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(54) **ANGULAR INCLINATION MECHANISM OF A SUNSHADE AND SUNSHADE COMPRISING SUCH MECHANISM**

MECHANISMUS ZUR NEIGUNG EINER SONNENBLLENDE UND SONNENBLLENDE MIT SOLCH EINEM MECHANISMUS

MÉCANISME D'INCLINAISON ANGULAIRE D'UN PARASOL ET PARASOL COMPRENANT UN TEL MÉCANISME

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Description

Field of the invention

[0001] The present invention refers to a new angular inclination mechanism of a sunshade.

[0002] More specifically, the sunshade which reference is made to, comprises an outer container which substantially develops in a longitudinal direction along an axis X-X between two opposite heads, and which defines an internal cavity for housing a pipe rotatably constrained to the ends and adapted to wind a canvas which is moved by at least one articulated arm.

[0003] Moreover, the invention refers to a sunshade comprising such angular inclination mechanism.

Description of the prior art

[0004] It is known that the inclination of the canvas of a sunshade is adjusted when the canvas is in an extended position, in order to improve the efficiency and enable to obtain a better protection against the sunshine.

[0005] The canvas inclination adjustment mechanisms vary according to the sunshade type, and in case of sunshades having an outer container, which reference is made to, known also as "completely concealed sunshades", the adjustment mechanisms are generally positioned at the container side ends.

[0006] A known solution teaches to arrange, at the end of the pipe, a supporting plate, perpendicularly fixed to the wall or ceiling, which is coupled to a rotating plate by axial rotation means. The end of the articulated arm, used for extending the sunshade, is coupled to the rotating plate and is supported by the latter so that a rotation of the rotating plate with respect to the supporting plate also enables to angularly inclinate the articulated arm with respect to the longitudinal axis X-X.

[0007] EP1908893A1 discloses an angular inclination mechanism according to the preamble of claim 1.

[0008] A solution for the rotation means, provides to arrange on the stationary plate a threaded rod having a bolt slidingly associated to the former, whose shank is inserted in a guide made in the rotating plate. In this way, the bolt shifted along the threaded rod, is constrained in the guide and establishes the rotation of the rotating plate with respect to the stationary plate, in order to determine an angular inclination of the sunshade with respect to the axis X-X.

[0009] Other solutions provide a discrete adjustment of the articulated arm inclination with respect to the supporting plates, for example by arranging a plurality of holes on the rotating plate, the end of the articulated arm being manually selectively coupled to this holes.

[0010] The known solutions, even though they are adequate under different aspects, however show some drawbacks.

[0011] The adjustment mechanisms, according to the prior art, are efficient but require the sunshade to have

suitable and limited sizes. Actually, both a projection of about three meters and a length of the canvas of about six meters are dimensional limits, above such limits, the involved forces generally require suitable engagement systems and precisely projected adaptations of the movable plates, which in turn are expensive and in some cases are hard to be applied and implemented.

[0012] Particularly, when the sunshade projection is greater than six meters, the solutions with adjustment mechanisms with a threaded rod and associated bolt, in order to ensure a suitable inclination angle, require to lengthen the threaded rod by arranging it outside the stationary plate and particularly between the stationary plate and a bracket supporting the container, in order to enable a suitable stroke of the bolt. Therefore, such solution requires to noticeably separate the outer container from the supporting wall and this, in some cases, is not acceptable or requires additional closing components. Moreover, even though such solution is advantageous, it offers a limited adjustment of the sunshade inclination and the position of the mechanism is constrained to the container ends.

[0013] Moreover, it is good to know that the sunshade inclination adjustment operation is a manual one, which is performed by technicians during the installation step and which requires a rather considerable physical effort which increases as the sunshade sizes increase, making in some cases this operation complex.

[0014] An object of the present invention consists of providing an angular adjustment mechanism having a limited size and enabling to widen the range of the sunshade inclination adjustment.

[0015] A further object consists of providing an adjustment mechanism enabling to continuously adjust the sunshade inclination in a simple and fast way, useable also for sunshades adapted for large surfaces, such as terraces and verandas.

[0016] Another object of the present invention consists of providing a mechanism enabling to simply adjust the inclination by a limited physical effort.

[0017] A further object of the invention consists of providing a workable, compact mechanism enabling the technicians to safely execute the inclination adjustment operation.

[0018] Another object consists of providing a reliable mechanism at a reasonable cost.

[0019] The technical problem underlying the present invention consists of devising an angular inclination adjustment mechanism of a sunshade having structural and operative features such to enable to overcome the limits and/or drawbacks which still impair the mechanisms implemented according to the prior art.

Summary of the invention

[0020] The idea of the solution underlying the present invention consists of providing movement means, externally actuated, associable to the outer container, and

suitable for being arranged in any positions between the two ends for continuously adjusting the inclination of the sunshade canvas.

[0021] Based on such idea of solution, the technical problem is solved by a mechanism of the previously cited type and defined in the characterizing part of claim 1.

[0022] The problem is also solved by a sunshade of the previously cited type and defined in the characterizing part of claim 8.

[0023] The characteristics and advantages of the present invention will be apparent from the following description of a practical embodiment, given in an exemplifying and non limiting way with reference to the attached drawings, wherein:

- Figures 1 and 2 show a perspective view of a sunshade comprising an angular inclination mechanism according to the invention, in a closed position with the canvas wound, and in an open position with the canvas extended, respectively;
- Figure 3 shows a sunshade in a schematic view analogous to the one of Figure 1, parts of the outer container being phantom drawn and parts being schematically drawn;
- Figure 4 shows a side cross-section view of the sunshade in Figure 1, the cross-section being made along a plane perpendicular to axis X-X in correspondence of an inclination mechanism;
- Figure 5 shows a schematic 3/4 view of a portion of the angular inclination mechanism according to the present invention;
- Figures 6a and 6b respectively show a 3/4 view and a side view of the mechanism transmission means according to the present invention;
- Figure 7a shows a front view of the pin of the actuation group of the mechanism according to the present invention;
- Figures 7b and 7c respectively show a front view and a top view of a detail of the pin in Figure 7a;
- Figures 8-11 show cross-section side views of the mechanism in Figure 4 with and without the outer container of the sunshade with two different operative angles;
- Figures 12 and 13 respectively show a 3/4 view and a front view of a detail of an articulated arm of the sunshade;
- Figures 14 and 15 respectively show a side view and a 3/4 view of a further detail of an articulated arm of the sunshade;
- Figure 16 shows a side schematic view of the sunshade in Figure 2 and the path of a continuous adjustment of the inclination.

Detailed description

[0024] A sunshade 1, comprising two angular inclination mechanisms 10 implemented according to the present invention, is shown in the attached figures. The

number of the shown angular inclination mechanisms 10 is two but, as it will be more apparent from the following description, it is possible to provide more angular inclination mechanisms 10 arranged as a function of the sunshade size or based on project requirements.

[0025] Sunshade 1 comprises an outer container 5, which is substantially a box-shaped body adapted to receive the components of the sunshade 1. Such body defines an internal cavity 4 having a prevailing longitudinal extension, along axis X-X of sunshade 1, between opposite ends 6. Outer container 5 comprises a rear half-shell 25 coupled to a front half-shell 26 adapted to define said closed-box shaped body.

[0026] Rear half-shell 25 has a substantially "C-shaped" profile and is coupled to a wall or ceiling by a group of engagement brackets, an angular inclination mechanism 10 being interposed therebetween.

[0027] Front half-shell 26 is translationally movable from a position associated to the rear half-shell 25, for defining said box-shaped body as shown in Figure 1, and a distal position where front half-shell 26 is spaced apart from rear half-shell 26, as shown in Figure 2.

