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(54) **An improved hand strap for sports poles**

(57) A hand strap (1) for a sports pole (B) comprising a shaped band (2) with means (6) for connecting it to the handle (M) for gripping the pole (B) and means (3) for attaching it to the hand (G; N) of an athlete. The hand strap comprises non-slip means (10) facing towards the hand (G; N) of the athlete wearing the hand strap (1).

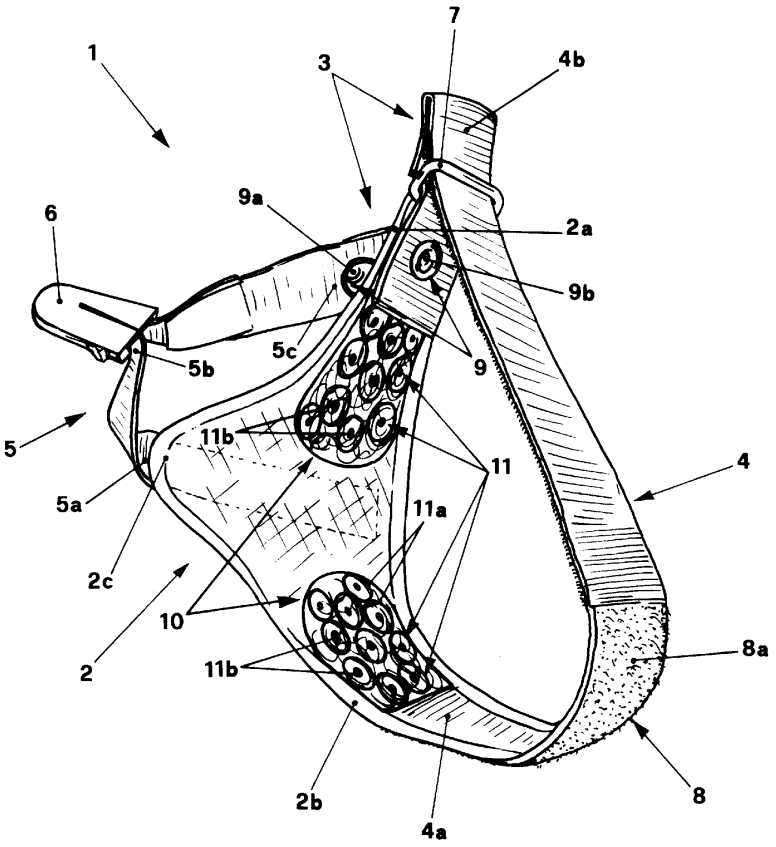

FIG. 1

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Description

[0001] The invention relates to a hand strap of improved design complete with means of connection to the handle of a pole for use in sports activities.

[0002] It is common knowledge that the poles used in sports activities such as skiing and trekking essentially comprise an elongated tubular body that has a tip at one end and a handle at the opposite end for gripping said pole.

[0003] Before gripping the handle, the user of the pole inserts a gloved or naked hand through a hand strap, which is complete with a buckle for inserting in a recess provided in the handle, wherein it is retained by suitable locking means.

[0004] The hand strap is used to keep the athlete's hand aligned with the handle of the pole in order to guarantee a valid gripping action.

[0005] The hand strap also ensures that the pole remains connected to the athlete's hand both to provide better support and in the event of any accidental or intentional release of the athlete's grip on the handle.

[0006] There are hand straps of various types and shapes on the market, but they all have the acknowledged drawback of failing to assure a sufficiently stable grip for the athlete's hand, or a glove worn by the athlete.

[0007] In fact, the hand straps of known type are shaped so as to form a flexible ring that surrounds the athlete's hand or glove, covering it in line with the wrist, but without adhering thereto sufficiently to prevent the rotation of the hand strap around the wrist.

[0008] As a consequence, if the athlete intentionally or accidentally releases his grip on the handle, the unhindered rotation of the strap around the wrist enables the pole to move into a position that most often makes it difficult for the athlete to regain a hold on the handle.

[0009] In an attempt to improve the stability of the grip and prevent any such rotation of the strap in the event of the user releasing his grip on the handle, some straps are also fitted with a smaller thumb strap that surrounds the thumb of the hand holding the handle.

