



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 378 276 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
07.01.2004 Bulletin 2004/02

(51) Int Cl.7: **A63C 11/22**, A45B 9/02,
A63H 1/30

(21) Application number: **03014407.5**

(22) Date of filing: **27.06.2003**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR**
Designated Extension States:
AL LT LV MK

(30) Priority: **01.07.2002 JP 2002191859**
30.04.2003 JP 2003125855

(71) Applicant: **Sinano Co.**
Saku-shi, Nagano (JP)

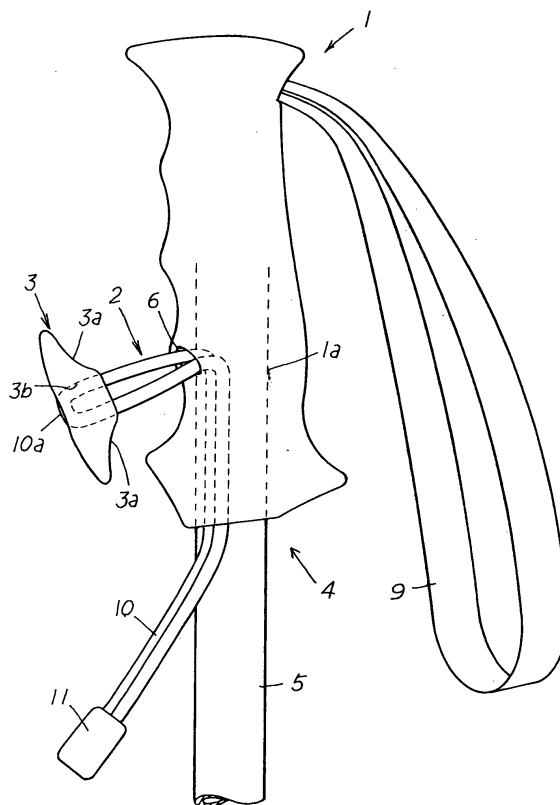
(72) Inventors:
• **Yanagisawa, Mitsuomi, c/o Sinano Co**
Saku-shi, Nagano (JP)
• **Sakai, Yoichi, c/o Sinano Co**
Saku-shi, Nagano (JP)
• **Kosuda, Jun-Ichi, c/o Sinano Co**
Saku-shi, Nagano (JP)

(74) Representative: **HOFFMANN - EITLE**
Patent- und Rechtsanwälte
Arabellastrasse 4
81925 München (DE)

(54) **Attachment structure for assisting grips**

(57) To provide a novel attachment structure for assisting grip of a grip member which has an extremely high commercial success, an attachment structure for assisting grip of a grip member (1) is characterized by comprising a clamp-in member (2) projecting from a surface of the grip member (1) and clamping said grip member (1) by two fingers clamping the grip member (1), and a retainer member (3) provided to the clamp-in member (2) and retained outside the two fingers when the clamp-in member (2) is clamped between the two fingers, wherein the clamp-in member (2) is clamped by the retainer member (3) and the grip member (1) to hold the two fingers.

FIG. 3



EP 1 378 276 A1

Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates to an attachment structure for assisting grip.

[0002] A string member, or strap, is provided to a grip of each stick used in skiing for preventing separation between each hand and the grip. However, this strap is not provided so as to fasten the hand and the grip in a one-piece manner. Accordingly, for example, when the hand gripping the grip of the stick is opened unintentionally during a swing or during sliding, such as when the stick is planted into a snow surface and receives a strong shock, or the stick fails to engage the snow surface, the grip drops from the hand. Due to the presence of the strap, the stick will not drop to the snow surface and be left there.

[0003] This strap is used simply for preventing the stick from being completely dropped and lost. In this case, the skier is likely to lose his/her balance due to the action of having to reach for the grip. Accordingly, it goes without saying that this causes the skier to fall and is dangerous. During competition, this causes a remarkable time loss. In technical inspection, this causes a loss of points. Also, there is no one-piece feel between the hand and the grip with such a strap.

[0004] Therefore, it has been proposed heretofore to provide a structure preventing the grip from dropping from the hand (hereinafter referred to as the prior art).

[0005] According to the prior art, there has been provided a structure having a hold member for holding the wrist of the hand gripping the grip. This hold member is formed integrally during the injection molding of the grip made of resin.

[0006] According to the prior art, even if the hand gripping the grip opens, it is possible to keep the grip in a predetermined position inside the hand. Accordingly, it is possible to substantially prevent the grip from falling from the hand and to grip the grip again soon.

[0007] However, the prior art leads to a binding feel (unusual or uncomfortable feel), since the hand or the wrist is always bound to the grip. For example, when the wrist is bent to plant the stick into the snow surface, this creates some hindrance to the stick action. In addition, this also creates some hindrance when the skier rides on a lift or carries the skies. Accordingly, this is not preferable for an average skier. Furthermore, also according to the prior art, it is impossible to obtain the good one-piece feel between the hand and the grip.

