(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
3 August 2017 (03.08.2017)

WIPO | PCT

(10) International Publication Number
WO 2017/131590 A1

(51) International Patent Classification:
A63C 5/02 (2006.01) *A63C 9/00* (2012.01)

(21) International Application Number:
PCT/SI2016/000022

(22) International Filing Date:
15 September 2016 (15.09.2016)

(25) Filing Language: Slovenian

(26) Publication Language: English

(30) Priority Data:
P-201600028 27 January 2016 (27.01.2016) SI

(71) Applicant: **ELAN, D,O.O.** [—/SI]; Begunje 1, 4275 Begunje na Gorenjskem, (SI).

(72) Inventors: **AVGUSTIN, Vinko**; Smokuc 55A, 4274 Zirovnica (SI). **HROVAT, Andrej**; Gorica 6, 4260 Radovljica (SI).

(74) Agent: **SVETICIC, Andrej**; Patentna pisama d.o.o., Copova 14, 1000 Ljubljana (SI).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

WO 2017/131590 A1

(54) Title: COLLAPSIBLE SKI

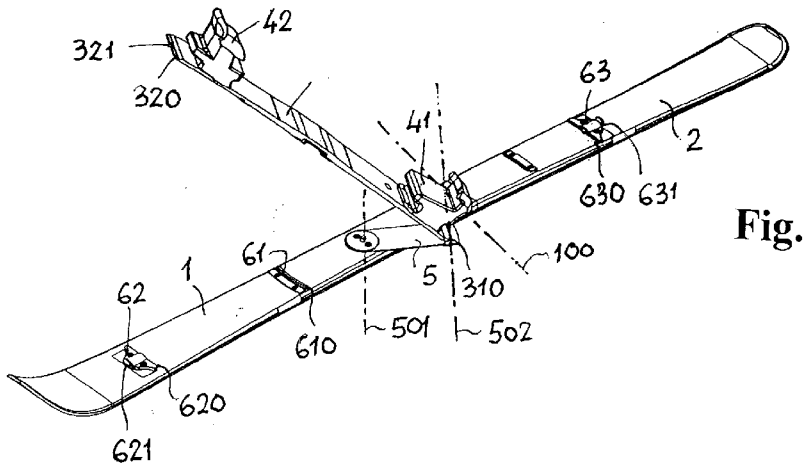

Fig. 5

(57) Abstract: The invention relates to a collapsible ski, by which the front part (1) and a rear part (2) of the ski, when aligned, in such position fixed by means of a platform (3), which is by means of hinges interconnected with a bearing plate (5), which is attached onto a top surface (94) of the front part (1) of the ski and is rotatable around geometric axis, which extends perpendicularly with respect to said top surface (94) of the ski.

Collapsible ski

The invention belongs to the field of sport articles, namely to skis, and concretely refers to a collapsible ski.

The purpose of the invention is to create a ski, which shall consist of parts, which shall be simply assembled in situ without any tools, which could on the one hand simplify storage and transporting and on the other hand to simplify also technology of manufacturing of each particular part, when compared with manufacturing of classic one-part ski, wherein all components of the ski would have to be permanently interconnected both during the use and also in collapsed position, and none of constituent parts shall not protrude outside of the length of both parts of such ski, and wherein the concept of the ski shall provide to each average user all benefits like classic skis, in particular an uniform bending curve and correspondingly distribution of loads along ski edges.

A collapsible ski is disclosed in SI 24358 A and WO 2014189472, to which the applicant In this application wishes to rely by reference, wherein such ski in its assembled i.e. functional state comprises a front area with a tip, which is smoothly bent away from the ground, a rear area with either at least approximately flat or smoothly bent away from the ground, as well as a central area, which is foreseen form mounting of a ski binding, which consists of a front part and a rear part and is mounted on the upper surface, which is faced away from the ground. The opposite sliding surface is during the use faced towards the ground and is furnished with ski edges, which extend at least along the majority of the ski length..Such ski consists of a front part and a rear part, which are interconnected and can be pivoted around the geometric axis, which extends parallel with said sliding surface. Moreover, said parts can be in their aligned position optionally immobilized by means of

a platform, on which the front part and a rear part of a ski binding, which is foreseen for attachment of a ski shoe, are mounted. Moreover, when said front part and said rear part are aligned, and when being immobilized by means of a platform, said platform is rotatable around a geometric axis, which extends throughout the pivoting area between said parts and is perpendicular with respect to said sliding surface. When the ski is assembled and ready to use, said platform with mounted parts of a ski binding is adjusted to cooperate with each of said parts of the ski. When the platform is removed, said parts can be pivoted relative to each other, so that the ski in disassembled state can be stored, e.g. in rucksack, however, the platform is separated from said part, so that during the use e.g. in alpinism, or during military activities, it can be easily forgotten or lost or the like.

When bearing in mind said simplifying of technology of manufacturing of each particular part, the purpose of the invention is also providing a possibility of assembling parts, which are manufactured separately and can be standardized, both in view of semi products as well as finalized ski as a whole.

A collapsible ski is also disclosed in US 4,405,150. Such ski in its functional state ad when it is ready to use, like each functional ski, comprises a front area with a tip, which is smoothly bent away from the ground, a rear area with either at least approximately flat or smoothly bent away from the ground, as well as a central area, which is foreseen form mounting of a ski binding. A surface, which is faced towards the ground, is furnished with a sliding surface, the lateral edges of which are equipped with ski edges serving for guiding of a ski when being turned on a hard ground. Such ski consists of at least three parts, which can be connected with each other in a detachable manner, namely of a front part and a rear part, which can be interconnected in a detachable manner, as well as of a top part, which is pivotally interconnected with said rear part and can be placed over at least a portion of said front part and then in such position of overlapping said parts fixed. Said top part is conceived as an U-profile and is adjusted to cooperate with two ribs, which are arranged on the top surface of said front part and said rear part at least in the central area in the area of cooperation of said parts and which protrude apart from the ground. Those skilled in the art will understand that during bending of the ski, due to its sloped position said top part, in particular the free area thereof, is permanently exposed to forces, which show tendency of removal of said top part from the surface of the ski, so

that the top part must be firmly fixed, and the area of fixation thereof is extremely stressed.

