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(54) **A locking device**

Verriegelungsvorrichtung

Système de verouillage

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(56) References cited:
WO-A-01/92667 **US-A- 4 998 757**
US-A- 5 893 282 **US-B1- 6 293 130**

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Description

[0001] The present invention relates to a locking device. In particular such a locking device is preferably adapted for used on doors or panels of wardrobes, metal cabinets or lockers. It is however apparent that application of the locking device to other typologies of doors or panels is also possible depending on current requirements.

[0002] It is known that there are on the market and have been widely spread many types of locking devices in particular designed for metal cabinets or lockers to hold electric and/or electronic apparatus.

[0003] For instance, known and widely marketed is a locking device of the type disclosed in patent EP 261 267 in which a support structure rigidly fastened to a door sheet metal supports a driving handle movable in rotation about its hinging axis on the cabinet frame.

[0004] It is also known from US 6293130 a swiveling lever control for closing switchboard cabinet doors, wherein additional securing of the lever itself against a related support structure nested on the door is granted by two suitably shaped projections cooperatively acting so as to prevent undesired free movement of the lever when the door is in a locked condition.

[0005] In this prior art reference, the movement means operatively interposed between the lever and the closure means can be consisting in a rack-and-pinion mechanism, wherein a toothed wheel meshes with two sliding and partially toothed rods or, alternatively, by a rotating sash whereupon two tangentially opposed rods are articulated at opposite radial locations.

[0006] A rotation from the rest position of the handle involves a rotatory movement of a pinion gear rigidly associated with the handle which meshes with corresponding slots present in a closing bar involving a translation of said bar parallel to the panel plane.

[0007] By this movement the bar engages or disengages the corresponding cabinet jamb enabling selective opening of the cabinet door.

[0008] By a cylinder lock placed on the handle below the rotation axis and rigidly associated with said handle, rotation of the handle and consequent opening of the cabinet door is prevented.

[0009] While locking devices in accordance with the known art are still widely spread and marketed, they however have some drawbacks, operating limits and/or improvable aspects.

[0010] In fact, taking into account the typology of coupling between the closing bars and pinion gear, surely a rigid observance of the construction tolerances is required, and important problems in terms of stress and fatigue resistance are to be tackled.

[0011] It is apparent that a lack of precision in the manufacture of the pinion and rack surely brings about a faulty and inaccurate operation of the opening device and unmeshing of the pinion teeth could even involve no operation of the whole locking device.

[0012] Also critical are the efforts transmitted to the transmission members during the opening/closing step of the door because these forces are often exactly concentrated on the pinion teeth.

[0013] Under this situation it is often necessary to make these components of metal materials or at all events stress-resistant materials; obviously, due to this technical specification the device costs are higher.

[0014] Accordingly, it is an aim of the present invention to substantially solve the above mentioned drawbacks.

[0015] The present invention aims at providing a locking device equipped with a new and different movement-transmitting system.

[0016] It is another aim of the invention to ensure a reliable coupling over time and easy assembling and setting up of the device itself.

[0017] Finally, it is a further aim of the invention to enable manufacture of all components forming the locking device made of plastic materials for example, through simple moulding operations.

[0018] The foregoing and further aims that will become more apparent in the course of the present description are substantially achieved by a locking device as disclosed in the appended claims.

[0019] Further features and advantages will be best understood from the detailed description of a preferred but not exclusive embodiment of a locking device in accordance with the present invention. This description will be taken hereinafter with reference to the accompanying drawings, given by way of non-limiting example, in which:

- Fig. 1 shows an exploded perspective view of a locking device in accordance with the present invention;
- Fig. 2 is an exploded perspective view of a second embodiment of the locking device in accordance with the invention;
- Figs 2a and 2b are perspective and exploded views of a driving element shown in Fig. 2 at two different angles;
- Fig. 3 is a perspective view of another embodiment of a locking device in accordance with the invention;
- Fig. 4 is a partly sectional perspective view of the transmission means associated with the device shown in Fig. 3; and
- Fig. 5 shows a locking device in accordance with the invention in a perspective view.

[0020] With reference to the drawings a locking device has been generally identified by reference numeral 1.

[0021] In particular such a device, as previously said, will be preferably usable on panels or doors of metal material to enable locking/unlocking of the cabinet door.

[0022] However such a device can be alternately used every time a locking mechanism is required to be

associated with a panel or door.

[0023] As can be viewed from the accompanying figures, the device consists of a support structure 2 (in turn made up of several different components), a driving element 3 or handle associated with the support structure 2, locking means 4 (only partly shown in Fig. 1 and further highlighted in Fig. 4) and transmission means 5 moved by the driving handle 3 and set to transmit motion to the locking means 4.

[0024] In more detail in terms of construction, the support structure 2 is intended to enable engagement of the locking device with a sheet metal 19 defining the wall of a panel or door of the cabinet with which the device is to be engaged.

[0025] In particular the sheet metal is provided with two preferably identical holes 18, 21 of substantially rectangular shape arranged to be passed through and hooked by the locking device thereby enabling steady and irremovable engagement of same with the sheet metal.

[0026] In particular a base body 20 is provided, at its lower portion, with a shoulder 22 adapted to pass through the second hole 21 centring the device at the lower part thereof and enabling fastening of same to the sheet metal 19 by a closing lid 23, fastened by means of screws to shoulder 22 for example, and provided with an abutment surface adapted to abut against the sheet metal wall opposite to that against which the base element 20 abuts.

[0027] At the upper portion of the base element 20, the support structure 2 comprises a first and a second shell halves 14, 15 arranged to be coupled with each other to define a housing cavity for the transmission means 5 which is movable within this cavity.

[0028] The two shell halves 14, 15 joined together to hold the transmission means 5 therefore receive in engagement a centring body 16 provided with appropriate shoulders 17.

[0029] The shape of these shoulders substantially matches that of the first hole 18 so that they can pass through and centre it on assembling, enabling subsequent engagement (by screws) of the shell halves 14, 15 and the centring body 16 directly with the base element 20 (see Figs. 1 and 2). In particular, by means of two common screws the two shell halves, the centring body (these elements consisting of three separate and distinct pieces) and the base element 20 will be firmly joined together and held in place.