SUMMARY OF THE INVENTION

[0008] It is the object of the present invention to provide a novel attachment structure for assisting grip.

[0009] This is solved by a structure having the features of claim 1 below.

[0010] Advantageous further embodiments are de-

fined in the dependent claims.

[0011] The invention will now be described with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012]

Fig. 1 is a side elevational view showing a first embodiment.

Fig. 2 is an illustration of the first embodiment in use.

Fig. 3 is a side elevational view showing a second embodiment.

Fig. 4 is an illustration of the second embodiment in use.

Fig. 5 is a side elevational view showing a third embodiment.

Fig. 6 is an illustration of a primary part of the third embodiment.

Fig. 7 is an illustration of the third embodiment in use.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0013] Figs. 1 and 2 show a first embodiment of the invention, Figs. 3 and 4 show a second embodiment of the invention and Figs. 5 to 7 show a third embodiment of the invention, respectively and these embodiments will now be described.

[0014] According to the present invention, when the grip member 1 is gripped, the clamping member 2 projecting from the grip member 1 is engaged by two of the fingers clamping the grip member 1. The retainer member 3 is provided on the clamping member 2 and is outside of the fingers. This makes possible the condition that the fingers engaging the clamping member 2 and clamping the grip member 1 are held by the retainer member 3.

[0015] Accordingly, a very strong feel (a one-piece feeling, or intimate contact feeling) may be obtained between the hand and the grip member 1. From this, if the grip member 1 is a stick used in, for example, skiing, the stick as a whole would feel light weight when swung, and a quick stick action may be performed as desired.

[0016] Also, even if the hand gripping the grip member 1 opens, it is possible to substantially prevent the grip member 1 from falling from the hand.

[0017] More specifically, in the case where the invention is applied to the grip member 1 of the stick used in, for example, skiing, when the stick is planted into the snow surface and receives a strong shock, or fails to engage the snow surface so that the hand gripping the grip member 1 opens unintentionally during a swing, the fingers clamping the grip member 1 may open widely. According to the invention there is no fear that the retainer member 3 outside of the fingers clamping the clamping member 2 is pulled between the two fingers.

Accordingly, the effect of retaining the fingers by the retainer member 3 and the grip member 1 will always be maintained so that the grip member 1 can always be held in the predetermined position inside the hand. It is therefore possible to prevent the grip member 1 from falling from the hand.

[0018] The present invention thus exhibits a novel effect and advantage that would not be enjoyed by the prior art.

[0019] The first embodiment will now be described in detail.

[0020] The first embodiment exhibits an attachment structure for assisting gripping of a grip 1, comprising a clamping member 2 which can be passed between two fingers of a human hand for holding the grip 1 and extends from a surface of the grip 1, and a retainer member 3 which is provided on the clamping member 2. The clamping member 2 and the retainer member 3 are dimensioned and arranged so that retainer member 3 can remain outside of the two fingers when the clamping member 2 is placed between the two fingers. This makes it possible to hold the two fingers adjacent the clamping member 2 with the retainer member 3 and the above-described grip 1. Incidentally, in this embodiment, the grip 1 provided at an upper end portion of a pole member 5 constituting a stick 4 to be used in skiing is used as the grip 1 but this structure may be applied to any type of a grip, including for instance a fishing rod, a badminton racket, a saber for fencing, a walking stick and the like.

[0021] Each structural part of this embodiment will now be described.

[0022] The grip 1 is formed of a member made of suitable synthetic resin. A fitting hole 1a is formed from a lower end face to the inside for fitting the upper end portion of the pole member 5 constituting the stick 4.

[0023] Also, in the grip 1, a hole 6 in communication with the above-described fitting hole 1a is formed between a position at which the little finger and the ring finger for gripping the grip 1 will be located in front of and during use of the grip 1, and a position near the lower end of the grip. This hole 6 is adapted to make it possible to pass the clamping member 2 to be described later.

[0024] The attachment structure provided to the grip according to this embodiment is composed of the clamping member 2 and the retainer member 3.

[0025] More specifically, the clamping member 2 is composed of a long strap-like member 7 which is caused to pass through the hole 6 and the fitting hole 1a of the grip 1 with its top end portion projecting from the hole 6 of the grip 1 and the lower end portion projecting from the fitting hole 1a of the grip 1. In this condition, the fitting hole 1a is fitted onto and coupled with the pole member 5 to thereby fasten the clamping member 2 to the pole member 5. Accordingly, the upper end portion projecting from the hole 6 of the grip 1 may be clamped between two of the fingers (the little finger and

the ring finger) gripping the grip 1.

[0026] Incidentally, it is preferable that the material for the strap-like member 7 be substantially the same as that of the strap or rubber having suitable flexibility so that there is no unusual feeling when the strap-like member 7 is clamped between the fingers.

