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(54) **WINDING DEVICE FOR BELTS AND RELATED COVER**

WICKELVORRICHTUNG FÜR GURTE UND ZUGEHÖRIGE ABDECKUNG

DISPOSITIF D'ENROULEMENT POUR COURROIES ET COUVERCLE ASSOCIÉ

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Description

Technical Field

[0001] This invention relates to the technical sector of belt winders and, more particularly, it relates to a winding device for roller shutter belts and to a cover related thereto.

[0002] A known method for opening and closing roller shutters is the use of winders for the pulling belts (known as straps in the jargon of the trade), which are usually housed in a box inserted and walled into a compartment of a building structure.

[0003] The box has an opening allowing access to its inner cavity, angled towards the visible face of the building structure.

[0004] The winding device basically comprises a winding roller, an arm for supporting the roller projecting cantilever-style and a plate for anchoring the arm to the box, and through the latter to the building structure. A cover, which is fixed directly to the anchor plate, hides from view: the plate, together with the parts of the winding device that would otherwise be visible; the related accessories; as well as the parts of the masonry structure immediately surrounding the building structure compartment.

[0005] The belt is allowed to pass into and out of the compartment by suitable holes made in the anchor plate and in the covering flange. The holes are substantially aligned with each other when the plate and the cover are installed.

Background Art

[0006] Prior art devices of this type normally have several significant disadvantages in terms of positioning and angling which are due to the precision with which the building structure housing them is made. The precision of the masonry structure is usually lower than the mechanical construction quality of the winding devices it is intended to house.

[0007] Some of these disadvantages can be seen, for example: in any defects in the geometrical regularity of the shape of the compartment for containing the box; in shape and verticality defects of the opening which allows access to the compartment; and in planarity defects in the masonry zones immediately surrounding the compartment.

[0008] Since the defects and/or errors in the masonry structure are also at least partly transmitted to the winding device anchor plate, the cover - which is rigidly fixed to the plate - cannot really compensate for or hide these defects.

[0009] Therefore, after being fitted the plate often appears not to be vertical, and/or seems to be positioned in a way that is not perfectly parallel with the masonry wall.

[0010] That causes an obvious problem with its appearance, which on each occasion has to be overcome by installing impromptu, rough fitting devices, which are

not always successful. In any case, this slows down fitting, wasting time and resources.

[0011] Prior art covers are usually screwed to the anchor plate housed in the wall.

[0012] However, fixing the cover by screwing it on prevents any adjustment of the cover position relative to the supporting plate and therefore relative to the wall.

[0013] In light of this, there are also prior art solutions in which the cover can be attached to the supporting plate with a snap on action.

[0014] However, the prior art snap on plates do not allow adjustment of the cover position relative to the supporting plates after the latter has been fixed in the wall. In particular, they do not allow rotation or translation of the cover relative to the supporting plate in a plane in which the cover lies.

[0015] Another problem, again linked to the appearance required of covers, becomes evident when the winder is fitted: both when it is first fitted, and every time the belt has to be substituted.

[0016] It is known that to fix the belt to the winding roller the belt must first be passed through the hole in the cover.

[0017] That means that during operations to load the spring with which the roller is equipped, the cover hangs from the belt, interfering with fitting operations and slowing them down. The cover may also be accidentally damaged, compromising its outer appearance.

[0018] To overcome this, some prior art covers have a notch through which the belt can reach the hole it must pass through even after the cover has been fitted on the anchor plate.

[0019] To hide the notch as far as possible, it is made at one of the long sides of the cover, so that the belt can pass through it to reach the hole it must pass through in the cover with its smallest dimension, relative to the thickness.

[0020] However, such a solution is not without disadvantages, since it adds another aesthetic disadvantage and worsens any alignment and planarity defects referred to above.

[0021] The lateral notch, although small, is still visible.

[0022] Moreover, its presence reduces the intrinsic stiffness of the cover which may twist about the plane in which it lies, so that once installed, it has a different planar angle at the two half-planes of its visible face which are separated by the notch.

[0023] In some solutions, the notch is covered, after the cover has been fitted, with an additional portion of the cover, which is in turn fixed to the plate below (or the winder supporting plate).

[0024] That solution makes the device even more complex and inconvenient to fit and remove, and is an even greater obstacle to adjustment of the position of the cover.

[0025] Document FR 2239578 describes a belt winder in which the roller supporting plate is fixed directly in a cavity made in the fixed frame of the window. The cover is screwed to the window frame with screws which are

sized to engage in four holes made in the cover.

[0026] Therefore, the cover must be angled vertically before the holes are made, holding the plate in a vertical position while the holes are made.

[0027] This involves the risk of a cover angling error, if the person does not hold the cover steady in the correct vertical position during fixing. Said risk is particularly serious, since fixing is irreversible, therefore any errors in the position of the fixed cover cannot be compensated for without making additional holes in the window frame.

[0028] Another disadvantage of said technical solution is that it can only be implemented if the window frame has a lateral portion in which it is possible to make a cavity large enough to house the roller supporting plate. Moreover, said solution is disadvantageous because it means damaging the window frame.

[0029] Patent document BE 405918 describes a belt winder in which the roller supporting plate is fixed in a cavity made in the wall. The cover of said winder has an upper opening and is removably fixed to the roller supporting plate by a pair of plugs. A second cover is fixed to the first to cover it and improve its appearance. The second cover has projections interacting with corresponding recesses in the first cover, allowing the first and second covers to be fixed to each other. The projections are shaped and positioned to prevent any relative movement between the two covers.

[0030] Therefore, even that solution has the disadvantage of not allowing defects in the masonry structure or in the position of the winder to be compensated for.

[0031] Said solution does not allow any possibility of adjusting the position of the cover relative to the supporting plate.

[0032] Patent document BE654942A discloses a belt winder which allows some adjustment in the position of the cover, but is uncomfortable to assemble.

Disclosure of the Invention

[0033] This invention therefore has for an aim to overcome said disadvantages by providing a winding device and a related cover which have a new and original design. This aim is achieved by the winding device and the cover according to the appended claims.

