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Remarks:

Amended claims in accordance with Rule 86 (2) EPC.

(54) Hand strap assembly

(57) An assembly for fixing a hand strap (1) in handle (10) of a ski pole or a walking pole, in which assembly fixing is done by means of a strap (3) belonging to said hand strap (1), which strap is arranged to run through a joining element (4) formed in handle (10) and to return to hand strap (1). Said strap (3) is arranged to run by

means of joint (6) through joining element (4) fitted in handle (10), which joining element has at a distance from joint (6) an opening (9), through which strap (3) is steered, and that in connection with said opening there is a locking device (5) for locking strap (3) into opening (9) in a desired spot of the strap (3).

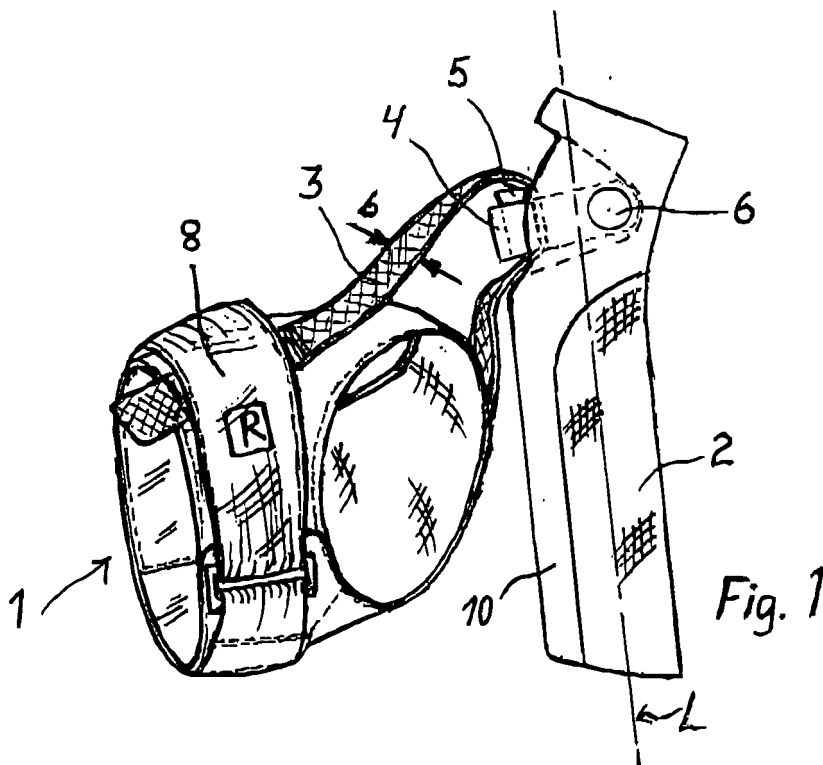


Fig. 1

Description

[0001] The invention relates to a hand strap assembly for fixing a hand strap in the handle of a ski pole or a walking pole, in which assembly fixing is done by means of a strap belonging to said hand strap, which strap is arranged to run through a joining element formed in the handle and to return to the hand strap.

[0002] Previously known from publication WO 00/78416 is the fixing of a hand strap by means of an articulation in the ski pole handle. In this solution through the hand strap two straps run, which are from their ends by means of a joint fixed to the side portions of the handle, on different sides of the handle a little over the handhold. On pushing with the pole and on change of handhold the force-transmitting straps do not bend near their fixing points, because articulation allows the strap always to twist in the pulling direction.

[0003] The disadvantage of this solution is that the length of straps running to the handle cannot be adjusted separately in a simple way. The straps to both sides of the handle must be separately adjusted and this generally causes adding of buckles or similar to the hand strap.

[0004] Known from US patent specification no: 4,775,168 is also a hand strap, which from its both ends is fixed on both sides of the of the handle upper part. The fixings are articulations, whereat the strap gets always twisted by stretching strain in the stretching direction.

[0005] The disadvantage of the above presented solutions is that the strap ends cannot be adjusted. Fixing of strap ends to the articulation is done from a chosen spot in the strap, which spot can at least not be moved. Moving is possible only in strap-shortening direction. However, in still presented solutions the strap can easily tear at the articulation, since stretch to strap usually comes through the hole formed in the strap.

[0006] The purpose of the invention is to produce a new application in order to fix a strap in the handle of a ski pole or a logging pole so that the strap fixing length would be adjustable, the strap would always turn in the stretching direction and in the joint the strap would not become worn out more than in any other spot. By means of the joining element in the invention and the special fixing strap fitted in the hand strap these aims are reached and the assembly as per this invention is characterized in that said strap is by means of the joint arranged to run through the joining element fitted in the pole, which joining element has at a distance from the joint an opening through which the strap is steered and in connection with said opening there is a locking device to lock the strap into the opening from a wanted spot in the strap.