[0027] Accordingly, the clamping member 2 is slidably movable up and down, but because the fitting hole 1a portion of the grip 1 is fitted in pressing contact with the pole member 5 the clamping member 2 may be retained in an adjusted position where the clamping member 2 is stopped due to the pressure contact between the grip 1 and the pole member 5. Incidentally, the fingers clamping the clamp-in member 2 are not limited to the little finger and the ring finger. It is possible to modify the structure so that the clamping member 2 may be clamped by two other fingers. Also, it is possible to provide a plurality of clamping members 2 so that one clamping member 2 may be clamped by, for example, the ring finger and the little finger and another by the middle finger and the index finger, in two positions.

[0028] The clamping member 2 is provided at its upper end with the retainer member 3 to remain outside of the two fingers adjacent the clamping member 2.

[0029] This retainer member 3 is formed of suitable synthetic resin and into a conical shape and is on its back side and in its central portion coupled with the above-described clamping member 2. Also, the retainer member 3 is adapted so as to be retained by engaging in a hook-like manner the outside of the two fingers adjacent the clamping member 2. A diameter of the retainer member 3 is designed so that the retainer member 3 can not be pulled out away between the two fingers.

[0030] Also, the retainer member 3 is provided on its back side and in its central portion with a ring-shaped pick-up member 8 made of metal. Accordingly, if the retainer member 3 or the pick-up member 8 is picked up so that the clamping member 2 is pulled, it is possible to increase the distance between the surface of the grip 1 and the retainer member 3, and vice versa if an annular portion 2a of the strap-like member 7 projecting from the fitting hole 1a of the grip 1 is pulled, it is possible to decrease the distance between the surface of the grip 1 and the retainer member 3. The latter permits to obtain strong clamping between the grip 1 and the retainer member 3 facing the two fingers adjacent the clamping member 2 by decreasing the facing distance between the two members to thereby ensure the one-piece feeling between the hand and the grip 1. Also, the retainer member 3 and the annular portion 2a attain the function to prevent withdrawal of the clamping member 2 from the grip 1.

[0031] Also, the grip 1 is provided with a string member 9 (strap) having a well-known structure and being coupled to the upper end portion of the grip 1 in an annular manner. This strap 9 serves as a structure for effectively preventing loss of the grip 1.

[0032] Namely, in the case where the strap 9 is not

provided, when the hand gripping the grip 1 opens, even if the grip 1 is unlikely to be released from the hand, since the retainer member 3 is retained outside of the fingers, the grip 1 tends to move to the finger tip direction. As a result, it may possible that the clamping member 2 is pulled through the finger tips. However, the grip 1 according to this embodiment is provided with the strap 9 restricting the grip 1 from moving toward the finger tip. A structure is thus provided for positively preventing the drop-down of the clamping member 2 and the retainer member 3 together. However, the attachment structure according to this embodiment exhibits sufficiently its function even without the strap 9.

[0033] Since this embodiment is constructed as described above, when the grip 1 is to be gripped, the hand passes through the strap 9 from below, the clamping member 2 projecting from the grip 1 is clamped by two of the fingers (the little finger and the ring finger) gripping the grip 1, then, the retainer member 3 provided on the clamp member 2 is retained outside the fingers, and it is possible to ensure the condition that the fingers adjacent the clamping member 2 are clamped between the retainer member 3 and the grip 1. Incidentally, when the clamping member 2 is passed between two fingers, it is easier to place the clamping member 2 if the facing distance between the grip 1 and the retainer member 3 is increased. It is preferable to decrease the facing distance between the grip 1 and the retainer member 3 by drawing the lower end of the clamping member 2 only after placing the clamping member between the fingers, and thereby to increase the clamp to the fingers.

[0034] Accordingly, in accordance with this embodiment, even if the grip is not strongly gripped, it is possible to obtain the one-piece feel, or feeling of intimate contact, and to obtain the good use condition without any binding feeling or pressure feeling as in the prior art as described above. In addition, it is possible to prevent the grip 1 from falling from the hand. Accordingly, it goes without saying that the invention may be applied to the stick for an average skier or a beginner, but the invention may effectively be applied for the stick 4 to be used in a competition or a technical examination. In particular, it is possible to apply the invention to a stick for people who could not grip the grip 1 strongly or even for handicapped people.

[0035] Also, since the structure according to the present embodiment may be made compact, it is possible to avoid the hindrance when the skier rides on a lift or carries the sticks.

[0036] Also, in this embodiment, since the facing distance between the retainer member 3 and the grip 1 may be changed, it is possible to adjust the facing distance in conformity with the thickness of the fingers, or the fingers including a glove, and to adjust the clamping degree of the retainer member 3 and the grip 1 to the fingers as desired by the skier.

[0037] Also, in this embodiment, since the clamping member 2 is formed by a flat, strip-like member 7, even

if the clamping member 2 is clamped between the fingers, it is possible to use the clamping member 2 without any unusual feeling due to the shape of the member 7.