[0034] In particular, this invention has for an aim to provide a winding device for roller shutter belts and a cover for the winding device which allow simple and effective adjustment of the position of the cover to the features of the masonry structure during fitting, without risks of damaging the wall or the window frame.

[0035] This invention has for another aim to provide a winding device for roller shutter belts and a cover for such a winding device which allow a particularly good overall aesthetic effect to be obtained, with the possibility of compensating for any defects in the angling of the winder plate due to the features of the masonry structure.

Brief Description of the Drawings

[0036] The technical features of the invention, with reference to the above aims, are clearly described in the claims below and its advantages are more apparent from the detailed description which follows, with reference to the accompanying drawings which illustrate a preferred embodiment of the invention provided merely by way of example without restricting the scope of the inventive concept, and in which:

Figure 1 is an axonometric exploded assembly view of a winding device according to the invention substantially seen from the user side;

Figure 2 is an axonometric exploded assembly view of the winding device of Figure 1, with some parts cut away to better illustrate others and substantially seen from the inside of a masonry structure housing it;

Figure 3 is a partial elevation view of the device illustrating two of its components and how they are angled;

Figure 4 is an axonometric view of one of the details of Figure 2;

Figures 5 and 6 are enlarged views of several construction details of the detail of Figure 4 in which they are respectively labelled "A" and "B";

Figure 7 is an axonometric view of the detail of Figure 4 illustrating a sequence for fitting an additional component part;

Figures 8, 9 and 10 are assembly views of the winding device with some parts cut away, showing in order the steps of a fitting sequence.

Detailed Description of the Preferred Embodiments of the Invention

[0037] With reference to Figures 1 and 2 of the accompanying drawings, the numeral 1 denotes as a whole a winding device for pulling belts 2, in particular for roller shutter straps.

[0038] The device 1 basically comprises: a box 3; a belt 2 winding roller 4; an arm 5 for supporting the roller 4; a plate 6 for anchoring to the structure; and finally a cover 7 for covering the plate 6.

[0039] In more detail, the box 3 is intended to be housed in a compartment of a receiving structure, in particular a masonry building structure, and to become functionally integral with the structure.

[0040] The belt 2 winding roller 4 is internally equipped with a pre-loaded spring (not illustrated in the accompanying drawings) which, when it is released, makes the roller 4 rotate about its axis 8 and consequently winds in the belt 2 connected to the roller 4.

[0041] The arm 5 projects cantilever-style in the cavity in the box 3 and supports the roller 4 at its free end. At the opposite end, the arm 5 is rigidly connected to the anchor plate 6 which, set at a right angle to the arm,

connects it to the structure intended to receive the device 1.

[0042] The cover 7 comprises a hole 9 having a quadrilateral outline, which after the cover 7 has been attached to the anchor plate 6 is substantially aligned with a corresponding hole 10 behind it made in the anchor plate 6.

[0043] The belt 2, coming from the outside of the device 1, therefore reaches the roller 4 by passing through the above-mentioned holes 9 and 10 in the cover 7 and the plate 6, and vice versa.

[0044] Figure 1 and, more particularly, the three images side by side in Figure 7, show how the cover 7 comprises a slit 11 communicating with the hole 9 through which the belt 2 passes.

[0045] The slit 11 is preferably located on the longitudinal axis 12 of symmetry of the cover 7. It has the shape of an extended rectangle and has longitudinal lateral edges 13 against which a portion 14 of the cover with a shape matching that of the slit 11 makes contact in a guide 16 (see also Figure 6).

[0046] The portion 14 of the cover comprises a grip element 15 which can be used to selectively remove the portion 14 - with a translation substantially parallel with the plane in which the cover 7 lies - to open the slit 11 for the belt 2 to pass or, vice versa, the portion 14 can be pushed to block the slit 11 and restore the continuity of the cover 7 in the zone affected by the slit 11.

[0047] As shown in Figure 8, removing the portion 14 of cover from the slit 11 allows the belt 2 to reach the hole 9 it must pass through in the cover 7 even when the belt 2 is fitted, that is to say, already connected to the winding roller 4 and, at an opposite end, to a lifting device (pulley) usually positioned in a box. Then, as shown in figure 9, by rotating the cover 7 through 90° relative to the belt 2 insertion configuration, it is possible to bring the cover 7 to the operating position, then definitively block the slit 11 by inserting the portion 14 of the cover, as shown in Figure 10.

[0048] Figure 4 shows how the cover 7 comprises - on its inner face, intended to be positioned opposite the anchor plate 6 - pins 17 designed to connect with an elastic snap on action to corresponding hooking slots 18 made in the plate 6 and visible for example in Figure 1.

[0049] Therefore, the pins 17 and the slots 18 form means for fixing the cover 7 to the plate 6.

[0050] The pins 17 and the slots 18 are preferably, without limiting the scope of the invention, made the former on the cover 7 and the latter on the anchor plate 6, or vice versa.

[0051] In any case, as shown in Figure 3, the pins 17 and the slots 18 are positioned on a circle 19 which is substantially parallel with the plane in which the cover 7 lies in such a way that they allow the cover 7 to rotate about an axis 20, at a right angle to said plane, thus being able to be angled irrespective of the angle of the plate 6 below.

[0052] It should be noticed that the pins 17 and the slots 18 are preferably positioned along a circle (in a pre-

ferred embodiment), but more generally they are positioned along predetermined paths, allowing a movement (preferably a rotation) parallel with said paths by the cover 7 relative to the plate 6.

[0053] It should also be noticed that each of the pins 17 comprises a pair of projections 22 which are parallel with each other and can be inserted in the corresponding slot 18 to create an interference fit, being pressed into place.

[0054] According to the invention, each pair of projections 22 is aligned in a predetermined direction 23, so that said direction 23 is perpendicular to the path along which the pins 17 are positioned.

[0055] In light of this, the slots 18 are extended along the path (that is to say, each slot 18 is extended along its own path), corresponding to the path along which the pins 17 are positioned. According to the invention, this allows the pins 17 to be inserted in the slots 18 in a plurality of possible positions, and/or allows the pins 17 inserted in the corresponding slots 18 to be moved along the slots 18.

