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(54) **A DEVICE FOR CHANGING BETWEEN TWO DIFFERENT TIPS ON A POLE**

VORRICHTUNG ZUM WECHSELN ZWISCHEN ZWEI VERSCHIEDENEN STOCKSPITZEN

DISPOSITIF DE REMPLACEMENT ENTRE DEUX POINTES DIFFERENTES POUR UN BATON

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Description

[0001] The present invention relates to a device for changing between two different tips on a pole.

[0002] For poles used on varying substrata, as for instance asphalt, forest paths and snow/ice, it is an advantage to have a different tip when the substratum is soft, hard or slippery. For poles of the type Nordic Walking, i.e. for use on substrata without snow, this has been achieved by using a permanent, pointed tip in soft terrain and on ice. Additionally are used caps of rubber, which are threaded onto the pointed tips, and which are soft and have larger surfaces, in order to make it steadier to use the pole on hard substratum. The caps also damp the shocks transferred to the arms of the user when the poles are placed against the ground, and thereby reduces wear in joints. A disadvantage is that the users may forget to bring along the caps, and that the caps when removed may be dirty due to soil and similar and thus are not suited for being contained in pockets, bags or similar without being put into a separate bag. There also is the danger that the caps may loosen during use.

[0003] Another solution is present on poles from A.C.C. AB, where a rubber sleeve is screwed onto the end of the pole. The rubber sleeve has a throughgoing, threaded passage parallel to the pole. For soft substratum and ice the sleeve may be in a position where it has been screwed as long up on the pole that a spike on the end of the pole protrudes out of the passage. When the pole is used on hard substratum as for instance asphalt, the sleeve may be screwed down around the spike, whereby the lower end of the sleeve comes in contact with the substratum, and whereby the spike lies concealed inside the sleeve.

[0004] US 3637229 shows a similar solution, where a pole-shaped spike is provided inside of the tip on a pole, whereby the tip has a longitudinal hole in which the spike is guided and may be shifted. For use on hard substratum the spike may be moved as long upwardly in the pole that it does not protrude outside of the tip. For use on softer substratum or ice the spike may be moved out from the tip. US-A-3 738 674 shows a ski equipped crutch that converts from a skiing aid to a walking aid by rotating the ski having a skid resistant member.

[0005] For crutches is known to mount a spike on a lever hinged to the crutch pole, whereby the spike may be pivoted upwardly when not in use and pivoted down to below the rubber foot of the crutch when it is to be used. The present invention may also be used on crutches and, moreover, on walking sticks, but it is primarily adapted for use on poles used for Nordic Walking.

[0006] Thus, the present invention relates to a device for permitting changing between two tips on a pole, and is characterized in that it comprises a member having two end pieces in the form of a pointed tip for use on soft substratum and ice and a tip having a soft pad for use on hard substratum, respectively, said member being fastened to an inclined plane on the end of a pole, in such

a manner that it may be rotated approximately about its middle point and retained in one of two optional rotational positions on the pole, in which the pointed tip and the tip having the soft pad, respectively, are directed approximately in the longitudinal direction of the pole.

[0007] Thus, the two tips are permanently fastened to the pole, by being situated on a common member, and the user may at choice change between using the one or the other of the tips, depending on the substratum.

[0008] When the member is rotated so that the pointed tip is directed upwardly, i.e. that the soft pad is directed downwardly and used, it may be an advantage that a covering element is provided which can cover the pointed tip in this position, whereby it cannot cause any harm by unintentionally hitting persons or animals. The covering element may be adapted to be moved away from the covering position, in order not to prevent gripping by a hand the member on which the tips are situated during rotation of the member by change-over of the member. The covering element may be hinged to the end of the pole, in order to be pivoted between a position where it is swung in against the end of the pole and a position where it is swung out and covers the spike on the pointed tip when this is not in use. The covering element may have the shape of an arm, which has a hook-like portion on its free end. The end of the pole may be formed with means for holding the covering element close to the end of the pole when the covering element is not in use. These means may for instance be a pin adapted to be moved through a hole in the arm of the covering element. Another solution is that the end of the pole is formed with two pins with an interstice to which a portion of the arm of the covering element matches, whereby the arm will be clamped by being moved into the interstice. Other ways of fastening the covering element in the swung-up position are of course possible. Moreover, it is possible to provide the covering element in such a way that it stands permanently in the covering position, provided that it enables accommodation of the tip having the soft pad.

[0009] The present invention will be better understood from the following, detailed description and the accompanying drawings, which show examples of embodiments of the invention.

[0010] Equal reference numerals refer to equivalent parts.

Figs. 1 - 5 show a first embodiment of a device according to the invention.

Fig 1 shows, seen in the direction of walking, the device having the pointed tip directed downwardly and the pad directed obliquely upwardly and rearwardly.

Fig. 2 shows the device of Fig. 1 in a longitudinal section, the direction of walking being to the right.

