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(54) **A ski boot construction**

(57) A ski boot construction comprises a boot shell to which a front bootleg and a rear bootleg are pivoted, the front bootleg being pivoted to the shell at a front pivot pin, and the rear bootleg being pivoted to the boot shell at a rear pivot pin, said rear pivot pin being arranged at

a withdrawn and lower position with respect to said front pivot pin, the position of said front bootleg being adapted to be locked, with respect to said boot shell, through a locking hook element which can be automatically actuated by inclining frontward the front bootleg.

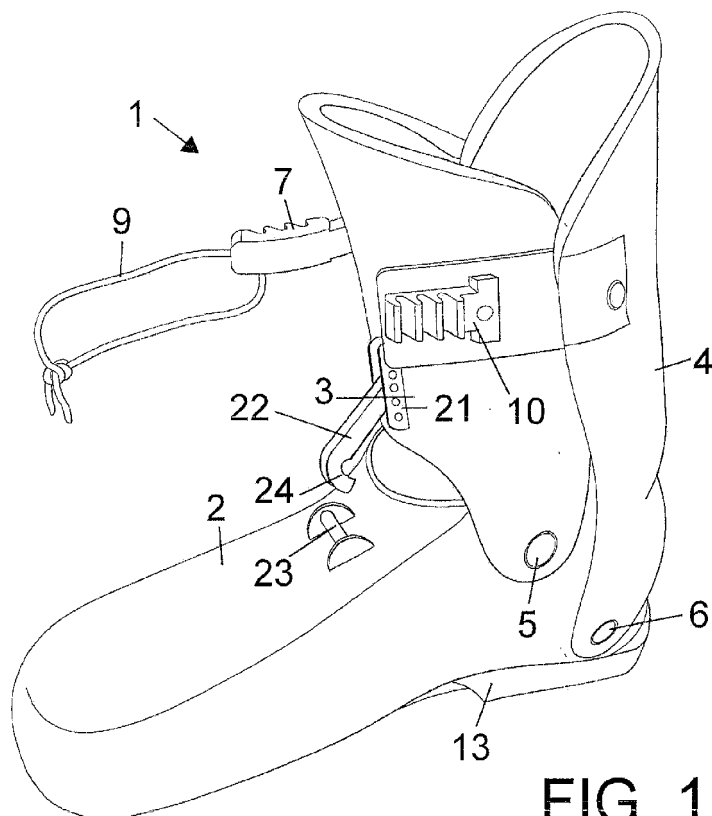


FIG. 1

Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a boot construction, particularly a ski boot construction.

[0002] As is known, in practicing ski sports, dedicated ski boots adapted to facilitate when necessary the ski user walk are conventionally used.

[0003] Modern ski boots usually comprise a ski bootleg assembly, pivoted to a rigid boot shell thereby varying the bootleg inclination.

SUMMARY OF THE INVENTION

[0004] The aim of the present invention is to provide such a boot construction, particularly a ski boot, which is greatly improved with respect to prior ski boots.

[0005] Within the scope of the above mentioned aim, a main object of the invention is to provide such a ski boot construction which, owing to its specifically designed constructional structural features, is very reliable and safe in operation.

[0006] According to one aspect of the present invention, the above mentioned aim and object, as well as yet other objects, which will become more apparent hereinafter, are achieved by a boot construction, particularly a ski boot, **characterized in that** said boot construction comprises a boot shell to which a front bootleg and a rear bootleg are pivoted, the front bootleg being pivoted to the shell at a front pivot pin, and the rear bootleg being pivoted to the boot shell at a rear pivot pin, said rear pivot pin being arranged at a withdrawn and lower position with respect to said front pivot pin, a position of said front bootleg being adapted to be locked, with respect to said boot shell, through a locking hook element which can be automatically actuated by frontward inclining the front bootleg

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] Further characteristics and advantages of the present invention will become more apparent hereinafter from the following detailed disclosure of a preferred, though not exclusive, embodiment of the invention, which is illustrated, by way of an indicative, but not limitative example, in the accompanying drawings, where:

Figure 1 is a perspective view of a ski boot according to the present invention;

Figure 2 is a side elevation view of the ski boot, showing, in particular, a hook element for locking the ski bootleg assembly;

Figure 3 is a bottom view showing the ski boot sole;

Figure 4 is a side elevation view of the ski boot shown in an opened condition thereof;

Figure 5 is a further side elevation view, similar to Figure 4, but showing the ski boot in a closed con-

dition thereof;

Figure 6 is a further side elevation view taken from the opposite side in respect to Figure 4, showing the ski boot in an opened position thereof;

and

Figure 7 is a further side elevation view, similar to Figure 6, but showing the ski boot in a closed condition thereof.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0008] With reference to the number references of the above mentioned figures, the ski boot construction according to the present invention, which has been generally indicated by the reference number 1, comprises a boot shell 2, to which a front bootleg 3 and a rear bootleg 4 are pivoted.

[0009] The front bootleg 3 is pivoted to the shell 2 at a front pivot pin 5, whereas the rear bootleg 4 is pivoted to the boot shell 2 at a rear pivot pin 6, said rear pivot pin being arranged at a withdrawn and lower position with respect to said front pivot pin 5.

[0010] Said pivot pins 5 and 6 allow the respective bootlegs 3 and 4 to be rotated from a fully opened condition, shown in Figures 4 and 6, to a fully closed condition, shown in Figures 2, 5 and 7.

[0011] At their closed condition, the bootlegs are locked to one another by adjustable locking means comprising, in a preferred embodiment, a lever 7, pivoted to a plate 8 in turn pivoted to a side of the rear bootleg 4.

[0012] The lever element 7 is designed to tension a loop cable 9, engaging said lever element 7 with a rack assembly 10, coupled to the front bootleg 3.

[0013] According to the present invention, the position, i.e. the inclination of the front and rear bootlegs may be locked, with respect to the boot shell 2, through a locking hook element 11.

[0014] Said locking hook element 11 is pivoted to a front portion of the front bootleg 3, and is adapted to engage in a recess 12 formed in the boot shell 2.

[0015] Thus, by inclining frontward said front bootleg, said hook element 11 is pivoted to a front portion of the front bootleg and is adapted to automatically engage in said recess 12 while locking said front bootleg 3 with respect to said boot shell 2.

[0016] As shown, the boot shell 2 comprises a shell sole 13 including a contoured heel element 14.

[0017] Said boot construction 1 comprises moreover an inner shoe structure therein.

[0018] With reference to Figure 1, it is shown herein that, in the inventive ski boot 1, the top portion thereof is closed at a foot neck 20, thereby providing the boot construction with a target structural strength while tightly sealing the foot.

[0019] Figure 1 also shows a supporting member 21 supporting a lever element 22 adapted to be clamped to a cylindric bar element 23.

[0020] Said lever element 22 has a hook end portion 24 engageable with said cylindric bar element 23 for locking said front bootleg 3.

[0021] It has been found that the invention fully achieves the intended aim and objects.

[0022] In fact, the invention provides an improved ski boot construction in which the bootlegs may be locked with respect to the boot shell in a quick and easy manner by a simple frontward rotary movement causing a hook element to be locked in a boot shell recess.

