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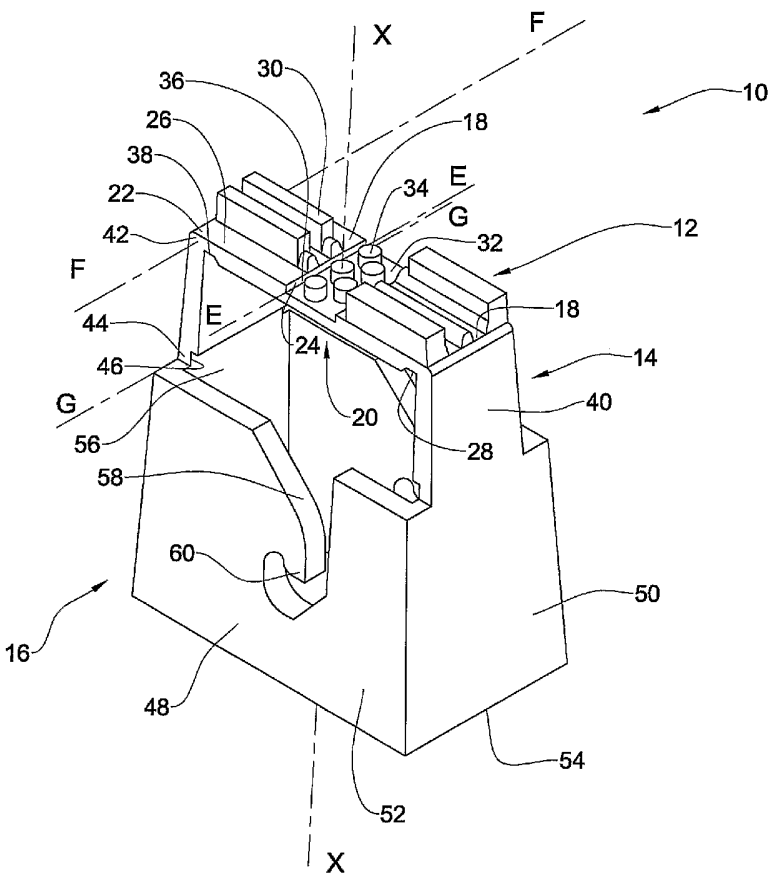
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(54) **Title:** TRELLISING DEVICE AND METHOD FOR ATTACHMENT THEREOF TO AN ELONGATED OBJECT



(57) **Abstract:** A trellising device (10) adapted for attachment to an elongated object B, which comprises a holding portion (12) , a locking mechanism (16) and a clamping portion (14) . The holding portion (12) is adapted to be brought to an open position and a closed position, for respectively receiving, and encompassing attachment to, the elongated object B. The locking mechanism (16) is adapted to lock the holding portion (12) in the closed position. The clamping portion (14) comprises a pair of support members (40) for supporting and bringing the holding portion (12) into closed position.

WO 2006/126193 A1

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TRELLISING DEVICE AND METHOD FOR ATTACHMENT THEREOF TO AN ELONGATED OBJECT

FIELD OF THE INVENTION

This invention relates to trellising devices, and particularly to trellising devices which can be brought from an open position to a closed position around an elongated object for encompassing attachment thereto.

BACKGROUND OF THE INVENTION

A trellising device is a general name, referring to a group of devices being in use in horticulture for trellising a plant or a part thereof in a desired orientation by attaching the plant to a rigid structure. To achieve this end the trellising device is adapted for attachment to the rigid structure and may comprise a plant coupling for connection with a plant. Such rigid structures often comprise elongated objects such as rods or tightly bound wires or strings, oriented at a range of angles according to the growth requirements of the plant. The trellising of a plant allows the possibility for a crop to provide greater harvest.

Therefore the rigid structure must be strong enough to support the weight of the plant and it's produce, and the attachment device between the plant and the rigid structure, i.e. the trellising device, must be able to strongly grip the rigid structure without sliding along the axial direction thereof.

NL 193812 discloses a trellising device for connecting a plant stem to a vertical support body. The device is a ring which is split at one location. The split is arranged at the end of two limbs. When the limbs contact with a stem or vertical support body, they pivot resiliently away from one another in order to allow the stem or post to pass through.

US 2005/44786 discloses a trellising device for supporting the weight of a limb, branch or other plant segment by interacting with both the plant and a supporting string or wire. The trellising device generally includes first and second curved portions, a hinge, and a locking mechanism. During installation, the trellising device is placed around both the plant and the supporting string, and is then squeezed together such that

the first and second curved portions pivot about the hinge and connect via the locking mechanism such that the closed device is ring-shaped.

SUMMARY OF THE INVENTION

The present invention relates to a trellising device for attachment to an elongated object such that the device is restrained from axial movement therealong.

In accordance with one aspect of the present invention, there is provided a trellising device adapted for attachment to an elongated object, which comprises: a holding portion adapted to be brought to an open position and a closed position, for respectively receiving, and encompassing attachment to, the elongated object; a locking mechanism adapted to lock the holding portion in the closed position; and a clamping portion which comprises a pair of support members supporting the holding portion, each member extending between its first end engaging the holding portion and its second end having a stationary hinge to allow pivoting of the support member about the second end, thereby moving the first ends of the support members towards each other to bring said holding portion into closed position.

The holding portion may comprise a seat member and a pair of closure members pivotally connected to the seat member for pressing the elongated object against the seat member when the holding portion is in the closed position. Thereby effecting encompassing attachment of the trellising device to the elongated object and preventing axial movement of the device, when attached to the elongated body, therealong. The closure members and seat member may further comprise protrusions, for example ribbed protrusions or cylindrically shaped protrusions. The protrusions may further restrain axial movement of the device along the elongated body. The closure members may each have a first edge connected to the seat member and a second edge connected to one of the support members of the clamping portion via a mobile hinge for pivoting of the closure member about its second edge and translation thereof in consequence with the pivoting motion of the associated support member. The pivoting motions of the mobile hinge and stationary hinge may be around axes, which are all parallel to the elongated body, when the device is attached thereto.