Fig. 3 shows the device of Figs. 1 and 2

- seen from the side, the direction of walking being to the left.
- Fig. 4 shows a section along the line B-B in Fig. 3.
- Fig. 5 shows the device of Figs. 1 - 4 seen from above.
- Figs. 6 - 11 show a second embodiment of a device according to the invention.
- Fig. 6 shows, seen from the side, the device having the pointed tip directed obliquely upwardly and rearwardly and the pad directed downwardly.
- Fig. 7 shows the device of Fig. 6 in a longitudinal section, the direction of walking being to the right.
- Fig. 8 shows the device of Figs. 6 and 7 seen from the side, the direction of walking being to the left.
- Fig. 9 shows a perspective view of the device of Figs. 6 - 8.
- Fig. 10 shows a section along the line B-B in Fig. 8.
- Fig. 11 shows the device of Figs. 6 - 10 seen from above.
- Figs. 12 - 17 show a third embodiment of a device according to the invention.
- Fig. 12 shows, seen from the side, the device having the pointed tip directed obliquely upwardly and rearwardly and the pad directed downwardly.
- Fig. 13 shows the device of Fig. 12 in a longitudinal section, in another condition than in Fig. 12, the direction of walking being to the right.
- Fig. 14 shows the device of Figs. 12 and 13 seen from the side, the direction of walking being to the left.
- Fig. 15 shows a perspective view of the device of Figs. 12 - 14.
- Fig. 16 shows a section along the line B-B in Fig. 14.
- Fig. 17 shows the device of Figs. 12 - 16 seen from above.
- Figs. 18 and 19 show a fourth embodiment of a device according to the invention.
- Fig. 18 shows in perspective view an embodiment having a pivotable covering element adapted to cover the spike when the pointed tip (2) is in the swung-up position.
- Fig. 19 shows the embodiment of Fig. 18, seen from the side, having the spike directed downwardly and the covering element swung against the end of the pole.

[0011] The embodiment of Figs. 18 and 19 may be combined with any of the other embodiments.

Detailed description of the invention.

[0012] The Figs. show a device which, when being mounted lowermost on a pole may, by a simple grip, be varied between having a pointed and hard tip 2 and a thicker and soft tip 3, respectively, directed downwardly, i.e. in the direction of the pole. The two different types of tips are situated on a respective end of the same member 1, this being coupled to the end 4 of the pole between the two types of tips and lies against an oblique plane on the end of the pole. This oblique plane may have any angle relatively to the axis of the pole, but the angle preferably lies between 30 and 60 degrees.

[0013] The embodiments shown are such that the tip not being in a position of use is directed obliquely upwardly and oppositely of the walking direction. This is not a premise, but is supposed to be convenient. In particular when the pointed and hard tip is not in the position of use, it will not protrude to any side, and will to a small degree be able to hurt the user or others.

[0014] The member 1 can be pivoted about the point of fixation for change-over with respect to which type of tip is to be in the position of use, and is kept in place against the end 4 of the pole by a retaining device. This is common to all the embodiments, which mainly depart from each other by the embodiment of the retaining device.

[0015] Thus, the three embodiments shown mainly depart from each other with respect to how the member 1 can be locked against the end 4 of the pole and be released for being pivoted. All the embodiments comprise the member 1 having the two types of tips 2 and 3. The device may comprise some kind of a disc 5, in the form of a round or not round plate, as it best appears from the Figs. 5, 11 and 17, and which counteracts deep penetration in a soft substratum.

[0016] The retaining device in the embodiment shown in the Figs. 1 - 5 comprises a bolt 6 inserted in a bore 7 in the end 4 of the pole. Below the head 8 on the bolt 6 is a helical spring 9, which is in abutment against an annular flange 10 in the bore 7 and which affects the member 1 with a force against the end 4 of the pole, in that the bolt 8 is fastened in the member 1 by a screw 22. This appears from the Figs. 2 and 4.

[0017] The member 1 must be able to be locked against pivoting in the two positions of use, which may be achieved by forming the member 1 with at least one protrusion on the surface facing the end 4 of the pole and a corresponding recess in the end of the pole, such as a rib which may enter a groove in the end of the pole, or oppositely, i.e. that the end of the pole is formed with a rib and the member 1 has a groove. In stead of rib and groove for instance pins and holes may be used.

[0018] In the embodiment shown in Figs. 1 - 5 rotation of the member 1 relatively to the end 4 of the pole is prevented in that the end 4 of the pole has a rib 11 which protrudes into a corresponding groove in the member 1. In order to permit rotation of the member 1, this must be

moved somewhat away from the end 4 of the pole, in a direction along the bolt 6, whereby the engagement between the rib 11 and the groove is released. This movement takes place against the force of the spring 9. The member 1 may be pulled, simultaneously with pushing against the head 8 of the bolt 6, whereby the spring 9 is compressed further. When the member 1 has been moved out sufficiently to release the rib 11 from the groove, the member 1 may be rotated 180° before it is slipped back into the groove and retained by means of the retaining device.

