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(54) **Holster**

(57) A holster for carrying a pair of skis (35), said skis being coupled together for example by means of a friction fit between the brake of one ski and the brake of the other, the holster comprising: a support plate (1), and a member

extending, at least in use, from the plane of the plate to define a carrier limb (5; 33) with which a toe clip of one of said pair of skis (35) engages and on which the toe clip bears to spread the weight of the skis through the carrier limb to the support plate.

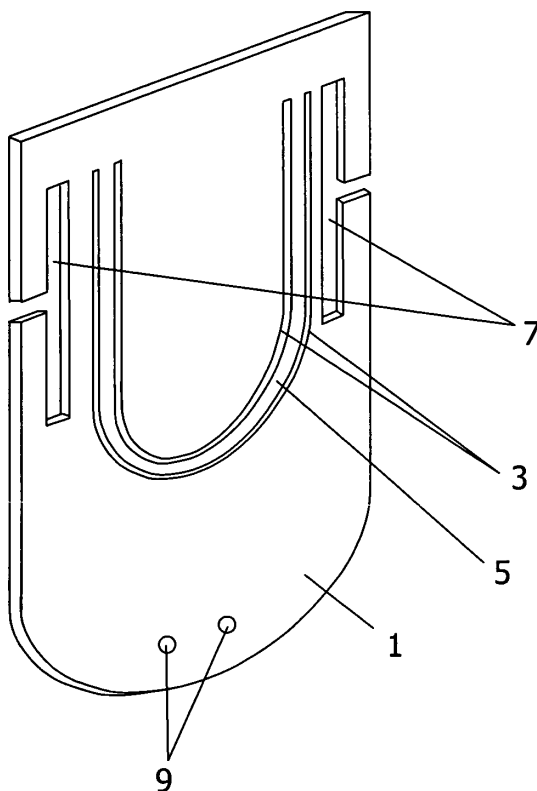


Fig. 1

Description

FIELD OF THE INVENTION

[0001] This invention relates to a holster, in particular to a holster for facilitating the carrying of an article or articles by a person. A particularly preferred embodiment of the invention relates to a holster that is adapted and arranged to facilitate the carrying of skis.

BACKGROUND OF THE INVENTION

[0002] As any winter sports enthusiast will know, one of the least attractive aspects of skiing is the need to hand-carry the equipment needed to partake in the sport, to and from the base of the slopes. Indeed, the prospect of having to carry heavy and cumbersome ski equipment to and from the slopes is sometimes cited as a reason why otherwise enthusiastic skiers become disenchanted with the sport.

[0003] Skis are relatively heavy, and for most adults are at least a metre and a half in length. Whilst carrying their skis, most skiers will also be carrying, or attempting to carry, a set of poles and may also be carrying a pair of ski boots. To date skiers have tended to carry their skis over one shoulder with clearly hazardous implications as the ends of the skis move around in front of and behind the person carrying them.

[0004] Furthermore, when transported over one shoulder it is the edges of the skis (which are relatively sharp) that bear on the shoulder of the skier and as such it can be uncomfortable for skis to be transported in this way - particularly if the skis have to be carried for some distance. Ski jackets tend to be provided with some padding in the shoulder area to help alleviate discomfort but as mentioned above, skis are relatively heavy items and the weight of the ski can still cause discomfort even with the presence of padding in the skier's jacket.

[0005] It is also the case that whilst carrying a pair of skis over one shoulder, the skier is not free to use both hands and as such will usually have to put down their skis before they can do anything with their hands. If the skier is fully loaded with a pair of skis on one shoulder (typically secured by placing one hand on the skis) and a pair of ski boots in the other, even simple tasks such as opening a door can be difficult and inconvenient to accomplish.

[0006] Efforts have previously been made to address these problems, and to some extent those efforts have been moderately successful. However, previously proposed arrangements have tended to concentrate on solutions for those skiers, for example hikers, who wish to transport their skis over relatively large distances and have tended to be complicated arrangements that the skis must be strapped into, and from which the skis cannot quickly be removed.

[0007] For example, US patent no. 4,982,883 discloses a combination ski carrier and fanny-pack wherein the

skis are carried on the back of the skier in such a way that the ends of the skis are pointed away from the skier's body. The skis are strapped into the device, and the skier then puts on the device. Once in place the skis can easily be borne by the skier, but as the arrangement is carried on the skier's back it is difficult to remove the skis from the carrier for use. As such, a skier wearing such a device, but who only has to transport their skis a relatively short distance, would probably opt to manhandle the skis rather than waste time strapping them into the carrier. Similar arrangements, with similar drawbacks, are disclosed in US patents 4,518,107; 4,819,845; 5,350,096; 5,318,209 and 6,502,732.

[0008] US Patent No. 5,450,991 discloses another ski-carrier arrangement that is worn as a fanny-pack in one configuration and expanded to form a ski-carrier in another configuration. In the expanded configuration respective ends of the carrier are fastened round opposite ends of a pair of skis to form a loop through which the skier must then put their head and one shoulder so that the skis lie against the skier's back and the carrier lies diagonally across the skier's chest. This arrangement, in common with other previously proposed arrangements, requires the skier to take off the device before they can release their skis.

[0009] It would be highly advantageous if a means could be provided that alleviated the problems associated with the aforementioned previously proposed devices. In particular, it would be advantageous if a ski carrier could be devised that permitted skiers using the device to quickly and easily holster their skis for carrying, and subsequently easily remove their skis for use.

[0010] Preferred embodiments of the present invention seek to alleviate these and other problems.

SUMMARY OF THE INVENTION

[0011] To this end a presently preferred embodiment of the present invention provides a holster for carrying a pair of skis, said skis being coupled together for example by means of a friction fit between the brake of one ski and the brake of the other, the holster comprising: a support plate, and a member extending, at least in use, from the plane of the plate to define a carrier limb with which a toe clip of one of said pair of skis engages and on which the toe clip bears to spread the weight of the skis through the carrier to the support plate. The principle advantage of this arrangement is that the skis can easily be lifted into and out of the holster without necessitating the removal of the holster from the skier's person. It is also the case that by utilising such a holster, the skier has both hands free, and has the weight of the skis spread over a much larger area of their body (as compared for example with carrying skis over one shoulder).

[0012] In one embodiment the carrier limb is generally U-shaped. In another embodiment the carrier limb is generally annular, and preferably circular. In one arrangement, the carrier limb extends generally perpendicularly

from the plane of the plate in use.

[0013] The carrier limb may be pivotally coupled to the support plate, and said pivotal coupling may be effected by means of one or more hinges. In another arrangement, the carrier limb is integrally formed with said support plate.

[0014] In one embodiment the limb may comprise an elongate strip of material respective ends of which are fittable through apertures in the support plate, said respective ends of said elongate strip of material each being provided with an aperture, respective apertures being configured to receive a peg to thereby resist removal of the strip from the plate.

[0015] A retaining member may be provided. The retaining member may be securable to the toe clip that bears on said carrier limb. In one embodiment the retaining member may comprise a resiliently extendable portion and means for facilitating manipulation of the retaining member. In this case, the extendable portion may comprise elastic rope, and the manipulation facilitating means may comprise a toggle.

[0016] In one embodiment the holster is engageable with a belt, and the plate comprises a pair of apertures through which said belt can be threaded. In another embodiment the plate is configured to be attachable to an item of clothing worn by a user. The plate may comprise a clip for attaching the plate to said item of clothing. The clip may comprise a spring clip.