The locking mechanism may comprise a rigid base portion to which said support members are attached via said stationary hinges. The rigid base portion may be formed with a cavity disposed between the stationary hinges, adapted to receive at least a part

of the holding portion therein. In one embodiment the rigid base portion may be formed with a guide member and locking region adapted to lockingly receive an elongated object therein when the holding portion is in the closed position. The locking region may be in the form of an oblique tooth. In another embodiment the locking mechanism may comprise a cap having snap locks formed therein with matching slots formed with the holding portion. In the latter case, the locking mechanism may further comprise a base portion, and a locking region which may be in the form of a V-shaped guide channel, and/or the cap may be connected to this base portion via a bridge element.

If it is imagined that the device has a central axis passing through the seat member of the holding portion, perpendicularly to the elongated body, when the device is attached thereto, the open and closed positions of the holding portion may be defined with reference to such central axis. In a case where the seat member is oriented perpendicular to the central axis, the open and closed positions of the holding portion may be defined by respective different first and second axial positions of the seat of the holding portion or first and second height thereof relative to the base of the device. The orientation of the support members corresponding to the above two positions of the holding portion will thus be respectively substantially parallel, and substantially transverse, to the central axis.

The device may be made of any material that is sufficiently rigid to prevent its stretching, when attached to the elongated object, and sufficiently elastic to allow bending at chosen points thereof, which are adapted for such bending. The device may be a single integral unit, which may be a single material, in which case the chosen points at which the device is adapted for bending are hinges are constituted by regions of the device having a reduced thickness relative to that of members connected by the hinges. In particular, the device may be made of high density polyethylene or polypropylene.

The device may be adapted to be brought from a open position to a closed position, for example by single phase unidirectional pressure on the device. The device may also be adapted to be brought from a closed position to an open position.

The device may further comprise at least one plant coupling element. The plant coupling may be in the form of hooks or a ring or any other known type of plant coupling element used with trellising devices.

According to a further aspect of the present invention there is provided a method for attaching the trellising device as described above, to an elongated object. The method includes applying single phase unidirectional pressure to the holding portion, in open position, against the elongated object until the holding portion is in the closed position and the locking mechanism is locked.

According to yet a further aspect of the present invention there is provided a method for attaching the trellising device as described above, to an elongated object. The method includes positioning the holding portion, in open position, next to the elongated object and applying single phase unidirectional pressure to the locking mechanism in the direction of the holding portion until the holding portion is brought to the closed position and the locking mechanism is locked.

BRIEF DESCRIPTION OF THE DRAWINGS

In order to understand the invention and to see how it may be carried out in practice, embodiments will now be described, by way of non-limiting examples only, with reference to the accompanying drawings, in which:

Fig. 1 is a perspective view of a trellising device in open position, in accordance with one embodiment of the present invention;

Fig. 2a is a front view the trellising device shown in Fig. 1, with an elongated object positioned thereabove;

Fig. 2b is a perspective view the trellising device shown in Fig. 2a;

Fig. 3a is a front view of the trellising device shown in Figs. 2a and 2b in a semi-closed position;

Fig. 3b is a perspective view of the trellising device shown in Fig. 3a;

Fig. 4a is a front view of the trellising device shown in Figs. 2a-3b locked in closed position;

Fig. 4b is a perspective view the trellising device shown in Fig. 4a;

Fig. 5a is a front view of a trellising device according to another embodiment of the present invention;

Fig. 5b is a plan view of the trellising device shown in Fig. 5a;

Fig. 5c is a side view of the trellising device shown in Fig. 5b;

Fig. 5d is a perspective view of the trellising device shown in Fig. 5a;

Fig. 6 is a perspective view of the trellising device shown in Figs. 5a to 5d, attached to a wire;

Fig. 7 is a perspective view of a trellising device according to a further embodiment of the present invention;

Fig. 8 is a schematic perspective view of a trellising device in open position, according to yet a further embodiment of the present invention;

Fig. 9 is a schematic side view of the trellising device shown in Fig. 8, locked in closed position;

Fig. 10a is a perspective view of the trellising device shown in Fig. 8 further comprising a bridge element;

Fig. 10b is a bottom view of the trellising device shown in Fig. 10a;

Fig. 10c is a front view of the trellising device shown in Fig. 10a;

Fig. 10d is a plan view of the trellising device shown in Fig. 10a; and

Fig. 10e is a side view of the trellising device shown in Fig. 10c.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

Fig. 1 illustrates a trellising device generally designated 10, according to one embodiment of the present invention, having a central axis X and adapted for the attachment thereof to an elongated body B (not shown) extending perpendicular to the axis X. The trellising device 10 comprises a holding portion 12 adapted to be brought to an open position to receive the elongated body B, and a closed position to encompassly attach to this body; a clamping portion 14 for supporting the holding portion 12 and bringing it from the open to the closed position, and a locking mechanism 16 adapted to lock the holding portion in the closed position. The locking mechanism 16 is formed in a base portion 48 supporting the holding portion 12 and the clamping portion 14. The holding portion 12 and the clamping portion 14 have a design symmetrical relative to the central axis X.

The holding portion 12 comprises a seat member 20 oriented perpendicular to the central axis X, and a pair of closure members 18, merging with the seat member 20 via depressions 36 on two sides thereof. The seat member 20 comprises a receiving surface 32 with protrusions 34 integrally formed thereon. The closure members 18 each extend between a first edge 22 connected with the clamping portion 14 via depression

38, and a second edge 24 merging with the seat member 20 via the depression 36. Each closure member 18 has an external surface 26 facing away from the base portion 48 and having staggered ribbed protrusions 30 formed thereon, and an internal surface 28 facing the base portion 48. The staggering of the ribbed protrusions 30 is spaced such that the ribbed protrusions 30 on each closure member 18 can interconnect with the ribbed protrusions 30 on the other closure member 18 when the external surfaces 26 of the closure members 18 are brought together (Figs. 4a and 4b). The depressions 36 between the seat member 20 and the closure members 18, and the depressions 38 between the closure members 18 and the clamping portion 14 are sufficiently deep to behave as hinges allowing the closure members to pivot at the areas of these depressions along parallel axes E and F.

The clamping portion 14 comprises a pair of support members 40 each extending between a first end 42 which merges with the first edge 22 of one closure member 18, and a second end 44 which merges with the base portion 48 via depressions 46, which are sufficiently deep to behave as hinges allowing the support members 40 to pivot at the areas of these depressions along axis G. It should be noted that axis G is parallel to the axes E and F, and that axes E, F and G each have a symmetrical counterpart axis on the other side of the central axis X even though not shown in Fig. 1. Additionally, while the hinges in this example are constituted by regions of the device having reduced thickness relative to that of members connected thereto, it should be noted that any type of connection which allows the described pivotal or hinge like behavior may be used with the present invention.