[0019] In the embodiment of the Figs. 6 - 11 the member 1 is mounted for rotation on a pin 12 on the end 4 of the pole, as it appears from Fig. 7. A not shown screw keeps the member 1 against the end 4 of the pole. In the latched position an end portion 13 of the pole protrudes down into a bore directed towards the tip 2 of the member 1 and prevents rotation thereof around the pin 12. The member 1 has a corresponding bore 23 directed towards the other tip 3, for insertion of the end portion 13 when the tip 3 is in the use position. This appears at best from Fig. 7. In order to permit rotation of the member 1, the end portion 13 is pulled out of the bore in the member 1; i.e. that the entire pole is pulled upwardly relatively to the member 1 and the end 4 of the pole. As it appears from the Figs. 9 and 10, the end portion 13 has knobs 14 which can be shifted in slits 15 in the end 4 of the pole. The slits 15 limit the shifting, whereby is prevented that the pole is pulled completely loose from the end 4 of the pole.

[0020] The slits 15 have a restriction near the lower end, whereby a not complete circle is formed, into which the knobs 14 fit. The restrictions prevent the knobs 14, and thereby the pole, from being moved relatively to the member 1 during normal use. In order to permit movement of the pole and the member 1 apart from each other, these must be pulled apart manually, whereby the knobs 14 pass the restrictions. In the principle one slit and one knob may be used, but the connection becomes more safe by use of two slits and two knobs diametrically opposite of each other, as it appears from Fig. 10.

[0021] Here, the end 4 of the pole is a separate element, and comprises a sleeve threaded onto the end portion 13 of the pole. When the member 1 and the end 4 of the pole are positioned as far onto the end portion 13 as they are to be during use, i.e. when the knob 14 is in the lowermost portion of the slit 15, the end portion 13 of the pole protrudes down into the bore of the member 1 which is parallel to the pole. This prevents the member 1 from rotating. In order to change between the two tips, the entire member 1 and the end 4 of the pole must be shifted relatively to the remainder of the pole. Then, the end portion 13 of the pole will be pulled out of the bore in the member 1, and the member may be rotated freely. In order to lock the member 1 into place, the member 1 and the end 4 of the pole are shifted towards the remainder of the pole until the knob 14 passes the restriction of the slit 15.

[0022] In the embodiment of the Figs. 12 - 17 the end

4 of the pole has a corresponding rib 11 as shown in Fig. 2. The member 1 has a corresponding groove, into which the rib 11 fits, and the member 1 is in abutment against the oblique plane on the end 4 of the pole. In the fixation point between the member 1 and the end 4 of the pole a protruding pin 16 is provided on the member 1, as shown in the Figs. 13 and 16. Almost at the top of the pin 16 is an annular groove 17. The pin 16 extends into a through-going, oblique passage 18 in the end 4 of the pole. Circumferentially on the pole, above the end 4 of the pole, is a pivotally mounted clamping bail 19 having a lever 20 (Fig. 16) extending downwardly and into a recess, obliquely from above. Lowermost this lever 20 has a bead 21 which fits into the circumferential groove 17 of the pin 16. When the clamping bail 19 is loosened from the pole and is pivoted downwardly, the lever 20 having the bead 21 pushes the pin 16 downwardly and outwardly. Thereby, the rib 11 on the end 4 of the pole is released from the groove in the member 1, and the member 1 may be rotated manually. When the rotation has been completed, the clamping bail 19 is moved back up against and fastened around the pole, whereby the lever 20 having the bead 21 moves the pin 16 upwardly and inwardly, in order to, in this manner, retain the member 1 against the end 4 of the pole, locked against rotation by the engagement between the rib 11 and the groove in the member 1.

[0023] The end 4 of the pole may in the embodiment shown in the Figs. 1 - 5 and 12 - 17 be the actual end of the pole, but it may also be a separate element fastened to the remainder of the pole. In the embodiment shown in the Figs. 6 - 11 the end 4 of the pole is a separate element through which the end portion 13 of the pole extends.

[0024] As shown in the perspective view of Fig. 18 and seen from the side in Fig. 19, a covering element may be provided on the end 4 of the pole, consisting of an arm 23 and a hook 24, for covering the spike on the pointed tip when the spike is directed upwardly. Fig. 18 shows the covering element in the active position, while Fig. 19 shows the covering element 23, 24 in the passive position, pivoted against and locked to the end 4 of the pole. The covering element 23, 24 may be hinged to the end 4 of the pole, in order to be pivoted in against the end 4 of the pole and be locked thereto. The locking may for instance be effected by a pin 25 on the end 4 of the pole, fitting into a narrow hole in the arm 23, or there may be two pins on the end 4 of the pole, having an interstice into which a portion of the arm 23 may be inserted and clamped.