[0017] In a preferred embodiment, the tips of said pair of skis, when mounted in said holster are inclined at an angle of 40 to 50 degrees from the horizontal, more preferably at an angle of substantially 45 degrees from the horizontal.

[0018] Another aspect of the present invention relates to a holster for carrying a pair of skis that are coupled together with running faces abutting, the holster comprising: a support plate attachable to a belt worn by a user; a member moveable with respect to the support plate and extending, at least in use, from the plane of the plate to define a carrier limb with which a toe clip of one of said pair of skis engages to suspend said pair of skis from the limb, the engagement of said toe clip with said limb acting to spread the weight of the skis through the carrier limb to the support plate; and a resilient retaining member coupled to said support plate, the retaining member being extendable over a pair of skis hung from said limb and securable to a toe clip of said skis or to a hook provided on said support plate to securely attach the skis to the holster.

[0019] Yet another aspect of the present invention relates to a method of carrying a pair of skis that have been coupled together with running faces abutting, the method comprising: providing a holster comprising a support plate, and a member moveable with respect to the support plate and extending, at least in use, from the plane of the plate to define a carrier limb with which a toe clip of one of said pair of skis is engageable to suspend said pair of skis from the limb; attaching the holster to a user

such that the holster is located in the vicinity of the user's waist; and suspending said coupled pair of skis from the carrier limb of the holster.

[0020] Preferred features of these and other embodiments are claimed in the dependent claims, and mentioned elsewhere in the following description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] Preferred embodiments of the present invention will now be described, by way of illustrative example only, with reference to the accompanying drawings, in which:

Fig. 1 is a schematic perspective view of a holster in accordance with a first embodiment of the invention; Fig. 2 is a schematic perspective view of the holster depicted in Fig. 1, readied for use;

Fig. 3 is a schematic perspective view of a holster in accordance with a second embodiment of the invention;

Fig. 4 is a schematic perspective view of the holster depicted in Fig. 3, readied for use;

Fig. 5 is a schematic perspective view of a holster, waist belt and retainer;

Fig. 6 is a schematic perspective view of a holster in accordance with a third embodiment of the invention;

Fig. 7 is a schematic perspective view of a holster in accordance with a fourth embodiment of the invention, and a retainer;

Fig. 8 is a schematic perspective view of the embodiment depicted in Fig. 7, assembled for use;

Fig. 9 is a schematic perspective view of part of a pair of skis coupled to the holster of Fig. 6;

Fig. 10 is a schematic perspective view of the arrangement depicted in Fig. 9, with the skis secured in the holster by a retainer;

Fig. 11 is a schematic perspective view of an alternative arrangement; and

Figs. 12 to 14 are photographs of a representative prototype holster.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0022] Referring now to Fig. 1, there is depicted a generally planar support plate. The support plate 1 includes a pair of generally U-shaped apertures 3 formed in the plate to define a generally U-shaped support limb 5 therebetween. The support limb is shown as being parallel to the plane of the plate 1, but as will later be described in detail the support limb extends from the plane of the plate in use.

[0023] The support plate 1 also includes fixtures for attaching the plate to a user's clothing, for example a pair of generally T-shaped lateral cutouts 7 and a pair of apertures 9. The cutouts 7 are provided to enable the support plate to be fixed onto a waist belt (not shown in Fig.

1). The rear of the support plate (not shown) may, optionally or additionally, be provided with a clip (for example a spring-clip) so that the plate can be clipped onto a user's belt or clothing. The clip could comprise a snap-fit fixing attachable to a complementary fixing mounted on the user's belt or clothing. In another embodiment equivalent functionality could be provided by means of complementary mechanical hook and loop fasteners, such as Velcro®.

[0024] The apertures 9 are provided to enable a retainer (not shown in Fig. 1) to be fixedly attached to the plate 1. The retainer, whilst advantageous, is not an essential component of the present invention and as such the apertures 9 need not necessarily be provided.

[0025] If a retainer should be provided, it may comprise (as will later be described in detail) a pair of elastic ropes fixed at one end in a toggle. The elastic ropes are passed through respective apertures and knotted behind the plate to fix the retainer to the plate. In another arrangement the retainer may comprise a single length of elastic rope passed from the front of the plate through a first of the two apertures, and from the back of the plate through the second of the two apertures, the free ends being secured together for example by passing them through a central bore of a toggle and knotting them together. This arrangement could of course readily be reversed so that the free ends of the single length of rope are knotted together behind the plate. As an alternative, the retainer need not necessarily be resilient, although it has been found that a resilient retainer helps reduce the chance of the skis decoupling from the holster.

[0026] The support plate may be of a plastics material (such as polypropylene), of metal material (such as aluminium), or of carbon fibre. The plate can easily be formed by stamping it from a sheet of appropriate material, or in the case of a plastics material by injection moulding. In a highly preferred arrangement the plate is substantially rigid. The limb may be substantially rigid, or optionally may be arranged to flex when loaded. This latter arrangement is advantageous in that the flexible nature of the limb 5 acts as a shock absorber which reduces the likelihood of the skis becoming disengaged from the holster whilst being transported.

[0027] As depicted in Fig. 2, to ready the plate for use the support limb 5 is moved to a position where it extends from the plate - preferably substantially perpendicularly from the plate, at least until the weight of a pair of skis bears on the limb (at which point the limb may be temporarily deflected by the weight of the skis back towards the plate). The limb can, in one arrangement, simply be bent out of the plane of the plate to project therefrom. The limb can be moved out of the plane of the plate at the time of the plate's manufacture (such that the limb always subsequently projects from the plate), or moved out of the plane of the plate prior to use.

[0028] In an alternative arrangement not depicted in Figs. 1 and 2, the limb may be hinged to the plate to enable the limb to be pivoted about the hinge to extend

from the plate. This arrangement is advantageous in that it allows a skier wearing the plate to move the support limb to a position substantially parallel to the plane of the plate when the holster is not being used to carry a pair of skis.

[0029] The limb may be substantially two-dimensional, as depicted, or can include lateral stiffeners (so that the limb is generally C-shaped in cross-section) to increase its rigidity. Such lateral stiffeners may be provided by bending the material from which the U-shaped apertures 3 are formed to either side of the limb.

[0030] Fig. 3 is a schematic perspective view of a holster in accordance with a second embodiment of the invention. The chief difference between this embodiment and that of Fig. 1 is that the limb 5 is oppositely arranged to be moved in a generally downward direction (as depicted in Fig. 4) to project from the plate 1.

[0031] This arrangement is advantageous over that depicted in Fig. 1 in that if a skier wearing the plate with the limb extended should happen to fall, for example whilst skiing, the limb will naturally tend to move upwards back into the plane of the plate. This arrangement mitigates the risk of the skier being hurt by falling onto the holster.

[0032] In this particular embodiment, the limb is shown as being coupled to the plate by means of a pair of hinges 11 so that the limb can readily be moved into and out of the plane of the plate 1. The plate is also shown as having a pair of apertures 9, by means of which a retainer (as described above) may be coupled to the plate if desired. As an alternative to being hinged to the plate, the limb could of course be formed as an integral component of the plate (as described above in connection with Figs. 1 and 2). In this latter arrangement, the limb can be arranged to be bent or flexed out of the plane of the plate, either at the time of the plate's manufacture or prior to use. Where the limb is flexed out of the plane of the plate it may continue, once flexed, to project from the plate or the limb may be arranged to return to a position at least substantially flush with the plate when any loading applied to the limb (for example the weight of a pair of skis) is removed.