[0056] Therefore, according to the invention, the projections 22 of the pins 17 are aligned along axes 23 which are perpendicular to the paths along which the corresponding slots 18 are extended. This guarantees that the cover 7 is firmly attached to the plate 6 when the pins 17 are inserted in the slots 18, irrespective of the position, within the slot 18, in which the respective pin 17 is inserted.

[0057] Therefore, it should be noticed that this invention provides in an original way a plate 6 comprising slots 18 extended along predetermined paths, for allowing movement of the cover 7 operatively attached to the plate 6 by means of pins 17 which are inserted in the slots 18 and can move within the slots into a plurality of equilibrium positions, in which the cover 7 is firmly attached to the plate 6 in corresponding different positions.

[0058] The slot 18 extension paths are preferably stretches of the circle.

[0059] Moreover, as shown in Figure 5, the pins 17 comprise a plurality of straight, parallel hooking teeth 21 evenly distributed along the length of the pins 17.

[0060] Each of these teeth 21 can, on its own, interact with the plate 6 hooking slot 18. Therefore, when fitting the cover 7, it is possible to choose to engage one tooth 21 rather than another in the slot 18, to graduate the extent of pin 17 penetration in the slot 18.

[0061] The pins 17 and slots 18 assembly designed in this way allows two different types of adjustment when attaching the cover 7 to the anchor plate 6.

[0062] A first type of adjustment, which can be made parallel with the plane in which the plate 6 lies, allows the cover 7 to be made perfectly vertical, even in the presence of any verticality errors affecting the plate 6 behind it.

[0063] A second type of adjustment - relating to the different extent of penetration of the pins 17 in the slots 18 - allows the plane in which the cover 7 lies to be po-

sitioned with a skew angle relative to the plane in which the plate 6 behind it lies. If necessary, this allows the cover 7 to always be perfectly parallel with the facade of the masonry structure for which the winding device 1 is intended, even when the plate 6 beneath the cover has defects in its coplanarity with the facade plane.

[0064] It should be noticed that the invention provides a device comprising means 17, 18, 21 for positioning the cover 7 with a selectively variable skew angle of the plane in which it lies relative to the plate 6 plane. This means that the cover 7 can be positioned so that it is coplanar with the receiving structure irrespective of the angle of the plate 6 behind it.

[0065] The rotation means 17, 18 and the means 17, 18, 21 for skew positioning are integrated with each other.

[0066] It should be noticed that the teeth 21 of the pins are substantially straight and parallel with each other.

[0067] The pins 17 are preferably supported by the cover 7, whilst the slots 18 are made in the plate 6.

[0068] It should also be noticed that the cover comprises guide means 16 interposed between the slit 11 and the portion 14 of the cover 7, being designed to allow the portion 14 to translate in a direction 12 which is substantially parallel with the plane in which the cover 7 lies.

[0069] The portion 14 of the cover 7 comprises a grip element 15 for controlling the translation of the portion 14 of the cover 7.

[0070] According to another aspect of this invention, the guide means 16 are shaped so that they maximise the strength of the cover 7.

[0071] In particular, the guide means 16 (formed by an edge of the cover 7 delimiting the sides of the slit 11) form grooves in which raised lateral edges of the portion 14 are slidably inserted.

[0072] Advantageously, this allow the strength of the cover 7 to be increased without compromising the ease with which the portion 14 can be slidably inserted in and removed from the rest of the cover 7.

[0073] The portion 14 of the cover 7 is selectively removable from the slit 11.

[0074] It should also be noticed that the invention provides a winding device for a pulling belt 2 which is a roller shutter strap, comprising:

- a winding roller 4 supported by an arm 5 which projects cantilever-style from an anchor plate 6;
- a cover 7 for covering the plate 6, having a hole 9 through which the belt 2 can pass.

[0075] According to the invention, the device comprises means 17, 18 for rotating the cover 7, parallel with the plane in which it lies, relative to the plate 6, and for stably maintaining the angle assigned.

[0076] The rotation means comprise pins 17 and slots 18 which can be hooked to each other with an elastic snap on action, the pins 17 and the slots 18 being located the former on the cover 7 and the latter on the anchor plate 6, or vice versa.

[0077] The pins 17 and the slots 18 are positioned on a circle 19.

[0078] The slots 18 are extended along respective stretches of the circle 19, hereinafter also indicated as circle 19 extension stretches.

[0079] Each of the pins 17 comprises a pair of projections which are perpendicularly aligned with the circle 19 extension stretch of the corresponding slot 18.

[0080] It should also be noticed that the invention provides a cover for winding devices for roller shutter pulling belts, the devices comprising a winding roller 4 supported by an arm 5 fixed to an anchor plate 6.

[0081] The cover comprises:

- a hole 9 through which the belt can pass;
- a plurality of pins 17 which can be inserted with an elastic snap on action in corresponding slots 18 made in the plate 6.

[0082] Moreover, according to a preferred embodiment of the invention, the pins 17 are positioned on a circle 19, forming means for rotating the cover 7, parallel with the plane in which it lies, relative to the plate 6, and for stably maintaining the angle assigned.

[0083] Each of the cover pins 17 comprises a pair of projections 22 which are perpendicularly aligned with a corresponding stretch of the circle 19.

[0084] The cover 7 preferably comprises a portion 14 which is slidably connected to the rest of the cover 7 and can be removed from it to form a slit 11 communicating with the hole 9 through which the belt 2 passes.

[0085] Said removable portion of the cover 7 is preferably located at an axis 12 of symmetry of the cover 7 and of the short side of the cover closest to the hole 9, the cover 7 substantially having the shape of a rectangle.

[0086] The invention fulfils the preset aims, allowing rapid and aesthetically exemplary fitting of the covers 7 even in the presence of errors made while building the masonry structures and/or mounting the winding device on the masonry structures.

[0087] It also makes belt fitting and substitution easier, faster and safer both for the operator and for the integrity of the covers which, advantageously, can now also be made in ranges of unusual materials, allowing an improvement in the appearance of the product which can also be used as a decorative element.

