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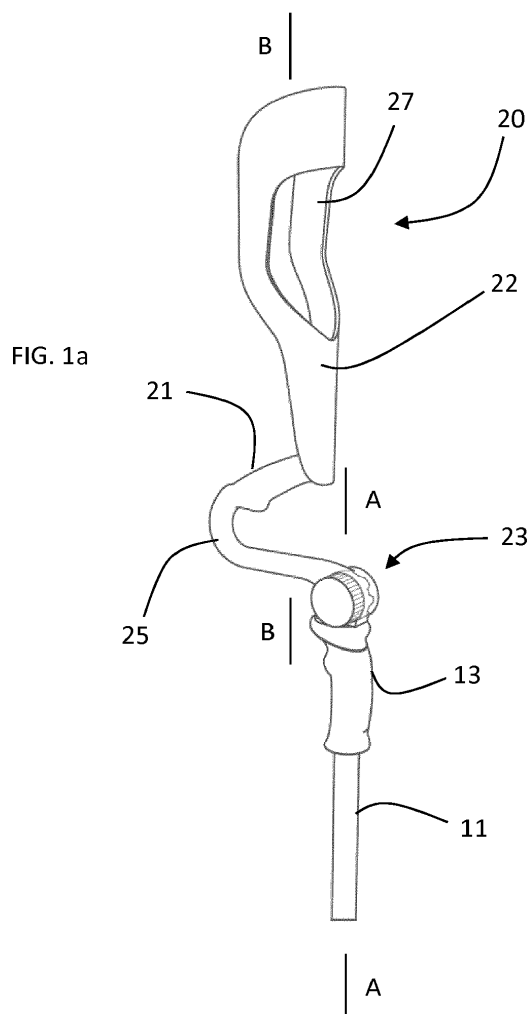
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(54) **POLE FOR SPORTING ACTIVITIES, PARTICULARLY TREKKING AND THE LIKE**

(57) The present invention relates to a pole (10, 10') for sports, such as trekking or other similar sports, comprising a rod-shaped body (11), preferably of the telescopic type, having a development axis (A), a ferrule (12), for resting on the ground, being mounted at a first end of the rod-shaped body (11), and is characterised in that, at a second end of the rod-shaped body (11), opposite to the first end, a support structure (20, 20') having a main development axis (B) is mounted, the support structure (20, 20') being mounted according to an inclination which is adjustable with respect to the rod-shaped body (11) and comprising a gripping portion (21) developing transversally with respect to the main development axis (B) of the support structure (20, 20').



Description

[0001] The present invention relates to a pole for sports activities such as trekking, hiking or other similar sports.

[0002] Poles for sports, always in use for downhill and cross country skiing, have thereafter become widespread also in sports like trekking and hiking.

[0003] In particular, poles are currently used which are generally of the type with telescopic rod, a ferrule being mounted at a first end of which is forced against the ground and a gripping knob for the user being fixedly mounted at the opposite end.

[0004] Poles for sports constitute a support for the body, in fact forming an extension of the upper limbs which are thereby used as assistants of the movement. In brief, their use facilitates the balance, the weight distribution on all four limbs and the symmetry of the walk.

[0005] The Applicant has found that, however, the percentage of weight relieved on the upper limbs through the poles of the known type generally does not exceed 26% of the body weight and of any loads on the shoulders.

[0006] The Applicant has further identified a connection between the reduced weight percentage relieved and the substantially erect body position imposed by the use of poles for sports of the known type, also in the presence of inclined ground.

[0007] The Applicant has, in fact, observed that, in the case of inclined ground, the natural position one tends to assume in the absence of poles greatly differs from the erect one. Specifically, it is characterized by having the centre of gravity displaced in such a way as to compensate the inclination of the ground up to get to have, in the event of significant inclinations, also the upper limbs resting on the ground.

[0008] The Applicant has found that this specific posture intended to compensate the inclination of the ground is hindered by the use of poles for sports of known type that impose a constantly flexed position to the upper limbs and keep the torso in upright position. This greatly reduces the part of weight that can be relieved on the upper limbs.

[0009] The Applicant has therefore identified a need to implement a pole for sports which allows relieving more weight on the upper limbs with respect to the poles of the known type.

[0010] In particular, the Applicant has felt the need to implement a pole for sports which can be adapted to the specific ground slope offering a more optimised support to the user.

[0011] The problem underlying the present invention is therefore to provide a pole for sports that is functionally and structurally designed to enable the overcoming of the drawbacks mentioned with reference to the discussed prior art.

[0012] As part of this problem, an object of the present invention is therefore to devise a pole for sports able to adapt to the slope of the ground on which it is used in order to offer a more secure support for the upper limbs

to the user, through which a good part of the weight is relieved.

[0013] Therefore, according to a first aspect thereof, the invention relates to a pole for sports comprising a rod-shaped body having a development axis, a ferrule, for resting on the ground, being mounted at a first end of the rod-shaped body characterised in that, at a second end of the rod-shaped body, opposite to the first end, a support structure having a main development axis is mounted, the support structure being mounted according to an inclination which is adjustable with respect to the rod-shaped body and comprising a gripping portion developing transversally with respect to the main development axis of the support structure. The applicant has identified that through an adjustable inclination of the gripping portion of the pole and in any case substantially coinciding with the axis of the rod-shaped body of the pole, it is possible to optimise the weight relieved on the arms.

[0014] Such optimised effect is also achievable regardless of the specific inclination of the ground along the path travelled or the preferred posture, since the relative inclination between the rod-shaped body and the support structure can be constantly modified and adapted.

[0015] In this way, the whole body contributes to the movement, involving in a significant manner the muscles of the arms and shoulders, while achieving an easing of the leg's work.

[0016] The Applicant has observed that through the greater involvement of the upper limbs and the relative muscles, it is possible to produce overall less fatigue, making the walk more pleasant and often more productive in terms of distance travelled and/or travelling speed.

[0017] The present invention may have at least one of the following preferred features; the latter may in particular be combined with each other as desired to meet specific application requirements.

[0018] Preferably, the gripping portion of the support structure develops substantially orthogonal to the main development axis of the support structure.