[0010] Although this executive modification improves and stabilises the user's grip on the handle during the sporting action, it fails to solve the problem completely.

[0011] In fact, one end of the thumb strap is attached to the hand strap while the opposite end, after it has been wrapped in a ring around the athlete's thumb, is attached to the hand strap by means of a snap fastener to enable its rapid release in case of need.

[0012] It is therefore evident that, if the snap fastener is released, the hand strap remains free once again to rotate around the wrist of the athlete's hand and consequently, as mentioned earlier, the presence of the thumb strap does not definitively solve the above-identified problem.

[0013] The present invention aims to overcome the previously-described drawbacks.

[0014] In particular, one object of the invention is to realise a hand strap for sports poles, e.g. for skiing or trekking, or Nordic walking, that - by comparison with the hand straps of the known state of the art - remains more closely attached to the athlete's hand, or glove, when the athlete grips the handle of the pole.

[0015] Another object of the hand strap of the invention is to be less liable to rotate around the athlete's wrist, irrespective of whether or not the hand is gloved.

[0016] Another object is that, in the event of its grip on the handle being intentionally or accidentally released, the athlete's hand remains nonetheless aligned with the handle, in a position that enables the athlete to easily and rapidly regain his grip on the handle.

[0017] The objects of the invention are achieved by a hand strap with the characteristics described in the main claim, to which the reader can refer for the sake of brevity.

[0018] Other characteristics of the hand strap of the invention are described in the dependent claims.

[0019] The hand strap of the invention advantageously makes the pole holder's grip on the handle more stable and safe by comparison with the known hand straps, and consequently facilitates the athlete's sporting action.

[0020] Another advantage of the hand strap of the invention lies in that it makes it easier and quicker to regain a grip on the handle of the pole after it has been released, thereby contributing to an improvement in the athlete's performance.

[0021] The hand strap of the invention is described below with reference to the attached drawings, which illustrate a preferred embodiment that is described here as a non-limiting example, wherein:

- figure 1 shows an axonometric view of the hand strap of the invention;
- figure 2 shows the hand strap of the invention during its application to the gloved hand of the athlete;
- figure 3 shows an axonometric view of the hand strap of the invention attached to the handle of a sports pole;
- figure 4 shows the hand strap of the invention worn by a gloved hand that grips the handle of a sports pole;
- figure 5 shows the gloved hand of figure 4 in the position in which it releases its grip on the handle of the pole, with the hand strap partially released;
- figure 6 shows a hand wearing the hand strap of the invention when gripping the handle of a sports pole.

[0022] The hand strap of the invention is shown in an axonometric view in figure 1, where it is globally identified by the numeral **1.**

[0023] The hand strap is also shown in figure 2, wherein it is represented in the phase in which a gloved hand is inserted therein, and in figure 3 where it is attached to the handle **M** of a trekking or skiing pole **B**.

[0024] The hand strap of the invention is also shown in figure 4, where it is wrapped around the gloved hand that grips the handle **M** of the pole **B**, and in figure 5,

where it is partially released by the hand it surrounds, shown in the process of releasing the handle.

[0025] With particular reference to figures 1 and 5, the hand strap **1** of the invention clearly facilitates the athlete's grip on the handle **M** of the pole **B** because it comprises a shaped band **2** substantially triangular in shape that is made integral with the athlete's hand by connection means **3**, as shown particularly in figure 4, and also in figure 6.

[0026] It is worth emphasising that the hand strap **1** of the invention may be worn by the gloved hand **G** of an athlete, as shown in figure 4, or by a naked hand **N**, as shown in figure 6, depending on whether the athlete is engaged in a skiing or a trekking activity.

[0027] The substantially triangular shaped band **2** has three vertices, **2a, 2b, 2c,** respectively, that come to occupy particular positions on the hand when the strap is worn, as shown in figures 4 and 6.

[0028] In particular,

- a first vertex **2a** comes into line with the abductor and flexor muscles of the thumb;
- a second vertex **2b** comes into line with the opponent and abductor muscles of the little finger;
- a third vertex **2c** comes into line with the surface of the palm.