[0007] The advantage of the assembly according to the invention is that the fixing strap running from the hand strap can be from any spot of the strap locked in the joining element in the handle, whereby it is possible to adjust the distance of hand strap to handle. The fixing strap runs horizontally through the opening retaining its width, whereat by stretching strain it must not bend at all

even if the handhold on the pole would change. The joining element twistingly fixed in the handle secures that at skiing the strap does not get into bending. The strap is easily locked for instance by means of a wedge in the joining element opening. The joining element can also be easily constructed removable by quick-release locking, whereby the hand strap is easily changed for instance into a pole of different length.

[0008] In the following the invention is disclosed with reference to the enclosed drawing, where,

Fig. 1 shows a hand trap fixed to the handle of a ski pole,

Fig. 2 shows a the joining element and locking wedge,

Fig. 3 shows the upper portion of the handle partly cut with joining element in place.

[0009] Figure 1 shows hand strap1 of a ski-pole, which strap has, by means of a buckle and a broad self-adhesive strap portion 8, adjustment of strap size to match the measures of the hand. Thanks to its self-adhesive surface part 8 gets re-fixed turned from buckle tank to its own surface that remained on the other side of buckle.

Figure 1 shows that also fixing strap 3 according to the invention gets from its other end fixed below self adhesive portion 8. The strap 3 length can be adjusted selecting which spot on strap gets below part 8 and locked there. The other end of fixing strap 3 can be permanently sewed in hand strap 3. Fixing strap 3 circulates through joining element 4 in handle portion 10, whereby the attachment between hand strap and handle is reached. Strap 3 runs through opening 9 of joining element 4 bending in width direction thus only in the direction recommended for the straps, whereby no harmful stretching strain in strap arises.

[0010] When joining element 4 is by means of a joint fixed to handle 10 and there is arranged for joining element in handle 10 a formation of a hollow as turning space it that it needs, the joining element is mainly inside the handle and there able to turn at least 20°, even 30°. When the hand is moving in changing its grip from handle, joining element 4 turns accordingly and the fixing strap does not get into bending even if the hand is making grip changes. For instance, in the attachment of joining element 4 there is a joint pin 6, which in one embodiment is fixed and allows no quick release of joining element 4. However, in this case the hand strap is still removable, since the free-released end of fixing strap 3 can be thread through opening 9 of joining strap 4. In another embodiment in the articulation a quick-release locking of joint pin 6 is arranged, when for instance on pushing joint pin 6 joining element 4 gets off pin 6 locking and the hand strap 1 is removable.

[0011] Figure 2 shows joining element 4, in the one end of which there is a hole 7 for instance for locking by means of joint pin 6 and in the other end an opening 9, from which fixing strap 3 is thread through. Strap 3 is

locked in opening 9 by means of wedge 5 in a manner known per se.

[0012] Figure 3 shows the upper part of handle 10 partly cut, whereby the formation of the hollow formation for joining element 4 is illustrated as well as angle α for its twisting. In one portion 2 of handle 10 there is, for instance, cork as coating.

Claims

1. An assembly for fixing a hand strap (1) in handle (10) of a ski pole or a walking pole, in which assembly fixing is done by means of a strap (3) belonging to said hand strap (1), which strap is arranged to run through a joining element (4), formed in handle (10), and to return to the hand strap (1), **characterized in that** said strap (3) is arranged to run by means of joint (6) through joining element (4) fitted in handle (10), which joining element has at a distance from joint (6) an opening (9), through which the strap (3) is threaded, and in connection with said opening there is a locking device (5) for locking the strap (3) into opening (9) in a desired spot of the strap (3).
2. An assembly according to claim 1 **characterized in that** the strap (3) is arranged to run as a strap according to its horizontal width (b) to joining element (4) to circulate through opening (9) and to according to its horizontal width (b) get off the joining element.
3. An assembly according to claim 1 **characterized in that** joining element (4) is arranged to turn around joint (6) at least 20°.
4. An assembly according to claim 1 **characterized in that** joining element (4) can be removed from articulation thanks to a component in joint (6), as a quick-release lock in connection with the joint pin.
5. An assembly according to claim 1 **characterized in that** at least one end of the strap (3) can be adjustably fixed in the hand strap (1).
6. An assembly according to claim 1 **characterized in that** the fixation of articulation (6) is on the pole centre line (L) or on the front side, opposite side of the centre line with regard to the position of the hand strap
7. An assembly according to claim 1 **characterized in that** joining element (4) is arranged to turn around joint (6) at least 30°.

Amended claims in accordance with Rule 86(2) EPC.

1. An assembly for fixing a hand strap (1) in a handle

(10) of a ski pole or a walking pole, in which assembly fixing is done by means of a strap (3) belonging to said hand strap (1), which strap is arranged to run through a joining element (4), formed in the handle (10), and to return to the hand strap (1), **characterized in that** said joining element (4) is fitted in the handle (10) by means of a joint (6), and said joining element has at a distance from the joint (6) an opening (9), through which the strap (3) is threaded, and in connection with said opening there is a locking device (5) for locking the strap (3) into the opening (9) in a desired spot of the strap (3), whereby it is possible to easily adjust the distance of the hand strap to the handle.

2. An assembly according to claim 1, **characterized in that** the strap (3) is arranged to run as a strap according to its horizontal width (6) to the joining element (4) to circulate through the opening (9) and to according to its horizontal width (6) get off the joining element.