Claims

1. A device for changing between two different tips for use on a pole, comprising a rotatable member (1) having two end pieces in the form of a tip (2) with a spike for use on soft substratum and ice and a tip (3) having a soft

pad for use on hard substratum, respectively, said member being fastenable to an inclined plane on an end of the pole, in such a manner that it may be rotated approximately about its middle point and retained in one of two optional rotational positions on the pole, in which the tip (2) with the spike and the tip (3) with the soft pad, respectively, are directed approximately in the longitudinal direction of the pole.

2. A device as disclosed in claim 1, where the inclined plane on the end (4) of the pole has an angle relatively to the axis of the pole preferably between 30 and 60 degrees.
3. A device as disclosed in claim 1 or 2, where the member (1) is mounted on the end (4) of the pole on a bolt (6) having a compressed spring (9) below a bolt head (8), the end of the spring oppositely of the bolt head being in abutment against a shoulder in the bore for the bolt (6) in the end (4) of the pole, whereby the spring exerts a force which presses the member (1) against the end (4) of the pole, whereby engagement between the rib and the groove is secured.
4. A device as disclosed in claim 1 or 2, where the retaining device comprises a clamping bail (19) which can be fastened around the pole and which in the lower end is fastened to a lever (20) extending into a throughgoing passage obliquely through the end (4) of the pole, and outermost on the arm is a bead (21), and from the lower side of the passage a pin (16) extends into the passage, this pin being a part of the element, the pin having a circumferential groove into which the bead on the lever fits, whereby, when the clamping bail is loosened from the end of the pole and pivoted downwardly, the lever will be shifted, whereby the bead situated in the groove of the pin will push the member (1) away from the end of the pole.
5. A device as disclosed in claim 1 and 2, where the inclined plane on the end (4) of the pole is situated on a sleeve (22) threaded onto an end portion (13) of the pole, the member (1) being mounted for rotation on the sleeve and has two bores (23), directed towards the tip (2) having the spike and the tip (3) having the soft pad, respectively, into which the end portion (13) can partly be inserted, and where the sleeve is retained in a position of use by at least one knob (14) on the end portion (13), the knob extending into a longitudinal slit (15) in the sleeve (22), the slit having a restriction which the knob has to pass when the end portion (13) together with the remainder of the pole is pulled away from the member (1) in order to release it for rotation.
6. A device as disclosed in any of the claims 1 - 5, where

the lower end of the end (4) of the pole is equipped with a covering element comprising an arm (23) and a hook (24) which can cover the spike on the pointed tip (2) when this has been pivoted upwardly.

7. A device as disclosed in claim 6, where the covering element (23, 24) is hinged to the end (4) of the pole with the end being oppositely of the hook (24).
8. A device as disclosed in claim 7, where the pole (4) is formed with at least one pin (25) which can keep the covering element (23, 24) pivoted against the end (4) of the pole.

Patentansprüche

1. Eine Vorrichtung zum Wechseln zwischen zwei verschiedenen Spitzen zur Verwendung an einem Stab, umfassend ein rotierbares Element (1) mit zwei Endstücken in der Form einer Spitze (2) mit einem Dom zur Verwendung auf weichem Untergrund und Eis und einer Spitze (3) mit einem weichen Ballen entsprechend zur Verwendung auf einem harten Untergrund, während das Element an einer geneigten Ebene an einem Ende des Stabs derart befestigbar ist, dass es ungefähr um seinen Mittelpunkt gedreht werden kann und in einer von zwei optionalen Drehpositionen an dem Stab gehalten werden kann, während die Spitze (2) mit dem Dom und die Spitze (3) mit dem weichen Ballen entsprechend ungefähr in Längsrichtung des Stabs ausgerichtet sind.
2. Eine Vorrichtung gemäß Anspruch 1, in der die geneigte Ebene an dem Ende (4) des Stabs einen Winkel relativ zu der Achse des Stabs zwischen vorzugsweise 30° und 60° aufweist.
3. Eine Vorrichtung gemäß Anspruch 1 oder 2, in der das Element (1) an dem Ende (4) des Stabs an einem Bolzen (6) mit einer komprimierten Feder (9) unterhalb eines Bolzenkopfs (8) befestigt ist, während das Ende der Feder entgegengesetzt des Bolzenkopfs an eine Schulter in dem Bohrloch für den Bolzen (6) in dem Ende (4) des Stabs angreift, wodurch die Feder eine Kraft ausübt, die das Element (1) gegen das Ende (4) des Stabs drückt, wodurch ein Eingriff zwischen der Rippe und der Rille gesichert ist.
4. Eine Vorrichtung gemäß Anspruch 1 oder 2, in der die Rückhaltevorrückung einen Klemmbügel (19) umfasst, der um den Stab befestigt werden kann und der am unteren Ende an einem Hebel (20) befestigt ist, der sich in eine Durchgangspassage schräg durch das Ende (4) des Stabs erstreckt, während am äußersten Ende auf dem Arm eine Wulst (21) ist und von der unteren Seite der Passage erstreckt sich in die Passage ein Stift (16), während der Stift ein

Teil des Elements ist, wobei der Stift eine umfängliche Rille aufweist, in die die Wulst auf dem Hebel passt, wodurch, wenn der Klemmbügel von dem Ende des Stabs gelöst und abwärts geschwenkt wird, der Hebel verschoben wird, wodurch die Wulst, die in der Rille des Stifts angeordnet ist, das Element (1) von dem Ende des Stabs weg drücken wird.