[0029] The connection means **3** that, as mentioned previously, keep the hand strap **1** attached to the athlete's hand, be it gloved **G** or naked **N**, comprise:

- a first belt **4** with a first end **4a** attached to the second vertex **2b** of the main band **2** and a second, free end **4b**, opposite the first;
- a second belt **5** with a first end **5a** attached to the third vertex **2c** of the main band **2**, an intermediate area **5b** attached to the buckle **6** connecting the hand strap to the handle **M** of the pole **B** and a second, free end **5c**.

[0030] The connection means are also complete with a ring **7** attached to the first vertex **2a** of the main band **2** for wrapping the first belt **4** around the wrist of the hand wearing the hand strap **1.**

[0031] Moreover, there are first means **8** for fixing the first belt **4** after it has been wrapped around the wrist, and second means **9** for fixing the second belt **5** to the main band **2** after the second, free end **5c** of said second belt **5** has been wrapped around the thumb of the hand wearing the hand strap **1.**

[0032] In particular, the first fixing means **8** comprise Velcro surfaces **8a** forming part of the first belt 4 and cooperating by contact with one another, while the second fixing means **9** comprise a snap fastener **9a** attached to the second end **5c** of the second belt **5**, that is removably coupled to an opposing snap fastener **9b** forming part of the main band 2.

[0033] According to the invention, the hand strap **1** comprises non-slip means **10** facing towards the hand **G; N** of the athlete wearing the hand strap **1**, the purpose of which is to prevent any rotation of the hand strap around the wrist of the gloved or ungloved hand in the event of the athlete accidentally having to release his grip on the handle **M** of the pole **B**, as shown for instance in figure 5.

[0034] The aforesaid non-slip means **10**, observable particularly in the figures from 1 to 3, comprise a plurality of shaped elements **11** protruding from the surface of the shaped band **2** towards the hand **G; N** wearing the hand strap **1.**

[0035] In particular, should the hand be gloved, as shown in figure 4, the protruding elements **11** come into contact with the glove, whereas if the hand is naked, as shown in figure 6, the protruding elements **11** come into direct contact with the hand.

[0036] In both cases, in addition to serving the purpose of preventing any rotation of the hand strap **1** in the event of the handle **M** being released, as previously explained, the protruding elements **11** also guaranteed a greater stability of the gripping action during the performance of the sporting activity.

[0037] As shown in the figures, the protruding elements **11** are provided particularly in line with the first vertex **2a** and the second vertex **2b** of the shaped band **2** and they exert their non-slip action in line with the abductor and flexor muscles of the thumb and the opponent and abductor muscles of the little finger, respectively.

[0038] It is in these areas, in fact, that their presence achieves the maximum effect in terms of preventing slipping or rotation.

[0039] It is nonetheless evident that, in other embodiments, the protruding elements **11** may also cover the entire surface of the shaped band.

[0040] In particular, it can be noted that the protruding elements **11** have a rounded form wherein first parts **11a** have a curved shape and second parts **11b** have a pointed shape.

[0041] These protruding elements are preferably made of an elastomer, but they may be made in any other material suitable for achieving a strong adhesive effect and consequently performing their non-slip and anti-rotation action in relation to a hand or glove with which they come into contact.

[0042] In the light of the above, it is clear that the hand strap of the invention achieves the previously-stated objects.

[0043] It is clear that the hand strap of the invention may also differ in shape from the one described herein, and the non-slip means may also be applied in different positions and have a different shaping from those illustrated in the figures.

[0044] The description herein is given on the understanding that any such variants, providing they come within the scope of the claims that follow, shall all be considered protected by the present patent.

[0045] Where technical features mentioned in any

claim are followed by reference signs, those reference sings have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A hand strap (1) for a sports pole (B) comprising a shaped band (2) complete with means (6) for connecting it to a handle (M) for gripping said pole (B) and means (3) for attaching it to the hand (G; N) of an athlete, **characterized in that** it comprises non-slip means (10) facing towards said hand (G; N) of the athlete wearing said hand strap (1).

2. A hand strap (1) according to claim 1), **characterized in that** said non-slip means (10) comprise one or more protruding elements (11) on the surface of said shaped band (2) facing towards said hand (G; N) wearing said hand strap (1).

