically deformable tab (6,106,206,306,406,506,606,706) that is at least partially folded toward the other flap.

2. Ski boot according to claim 1, characterized in that it comprises a first flap (3) and a second flap (4) that can mutually overlap, said at least one tab (6) being formed on said lateral edge (5) of said first or second flap, said tab being foldable in an elastically deformable manner toward said second or first flap.

3. Ski boot according to claim 1, characterized in that said tab (6) is formed on the lateral edge (5) of said first flap (3) and can be folded in an elastically deformable manner inside said shell toward said second flap (4).

4. Ski boot according to claim 3, characterized in that said tab (6) forms an acute angle with the inner lateral surface (7) of said first flap (3).

5. Ski boot according to claim 4, characterized in that the free end of said tab (6) interacts in an elastically deformable manner with said inner lateral surface (7) of said first flap (3).

6. Ski boot according to claim 5, characterized in that when the flaps are secured, said tab can be partially or fully accommodated within an adapted seat (8) formed longitudinally with respect to said second flap (4).

7. Ski boot according to one or more of the preceding claims, characterized in that a tab (106,206) is formed on the lateral edge (105,205) of said second flap (104,204) and can be folded in an elastically deformable manner outside said shell (102,202) toward said overlying first flap (103,203).

8. Ski boot according to claim 6, characterized in that said tab (106) forms an acute angle with the outer lateral surface (109) of said second flap (104) and its outward edge interacts with the inner lateral surface (107) of said first flap (103).

9. Ski boot according to claim 7, characterized in that said tab (206) forms an obtuse angle with the outer lateral surface (209) of said second flap (204) and its outward edge interacts with the inner lateral surface (207) of said first flap (203).

10. Ski boot according to claim 1, characterized in that said flaps (303,304,403,404,503,504,603,607) are associated with said shell (302,502,602) by means of fastening means (333,433,533).

11. Ski boot according to claim 1, characterized in that said tab (506,606) is provided at said flap (503,604) at a distance from the edge (605) of said flap.

12. Ski boot according to claim 1, characterized in that said tab (6,106,206,306) is provided at the edge (5,105,205,305) of said flap.

13. Ski boot according to claim 1, characterized in that said first flap (703) has said tab (706), said second flap (704) having an edge (705) provided with a border member (707).