[0019] Preferably, the gripping portion of the support structure is connected, at a first end part thereof, to the second end of the rod-shaped body by interposing a flexible portion.

[0020] More preferably, the flexible portion comprises a curved configuration.

[0021] Advantageously, the flexible portion allows absorbing a higher thrust resulting from the larger weight relieved. A reduction of the stresses suffered at the wrists is thus obtained. Preferably, the support structure comprises an armrest for engaging with a user's forearm, connected to a second end of the gripping portion.

[0022] More preferably, the arm has at least a curved surface which defines a seat for at least partially receiving a forearm.

[0023] Even more preferably, the curved surface comprises at least one aeration window. Advantageously, the presence of the armrest allows engaging also the forearm

in the movement up to make it substantially integral with the pole. In practice, the pole becomes a limb extension, allowing it to interact with the ground as if in direct support.

[0024] Preferably, between the support structure and the rod-shaped body, means for locking the relative position between the support structure and the rod-shaped body are interposed.

[0025] More preferably, the locking means comprising a pair of discs arranged side by side, provided with inner faces shaped in a matching manner so as to prevent a relative rotation between the two discs when arranged side-by-side, a first disc being constrained to the support structure and a second disc being constrained to the rod-shaped body.

[0026] Even more preferably, the first disc is fixedly connected an end of the support structure close to the gripping portion.

[0027] Even more preferably, the second disc is fixedly connected to constraining means for the rod-shaped body.

[0028] Even more preferably, the two disks are maintained in mutual engagement by means of clamping means, such as a tightening wheel which engages threadedly with both discs, an axial lever of the type for quick clamping or other equivalent clamping means.

[0029] Even more preferably, on the inner faces of the pair of discs, protrusions are provided shaped like rays in such a way as to define a plurality of angular positions of mutual coupling between the two discs.

[0030] Of further preference, the angular positions enabled by the mutual coupling between the two discs vary between a position of the support structure with the main development axis coinciding with the development axis of the rod-shaped body and a position of the support structure with the main development axis substantially parallel and next to the development axis of the rod-shaped body.

[0031] Preferably, the means for constraining to the rod-shaped body are of the removable type and a gripping knob is coaxially mounted at a second end of the rod-shaped body, opposite to the first one.

[0032] In this way, it is advantageously possible to transform the pole according to the invention in a traditional pole, being able to exploit the advantages of both solutions according to the type of physical activity to be performed.

[0033] More preferably, the releasable constraining means are housed in the cavity of the rod-shaped body at the second end to which the gripping knob is mounted.

[0034] More preferably, the constraining means comprise a spring clip shaped so as to engage a head of a pin integral with the second disc.

[0035] Even more preferably, the gripping knob comprises superiorly an opening suitable for inserting the pin.

[0036] Even more preferably, the spring clip can be operated to be opened by a pair of buttons protruding from the rod-shaped body.

[0037] Alternatively, the constraining means to the rod-

shaped body are of the fixed type. Preferably, the fixed constraining means comprise a threaded pin which can be screwed in the inner cavity of the rod-shaped body, at the second end of said rod-shaped body.

[0038] Preferably, the rod-shaped body is of the telescopic type or of the type comprising a plurality of joints to be able to take a folded compact configuration.

[0039] In this way, the possibilities of adapting the pole to the specific features of the ground are further increased, always providing an optimised weight distribution.

[0040] Further features and advantages of the present invention will appear more clearly from the following detailed description of some preferred embodiments thereof, made with reference to the accompanying drawings.

[0041] The different features in the single configurations may be combined with one another as desired according to the description above, to make use of the advantages resulting in a specific way from a particular combination.

In such drawings,

[0042]

- figure 1 is a perspective view of a first embodiment of a pole for sports according to the invention;
- figure 1a is an enlarged detail of figure 1;
- figure 2 is a lateral view of the pole for sports in figure 1 in a first use configuration;
- figure 3 is a lateral view of the pole for sports in figure 1 in a second use configuration;
- figure 4 is a lateral view of the pole for sports in figure 1 in a compact, non-use configuration;
- figures 5a and 5b are a lateral view and a front view, respectively, of the support structure of the pole for sports in figure 1;
- figure 6 is a lateral enlarged view of the means for locking the relative position between the support structure and the rod-shaped body of the pole for sports in figure 1;
- figure 7 is a lateral exploded view of the constraining means of the support structure of the rod-shaped body of the pole for sports in figure 1;
- figure 8 is schematic partial view of the constraining means in figure 7 in engagement configuration between the support structure and the rod-shaped body;
- figure 9 is a lateral partial view of a second embodiment of a pole for sports according to the invention;
- figures 9a and 9b are a first and a second lateral view, respectively, of the constraining means of the support structure to the rod-shaped body of the pole for sports in figure 9;
- figures 10a and 10b are a lateral view and a front view, respectively, of a second embodiment of the support structure of a pole for sports according to the present invention. In the following description,

identical reference numerals are used for the illustration of the figures to indicate construction elements having the same function. Moreover, for clarity of illustration, some numerical references may be not repeated in all the figures.

[0043] With reference to figure 1, a first embodiment of a pole 10 for sports is shown, comprising a rod-shaped body 11 of the telescopic type, having a development axis A.

[0044] A ferrule 12 for resting on the ground is mounted at a first end of the rod-shaped body 11 and at a second end, opposite to the first end, a gripping knob 13 for user 100 is mounted. According to the present invention, a support structure 20 is advantageously mounted at the second end, having a main development axis B, shown enlarged in figure 1a.

[0045] The support structure 20 is constrained to the rod-shaped body 11 according to an adjustable inclination and comprises a gripping portion 21 which extends substantially orthogonally with respect to the main development axis B of the support structure 20.

[0046] Specifically, between the support structure 20 and the rod-shaped body 11, means 23 for locking the relative position between the support structure 20 and the rod-shaped body 11 are provided.

[0047] In the embodiment shown in figure 6, 23 such locking means 23 comprise two discs 23a, 23b provided with inner faces with protrusions 24a, 24b shaped in a matching manner so as to prevent a relative rotation between the two faces. Specifically, protrusions 24a, 24b provided on the inner faces are shaped like rays in such a way as to define a plurality of angular positions of mutual coupling between the two discs 23a, 23b.