The locking portion comprises a base portion 48 which has formed therewith an essentially Y-shaped guide channel 58 and a locking region 60. The base portion is in the form of a rigid structure comprising a pair of opposing end walls 50, a pair of opposing side walls 52, and a lower edge 54, all defining therebetween a cavity 56. Each side wall 52 has an essentially Y-shaped guide channel 58 which is asymmetric relative to the central axis X, ending with a locking region formed with an oblique tooth 60.

Referring now to Figs. 2a to 4b, the trellising device 10 is shown there in process of being mounted on the elongated object 62. The elongated object 62 in this example is a rigid wire. Stage 1 of the process is illustrated in Figs. 2a and 2b, showing the trellising device 10 in open position (as in Fig. 1) with the receiving surface 32 of

the seat member 20 of holding portion 12 being exposed to the wire 62, and the wire 62 being positioned next to the receiving surface 32. In this position, the seat member 20, is disposed at a first height H1 relative to the lower edge 54 of the base portion 48, with the closure members 18 being aligned with the seat member 20 and being oriented substantially transverse relative to the central axis X, and the support members 40 being arranged in a substantially parallel arrangement, relative to the central axis X.

To start the attachment of the device 10 to the wire 62, a user (not shown) should grasp the base portion 48 of the device 10 and move it using single phase unidirectional pressure along the central axis in the direction of the wire 62, thereby forcing the receiving surface 32 of the seat member 20 to impact the wire 62. The result of this impact causes the deformation of the depressions 36 in the area of the axis E, the depressions 38 in the area of the axis F , and the depressions 46 in the area of the axis G. This orientation of the device 10, showing the trellising device 10 in an intermittent position between open position and closed position, is considered Stage 2 of the process, and is illustrated in Figs. 3a and 3b. As seen in Stage 2, these deformations allow pivoting of the support members 40 about the axis G, which is stationary and of the closure members 18 about the axis E and the axis F, which are both movable due to the pivoting of the support members 40. The pivotal motion of the support members 40 and the closure members 18 causes the seat member 20 to descend from the first height H1, toward the base portion 48 and the holding portion 12 to begin encompassing the wire 62.

In stage 3, illustrated in Figs. 4a and 4b, the trellising device 10 is shown locked in closed position with the holding portion 12 inserted inside the cavity 56. To reach this position, the above-mentioned unidirectional pressure forces the wire 62 to follow the guide channel 58 until it is trapped by the oblique tooth 60. Due to the asymmetric design of the Y-shaped guide channel 58, the wire 62 is forced to pass the central axis X and move further away therefrom as it travels down the guide channel 58, creating pressure on the holding portion 12 to revert back to the original centered position. At the end of the guide channel 58 the wire has an opportunity to move towards the central axis and accordingly moves to the position shown in Figs. 4a and 4b, thus locking the device 10 in closed position via the oblique tooth 60, with the wire being fully encompassed by the holding portion 12 whose closure members 18 meet at the central axis X, and press the wire 62 against the seat member 20. In this position, the seat

member 20 is disposed at a second height H2 relative to the lower edge 54, lower than the first height H1, with the closure members 18 extending substantially parallel to the central axis X, and the support members 40 being oriented in a substantially transverse arrangement relative to the central axis, thereby allowing the closure members 18 and seat member 20 of the device 10 to effect encompassing attachment around the wire 62. The wire 62 is further restrained against axial motion relative to the device 10 by it's being compressed between the cylindrical protrusions 34 and the interconnecting ribbed protrusions 30. It should be emphasized that all deformations of the depressions 36, 38 and 46, and their conversion into respective mobile and stationary hinges, as well as the above described motions of different members of the device 10, are achieved by single phase unidirectional pressure on the device 10 toward the elongated object 62.

In Fig. 5a-5d a further embodiment of a trellising device, generally designated 70, is shown. The device 70 comprises a holding portion 72 and clamping portion 74 identical to that shown previously for device 10, and a locking portion 76 having an extended base portion 78 with plant coupling elements in the form of distal hooks 80 integrally formed therewith. Such plant coupling elements 80 are normally used for pepper crops (not shown).

Fig. 6 shows the device 70 encompassingly attached to a wire 82.

Fig. 7 shows yet a further embodiment of a trellising device, generally designated 90, comprising trellising device 10 with a plant coupling element in the form of an additional ring 92 integrally formed with the base portion 48 and being encompassingly attached to a wire 94. Such plant coupling element 92 is normally used for tomato crops.

Fig. 8 illustrates a trellising device, generally designated 100, having a central axis Y. The trellising device 100 shown in open position, comprises a holding portion 102, a clamping portion 104 having support members 110, a locking portion 106 and a base portion 108 with a lower edge 109.

The holding portion 102 is identical to the holding portion 12 of the first device 10 and comprises a seat member 20 with a receiving surface 32 which is disposed at a first height H3, relative to the lower edge 109 of the base portion 108.

The clamping portion 104 is identical to the clamping portion 14 of the first device 10 with the exception of slots 112 formed within the support members 110.

The locking portion 106 comprises a cap 114 having snap locks 116 formed therein which are adapted for snapping connection to the slots 112, and a locking region in the form of a V-shaped guide channel 118. It should be noted that the position of the holding portion 102 and clamping portion 104 of the device 100 in open state is similar to the position shown in stage 2 of the device 10 (Figs. 3a and 3b).

To start the attachment of the device 100 to an elongated object, which in this example is a wire 120 (Fig. 9), a user (not shown) should grasp the device 100 in one hand such that thumb is supporting the base portion 108 and the forefinger is supporting the cap 114. The receiving surface 32 of the seat member 20 of holding portion 102 is positioned next to the wire 120 and the user forces the cap 114, using unidirectional pressure in the form of a single squeezing motion, along the central axis in the direction of the wire 120 and the holding portion 102, onto the holding portion 102. During movement of the cap 114, stated above, the V-shaped guide channel 118 guides the wire 120 to the center of the cap 114 assisting to position of the wire 120 directly above the center of the receiving surface 32. The snap locks 116 pressure the support members 110 towards the central axis Y, which consequently encompass the wire 120 therebetween, and move seat member 20 to a second height H4, which is lower than the first height H3. Eventually the snap locks slide inside the slots 112 and snappingly lock the device 100 in closed position.