Although such concept allows movements of said top part relatively to said pivotally interconnected front part and rear part, said front part and rear part are in said area of cooperation with the top part essentially thickened, which essentially increases stiffness of each of them. Such local increasing of stiffness leads to essential changing of bending properties of the ski as a whole, since its bending capability in the front area and in the rear area is essentially higher than in the central area.

Moreover, due to such concept also the height, namely a distance between the sliding surface and the bottom surface of a ski shoe is essentially changed, which is desired when the ski is used by extremely skilled users, e.g. in ski competitions, which is however in contradiction with the concept of such ski, which is a priori not intended for such purposes.

Besides, the described concept of the top part in the form of U-profile does not allow mounting of rails for quickly mounting of ski binding. Adapting of the top part for such purpose would namely lead to additional essential increasing of height, weight and stiffness of the ski.

The invention refers to a collapsible ski, which in its assembled i.e. functional state comprises a front area with a tip, which is smoothly bent in a direction apart from the ground, a rear area with a tail, which is either at least approximately flat or smoothly bent away from the ground, as well as a central area, which is foreseen form mounting of a ski binding, which consists of a front assembly and a rear assembly and is suitable for attachment of each ski shoe onto a top surface of the ski, which is during the use faced apart from the ground. The opposite surface of the ski, which is during the use faced towards the ground, is furnished with ski edges, which extend along at least the majority of the ski length. Such ski furthermore consists of a front part and a rear part, which are connected with each other and can be pivoted around a geometric axis, which extends parallel with said sliding surface, and which parts, when aligned with each other, can be

fixed in such position by means of a platform, which is foreseen for attachment of a front assembly and a rear assembly of said ski binding.

The invention provides that said platform is interconnected with the front part of the ski in a non detachable manner by means of a connecting plate which is mounted on the top surface of the ski, and is rotatable around geometric axis, which extends perpendicularly with respect to said top surface of the ski. Said connecting plate and said platform are interconnected by means of hinges on the front area of the platform, which is located closely to the first part of the ski binding, such that the platform can be pivoted relatively to the connecting plate around a geometric axis), which extends parallel with the top surface of the ski, and can be together with said connecting plate pivoted around the previously mentioned axis..Said platform is in its front area adjacent to the front assembly of the ski binding furnished with a protrusion in form of a part of circumference of a circle, and on in the rear area adjacent to the rear assembly of the ski binding with another protrusion also in form of a part of circumference of a circle.

The first retaining protrusion is available on the top surface of the first part of the ski, which is located at appropriate distance apart from said geometric axis, around which the platform can be rotated, namely in a direction towards to the ski tip, wherein said protrusion comprises a groove in form of a part of circumference of a circle, which is adapted to cooperate at least with the protrusion on the front area of said platform. Moreover, the second retaining protrusion is available on the top surface of the of the ski, which is located at appropriate distance apart from said first retaining protrusion in a direction towards to the ski tip and is also furnished with a groove in form of a part of circumference of a circle, which is adapted to cooperate at least with the protrusion on the rear area of the platform..Still further, the third retaining protrusion is available on the top surface of the rear part of the ski at appropriate distance from the geometric axis, around which said front part and said rear part of the ski can be pivoted, wherein said protrusion is furnished with a groove in also form of a part of circumference of a circle, which is adapted to cooperate at least with the protrusion on the rear area of the platform.

Said second retaining protrusion on the first part of the ski is furnished with an arresting mechanism, which is adapted to cooperate with corresponding recess on the protrusion on

the rear area of the platform, by which the last is retained in each desired position on the top surface of the front part of the ski.

Analogously, said third retaining protrusion on the rear part of the ski is preferably furnished with an arresting mechanism, which is adapted to cooperate with corresponding recess on the protrusion on the rear area of the platform, by which the last is retained in each desired position on the top surface of the rear part of the ski.

Moreover, it can be preferred in accordance with the invention, if said front part and said rear part of the ski are connected with each other with possibility of being pivoted around the geometric axis by means of at least two pairs of levers in form of letter V, which are in the transversal direction of the ski equidistantly arranged apart from each other, and each of them is pivotally interconnected on the one hand with the front part and on the other hand with the rear part of the ski.

The invention will be described on the basis of an embodiments, which is shown in attached drawings, wherein

Fig. 1 is isometric view of a collapsible ski according to the invention in its assembled i.e. functional state;
Fig. 2 is a front view of a ski according to Fig. 1;
Fig. 3 is isometric view of a ski according to Fig. 1 and 2 during disassembling;
Fig. 4 is isometric view of a ski according to Fig. 1 and 2, also during disassembling;
Fig. 5 is isometric view of a ski according to Fig. 1 and 2, also during disassembling;
Fig. 6 is isometric view of a ski according to Fig. 1 and 2, also during disassembling;
Fig. 7 is isometric view of a ski according to Fig. 1 and 2, also during disassembling;
Fig. 8 is isometric view of a ski according to Fig. 1 and 2, also during disassembling;
Fig. 9 is isometric view of a ski according to the invention in its disassembled state, in which it is reads for storage or transporting;
Fig. 10 is a symbolic isometric presentation of a detail A according to Fig. 6;
Fig. 11 is isometric presentation of detail B according to Fig. 8;
Fig. 12 is a front view o detail C according to Fig. 9.

Figs. 1 and 2 present a collapsible ski in its assembled state, in which the ski is prepared for sliding onto each ground. Said ski is in its disassembled state, in which it is suitable for storage or transporting in rucksack e.g. during performing alpine or military activities, shown in Fig. 9.

