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(54) **SKI BOOT**

(57) A ski boot (1) wherein the foot-casing closing means (12) comprise: an oblong band (20) with a flexible and substantially inextensible structure, which has the proximal end firmly fixed onto a first lateral side of the foot-casing (2), and obliquely extends along said first lateral side of the foot-casing (2) towards the upper part of the foot-casing (2) and a first longer side edge (15a) of the protective tongue (15) that rests on the upper part of the foot-casing (2), so as to also extend skimmed over the protective tongue (15); a series of fairlead members (21) that are arranged alternately on opposite sides of a second longer side edge (15b) of the protective tongue (15), opposite to said first longer side edge (15a), and are firmly fixed to the foot-casing (2) or protective tongue (15) located immediately beneath; a manually-operated winch-type cable-winding assembly (22) which is firmly fixed to the oblong band (20); and a flexible and substantially inextensible cable (23) that comes out of the cable-winding assembly (22), and engages the various fairlead members (21) in succession and in pass-through and free sliding manner, while passing from one side to the other of said second longer side edge (15b).

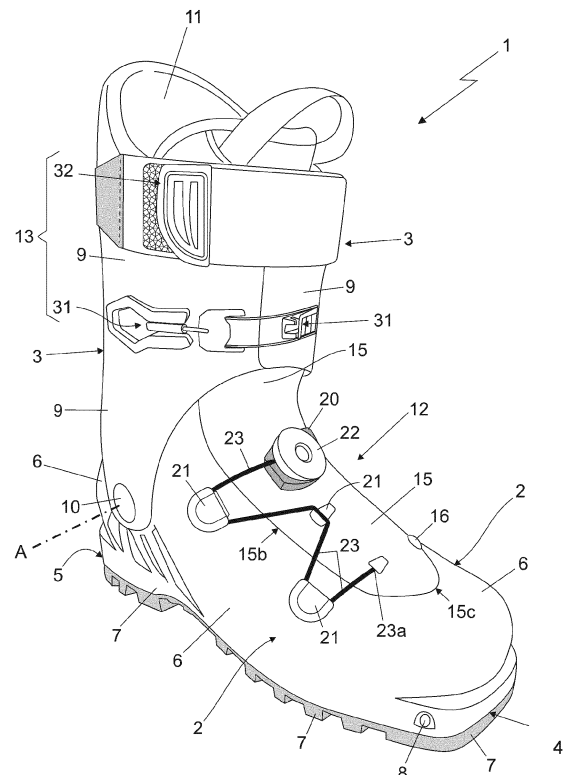


Fig. 1

Description

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This patent application claims priority from Italian patent application no. 102019000006162 filed on 19/04/2019.

TECHNICAL FIELD

[0002] This invention relates to a ski boot.

[0003] More specifically, this invention relates to a boot for ski mountaineering, to which the following disclosure specifically refers without however any loss of generality.

BACKGROUND ART

[0004] As is known, ski-mountaineering boots conventionally comprise: a substantially shoe-shaped, rigid foot-casing which is structured to accommodate and protect the user's foot, and has the bottom part specifically structured to be fixed to the back of a downhill ski or the like by means of a specific ski binding device; a rigid cuff, which is shaped so as to embrace the lower part of the user's leg from behind, and is hinged to the upper part of the foot-casing so as to rotate about a transversal reference axis that is substantially perpendicular to the vertical mid-plane of the ski boot, and is also locally substantially coincident with the articulation axis of the ankle; and a protective inner liner made of a soft and thermal-insulating material, which is inserted removable manner inside the foot-casing and the cuff, and is shaped so as to accommodate and protect the foot and the lower part of the user's leg, roughly up to the height of the calf.

[0005] The abovementioned ski-mountaineering boots are moreover provided with a foot-casing closing mechanism, and with a cuff closing mechanism, both manually operated.

[0006] The foot-casing closing mechanism is structured so as to be able to selectively close/tighten the upper part of the foot-casing on the user's foot, to immobilise the user's foot inside the inner liner. The cuff closing mechanism, on the other hand, is structured so as to be able to selectively close/tighten the upper part of the cuff on the user's leg, to immobilise the user's leg inside the inner liner.

[0007] More specifically, the shell is usually provided with a longitudinal slit that extends along the upper part of the foot-casing in a sagittal direction and astride the mid-plane of the ski boot, and is covered by a flat and oblong protective tongue that is arranged resting on the upper part of the foot-casing, astride the mid-plane of the ski boot.

[0008] The two longer side edges of the protective tongue are, therefore, arranged on opposite sides of the mid-plane of the ski boot, both resting on the upper part of the foot-casing.

[0009] In some models of ski-mountaineering boots

currently on the market, the protective tongue is hinged to the upper part of the foot-casing at the front end, so that it can be tilted forwards to facilitate the opening of the ski boot and the insertion of the foot inside the inner liner.

[0010] The foot-casing closing mechanism, on the other hand, consists of one or two transversal lever buckles that are arranged on the upper part of the foot-casing, astride the tongue, are rigidly fixed to the foot-casing on opposite sides of the tongue, and are finally capable of pulling the two edges of the foot-casing that flank the longitudinal slit one towards the other, so as to tighten the upper part of the foot-casing onto the user's foot.