[0030] In an assembled condition therefore the centring body 16, hooked to the shell halves 14 and 15 and the base element 20 are disposed at opposite sides of the sheet metal and actually clasp it.

[0031] The driving element 3 or handle is arranged to be constrained to the support structure at an upper portion thereof so that it is movable in rotation around an axis 11.

[0032] In particular, in a rest condition, handle 3 will be disposed parallel to the base element 20, its extension axis being substantially vertical (arrangement shown in Fig. 1).

[0033] Under this condition a housing seat 24 associated with handle 3 will cross the lower portion of the base element 20 until passing through the sheet metal 19.

[0034] A lock, of the cylinder type for example (not shown), contained in the housing seat 24 will enable the handle to be blocked to a vertical position allowing the cabinet to be locked or not.

[0035] As can be viewed from Figs. 2a and 2b, the driving handle 3 may consist of different components and also be provided with a closing lid 26 slidable along its extension axis on the main body of the handle to conceal/show access to the lock.

[0036] In other words the closing lid 26 is movable between a condition in which it prevents insertion of the key in a lock present in the handle and a position in which on the contrary insertion and unlocking of the lock is allowed.

[0037] In the condition in which the closing lid enables unlocking of the lock a grip portion 26a of said lid projects from the handle at the lower part thereof and allows easy extraction of the whole driving element 3 to enable rotation of the handle itself and therefore opening of the cabinet.

[0038] The driving element 3, when in operation, is movable between at least one first and one second operating conditions; in particular it is movable in rotation from the first to the second operating conditions around axis 11 which is substantially coincident with the rotation axis of the rotating body 6 with which it is rigidly in engagement for rotation through a tailpiece 25.

[0039] The previously mentioned transmission means 5 is moved by handle 3 and transmits motion to the locking means 4.

[0040] This transmission means 5 comprises the hollow rotating body 6 driven in rotation by the tailpiece 25; body 6 in turn transmits motion to a transmission structure 7 interposed between the rotating body itself and the locking means 4 so as to enable displacement of the locking means 4, following movement of the rotating body 6, at least between a locked condition and an unlocked condition, as better specified in the following.

[0041] Practically, the transmission structure 7 is able to convert a substantially rotatory motion of the rotating body 6 into a substantially translational motion of the locking means 4 and is preferably able to transmit thrust actions to the locking means 4 during displacement of same to the locked condition and pulling actions to said locking means 4 during displacement of same to the unlocked condition.

[0042] The transmission structure 7 is of a deformable nature and its geometry varies when the locking means 4 moves from the locked condition to the unlocked condition.

[0043] In particular, as shown in Fig. 5 for example, the transmission structure has its median axis bent on the rotating body 6 in the unlocked condition of the lock-

ing means 4, whereas its median axis is straight and in the extension of the axis of a slidable arm 8 in the locked condition of the locking means (Fig. 1).

[0044] To make the transmission structure 7 capable of deformation, the same consists of a predetermined number of articulated elements 10 hinged on each other.

[0045] In particular a first one of these elements is hinged on an appropriate expansion of the rotating body 6, whereas the last articulated element is hinged on the locking means 4.

[0046] Obviously, any number of articulated elements may be provided depending on the construction requirements and the strokes of the locking means.

[0047] To enable these movements, the support structure 2 is provided with appropriate shaped seats 12, 13 set to receive and guide the rotating body 6 and transmission structure 7 respectively, during movement.

[0048] Preferably the shaped seats 12, 13 are defined on at least one and preferably both of the shell halves 14, 15.

[0049] The locking means 4 (see Fig. 4 for example) is made up of at least one slidable arm 8 having a first end 8a associated with the transmission structure 7 and a second end 8b in engagement with a bar 9 at a first end 9a thereof.

[0050] Bar 9 may have any length depending on the operating requirements (bars of different sizes and shapes are shown in Fig. 4) and, at the other end 9b thereof, said bars are arranged in such a manner as to enable hooking to the closing bolts of a panel, door or the like.

[0051] As can be also viewed from the accompanying drawings, the preferred, although not exclusive, embodiment involves the presence of two transmission structures 7 in engagement with the rotating body 6 at opposite positions of the latter.

[0052] After the above description mainly concerning structure, operation of the locking device in accordance with the invention is as follows.

[0053] Driving in rotation of the handle (after unlocking of the lock) from the verticality or rest condition involves rotation of the tailpiece 25, which rotation is in turn transmitted to the rotating body 6.

[0054] Rotation of body 6 causes the transmission structure 7 to be pulled along with it deforming it from the straight condition shown in Fig. 1 to a condition of partial winding on the rotating body.

[0055] This movement of the transmission structure 7 in turn involves a translation of the slidable arms along their axes, said arms in turn carrying bars 9 along with them in their movement.

[0056] In particular a rotation from the first (vertical) condition to the second (horizontal) operating condition of the driving element or handle involves a displacement from the locked condition to the unlocked condition of the locking means 4 and therefore enables opening of the cabinet door.

[0057] The shaped seats 12 and 13 present on one

of the shell halves 14, 15 guide both the rotating body and transmission structure 7 in their movement (the former in rotation and the latter on moving from the straight condition to the condition wound by the rotating body), and also guide the slidable arm 8 in a vertical translational movement.

[0058] The invention achieves important advantages.

[0059] In particular, a new locking device provided with a renewed transmission structure has been accomplished.

[0060] This transmission structure, planning and conception of which are quite innovative, enables a locking device reliable over time to be obtained, without particular construction or setting up expedients being required.

[0061] Through an articulated structure, the transmission structure enables concentration of stresses within the structure itself to be avoided as much as possible, thereby reducing accidental breaking of the device and increasing the operating life of same.

[0062] In particular the old pinion-and-rack structure has been completely eliminated and the support structure of the whole device has been modified, as well the driving-handle structure without substantially increasing the device costs or impairing the operating simplicity and universality of same.