3. A hand strap (1) according to claim 2), **characterized in that,** when said hand strap is worn, said protruding elements (11) are located directly in contact with the naked hand (N).

4. A hand strap (1) according to claim 2), **characterized in that**, when said hand strap is worn, said protruding elements (11) are located in contact with a glove (6) worn by said hand.

5. A hand strap (1) according to claim 1) or 2), **characterized in that** said shaped band (2) has a substantially triangular shape and, when said hand strap (1) is worn, there are:

   - a first vertex (2a) in a position coinciding with the abductor and flexor muscles of the thumb;
   - a second vertex (2b) in a position coinciding with the opponent and abductor muscles of the little finger;
   - a third vertex (2c) in line with the surface of the palm, said protruding elements (11) being provided in line with said first vertex (2a) and said second vertex (2b).

6. A hand strap (1) according to any of the previous claims from 2) to 5), **characterized in that** said protruding elements (11) comprise first parts (11a) with a curved shape and second parts (11b) with a pointed shape.

7. A hand strap (1) according to any of the previous claims from 2) to 6), **characterized in that** said protruding elements (11) are made of an elastomer.

8. A hand strap (1) according to claim 5), **characterized in that** said connection means (3) comprise:

   - a first belt (4) that has a first end (4a) attached to said first vertex (2a) of said main band (2) and a second, free end (4b), opposite said first end (4a);
   - a ring (7) attached to said second vertex (2b) of said main band (2) to enable said first belt (4) to be wrapped around the wrist of said hand (G; N) wearing the hand strap (1);
   - first means (8) for fixing said first belt (4) after it has been wrapped around said wrist;
   - a second belt (5) with a first end (5a) attached to said third vertex (2c) of said main band (2), an intermediate area (5b) attached to said buckle (6), and a second, free end (5c) for wrapping in a ring around the thumb of said hand (G; N) wearing said hand strap (1);
   - second means (9) for attaching said second belt (5) to said main band (2).

9. A hand strap (1) according to claim 8), **characterized in that** said first connection means (8) comprise Velcro surfaces (8a) forming part to said first belt (4) and co-operating with one another by mutual contact.

10. A hand strap (1) according to claim 8), **characterized in that** said second connection means (9) comprise a snap fastener (9a) provided on the second end (5c) of said second belt (5) suitable for removably coupling with an opposite snap fastener (9b) provided on said main band (2).