[0028] Obviously, rear half-shell 25 and front half-shell 26 can be made by one or more suitably shaped profiles and associated to each other.

[0029] A pipe 3 is inserted in the internal cavity 4 and is rotatably constrained to the ends in proximity of heads 6. A canvas 2 is wound around the pipe 3, the free end being associated to the front half-shell 26.

[0030] At least one retractable articulated arm 8 is moved by a manual or electric winch system, for extending or winding the canvas 2 around the pipe 3. Each articulated arm 8 is received in the internal cavity 4 when the front half-shell 26 is associated to rear half-shell 25, as it is for example shown in Figure 3.

[0031] Each articulated arm 8 is provided, at the rear end 9a, with first locking means 40 associated to the rear half-shell 25, and, at the front end 9b, with second locking means 50 associated to the front half-shell 26.

[0032] Each angular inclination mechanism 10 of the sunshade 1, as for example shown in Figure 4, comprises transmission means 12 coupled to and actuated by an actuation group 13 for implementing the transmission of an orthogonal axes motion, with a rotation of the outer container 5 of an inclination angle α with respect to the axis X-X, as schematically shown in Figure 16.

[0033] Transmission means 12, as shown in Figure 5, are positioned externally to the outer container 5, are integral with the rear half-shell 25, and are arranged in an intermediate position between the opposed heads 6.

[0034] Transmission means 12 are provided with a rack element 16 having a "C-shaped" side profile adapted to be circumferentially positioned in a shape-coupling manner with the rear half-shell 25.

[0035] Rack element 16 has a toothing 15 which is present on all the development or at least on a portion thereof. Rack element 16 and rear half-shell 25 are provided with screw and/or lock couplings and in the corre-

spondence of the facing surfaces, are provided with corresponding threads and suitable lock elements and with insertion and locking notches for the lock elements.

[0036] Actuation group 13 is positioned between outer container 5 and the engagement plates system for fixing the sunshade 1 to the ceiling or wall. Actuation group 13 comprises a pin 14 rotatably coupled to the transmission means 12 and adapted to axially rotate for actuating the rotation of the outer container 5 around axis X-X.

[0037] Particularly, actuation group 13 comprises an engagement and fastening unit 17 shaped as a plate and associated to the engagement plates system.

[0038] Engagement and fastening unit 17 is provided inside with a seat 18 for housing and supporting pin 14. Seat 18 extends in the vertical direction Y-Y substantially perpendicular to axis X-X. Pin 14 is axially inserted in seat 18.

[0039] Pin 14 is provided at one end with a threaded portion or segment 22 and at the opposite end with an actuation shank 23. Threaded portion 22 has a thread, preferably a helical one, couplingly associable to toothing 15 of rack element 16.

[0040] Seat 18 is defined by a first axial cavity 18a and by a second axial cavity 18b. Second cavity 18b extends under and has a diameter less than the one of first cavity 18a and ends with a lower opening 18c. While, first cavity 18a has a lateral opening 18d facing the rack element 16.

[0041] Pin 14, freely rotatable around its own axis, is positioned in seat 18, shank 23 being inserted in second axial cavity 18b, and threaded portion 22 being inserted in first cavity 18a. Further, threaded portion 22 is adapted to project from lateral opening 18d in order to couplingly engage toothing 15 of rack element 16.

[0042] Suitable supporting and engagement elements, annular or axial, can be provided and positioned between seat 18 and pin 14 for enabling pin 14 and particularly the threaded portion 22 to freely rotate.

[0043] In an embodiment, engagement and fastening unit 17 comprises a first half-plate 17a and second half-plate 17b, substantially symmetric with respect to said direction Y-Y and coupled to each other, as shown in Figure 3. First and second half-plates 17a and 17b, at the coupled surfaces, are provided with corresponding recesses adapted to define seat 18 by their coupling. Engaging first and second half-plates 17a and 17b by suitable screw or engagement means, enables to lock pin 14 positioned in seat 18.

[0044] However, it is possible to use other systems for coupling and positioning pin 14 in the engagement and fastening unit 17, for example by snap insertion systems.

[0045] Obviously, pin 14 can be integrally made or can be made in several parts in order to enable to rotate threaded portion 22 and engage with rack element 16.

[0046] From what has been described, it is appreciated that for a clockwise or anticlockwise rotation of pin 14 shank 23, there is a rotation of rear half-shell 25 with respect to axis X-X by the actuation of rack element 16. Therefore, the angular inclination mechanism 1, accord-

ing to the present invention, enables to continuously adjust the sunshade 1 from an horizontal position of the outer container 5, wherein the inclination angle α is equal to 0° , to a vertical position wherein inclination angle α is equal to 90° , as schematically shown in Figure 16.

[0047] In this way, it is obtained a continuous adjustment of the inclination of extended canvas 2, in an easy and simple way. Particularly, by a system comprising a worm-and-gear pair it is possible to position the mechanism externally to the outer container 5, and it is also possible to position it between the opposed ends 6, according to project needs or requirements. Further, the mechanism can be easily actuated from the outside and preferably along a substantially vertical direction Y-Y.

[0048] Preferably, each articulated arm 8 of sunshade 1, according to the present invention, comprises first locking means 40 and second locking means 50 of the articulated type, which are positioned between the rear ends 9a and rear half-shell 25 and also between front end 9b and front half-shell 26.

[0049] First locking means 40, illustrated in Figure 12 and 13, have a first support 41 and a first fork-element 16 which are articulated to each other by a first crescent-shaped extension 43.

[0050] First support 41 is a substantially parallelepiped body comprising a base from which a lateral surface extends. The base is internally associated to rear half-shell 25, arranged with a prevailing longitudinal extension along axis X-X of the sunshade 1 and is fixed by suitable engagement or screw means.

[0051] Advantageously, first support 41 is coupled to one of the above described angular inclination mechanisms 10 and associated from the opposite part with respect to the rear half-shell 25.

[0052] Articulated arm 8 has the rear end 9a inserted in first fork-element 46 and is constrained by a first rotation pin 45 which, in operation, is arranged with the axis parallel to the vertical direction Y-Y. In this way, the articulated arm 8 rotates by substantially lying in a plane P perpendicular to direction Y-Y.

[0053] At the opposite part of articulated arm 8, first fork-element 46 is provided with a lateral wall 47 which is apposed to lateral wall 42 of first support 41.

[0054] Lateral walls 42 and 47 are shape coupled and articulated to each other by the first crescent-shaped extension 43. First crescent-shaped extension 43 is therefore substantially a first fulcrum element for a rotation of first fork-element 46 with respect to first support 41.

[0055] First crescent-shaped extension 43 is a protuberance of lateral wall 42 of the body, extending perpendicularly in the direction of axis X-X with a substantially "C-shaped" outline. While, lateral wall 47 of first fork-element 46 is provided with a recess 48 suitable to receive the first crescent-shaped extension 43.

[0056] First support 41 and first fork-element 46 have size so that, when they are side by side, with the first crescent-shaped extension 43 inserted in recess 48, the lateral walls 42 and 47 are suitably spaced from each

other. In this way, first fork-element 46 oscillates with respect to first support 41 between two end positions defined by a first oscillation angle $\pm \gamma$, as shown in Figure 13. Moreover, first fork-element 46 is movable in a plane perpendicular to axis X-X.

[0057] First fork-element 46 is locked in an intermediate position comprised between the two end positions by fastening elements 49.

[0058] Fastening elements 49 are for example implemented by two screws inserted in opposed threaded holes drilled in first support 41 and in fork-element 46 from opposite parts with respect to first crescent-shaped extension 43.