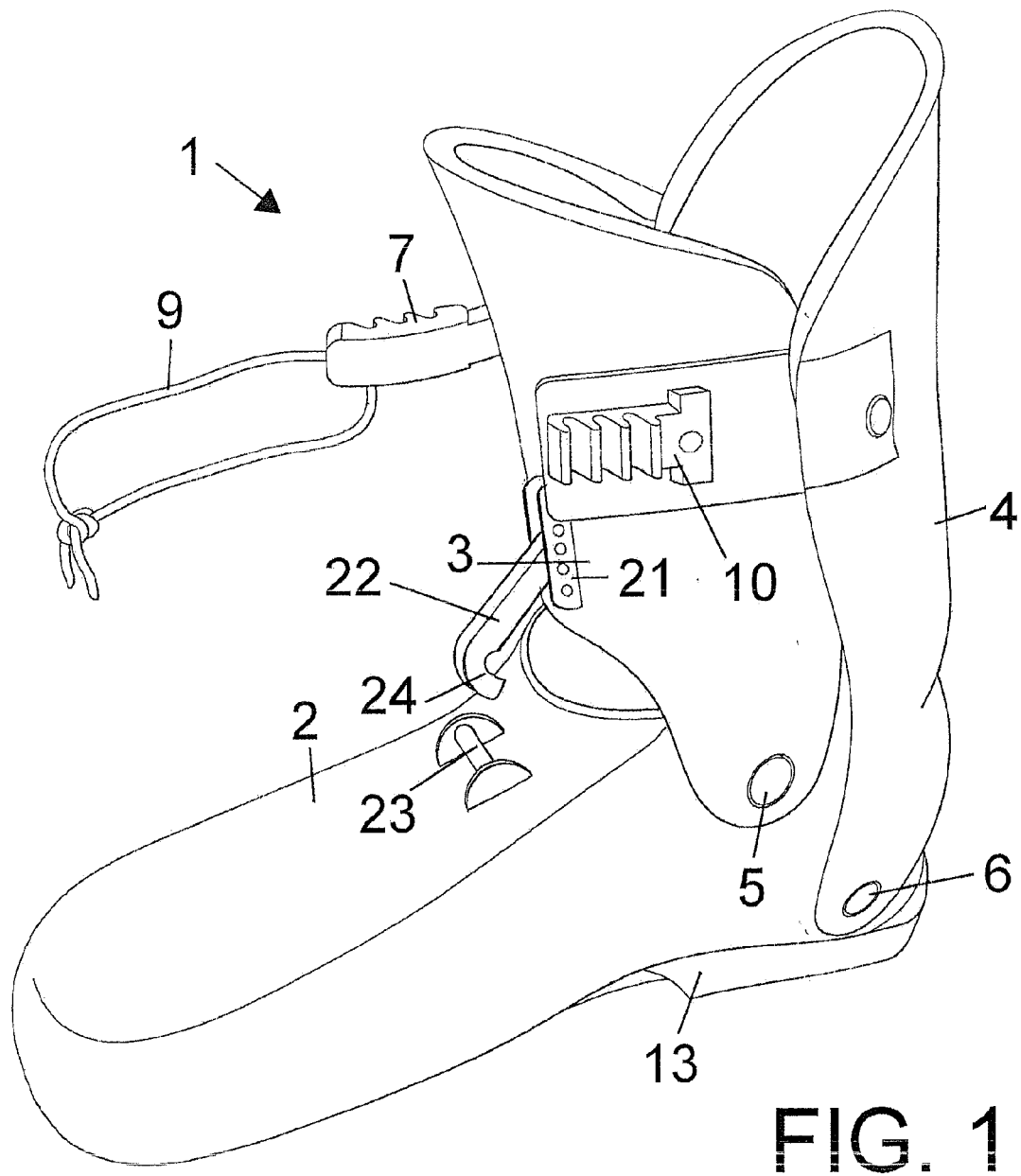
[0023] In practicing the invention, the used materials, as well as the contingent size and shapes can be any, depending on requirements.

