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(54) **Title**: IMPROVED SKI

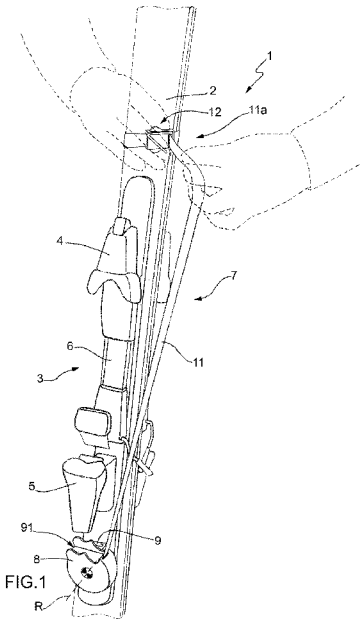



FIG.1

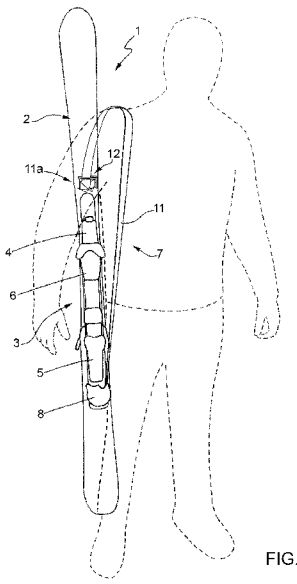



FIG.15

(57) **Abstract**: The ski has a board (2), a binding (3) defined by a toe piece (4) and a heel piece (5) and a support device (7) comprising a first container element (8) carried by a component of the ski and inside which a reel is housed onto which a strap (11) is wound removable from the first container element (8) and the device (7) comprising an organ (12) which in use is fixed to an intermediate portion of the strap (11) so as to create a loop (11a) which then tightens a predetermined area of a pair of skis (1). The organ (12) comprises a second container element (13) in which a clamp (17) for tightening an intermediate portion of said strap (11) is formed and which supports a body (31) having two portions (32 and 33) "V"-arranged between each other; the part of said strap (11) external to said clamp (17) passing through said loop portions (32 and 33) of said body (31) and through walls of said second container element (13) to prevent said strap (11) or rather the portion of the same immediately at the exit of said clamp (17) from winding around itself.

# IMPROVED SKI

## TECHNICAL FIELD

The present invention relates to a ski of the perfected type.

## BACKGROUND ART

As known, for the support of skis an organ is provided as defined by two plates that surround the central part of the ski and that are equipped with a handle for the support of the same. It is evident that the aforementioned ski carrying organ has high overall dimensions and therefore said organ cannot be itself carried by the user when this latter uses the skis. In fact said organ, given the overall dimensions, cannot be housed in a garment pocket of the user and also the aforementioned organ can be dangerous for the user in case of the falling of the same.

## DISCLOSURE OF INVENTION

The purpose of the present invention is to provide a ski of the perfected type which is free from the above drawbacks.

According to the present invention a ski is provided of the perfected type presenting a board and a binding defined by a toe piece and a heel piece; said ski being provided with a support device comprising a first container element carried by a component of the ski and inside which a reel is housed onto which a strap is wound removable from said first container element and said device comprising an organ which in use is fixed to an intermediate portion of said strap so as to create a loop which then tightens a predetermined area of a pair of skis, characterized in that said organ comprises a second container element in which a clamp for tightening an intermediate portion of said strap is formed and which supports a body having two portions "V" arranged between each other; the part of said strap external to said clamp passing through said loop portions of said body and through walls of

said second container element to prevent said strap or rather the portion of the same immediately at the exit of said clamp from winding around itself.

BRIEF DESCRIPTION OF THE DRAWINGS

The following examples are for an illustrative and not limiting purpose, for a better understanding of the invention with the aid of the figures of the accompanying drawings, wherein:

Figure 1 is a perspective view of a ski provided with a support system for the shoulder transport of a pair of skis;

Figure 2 is a perspective view of a first organ of the system of Figure 1;

Figure 3 is a view from the bottom to the top of an element of the aforementioned first organ;

Figure 4 is a perspective view according to a different angle of said first organ;

Figures 5 to 12 are perspective views of a second organ of the system of Figure 1 in various configurations;

Figures 13 and 14 are partial views and according to different angles of the aforementioned second organ; and

Figure 15 is a perspective view of the system of Figure 1 in use.

BEST MODE FOR CARRYING OUT THE INVENTION

With reference to Figure 1 is indicated as a whole with 1 a ski defined by a board 2 and by a binding 3 consisting of a toe piece 4 and a heel piece 5. In this solution, the binding 3 is of a known type and comprises a plate 6 made in one piece or in two pieces but still secured to the board 2. The plate 6 supports the toe piece 4 and the heel piece 5. The support system for the shoulder transport of a pair of skis 1 envisages that at least one ski 1 is provided with a supporting device 7 defined by a container element 8 inside which a reel is housed rotatably about a R axis hub and onto which a strap 11 is wound. The device 7 is of a known type and

envisages a preloaded spring against the action of which the strap 11 can be extracted and by the action of which the strap 11 is recalled to be wound on the reel. The support device 7 may be carried by the plate 6 in the area defined between its lower end and the heel piece 5 or by the board 2. The container element 8 has an organ of a known type, and therefore not illustrated, which allows the variation in length of the strap 11 extracted from the reel.