[0011] Unfortunately, although functioning very well, the foot-casing closing mechanism described above is unpopular with some skiers because it is considered to be too unwieldy and complicated to operate.

DISCLOSURE OF INVENTION

[0012] Aim of the present invention is to realize a foot-casing closing mechanism that can overcome the drawbacks described above.

[0013] In compliance with these aims, according to the present invention there is provided a ski boot as defined in Claim 1 and preferably, though not necessarily, in any one of the dependent claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] The present invention will now be described with reference to the accompanying drawings, which illustrate a non-limiting embodiment thereof, wherein:

- Figure 1 is a perspective view of a ski boot realized according to the teachings of the present invention, with parts removed for clarity's sake;
- Figure 2 is a side view of the ski boot illustrated in Figure 1, with parts removed for clarity's sake;
- Figure 3 is perspective view of the front part of the ski boot illustrated in Figure 1, with parts removed for clarity's sake; whereas
- Figure 4 is a perspective view of the front part of a second embodiment of the ski boot illustrated in Figure 1.

BEST MODE FOR CARRYING OUT THE INVENTION

[0015] With reference to Figures 1, 2, and 3, reference number 1 denotes, as a whole, a ski boot that may advantageously be used for practising ski-mountaineering or Telemark.

[0016] The ski boot 1 firstly comprises: a substantially rigid foot-casing 2, which is substantially shoe-shaped, is adapted to accommodate the user's foot, and preferably has the lower part specifically structured/shaped to couple/ fasten in a rigid and stable, though easily releasable, manner, to a ski binding device of a known type

(not shown), which, in turn, is adapted to be rigidly fixed to the back of a generic downhill ski or the like; and a substantially rigid cuff 3 which is shaped so as to enclose the lower part of the user's leg, and is pivotally joined to the foot-casing 2 so as to freely rotate about a transversal reference axis A, which is locally substantially perpendicular to the vertical mid-plane of the ski boot and moreover substantially coincides with the articulation axis of the user's ankle.

[0017] More specifically, the lower part of foot-casing 2 is preferably provided with a front tip 4 and a rear heel 5.

[0018] The front tip 4 is preferably structured so as to be able to couple/fasten in a stable, though easily releasable manner with the toe piece (not shown) of a ski binding device which, in turn, is firmly fixed to the back of the downhill ski or the like. The rear heel 5, in turn, is preferably structured so as to be able to couple/fasten in a stable, though easily releasable manner with the heel piece (not shown) of the same ski binding device which, in turn, is firmly fixed to the back of the downhill ski or the like.

[0019] Even more specifically, the front tip 4 of foot-casing 2 is preferably structured so as to couple/fasten in known manner to the toe piece of a downhill ski binding device; whereas the rear heel 5 of foot-casing 2 is preferably structured so as to couple/fasten in known manner to the heel piece of the same downhill ski binding device.

[0020] Moreover, the lower part of foot-casing 2 preferably has a tread profile that enables the boot to grip on snow and/or ice, and thus allows the user to walk on snow and ice in relative safety.

[0021] More specifically, with reference to Figure 1, 2 and 3, the foot-casing 2 preferably comprises: a substantially rigid and approximately oblong-basin-shaped shell 6 which is preferably made of plastic and/or composite material and is shaped so as to accommodate and enclose the user's foot, preferably roughly up to the height of the ankle; and optionally a lower sole 7 preferably with a tread profile, which is preferably made of vulcanized rubber or other elastomeric material with a high friction coefficient, and is firmly fixed to the bottom wall of shell 6 preferably by gluing.

[0022] The foot-casing 2 preferably moreover comprises a rigid insert 8 preferably made of metal material, which has a substantially plate-like structure, and is stably embedded/ incorporated into the bottom wall of shell 6 roughly at the tip 4 of foot-casing 2.

[0023] Moreover, the rigid insert 8 is dimensioned so as to come out of/emerge outside of the shell 6 on opposite sides of the front tip 4 of foot-casing 2, preferably substantially in a specular position with respect to the mid-plane of the ski boot, so that the two distal ends of rigid insert 8 can couple in axially rotatable manner with the toe piece of the ski-mountaineering binding device.

[0024] With reference to Figure 1, on the other hand, the cuff 3 preferably comprises a substantially rigid shell 9 preferably made of plastic and/or composite material, which is preferably a substantially C-bent so as to cover

the rear part of the user's leg, from the ankle substantially up to the height of the calf, and is additionally provided with two oblong lateral flaps that extend forwards on opposite sides of the mid-plane of the ski boot, in order to embrace the user's leg from behind, roughly at the height of the calf, and then preferably overlap to one another at the front part of the leg, thus to form a tubular structure that encloses the user's leg at the height of the calf.

[0025] Moreover, the cuff 3 is preferably fixed in free rotatable manner to the upper part of the foot-casing 2, or rather of the shell 6, by means of two connecting hinges 10 preferably made of metal material, which are arranged on the inner and outer lateral sides of foot-casing 2 and of cuff 3, aligned along the transversal axis A, so as to enable the cuff 3 to freely swing forward and backward on the foot-casing 2, while always remaining on a reference plane orthogonal to axis A and substantially coinciding with the mid-plane of the ski boot.