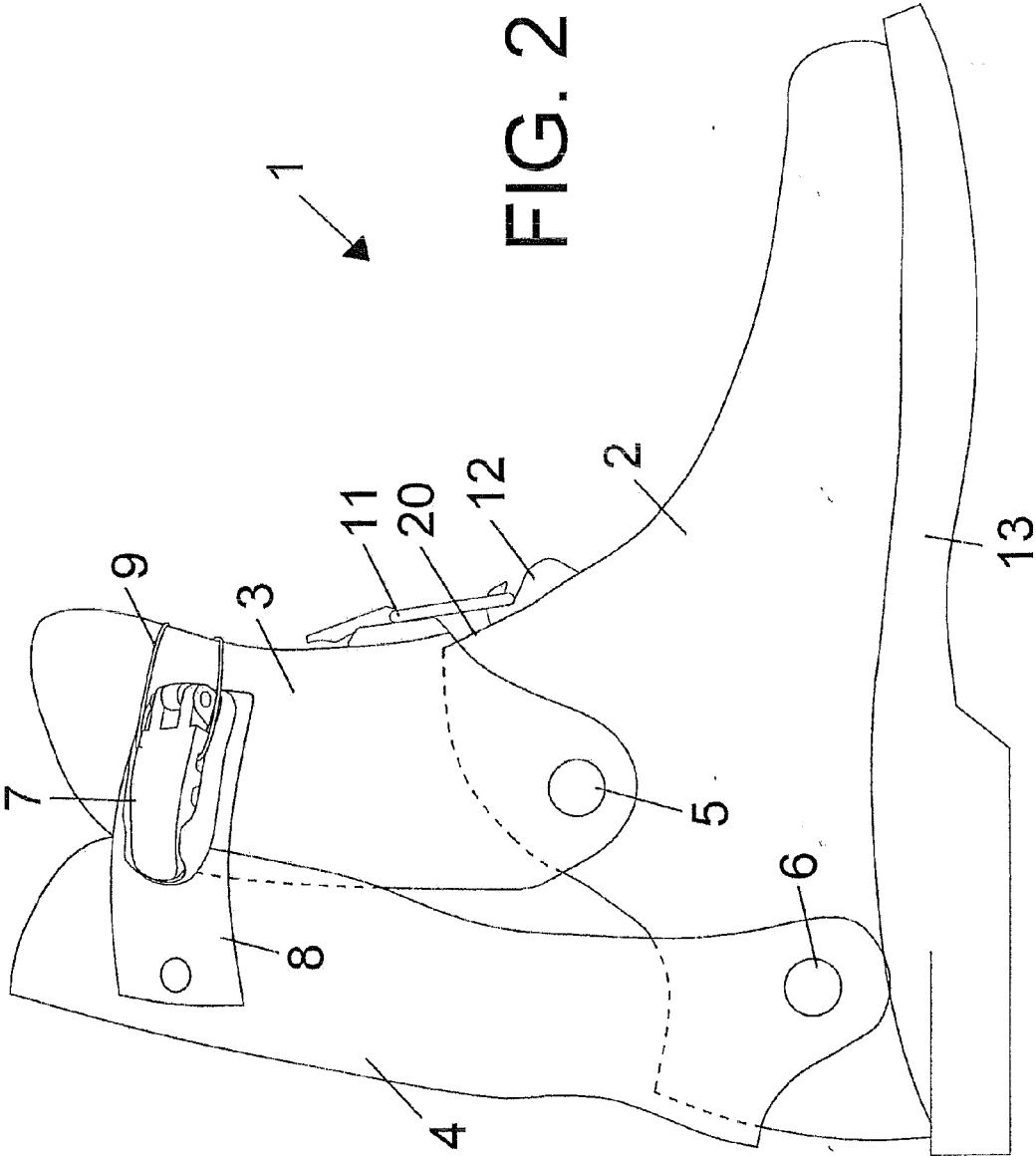
Claims

1. A boot construction, particularly a ski boot, **characterized in that** said boot construction comprises a boot shell to which a front bootleg and a rear bootleg are pivoted, the front bootleg being pivoted to the shell at a front pivot pin, and the rear bootleg being pivoted to the boot shell at a rear pivot pin, said rear pivot pin being arranged at a withdrawn and lower position with respect to said front pivot pin, a position of said front bootleg being adapted to be locked, with respect to said boot shell, through a locking hook element which can be automatically actuated by inclining frontward the front bootleg.
2. A boot construction, according to claim 1, **characterized in that** said locking hook element is pivoted to a front portion of the front bootleg and is adapted to engage with a recess formed in the boot shell, thereby, by inclining frontward said front bootleg, said hook element is rotatively driven to automatically engage in said recess while locking said front bootleg with respect to said boot shell.
3. A boot construction, according to claim 1, **characterized in that** said pivot pins allow the respective bootlegs to be rotated between a fully opened position and a fully closed position thereof.
4. A boot construction, according to claim 1, **characterized in that** said boot construction comprises adjustable locking means designed for locking said bootleg at the closed position thereof.
5. A boot construction, according to claim 4, **characterized in that** said adjustable locking means comprise a lever element pivoted to a plate element in turn clamped to a side of a rear bootleg, said lever element allowing to tension a loop cable, engaging said lever element with a rack assembly coupled to the front bootleg.
6. A boot construction, according to claim 1, **character-**

ized in that said shell comprises a shell sole including a contoured heel element.

7. A boot construction, according to claim 1, **characterized in that** said boot construction comprises an inner shoe structure therein.
8. A ski boot construction, according to claim 1, **characterized in that** said ski boot construction comprises a top portion thereof closed at a foot neck, thereby providing the boot construction with a target structural strength while tightly sealing the foot.
9. A boot construction, according to claim 1, **characterized in that** said boot construction comprises a member supporting a lever element adapted to be clamped to a cylindric bar element, said lever element having a hook end portion engageable with said cylindric bar element for locking said front bootleg.