With reference to Figure 2, the container element 8 is fixed on a wedge body 9. The plate 6 has a projection 71 adapted to be accommodated in a notch 10 made in the body 9. Between the container element 8 and the plate 6 are provided locking and unlocking means for example constituted as shown in Figures 2 and 3 by two spheres 72 inside the notch 10 and adapted to press on the projection 71 to lock the projection 71 within the notch 10 and thereby to lock the element 8 to the plate 6. A respective pin 73 is suited to act on a respective sphere 72 to accomplish the unlocking. In this way the container element 8 can be disengaged from the plate 6 during the non-use of the support device 7.

At the free end of the strap 11 an organ 12 is arranged which, in use and with the pair of skis 1 facing one another, is fixed to an intermediate portion of the strap 11 so as to create a loop 11a which tightens the pair of skis 1 above the toe piece 4. In essence, in use first the strap 11 is extracted by a certain length from the container element 8, then with the strap 11, the pair of skis 1 above the toe piece 4 is surrounded, and finally the organ 12 is fixed to an intermediate portion of the strap 11. Once these operations are performed, the strap 11 can be pulled so that the loop 11a then tightens the pair of skis 1 above the toe piece 4. Now it is possible to shoulder carry the strap 11 between the loop 11a and the container element 8 and therefore shoulder carry the pair of skis 1.

As illustrated in Figures 5 to 12, the organ 12 comprises a container element 13 with a prismatic shape and having a front wall 13a, a rear wall 13b, a first side wall 13c, a second side wall 13d, a top wall 13e and a lower wall 13f. In the first side wall 13c a window 14 is formed through which the end of the strap 11 extends inside the container element 13 and is fixed to a fixed pin 15 within the container element 13. Between the walls 13a and 13b a through slot 16 is formed also open in the lower wall 13f. In said slot 16 is housed a clamp 17 for tightening the strap 11 defined by a fixed portion 18 and by a portion 19 movable between a position in which it abuts on the fixed portion 18 and a position in which it is at a distance from said fixed portion 18. The organ 12 also comprises a moving system 20 for the movable portion 19.

The organ 12 comprises a V-shaped bar 31 used to prevent the strap 11, or rather the portion of the same worn by the user, from winding around itself. The bar 31 has a portion 32 in proximity and parallel to the edge defined between the walls 13a and 13e and a portion 33 which extends in a plane parallel to the wall 13a from the corner defined between the walls 13e and 13c towards the corner defined between the walls 13a and 13f. The bar 31 is fixed on the container element 13 by way of a lug 34 which originates from the vertex defined between sections 32 and 33 and which is made integral with the container element 13. In a different embodiment not illustrated in the place of the bar 31 can be used a plate that presents the sections 32 and 33 always V-arranged between each other but arranged in a different way from that illustrated in the accompanying drawings and in particular the section 32 could be secured to the container element 13 to be chosen in correspondence with one of its longitudinal ends.

As illustrated in Figures 13 and 14, said movable portion 19 is centrally hinged on a pin 74 which divides this portion 19

in a section 75 adapted to tighten the strap 11 on the fixed portion 18 and a section 76 which is hinged to a first end of a movable pin 77 of orthogonal axis to the axis of the pin 74. The system 20 comprises two levers 78 opposite to one another and each one hinged to a respective pin 81. The levers 78 have a respective part 82 external to the container element 13 to be manually operated and an inner portion 83 adapted to come into contact with a second end of the pin 77. In use the pin 77 by way of the action of a spring 84 is in the tightening position of the strap 11. Now by pressing on the parts 82 of the levers 78 the rotation of the same around the respective pin 81 is achieved, so that the internal parts 83 of the levers 78 are in abutment on said second end of the pin 77 by sliding it towards the slot 16. The sliding of the pin 77 against the action of the spring 84 causes the rotation of the movable portion 19 between the tightening position and the position in which the section 75 is at a distance from the fixed portion 18 and therefore the strap 11 can be extracted from the slot 16.

In use when the support system of the pair of skis is to be used the following operations must be performed:
the strap 11 is unwound from its reel;
an end portion of the strap 11 is formed with the loop 11a around a section of the pair of skis 1;
the clamp 17 is opened and a portion of the strap 11 is inserted in the slot 16;
the strap 11 is pulled so that the loop 11a of the same tightens the portion of the pair of skis 1;
the closing of the clamp 17 is controlled; and
the section of the strap 11 external to the slot 16 is taken and is passed first through the wall 13a and the section 33 of the bar 31 and then from bottom to top between the wall 13a and the section 32 of the bar 31 as illustrated in Figures 5 to 12.

Now as shown in Figure 15 it is possible to shoulder carry the pair of skis 1.

When it is desired to return using the skis 1 it is sufficient to disengage the strap 11 from the bar 31 and then open the clamp 17 such as to allow the rewinding of the strap 11 upon the said reel from which will remain on the outside only the organ 12. Is to be highlighted that the container element is provided with a seat 91 for housing the organ 12. Of course in said seat, means are provided for locking and unlocking the organ 12 to the container element 8. Now it is possible to unlock the container element 8 from the plate 6 and given the size of the same can be optionally inserted into a pocket of the ski suit of the user.