[0033] Fig. 5 is a schematic perspective view of a holster, comprising a plate 1 and limb 5 (as aforementioned), fitted in place on a waist belt 13. The holster is depicted as it would appear when viewed from the rear. As shown, the waist belt 13 is passed from the front of holster through one of the aforementioned T-shaped cut-outs, over a portion of the rear of the holster, and from the back of the holster through the other of the aforementioned T-shaped cut-outs. This arrangement allows the holster to be secured about the waist of a user by placing the belt around the waist, and engaging respective parts 15 of a fastener. In the preferred arrangement the holster is arranged to lie over one hip of the user so that the skis carried by that user lie to one side of their body (as depicted in Figs. 12 to 14).

[0034] The holster depicted in Fig. 5 includes an op-

tional retainer 17 fixed to the plate. The retainer 17, in this arrangement, comprises a single length of elastic rope 19 threaded through the apertures 9 in the plate 1. Respective free ends of the rope 19 are secured in a toggle 21. The toggle 21 provides a means for the user to easily grasp and manipulate the elastic rope, as will later be described, to secure a set of skis in the holster.

[0035] Fig. 6 is a schematic perspective view of a holster in accordance with a third embodiment of the invention. In this embodiment, the support limb 5 is configured as a ring, preferably a circular ring, that is formed separately from the plate 1, and joined thereto by a universal joint 23. The universal joint 23 permits the limb 5 to be pivoted in directions parallel to the plane of the plate, and to be folded back against the plate by moving the limb in a direction generally perpendicular to the plane of the plate (i.e. upwards or downwards as depicted). This embodiment is advantageous in that it allows a carried set of skis to be pivoted with respect to the plate, thereby facilitating actions such as walking up or down a set of stairs.

[0036] Fig. 7 is a schematic perspective view of a holster in accordance with a fourth embodiment of the invention. In this embodiment the plate 1 comprises a pair of holes 25, 27 configured to receive respective ends 29, 31 of a resiliently flexible strip 33. Each end 29, 31 of the strip 33 includes a through hole 35. As will now be described, the strip has the same function as that of the aforementioned support limb 5.

[0037] To assemble the holster for use, respective ends 29, 31 of the strip 33 are passed through respective holes 25, 27 and a peg (not shown) is then passed through each of the through-holes 35 in the strip. The pegs couple the strip 33 to the plate 1 by preventing respective ends thereof 29, 31 from being drawn out of the holes 25, 27. Fig. 8 is a view of the front of the holster showing the strip 33 retained in the plate 1.

[0038] Also depicted in Fig. 7 and Fig. 8 (partly) is a retainer 17, as described previously in connection with Fig. 5.

[0039] Figs. 9 to 14 depict the holster in use. Prior to describing in detail how the holster can be used it is appropriate at this juncture to provide a brief explanation of how a ski is constructed. A ski comprises a planar member upturned at one end (the tip), and often widened at the other (the tail). A binding is affixed to the ski, and comprises a toe section and a heel section, each of which are adapted to engage with respective parts of a ski boot. The toe section of the binding comprises a generally crescent shaped member pivotally mounted on the ski. The heel section of the binding includes a brake that comprises a pair of prongs that are spring-loaded to move to project below the face of the ski and towards the tip, when the heel of a boot is removed from the binding.

[0040] As has been mentioned briefly above, two skis of a pair of skis can be coupled together (with running faces abutting) by interlocking the projecting brake of one ski with the brake of the other. The following description

assumes that the skis have been so interlocked prior to mounting them on the holster. It will be apparent, however, that a variety of alternative means exist for coupling one ski to the other (for example, the skis could be bound to one another), and as such the following description should not be read as being limited solely to a pair of skis interengaged by means of their brakes.

[0041] Referring now to Fig. 9, there is shown a schematic perspective view of a pair of skis 35 (only parts of which are visible) engaged with the holster of Fig. 6. As shown, the interengaged skis 35 are "hung" on the holster by hooking a peripheral part 37 of one of the aforementioned crescent-shaped toe clips 39 onto the aforementioned support limb 5.

[0042] When the peripheral part 37 of the toe clip is engaged with the support limb 5, the weight of the interengaged skis is borne by the support limb and transferred through the limb to the plate 1, and via the waist belt (and/or clip) to the user of the holster. In this position the skis are balanced on the support limb so that the tips of the skis are angled upwards, typically by no more than 55 degrees to the horizontal (generally between 40 to 50 degrees from the horizontal, and generally substantially 45 degrees from the horizontal). The tails of the skis are lifted off the ground, and as such a user can move around with both hands free and without having to hold the skis in place.

[0043] In the event that it is necessary or desirable to positively restrain the skis in place in the holster, a user can tug on the toggle 21 in a downward direction to extend the elastic rope 19 and loop part of the rope 19 over the toe clip 39 (as depicted in Fig. 10). The elastic nature of the rope draws the ski into close abutment with the holster to secure the skis in place. In an alternative arrangement depicted schematically in Fig. 11, the plate 1 may be provided with a projecting hook 41 or knob or a slot over or into which the elastic rope can be fitted to hold the ski in place in the holster.

[0044] As is immediately evident from the photographs of Figs. 12 to 14, the holster of the preferred embodiment provides a means whereby the carrying of skis can be greatly facilitated. As depicted, particularly in Fig. 12, both of the user's hands are free, and the weight of the skis is effectively distributed to the body of the person wearing the holster. The holster can quickly and easily be put on and taken off, and a pair of skis can quickly and easily be loaded into the holster for carrying, or unloaded from the holster for use.

[0045] It is also the case that the holster described herein can be manufactured relatively inexpensively, and as such it offers a real and effective alternative to carrying skis by hand or indeed to prior art systems of the type briefly described herein.

[0046] In another embodiment of the present invention based on a modification of the holster depicted in Fig. 5, the holster may be configured as part of a utility belt and in this configuration the belt 13 may carry a plurality of additional utility item holders. For example, the belt may

carry one or more of the following: a holder for a mobile telephone, a holder for a ski-pass (which holder may be coupled to the belt by an extendable elastic coupling to enable the pass to be shown to other persons, for example ski lift operators), or a holder for a water bottle or other drinks container. The holster and other holders may be permanently attached to the belt or may be removable therefrom.

[0047] Whilst illustrative embodiments of the invention have been described above in detail, it will be appreciated that modifications may be made to the embodiments described without departing from the spirit and scope of the invention as defined in the accompanying claims. For example, the universal joint described above in connection with the embodiment depicted in Fig. 6 could readily be replaced by a simple hinge, the hinge permitting the carrier limb to be moved upwards and/or downwards to lie at least substantially flush against the carrier plate. It is also the case that whilst the types of limbs described above are preferred, a simple resilient rubber ring or rope could instead be fixed to the plate, and with which the skis could be engaged (as described above) for transport. All that is required is for the ring or rope to be sufficiently durable to support the weight of a pair of skis.

[0048] It should also be noted that whilst certain preferred features of the invention have been set out in the accompanying claims, the scope of the invention is not limited to the particular combination of features specifically enumerated, but instead extends to encompass any combination of features mentioned herein irrespective of whether or not that particular combination has explicitly been claimed at this time.