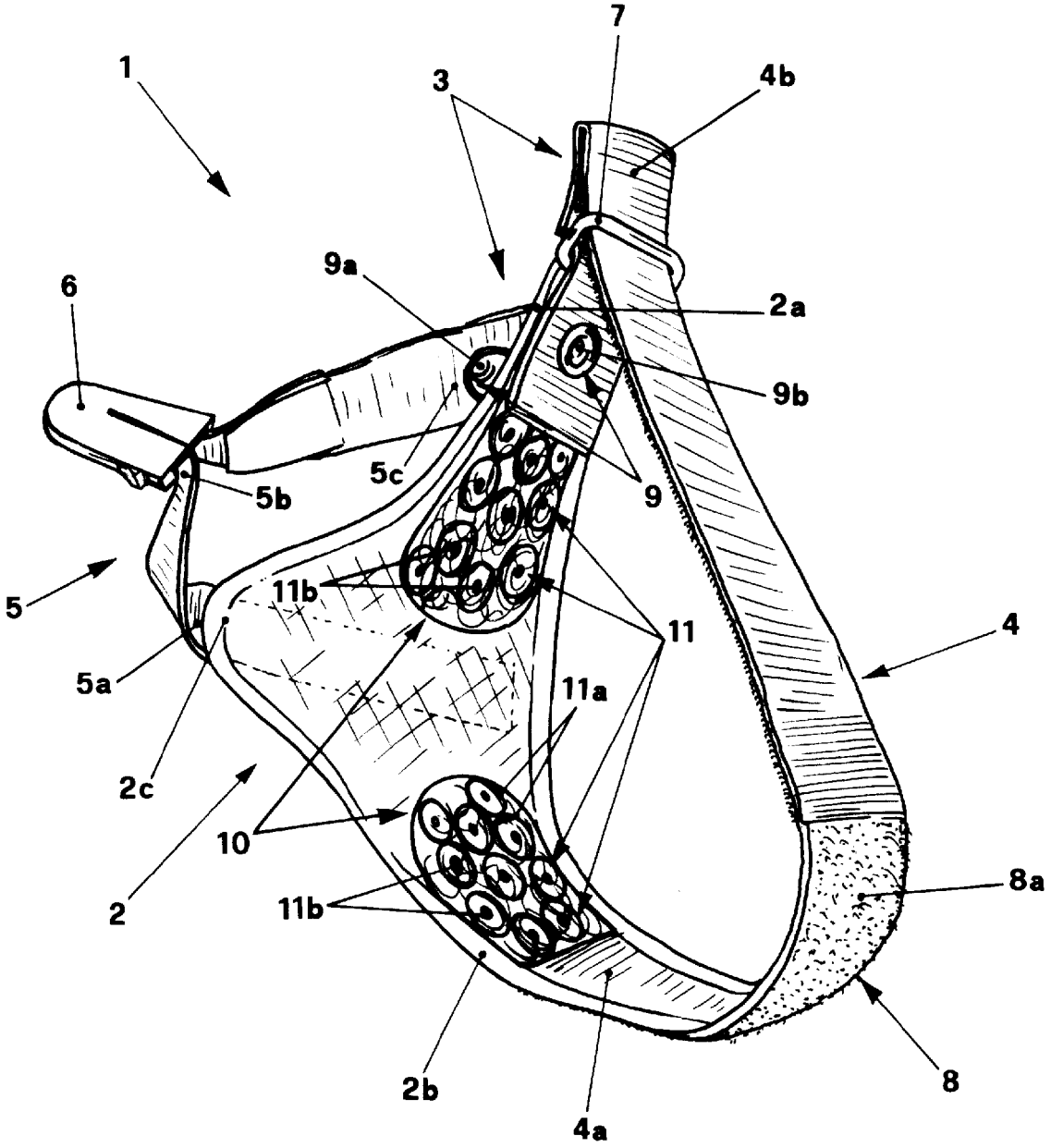

FIG. 1

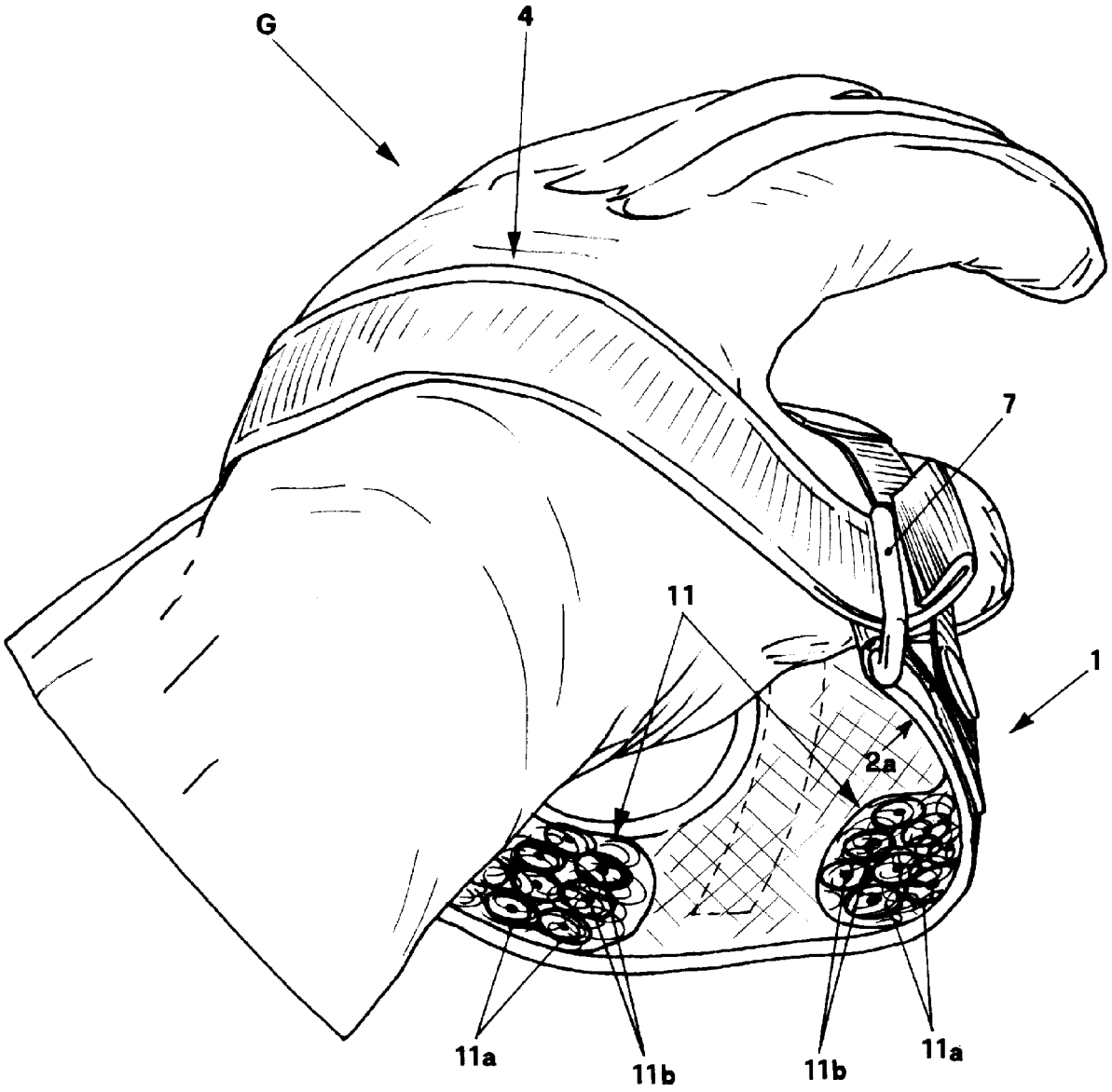

FIG. 2

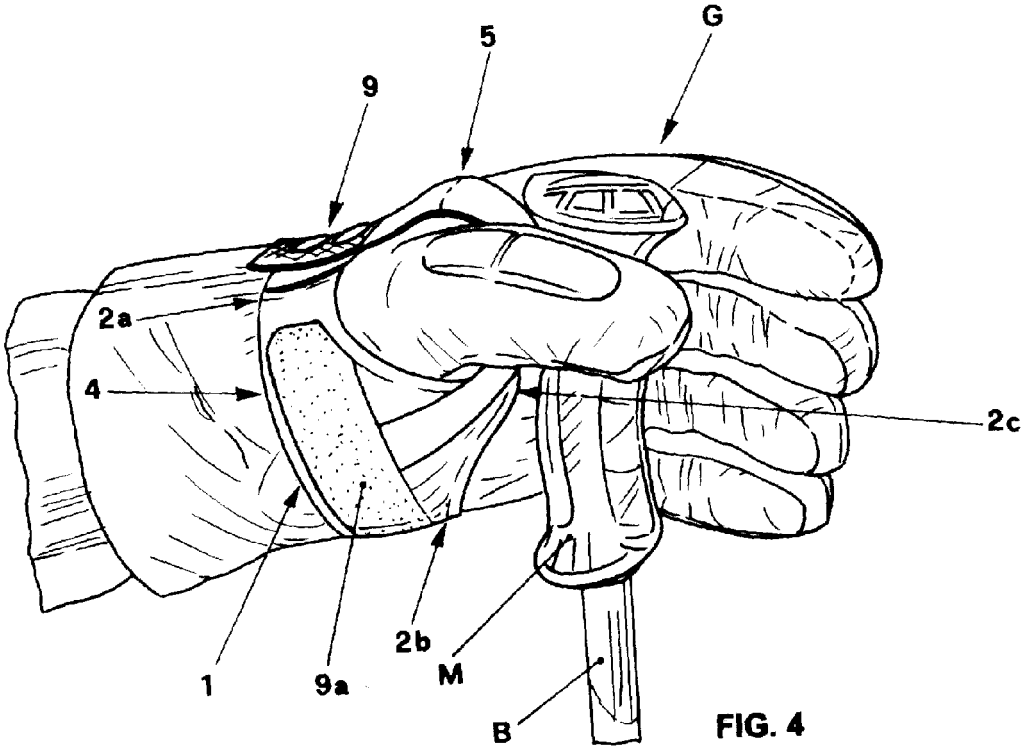

FIG. 4

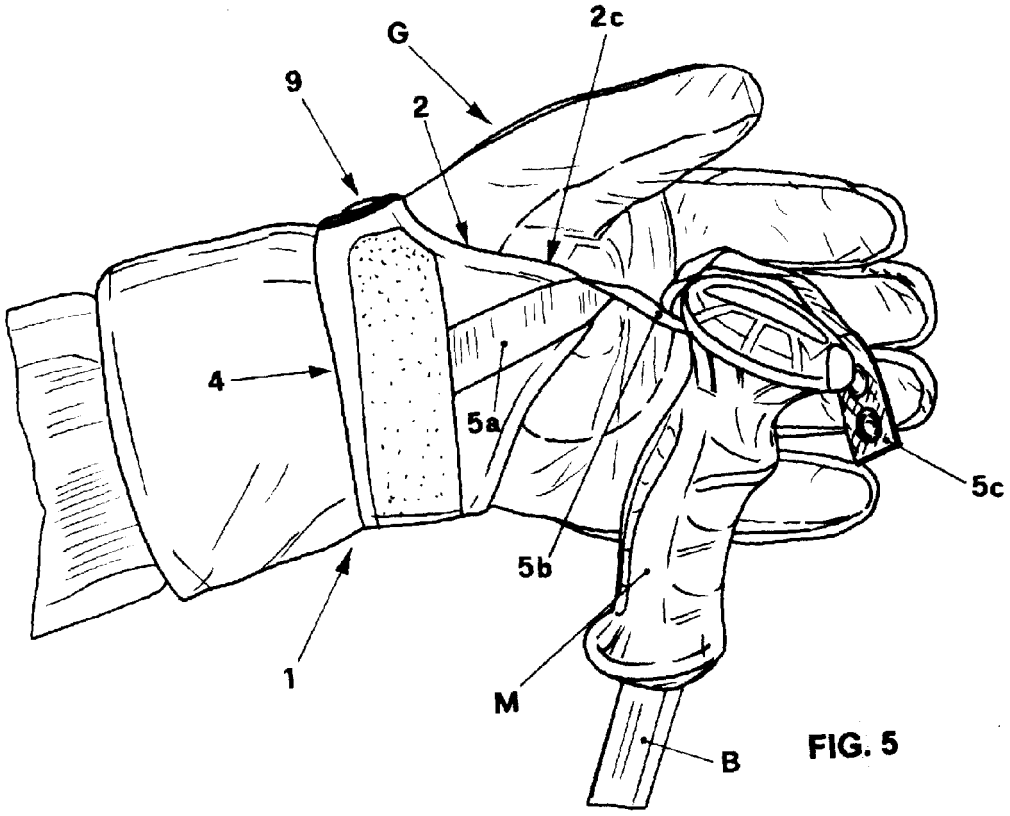

FIG. 5

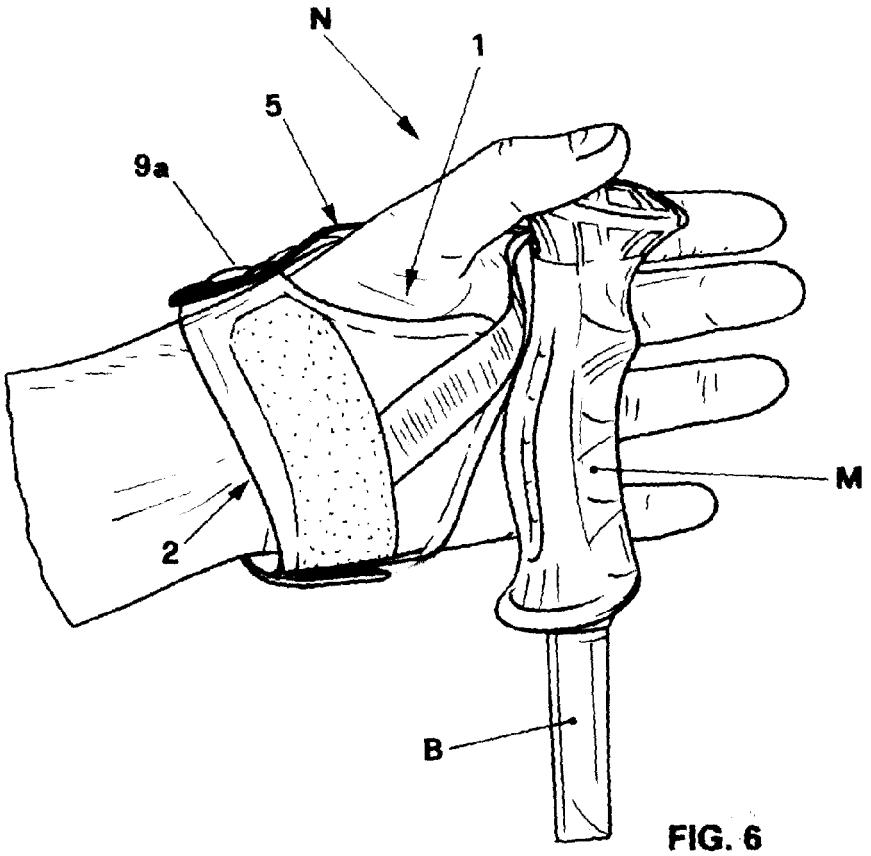