[0026] With reference to Figure 1, the ski boot 1 additionally comprises a preferably substantially boot-shaped, protective inner liner 11 which has a soft and thermal-insulating structure, is inserted inside the foot-casing 2 and the cuff 3, preferably in a manually removable manner, and is shaped so as to accommodate and protect the user's foot and the lower part of the user's leg. The inner liner 11 preferably also has a thermoformable structure.

[0027] In addition, the ski boot 1 is moreover provided with a foot-casing closing mechanism 12 and/or with a cuff closing mechanism 13, preferably both manually operated.

[0028] The foot-casing closing mechanism 12 is structured so as to be able to selectively close/tighten the upper part of foot-casing 2 on the user's foot, so as to immobilise the user's foot inside the foot-casing 2, or rather inside the inner liner 11.

[0029] The cuff closing mechanism 13, in turn, is structured so as to be able to selectively close/tighten the upper part of cuff 3 on the user's leg, so as to immobilise the user's leg inside the cuff 3, or rather inside the inner liner 11.

[0030] More specifically, with reference to Figures 1, 2 and 3, the foot-casing 2, or rather shell 6, has a wide, oblong-shaped longitudinal slit 14 that extends in a roughly sagittal direction along the upper part of the foot-casing 2, or rather of shell 6, while remaining astride the mid-plane of the ski boot.

[0031] The longitudinal slit 14 of foot-casing 2 is thus arranged above the instep of the user's foot.

[0032] The ski boot 1, in turn, additionally comprises a flat and oblong-shaped protective tongue 15, which preferably has a semi-rigid structure, and is arranged resting on the upper part of foot-casing 2, or rather on the upper part of shell 6, so as to close/cover the longitudinal slit 14 of foot-casing 2.

[0033] In other words, the protective tongue 15 extends in a sagittal direction skimming the upper part of foot-casing 2, or rather the upper part of shell 6, while remain-

ing astride the mid-plane of the ski boot.

[0034] The two longer side edges 15a and 15b of protective tongue 15 are thus arranged on opposite sides of the mid-plane of the ski boot, one adjacent to the inner side of foot-casing 2 and the other adjacent to the outer side of foot-casing 2.

[0035] More specifically, in the example shown the protective tongue 15 is preferably made of plastic and/or composite material.

[0036] Preferably the protective tongue 15 is furthermore substantially L-bent with the capability of flexing at the elbow, and is arranged resting on the upper part of the foot-casing 2 so that the front part of protective tongue 15 is skimmed over and covers the upper part of foot-casing 2. The rear part of protective tongue 15 instead extends upwards along the cuff 3, preferably while remaining underneath the two oblong lateral flaps of cuff 3, to cover and protect the front part of the user's leg.

[0037] With particular reference to Figure 3, the protective tongue 15 moreover has the front end 15c firmly fixed to the upper front part of foot-casing 2, or rather of shell 6, with the capability of being tilted forwards, preferably while remaining on a plane oblique (i.e. non-perpendicular and non-parallel) to the mid-plane of the ski boot.

[0038] More specifically, the front end 15c of protective tongue 15 is firmly fixed to the upper front part of the foot-casing 2, or rather of shell 6, so that the protective tongue 15 can be tilted forwards while moving laterally towards the inner side of the foot-casing 2.

[0039] In other words, the front end 15c of tongue 15 is fixed/ pivotally joined to the upper front part of the foot-casing 2, or rather of the shell 6, so as to be able to rotate with respect to the foot-casing 2 underneath about a reference axis that is oblique (i.e. non-perpendicular and non-parallel) with respect to the mid-plane of the ski boot, and is optionally tilted with respect to the mid-plane of the ski boot by an angle ranging between 25° and 65°.

[0040] Preferably the rotation axis of protective tongue 15 is moreover oriented so that the protective tongue 15 can be tilted forwards, moving laterally towards the inner side of the foot-casing 2.

[0041] With reference to Figure 3, in the example shown, in particular, the front end 15c of protective tongue 15 is preferably fixed in a rigid and stable manner to the foot-casing 2, or rather to the shell 6, via a series of anchoring screws 16 placed close to the front edge of tongue 15, and has, at the back of the anchoring screws 16, a transversal folding line ℓ that extends obliquely (i.e. non-perpendicularly and non-parallel) to the mid-plane of the ski boot and is structured so as to allow the rest of the protective tongue 15 to freely rotate forwards while remaining on a plane oblique to the mid-plane of the ski boot.

[0042] In other words, the rotation axis of tongue 15 on foot-casing 2 substantially coincides with the transversal folding line ℓ .

[0043] In the example shown, in particular, the front

edge of protective tongue 15 is preferably oblique (i.e. non-perpendicular and non-parallel) with respect to the mid-plane of the ski boot and/or locally substantially parallel to the folding line ℓ .

[0044] Preferably the transversal folding line ℓ is moreover tilted with respect to the mid-plane of the ski boot by an angle β ranging between 25° and 65°.