Such ski generally comprises a front area 9 with a tip 910, which is smoothly bent apart from the ground, a rear area 92 with a tail 920, which is either at least approximately flat or smoothly bent away from the ground, as well as a central area, which is foreseen form mounting of a ski binding 4, which consists of a front assembly 41 and a rear assembly 42 and is suitable for attachment of each ski shoe onto a top surface 94 of the ski, which is during the use faced apart from the ground. The opposite surface 95 of the ski, which is during the use faced towards the ground, is furnished with ski edges 96, 97.

Furthermore, such ski consists of a front part 1 and a rear part 2, which are connected with each other in such manner, that they can be pivoted relatively to each other around a geometric axis 100, which extends parallel to the sliding surface 95 and are optionally in their aligned position fixed by means of a platform 3, which is foreseen for mounting of said front part 41 and said rear part 42 of the ski binding 4.

Said platform 3 is in by means of a connecting plate 5, which is fixed onto the top surface 94 of the ski and can be pivoted around a geometric axis, which extends perpendicularly relative to said top surface of the ski, in a non detachable manner interconnected with the front part 1 of the ski.

Said connecting plate 5 and said platform 3 are optionally interconnected by means of hinges on the front area 31 of the platform 3, which is located closely to the first part 41 of the ski binding 4. In such case, the platform 3 can be pivoted relatively to the connecting plate 5 around a geometric axis 502, which extends parallel with the top surface 94 of the ski, and can be together with said connecting plate 5 pivoted around the previously mentioned axis 501.

Said platform 3 is – analogously like in the embodiment as disclosed in SI 24358 A – on its bottom surface 33, which is faced towards the front part 1 and the rear part 2 of the ski,

furnished with a centrally located cavity 35, in which two diametrally opposite recesses 351, 352 are available, which are adapted to cooperate with two arresting protrusions 511, 512, of which the first one is arranged on the front part 1, and the second one is available on the rear part 2 of the ski. Whenever the front part 1 and the rear part 2 are aligned, said arresting protrusions 511, 512 are rotated around the axis 501 at appropriate angle and said protrusions 511, 512 can enter into said cavity 35 on the platform 3. After rotating of said platform around vertical axis 502 into position, in which the platform 3 is aligned with both parts 1, 2 of the ski said arresting protrusions are located within said recesses 351, 352 within said cavity 35 on the platform 3 (Fig. 1) so that the last is firmly, but still in a detachable manner interconnected both with the front past 1 and the last part 2 of the ski.

Besides, the platform 3 is in its front area 31 adjacent to the front assembly 41 of the ski binding 4 furnished with a protrusion 310 in form of a part of circumference of a circle, and on in the rear area 32 adjacent to the rear assembly 42 of the ski binding 4 with another protrusion 320 also in form of a part of circumference of a circle.

On the other hand, the first retaining protrusion 61 is available on the top surface 94 of the first part 1 of the ski, which is located at appropriate distance apart from said geometric axis 501, around which the platform can be rotated, namely in a direction towards to the ski tip 910, said protrusion 61 comprises a groove 610 in form of a part of circumference of a circle, which is adapted to cooperate at least with the protrusion 310 on the front area 31 of the platform.

Furthermore, the second retaining protrusion 62 is available on the top surface 94 of the of the ski, which is located at appropriate distance apart from said first retaining protrusion 61 in a direction towards to the ski tip 910 and is also furnished with a groove 620 in form of a part of circumference of a circle, which is adapted to cooperate at least with the protrusion 320 on the rear area 32 of the platform 3.

Moreover, the third retaining protrusion 63 is available on the top surface of the rear part 2 of the ski at appropriate distance from the geometric axis 100, around which said front part 1 and said rear part 2 of the ski can be pivoted, wherein said protrusion is furnished

with a groove 630 in also form of a part of circumference of a circle, which is adapted to cooperate at least with the protrusion 330 on the rear area 32 of the platform 3.

Said second retaining protrusion 62 is on the first part 1 of the ski is preferably furnished with an arresting mechanism 621, which is adapted to cooperate with corresponding recess 321 on the protrusion 320 on the rear area 32 of the platform 3, by which the last is retained in each desired position on the top surface 94 of the front part 1 of the ski.

Also said third retaining protrusion 63 on the rear part 2 of the ski is preferably furnished with an arresting mechanism 631, which is adapted to cooperate with corresponding recess 321 on the protrusion 320 on the rear area 32 of the platform 3, by which the last is retained in each desired position on the top surface 94 of the rear part 2 of the ski.

Still further, in the shown embodiment said front part 1 and said rear part 2 of the ski are connected with each other with possibility of being pivoted around the geometric axis 100 by means of at least two pairs of levers 71, 72, 73, 74 in form of letter V, which are in the transversal direction of the ski equidistantly arranged apart from each other, and each of them is pivotally interconnected on the one hand with the front part 1 and on the other hand with the rear part 2 of the ski.

During the use of the ski, the protrusion 310 on the front area of the platform 3 is located within the groove 610 on the first retaining protrusion, while the protrusion 32 on the rear area of the platform 3 is located within the groove 630 on the third retaining protrusion, in which it is preferably arrested by means of arresting mechanism 631, by which on the one hand both parts 1, 2 of the ski are firmly interconnected and on the other hand each rotation of the platform is prevented.

Upon deactivating said mechanism 631 the platform 3 is allowed to rotate around said axis 501 (Fig. 3), by which the protrusions 310, 320 are released from said grooves 610, 620. Upon rotating the connecting plate 5 together with the platform 3 around the axis 501 at 180°, the protrusion 320 on the rear area 32 of the platform 3 enters into a groove of the retaining protrusion on the side of the tip 910 on the front part 1 of the ski, by which said firmly interconnection of both parts 1, 2 of the ski is released, however they still remain

connected with each other by means of hinges in the area of the axis 100. The platform 3 is still rest on the top surface 94 of the front part 1 of the ski and remains interconnected therewith, while the rear part 2 of the ski can be pivoted and displaced closely to the front part 1, by which the ski is disassembled and ready for transport.