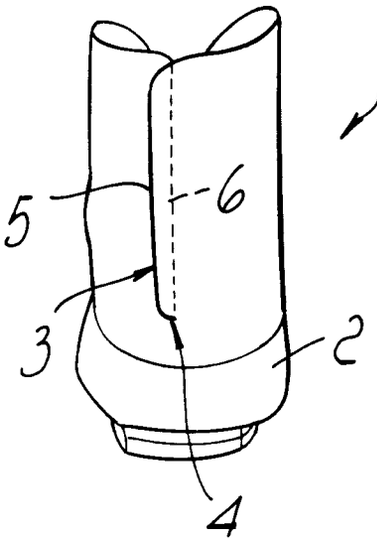

Fig. 1

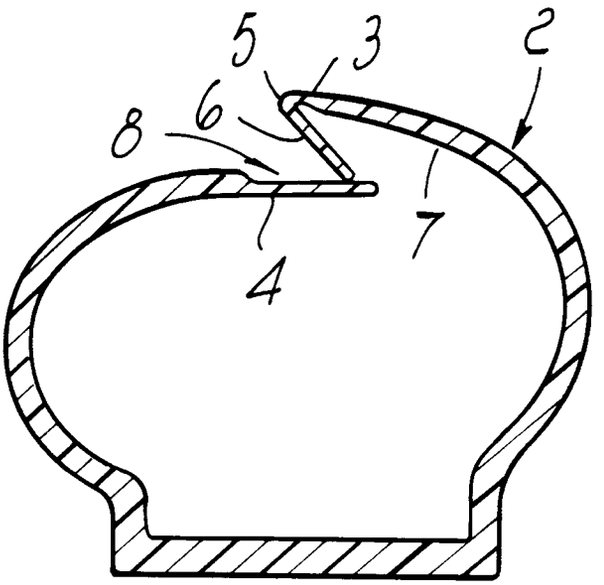

Fig. 2

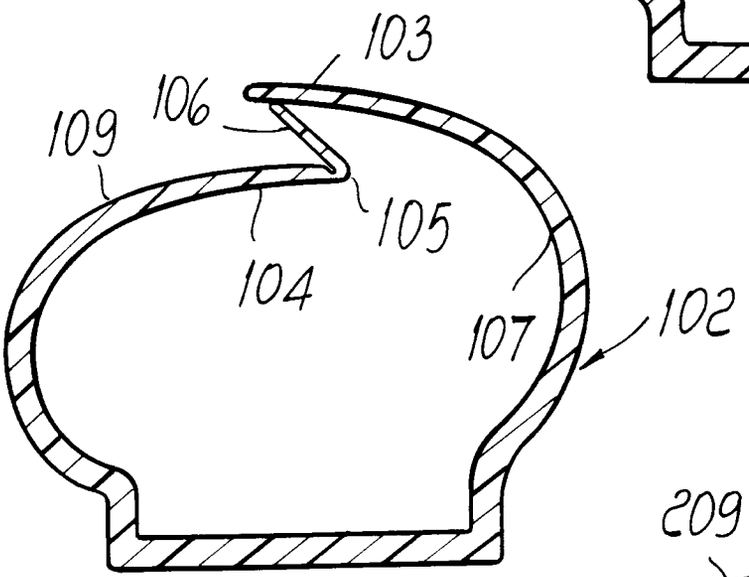

Fig. 3

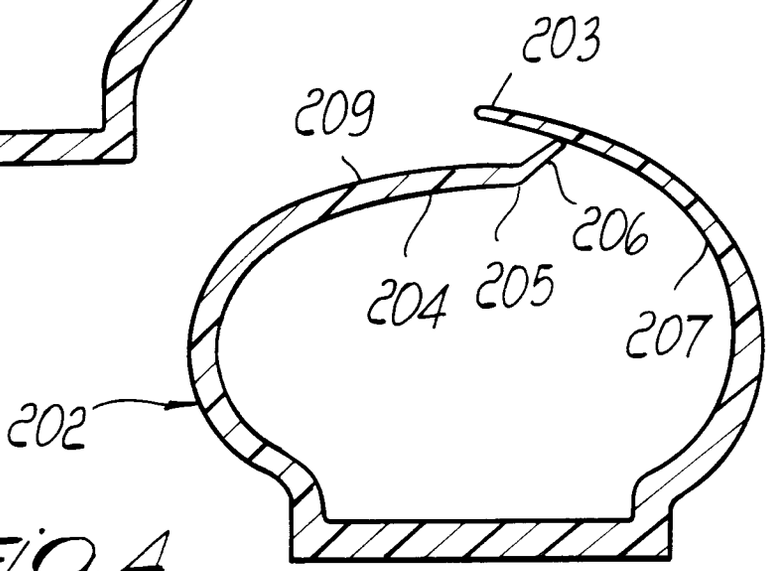

Fig. 4

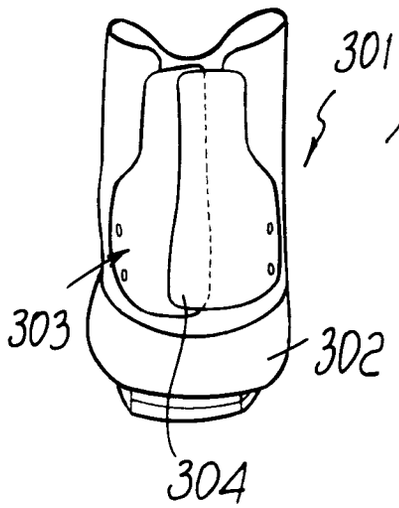

FIG. 5

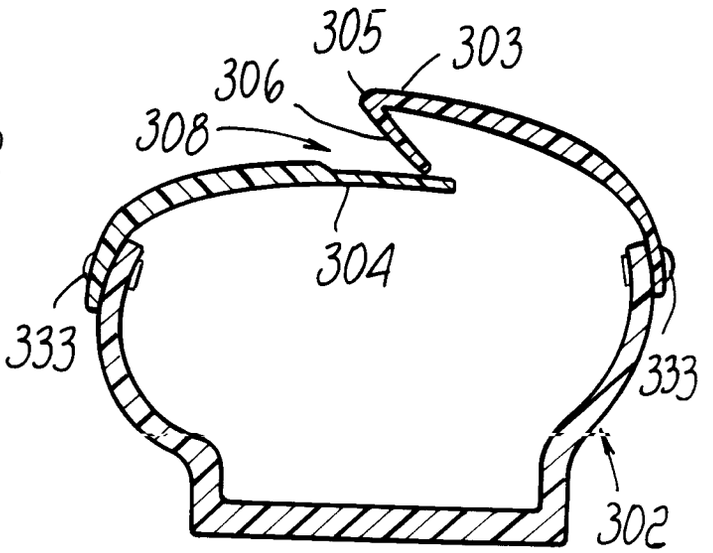

FIG. 6

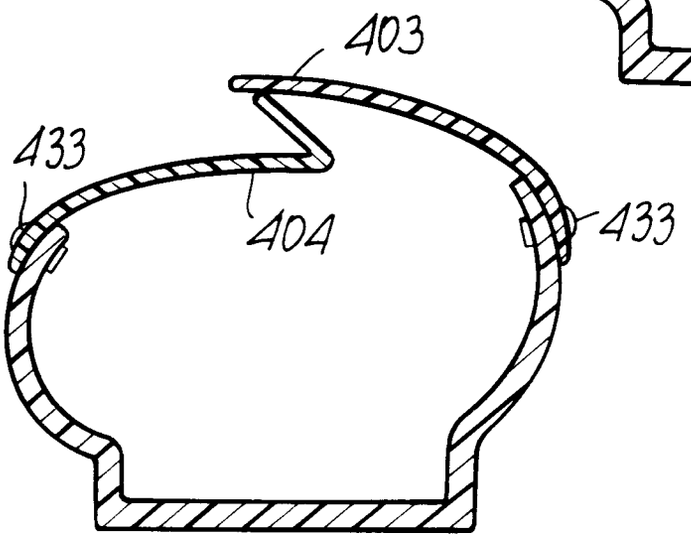

FIG. 7

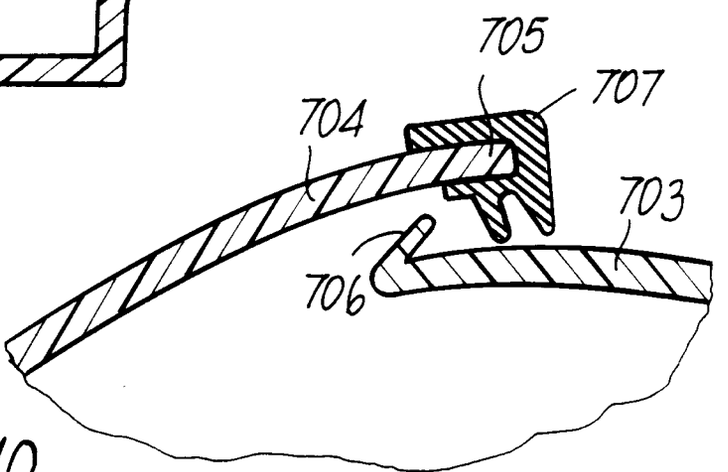

FIG. 10

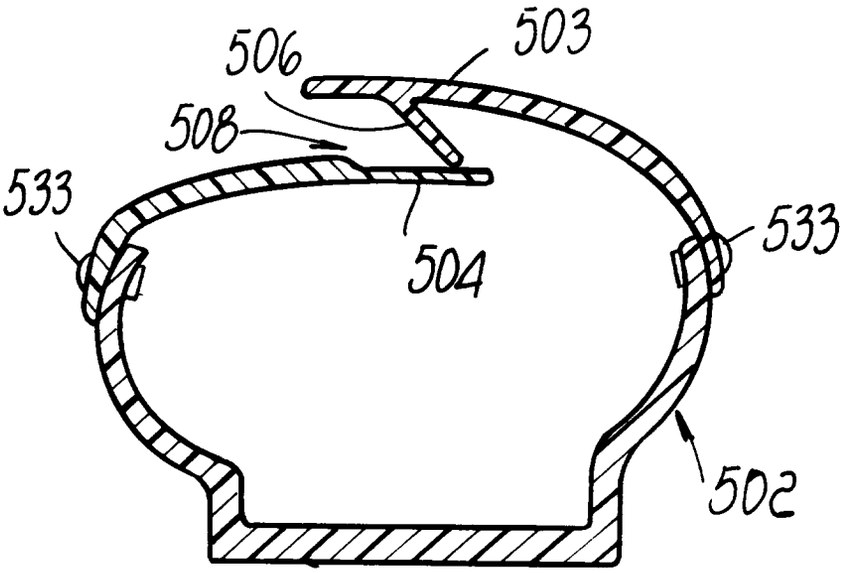

Fig. 8

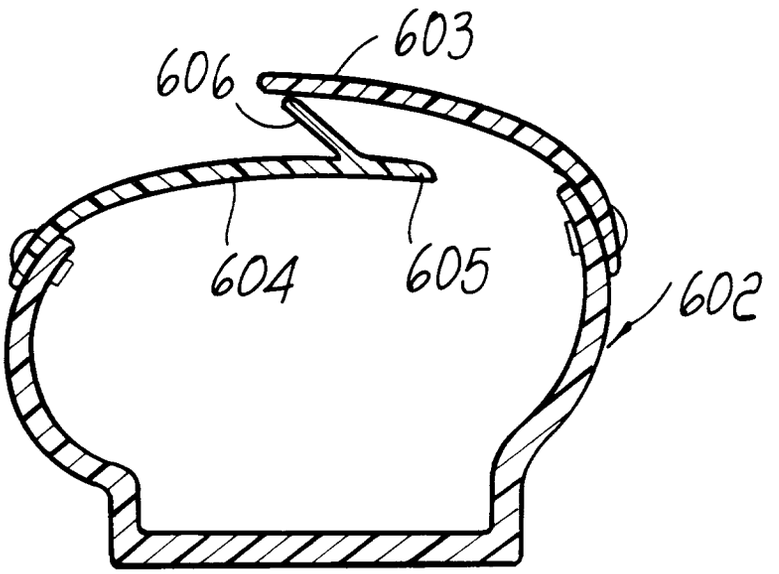

Fig. 9

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 94 10 2572

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.5)
P,A	EP-A-0 572 775 (SALOMON) * the whole document *	1	A43B5/04
A	EP-A-0 517 219 (NORDICA) * the whole document *	1	
A	DE-A-19 04 847 (R. VOGEL) * the whole document *	1	
A	US-A-4 974 346 (A. MAREGA) * the whole document *	1	
A	FR-A-990 624 (H. PLAUT ET PRADET) * the whole document *	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.5)

A43B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	14 June 1994	Declerck, J

CATEGORY OF CITED DOCUMENTS

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