[0088] Thanks to the possibility of removing and inserting the cover without removing the belt from the roller, it is particularly easy to substitute the cover at any time, either to substitute an old or dirty cover with a new one, or to change the colour of the cover for aesthetic reasons (for example, to match the colour of the cover to a new wall colour).

[0089] It should be noticed that the fact that the cover is of the snap on type and allows any type of adjustment, both of the depth and angular position, guarantees particularly easy fitting and also guarantees that the cover is always in the optimum position.

Claims

1. A winding device for a pulling belt (2) constituting a strap for roller shutters, comprising:

- a winding roller (4) supported by an arm (5) which projects cantilever-style from an anchor plate (6);
- a cover (7) for covering the plate (6), having a hole (9) through which the belt (2) can pass,
- means (17, 18) for fixing the cover (7) to the plate (6),

wherein the fixing means (17, 18) are configured for allowing the cover (7) to rotate, parallel with the plane in which it lies, relative to the plate (6), for positioning the cover (7) at an assigned angle, and for stably maintaining the angle assigned,

characterised in that the cover (7) comprises a portion (14) slidably connected to the rest of the cover (7) and removable from it to form a slit (11) communicating with the hole (9) through which the belt (2) passes.

2. The device according to claim 1, wherein said fixing means (17, 18) comprise pins (17) and slots (18) which can be hooked to each other with an elastic snap on action, said pins (17) and said slots (18) being located the former on the cover (7) and the latter on the anchor plate (6), or vice versa.

3. The device according to claim 2, wherein the pins (17) and the slots (18) are positioned on a circle (19).

4. The device according to claim 3, wherein the slots (18) are extended along respective stretches of the circle (19).

5. The device according to claim 4, wherein each of the pins (17) comprises a pair of projections (22) aligned perpendicularly with respect to the stretch of circle (19) of the corresponding slot (18).

6. The device according to any of the claims from 2 to 5, wherein the pins (17) comprise a plurality of teeth (21), distributed along the length of the pins (17), said teeth (21) being able to selectively hook onto the corresponding slot (18) by means of an elastic snap on action, to allow the plane in which the cover (7) lies to be angled relative to a plane in which the plate (6) lies.

7. A cover for roller shutter pulling belt winding devices which are equipped with a winding roller (4) supported by an arm (5) fixed to an anchor plate (6), comprising:

- a hole (9) through which the belt can pass;

- pins (17) which can be inserted in corresponding slots (18) made in the plate (6) by means of an elastic snap on action, to form means for fixing the cover (7) to the plate (6),

characterised in that the pins (17) are configured to allow, when they are inserted with an elastic snap on action in the corresponding slots (18), rotation of the cover (7) parallel with the plane in which it lies relative to the plate (6), for positioning the cover at an assigned angle and for stably maintaining the angle assigned, wherein the cover comprises a portion (14) slidably connected to the rest of the cover (7) and removable from it to form a slit (11) communicating with the hole (9) through which the belt (2) passes.

8. The cover according to claim 7, wherein each pin (17) comprises a pair of projections (22) perpendicularly aligned with a corresponding stretch of said circle (19).

9. The cover according to claim 7 or 8, wherein the removable portion of the cover is located at an axis (12) of symmetry of the cover (7) and of the short side of the cover closest to the hole (9), the cover (7) substantially having the shape of a rectangle.

10. The cover according to any of the claims from 7 to 8, wherein the pins (17) comprise a plurality of teeth (21) distributed along the length of the pin, for hooking with an elastic snap on action, said teeth (21) being configured to selectively hook onto the corresponding slot (18) with an elastic snap on action, for allowing the plane in which the cover lies to be angled relative to the plane in which the plate lies.

Patentansprüche

1. Wickelvorrichtung für einen Zuggurt (2), darstellend einen Riemen für Rollläden, umfassend:

- eine Wickelwalze (4), gestützt durch einen Arm (5), der auskragend aus einer Ankerplatte (6) hervorsteht;
- eine Abdeckung (7) zum Abdecken der Platte (6), aufweisend ein Loch (9), durch das der Gurt (2) geführt werden kann;
- Mittel (17, 18) zum Fixieren des Abdeckung (7) an der Platte (6),

wobei die Fixiermittel (17, 18) ausgelegt sind, um der Abdeckung (7) die Drehung zu erlauben, parallel zur Ebene, in der sie liegt, relativ zur Platte (6), um die Abdeckung (7) an einem zugewiesenen Winkel zu positionieren und um den zugewiesenen Winkel stabil aufrechtzuerhalten, **dadurch gekennzeichnet-**