Is should be noted that the container element 8 can also be mounted on the board 2, the toe piece 4, the heel piece 5 or on any other area of the ski 1.

According to that described above the numerous advantages achieved with the actuation of the present invention are evident.

In particular a ski has been obtained, which is provided with a system that allows to shoulder carry a pair of skis and therefore allowing easy transportation of said pair of skis. The system is simple and easy to use and allows an adjustment of the length of the strap to be better adapted to the user. Moreover, the system can be unlocked from the ski and thus not be of hindrance during skiing. Finally it should be noted that during the shoulder carrying of the pair of skis the latter remain stably coupled as a loop then presses together the boards of the pair of skis.

# CLAIMS

1. A ski of the perfected type presenting a board (2) and a binding (3) defined by a toe piece (4) and a heel piece(5); said ski being provided with a support device (7) comprising a first container element (8) carried by a component of said ski and housing in its inside a reel onto which a strap (11) is wound, which can be extracted from said first container element (8), and said device (7) comprising an organ (12) which, in use, is fixed to an intermediate portion of said strap (11) so as to create a loop (11a) which then tightens a predetermined area of a pair of skis (1), characterized in that said organ (12) comprises a second container element (13) in which a clamp (17) for tightening an intermediate portion of said strap (11) is formed and which supports a body (31) having two portions (32 and 33) "V" arranged between each other; the part of said strap (11) external to said clamp (17) passing through said loop portions (32 and 33) of said body (31) and through walls of said second container element (13) to prevent said strap (11) or rather the portion of the same immediately at the exit of said clamp (17) from winding around itself.

2. The ski according to claim 1 characterized in that said organ (12) comprises control means (20) which control the tightening caused by said clamp (17).

3. The ski according to claim 1 and/or 2 characterized in that said organ (12) is carried by the free end of said strap (11) whose length is variable by way of rewinding means present in said first container element (8).

4. The ski according to any of the preceding claims characterized in that said first container element (8) is housed by choice in said heel piece (5), in said toe piece (4), in an organ fixed to said board (2) or on a plate (6) for

supporting said binding (3).

5. The ski according to claim 4 characterized in that between said first container element (8) and a component of said ski (1) locking and unlocking means are provided so as to allow said first container element (8) to be extracted from said component of the ski (1).

6. The ski according to any of claims 2 to 5 characterized in that said clamp (17) comprises a fixed portion (18) and a movable portion (19) which is movable between a clamping position and a position in which it is at a distance from said fixed portion (18) and characterized in that said clamping control means (20) comprise two levers (78) which can be manually actuated and are suited, if they are actuated, to move said movable portion (19) from the clamping position to the rest position.

7. The ski according to any of the preceding claims characterized in that said first container element (8) is provided with a seat (91) for housing said organ (12).

8. The ski according to claim 7 characterized in that in said housing seat (91) means are provided for locking and unlocking said second organ (12).