Figs. 10a-10e illustrate a device, generally designated 130, shows the device 100 described in Figs. 8 and 9, further comprising a bridge element 132. The bridge element 132 joins the cap 134 and base 136, forming the device 130 into a single integral unit. The operation of device 130 is the same as the operation of device 100 with the bridge 132 further helping to guide the cap 134 to the base 136 and when in closed position the bridge element 132 becomes a plant coupling element in the form of a ring (not shown) of the type normally used for tomato crops.

Those skilled in the art to which this invention pertains will readily appreciate that numerous changes, variations and modifications can be made without departing from the scope of the invention mutatis mutandis.

CLAIMS:

1. A trellising device adapted for attachment to an elongated object, which comprises: a holding portion adapted to be brought to an open position and a closed position, for respectively receiving, and encompassing attachment to, the elongated object; a locking mechanism adapted to lock the holding portion in the closed position; and a clamping portion which comprises a pair of support members supporting the holding portion, each member extending between its first end engaging the holding portion and its second end having a stationary hinge to allow pivoting of the support member about the second end, thereby moving the first ends of the support members towards each other to bring said holding portion into closed position.

2. A trellising device according to claim 1, wherein said holding portion further comprises a seat member and a pair of closure members pivotally connected to the seat member for pressing the elongated object against the seat member when the holding portion is in the closed position

3. A trellising device according to claim 2, wherein said closure members each have a first edge connected to the seat member and a second edge connected to one of the support members of the clamping portion via a mobile hinge for pivoting of the closure member about its second edge and translation thereof.

4. A trellising device according to claim 3, wherein the motion of each said mobile hinge and said stationary hinge is contemporaneous.

5. A trellising device according to claim 3, wherein the pivoting motion of the mobile hinge and stationary hinge may be around axes which are all parallel to the elongated body when the device is attached thereto.

6. A trellising device according to claim 5, wherein said device is adapted for attachment to said elongated object, by forcing the device against the elongated object using single phase unidirectional pressure.

7. A trellising device according to claim 1, wherein said device further comprises a central axis passing through said seat member, perpendicularly to the elongated body, when the device is attached thereto, and wherein said seat member is oriented perpendicular to the central axis, the open and closed positions of the holding portion being defined by respective different first and second axial positions of the seat of the holding portion or first and second height thereof relative to the base of the device,

and/or the orientation of said support members corresponding to the above two positions of the holding portion will thus be respectively substantially parallel, and substantially transverse, to the central axis.

8. A trellising device according to claim 1, wherein said locking mechanism further comprises a rigid base portion to which said support members are attached via said stationary hinges.

9. A trellising device according to claim 8, wherein said base portion further comprises a cavity disposed between the stationary hinges, adapted to receive at least a part of the holding portion therein.

10. A trellising device according to any one of claims 1, 8 or 9, wherein said locking mechanism further comprises a guide channel and a locking region adapted to lockingly receive an elongated object therein, when said holding portion is in the closed position.

11. A trellising device according to any one of claims 8, 9 or 10, wherein said locking mechanism further comprises a cap having snap locks formed therein and/or a bridge element connecting the cap and base portion, and said holding portion further comprises slots formed therein for engagement with the snap locks.

12. A trellising device according to claim 1, wherein said device further comprises a plant coupling element.

13. A trellising device according to claim 12, wherein said plant coupling element is in the form of hooks or a ring.

14. A trellising device according to claim 13, wherein said locking mechanism comprises a cap having snap locks formed therein and said holding portion further comprises slots formed therein for engagement with the snap locks, and said plant coupling is in the form of a ring constituted by the bridge element, when the holding portion is in the closed position.

15. A trellising device according to claim 1, wherein said device is made of polypropylene material or high density polyethylene material.

16. A trellising device according to claim 1, wherein said holding portion further comprises protrusions.

17. A trellising device according to claim 16, wherein said protrusions are staggered ribbed protrusions formed on the closure members, the ribbed protrusions on

each closure member being adapted to interconnect with the ribs on the other closure member, and/or substantially cylindrical protrusions formed on the seat member.

18. A trellising device according to any one of claims 1 to 17, wherein said device is a single integral unit.

19. A trellising device according to claim 1, wherein said device is adapted be brought from open position to closed position and locked, by the application of single phase unidirectional pressure on the device toward the elongated object.

20. A method of attaching a trellising device to an elongated object, the method comprising:

providing a holding portion adapted to be brought to an open position and a closed position, for respectively receiving, and encompassing attachment to, the elongated object; a locking mechanism adapted to lock the holding portion in the closed position; and a clamping portion which comprises a pair of support members supporting the holding portion, each member extending between its first end engaging the holding portion and its second end having a stationary hinge to allow pivoting of the support member about the second end, thereby moving the first ends of the support members towards each other to bring said holding portion into closed position; and

applying single phase unidirectional pressure to the holding portion, in open position, against the elongated object until the holding portion is in the closed position and the locking mechanism is locked;

21. A method of attaching a trellising device to an elongated object, the method comprising:

providing a holding portion adapted to be brought to an open position and a closed position, for respectively receiving, and encompassing attachment to, the elongated object; a locking mechanism adapted to lock the holding portion in the closed position; and a clamping portion which comprises a pair of support members supporting the holding portion, each member extending between its first end engaging the holding portion and its second end having a stationary hinge to allow pivoting of the support member about the second end, thereby moving the first ends of the support members towards each other to bring said holding portion into closed position;

positioning the holding portion, in open position, next to the elongated object; and

applying single phase unidirectional pressure to the locking mechanism in the direction of the holding portion until the holding portion is brought to the closed position and the locking mechanism is locked.