5. Eine Vorrichtung gemäß Anspruch 1 und 2, in der die geneigte Ebene an dem Ende (4) des Stabs an einer Hülse (22) angeordnet ist, die auf einen Endbereich (13) des Stabs geschraubt ist, während das Element (1) zur Drehung auf der Hülse befestigt ist und zwei Bohrungen (23) aufweist, die in Richtung der Spitze (2) mit dem Dom und der Spitze (3) mit dem weichen Ballen entsprechend gerichtet sind, in die der Endbereich (13) teilweise eingefügt werden kann, und in dem die Hülse in einer Verwendungsposition durch mindestens einen Knopf (14) auf dem Endbereich (13) gehalten ist, während der Knopf sich in einen länglichen Schlitz (15) in der Hülse (22) erstreckt, wobei der Schlitz eine Beschränkung aufweist, die der Knopf zu passieren hat, wenn der Endbereich (13) zusammen mit dem Rest des Stabs von dem Element (1) weggezogen wird, um ihn zur Drehung freizugeben.
6. Eine Vorrichtung gemäß einem der Ansprüche 1 bis 5, in der das untere Ende des Endes (4) des Stabs mit einem Abdeckelement ausgestattet ist, das einen Arm (23) und einen Haken (24) umfasst, der den Dom auf der zugespitzten Spitze (2) abdecken kann, wenn dieser aufwärts geschwenkt wurde.
7. Eine Vorrichtung gemäß Anspruch 6, in der das Abdeckelement (23, 24) an dem Ende (4) des Stabs mit dem Ende gegenüber dem Haken (24) angelenkt ist.
8. Eine Vorrichtung gemäß Anspruch 7, in der der Stab (4) mit mindestens einem Stift (25) ausgebildet ist, der das Abdeckelement (23, 24) gegen das Ende (4) des Stabs geschwenkt halten kann.

Revendications

1. Dispositif d'échange entre deux bouts destinés à être utilisés sur un bâton, comprenant un élément rotatif (1) comportant deux embouts sous la forme d'un bout (2) avec une pointe destiné à être utilisé sur un substrat mou et de la glace et un bout (3) comportant un patin mou destiné à être utilisé sur un substrat dur, respectivement, ledit élément pouvant être fixé à un plan incliné sur une extrémité du bâton, de manière à ce qu'il puisse être tourné approximativement autour de son point milieu et retenu dans l'une de deux positions de rotation optionnelles sur le bâton,

dans lequel le bout (2) avec la pointe et le bout (3) avec le patin mou, respectivement, sont dirigés approximativement dans la direction longitudinale du bâton.

2. Dispositif selon la revendication 1, dans lequel le plan incliné sur l'extrémité (4) du bâton forme un angle par rapport à l'axe du bâton de préférence entre 30 et 60 degrés.
3. Dispositif selon la revendication 1 ou 2, dans lequel l'élément (1) est monté sur l'extrémité (4) du bâton sur un boulon (6) comportant un ressort (9) comprimé au-dessous d'une tête de boulon (8), l'extrémité du ressort à l'opposé de la tête de boulon étant en butée contre un épaulement dans l'alésage pour le boulon (6) dans l'extrémité (4) du bâton, moyennant quoi le ressort exerce une force qui presse l'élément (1) contre l'extrémité (4) du bâton, moyennant quoi la mise en prise entre la nervure et la rainure est assurée.
4. Dispositif selon la revendication 1 ou 2, dans lequel le dispositif de retenue comprend un étrier de serrage (19) qui peut être fixé autour du bâton et qui, dans l'extrémité inférieure, est fixé à un levier (20) s'étendant dans un passage traversant obliquement à travers l'extrémité (4) du bâton, et le plus à l'extérieur sur le bras, il y a un bourrelet (21), et, à partir du côté inférieur du passage, une broche (16) s'étend dans le passage, cette broche faisant partie de l'élément, la broche comportant une gorge circonférentielle dans laquelle le bourrelet sur le levier s'insère, moyennant quoi, lorsque l'étrier de serrage est desserré de l'extrémité du bâton et pivoté vers le bas, le levier est décalé, moyennant quoi le bourrelet situé dans la gorge de la broche écarte l'élément (1) de l'extrémité du bâton.
5. Dispositif selon les revendications 1 et 2, dans lequel le plan incliné sur l'extrémité (4) du bâton est situé sur un manchon (22) fileté sur une partie d'extrémité (13) du bâton, l'élément (1) étant monté en rotation sur le manchon, et comporte deux alésages (23) dirigés vers le bout (2) comportant la pointe et le bout (3) comportant le patin mou, respectivement, dans lesquels la partie d'extrémité (13) peut être insérée partiellement, et dans lequel le manchon est retenu dans une position d'utilisation par au moins un bouton (14) sur la partie d'extrémité (13), le bouton s'étendant dans une fente longitudinale (15) dans le manchon (22), la fente comportant un resserrement que le bouton doit dépasser lorsque la partie d'extrémité (13) avec le reste du bâton est écartée de l'élément (1) afin de le libérer pour une rotation.
6. Dispositif selon l'une quelconque des revendications 1 à 5, dans lequel l'extrémité inférieure de l'extrémité