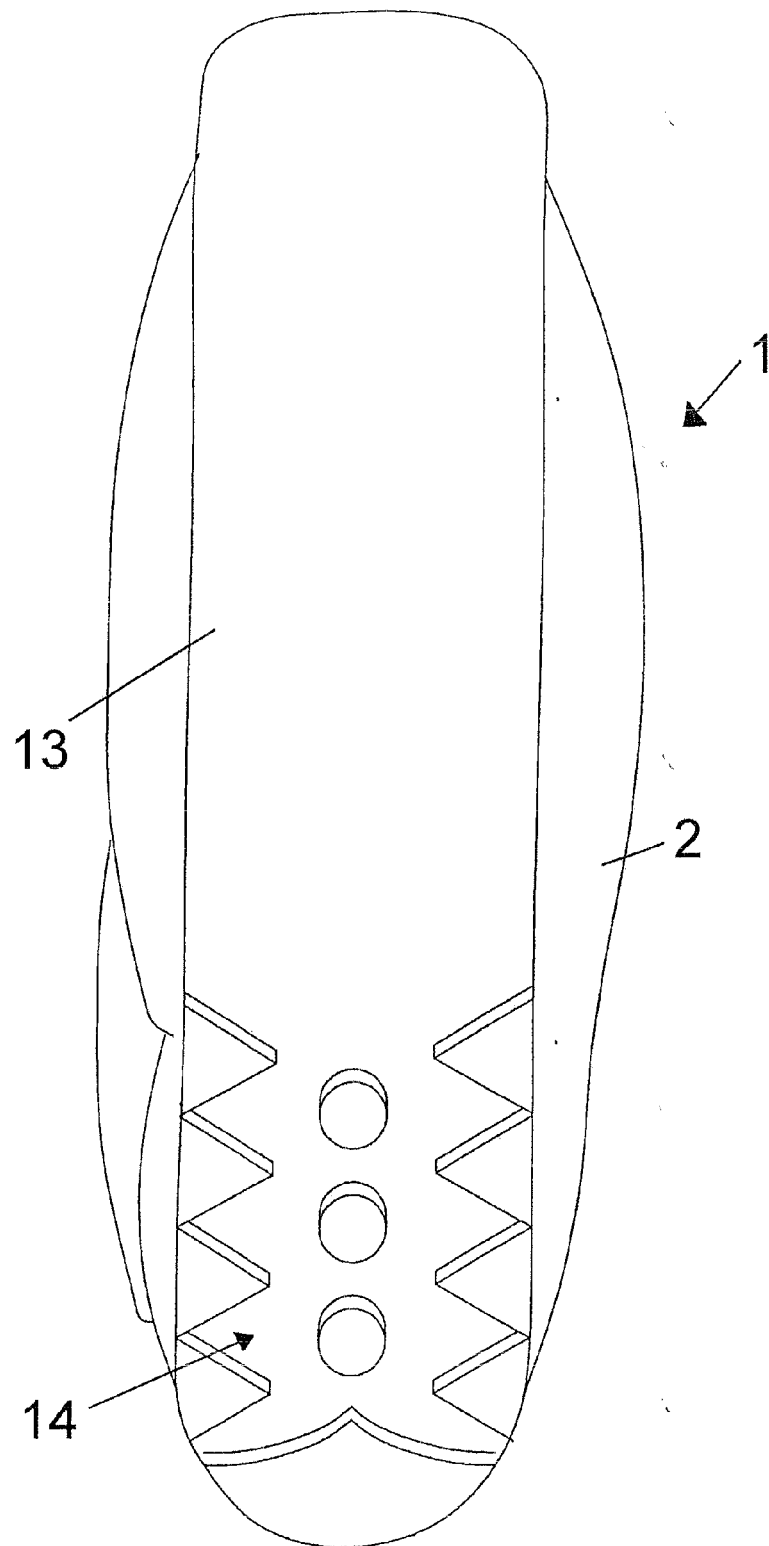


FIG. 3

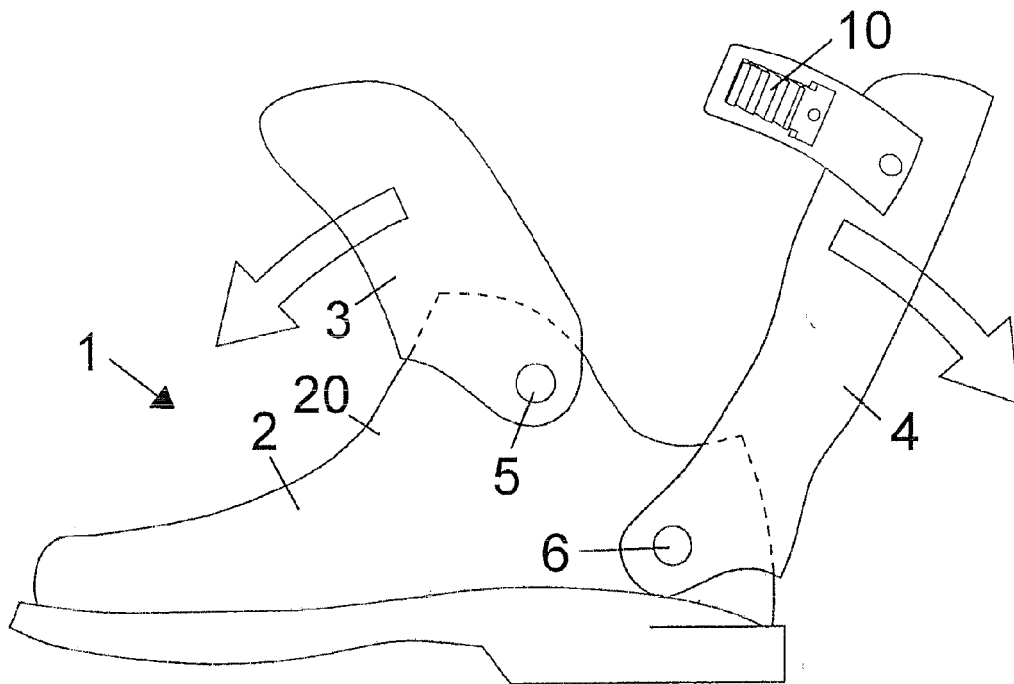


FIG. 4

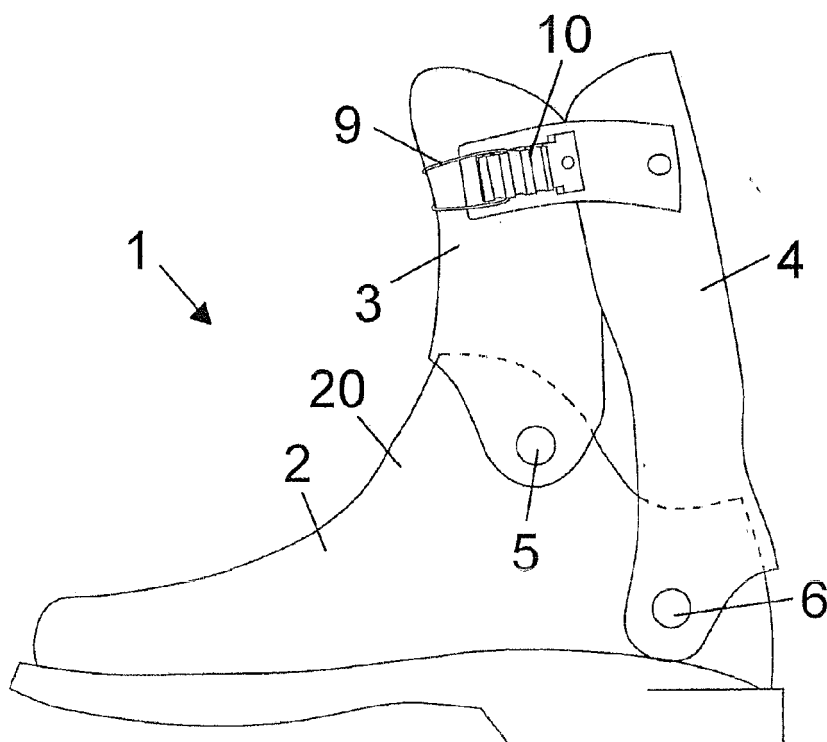


FIG. 5

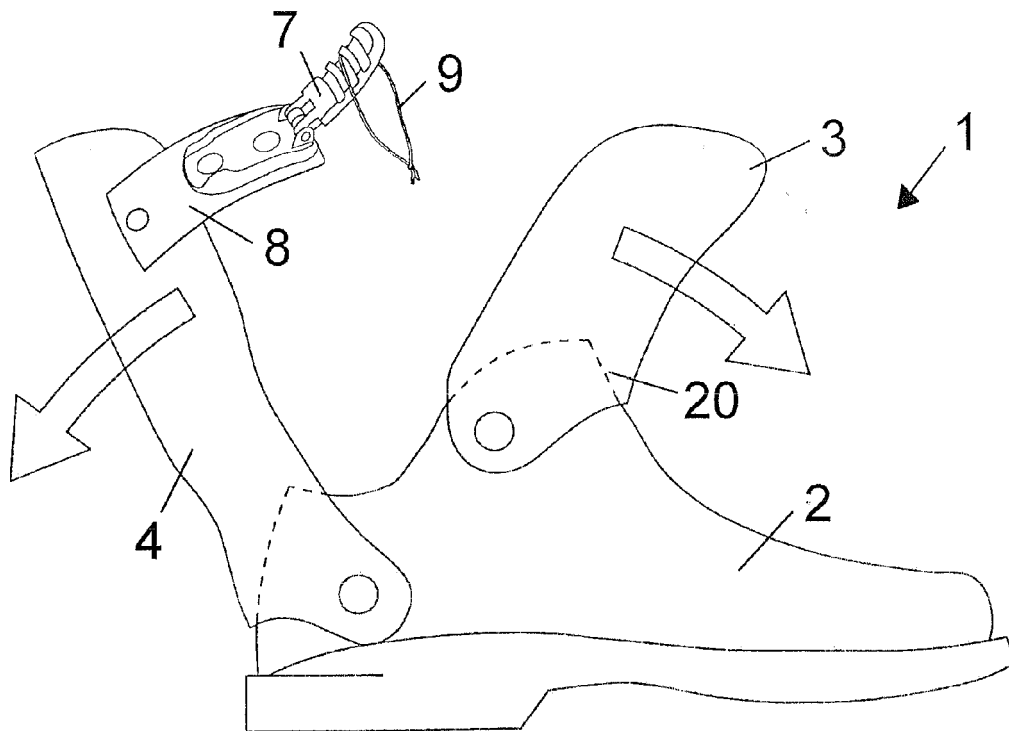


FIG. 6

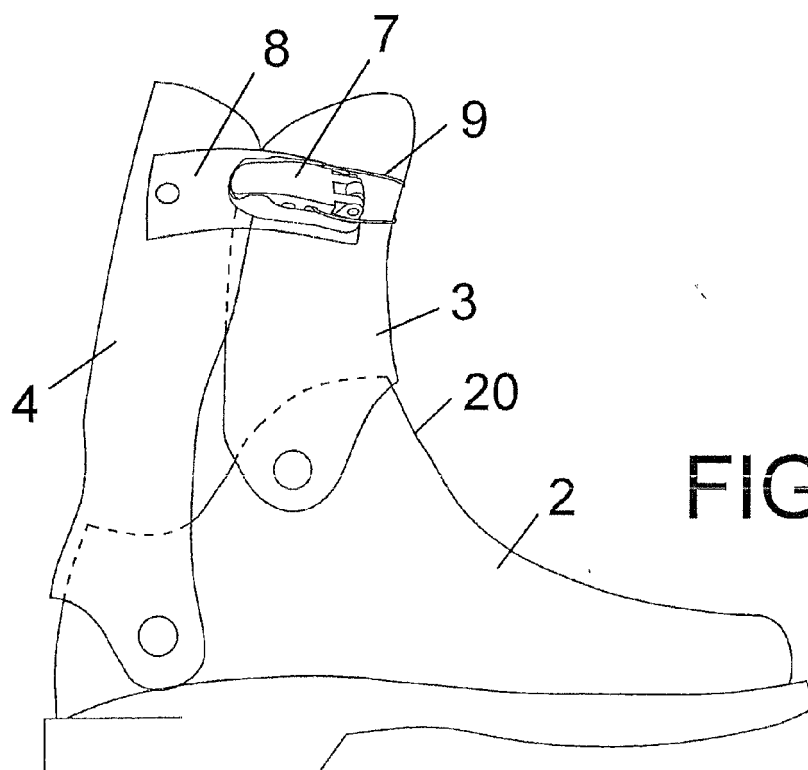


FIG. 7



EUROPEAN SEARCH REPORT

Application Number
EP 12 18 6125

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 095 356 A (ROBRAN