[0048] In particular, the angular positions enabled by the mutual coupling between the two discs 23a, 23b vary between a position of the support structure 20 in extension of the rod-shaped body 11 and a position of the support structure 20 next to the rod-shaped body 11. The support structure 20 is carried to such a second flanked position, illustrated in figure 4, in order to reduce the overall dimensions of pole 10 when it has to be stored.

[0049] Figures 2 and 3 show, by way of example, two further possible inclinations at which the support structure 20 can be constrained depending on the specific inclination of the ground on which pole 10 must be used.

[0050] The two discs 23a, 23b are kept in mutual engagement by a tightening wheel 26 which engages in screwing with both discs 23a, 23b.

[0051] A first disc 23a is fixedly constrained to the support structure 20, particularly at one end of the same next to the gripping portion 21. A second disc 23b is fixedly connected to constraining means 30 for the rod-shaped body 11.

[0052] A first embodiment of the constraining means 30 is shown in figures 7 and 8.

[0053] The constraining means 30 shown in figures 7 and 8 are releasable and comprise a spring clip 31

shaped so as to engage with head 32a of a pin 32 integral with the second disc 23b. The spring clip 31 can be operated to be opened by a pair of buttons 33 placed in such a way as to protrude from the rod-shaped body 11. The pressure of the pair of buttons 33 counteracts the action of spring 31a, allowing the spring clip 31 to spread apart and thereby release the engagement with head 32a of pin 32.

[0054] In particular, the releasable constraining means 30 are housed in the cavity of the rod-shaped body 11 at the second end to which the gripping knob 13 is mounted.

[0055] In order to bring head 32a of pin 32 at the spring clip 31 inside the rod-shaped body 11, the gripping knob 13 superiorly comprises an opening which allows the insertion of pin 32 inside such a knob 13.

[0056] In this way, by releasing the constraint between the constraining means 30 and head 32a of pin 32, it is possible to remove the support structure 20, thus obtaining a traditional pole 10 for sports.

[0057] Alternatively, a second embodiment of pole 10' for sports, shown in figures 9, 9a and 9b, comprises fixed constraining means 30', without gripping knobs.

[0058] Specifically, the constraining means 30' of fixed type shown in figures 9a and 9b comprise a threaded pin 32' screwable in the inner cavity of the rod-shaped body 11, at the second end thereof.

[0059] As shown in the figures, the gripping portion 21 of the support structure 20 is connected, at a first end part 21a thereof, to the first disc 23a by interposing a flexible curved portion 25 acting as a shock absorber.

[0060] The support structure 20 further comprises an armrest 22 for engaging with a user's forearm 101, integrally connected to a second end 21b of the gripping portion 21.

[0061] Armrest 22 has at least one curved surface 28 which defines an at least partial housing for forearm 101. Such a curved surface 28 comprises at least one window 27 which allows overheating of the body part 101 in support on the same.

[0062] Figures 5a and 5b and 10a and 10b, respectively, show two possible embodiments of support structures 20, 20' used in pole 10, 10' for sports according to the present invention which differ substantially in the shape and number of windows 27, 27'.

[0063] The operation of pole 10, 10' for sports according to the present invention is as follows.

[0064] The locking means 23 are initially set in such a way as to impart a specific relative inclination to the support structure 20 with respect to the rod-shaped body 11.

[0065] The most suitable length of the rod-shaped body 11 of telescopic type is also set.

[0066] Inclination and length are selected according to the specific slope to be travelled on, allowing the user to take the most suited position.

[0067] In particular, by gripping the dedicated portion 21, the user takes a posture in which the arm is substantially in line with the main axis A of the rod-shaped body

11, or at most inclined by a reduced angle with respect to the same.

[0068] In this way, the user can relieve more body weight through the upper limbs, compared to traditional poles that impose an angle substantially equal to 90° between the forearm and the main axis A of the rod-shaped body 11.

[0069] In case of pole 10 with removable support structure 20, pole 10 may be used in the traditional manner, by operating buttons 33 protruding from the rod-shaped body 11 and removing pin 32 from the engagement with the spring clip 31. Once the support structure 20 has been removed, pole 10 can be used in a known manner, holding the dedicated gripping knob 13. The features of the pole for sports object of the present invention as well as the relevant advantages are clear from the above description:

Additional variants of the embodiments described above are possible without departing from the teaching of the invention.