[0045] With reference to Figures 1, 2 and 3, the foot-casing closing mechanism 12 extends astride the protective tongue 15, and comprises: a semi-rigid oblong band 20 with a flexible and substantially inextensible structure, which has the proximal end firmly fixed to the inner side of the foot-casing 2, preferably at the connecting hinge 10, and extends obliquely along the inner side of the foot-casing 2, towards the upper part of the foot-casing 2 and the mid-plane of the ski boot, reaching and going beyond the longer side edge 15a of protective tongue 15, so as to extend skimmed over the protective tongue 15 and the instep of the user's foot; a series of fairlead members 21 that are alternately arranged on opposite sides of the longer side edge 15b of protective tongue 15, opposite to the longer side edge 15b, and are rigidly fixed to the foot-casing 2 or to the protective tongue 15 immediately beneath; a manually-operated winch-type cable-winding assembly 22 which is firmly fixed to the oblong band 20, above the protective tongue 15 and/or the instep of the user's foot; and a flexible cable 23 with a substantially inextensible structure, which comes out of the cable-winding assembly 22, engages in succession and in pass-through and free sliding manner the various fairlead members 21, passing from one side to the other of the longer side edge 15b, and preferably has the distal end 23a rigidly anchored to the body of protective tongue 15.

[0046] More specifically, the semirigid oblong band 20 extends obliquely along the inner side of foot-casing 2, up to the protective tongue 15, and is preferably dimensioned so as to arrange the distal end thereof above the protective tongue 15, substantially astride the mid-plane of the ski boot and/or close to the cuff 3. Whereas the cable-winding assembly 22 is preferably rigidly fixed to the distal end of oblong band 20, above the protective tongue 15 and preferably close to the cuff 3.

[0047] The flexible cable 23, on the other hand, is preferably arranged so as to engage, in succession, the various fairlead members 21, passing alternately from one side of the longer side edge 15b of the tongue to the other.

[0048] The cable-winding assembly 22 is structured so as to be able to selectively wind the flexible cable 23 inside itself, to stably lock the flexible cable 23, and finally to unwind the flexible cable 23. The cable-winding assembly 22 is, thus, adapted to selectively bring and stably keep the flexible cable 23 and the oblong band 20 under tension.

[0049] The cable-winding assembly 22 is a component already widely known in the field of sports footwear, and therefore won't be described in further detail. In the example shown, in particular, the winch-type cable-winding

assembly 22 is preferably manufactured by the American company Boa Technology Inc.

[0050] Preferably the first fairlead member 21 engaged by the flexible cable 23 is placed on the outer side of the foot-casing 2, so that the initial section of flexible cable 23 forms an extension of the oblong band 20.

[0051] With reference to Figures 1, 2 and 3, in the example shown, in particular, the oblong band 20 preferably has a ribbon-like structure, is preferably made of plastic material, and is preferably dimensioned so as to arrange the cable-winding assembly 22 close to the cuff 3, and preferably also substantially astride of the mid-plane of the ski boot.

[0052] The foot-casing closing mechanism 12, in addition, preferably comprises one or more (two in the example shown) fairlead members 21 placed on the foot-casing 2 close to the outer side of foot-casing 2, and one or more (one in the example illustrated) fairlead members 21 placed on the protective tongue 15. Preferably the fairlead member or members 21 integral with the protective tongue 15 is/are moreover arranged in quincunx with respect to the fairlead members 21 integral with the foot-casing 2.

[0053] After coming out of the cable-winding assembly 22, the flexible cable 23, therefore, extends along the longer side edge 15b of protective tongue 15, towards the tip 4 of foot-casing 2, engaging the various fairlead members 21 in succession.

[0054] In addition, the flexible cable 23 is preferably made of metal material, and the distal end 23a of flexible cable 23 is preferably firmly fixed to the body of protective tongue 15, close to the front end 15c of protective tongue 15.

[0055] With reference to Figure 1, on the other hand, the cuff closing mechanism 13 preferably comprises: at least one manually-operated lever buckle 31, which is located astride the two oblong lateral and opposite flaps of cuff 3, so as to be able to selectively pull the two flaps of the cuff 3 one towards the other, in order to tighten the upper part of the cuff 3 on the user's leg; and optionally an auxiliary tensioning band 32 with a velcro closure, which is looped around the top of cuff 3 so as to be able to selectively close/tighten the top of cuff 3 against the calf of the user's leg.

[0056] With reference to Figure 2, preferably the ski boot 1 is finally provided with a manually-operated cuff locking device 17 which is structured so as to be able to selectively lock the cuff 3 to the foot-casing 2 in a given downhill position in which the cuff 3 is tilted forward with respect to the vertical by a predetermined angle preferably less than 25°.

[0057] More specifically, the cuff locking device 17 is preferably fixed to the cuff 3 in the area of the ski boot above the heel, substantially astride the mid-plane of the ski boot, and is structured so as to be able to, selectively and alternately,

- connect the cuff 3 to the foot-casing 2 so as to lock

the cuff 3 in said downhill position; and

- completely unlock/release the cuff 3 from the foot-casing 2 so as to allow the cuff 3 to freely swing forward and backward on the foot-casing 2 about the transversal axis A, while remaining on the mid-plane of the ski boot.

[0058] The general operation of ski boot 1 is easily inferable from the above description and does not require further explanations.

[0059] As regards the foot-casing closing mechanism 12, the strain exerted by the final section of the flexible cable 23 on the longer side edge 15b of protective tongue 15, in a substantially orthogonal direction to the mid-plane of the ski boot, is counteracted by the particular mechanical connection between the front end 15c of protective tongue 15 and the upper front part of foot-casing 2, while the semirigid oblong band 20 and the starting section of the flexible cable 23 keep the upper part of protective tongue 15 adherent to the foot-casing 2.