CLAIMS

1. Collapsible ski, which in its assembled i.e. functional state comprises a front area (91) with a tip (910), which is smoothly bent in a direction apart from the ground, a rear area (92) with a tail (920), which is either at least approximately flat or smoothly bent away from the ground, as well as a central area, which is foreseen form mounting of a ski binding (4), which consists of a front assembly (41) and a rear assembly (42) and is suitable for attachment of each ski shoe onto a top surface (94) of the ski, which is during the use faced apart from the ground while the opposite surface (95) of the ski, which is during the use faced towards the ground, is furnished with ski edges (96, 97), which extend along at least the majority of the ski length, and wherein such ski consists of a front part (1) and a rear part (2), which are connected with each other and can be pivoted around a geometric axis (100), which extends parallel with said sliding surface (95), and which parts, when aligned, can be fixed in such position by means of a platform (3), which is foreseen for attachment of a front assembly (41) and a rear assembly (42) of said ski binding (4), and wherein said platform (3) is on its bottom surface (33), which is faced towards said front part (1) and rear part (2) of the ski, furnished with a centrally located cavity (35), in which two diametrically apart from each other arranged recesses (351, 351) are arranged, which are adapted to cooperate with arresting protrusions (511, 512), of which the first one is available on the first part (1), and the other one on the second part (2) of the ski,

characterized in that

said platform (3) is interconnected with the front part (1) of the ski in a non detachable manner by means of a connecting plate (5), which is mounted on the top surface (94)of the ski and rotatable around geometric axis (501), which extends perpendicularly with respect to said top surface (94) of the ski,

and in that

said platform (3) is in its front area (31) adjacent to the front assembly (41) of the ski binding (4) furnished with a protrusion (310) in form of a part of circumference of a circle, and on in the rear area (32) adjacent to the rear assembly (42) of the ski binding (4) with another protrusion (320) also in form of a part of circumference of a circle,

and in that

the first retaining protrusion (61) is available on the top surface (94) of the first part (1) of the ski, which is located at appropriate distance apart from said geometric axis (501), around which the platform (3) can be rotated, namely in a direction towards to the ski tip (910), wherein said protrusion (61) comprises a groove (610) in form of a part of circumference of a circle, which is adapted to cooperate at least with the protrusion (310) on the front area (31) of said platform (3), while the second retaining protrusion (62) is available on the top surface (94) of the of the ski, which is located at appropriate distance apart from said first retaining protrusion (61) in a direction towards to the ski tip (910) and is also furnished with a groove (620) in form of a part of circumference of a circle, which is adapted to cooperate at least with the protrusion (320) on the rear area (32) of the platform (3), and moreover, the third retaining protrusion (63) is available on the top surface of the rear part (2) of the ski at appropriate distance from the geometric axis (100), around which said front part (1) and said rear part (2) of the ski can be pivoted, wherein said protrusion is furnished with a groove (630) in also form of a part of circumference of a circle, which is adapted to cooperate at least with the protrusion (330) on the rear area (32) of the platform (3).

2. Ski according to Claim 1, **characterized in that** said connecting plate (5) and said platform (3) are interconnected by means of hinges on the front area (31) of the platform (3), which is located closely to the first part (41) of the ski binding, such that the platform (3) can be pivoted relatively to the connecting plate (5) around a geometric axis (502), which extends parallel with the top surface (94) of the ski, and can be together with said connecting plate (5) pivoted around the previously mentioned axis (501).

3. Ski according to Claim 1 or 2, **characterized in that** said second retaining protrusion (62) on the first part (1) of the ski is furnished with an arresting mechanism (621), which is adapted to cooperate with corresponding recess (321) on the protrusion (320) on the rear area (32) of the platform (3), by which the last is retained in each desired position on the top surface (94) of the front part (1) of the ski.

4. Ski according to anyone of Claims 1 to 3, **characterized in that** said third retaining protrusion (63) on the rear part (2) of the ski is furnished with an arresting mechanism (631), which is adapted to cooperate with corresponding recess (321) on the

protrusion (320) on the rear area (32) of the platform (3), by which the last is retained in each desired position on the top surface (94) of the rear part (2) of the ski.

5. Ski according to anyone of Claims 1 to 3, **characterized in that** said front part (1) and said rear part (2) of the ski are connected with each other with possibility of being pivoted around the geometric axis (100) by means of at least two pairs of levers (71, 72, 73, 74) in form of letter V, which are in the transversal direction of the ski equidistantly arranged apart from each other, and each of them is pivotally interconnected on the one hand with the front part (1) and on the other hand with the rear part (2) of the ski.

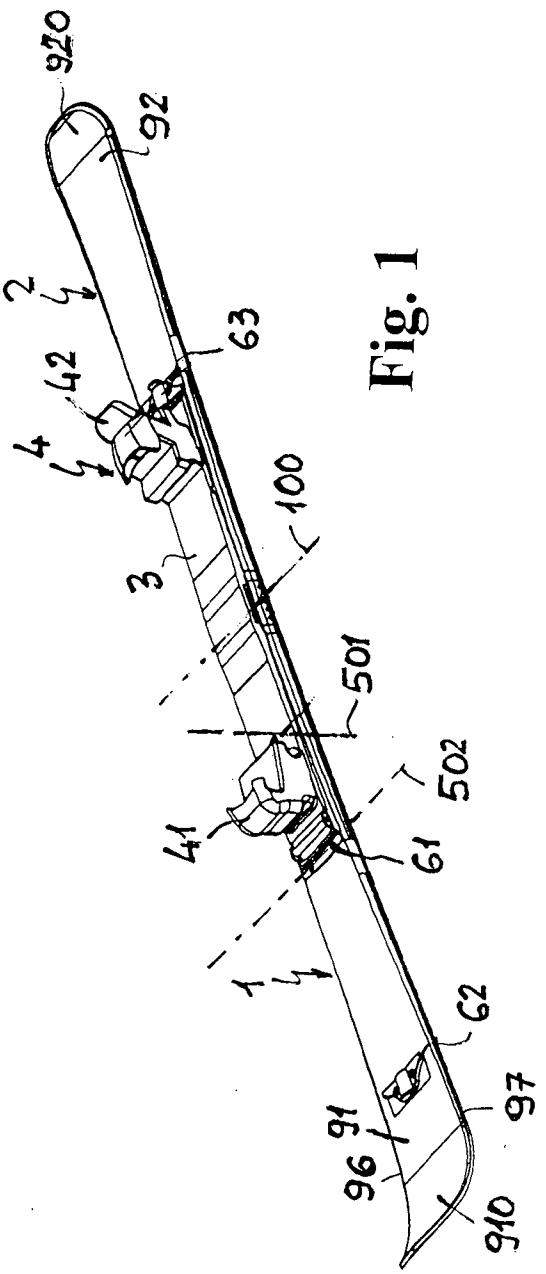
920
92
2
63
42
4
100
3
501
1
502
41
61
62
1
91
97
96
910