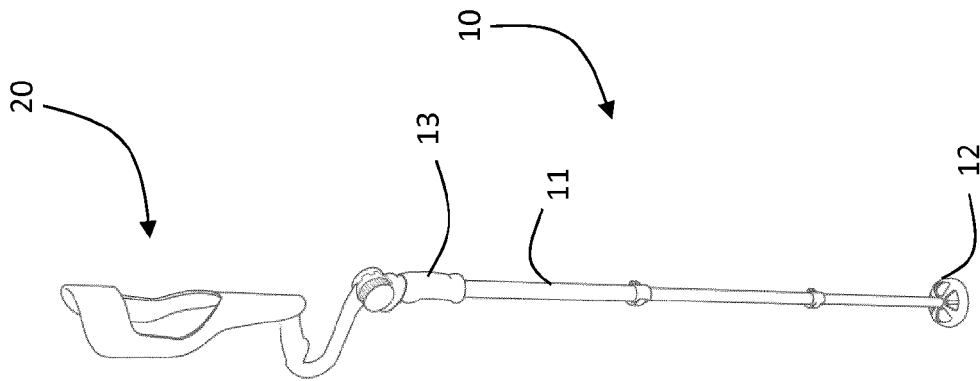
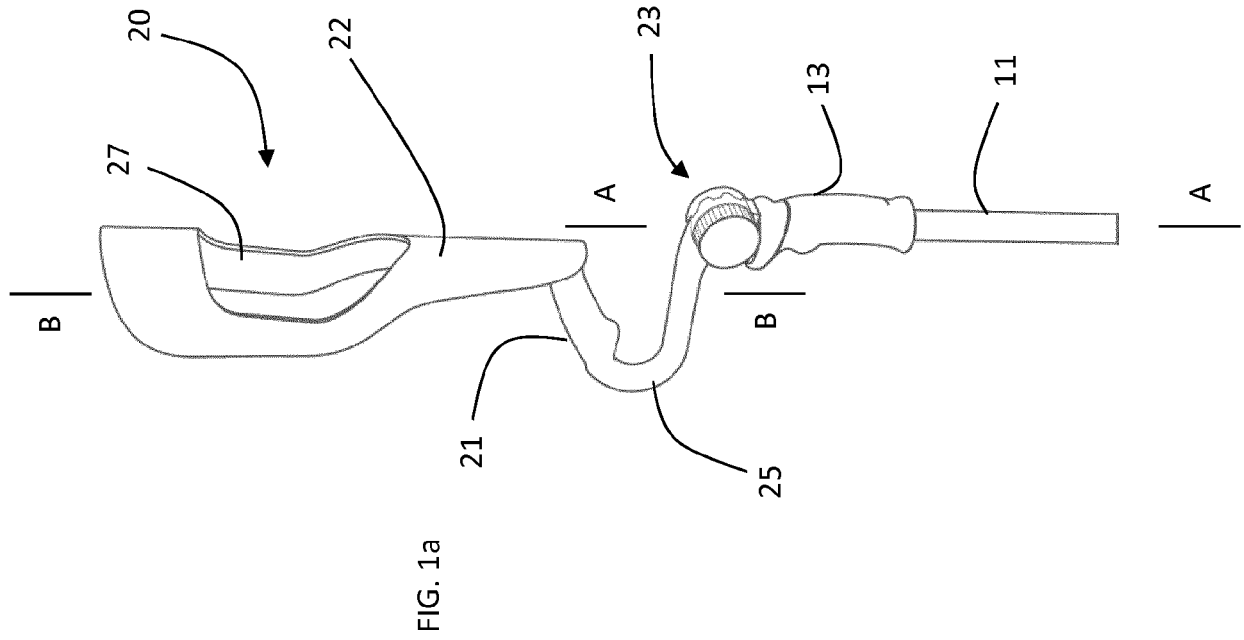
[0070] Finally, it is clear that several changes and variations may be made to the pole for sports thus conceived, all falling within the invention; moreover, all details can be replaced with technically equivalent elements. In the practice, both the materials used and the sizes can be modified according to the technical requirements.

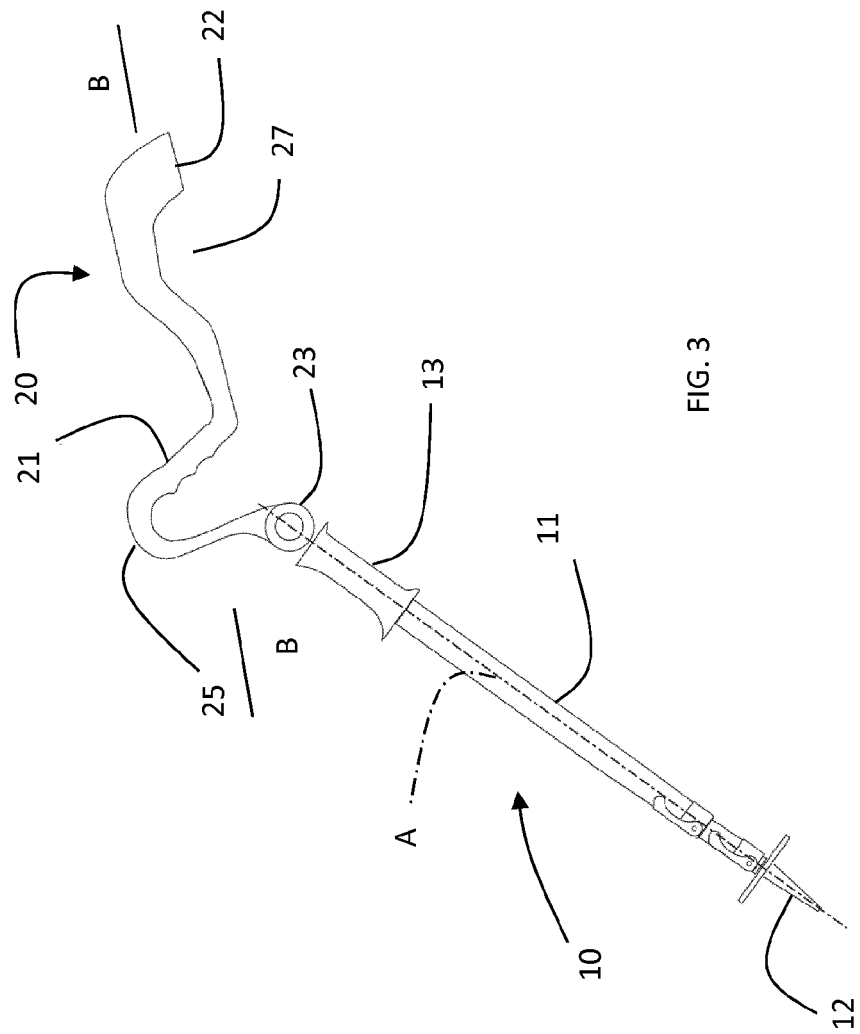
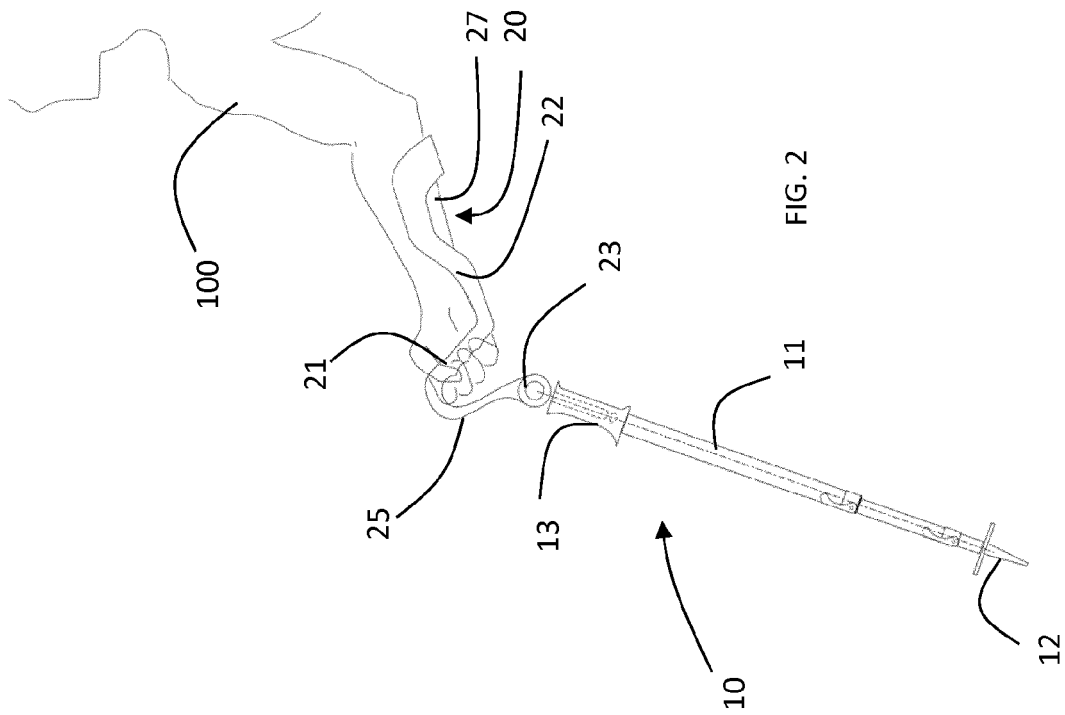
Claims