[0038] Incidentally, since the retainer member 3 is made as described above, it is possible to perform the function as an assistance for gripping the grip for a long period of time.

[0039] A second embodiment will now be described.

[0040] According to the second embodiment, as shown in Figs. 3 and 4, a shape of a retainer member 3 is formed in a laterally elongated oblong shape in frontal view. A pair of recess portions 3a is formed in an inner surface of the retainer member 3, each having a concavely curved shape to be contacted with the ring finger and the little finger when the ring finger and the little finger are clamped by the retainer member 3. There is no pressure feeling (uncomfortable feeling) to the ring finger and the little finger by the recess portions 3a. Incidentally, there is no ring-like pick-up member 8 of metal as in the first embodiment on the back side and the central portion of the retainer member 3.

[0041] Also, the clamping member 2 of this embodiment is formed by an elongated string-like member 10 which is folded back and projects with a resulting folded-back end portion 10a from hole 6 of the grip 1. The folded-back end portion 10a passes through a coupling hole portion 3b formed in the central portion of the retainer member 3.

[0042] Also, a withdrawal prevention member 11 in the preferred form of a mechanical stop is provided at a lower end portion of the string-like member, which end portion projects from fitting hole 1a of the grip 1, for preventing the string-like member 10 from being pulled from the grip 1.

[0043] The other structure is the same as that of the first embodiment.

[0044] A third embodiment will now be described.

[0045] In the third embodiment, as shown in Figs. 5 to 7, in the same manner described above for the second embodiment, the retainer member 3 is formed in a laterally elongated oblong shape in frontal view, and a pair of recess portions 3a each having the concavely curved shape is formed on an inner surface of the retainer member 3.

[0046] The elongated string-like member 10 is fixed to the grip 1 near one of its ends (with the string-like member 10 extending from the hole 6 of the grip 1), and the withdrawal prevention member 11 is provided near another end of the string-like member 10.

[0047] Two coupling hole portions 3b are formed in the central portion of the retainer member 3. The above-described string-shaped member 10 passes through the coupling hole portions 3b. Furthermore, the string-like member 10 can be fixed to a frontal portion of the retainer member 3 by a slide limiting means (fastening means) 12 for limiting the sliding movement of the retainer member 3.

[0048] This slide limiting means 12 (slide member 12)

can be formed so that a large amount of frictional force is generated when the slide member 12 is moved relative to the string-like member 10.

[0049] Also, a recess portion 12a is formed at a proximal end of the slide member 12. The recess portion 12a is dimensioned so that it can be coupled with a projection 3c formed in the central portion of the retainer member 3. In its position with the recess portion 12a on projection 3c, the slide member 12 will cause string-like member 10 to engage the walls of the recess portions 3d (Fig. 6) and lock retainer member 3 and string-like member 10 relative to one another. In this manner the position of the retainer member 3 on the string-like member 10 may be adjusted. After the retainer member 3 is adjusted to a predetermined position on the string-like member 10, the slide member 12 is slid to be engaged with the retainer member 3 so that the retainer member 3 is fixed to the predetermined position. Incidentally, the pair of recess portions 3d are formed at an opening edge of the coupling hole portion 3b for letting the string-like member 10 exit when the above-described recess portion 12a and the projection 3c are engaged with each other.

[0050] Accordingly, in the third embodiment, the adjustment of the facing distance between the surface of the grip 1 and the retainer member 3 is performed by slidably moving the retainer member 3 relative to the clamping member 2 rather than drawing the clamping member 2 as in the foregoing first and second embodiments. The adjustment may be performed by positioning the slide member 12 relative to the clamping member 2. Incidentally, it is possible to take a structure that the retainer member 3 per se may generate a frictional resistance as in the slide member 12 (a structure provided with slide limiting means). However, in view of a problem of damage such as tear that would occur in the case by sliding forcibly the retainer member 3 due to the fact that the retainer member 3 is made of resin, it is preferable to provide a discrete slide member 12 as in the third embodiment.

[0051] The other structure is the same as that of the first and second embodiments.

[0052] The members of all embodiments can be provided with different dimensions, so as to accommodate the human hand of a child, a male or female adult, with and without gloves.

being designed to be located outside the two fingers when the clamping member (2) passes between the two fingers, said clamping member (2) being fixable to said retainer member (3) and said grip member (1) so as to hold the two fingers to the grip member (1).

2. The attachment structure according to claim 1, wherein a distance between said grip (1) member and said retainer member (3) is variable.
3. The attachment structure according to claim 1 or 2, wherein a fastening means (12) is provided for making it possible to fix the distance between the retainer member (3) and said grip member (1) to a predetermined distance.
4. The attachment structure according to any one of claims 1 to 3, wherein said clamping member (2) is formed by a suitable elongated member (7; 10).
5. The attachment structure according to any one of claims 1 to 4, further comprising a grip member (1), the grip member (1) preferably having a central opening (1a) and a side-wall (6) for passing the clamping member (2) through the grip member (1).
6. Skiing stick (4) comprising a pole (5) and the attachment structure of any of the preceding claims.