[0060] The advantages connected to the new foot-casing closing mechanism 12 are remarkable.

[0061] Firstly, the foot-casing closing mechanism 12 has much smaller dimensions than those of currently-known closing systems, with all the advantages that this entails.

[0062] In addition, the inner side of foot-casing 2 is now free of any protruding metal element that can, during use, damage the inner side of the other ski boot.

[0063] Last, but not least, the foot-casing closing mechanism 12 is much simpler to operate compared to currently-known closing systems, with the functional advantages that this entails.

[0064] It is finally clear that modifications and variations may be made to the ski boot 1 described above without however departing from the scope of the present invention.

[0065] For example, in a non-shown embodiment, rather than being fixed to the protective tongue 15, the distal end 23a of flexible cable 23 is anchored to the foot-casing 2, preferably in proximity of the front end 15c of protective tongue 15.

[0066] In addition, in different embodiment of the foot-casing closing mechanism 12, the semirigid oblong band 20 can be arranged on the outer side of foot-casing 2, and the fairlead members 21 can be arranged alternately on opposite sides of the longer side edge 15a of protective tongue 15, close to the inner side of the foot-casing 2.

[0067] In this case, the front end 15c of protective tongue 15 is preferably firmly fixed to the upper front part of foot-casing 2, or rather of shell 6, so that the protective tongue 15 can be tilted forwards while moving laterally towards the outer side of the foot-casing 2.

[0068] With reference to Figure 4, finally, in another embodiment of ski boot 1, the longitudinal slit 14 of foot-casing 2, or rather of shell 6, is closed, preferably in a watertight manner, by a gaiter 115 made of preferably waterproof, fabric or other flexible sheet material; and

the protective tongue 15 is arranged resting on the upper part of foot-casing 2, or rather on the upper part of shell 6, above the gaiter 115.

[0069] In this case, the protective tongue 15 is preferably dimensioned so as to cover only the front part of gaiter 115, and thus of the longitudinal slit 14 of foot-casing 2, preferably up to arrive hug/come close to the distal end of the oblong band 20. More specifically, the protective tongue 15 is preferably substantially triangular in shape.

[0070] Preferably in this embodiment the front end 15c of protective tongue 15 is moreover firmly fixed to the upper front part of foot-casing 2, or rather of shell 6, without the capability of tilting forwards more or less obliquely to the mid-plane of the ski boot.

[0071] The semirigid oblong band 20, in turn, extends obliquely along the inner or outer lateral side of foot-casing 2, towards the upper part of the foot-casing 2 and the longer side edge 15a of protective tongue 15, so as to arrange the end part thereof above the instep of the user's foot, skimmed over the gaiter 115.

[0072] Preferably the protective tongue 15 is finally provided with one or more lightening through openings or slits 116.

Claims

1. A ski boot (1) comprising: a substantially rigid foot-casing (2) that is adapted to accommodate the user's foot and has a lower part structured to fasten onto a ski binding device; a substantially rigid cuff (3), which is adapted to enclose the lower part of the user's leg, and is pivotally joined to the foot-casing (2) so as to be able to rotate about a reference axis (A) substantially perpendicular to the mid-plane of the boot; an oblong-shaped protective tongue (15) which is arranged resting on the upper part of the foot-casing (2), with its two longer side edges (15a, 15b) arranged on opposite sides of the mid-plane of the boot; and foot-casing closing means (12) adapted to selectively close/ tighten the foot-casing (2) onto the user's foot;
the ski boot (1) being **characterised in that** the foot-casing closing means (12) comprise: an oblong band (20) with a flexible and substantially inextensible structure, which has the proximal end firmly fixed onto a first lateral side of the foot-casing (2), and obliquely extends along said first lateral side of the foot-casing (2), towards the upper part of the foot-casing (2) and a first longer side edge (15a) of the protective tongue (15), so as to also extend skimmed over the protective tongue (15) or a gaiter (115) extending beneath said protective tongue (15); a series of fairlead members (21) that are arranged alternately on opposite sides of a second longer side edge (15b) of the protective tongue (15), opposite to said first longer side edge (15a), and are firmly fixed to

foot-casing (2) or protective tongue (15) located immediately beneath; a manually-operated winch-type cable-winding assembly (22) which is firmly fixed to the oblong band (20); and a flexible and substantially inextensible cable (23) that comes out of the cable-winding assembly (22), and engages in succession and in pass-through and free sliding manner the various fairlead members (21) while passing from one side to the other of said second longer side edge (15b).