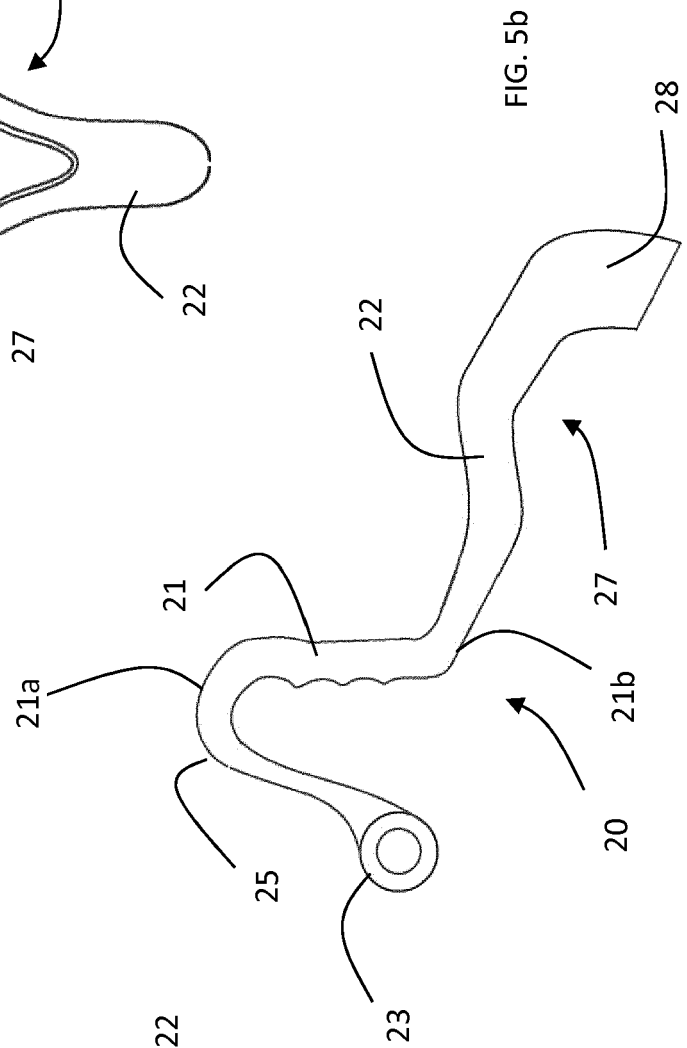
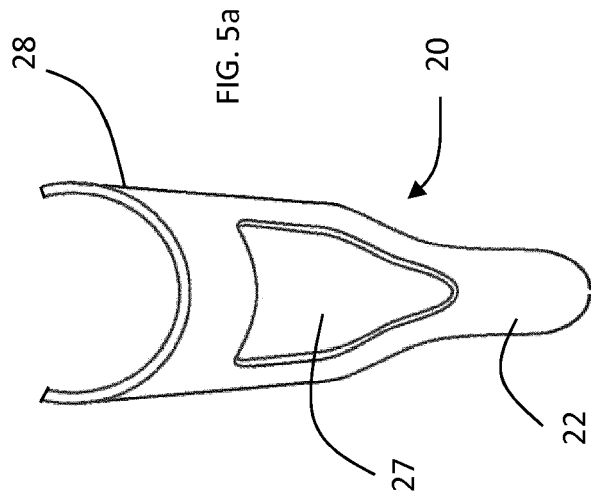
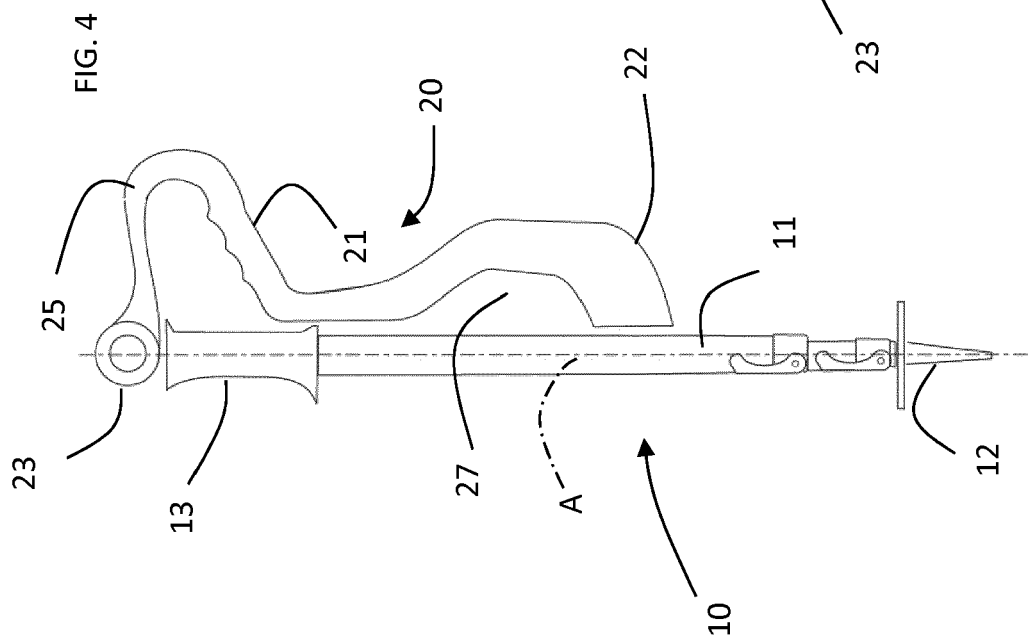
1. Pole for sports (10,10') comprising a rod-shaped body (11) having a development axis (A), a ferrule (12), for resting on the ground, being mounted at a first end of the rod-shaped body **characterised in that**, at a second end of the rod-shaped body (11), opposite to the first end, a support structure (20,20') having a main development axis (B) is mounted, the support structure (20,20') being mounted according to an inclination which is adjustable with respect to the rod-shaped body (11) and comprising a gripping portion (21) developing transversally with respect to the main development axis (B) of the support structure (20,20').
2. Pole for sports (10) according to claim 1, wherein the gripping portion (21) of the support structure (20,20') develops substantially orthogonal to the main development axis (B) of the support structure (20,20').
3. Pole for sports (10,10') according to claim 1 or 2, wherein the gripping portion (21) of the support structure (20,20') is connected, at a first end part (21a) thereof, to the second end of the rod-shaped body (11) by interposing a flexible portion (25), preferably