Claims

1. A locking device comprising:

- a support structure (2);
- a driving element (3) associated with the support structure (2) and shiftable between at least one first and one second operating conditions;
- locking means (4) set to be movable between a locked condition and an unlocked condition;
- transmission means (5) moved by the driving element (3) and arranged to transmit motion to said locking means (4), a displacement of the driving element from the first to the second operating conditions involving displacement of the locking means (4) from the locked condition to the unlocked condition, the motion-transmitting means (5) comprising a rotating body (6) driven in motion by the driving element (3) and a transmission structure (7) interposed between the rotating body (6) and said locking means (4) to enable displacement of the locking means (4), following movement of the rotating body (6), at least between the locked condition and the unlocked condition,

characterized in that

the transmission structure (7) is a deformable structure the geometry of which varies from the locked condition to the unlocked condition of the locking

means (4), preferably the transmission structure (7) showing a median axis which is mainly straight and in the extension of the axis of the slidable arm (8) in the locked condition of the locking means, and a median axis which is bent around the rotating body (6) in the unlocked condition of the locking means (4).

2. A locking device as claimed in claim 1, **characterized in that** the locking means (4) comprises:

- at least one slidable arm (8) having a first end (8a) associated with the transmission structure (7); and
- a bar (9) in engagement, at an end (9a) thereof, with said slidable arm (8) and set to be hooked, at the other end (9b) thereof, with the closing bolts of a door, panel or the like.

3. A device as claimed in anyone of the preceding claims, **characterized in that** the transmission structure (7) is interposed between and separable from the rotating body (6) and the locking means (4) and is able to convert a substantially rotatory motion of the rotating body (6) into a substantially translational motion of the locking means (4), said transmission structure (7) being preferably adapted to transmit thrust actions to the locking means (4) during displacement of same to the locked condition and transmit pulling actions to the locking means (4) during displacement of same to the unlocked condition.

4. A device as claimed in anyone of the preceding claims, **characterized in that** the transmission structure (7) comprises a predetermined number of articulated elements (10) hinged on each other, the first one of said articulated elements being hinged on the rotating body (6) and the last one of said articulated elements being hinged on the locking means (4).

5. A device as claimed in anyone of the preceding claims, **characterized in that** the driving element (3) is movable in rotation from the first to the second operating conditions about an axis (11) which is substantially coincident with the rotation axis of the rotating body (6).

6. A device as claimed in anyone of the preceding claims, **characterized in that** the support structure (2) has conveniently shaped seats (12, 13) set to receive and guide the rotating body (6) and transmission structure (7) respectively, during movement.

7. A device as claimed in anyone of the preceding claims, **characterized in that** it comprises two

transmission structures (7) in engagement with the rotating body (6) at opposite positions of said body.

8. A device as claimed in anyone of the preceding claims, **characterized in that** the support structure (2) comprises a first and a second shell halves (14, 15) set to be coupled together to define a housing cavity for the transmission means (5), preferably the shaped seats (12, 13) being defined on at least one of said shell halves (14, 15).

9. A device as claimed in the preceding claim, **characterized in that** the support structure (2) comprises a centring body (16) provided with appropriate shoulders (17) suitable for coupling with a first substantially mating hole (18) of a sheet metal (19), preferably said centring body (16) being separated from and susceptible of coupling with one of the shell halves (14, 15) and with said base element (20), the centring body (16) and base element (20) being on opposite sides from the sheet metal (19), in the assembled condition.

10. A cabinet provided with sheet metal doors comprising a locking device as claimed in one or more of the preceding claims.

Patentansprüche

1. Verriegelungsvorrichtung, umfassend:

- einen Tragaufbau (2);
- ein dem Tragaufbau (2) zugeordnetes und zwischen mindestens einer ersten und zweiten Arbeitsstellung verstellbares Betätigungsteil (3);
- Verriegelungsmittel (4), die bereitgestellt sind, zwischen einer Verriegelungsstellung und einer Entriegelungsstellung bewegt zu werden;
- Übertragungsmittel (5), die vom Betätigungsteil (3) verstellt werden und bereitgestellt sind, die Bewegung den Verriegelungsmitteln (4) zu übertragen, wobei eine Verstellung des Betätigungsteils von der ersten in die zweite Arbeitsstellung die Verstellung der Verriegelungsmittel (4) von der Verriegelungsstellung in die Entriegelungsstellung betragen, wobei die Bewegungsübertragungsmittel (5) einen Drehkörper (6), der in der Bewegung durch das Betätigungsteil (3) gesteuert wird, und eine Übertragungsstruktur (7) umfassen, die zwischen dem Drehkörper (6) und den Verriegelungsmitteln (4) zwischengeschaltet ist, um zufolge der Bewegung des Drehkörpers (6) die Verstellung der Verriegelungsmittel (4) zwischen mindestens der Verriegelungsstellung und der Entriegelungsstellung zu erlauben,

dadurch gekennzeichnet, dass

die Übertragungsstruktur (7) eine verformbare Struktur ist, deren Geometrie von der Verriegelungsstellung in die Entriegelungsstellung der Verriegelungsmittel (4) geändert wird, wobei die Übertragungsstruktur (7) bevorzugter Weise eine im wesentlichen geradlinige Mittelachse in Fortsetzung der Achse des Schiebearmes (8) in Verriegelungsstellung der Verriegelungsmittel und eine Mittelachse aufweist, die um den Drehkörper (6) in Entriegelungsstellung der Verriegelungsmittel (4) herum gekrümmt ist.

2. Verriegelungsvorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die Verriegelungsmittel (4) umfassen:

- mindestens einen Schiebearm (8), der ein erstes, der Übertragungsstruktur (7) zugeordnetes Ende (8a); und
- eine Stange (9) aufweist, die an einem Ende (9a) am Schiebearm (8) angreift und dazu bereitgestellt ist, am anderen Ende (9b) am Riegel zum Schließen einer Tür, eines Flügels oder ähnlichen eingehakt zu werden.

3. Verriegelungsvorrichtung nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** die Übertragungsstruktur (7) zwischengeschaltet ist und vom Drehkörper (6) und von den Verriegelungsmitteln (4) trennbar und fähig ist, eine im wesentlichen drehende Bewegung des Drehkörpers (6) in eine im wesentlichen Translationsbewegung der Verriegelungsmittel (4) umzuwandeln, wobei die Übertragungsstruktur (7) bevorzugter Weise in der Lage ist, Schubwirkungen den Verriegelungsmitteln (4) während ihrer Verstellung in Richtung der Verriegelungsstellung und Zugwirkungen den Verriegelungsmitteln (4) während deren Verstellung in die Entriegelungsstellung zu übertragen.