- net, dass** die Abdeckung (7) einen Abschnitt (14) umfasst, verschiebbar verbunden mit dem Rest der Abdeckung (7) und entfernbar davon, um einen Schlitz (11) zu formen, kommunizierend mit dem Loch (9), durch das der Gurt (2) geführt wird. 5
2. Vorrichtung nach Anspruch 1, wobei die Fixiermittel (17, 18) Stifte (17) und Aussparungen (18) umfassen, die mit einer elastischen Einschnappwirkung miteinander verhakt werden können, wobei die Stifte (17) in der Abdeckung (7) und die Aussparungen (18) auf der Ankerplatte (6) angeordnet sind oder umgekehrt. 10
3. Vorrichtung nach Anspruch 2, wobei die Stifte (17) und die Aussparungen (18) auf einem Kreis (19) positioniert sind. 15
4. Vorrichtung nach Anspruch 3, wobei sich die Aussparungen (18) entlang jeweiliger Teilstücke des Kreises (19) erstrecken. 20
5. Vorrichtung nach Anspruch 4, wobei ein jeder der Stifte (17) ein Paar Vorsprünge (22) umfasst, die senkrecht zum Teilstück des Kreises (19) der entsprechenden Aussparung (18) ausgerichtet sind. 25
6. Vorrichtung nach einem der Ansprüche 2 bis 5, wobei die Stifte (17) eine Vielzahl an Zähnen (21) umfassen, verteilt entlang der Länge der Stifte (17), wobei die Zähne (21) in der Lage sind, sich wahlweise in die entsprechende Aussparung (18) mittels einer elastischen Einschnappwirkung einzuhaken, um zu ermöglichen, dass die Ebene, in der die Abdeckung (7) liegt, eine Winkelstellung relativ zur Ebene, in der die Platte (6) liegt, einnimmt. 30
7. Abdeckung für Rollladenzuggurtwickelvorrichtungen, die mit einer Wickelwalze (4) ausgestattet sind, gestützt durch einen Arm (5), fixiert an einer Ankerplatte (6), umfassend: 35
- ein Loch (9), durch das der Gurt geführt werden kann;
 - Stifte (17), die in entsprechende Aussparungen (18), ausgebildet in der Platte (6), mittels einer elastischen Einschnappwirkung eingesetzt werden können, um Mittel zum Fixieren der Abdeckung (7) an der Platte (6) zu bilden, **dadurch gekennzeichnet, dass** die Stifte (17), wenn sie mit einer elastischen Einschnappwirkung in die entsprechenden Aussparungen (18) eingesetzt sind, ausgelegt sind, um die Drehung der Abdeckung (7) zu erlauben, parallel zur Ebene, in der sie liegt, relativ zur Platte (6), um die Abdeckung an einem zugewiesenen Winkel zu positionieren und um den zugewiesenen Winkel stabil aufrechtzuerhalten, wobei die Abdeckung 45
- einen Abschnitt (14) umfasst, verschiebbar verbunden mit dem Rest der Abdeckung (7) und entfernbar davon, um einen Schlitz (11) zu formen, kommunizierend mit dem Loch (9), durch das der Gurt (2) geführt wird.
8. Abdeckung nach Anspruch 7, wobei ein jeder Stift (17) ein Paar Vorsprünge (22) umfasst, die senkrecht zu einem entsprechenden Teilstück des Kreises (19) ausgerichtet sind.
9. Abdeckung nach Anspruch 7 oder 8, wobei der entfernbare Abschnitt der Abdeckung an einer Symmetrieachse (12) der Abdeckung (7) und der kurzen Seite der Abdeckung, die dem Loch (9) am nächsten ist, angeordnet ist, wobei die Abdeckung (7) im Wesentlichen die Form eines Rechtecks aufweist.
10. Abdeckung nach einem der Ansprüche 7 bis 8, wobei die Stifte (17) eine Vielzahl an Zähnen (21) umfassen, verteilt entlang der Länge des Stifts, um sich mittels einer elastischen Einschnappwirkung einzuhaken, wobei die Zähne (21) ausgelegt sind, um sich mit einer elastischen Einschnappwirkung wahlweise in die entsprechende Aussparung (18) einzuhaken, um zu ermöglichen, dass die Ebene, in der die Abdeckung liegt, eine Winkelstellung relativ zur Ebene, in der die Platte liegt, einnimmt.
- ### Revendications
1. Dispositif d'enroulement pour une courroie de traction (2) constituant une sangle pour volets roulants, comprenant :
- un rouleau d'enroulement (4) supporté par un bras (5) dépassant en porte-à-faux d'une plaque d'ancrage (6) ;
 - un cache (7) servant à couvrir la plaque (6), comportant un orifice (9) à travers lequel la courroie (2) peut passer,
 - des moyens (17, 18) servant à fixer le cache (7) à la plaque (6) ;
- dans lequel les moyens de fixation (17, 18) sont configurés, pour permettre au cache (7) de tourner de façon parallèle au plan dans lequel il repose par rapport à la plaque (6), pour positionner le cache (7) en correspondance d'un angle attribué et pour maintenir stablement l'angle attribué, **caractérisé en ce que** le cache (7) comprend une partie (14) reliée de façon coulissante au reste du cache (7) et pouvant se retirer de celui-ci pour former une fente (11) communiquant avec l'orifice (9) à travers lequel passe la courroie (2).
2. Dispositif selon la revendication 1, dans lequel les-

- dits moyens de fixation (17, 18) comprennent des chevilles (17) et des encoches (18) pouvant être accrochées réciproquement par une action à encliquetage flexible, lesdites chevilles (17) et lesdites encoches (18) étant situées, les premières sur le cache (7) et les dernières sur la plaque d'ancrage (6), ou vice versa.
3. Dispositif selon la revendication 2, dans lequel les chevilles (17) et les encoches (18) sont positionnées sur un cercle (19).
 4. Dispositif selon la revendication 3, dans lequel les encoches (18) se prolongent le long de portions respectives du cercle (19).
 5. Dispositif selon la revendication 4, dans lequel chacune des chevilles (17) comprend une paire de saillies (22) alignées perpendiculairement par rapport à la portion de cercle (19) de l'encoche correspondante (18).
 6. Dispositif selon l'une quelconque des revendications de 2 à 5, dans lequel les chevilles (17) comprennent une pluralité de dents (21) réparties le long de la longueur des chevilles (17), lesdites dents (21) pouvant sélectivement s'accrocher sur l'encoche correspondante (18), au moyen d'une action par encliquetage flexible, pour permettre au plan dans lequel le cache (7) repose d'être orienté par rapport à un plan dans lequel repose la plaque (6).
 7. Cache pour dispositifs d'enroulement de courroie de traction de volet roulant étant équipés d'un rouleau d'enroulement (4) supporté par un bras (5) fixé à une plaque d'ancrage (6), comprenant :
 - un orifice (9) à travers lequel peut passer la courroie ;
 - des chevilles (17) pouvant être introduites dans des encoches correspondantes (18), réalisées dans la plaque (6) au moyen d'une action par encliquetage flexible, pour former des moyens servant à fixer le cache (7) à la plaque (6), **caractérisé en ce que** les chevilles (17) sont configurées pour permettre, lorsqu'elles sont introduites par action par encliquetage flexible dans les encoches (18) correspondantes, la rotation du cache (7) de façon parallèle au plan dans lequel il repose par rapport à la plaque (6), pour positionner le cache en correspondance d'un angle attribué et pour maintenir stablement l'angle attribué, dans lequel le cache comprend une partie (14) reliée de façon coulissante au reste du cache (7) et pouvant se retirer de celui-ci pour former une fente (11) communiquant avec l'orifice (9) à travers lequel passe la courroie (2).
 8. Cache selon la revendication 7, dans lequel chaque cheville (17) comprend une paire de saillies (22) alignées perpendiculairement par rapport à une portion correspondante dudit cercle (19).
 9. Cache selon la revendication 7 ou 8, dans lequel la partie pouvant se retirer du cache est située en correspondance d'un axe (12) de symétrie du cache (7) et du côté court du cache le plus proche de l'orifice (9), le cache (7) étant substantiellement rectangulaire.
 10. Cache selon l'une quelconque des revendications de 7 à 8, dans lequel les chevilles (17) comprennent une pluralité de dents (21), réparties le long de la longueur de la cheville, pour un accrochage par action par encliquetage flexible, lesdites dents (21) étant configurées pour sélectivement s'accrocher sur l'encoche correspondante (18), au moyen d'une action par encliquetage flexible, pour permettre au plan dans lequel repose le cache d'être orienté par rapport au plan dans lequel repose la plaque.