[0059] Therefore, by a rotation of first fork-element 46 with respect to first support 41, it is possible to upwards or downwards adjust the inclination of articulated arm 8 with respect to base P, by an angle falling in first oscillation range $\pm \gamma$. In this way, advantageously, it is possible to execute a very simple adjustment of the height of the elbow 9c of articulated arm 8 so that it always remains inside the outer container 5 without contacting it and in order to make possible, in a very simple way, to fasten the articulated arm 8 and close the front half-shell 26 with the rear half-shell 25.

[0060] Suitably, first support 41 has, at the part opposite to the first crescent-shaped extension 43, a second crescent-shaped extension 43'. In this way, the articulated arm 8 can be associated to first support 41 independently from one side or the other with regard to the required use.

[0061] Second locking means 50, illustrated in Figures 14 and 15, comprise a second support 51 and second fork-element 56, which are articulated to each other by a second interposed fulcrum element, such as for example a pin 60.

[0062] Second support 51 is associated by a base surface to front half-shell 26 fastened by suitable screw or fastening means. Opposite to the base surface, second support 51 has a flat surface 52 facing a lateral wall 57 of fork-element 56. Flat surface 52 and lateral wall 57 are provided with respective notches 54 and 58, facing each other, each having a semicircular cross-section, suitable to receive the pin 60 by simultaneously keeping suitably spaced the faced walls 52 and 57. Pin 60 is preferably arranged with its axis parallel to axis X-X.

[0063] Articulated arm 8 has a front end 9b constrained by a second rotation pin 55 to second fork-element 56. During the operation, second pin 55 is arranged with its axis parallel to vertical direction Y-Y.

[0064] In this way, second support 51 oscillates between two end positions with respect to the articulated arm 8. The end positions are defined by a second oscillation angle $\pm \beta$, as shown in Figure 14.

[0065] Second support 51 is locked with respect to second fork-element 56 in an intermediate position comprised between two end positions by the fastening elements 59. Fastening elements 59 are, for example, two or more screws inserted in opposed threaded holes.

Therefore, it is possible to upwardly or downwardly position by a minimum angular inclination, the front half-shell 26 with respect to the articulated arm 8, equal to an angle falling in the second oscillation range $\pm \beta$.

[0066] In conclusion, the angular inclination mechanism, according to the invention, enables to fulfill the predetermined objects. The translating means and the actuation group, thanks to a motion transmission by axes perpendicular to each other, enable to transform the vertical rotational movement of the pin in a rotation of the container and in a corresponding inclination of the sunshade with respect to axis X-X.

[0067] Further, thanks to the particular arrangement of the actuation shank and rack element, the angular inclination mechanism has a reduced size enabling to appose the sunshade to the wall.

[0068] A further advantage of the angular inclination mechanism, according to the present invention, is the possibility to couple the translation means and actuation group in any intermediate point between the outer container heads, and also to associate more than two mechanisms according to specific project requirements.

[0069] A further advantage of the angular inclination mechanism consists of continuously adjusting, without interruption, the inclination of the sunshade canvas.

[0070] Another advantage of the sunshade, according to the present invention, consists of further adjusting the sunshade canvas by an upwards or downwards inclination, by adjusting the first and/or second locking means.

[0071] Obviously, a person skilled in the art, in order to meet contingent and specific needs, could introduce several modifications and variants to the above described configurations, which all fall within the scope of the invention as defined in the following claims.

Claims

1. An angular inclination mechanism (10) of a sunshade (1) comprising an outer container (5) which develops substantially according to a longitudinal direction along an axis X-X between two opposite heads (6) and which defines an internal cavity (4) for housing a pipe (3) rotatably constrained to the ends and adapted to wind a canvas (2) which is moved through at least one articulated arm (8), said mechanism (10) of rotation being **characterized in that** it comprises transmission means (12) coupled and actuated by an actuation group (13), said transmission means (12) being integral and externally associated to said outer container (5) and being arranged in an intermediate position between said heads (6), said actuation group (13) comprising a pin (14) rotatably coupled to said transmission means (12) and adapted to actuate a rotation of said outer container (5) around the axis XX on an axial rotation of said pin (14).

2. Mechanism according to claim 1 **characterised in that** said transmission means (12) comprise a rack element (16) adapted to be positioned in a shape coupling manner with said outer container (5), said rack element (16) comprising a toothing (15) which is present on at least one portion of the development thereof.
3. Mechanism according to claim 2 **characterised in that** said pin (14) is provided at an end with a threaded portion (22) and with a substantially cylindrical actuation shank (23), said threaded portion (22) having a thread which is coupled with said toothing (15) of said rack element (16).
4. Mechanism according to claim 1 **characterised in that** said actuation group (13) comprises an engagement and fastening unit (17) which has a seat (18) for axially housing said pin (14).
5. Mechanism according to claim 4 **characterised in that** said seat (18) develops substantially along a direction Y-Y substantially perpendicular to said axis X-X and comprises a first cavity (18a) for housing said threaded portion (22) and a second cavity (18b) for housing said shank (23), said first cavity (18a) having a lateral opening (18d) faced towards said rack element (16), said second cavity (18b) ending with a lower opening (18c).
6. Mechanism according to claim 4 **characterised in that** said engagement and fastening unit (17) comprises a first half-plate (17a) and a second half-plate (17b), substantially symmetric and coupled to each other and provided, at the coupled surfaces, with respective recesses adapted to define said housing seat (18).
7. Mechanism according to claim 1, **characterised in that** said outer container (5) comprises a rear half-shell (25) which can be coupled to a front half-shell (26) to define a closed box-shaped containment body, said transmission means (12) being circumferentially associated to said rear half-shell (25) rotatably integral with respect to said axis X-X rotatably actuated with a clockwise or anticlockwise rotation of said pin (14) with respect to said direction Y-Y.
8. Sunshade (1) comprising an outer container (5) with a rear half-shell (25) which can be coupled to a rear half-shell (26) to define said closed box-shaped body, and comprising at least one articulated arm (8) having a rear end (9a) associated to said rear half-shell (25) through a first locking means (40) and a front end (9b) associated to said front half-shell (26) through a second locking means (50), **characterized in that** it comprises at least one angular inclination mechanism (10) according to one or more

of claims 1 to 7.

9. Sunshade (1) according to claim 8 **characterised in that** said first locking means (40) comprise a first support (41) associated to said rear half-shell (25) and a first fork-element (46) adapted to associate and rotatably constrain said rear end (9a) of said articulated arm (8), said first support (41) and said first fork-element (46) being articulated to each other by means of a first interposed fulcrum element (43) which is adapted to rotate said first fork-like element (46) with respect to the first support (41) between two end positions defined by a first oscillation angle $\pm \gamma$.
10. Sunshade (1) according to claim 8 **characterised in that** said second locking means (50) comprise a second support (51) associated to said front half-shell (26) and a second fork-like element (56) adapted to associate and rotatably constrain said front end (9b) of said articulated arm (8), said second fork-like element (56) and said second support (51) being articulated to each other through a second interposed fulcrum element (60) which is adapted to rotate said second support (51) with respect to said second fork like element (56) between two end positions defined by a second oscillation angle $\pm \beta$.