2. The ski boot according to Claim 1, wherein the oblong band (20) is dimensioned so as to arrange its distal end over the protective tongue (15) or the gaiter (115), substantially astride the mid-plane of the ski boot and/or close to the cuff (3).
3. The ski boot according to Claim 1 or 2, wherein the oblong band (20) has its proximal end firmly fixed onto said first lateral side of the foot-casing (2), at the hinge (10) that connects the cuff (3) to the foot-casing (2).
4. The ski boot according to claim 1, 2 or 3, wherein the cable-winding assembly (22) is fixed in a rigid manner to the distal end of the oblong band (20), above the protective tongue (15).
5. The ski boot according to any one of the preceding claims, wherein the foot-casing closing means (12) comprise one or more fairlead members (21) located on the foot-casing (2) close to said first lateral side of the foot-casing (2), and one or more fairlead members (21) located on the protective tongue (15).
6. The ski boot according to Claim 5, wherein the fairlead member or members (21) integral with the protective tongue (15) is/are arranged in quincunx with respect to the fairlead members (21) integral with the foot-casing (2).
7. The ski boot according to any one of the preceding claims, wherein the cable (23) has the distal end (23a) anchored in rigid manner to the body of the protective tongue (15) or of the foot-casing (2).
8. The ski boot according to any one of the preceding claims, wherein the protective tongue (15) has the front end (15c) firmly fixed to the upper front part of the foot-casing (2), with the capability of being tilted forwards.
9. The ski boot according to claim 8, wherein the front end (15c) of the protective tongue (15) is firmly fixed to the upper front part of the foot-casing (2), so that the protective tongue (15) can be tilted forwards while moving laterally towards said first lateral side of the foot-casing (2).

10. The ski boot according to Claim 8 or 9, wherein the front end (15c) of the protective tongue (15) is firmly fixed to the upper front part of the foot-casing (2) via a series of anchoring screws (16) and has, at the back of the anchoring screws (16), a transversal folding line (f) that extends obliquely to the mid-plane of the ski boot and is structured so as to allow the rest of the protective tongue (15) to freely rotate forwards while remaining on a plane oblique to the mid-plane of the ski boot. 5 10
11. The ski boot according to Claim 8, 9 or 10, wherein the distal end (23a) of said cable (23) is anchored in a rigid manner to the body of the protective tongue (15) or of the foot-casing (2), close to the front end (15c) of the protective tongue (15). 15
12. The ski boot according to any one of the preceding claims, wherein said oblong band (20) has a ribbon-like structure and/or is made of plastic material. 20
13. The ski boot according to any one of the preceding claims, wherein the oblong band (20) extends obliquely along said first lateral side of the foot-casing (2), towards the upper part of the foot-casing (2), towards the upper part of the foot-casing (2) and the mid-plane of the ski boot, reaching and going beyond said first longer side edge (15a) of the protective tongue (15). 25
14. The ski boot according to any one of the preceding claims, wherein the foot-casing (2) comprises: a substantially oblong tub-shaped, rigid shell (6) that is made of plastic and/or composite material and is shaped so as to accommodate and enclose the user's foot; and a lower sole (7) that is made of elastomeric material with a high friction coefficient, and is firmly fixed to the bottom wall of said shell (6). 30 35
15. The ski boot according to any one of the preceding claims, wherein said first lateral side of the foot-casing (2) is the inner side of the foot-casing. 40

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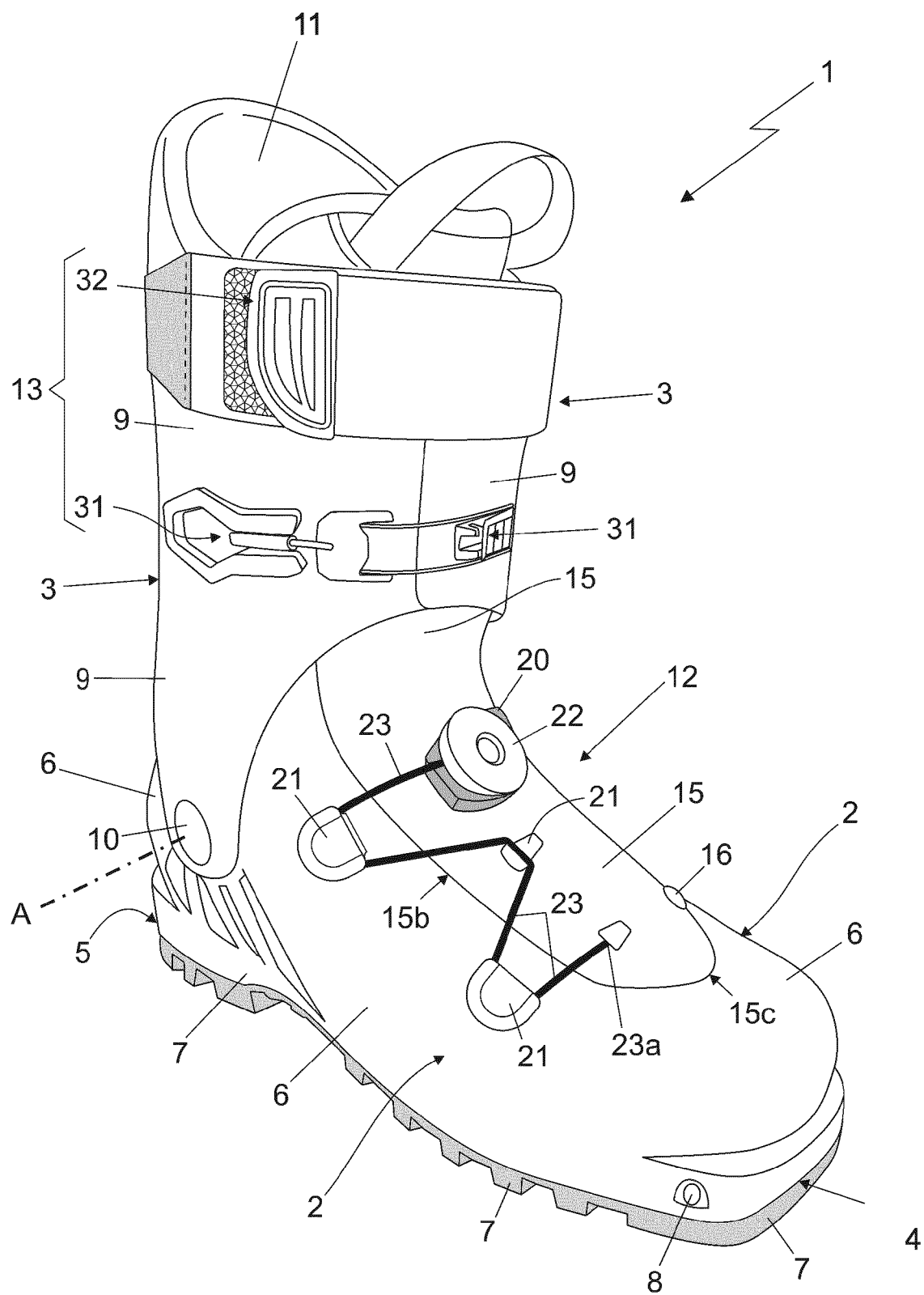