4. Verriegelungsvorrichtung nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** die Übertragungsstruktur (7) eine vorgegebene Anzahl von gelenkigen Teilen (10) umfasst, die miteinander angelenkt sind, wobei ein erstes gelenkiges Teil am Drehkörper (6) angelenkt ist, während ein letztes gelenkiges Teil an den Verriegelungsmitteln (4) angelenkt ist.

5. Verriegelungsvorrichtung nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** das Betätigungsteil (3) von der ersten in die zweite Arbeitsstellung um eine Achse (11) drehbeweglich ist, die im wesentlichen mit der Drehachse des Drehkörpers (6) zusammenfällt.

6. Verriegelungsvorrichtung nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** der Tragaufbau (2) zweckmäßig geformte Aufnahmen (12, 13) aufweist, die bereitgestellt sind, während der Verstellung jeweils den Drehkörper (6) und die Übertragungsstruktur (7) aufzunehmen und zu führen.

7. Verriegelungsvorrichtung nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** sie zwei Übertragungsstrukturen (7) umfasst, die am Drehkörper (6) im Bereich von gegenüberliegenden Stellungen dieses letzteren angreifen.

8. Verriegelungsvorrichtung nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** der Tragaufbau (2) eine erste und eine zweite Halbschale (14, 15) umfasst, die bereitgestellt sind, eine Ausnehmung zur Aufnahme der Verriegelungsmittel (5) festzulegen, wobei die geformten Aufnahmen (12, 13) auf mindestens einer der Halbschalen (14, 15) festgelegt sind.

9. Verriegelungsvorrichtung nach dem vorstehenden Anspruch, **dadurch gekennzeichnet, dass** der Tragaufbau (2) einen Zentrierkörper (16) umfasst, der mit zweckmäßigen Schultern (17) versehen ist, die geeignet sind, mit einer ersten, im wesentlichen gegenprofilierten Bohrung (18) eines Bleches (19) gekoppelt zu werden, wobei bevorzugter Weise der Zentrierkörper (16) getrennt und mit einer der Halbschalen (14, 15) und mit einem Basisteil (20) koppelbar ist, wobei der Zentrierkörper (16) und das Basisteil (20) in Zusammenbaustellung auf gegenüber dem Blech (19) abgewandten Seiten liegt.

10. Mit Flügeln aus Metallblech versehener Schrank, umfassend eine Verriegelungsvorrichtung gemäß einem oder mehreren der vorstehenden Ansprüche.

Revendications

1. Système de verrouillage comprenant:

- une structure support (2);
- un élément d'entraînement (3) associé à la structure support (2) et susceptible de déplacement entre au moins une première et une deuxième conditions de fonctionnement;
- des moyens de verrouillage (4) arrangés pour être mobiles entre une condition de verrouillage et une condition de déverrouillage;
- des moyens de transmission (5) mus par l'élément d'entraînement (3) et destinés à transmettre le mouvement auxdits moyens de ver-

rouillage (4), un déplacement de l'élément d'entraînement de la première à la deuxième conditions de fonctionnement impliquant le déplacement des moyens de verrouillage (4) de la condition de verrouillage à la condition de déverrouillage, les moyens de transmission du mouvement (5) comprenant un corps tournant (6) entraîné par l'élément d'entraînement (3) et une structure de transmission (7) interposée entre le corps tournant (6) et lesdits moyens de verrouillage (4) pour permettre le déplacement des moyens de verrouillage (4), à la suite du mouvement du corps tournant (6), au moins entre la condition de verrouillage et la condition de déverrouillage,

caractérisé en ce que:

la structure de transmission (7) est une structure déformable dont la géométrie varie lors du passage des moyens de verrouillage (4) de la condition de verrouillage à la condition de déverrouillage, de préférence la structure de transmission présentant un axe médian qui est principalement rectiligne et dans le prolongement de l'axe du bras coulissant (8) dans la condition de verrouillage des moyens de verrouillage, et un axe médian qui est courbé autour du corps tournant (6) dans la condition de déverrouillage des moyens de verrouillage (4).

2. Système de verrouillage selon la revendication 1, **caractérisé en ce que** les moyens de verrouillage (4) comportent:

- au moins un bras coulissant (8) ayant une première extrémité (8a) associée à la structure de transmission (7); et
- une barre (9) qui à l'une de ses extrémités (9a) est en engagement avec ledit bras coulissant (8) et, à son autre extrémité (9b), est destinée à être accrochée aux verrous de fermeture d'une porte, panneau, ou similaires.

3. Système selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la structure de transmission (7) est interposée entre le corps tournant (6) et les moyens de verrouillage (4), desquels elle est séparable, et est en mesure de convertir un mouvement essentiellement rotatoire du corps tournant (6) en un mouvement sensiblement de translation des moyens de verrouillage (4), ladite structure de transmission (7) étant de préférence apte à transmettre des actions de poussée aux moyens de verrouillage (4) pendant leur déplacement vers la condition verrouillée et à transmettre des actions de traction aux moyens de verrouillage (4) pendant leur déplacement vers la conditions déverrouillée.

4. Système selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la structure de transmission (7) comporte un nombre prédéterminé d'éléments articulés (10) reliés les uns aux autres par des charnières, le premier desdits éléments articulés prévoyant une charnière montée sur le corps tournant (6) et le dernier desdits éléments articulés prévoyant une charnière montée sur les moyens de verrouillage (4).

5. Système selon l'une quelconque des revendications précédentes, **caractérisé en ce que** l'élément d'entraînement (3) est mobile en rotation de la première à la deuxième conditions de fonctionnement autour d'un axe (11) qui est essentiellement coïncident avec l'axe de rotation du corps tournant (6).

6. Système selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la structure support (2) a convenablement des sièges conformés (12, 13) destinés à recevoir et à guider respectivement le corps tournant (6) et la structure de transmission (7), pendant le mouvement.