having a curved configuration.

4. Pole for sports (10,10') according to any one of claims 1 to 3, wherein the support structure (20,20') comprises an armrest (22) for engaging with a user's forearm, connected to a second end part (21b) of the gripping portion (21), the armrest preferably having at least a curved surface suitable for defining a seat for at least partially receiving a forearm.
5. Pole for sports (10,10') according to any one of the previous claims, wherein between the support structure (20,20') and the rod-shaped body (11) means (23) for locking the relative position between the support structure (20,20') and the rod-shaped body (11) are interposed, preferably comprising a pair of discs (23a,23b) arranged side by side, provided with inner faces (24a,24b) shaped in a matching manner so as to prevent a relative rotation between the two discs (23a,23b) when arranged side-by side, a first disc (23a) being constrained to the support structure (20,20') and a second disc (23b) being constrained to the rod-shaped body (11).
6. Pole for sports (10,10') according to claim 5, wherein the second disc (23b) is fixedly connected to constraining means (30,30') for the rod-shaped body.
7. Pole for sports (10) according to claim 6, wherein the means (30) for constraining to the rod-shaped body are of the removable type and a gripping knob (13) is coaxially mounted at a second end of the rod-shaped body (11), opposite to the first one.
8. Pole for sports (10) according to claim 7, wherein the removable constraining means (30) are housed in the cavity of the rod-shaped body (11) at the second end to which the gripping knob (13) is mounted, said constraining means preferably comprising a spring clip (31) shaped so as to engage a head (32a) of a pin (32) integral with the second disc (23b).
9. Pole for sports (10) according to claim 7, wherein the spring clip (31) can be operated to be opened by a pair of buttons (33) protruding from the rod-shaped body (11).
10. Pole for sports (10') according to claim 6, wherein said constraining means for the rod-shaped body (30') are of the fixed type, said fixed type constraining means (30') preferably comprising a threaded pin (32') which can be screwed in the inner cavity of the rod-shaped body (11), at the second end of said rod-shaped body (11).