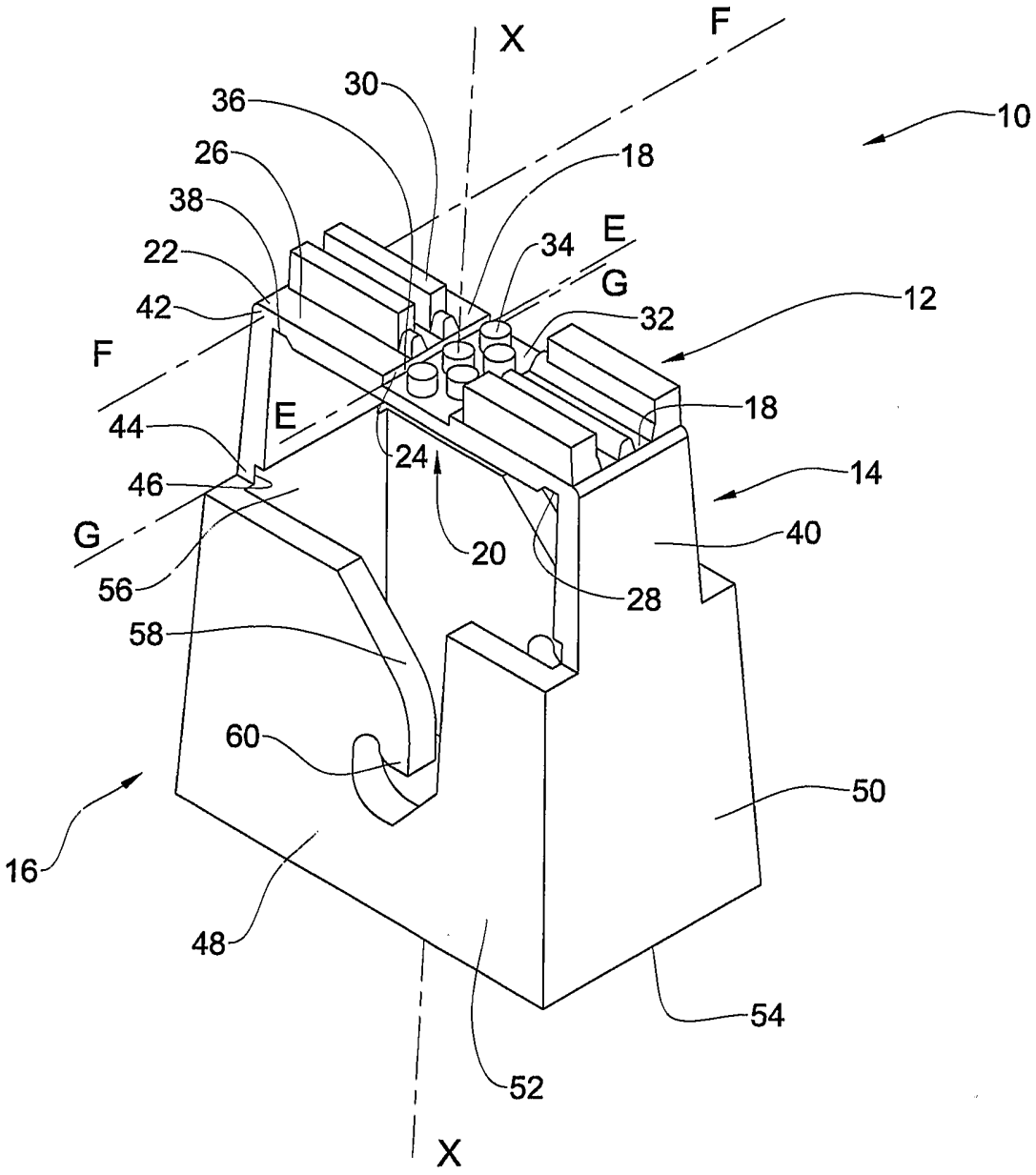

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FIG. 1

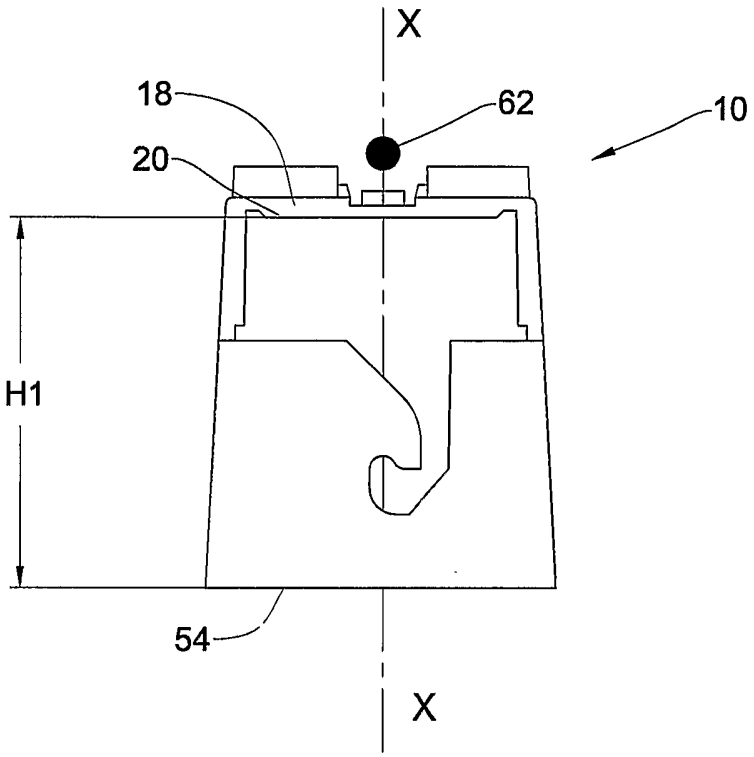


FIG. 2A

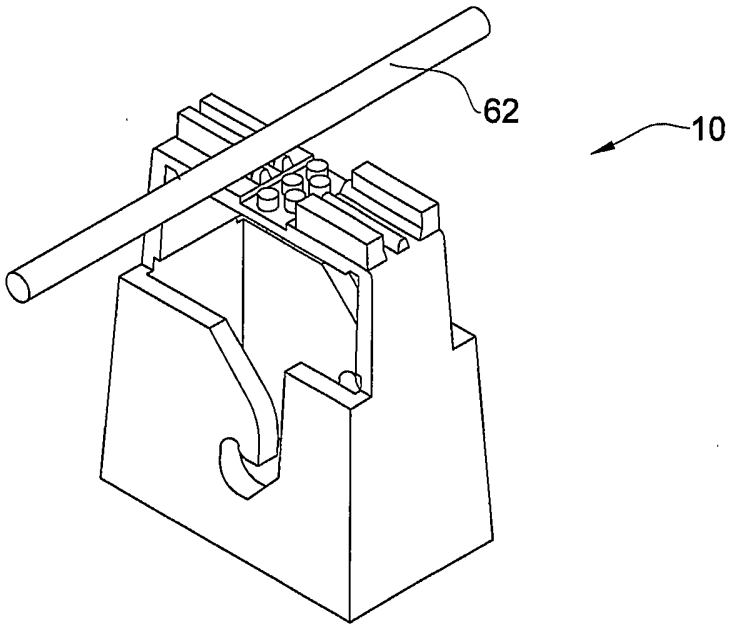


FIG. 2B

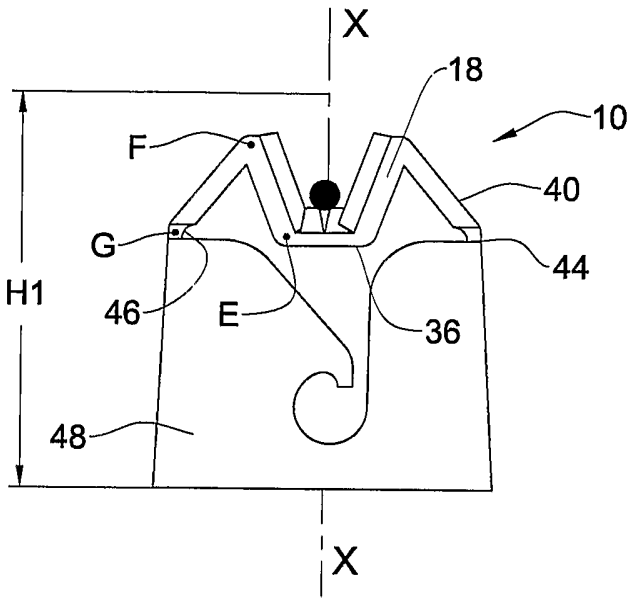


FIG. 3A

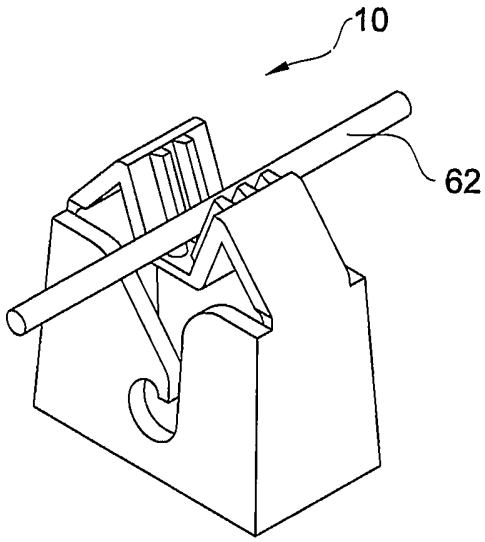


FIG. 3B

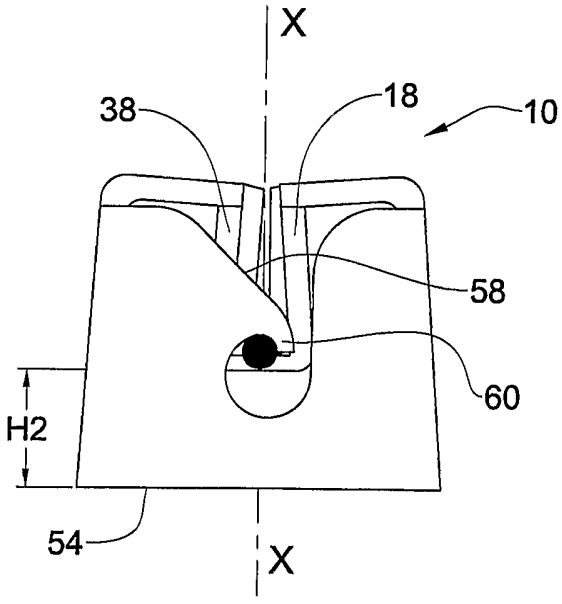


FIG. 4A

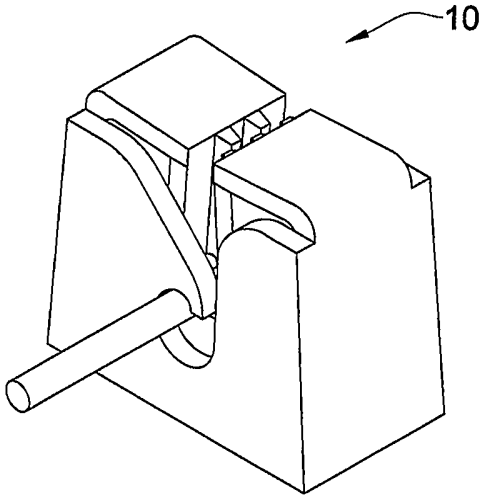


FIG. 4B

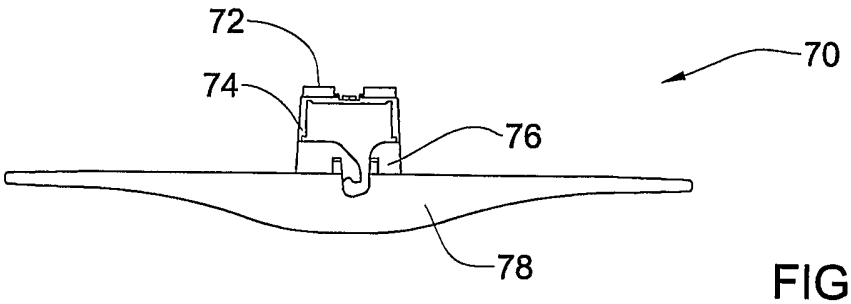


FIG. 5a

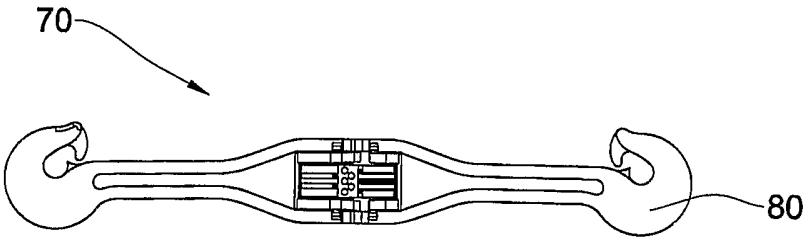


FIG. 5b

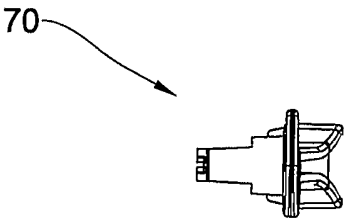


FIG. 5c

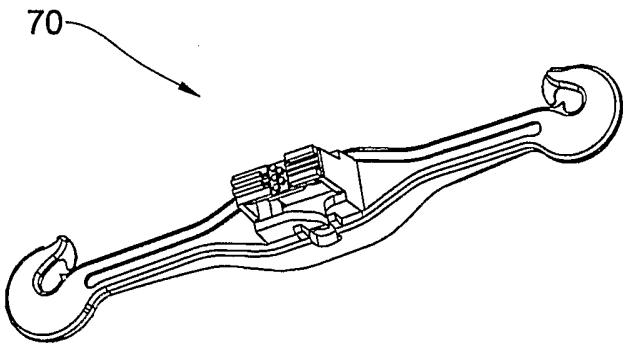