Fig. 1

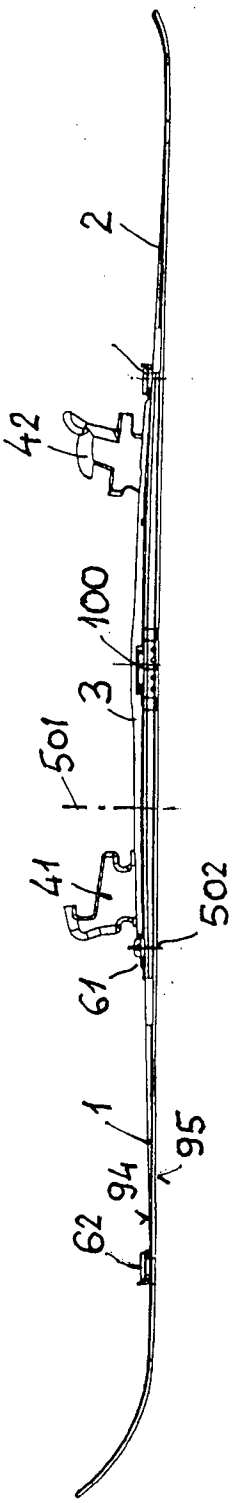
2
42
100
3
501
41
502
61
1
95
94
62

Fig. 2

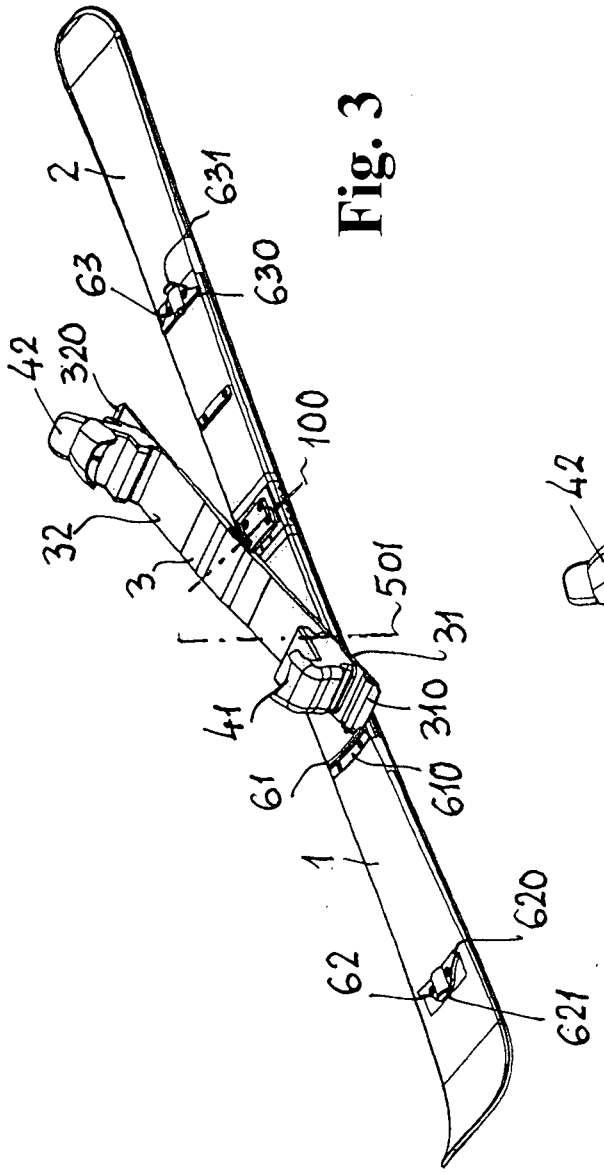
2
631
63
630
42
320
100
32
3
501
31
41
310
61
610
1
620
62
621

Fig. 3

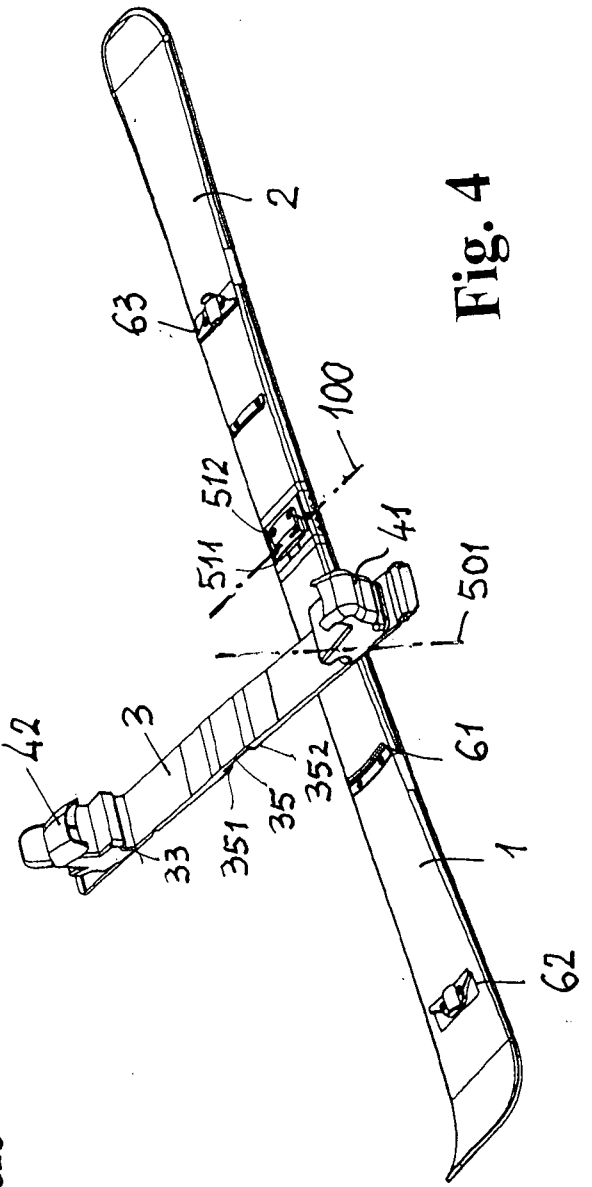
2
63
100
512
511
41
501
42
3
61
352
351
35
33
1
62