7. Système selon l'une quelconque des revendications précédentes, **caractérisé en ce qu'il** comporte deux structures de transmission (7) en engagement avec le corps tournant (6) à des positions opposées dudit corps.

8. Système selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la structure support (2) comporte une première et une deuxième demi-coques (14, 15) destinées à être couplées ensemble pour définir une cavité de logement pour les moyens de transmission (5), de préférence les sièges conformés (12, 13) étant définis sur l'une au moins desdites demi-coques (14, 15).

9. Système selon la revendication précédente, **caractérisé en ce que** la structure support (2) comporte un corps de centrage (16) muni d'épaulements convenables (17) destinés à s'accoupler à un premier trou (18) d'une tôle (19), sensiblement de forme conjuguée, de préférence ledit corps de centrage (16) étant séparé de, et susceptible d'accouplement avec l'une desdites demi-coques (14, 15) et avec ledit élément de base (20), le corps de centrage (16) et l'élément de base (20) étant sur des côtés opposés de la tôle (19), en conditions d'assemblage.

10. Armoire muni de portes de tôle comprenant un système de verrouillage selon l'une ou plusieurs des revendications précédentes.

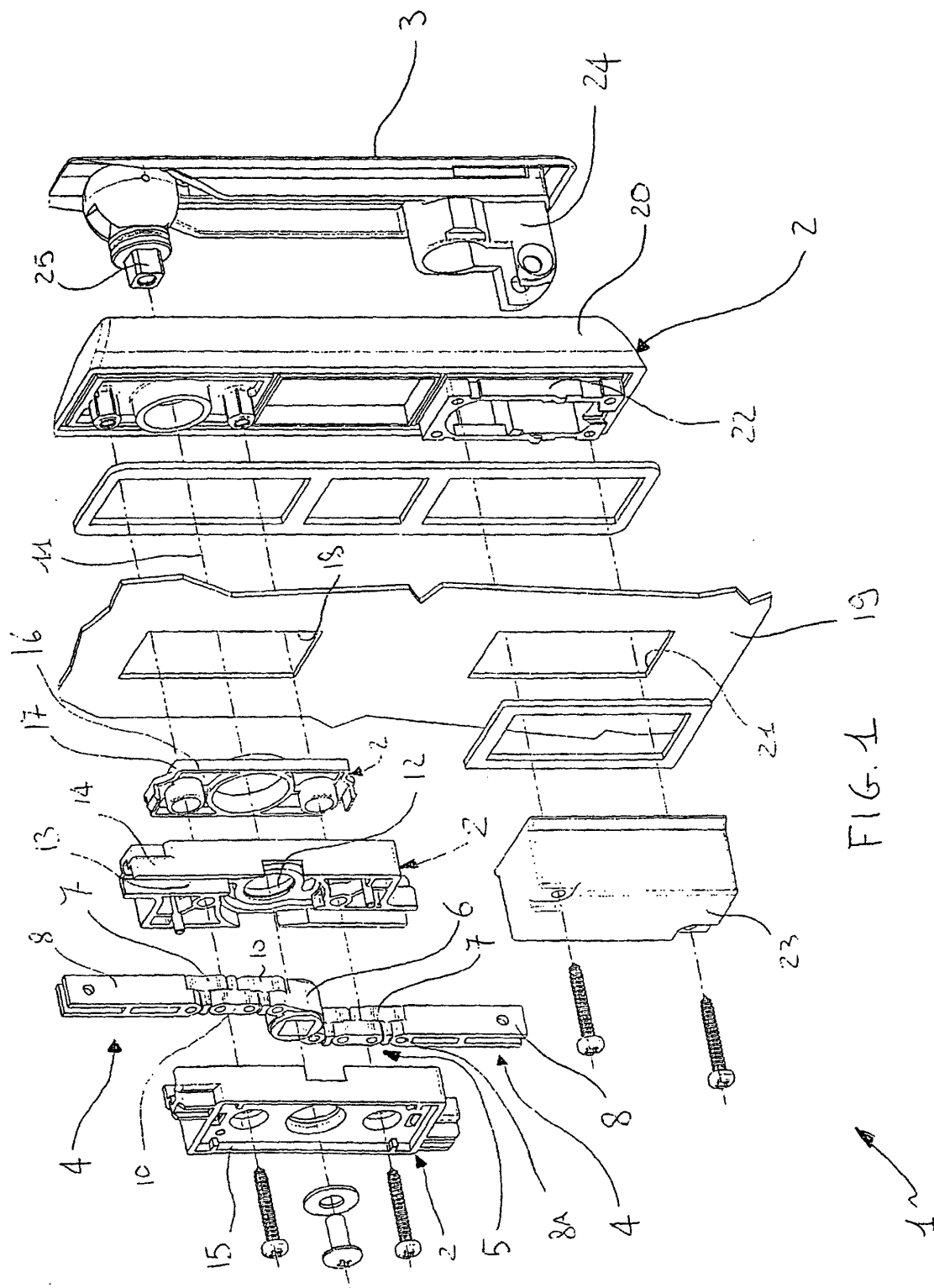


FIG. 1

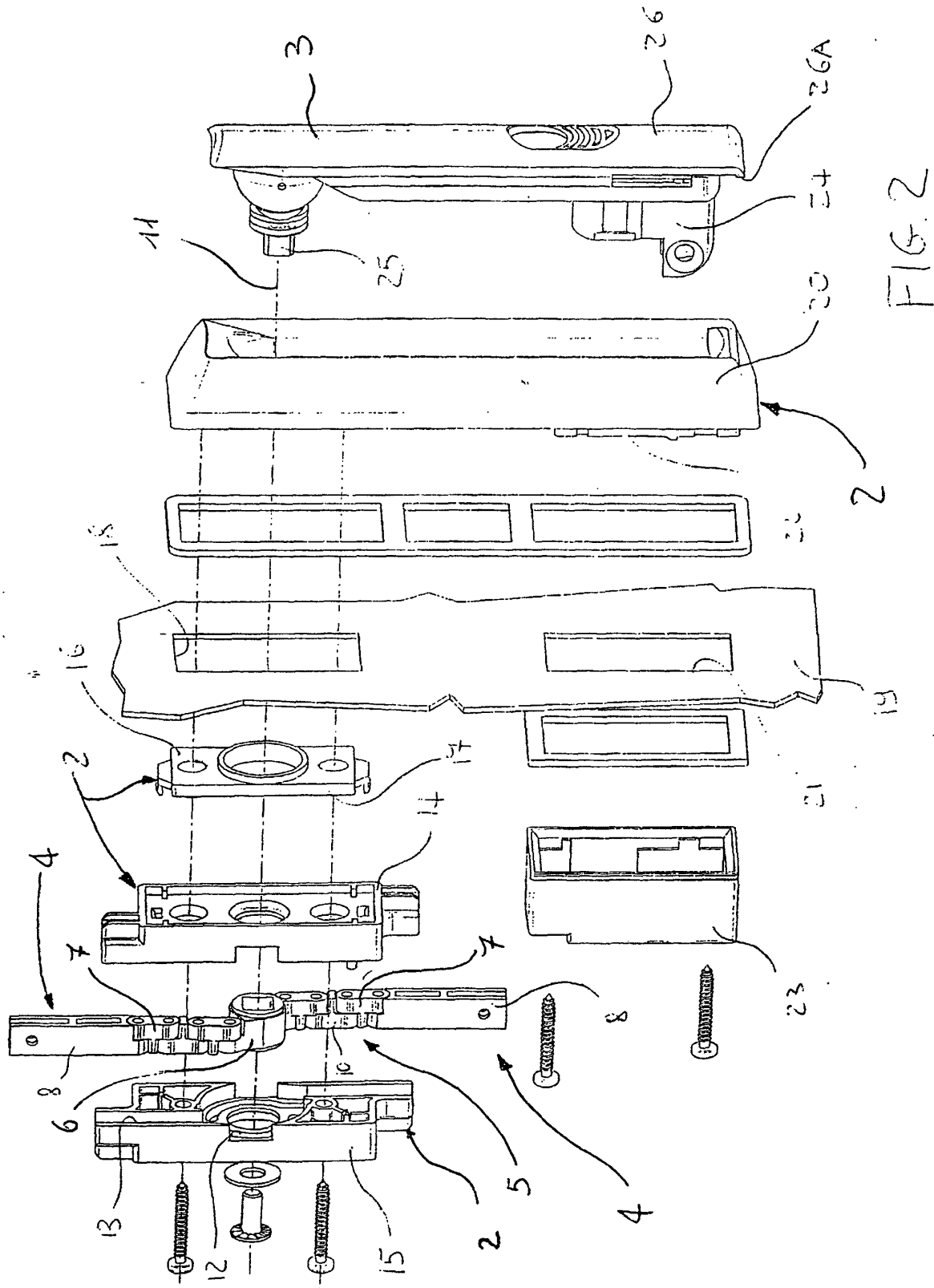
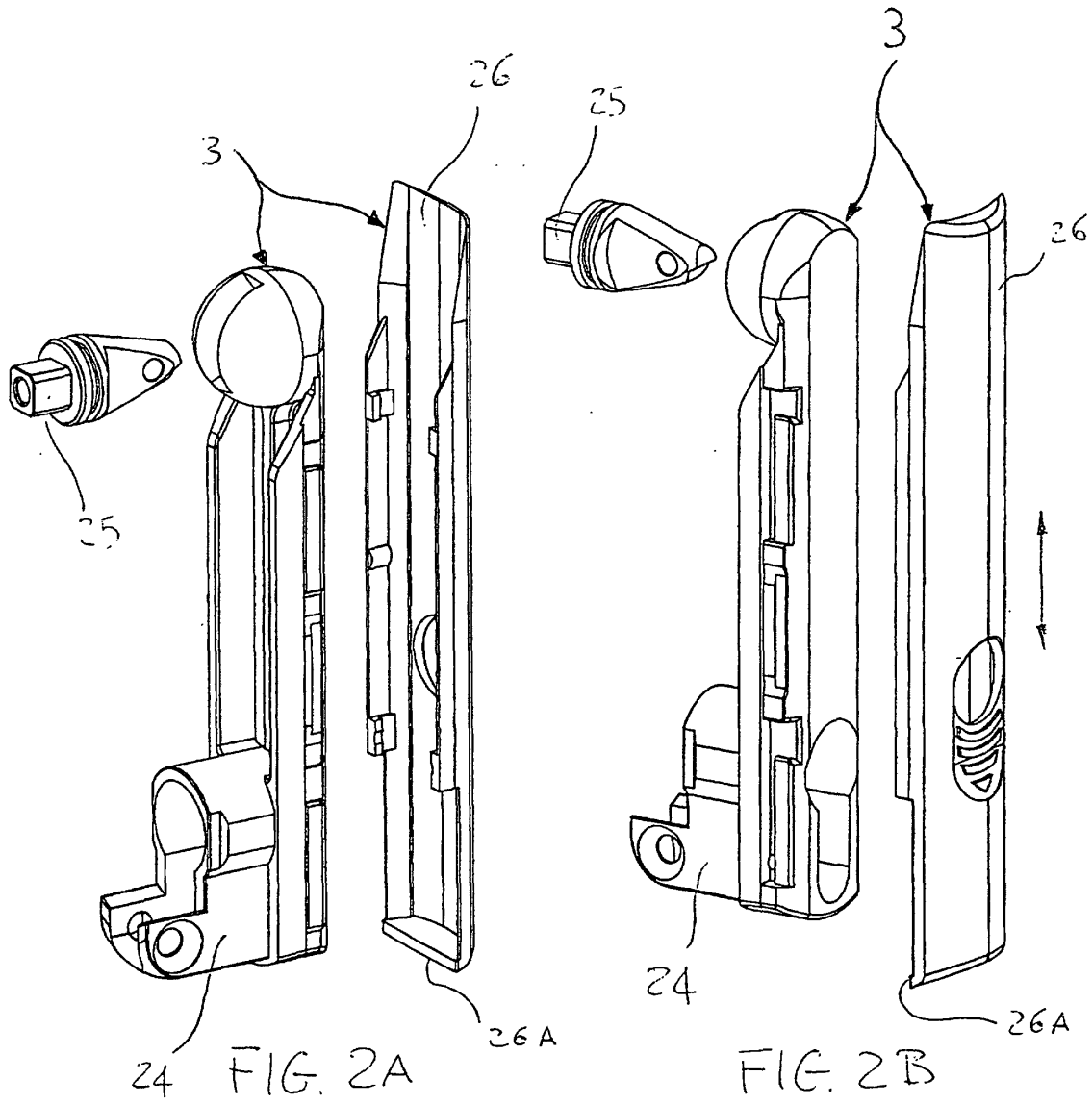
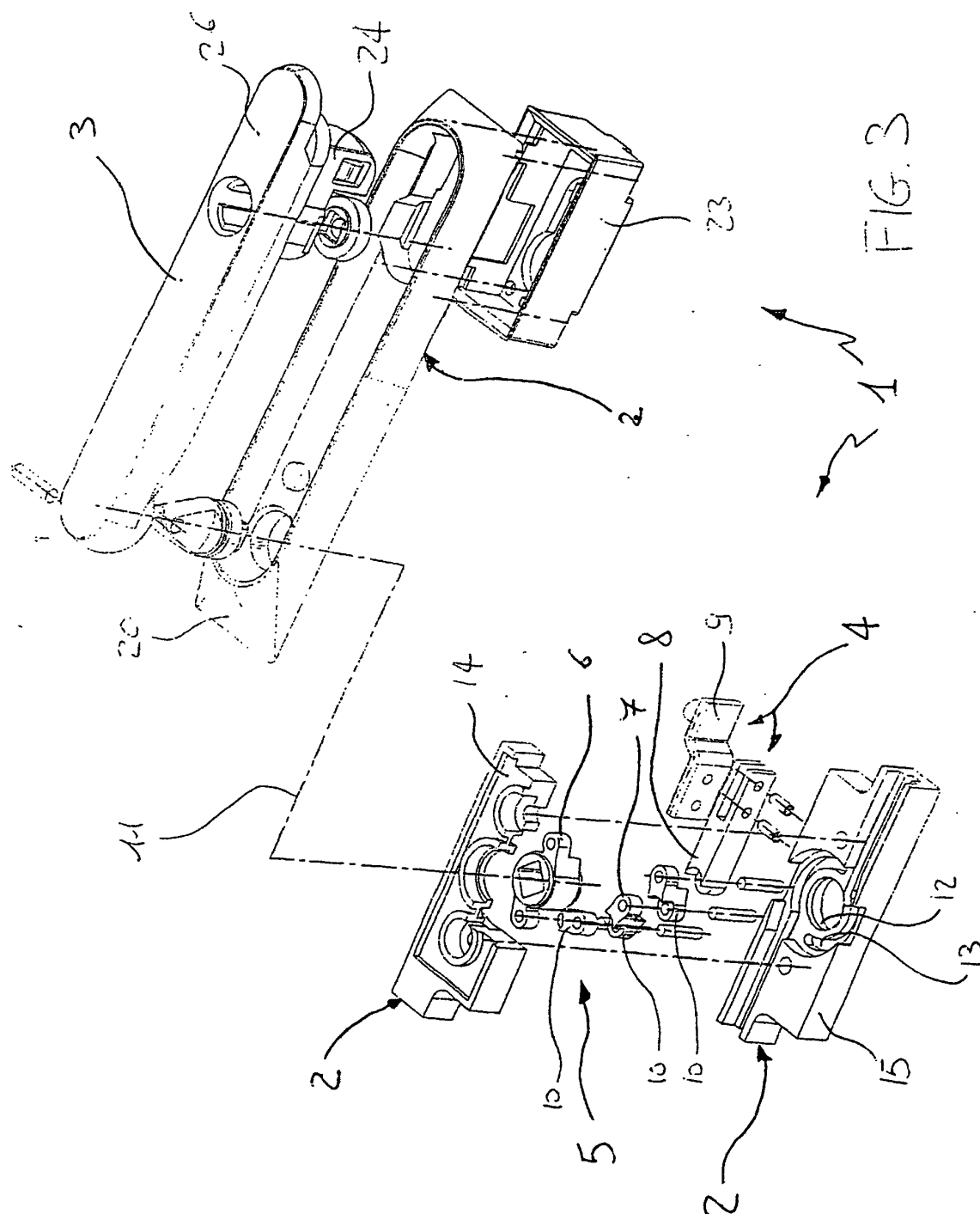
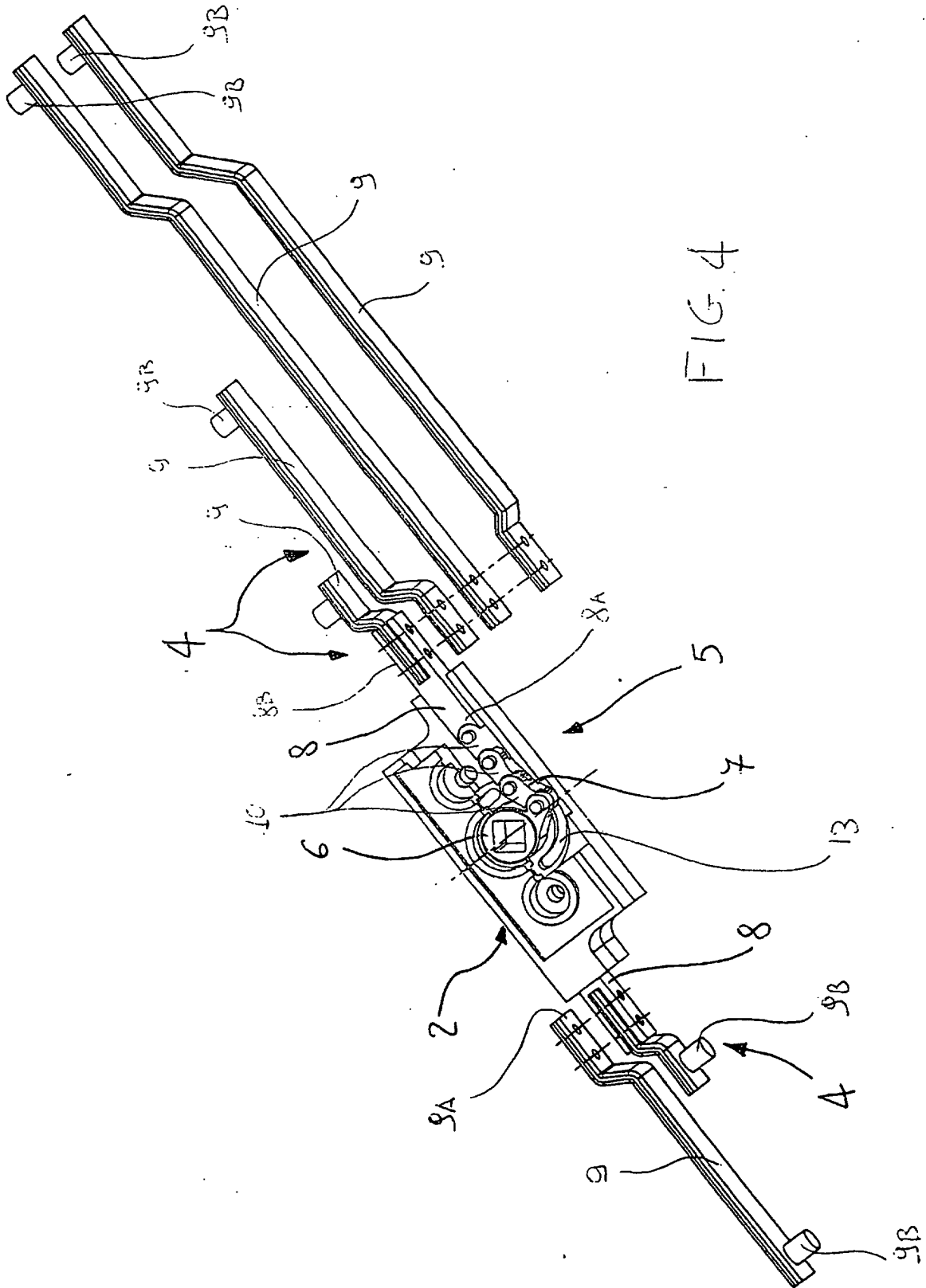