Fig. 1

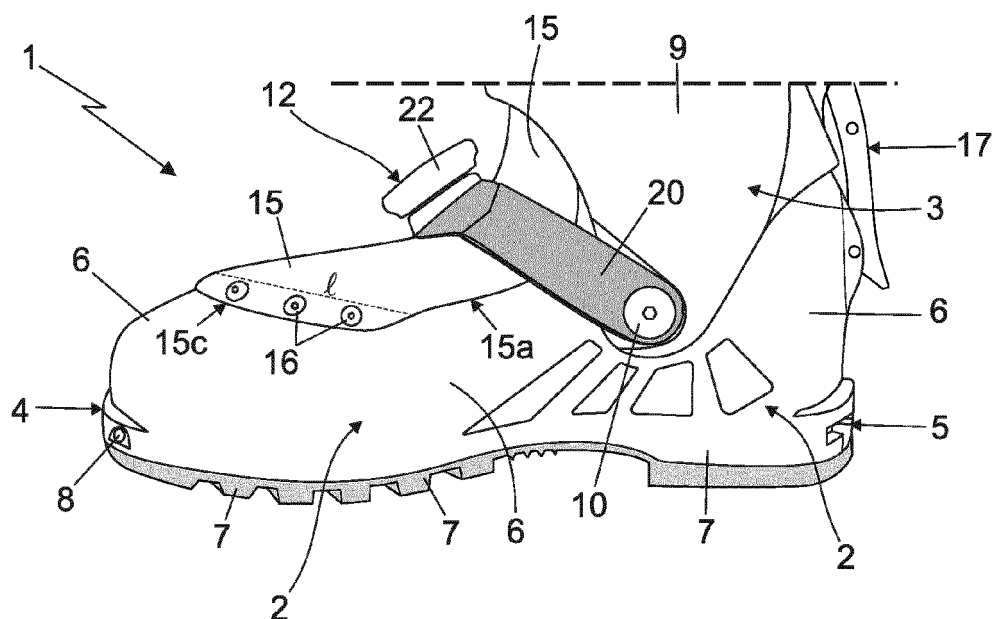


Fig. 2

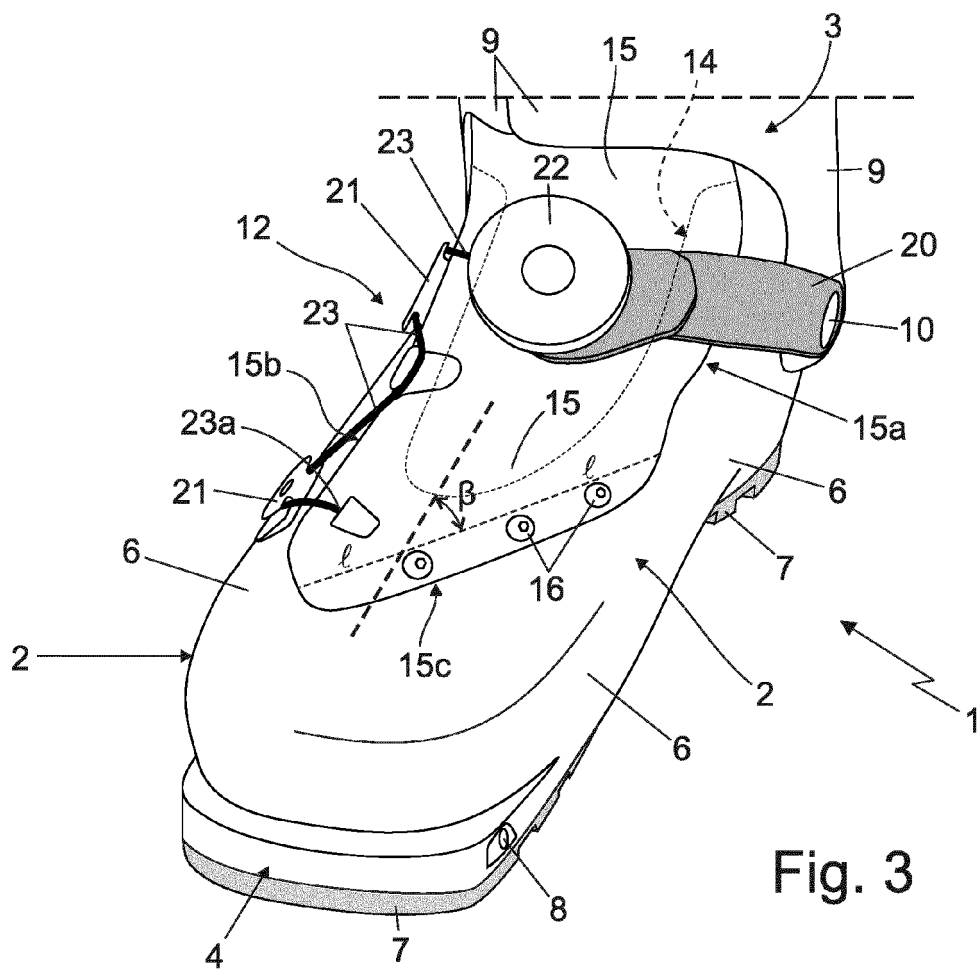


Fig. 3