(4) du bâton est équipée d'un élément de recouvrement comprenant un bras (23) et un crochet (24) qui peut recouvrir la pointe sur le bout pointu (2) lorsque celui-ci a été pivoté vers le haut.

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7. Dispositif selon la revendication 6, dans lequel l'élément de recouvrement (23, 24) est articulé sur l'extrémité (4) du bâton au niveau de l'extrémité opposée au crochet (24).

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8. Dispositif selon la revendication 7, dans lequel le bâton (4) comporte au moins une broche (25) qui peut maintenir l'élément de recouvrement (23, 24) pivoté contre l'extrémité (4) du bâton.

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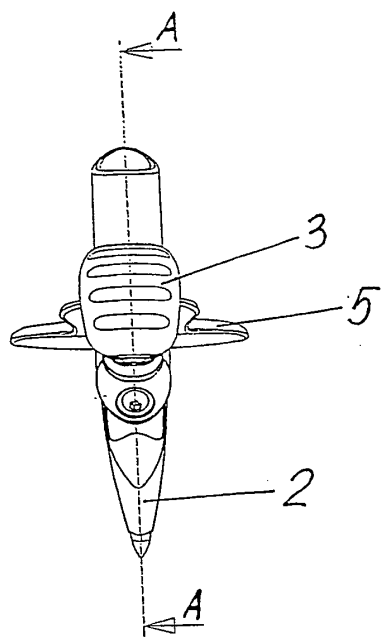