30 Patentansprüche

1. Winkelförmiger Mechanismus zur Neigung (10) einer Sonnenblende (1) umfassend einen Außenbehälter (5), welcher sich im Wesentlichen gemäß einer Längsrichtung entlang einer Achse X-X zwischen zwei entgegengesetzten Köpfen (6) entfaltet und welcher einen innenliegenden Hohlraum (4) zur Aufnahme von einem Rohr (3) definiert, drehbar zu den Enden beschränkt und adaptiert, um eine Plane (2) aufzuspulen, welche durch zumindest einen Gelenkarm (8) bewegt wird, wobei besagter Mechanismus (10) von Drehbarkeit **dadurch gekennzeichnet ist, dass** es Übertragungsmittel (12) umfasst, welche gekoppelt und betätigt sind durch eine Betätigungsgruppe (13), wobei besagte Übertragungsmittel (12) integral und äußerlich assoziiert sind zu besagtem Außenbehälter (5) und angeordnet sind in einer zwischenliegenden Position zwischen besagten Köpfen (6), wobei besagte Betätigungsgruppe (13) einen Stift (14) umfasst, welcher drehbar gekoppelt ist zu besagten Übertragungsmitteln (12) und adaptiert, um eine Drehung von besagtem Außenbehälter (5) um die Achse XX herum auf einer axialen Drehung von dem Stift (14) zu betätigen.
2. Mechanismus nach Anspruch 1, **dadurch gekennzeichnet, dass** besagte Übertragungsmittel (12) eine Schaltklinke (16) umfassen, welche adaptiert ist,

- um in einer formschlüssig gekoppelten Art mit besagtem Außenbehälter (5) positioniert zu sein, wobei besagte Schaltklinke (16) eine Zahnung (15) umfasst, welche auf zumindest einem Abschnitt von der Entwicklung davon anwesend ist.
3. Mechanismus nach Anspruch 2, **dadurch gekennzeichnet, dass** besagter Stift (14) an einem Ende mit einem Gewindeabschnitt (22) bereit gestellt ist, und mit einem im Wesentlichen zylindrischen Betätigungskolben (23), wobei besagter Gewindeabschnitt (22) ein Gewinde aufweist, welches mit besagter Zahnung (15) von besagter Schaltklinke (16) gekoppelt ist.
4. Mechanismus nach Anspruch 1, **dadurch gekennzeichnet, dass** besagte Betätigungsgruppe (13) eine Eingriffs- und Befestigungseinheit (17) umfasst, welche einen Sitz (18) für die axiale Aufnahme von besagtem Stift (14) aufweist.
5. Mechanismus nach Anspruch 4, **dadurch gekennzeichnet, dass** besagter Sitz (18) sich im Wesentlichen entlang einer Richtung Y-Y im Wesentlichen rechtwinklig zu besagter Achse X-X entfaltet, und einen ersten Hohlraum (18a) zur Aufnahme von besagtem Gewindeabschnitt (22) und einen zweiten Hohlraum (18b) zur Aufnahme von besagtem Kolben (23) umfasst, besagter erster Hohlraum (18a) weist eine seitliche Öffnung (18d) auf, welche in Richtung besagter Schaltklinke (16) gegenüberliegt, wobei besagter zweiter Hohlraum (18b) mit einer unteren Öffnung (18c) endet.
6. Mechanismus nach Anspruch 4, **dadurch gekennzeichnet, dass** besagte Eingriffs- und Befestigungseinheit (17) eine erste Halbplatte (17a) und eine zweite Halbplatte (17b) aufweist, welche im Wesentlichen symmetrisch und miteinander gekoppelt zueinander sind und bereit gestellt sind bei den gekoppelten Oberflächen mit entsprechenden Ausnehmungen, welche adaptiert sind, um besagten aufgenommenen Sitz (18) zu definieren.
7. Mechanismus nach Anspruch 1, **dadurch gekennzeichnet, dass** besagter Außenbehälter (5) eine hintere Halbschale (25) umfasst, welche mit einer vorderen Halbschale (26) gekoppelt werden kann, um einen geschlossenen kastenförmigen Aufnahmekörper zu definieren, wobei besagte Übertragungsmittel (12) in Umfangsrichtung zu besagter hinteren Halbschale (25) assoziiert sind, drehbar integral in Beziehung auf besagte Achse X-X, drehbar mit einer Drehung von besagtem Stift (14) im Uhrzeigersinn oder im Gegenuhrzeigersinn betätigt in Beziehung zu besagter Richtung Y-Y.
8. Sonnenblende (1) umfassend einen Außenbehälter (5) mit einer hinteren Halbschale (25), welche zu einer hinteren Halbschale (26) gekoppelt werden kann, um besagten geschlossenen kastenförmigen Körper zu definieren, und umfassend zumindest einen Gelenkarm (8), aufweisend ein hinteres Ende (9a), welches zu besagter hinteren Halbschale (25) durch ein erstes Verschlussmittel (40) assoziiert ist, und einem vorderen Ende (9b), welches zu besagter vorderen Halbschale (26) durch ein zweites Verschlussmittel (50) assoziiert ist, **dadurch gekennzeichnet, dass** es zumindest einen winkelförmigen Neigungsmechanismus (10) nach einem oder mehreren von den Ansprüchen 1 bis 7 umfasst.
9. Sonnenblende (1) nach Anspruch 8, **dadurch gekennzeichnet, dass** besagtes erstes Verschlussmittel (40) einen ersten Träger (41) umfasst, welches zu besagter hinteren Halbschale (25) assoziiert ist und einem ersten Gabelement (46), welches adaptiert ist, um besagtes hinteres Ende (9a) von besagtem Gelenkarm (8) zu assoziieren und drehbar zu beschränken, besagter erster Träger (41) und besagtes erstes Gabelement (46) sind zueinander frei beweglich durch Mittel von einem ersten eingeschobenen Hebelpunktelement (43), welches adaptiert ist, um besagtes erstes gabelförmiges Element (46) in Beziehung zu dem ersten Träger (41) zwischen zwei Endpositionen, welche durch einen ersten Oszillationswinkel $\pm \gamma$ definiert sind, zu drehen.
10. Sonnenblende (1) nach Anspruch 8, **dadurch gekennzeichnet, dass** besagtes zweites Verschlussmittel (50) einen zweiten Träger (51) umfasst, welches zu besagter vorderen Halbschale (26) und einem zweiten gabelförmigen Element (56) assoziiert ist, welches adaptiert ist, um besagtes vorderes Ende (9b) von besagtem Gelenkarm (8) zu assoziieren und drehbar zu beschränken, besagtes erstes gabelförmiges Element (56) und besagter zweiter Träger (51) sind zueinander frei beweglich durch ein zweites eingeschobenes Hebelpunktelement (60), welches adaptiert ist, um besagten zweiten Träger (51) in Beziehung zu dem zweiten gabelförmigen Element (56) zwischen zwei Endpositionen, welche durch einen zweiten Oszillationswinkel $\pm \beta$ definiert sind, zu drehen.