Claims

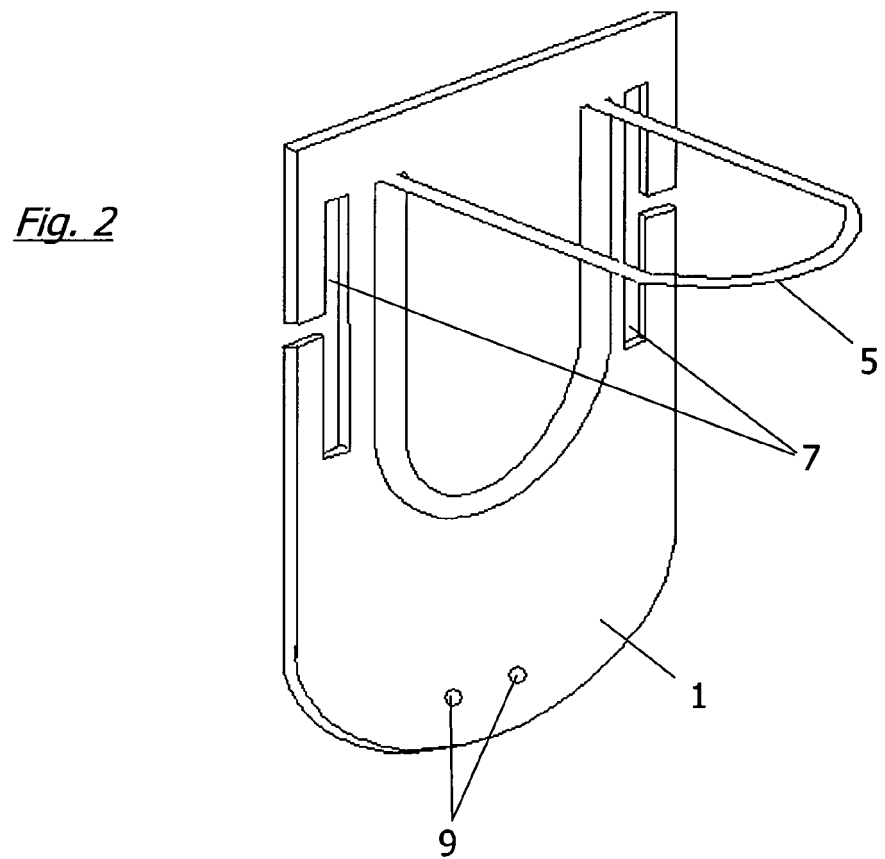
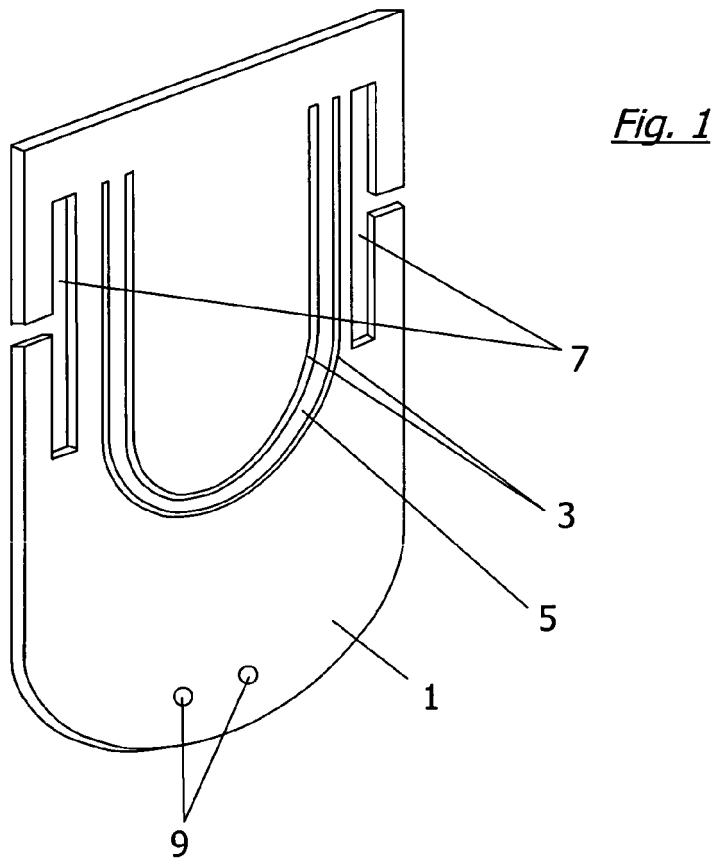
1. A holster for carrying a pair of skis, said skis being coupled together for example by means of a friction fit between the brake of one ski and the brake of the other, the holster comprising:

a support plate (1), and
being **characterised by** a member moveable with respect to the support plate (1) and extending, at least in use, from the plane of the plate (1) to define a carrier limb (5; 33) with which a toe clip (37, 39) of one of said pair of skis (35) is engageable to suspend said pair of skis (35) from the limb (5; 33), the engagement of said toe clip with said limb (5; 33) acting to spread the weight of the skis through the carrier limb to the support plate.

2. A holster according to Claim 1, wherein said carrier limb (5) is pivotally coupled to said plate.
3. A holster according to Claim 1, wherein said support plate (1) comprises a bendable section and a remain-

ing section, said carrier limb (5) being formed by bending said bendable section of support plate (1) out of the plane of the remaining section of the plate (1).

4. A holster according to Claim 1 or 2, wherein said carrier limb (5) is coupled to said plate (1) by means of a universal joint (23).
5. A holster according to Claim 1, wherein said carrier limb (33) comprises an elongate strip of material, respective ends (29, 31) of which are insertable through slots (25, 27) formed in said plate (1), one or more fasteners being provided to resist removal of the ends (29, 31) of said strip (33) through said slots (25, 27).
6. A holster according to any preceding claim, further comprising a retaining member (17) coupled to the plate (1) for securing the skis (35) to the holster, said retaining member (17) being securable to said skis (35) to secure the skis in place on the holster (1) or around said skis (35) and to said plate (1, 41) to secure the skis in place on the holster.
7. A holster according to Claim 6, wherein the retaining member (17) comprises a resiliently extendable portion (19), and a means (21) to facilitate manipulation of the retaining member (17) by a user.
8. A holster according to any preceding claim, wherein the plate (1) is configured to be mountable on a user's belt (13) or directly to an item of clothing worn by a user so that the holster lies in the vicinity of the user's hip.
9. A holster according to any preceding claim, wherein said pair of skis (35), when mounted in said holster, are inclined such that tips of said skis are at an angle of no more than 55 degrees from the horizontal, preferably at an angle of 40 to 50 degrees from the horizontal, and most preferably at an angle of substantially 45 degrees from the horizontal.
10. A holster according to Claim 1, wherein a pair of skis (35) supported in said holster may be carried "hands-free" by a user.