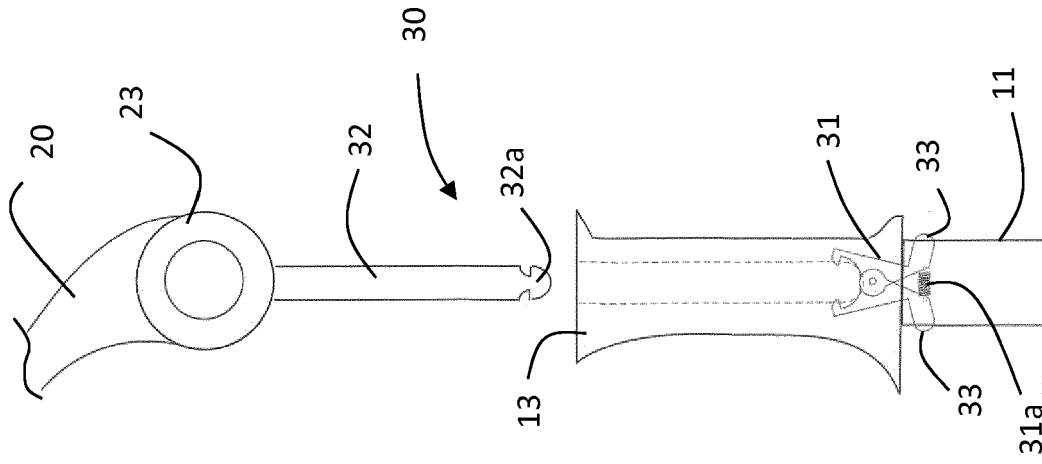


FIG. 6

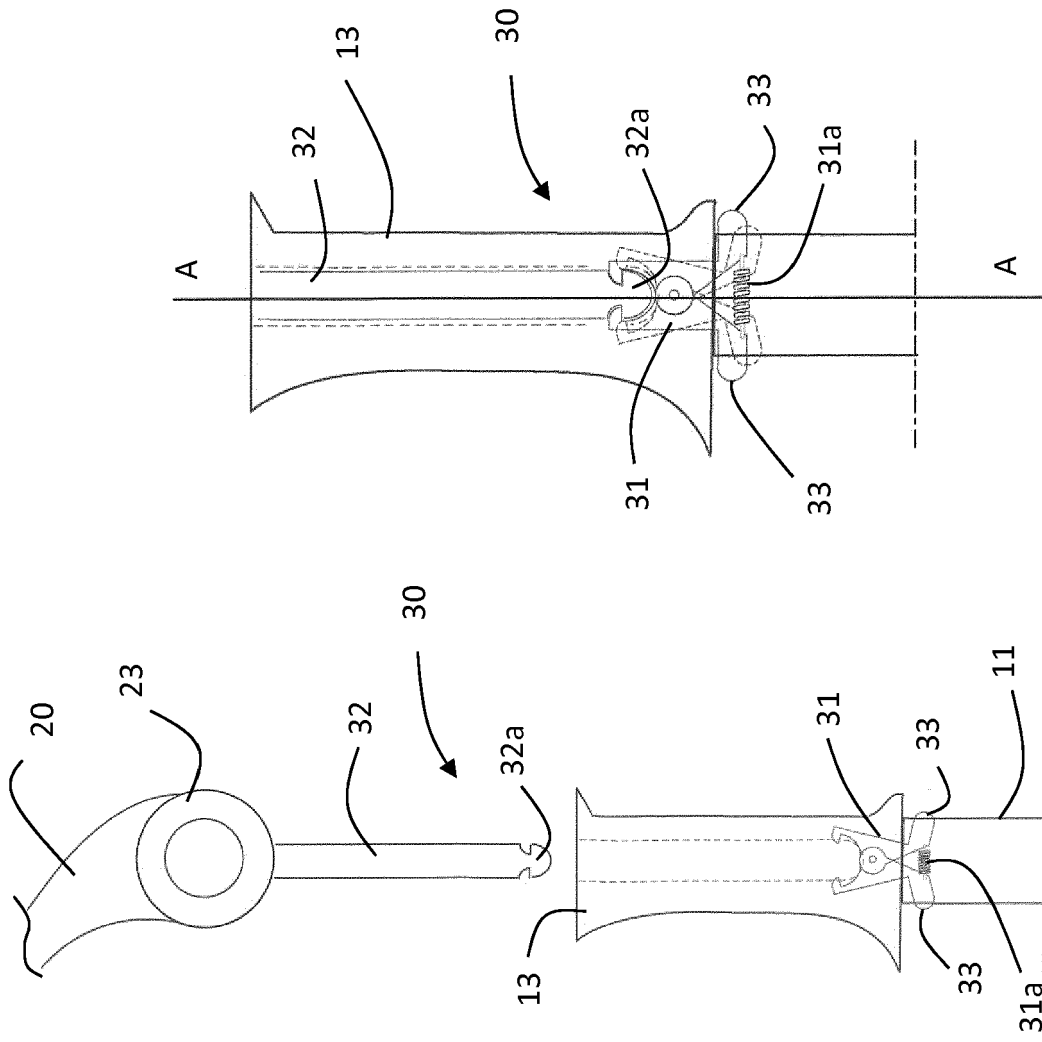


FIG. 7

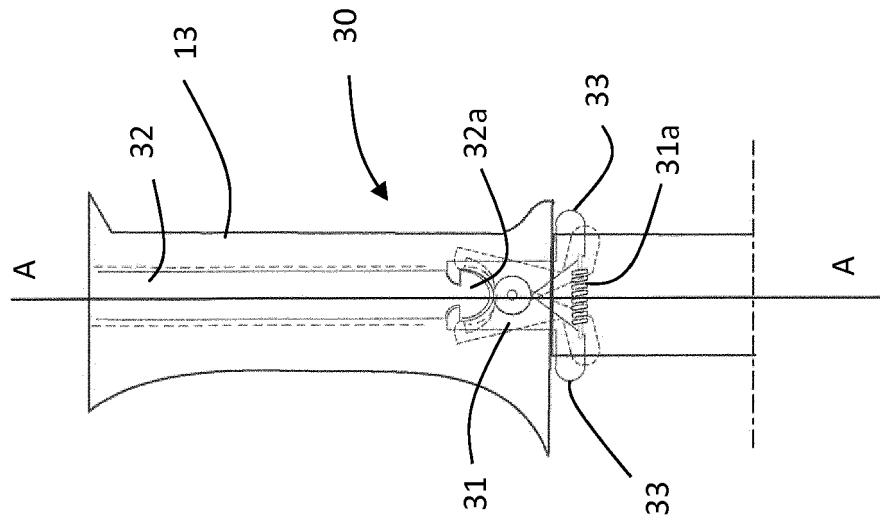
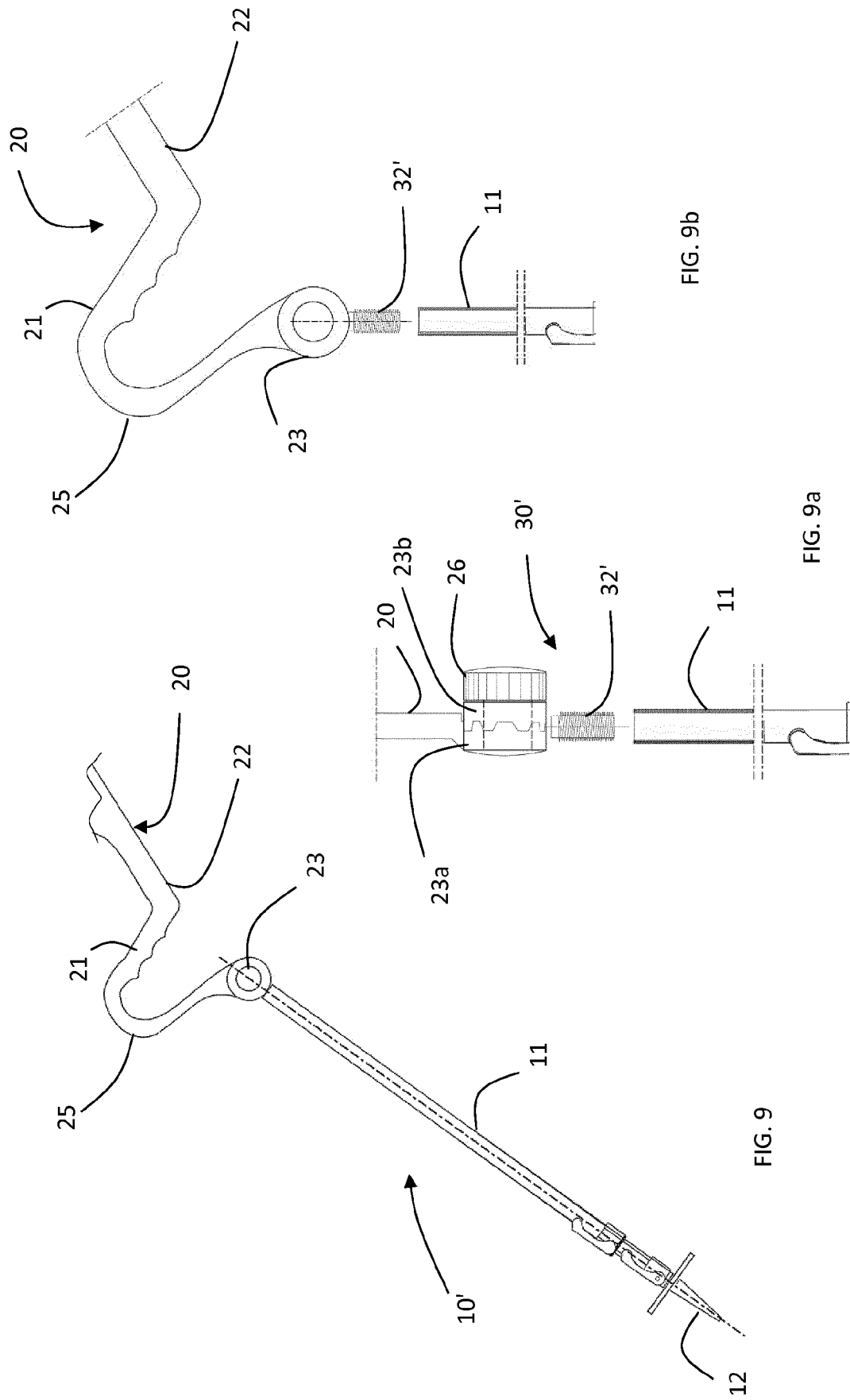
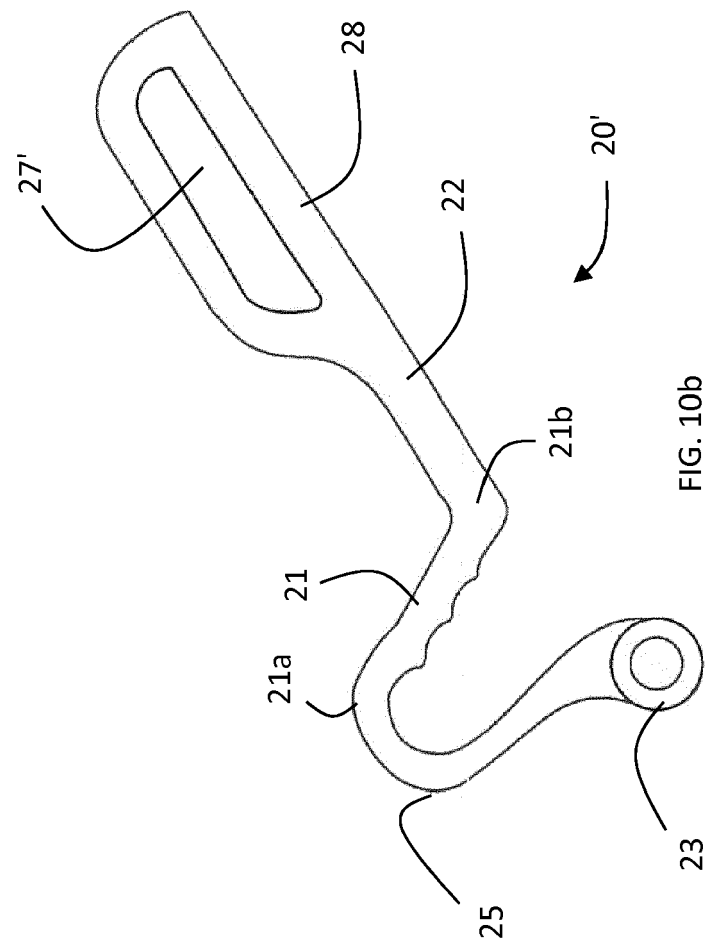
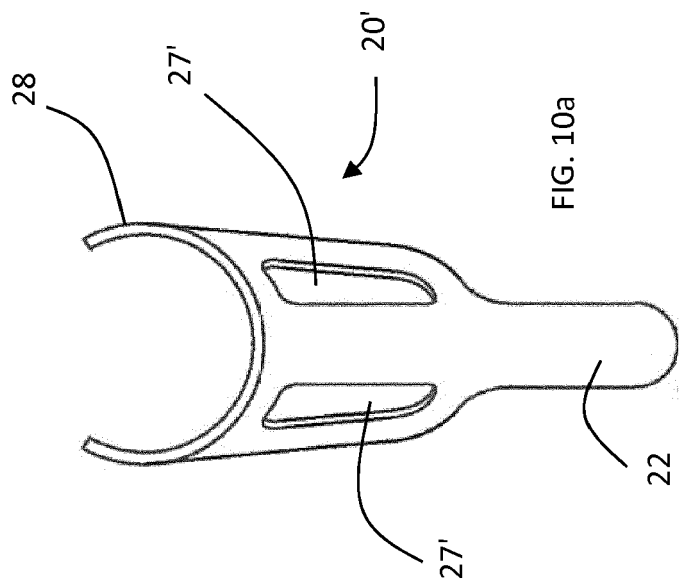


FIG. 8







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Place of search The Hague		Date of completion of the search 17 March 2017	Examiner Zetzsche, Brigitta
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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