FIG. 1

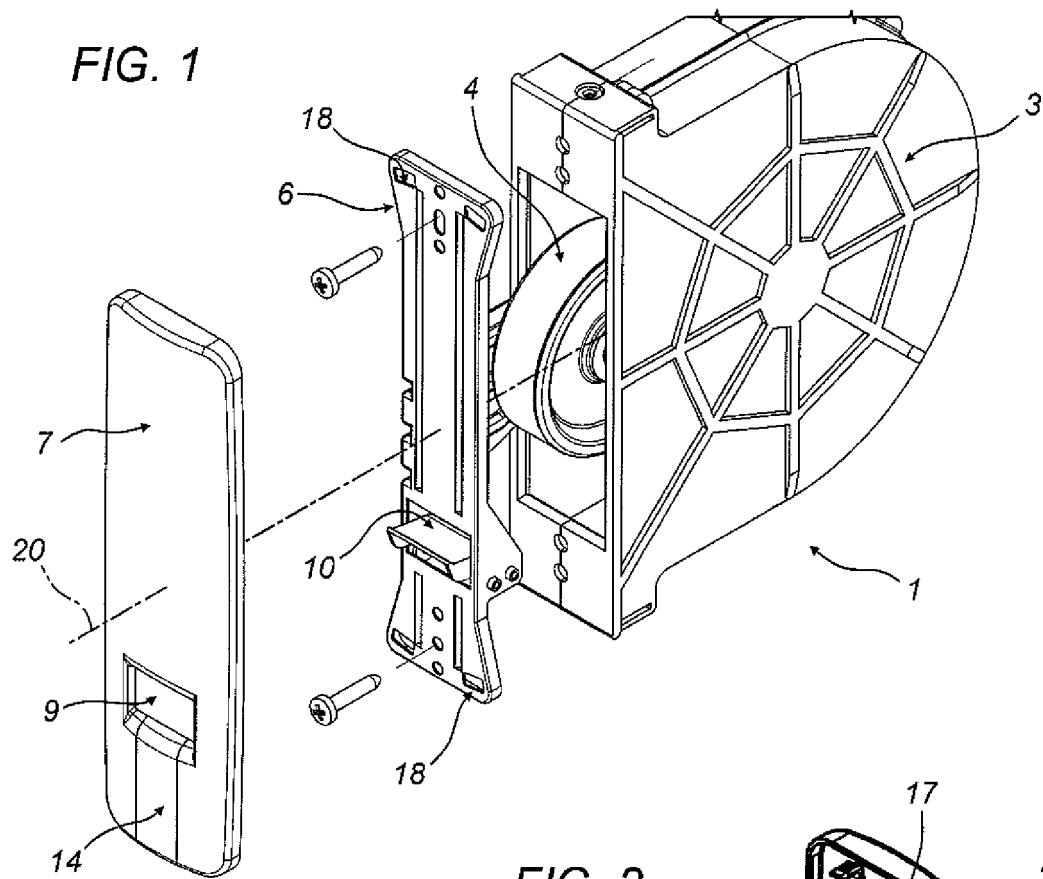


FIG. 2

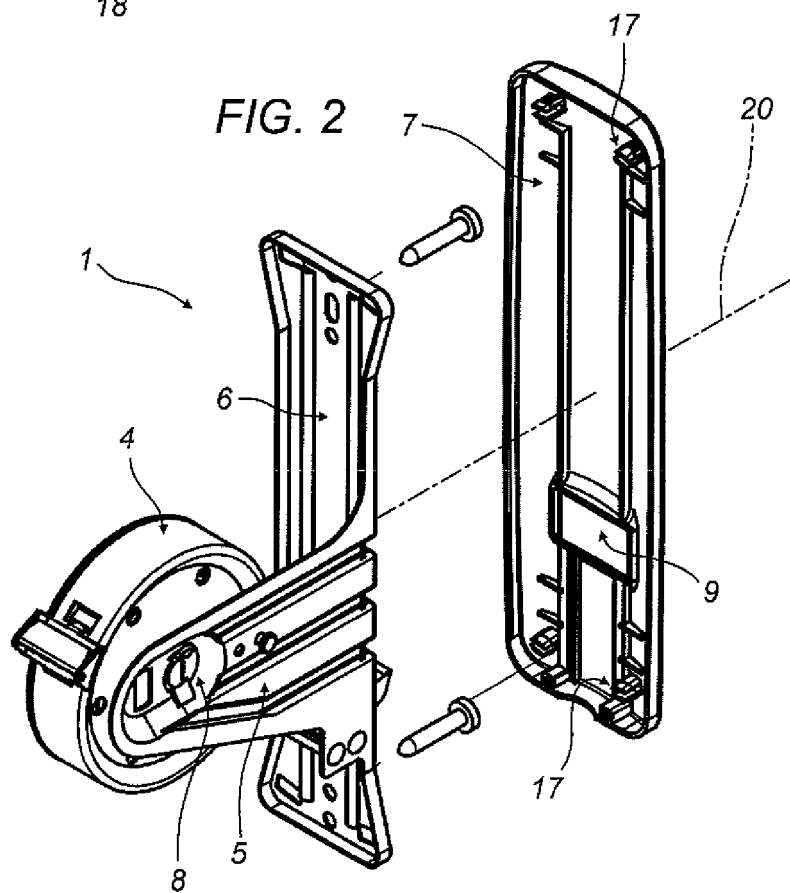