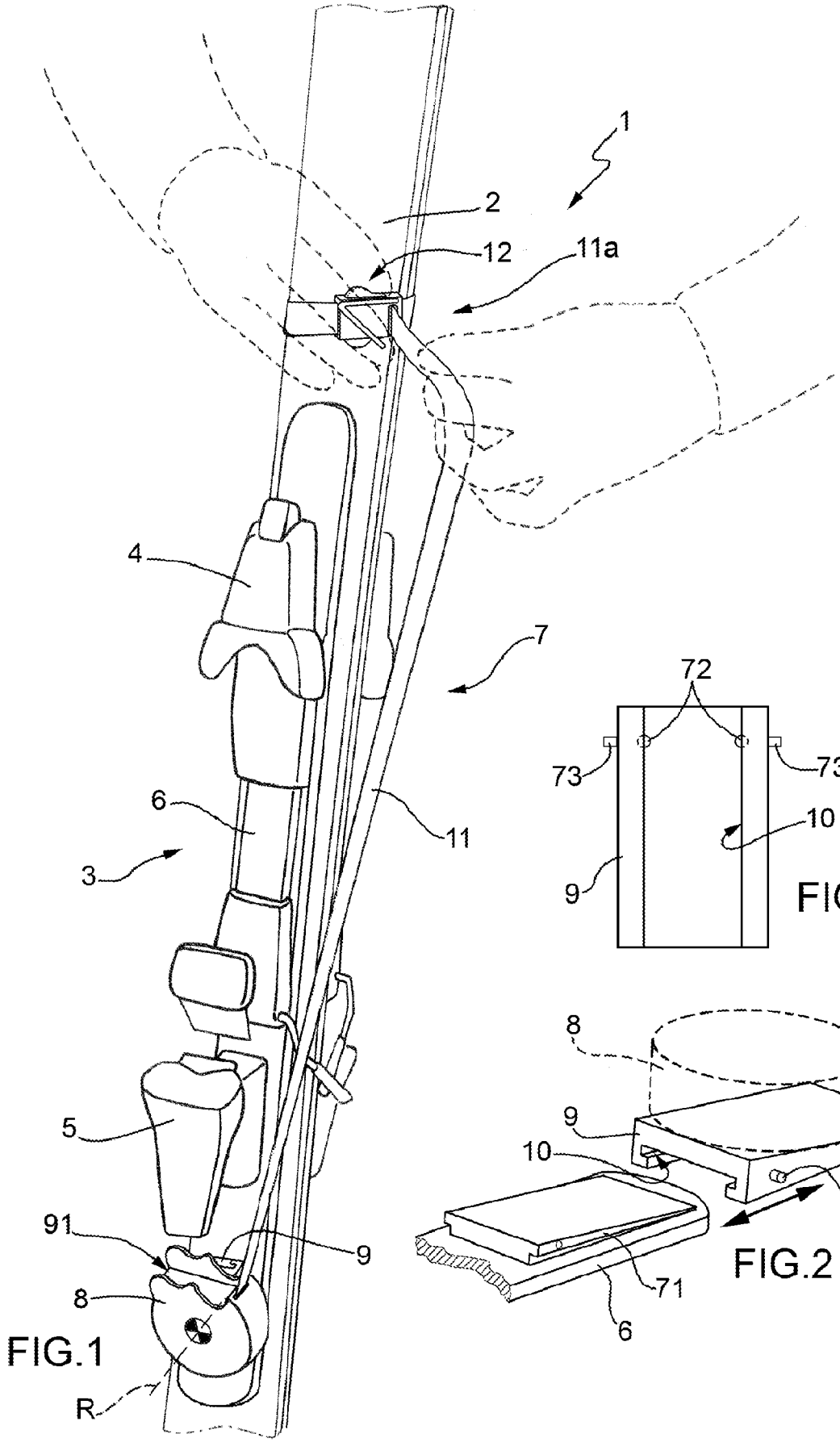



FIG.1




FIG.3




FIG.2

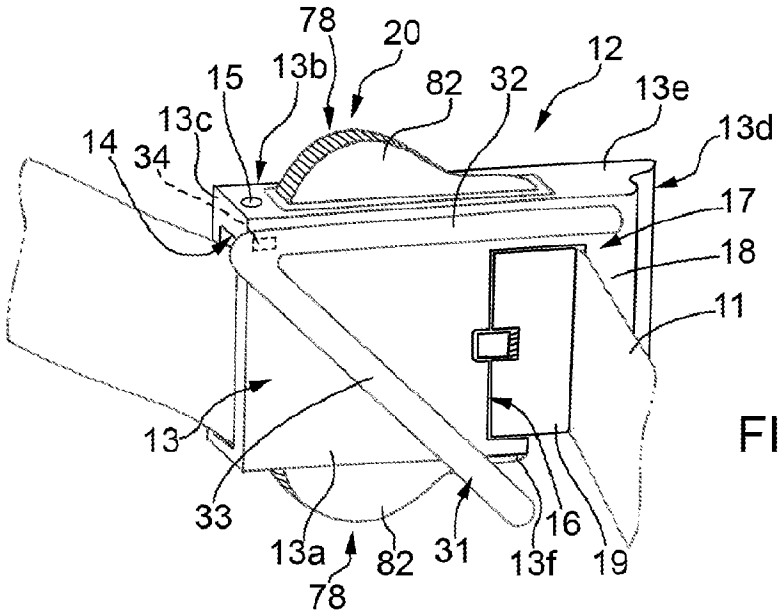



FIG.5

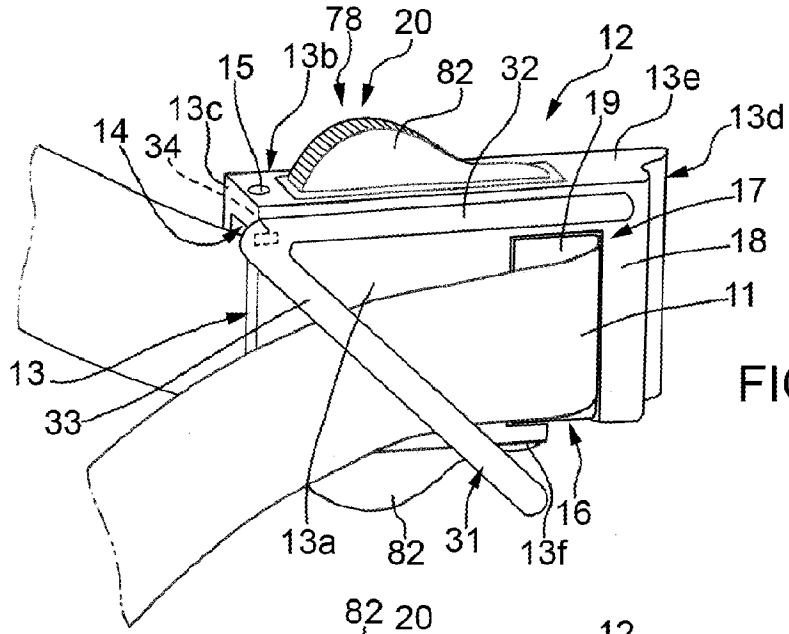



FIG.6

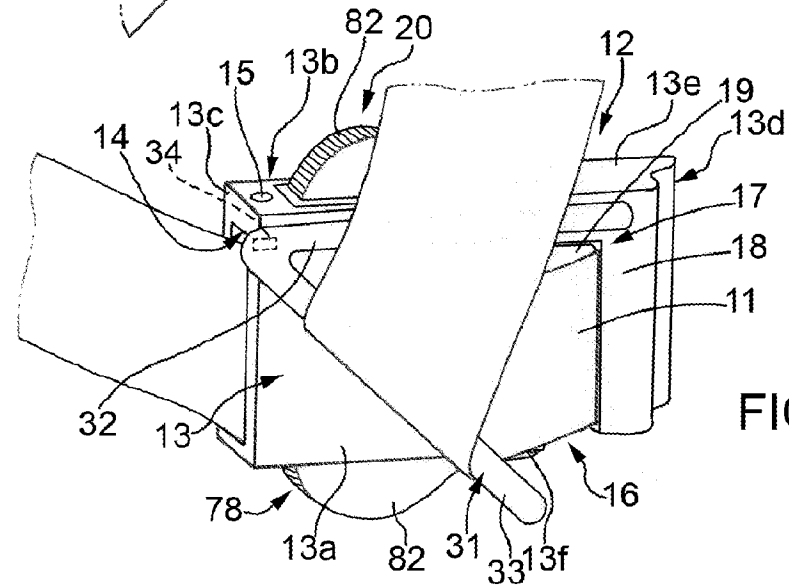



FIG.7

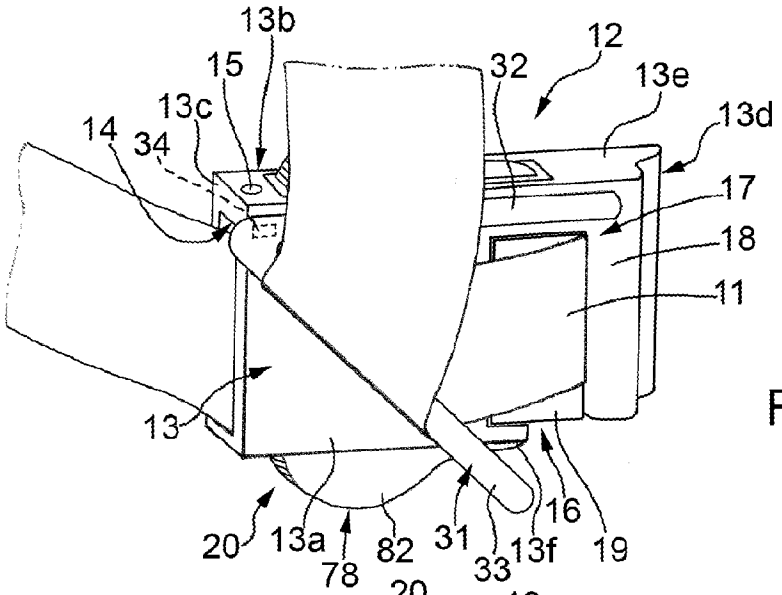



FIG.8

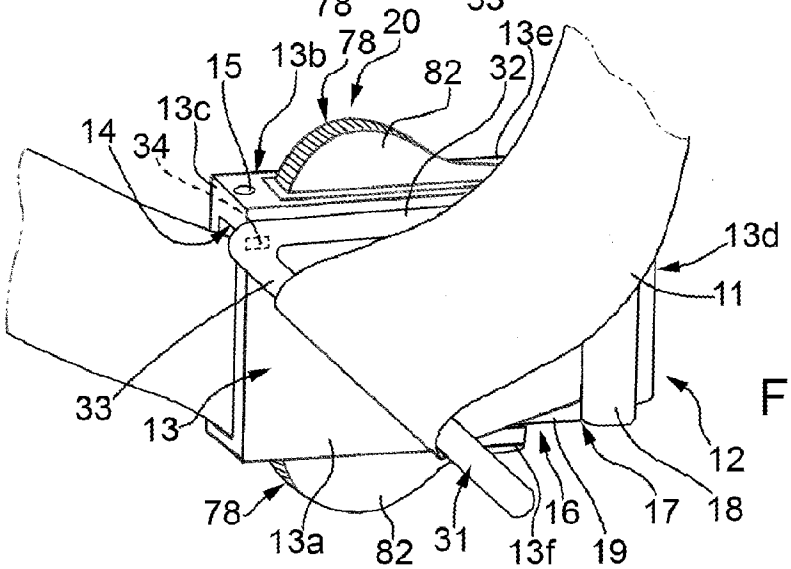



FIG.9

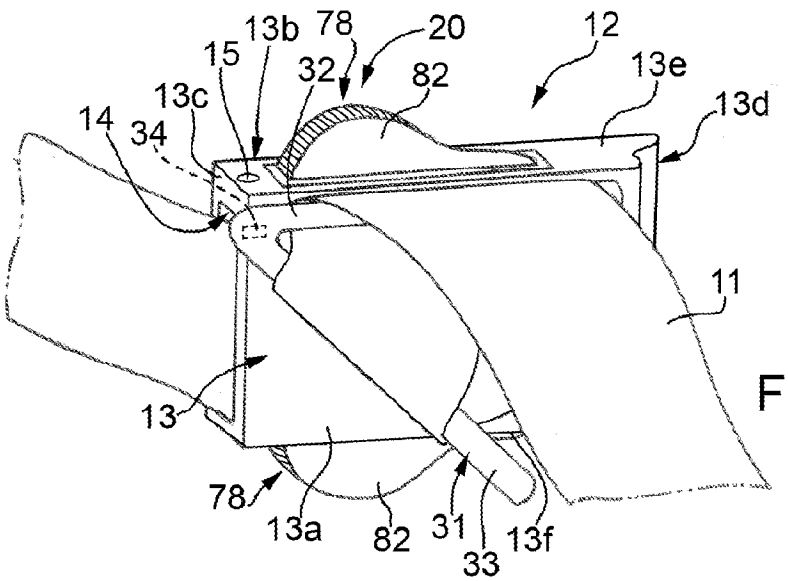



FIG.10