Claims

1. An attachment structure for assisting grip of a grip member by a human hand, the attachment structure comprising a clamping member (2) suitable for projecting from a surface of said grip member (1), the clamping member (2) being designed to pass between two fingers of the hand gripping the grip member (1), and a retainer member (3) provided on said clamping member (2), the retainer member (3)

FIG. 1

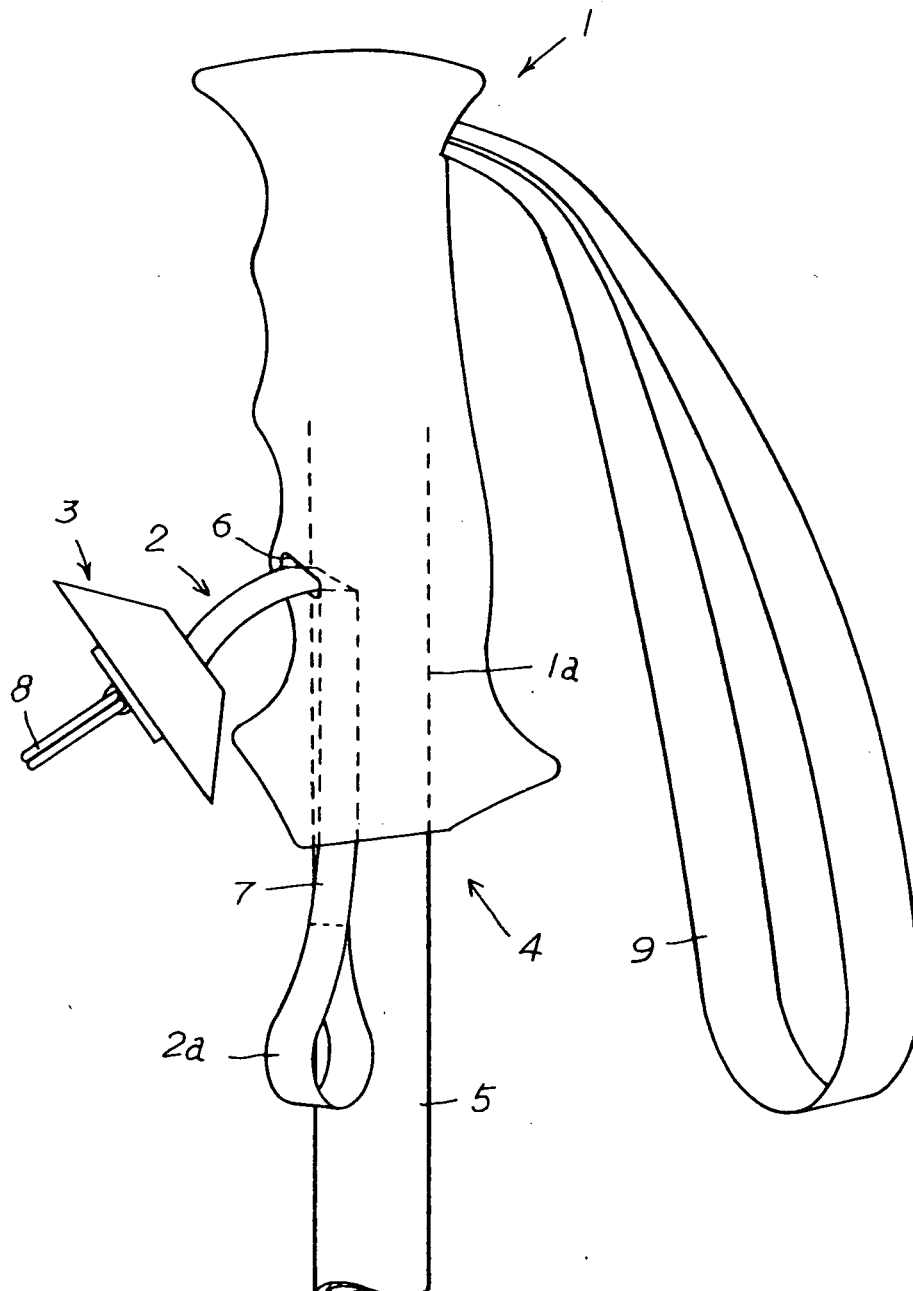


FIG. 2

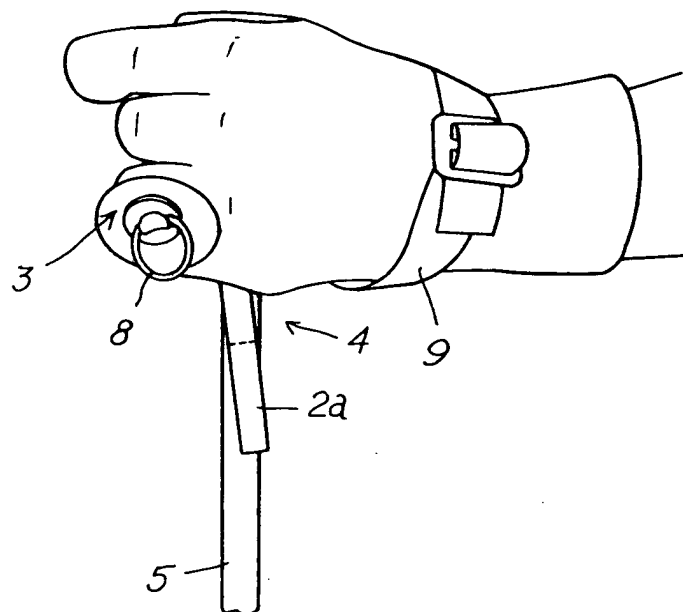


FIG. 3