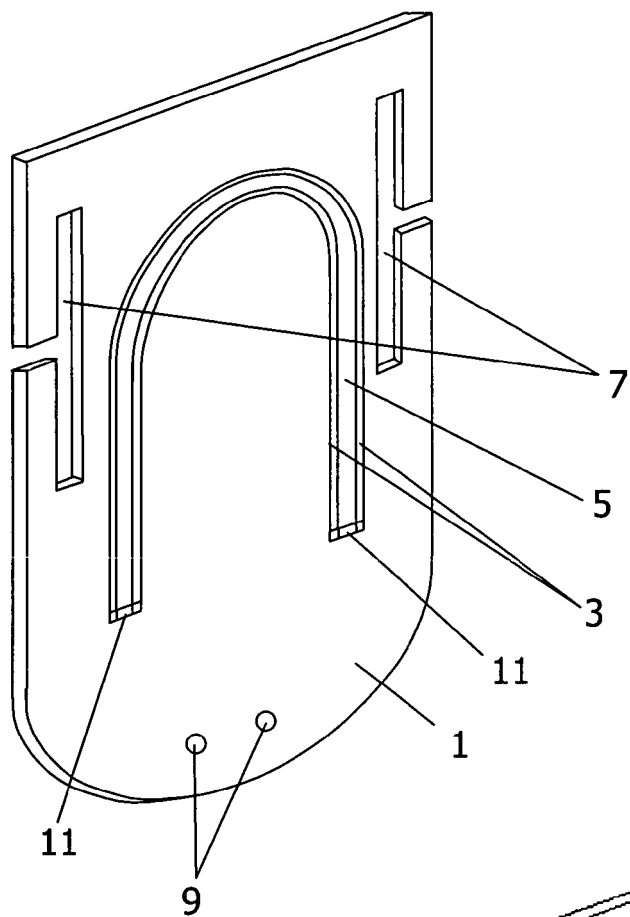


Fig. 4

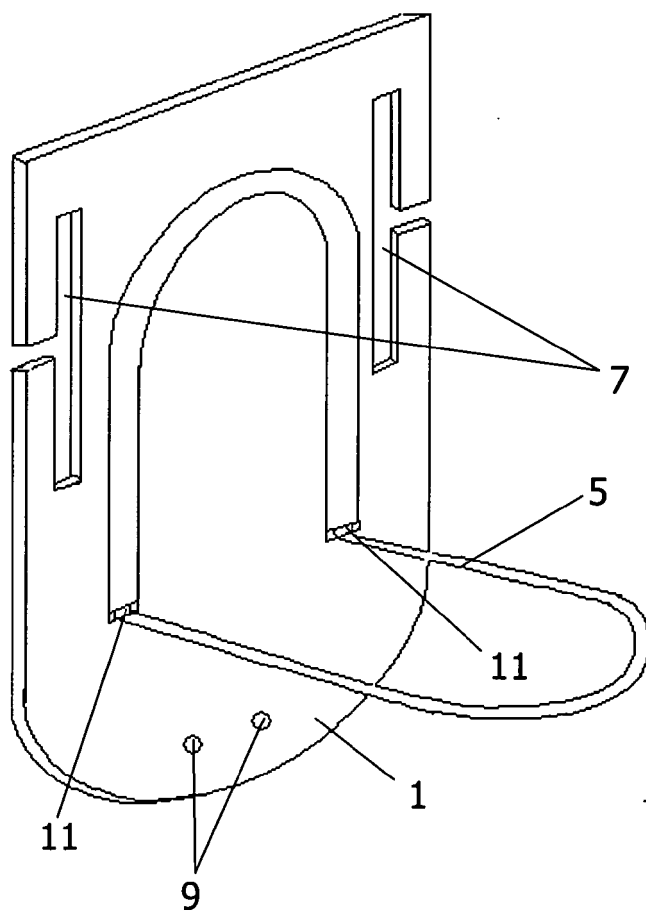


Fig. 5

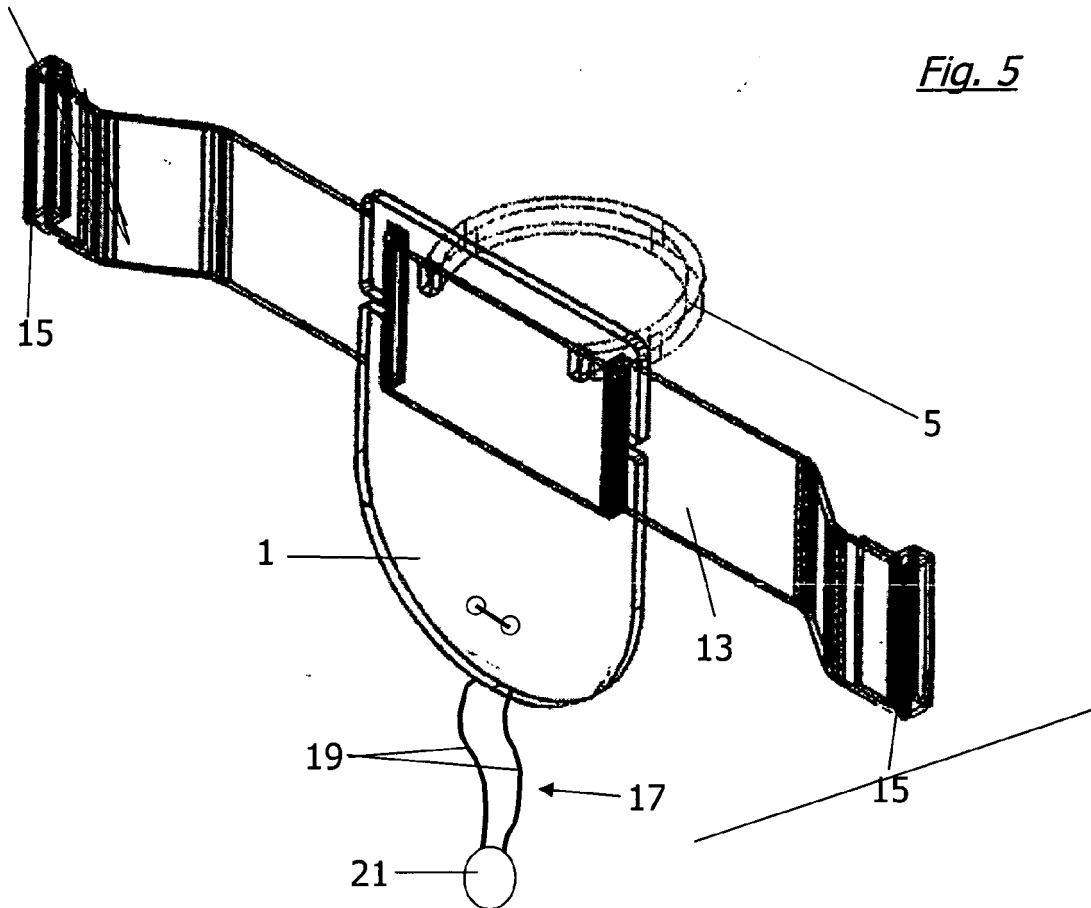
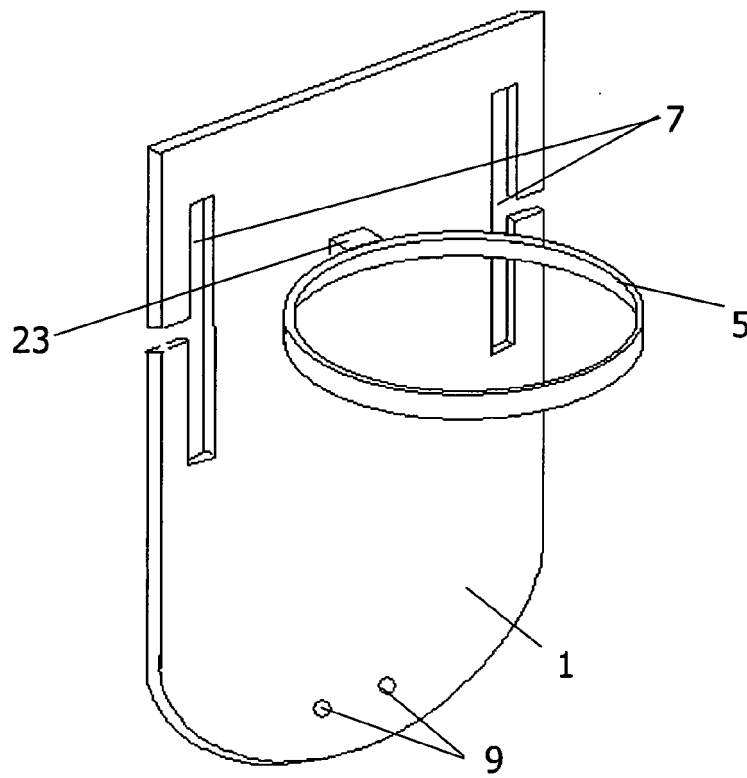