Revendications

1. Mécanisme d'inclinaison angulaire (10) d'un parasol (1) comprenant un contenant extérieur (5) qui se développe sensiblement selon une direction longitudinale le long d'un axe X-X entre deux têtes en regard (6) et qui définit une cavité interne (4) pour loger un tuyau (3) contraint de manière rotative aux extrémités et adapté pour enrouler une toile (2) qui est déplacée par au moins un bras articulé (8), ledit méca-

- nisme (10) de rotation étant **caractérisé en ce qu'il** comprend des moyens de transmission (12) couplés et actionnés par un groupe d'actionnement (13), lesdits moyens de transmission (12) étant formés intégralement et associés en externe audit contenant extérieur (5) et étant agencés dans une position intermédiaire entre lesdites têtes (6), ledit groupe d'actionnement (13) comprenant une broche (14) couplée en rotation auxdits moyens de transmission (12) et adaptée pour actionner une rotation dudit contenant extérieur (5) autour de l'axe XX sur une rotation axiale de ladite broche (14).
2. Mécanisme selon la revendication 1, **caractérisé en ce que** lesdits moyens de transmission (12) comprennent un élément de crémaillère (16) adapté pour être positionné par couplage de forme avec ledit contenant extérieur (5), ledit élément de crémaillère (16) comprenant une denture (15) qui est présente sur au moins une partie du développement de celui-ci.
3. Mécanisme selon la revendication 2, **caractérisé en ce que** ladite broche (14) est prévue sur une extrémité avec une partie filetée (22) et avec une tige d'actionnement sensiblement cylindrique (23), ladite partie filetée (22) présentant un filet qui est couplé avec ladite denture (15) dudit élément de crémaillère (16).
4. Mécanisme selon la revendication 1, **caractérisé en ce que** ledit groupe d'actionnement (13) comprend une unité d'engagement et de fixation (17) qui a un siège (18) pour loger axialement ladite broche (14).
5. Mécanisme selon la revendication 4, **caractérisé en ce que** ledit siège (18) se développe sensiblement le long d'une direction Y-Y sensiblement perpendiculaire audit axe X-X et comprend une première cavité (18a) pour loger ladite partie filetée (22) et une seconde cavité (18b) pour loger ladite tige (23), ladite première cavité (18a) présentant une ouverture latérale (18d) tournée vers ledit élément de crémaillère (16), ladite seconde cavité (18b) se terminant par une ouverture inférieure (18c).
6. Mécanisme selon la revendication 4, **caractérisé en ce que** ladite unité d'engagement et de fixation (17) comprend une première demie plaque (17a) et une seconde demie plaque (17b), sensiblement symétriques et couplées l'une à l'autre et dotées, sur les surfaces couplées, des évidements respectifs adaptés pour définir ledit siège de logement (18).
7. Mécanisme selon la revendication 1, **caractérisé en ce que** ledit contenant extérieur (5) comprend une demie coque arrière (25) qui peut être couplée à une demie coque avant (26) pour définir un corps de confinement en forme de boîte fermée, lesdits moyens
- de transmission (12) étant associés sur la circonférence à ladite demie coque arrière (25) formée intégralement en rotation par rapport audit axe X-X actionné en rotation avec une rotation horaire ou antihoraire de ladite broche (14) par rapport à ladite direction Y-Y.
8. Parasol (1) comprenant un contenant extérieur (5) avec une demie coque arrière (25) qui peut être couplée à une demie coque arrière (26) pour définir ledit corps en forme de boîte fermé et comprenant au moins un bras articulé (8) présentant une extrémité arrière (9a) associée à ladite demie coque arrière (25) par un premier moyen de verrouillage (40) et une extrémité avant (9b) associée à ladite demie coque avant (26) par un second moyen de verrouillage (50), **caractérisé en ce qu'il** comprend au moins un mécanisme d'inclinaison angulaire (10) selon l'une ou plusieurs des revendications 1 à 7.
9. Parasol (1) selon la revendication 8, **caractérisé en ce que** ledit premier moyen de verrouillage (40) comprend un premier support (41) associé à ladite demie coque arrière (25) et un premier élément de fourche (46) adapté pour associer et contraindre en rotation ladite extrémité arrière (9a) dudit bras articulé (8), ledit premier support (41) et ledit premier élément de fourche (46) étant articulés l'un à l'autre à l'aide d'un premier élément de pivot interposé (43) qui est adapté pour tourner ledit premier élément de fourche (46) par rapport au premier support (41) entre deux positions d'extrémité définies par un premier angle d'oscillation $\pm y$.
10. Parasol (1) selon la revendication 8, **caractérisé en ce que** ledit second moyen de verrouillage (50) comprend un second support (51) associé à ladite demie coque avant (26) et un second élément de fourche (56) adapté pour associer et contraindre en rotation ladite extrémité avant (9b) dudit bras articulé (8), ledit second élément de fourche (56) et ledit second support (51) étant articulés l'un à l'autre par un second élément de pivot interposé (60) qui est adapté pour tourner ledit second support (51) par rapport audit second élément de fourche (56) entre deux positions d'extrémité définies par un second angle d'oscillation $\pm \beta$.