Fig. 4

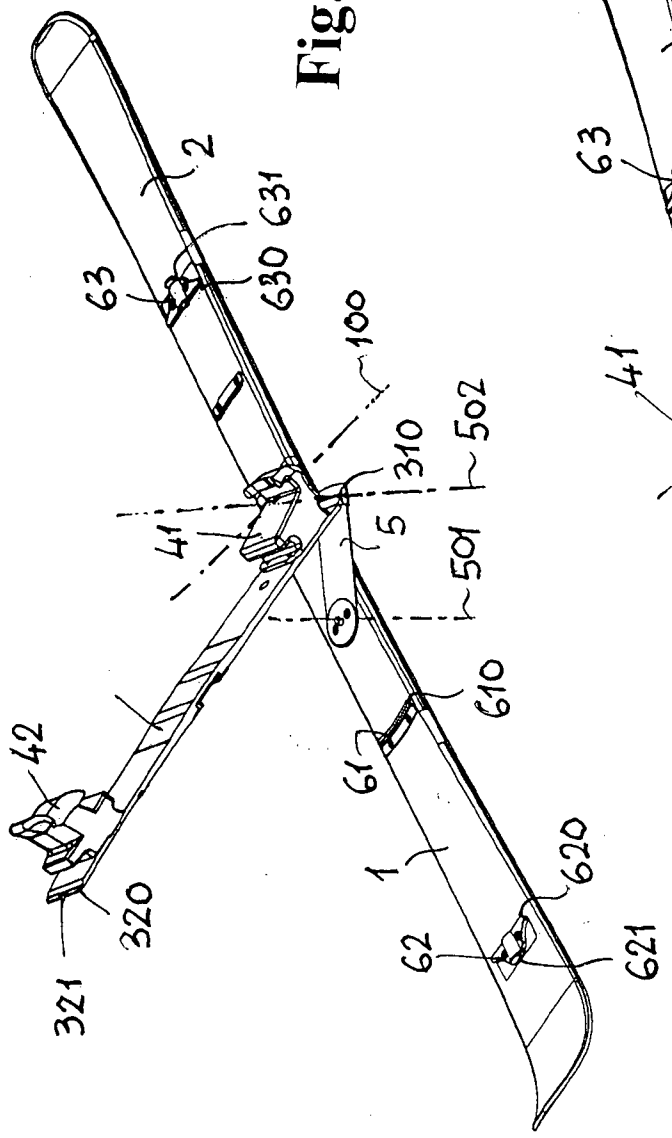
2
63
631
630
100
310
502
41
5
501
610
61
42
1
620
320
62
321
621