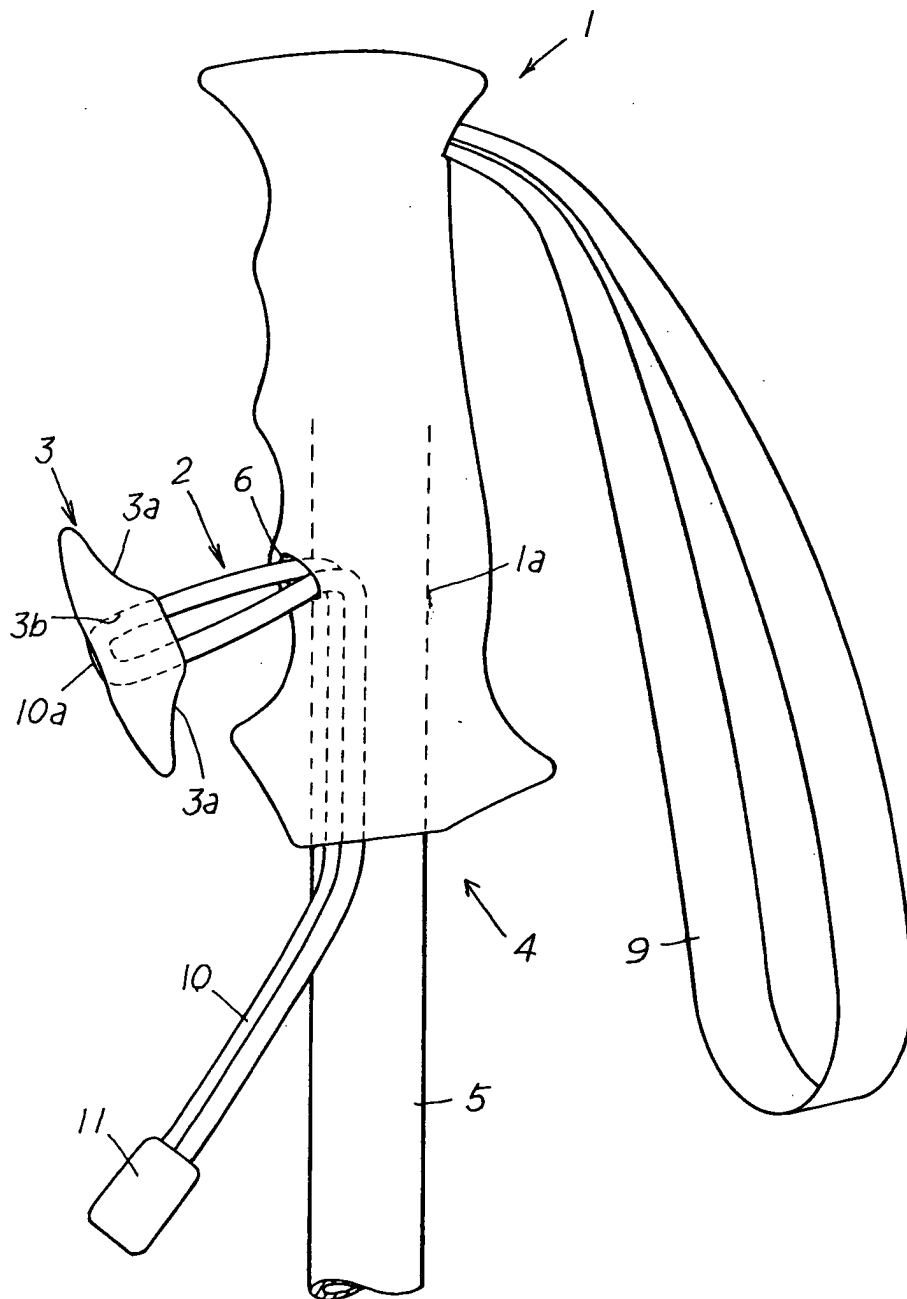


FIG. 4

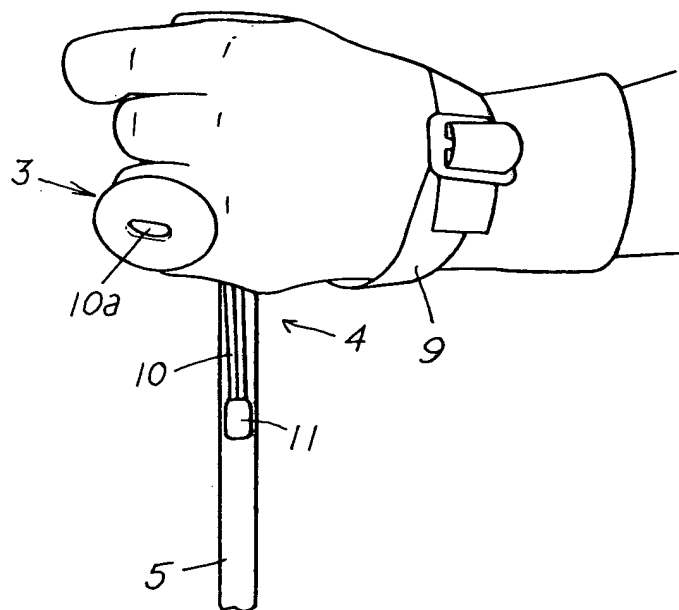


FIG. 5

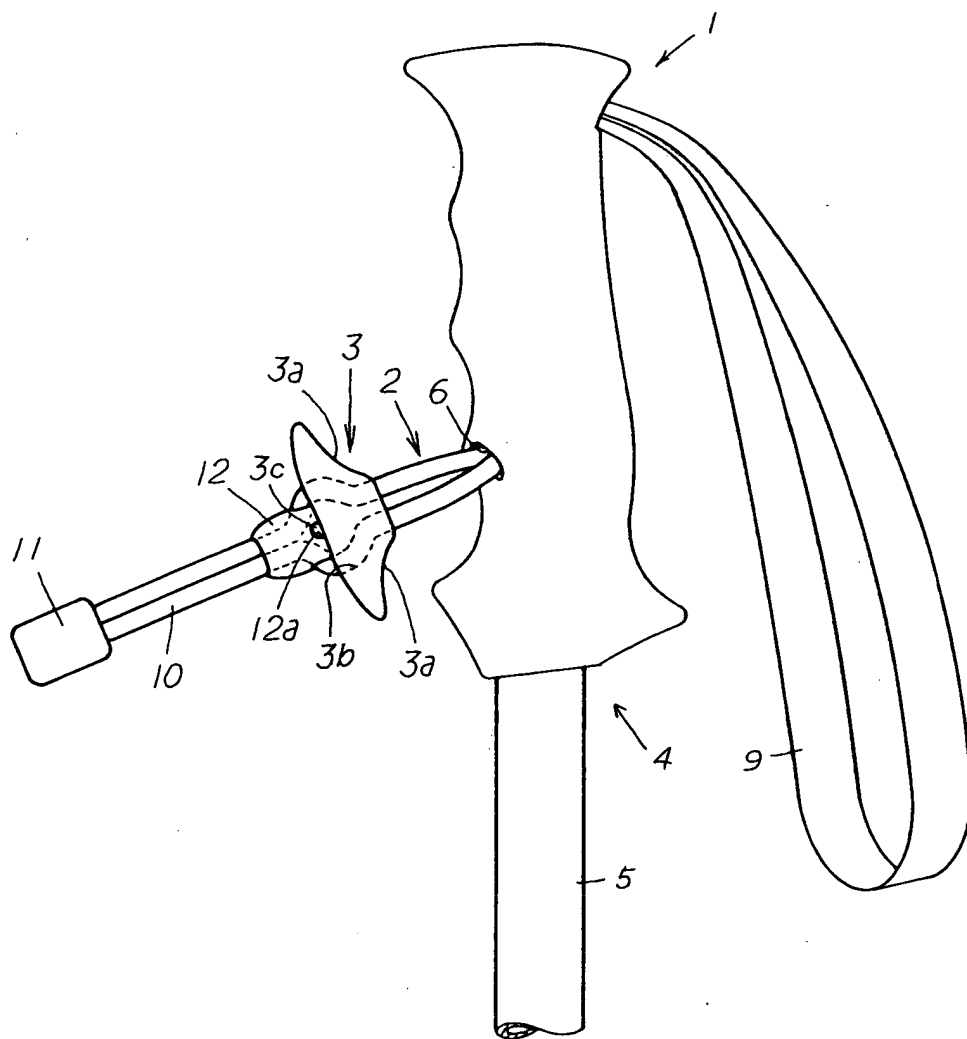


FIG. 6

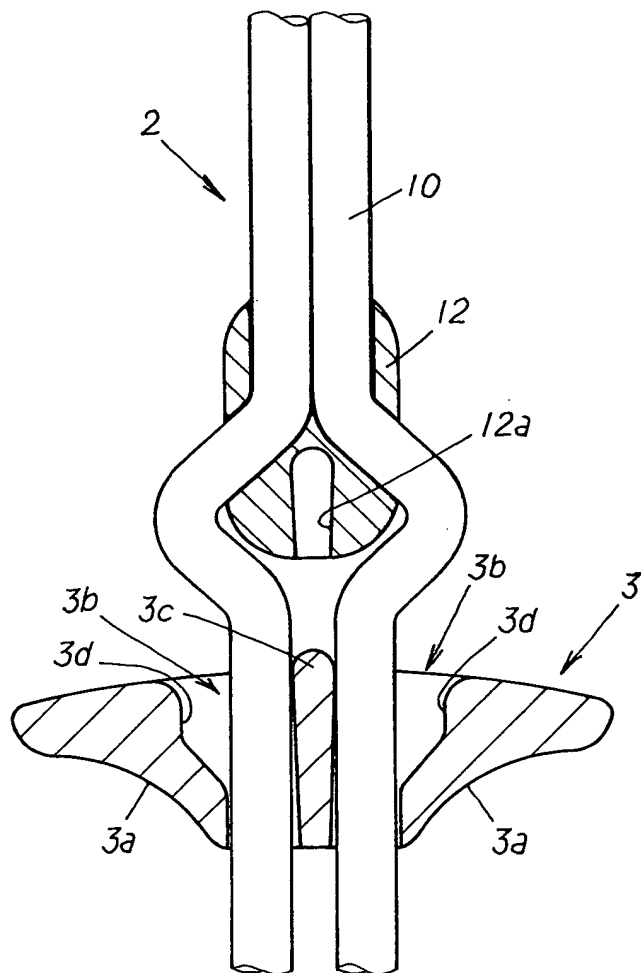
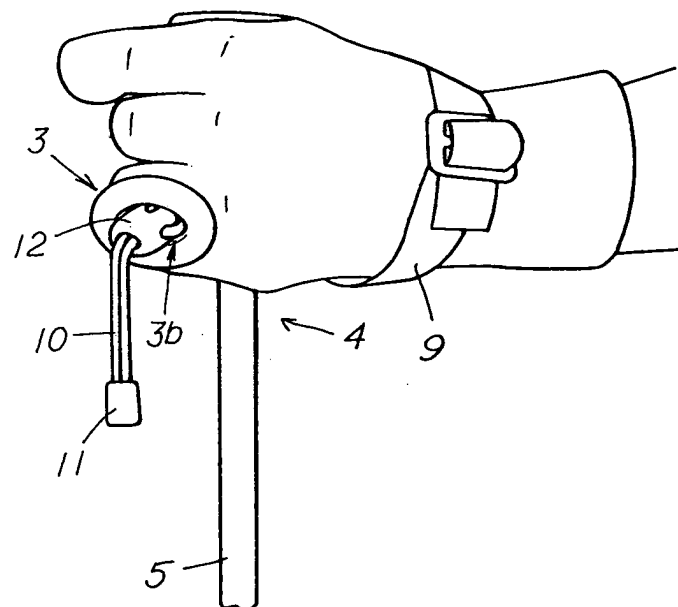


FIG. 7





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 01 4407

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	DE 295 02 281 U (DECKELMANN) 18 May 1995 (1995-05-18) * page 2, paragraph 4; figure 1 * ---	1,6	A63C11/22 A45B9/02 A63H1/30
A	AT 334 798 B (HINTERHOLZER) 10 February 1977 (1977-02-10) * page 2, line 30; figure 1 * ---	1,6	
A	US 1 419 402 A (MOSHER) 13 June 1922 (1922-06-13) * page 1, column 1, paragraph 8; figures 1,2 * ---	1,2	
A	US 2 773 328 A (FRAENKELT AL) 11 December 1956 (1956-12-11) * column 1, line 71; figures 1,2 * -----	1,2	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A63C A45B A63H
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 6 October 2003	Examiner Steezman, R
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			

EPO FORM 1503 03.82 (P04C01)

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

EP 03 01 4407

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-10-2003

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 29502281	U	18-05-1995	DE 29502281 U1	18-05-1995

AT 334798	B	10-02-1976	AT 931074 A	15-05-1976
			CH 596860 A5	31-03-1978
			DE 2551955 A1	26-05-1976
			FR 2291779 A1	18-06-1976
			IT 1049706 B	10-02-1981
			JP 51072539 A	23-06-1976

US 1419402	A	13-06-1922	NONE	

US 2773328	A	11-12-1956	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82