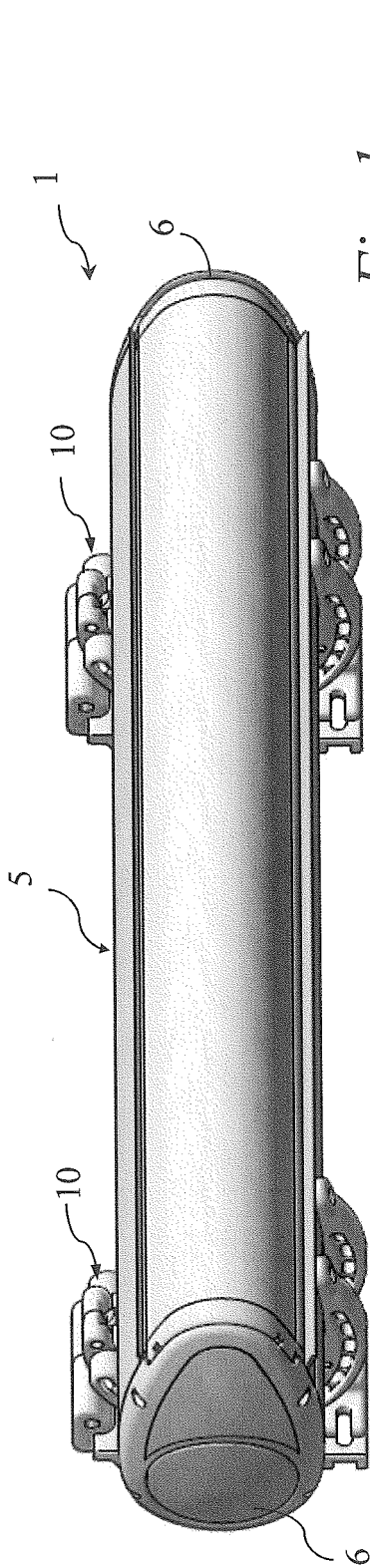


Fig. 1

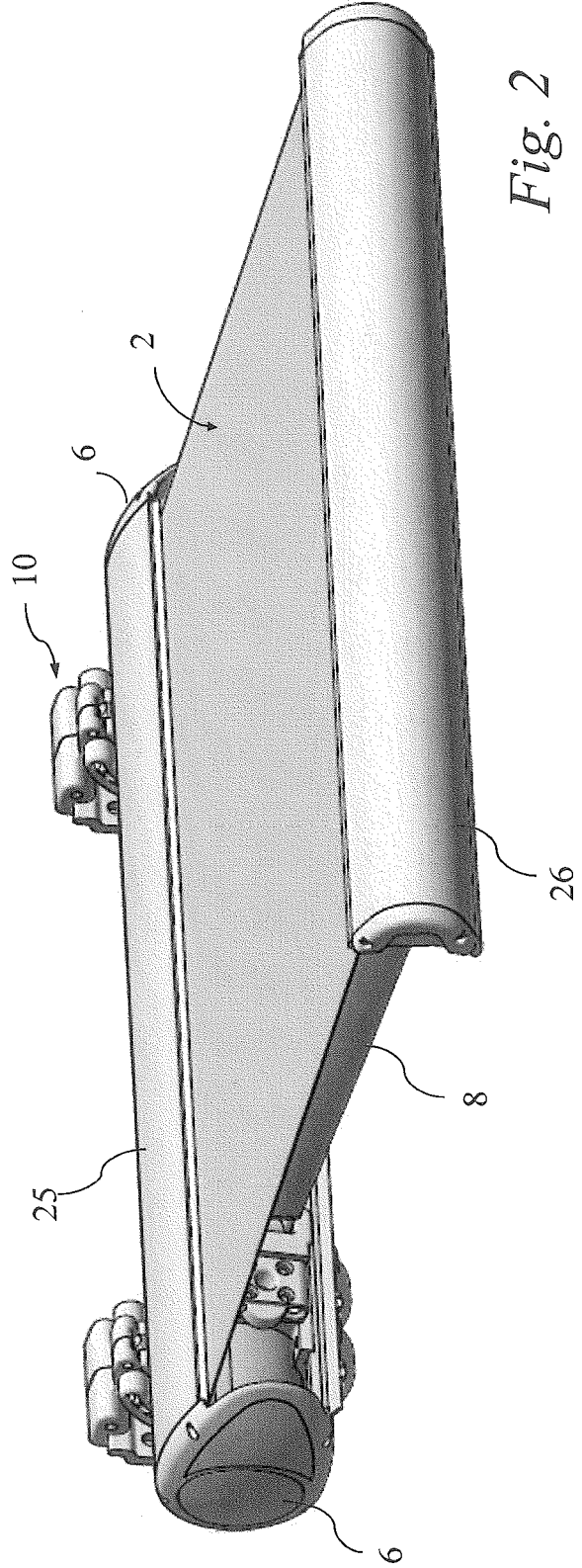
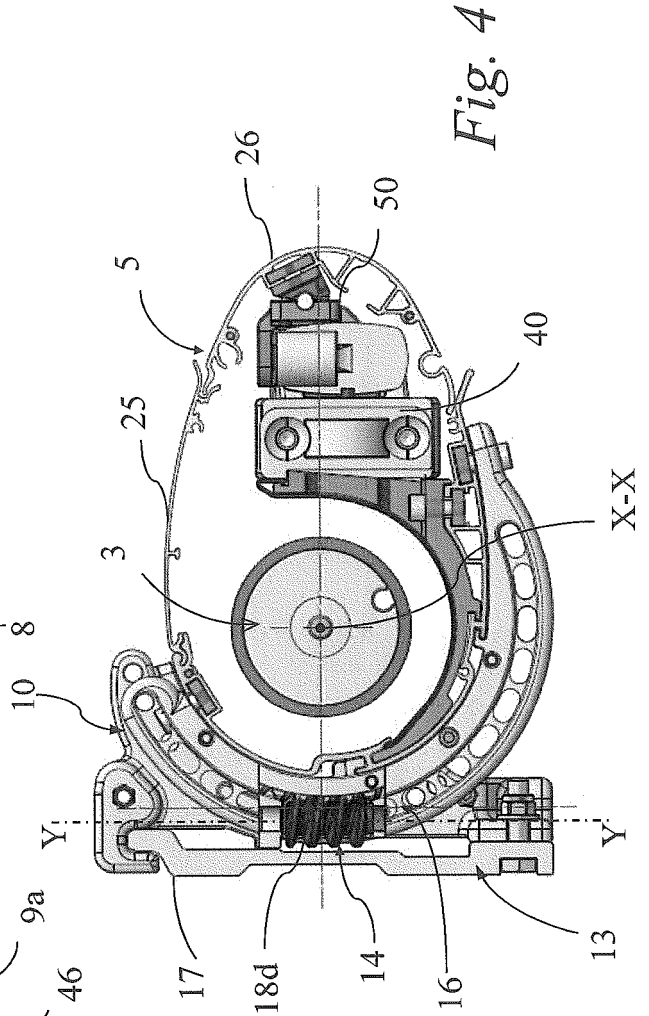
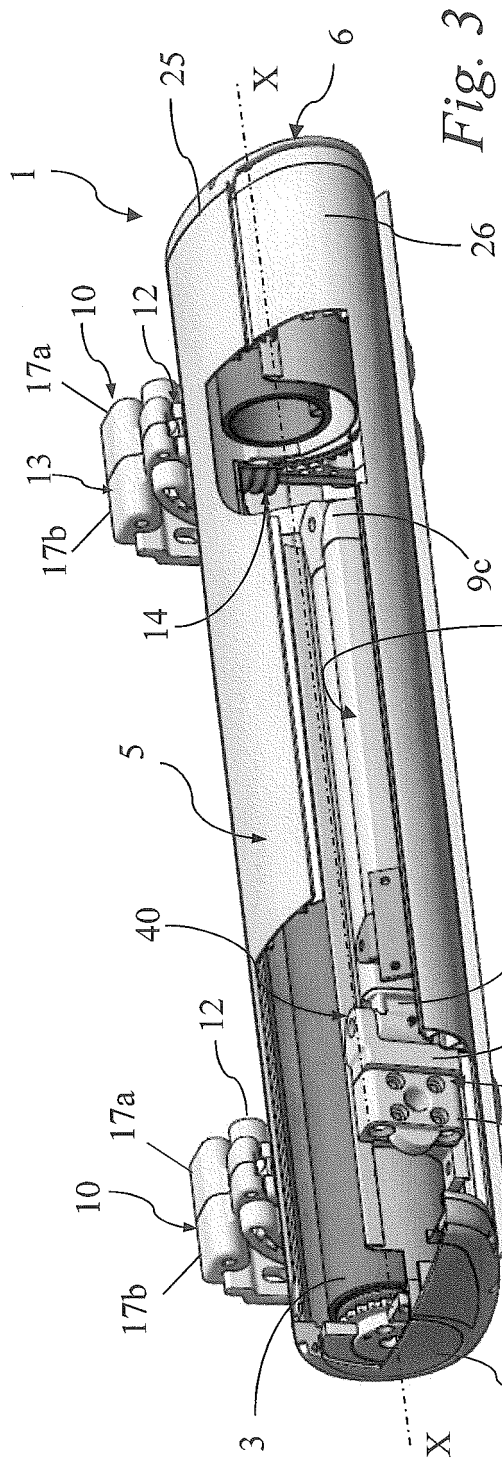