FIG. 2







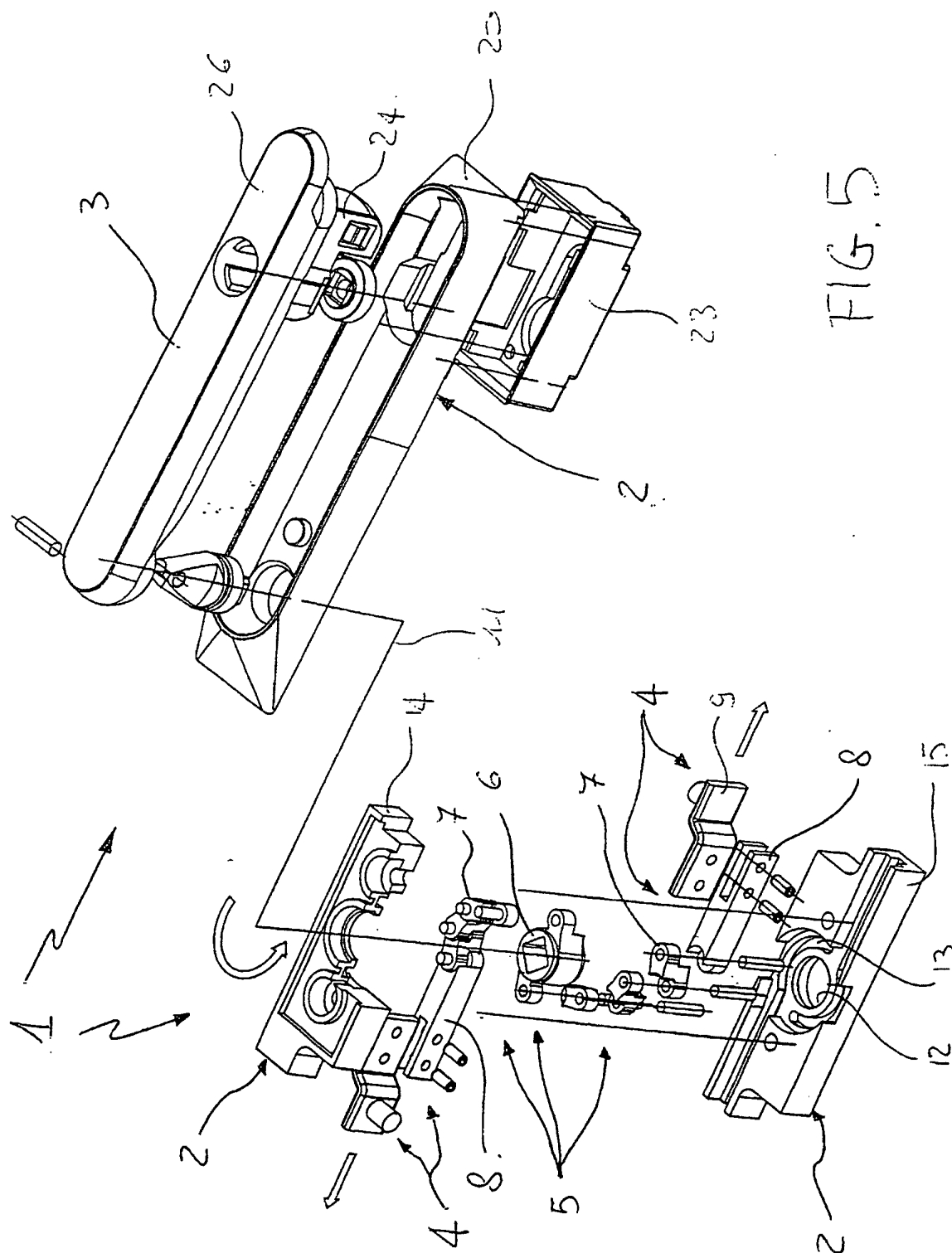


FIG. 5