Fig. 5

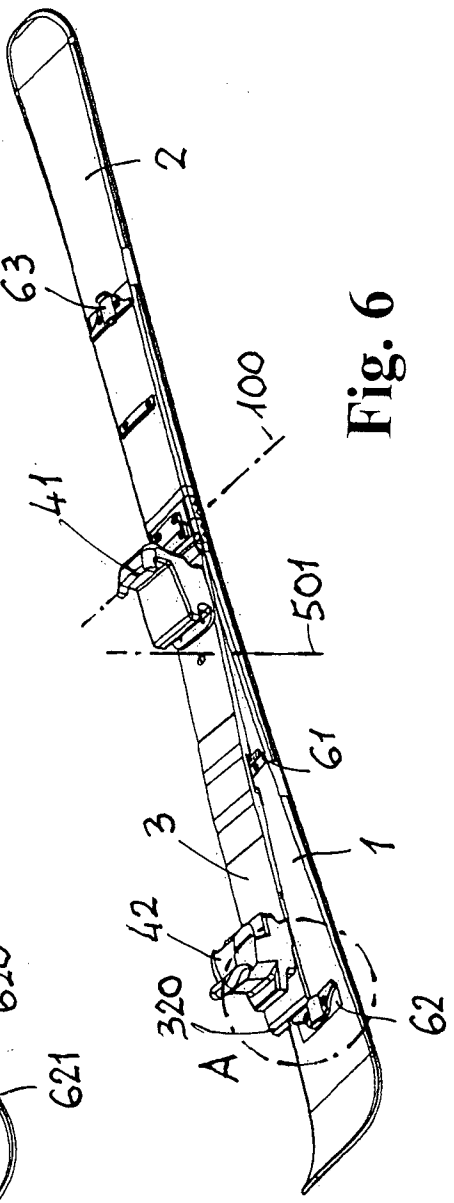
2
63
100
41
501
61
3
1
42
320
A
62

Fig. 6

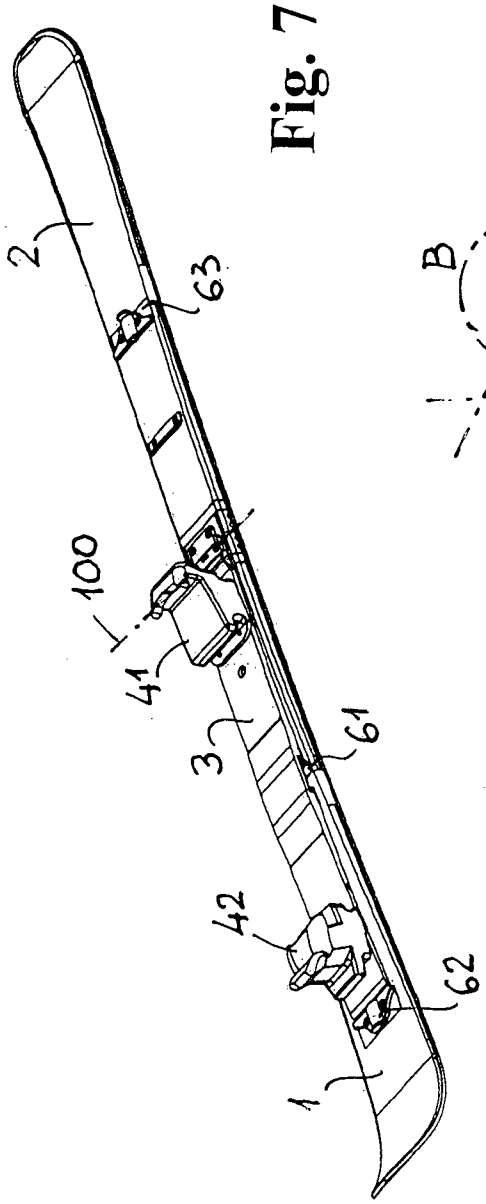

Fig. 7

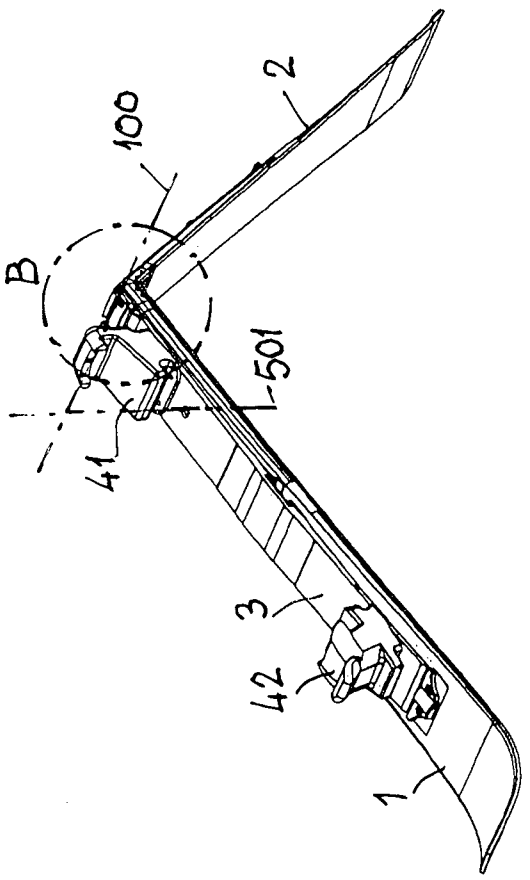

Fig. 8

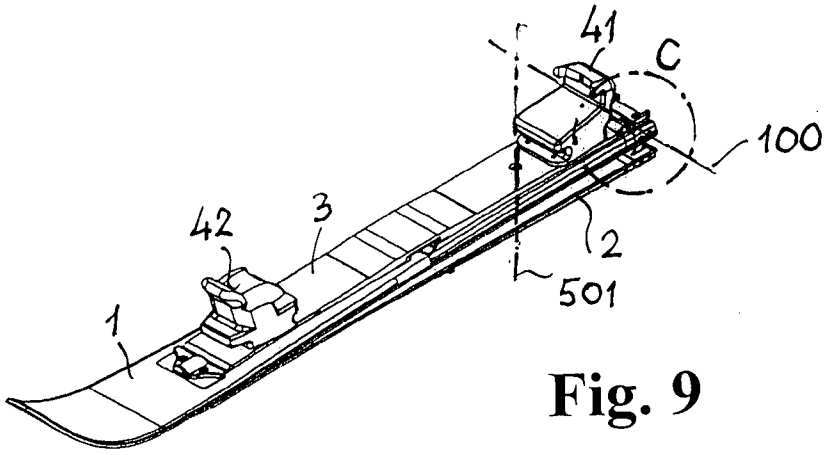

Fig. 9

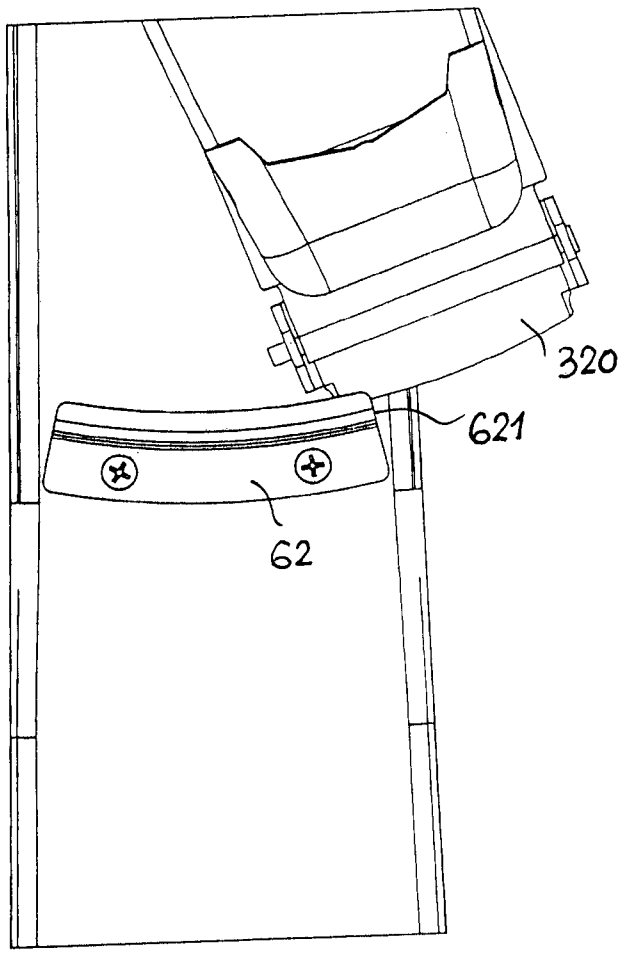

Fig. 10

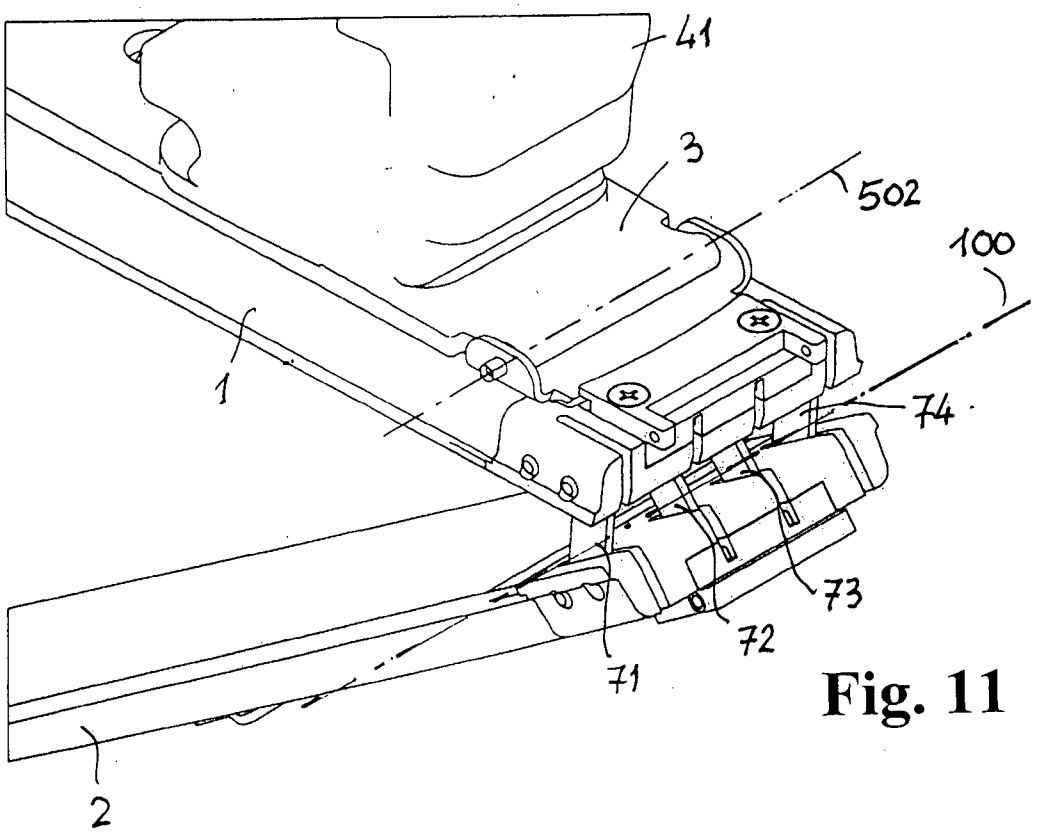

Fig. 11

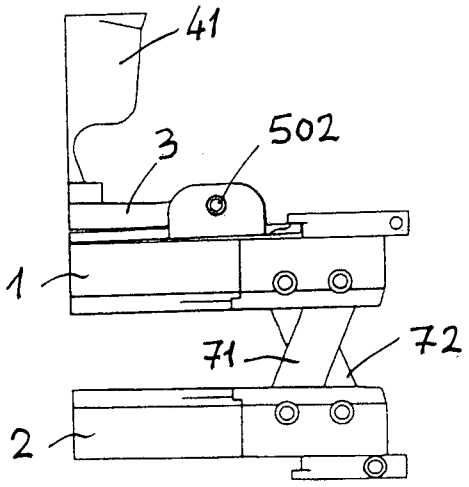

Fig. 12

INTERNATIONAL SEARCH REPORT

International application No
PCT/SI2016/000022

A. CLASSIFICATION OF SUBJECT MATTER
INV. A63C5/02 A63C9/00
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A63C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2014/189472 A1 (ELAN D O O [SI]) 27 November 2014 (2014-11-27) cited in the application the whole document	1-5
A	JP H04 26426 A (TEI AI ENJINIARINGU YUUGEN) 29 January 1992 (1992-01-29) figure 1	1-5
A	EP 2 856 898 A1 (MAROTTO FULVIO [IT]; INNOVATION FACTORY S R L [IT]; GHEDIN PATRIZIA [I) 8 April 2015 (2015-04-08) figure 2	1-5
A	GB 2 501 742 A (CASSELDEN THOMAS [GB]) 6 November 2013 (2013-11-06) figure 1	1-5

-/--

[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
13 January 2017	24/01/2017

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Vesin, Stéphane

1

Form PCT/ISA/210 (second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

International application No
PCT/SI2016/000022

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 01/97929 A2 (HEAD SPORT AG [AT]; HOTTER KLAUS [AT]; UMLAUFT HELMUT [AT]) 27 December 2001 (2001-12-27) figures 3,4,6 -----	1-5

1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/SI2016/000022

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2014189472 A1	27-11-2014	CN 105377379 A	02-03-2016
		EP 2999525 A1	30-03-2016
		SI 24358 A	28-11-2014
		US 2016107068 A1	21-04-2016
		WO 2014189472 A1	27-11-2014
JP H0426426 A	29-01-1992	NONE	
EP 2856898 A1	08-04-2015	NONE	
GB 2501742 A	06-11-2013	NONE	
WO 0197929 A2	27-12-2001	AU 8755201 A	02-01-2002
		DE 10030077 A1	03-01-2002
		DE 20121473 U1	21-11-2002
		EP 1292368 A2	19-03-2003
		JP 2003535662 A	02-12-2003
		US 2003184050 A1	02-10-2003
		WO 0197929 A2	27-12-2001