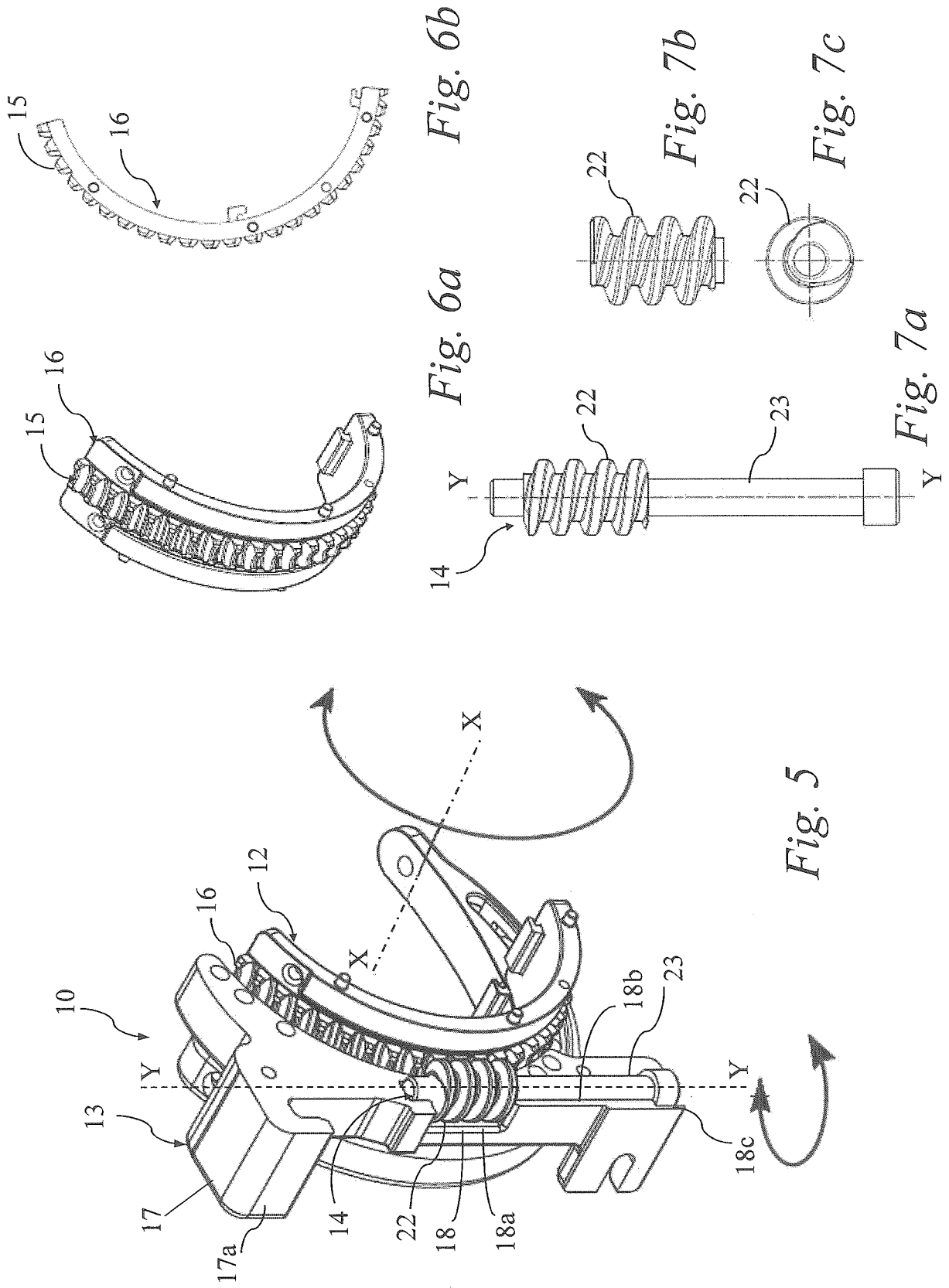
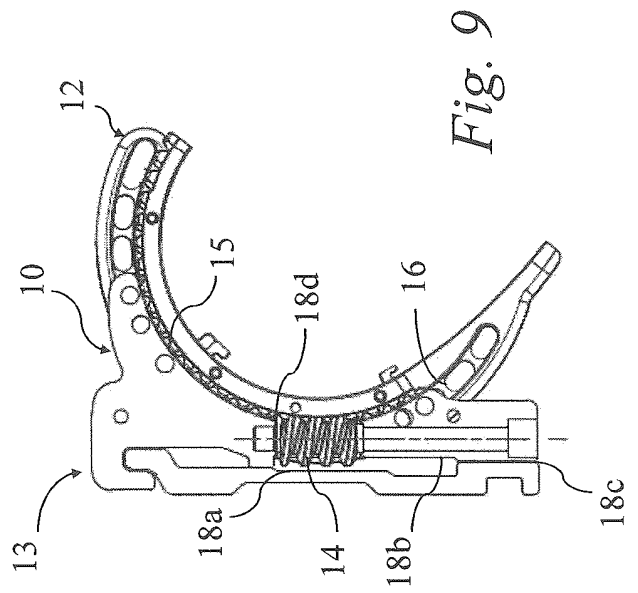
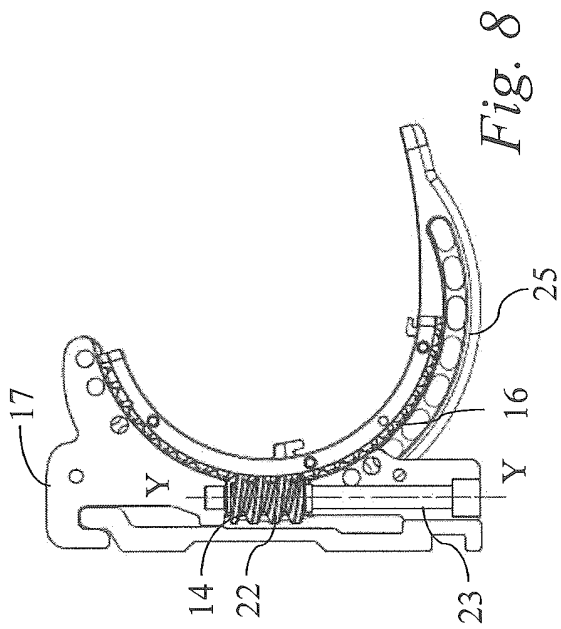
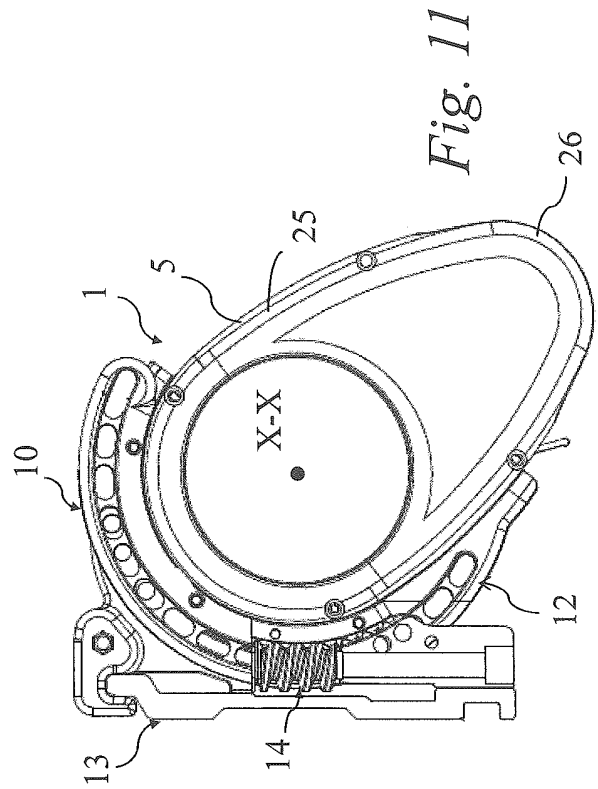
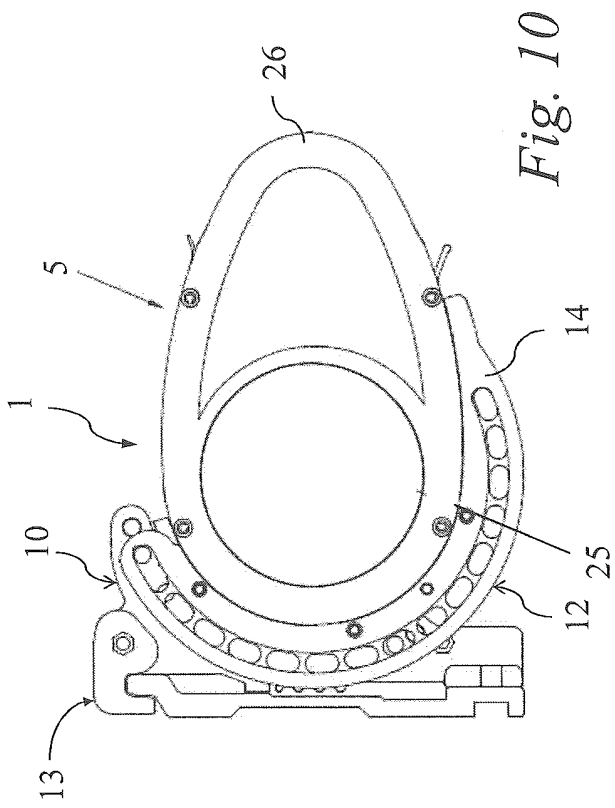