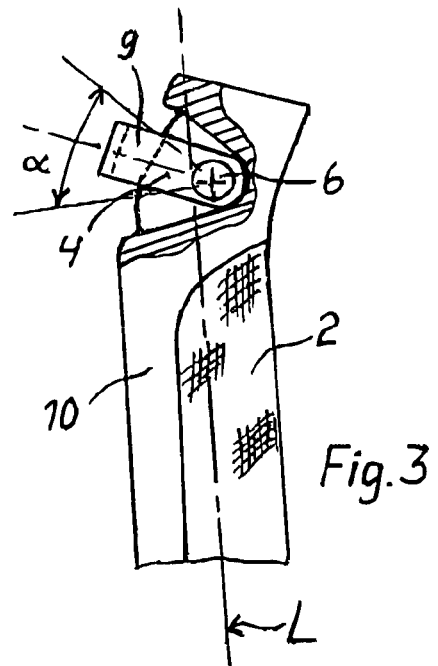
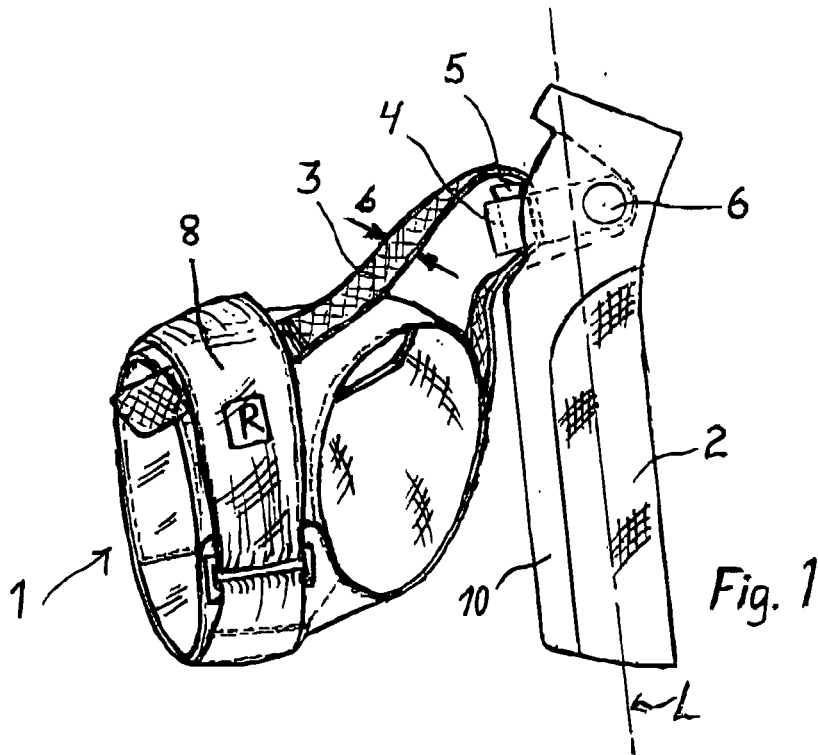
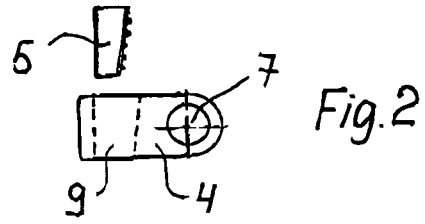
3. An assembly according to claim 1, **characterized in that** the joining element (4) is arranged to turn around the joint (6) at least 20°.

4. An assembly according to claim 1, **characterized in that** joining element (4) can be removed from articulation thanks to a component in the joint (6), such as a quick-release lock in connection with a joint pin.

5. An assembly according to claim 1, **characterized in that** at least one end of the strap (3) can be adjustably fixed in the strap (1).

6. An assembly according to claim 1, **characterized in that** the fixation of articulation of the joint (6) is on the pole centre line (L) or on the front side, opposite side of the centre line with regard to the position of the hand strap.

7. An assembly according to claim 1, **characterized in that** the joining element (4) is arranged to turn around the joint (6) at least 30°.





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)
Y	CH 195 360 A (SPORTSPATENTER A/S) 31 January 1938 (1938-01-31) * page 2, paragraph 2-4; figures 1-3 *	1-7	A63C11/22
Y	US 6 502 862 B1 (LENHART KLAUS) 7 January 2003 (2003-01-07) * column 2, line 62 - column 3, line 12; figure 1 *	1-7	
A	US 5 110 154 A (STREET ET AL) 5 May 1992 (1992-05-05) * column 3, line 55 - column 4, line 68; figures 1-3 *	1,4	
A	US 5 328 205 A (BACHARACH ET AL) 12 July 1994 (1994-07-12) * column 5, lines 55-68 - column 6, lines 30-58; figures 4,6 *	1,4	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A63C
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 17 October 2005	Examiner Murer, M
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 39 6021

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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17-10-2005

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REFERENCES CITED IN THE DESCRIPTION

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- US 4775168 A [0004]