Fig. 6



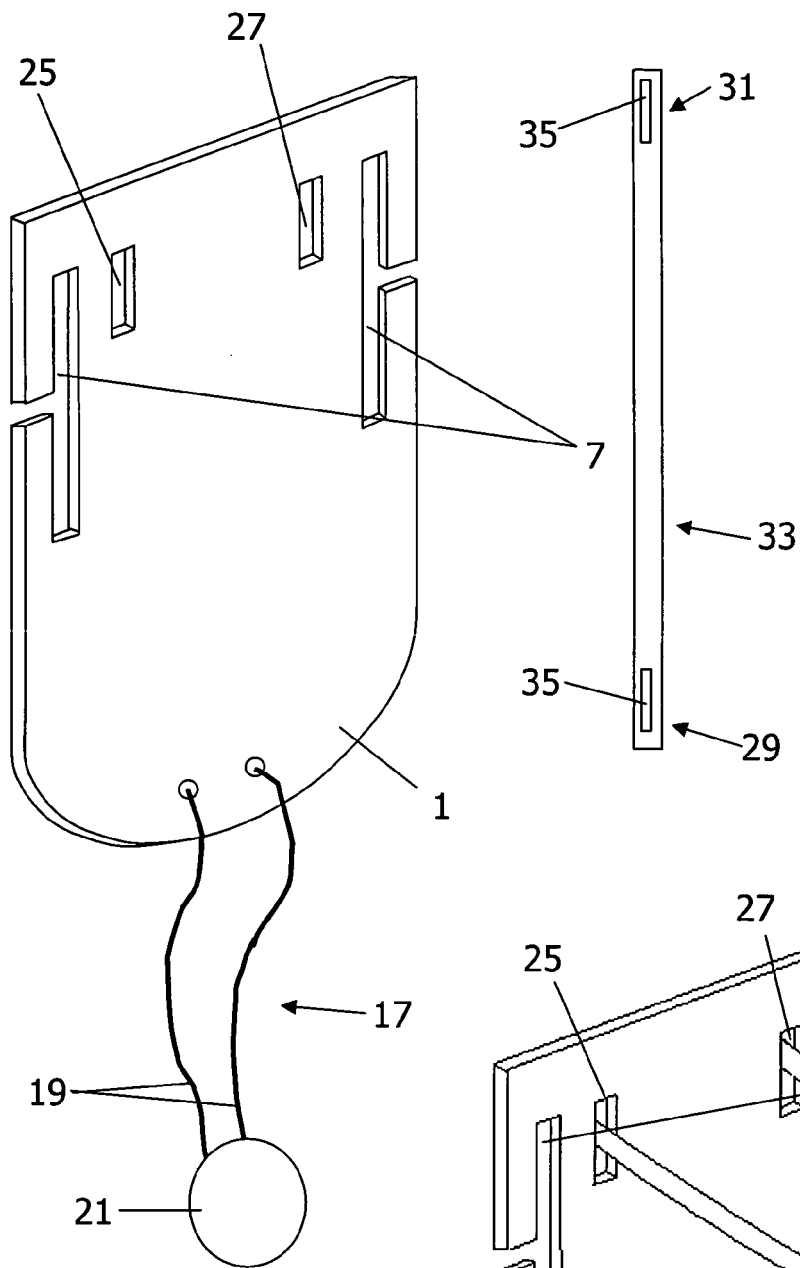


Fig. 7

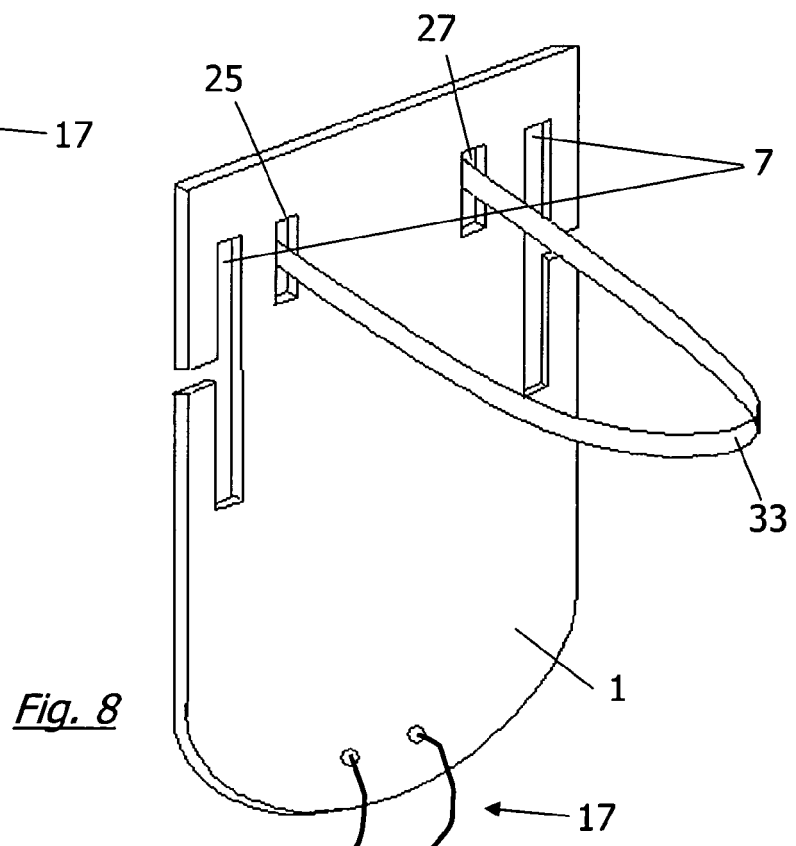


Fig. 8

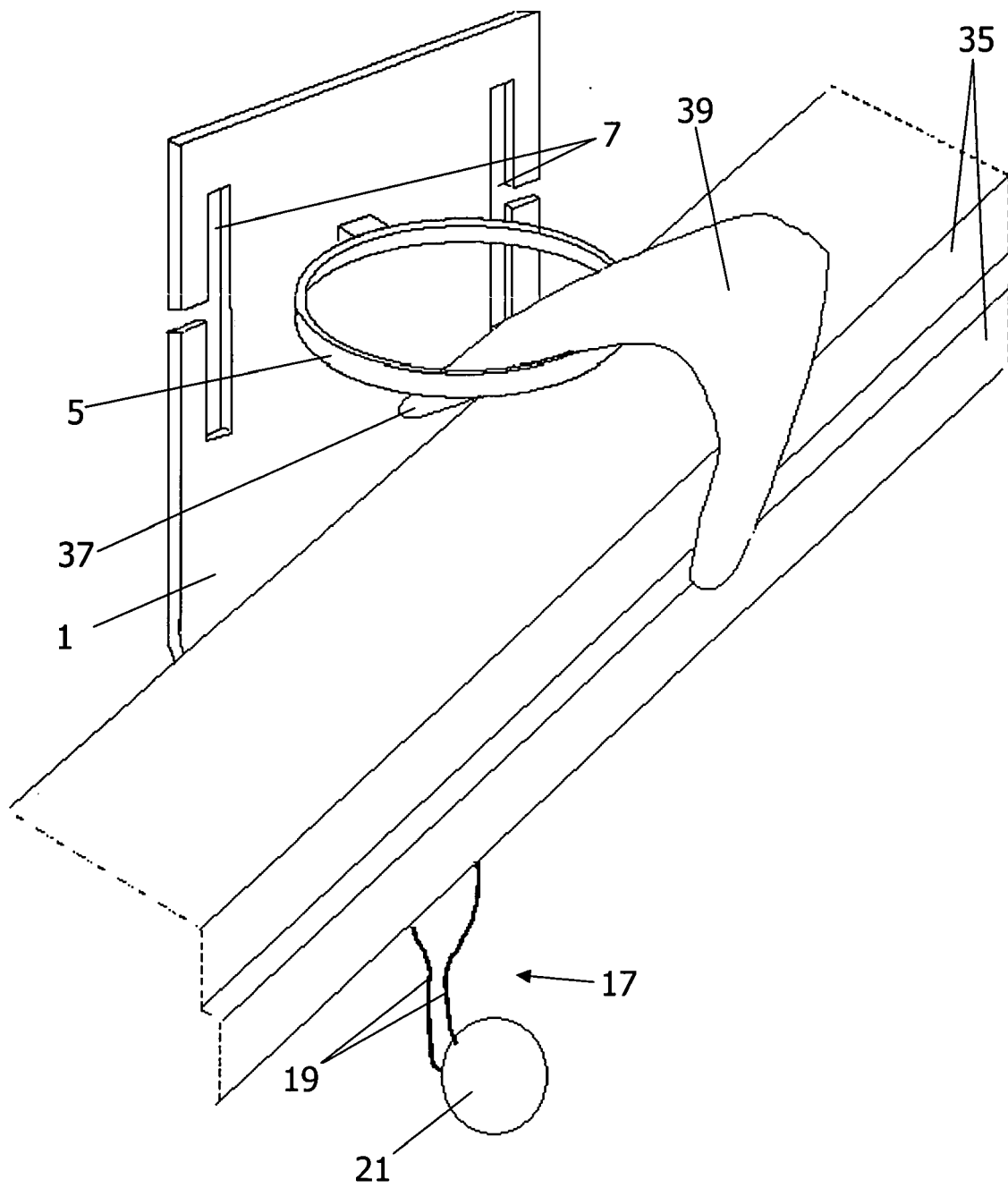


Fig. 9

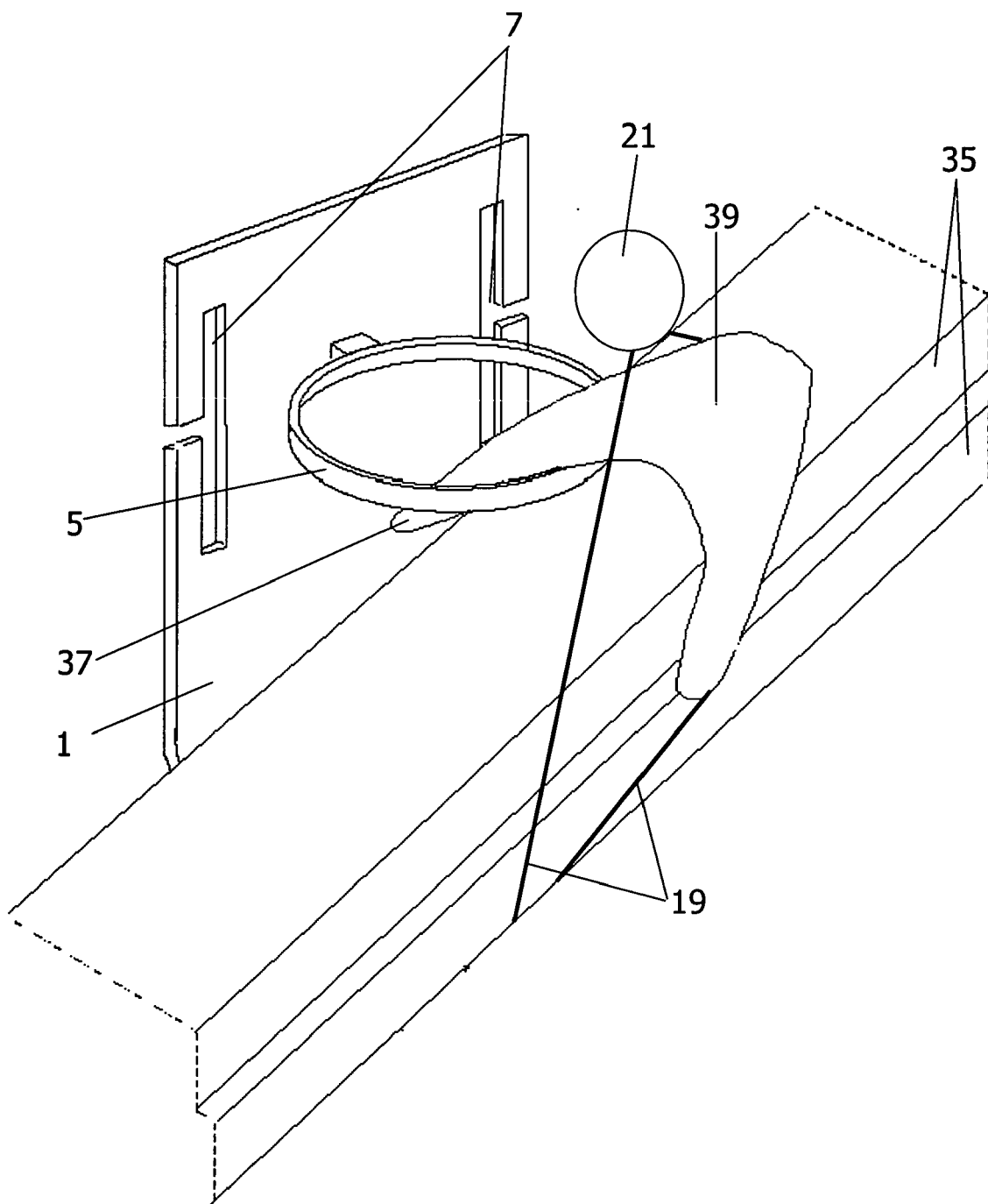


Fig. 10

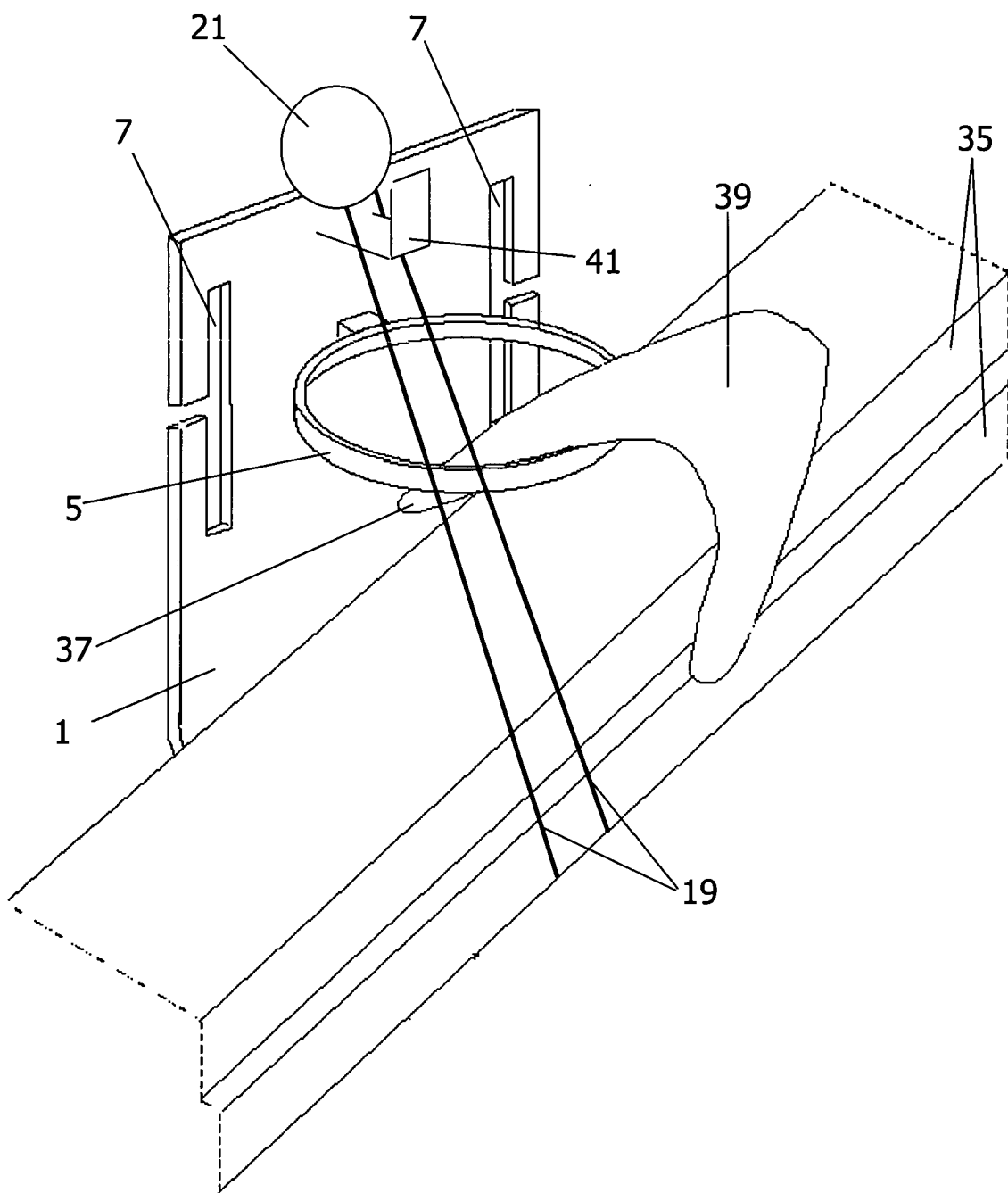


Fig. 11

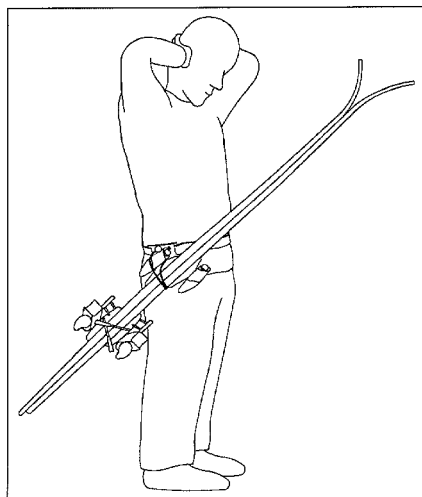


FIG. 12

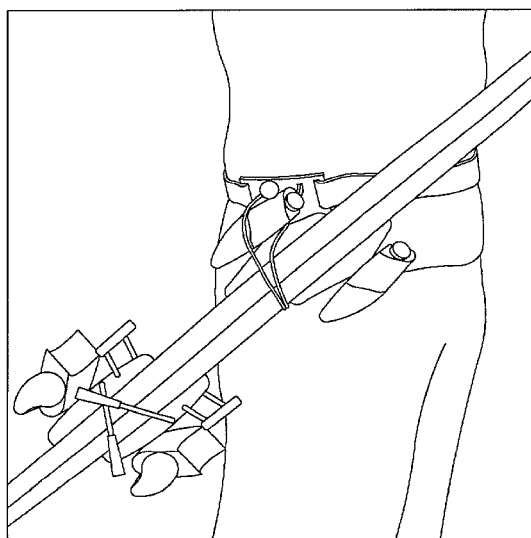


FIG. 13

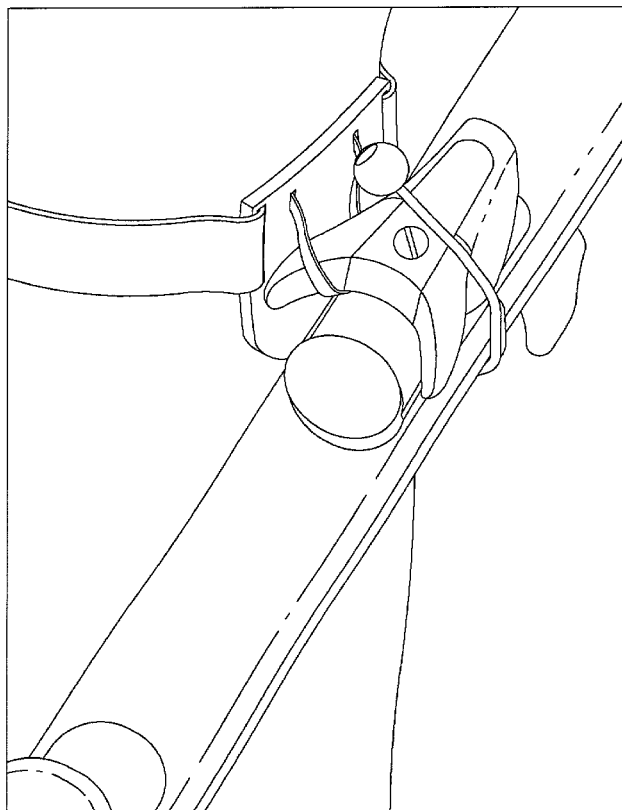


FIG. 14



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 25 3862

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	W0 2005/027678 A (LEE JU-HUN [KR]) 31 March 2005 (2005-03-31) * figures 1,2,5,6,10 *	1,2,5-10	INV. A63C11/02
X	FR 1 066 960 A (PARIZOT SERGE) 11 June 1954 (1954-06-11) * figures *	1,5	