FIG. 5d

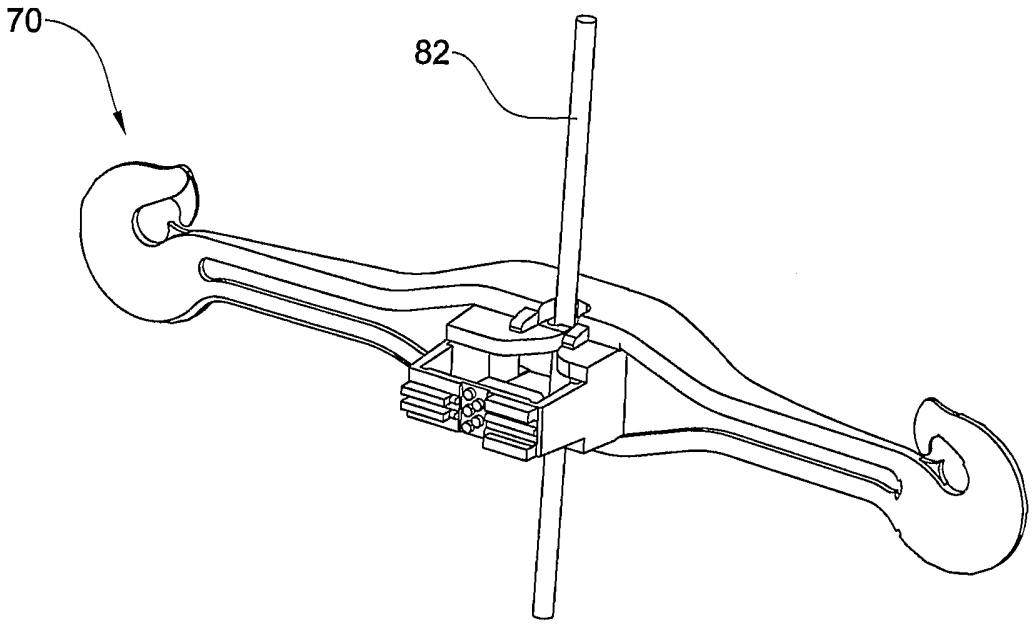


FIG. 6

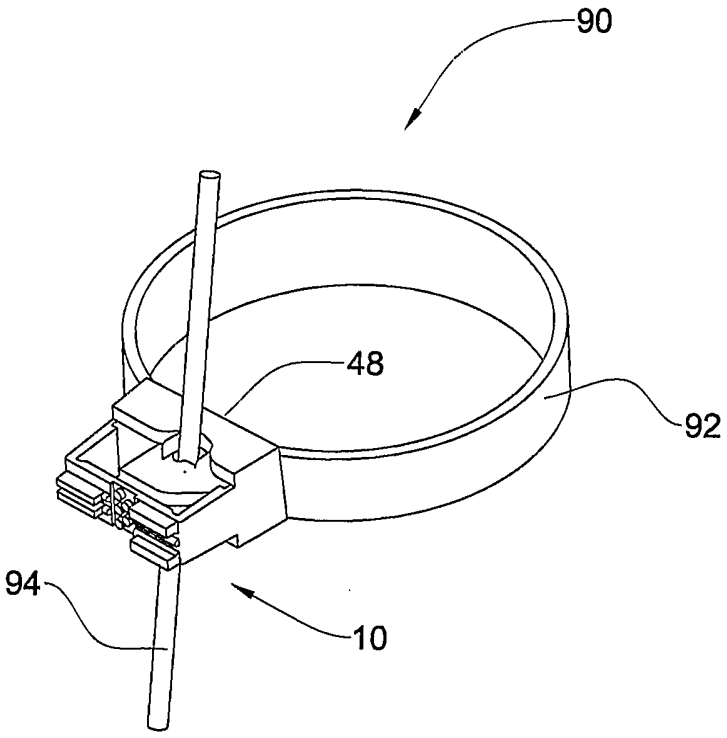


FIG. 7

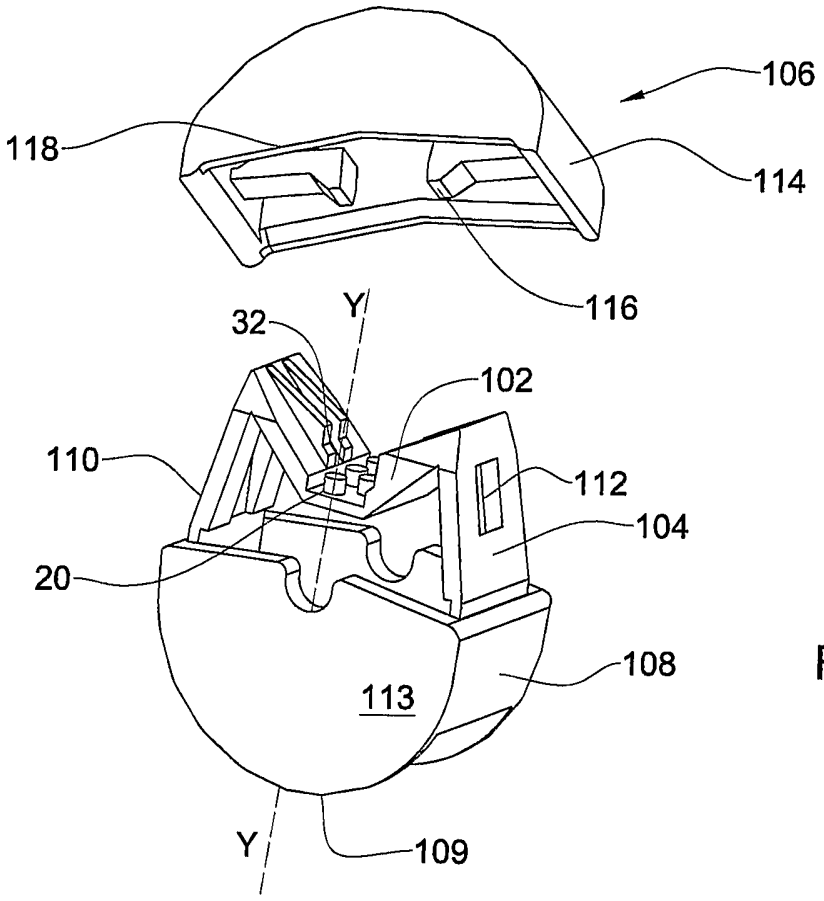

106
118
114
116
Y
32
102
110
112
104
20
108
113
Y
109

FIG. 8

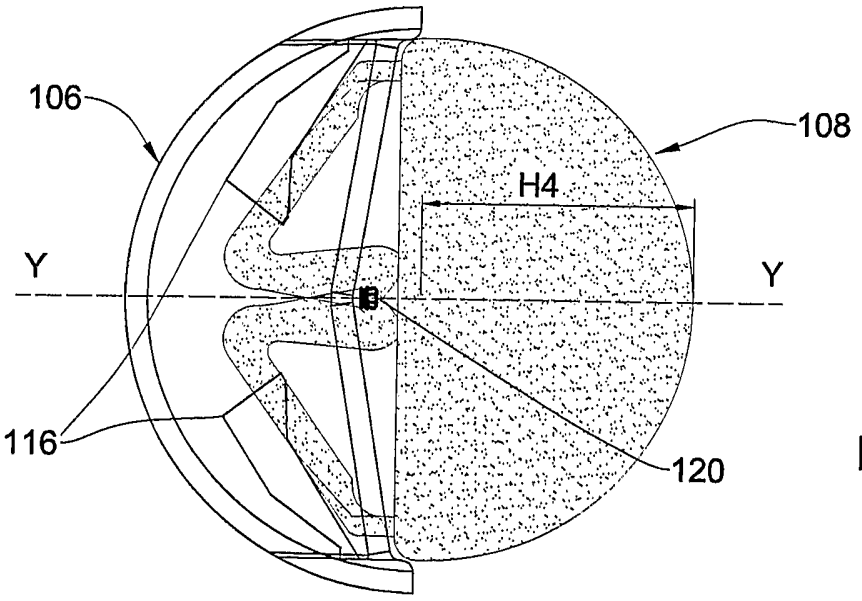

106
108
H4
Y
Y
116
120

FIG. 9

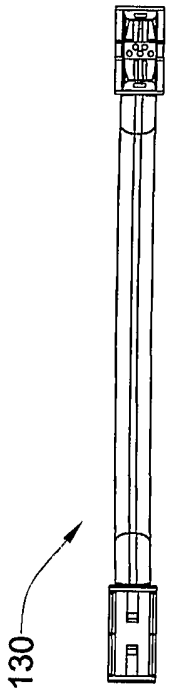


FIG. 10d

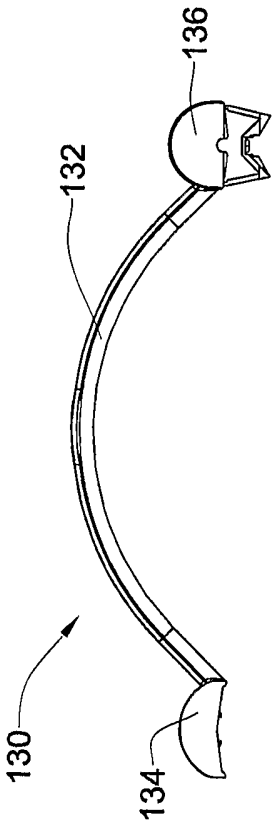


FIG. 10c

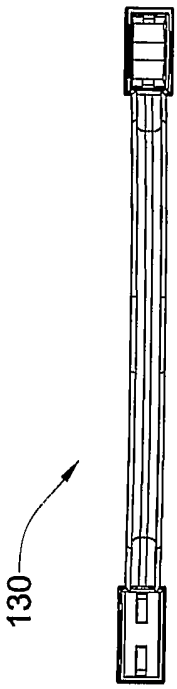


FIG. 10b

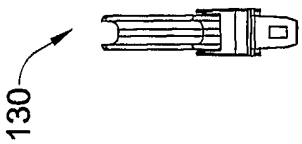


FIG. 10e

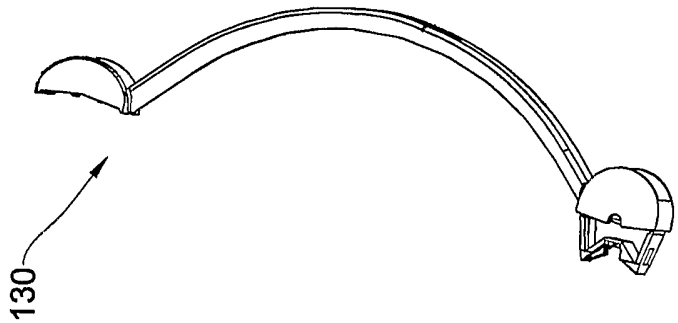


FIG. 10a

INTERNATIONAL SEARCH REPORT

International application No
PCT/IL2006/000605

A. CLASSIFICATION OF SUBJECT MATTER
INV. F16L3/12 A01G9/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A01G F16L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 944 177 A (YODA ET AL) 16 March 1976 (1976-03-16) column 1, line 49 - column 2, line 36; figures	1,2,7,8, 18-21
A		2,10
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A	DE 196 46 734 A1 (HAUSER, PETER, 78056 VILLINGEN-SCHWENNINGEN, DE) 14 May 1998 (1998-05-14) figures	1,20,21
A	WO 00/67556 A (DELOZANNE, BERNADETTE) 16 November 2000 (2000-11-16)	

-/--

[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
14 September 2006	20/09/2006

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Merckx, Alain

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INTERNATIONAL SEARCH REPORT

International application No
PCT/IL2006/000605

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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A	US 2005/044786 A1 (MASTRONARDI ESTER) 3 March 2005 (2005-03-03) cited in the application	
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International application No
PCT/IL2006/000605

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