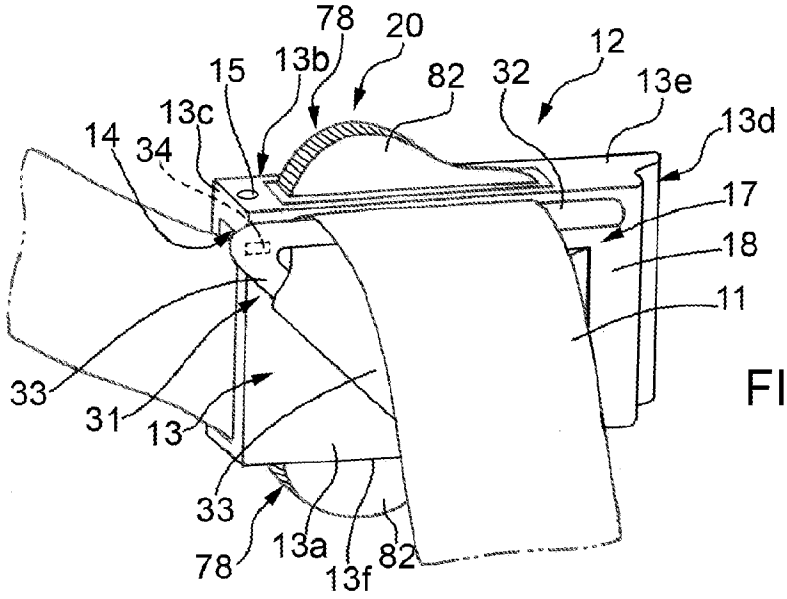



FIG.11

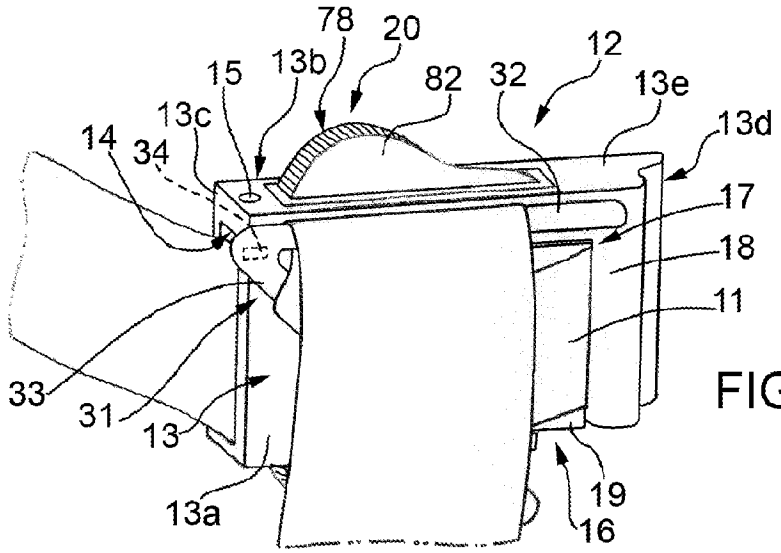



FIG.12

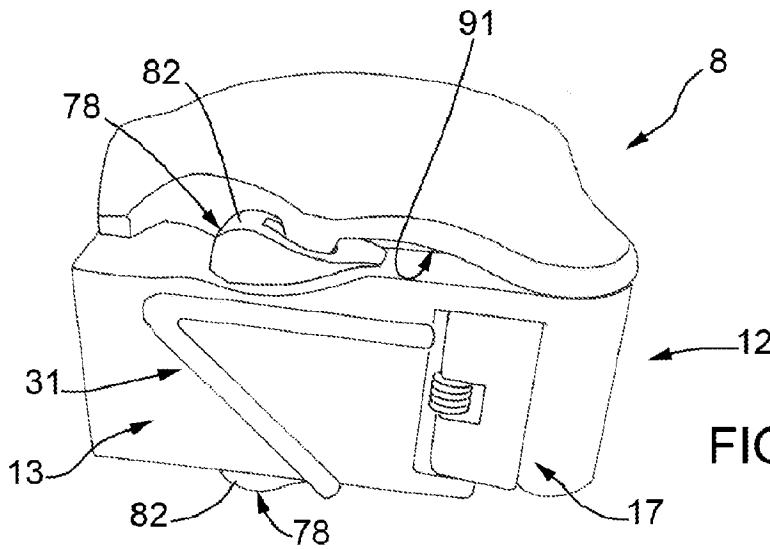



FIG.4

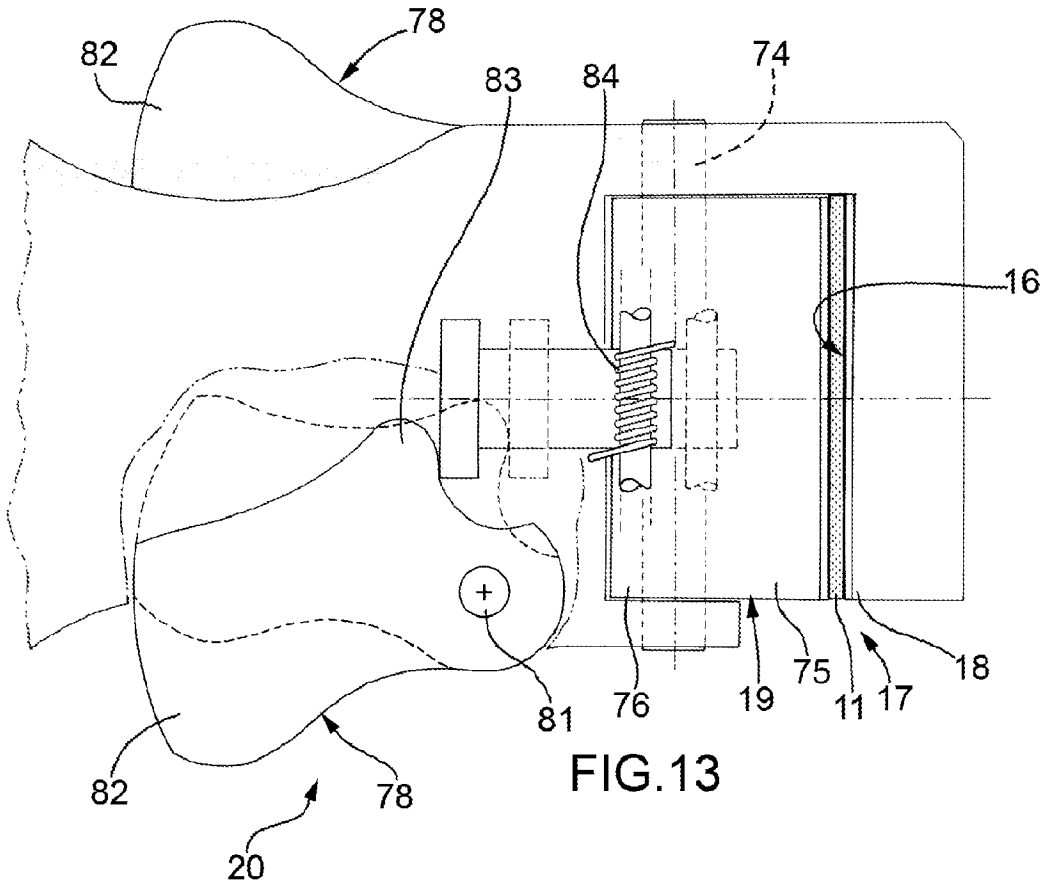



FIG.13

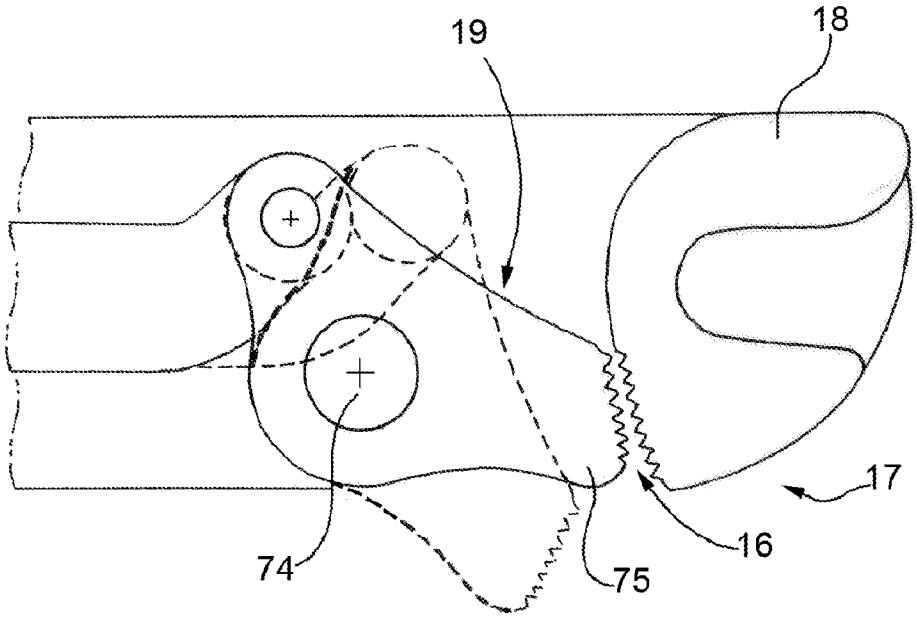



FIG.14

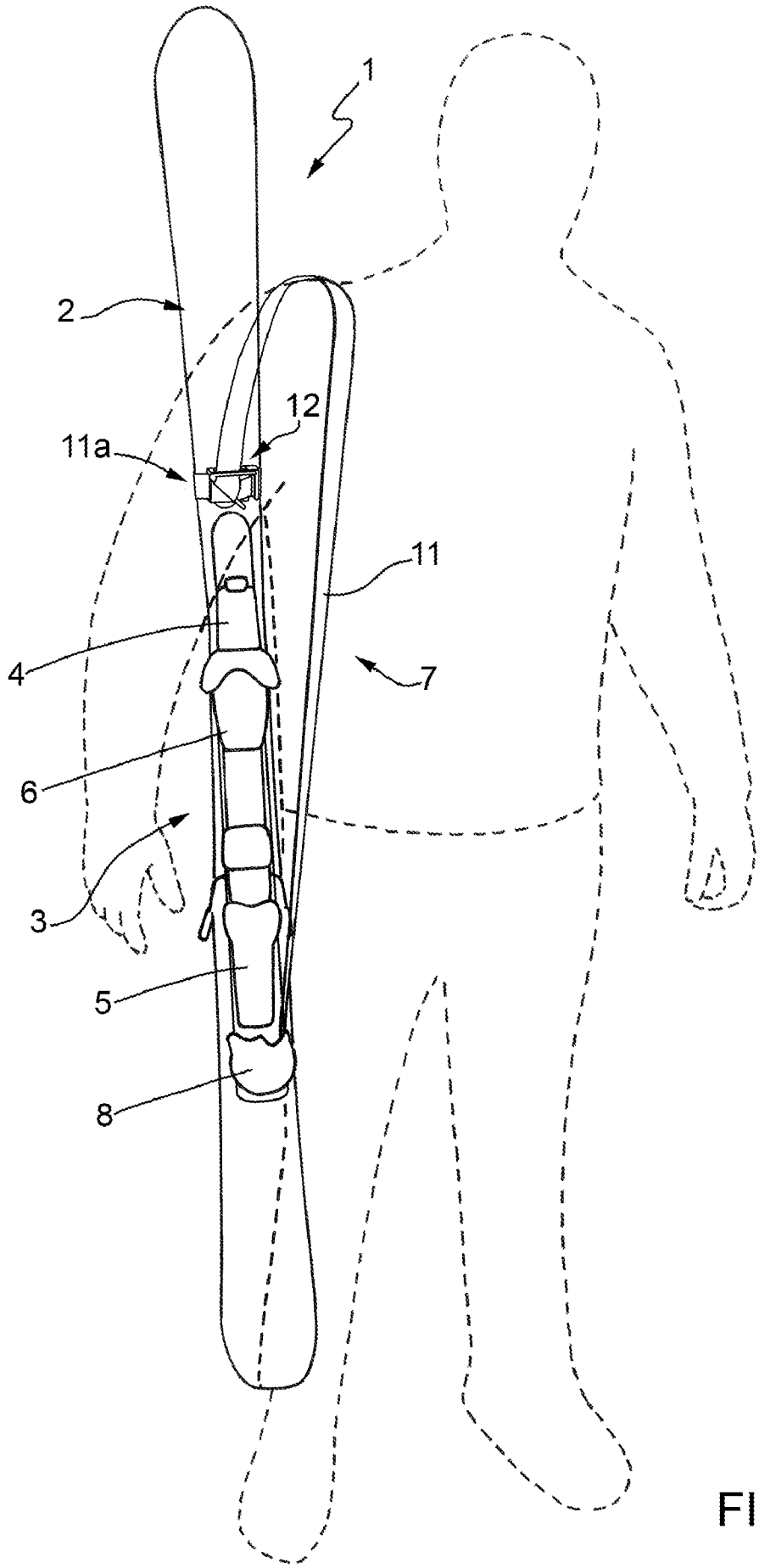



FIG.15

# INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2012/053944

A. CLASSIFICATION OF SUBJECT MATTER
INV. A63C11/02
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 A43C

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 | DE 196 06 347 A1 (WARWITZ MANFRED [DE])<br>28 August 1997 (1997-08-28)<br>page 1; figure 1 | 1 |
| A | FR 2 674 110 A1 (MOYERE PIERRE)<br>25 September 1992 (1992-09-25)<br>page 1; figure 1 | 1 |
| A | WO 87/05819 A1 (PFALLER MARIUS)<br>8 October 1987 (1987-10-08)<br>page 9 - page 10, paragraph 2; figures 5,6 | 4,5 |

☐ Further documents are listed in the continuation of Box C.

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| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 17 December 2012 | 04/01/2013 |

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| European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel. (+31-70) 340-2040,<br>Fax: (+31-70) 340-3016 | Brunie, Franck |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2012/053944

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---|---|---|
| DE 19606347 A1 | 28-08-1997 | NONE | |
| FR 2674110 A1 | 25-09-1992 | NONE | |
| WO 8705819 A1 | 08-10-1987 | NONE | |