FIG. 3

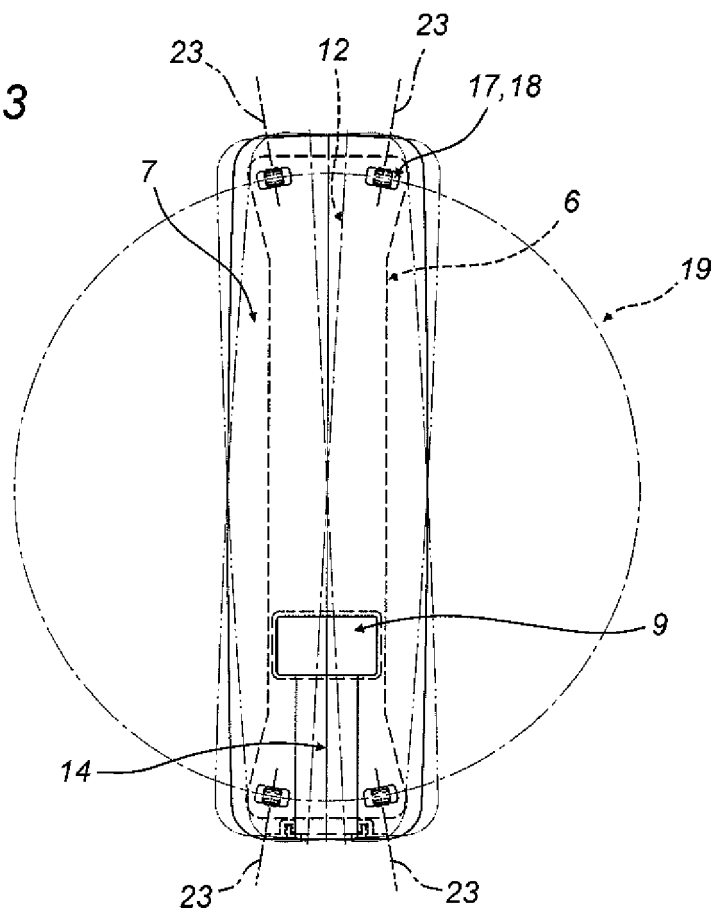
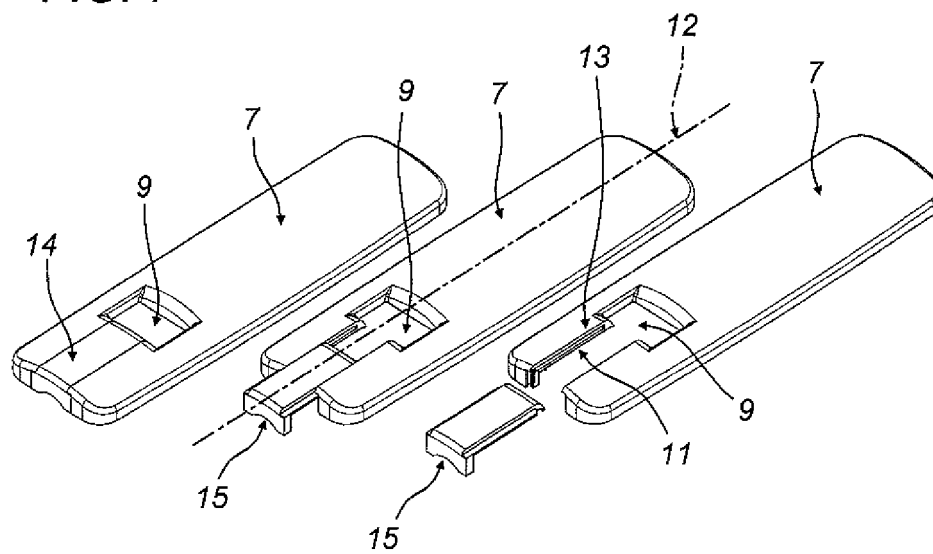