FIG. 6

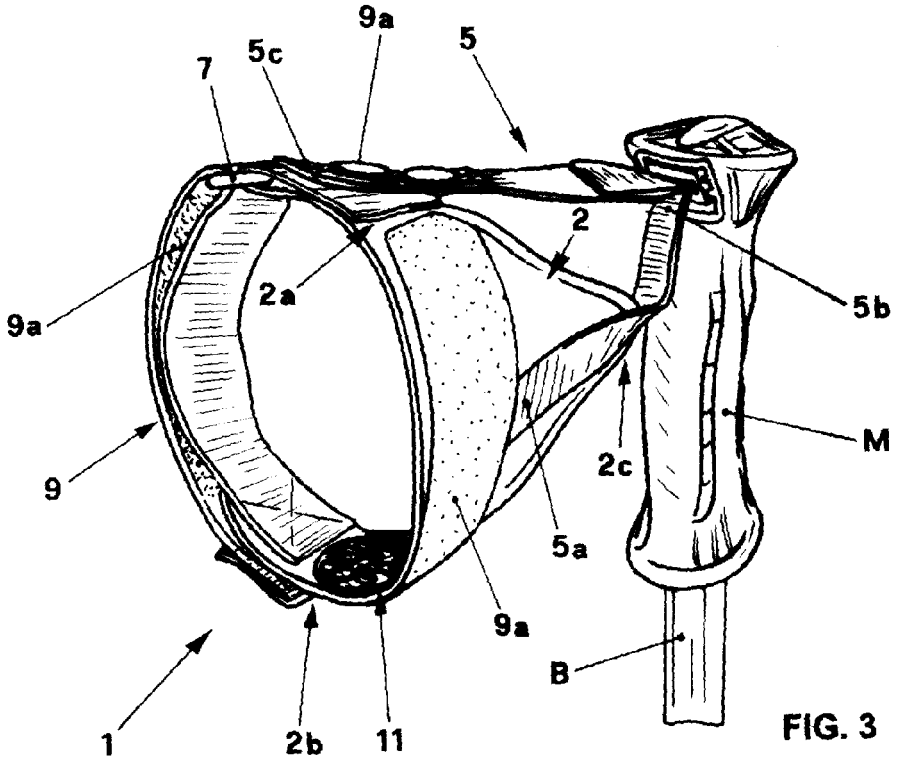

FIG. 3

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EUROPEAN SEARCH REPORT

Application Number
EP 09 15 2620

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	WO 02/062434 A (EXEL OYJ [FI]) 15 August 2002 (2002-08-15) * the whole document *	1-10	INV. A63C11/22
A	DE 94 01 287 U1 (LEKI SPORT LENHART GMBH [DE]) 7 April 1994 (1994-04-07) * the whole document *	1-10	

TECHNICAL FIELDS SEARCHED (IPC)

A63C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	19 May 2009	Haller, E

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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