Fig. 2







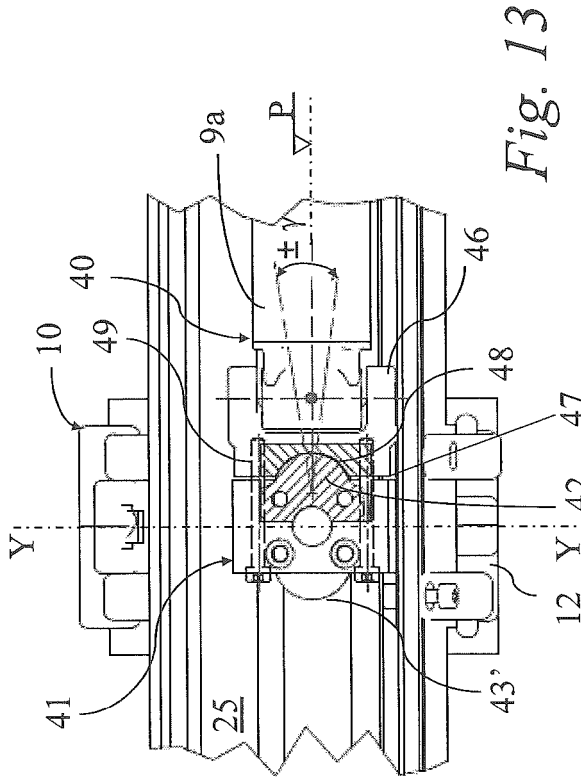


Fig. 13

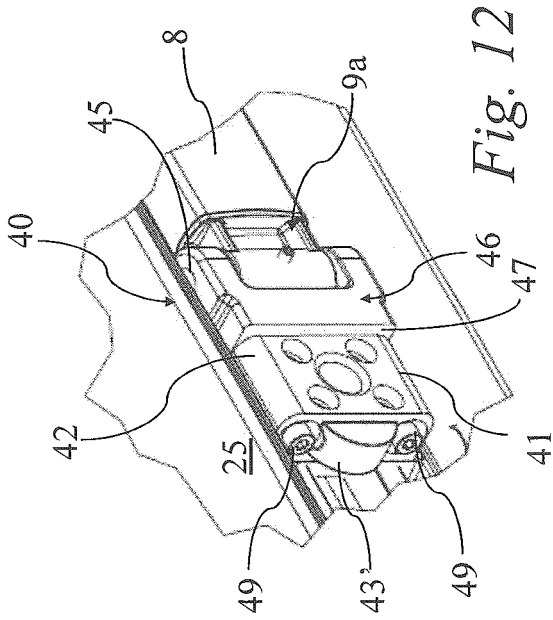


Fig. 12

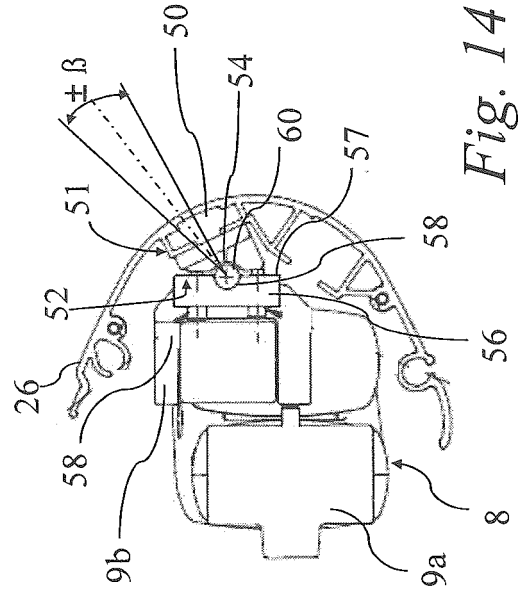


Fig. 14

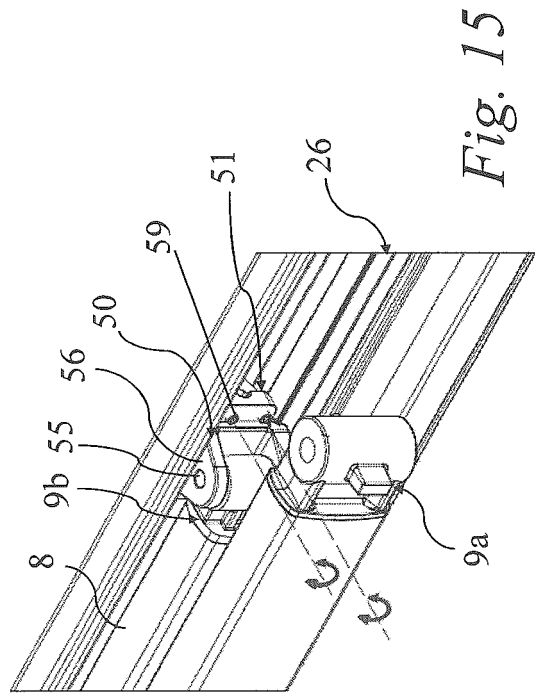


Fig. 15

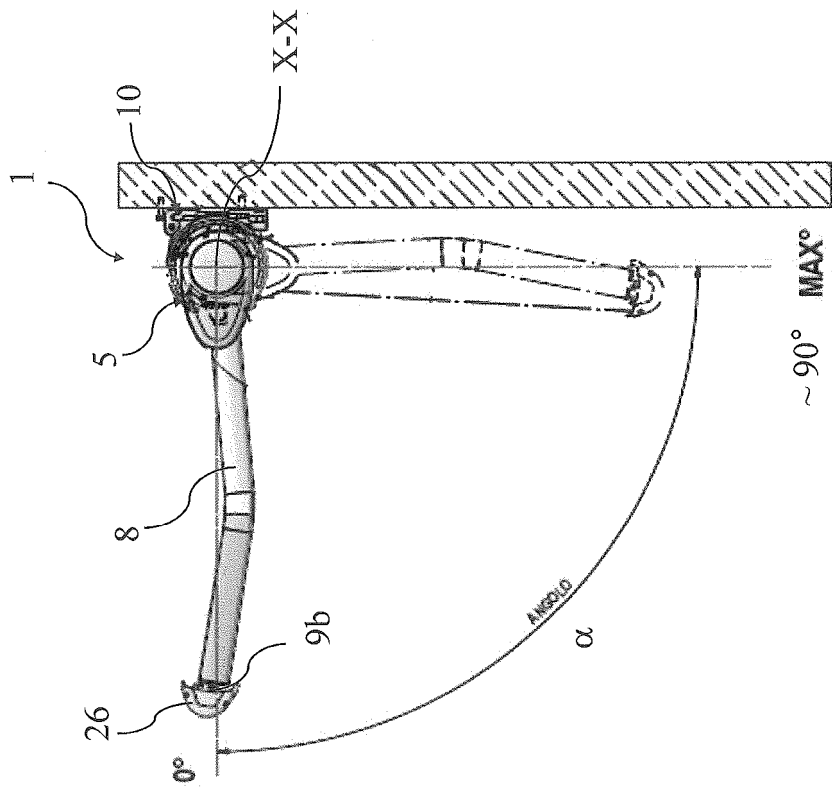


Fig. 16

REFERENCES CITED IN THE DESCRIPTION

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