Fig. 1

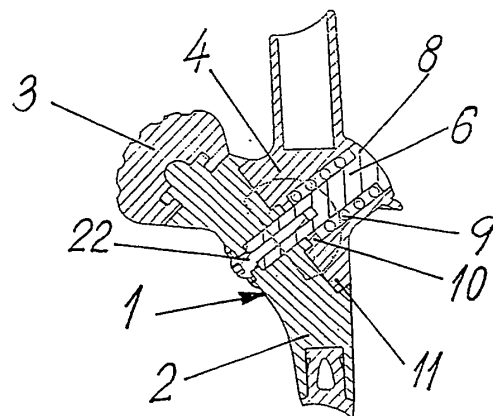


Fig. 2

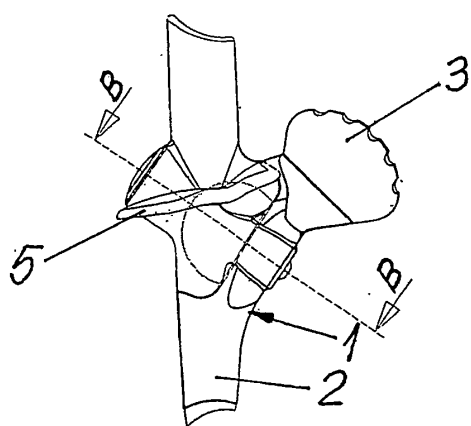


Fig. 3

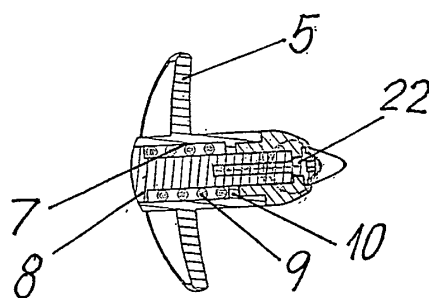


Fig. 4

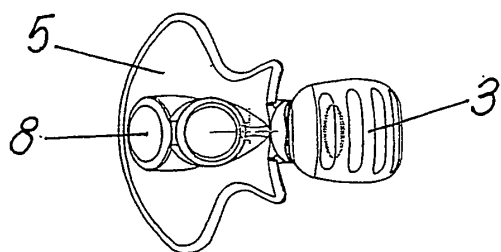


Fig. 5

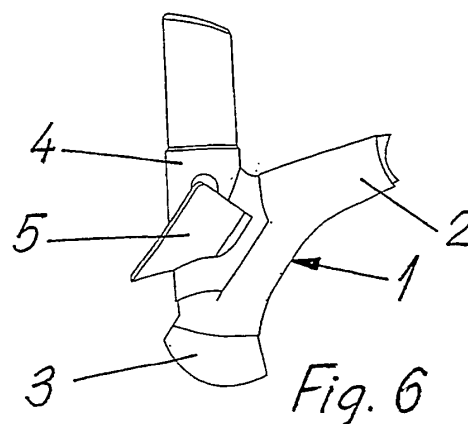


Fig. 6

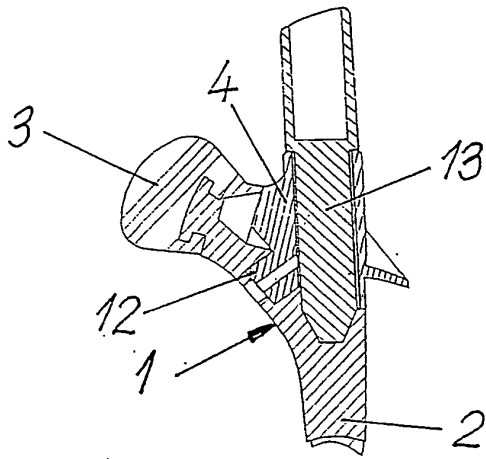


Fig. 7

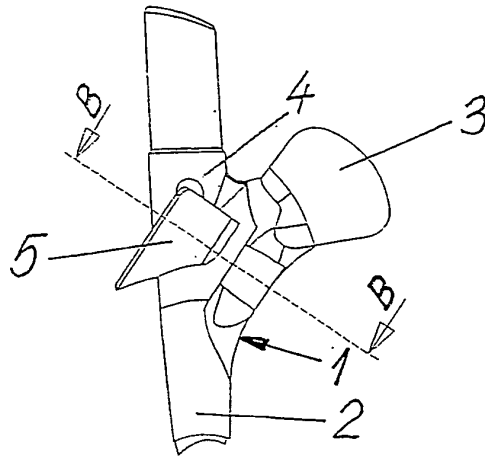


Fig. 8

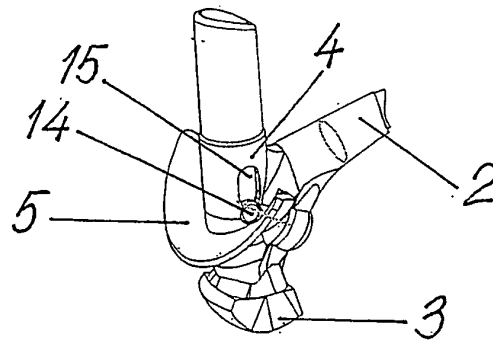


Fig. 9

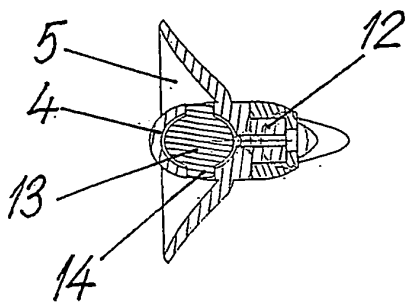


Fig. 10

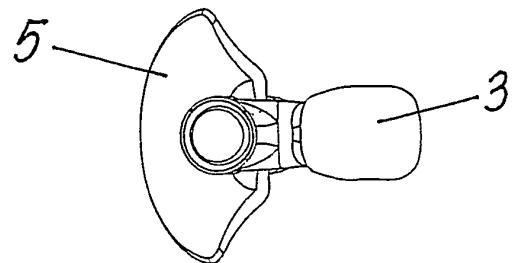