X	US 5 464 138 A (RODRIGUEZ RICHARD [US]) 7 November 1995 (1995-11-07) * column 2, line 24 - column 3, line 26; figures *	1,6,7	
X	US 3 976 234 A (MOUDRY GEORGE M ET AL) 24 August 1976 (1976-08-24) * column 2, line 64; figures *	1	
X	US 4 308 982 A (HALL SCARLETTE J) 5 January 1982 (1982-01-05) * the whole document *	1	
A	DE 86 08 339 U1 (PFALLER, MARIUS, 8000 MUENCHEN, DE) 15 May 1986 (1986-05-15) * the whole document *	1	TECHNICAL FIELDS SEARCHED (IPC) A63C
A	US 6 726 075 B1 (PATEL RAJIV P [US] ET AL) 27 April 2004 (2004-04-27) * figures 1,3-5,8 *	1	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 9 November 2006	Examiner Herry, Manuel
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.**

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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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09-11-2006

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2005027678	A	31-03-2005	NONE	
FR 1066960	A	11-06-1954	NONE	
US 5464138	A	07-11-1995	NONE	
US 3976234	A	24-08-1976	NONE	
US 4308982	A	05-01-1982	NONE	
DE 8608339	U1	15-05-1986	NONE	
US 6726075	B1	27-04-2004	NONE	

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 4982883 A [0007]
- US 4518107 A [0007]
- US 4819845 A [0007]
- US 5350096 A [0007]
- US 5318209 A [0007]
- US 6502732 B [0007]
- US 5450991 A [0008]