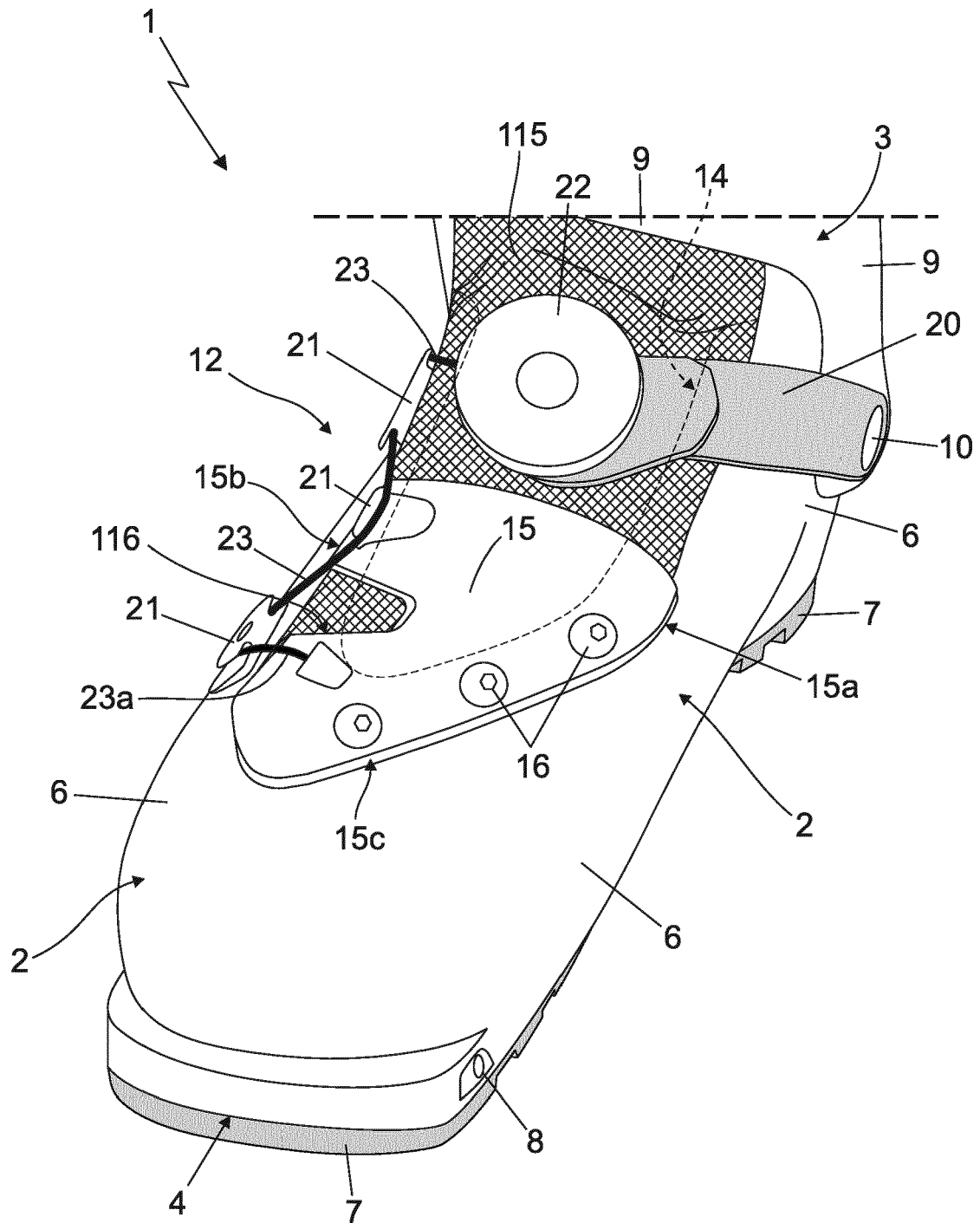


Fig. 4



EUROPEAN SEARCH REPORT

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