Fig. 11

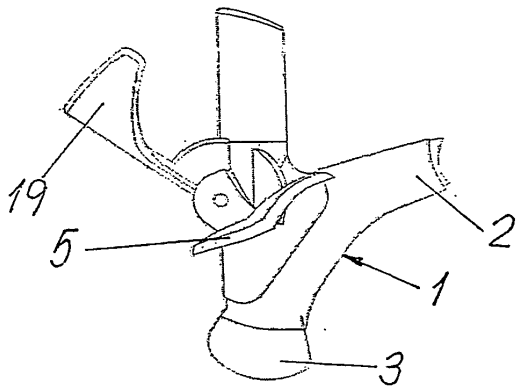


Fig. 12

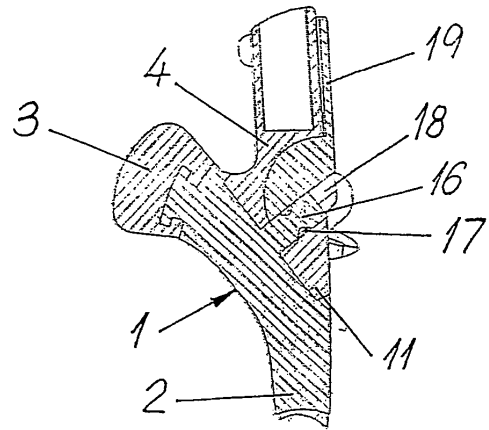


Fig. 13

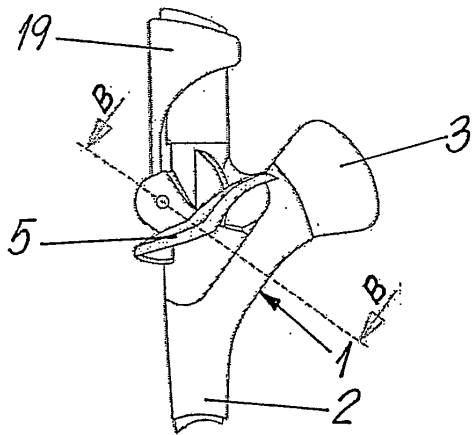


Fig. 14

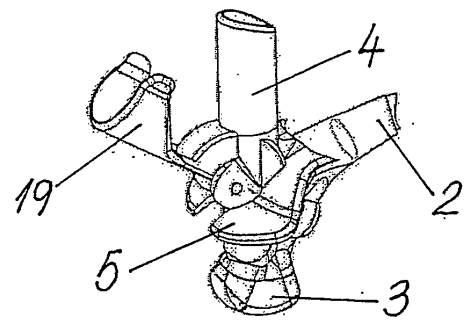


Fig. 15

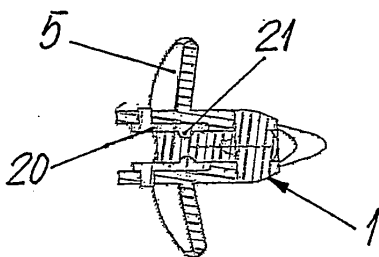


Fig. 16

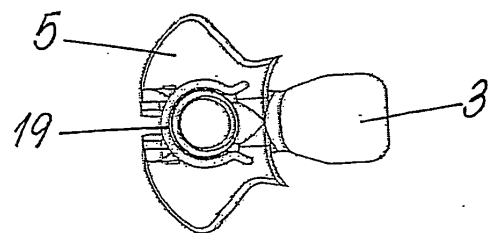


Fig. 17

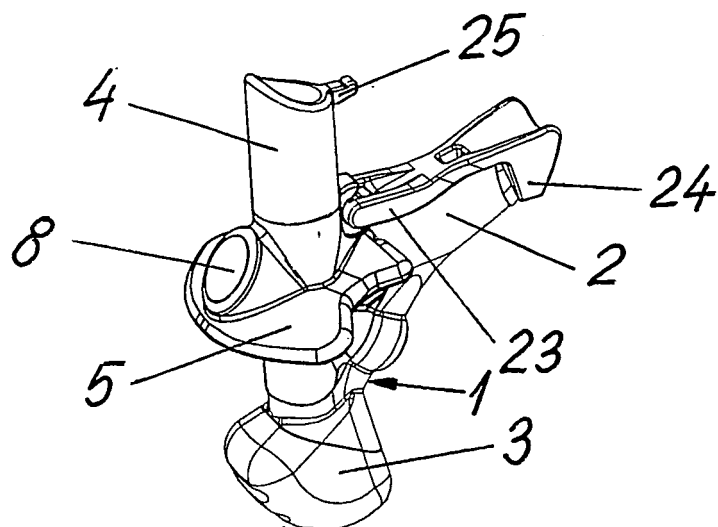


Fig. 18

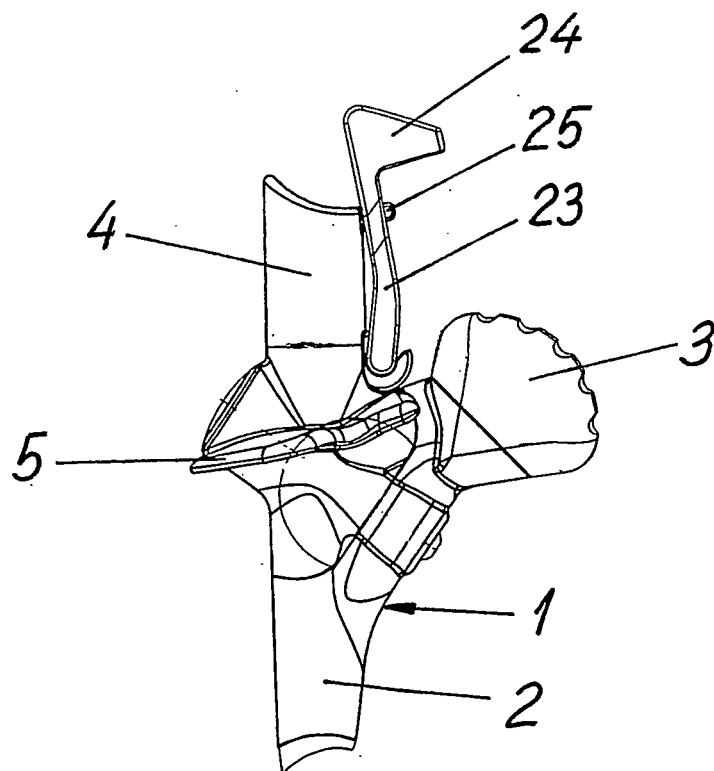


Fig. 19

REFERENCES CITED IN THE DESCRIPTION

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