DAVID T ET AL) 20 June 1978 (1978-06-20) * column 2, line 8 - column 7, line 20; figures 1-10 *	1-9	INV. A43B5/04
X	US 3 486 247 A (FRANET FRANCIS L) 30 December 1969 (1969-12-30) * column 2, line 40 - column 7, line 11; figures 1-4 *	1-9	
X	EP 0 133 237 A1 (NORDICA SPA [IT]) 20 February 1985 (1985-02-20) * column 1 - column 5; figures 1, 2 *	1-9	
			TECHNICAL FIELDS SEARCHED (IPC)
			A43B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 6 December 2012	Examiner Oelschläger, Holger
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 (03.82 (P04C01))

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 18 6125

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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06-12-2012

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4095356	A	20-06-1978	NONE	

US 3486247	A	30-12-1969	AT 333153 B	10-11-1976
			AT 343510 B	12-06-1978
			DE 1947575 A1	25-03-1971
			FR 2024700 A5	28-08-1970
			US 3486247 A	30-12-1969

EP 0133237	A1	20-02-1985	DE 3467686 D1	07-01-1988
			EP 0133237 A1	20-02-1985
			JP 1034601 B	20-07-1989
			JP 1551935 C	23-03-1990
			JP 60040004 A	02-03-1985
			US 4601117 A	22-07-1986