FIG. 7



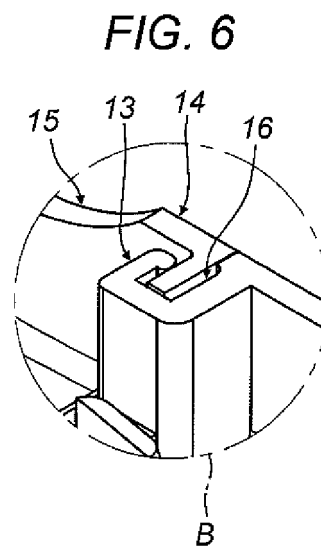
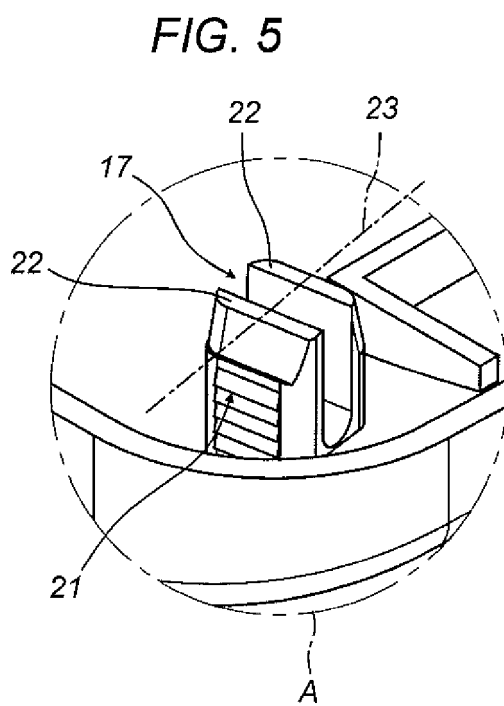
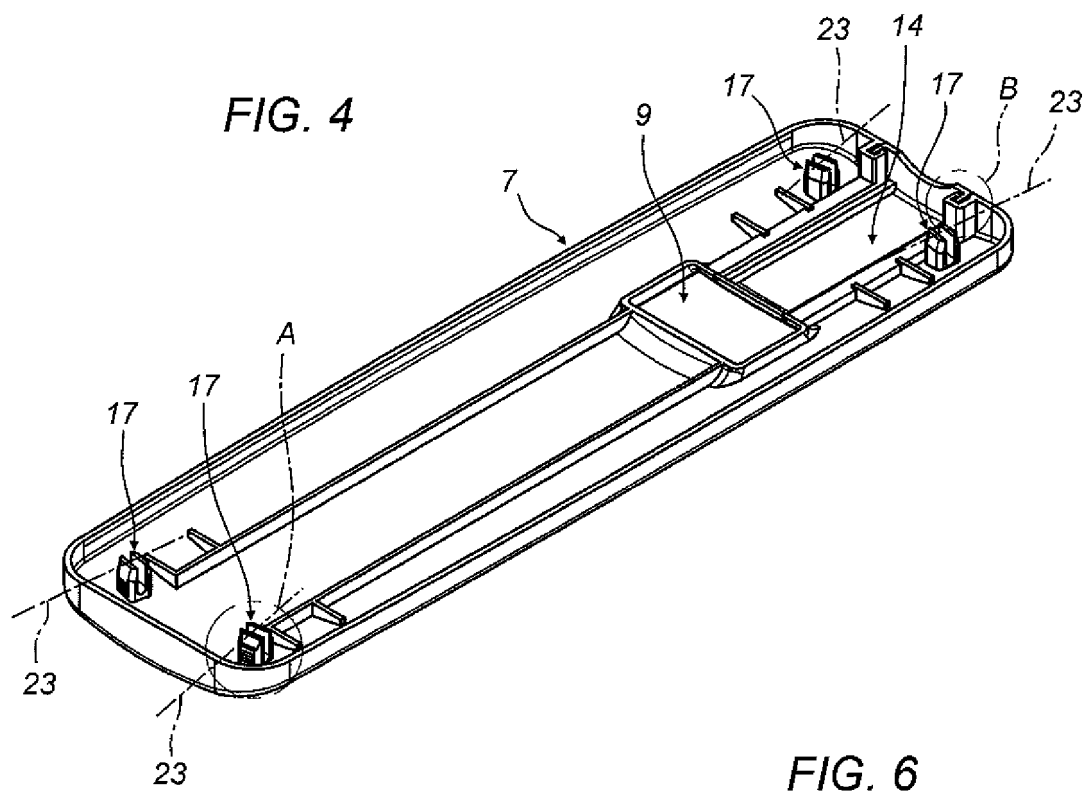


FIG. 8

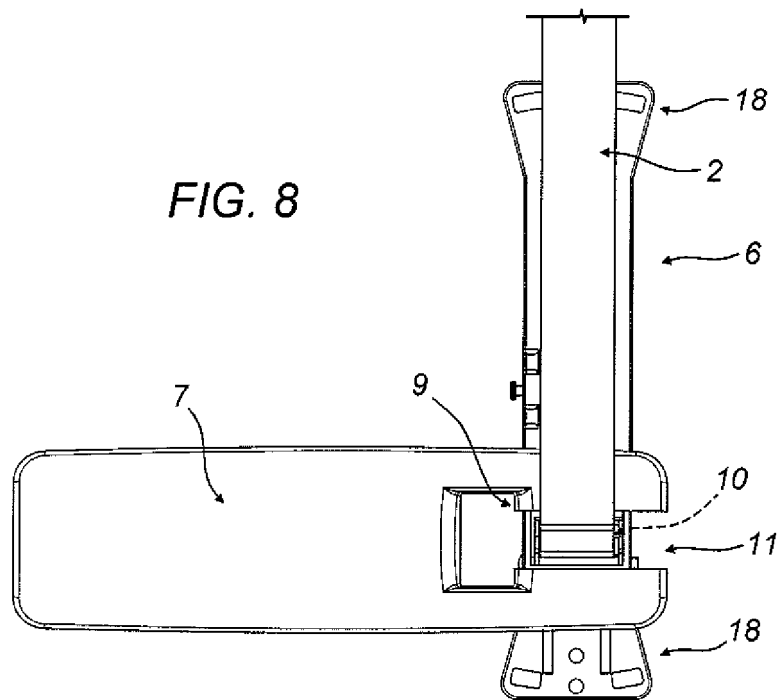


FIG. 9

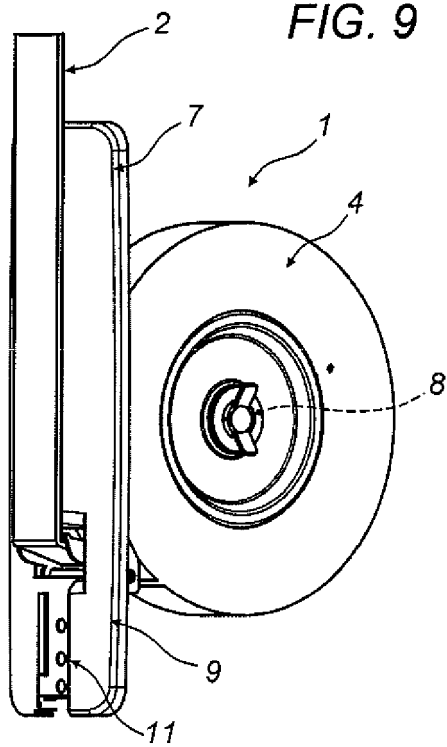
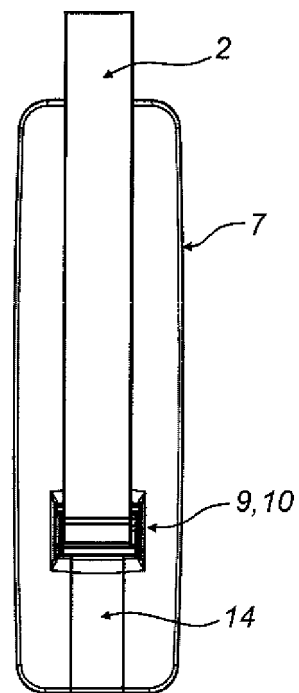


FIG. 10



REFERENCES CITED IN THE DESCRIPTION

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