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(54) Title: LOCKING MECHANISM FOR A DRAWER FRONT PANEL

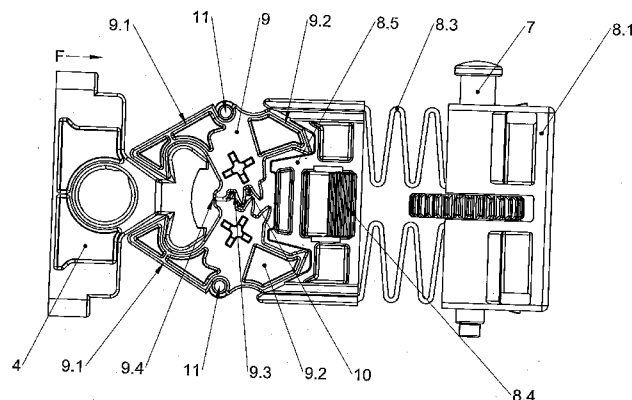


Figure - 4

(57) Abstract: A door locking mechanism for drawers which includes at least one arrester component (4.1) with one projecting end attached to the front door (2) for quick, practical and easy installation and removal of the furniture drawer doors (2) to the rail group symmetrically located on the right and left as a component separate from the drawer, and to the drawer's lateral plate (3), a door locking hook (9) with symmetrical front and back clamps (9.1, 9.2) at the bottom and top articulated to each other symmetrically by means of a pin (11) at the bottom and top preferably in a body element (5) on the lateral plane (5), and a spring (10) related between the mentioned hooks to prevent the hooks' unintended closure in open position, a preferably self-spring (8.3) pusher component (9) which moves by springing towards the back clamps (9.2) of the hook (9) in opening and closing direction of the drawer (1) and prevents the movements that may occur on the front door (2) by holding the locking hook's (9) back clamps (9.2) in the maximum stressed position, characterized in that; when closing the drawer's door (2) on the drawer's lateral panel (3) is desired when the hooks (9) are in unintended closed position, the drawer's door contains interlacing projections (9.3) on reciprocal contact surfaces and at least one overlapping surface (9.4) to prevent interlacing of the hooks due to being released from the pins (11).

LOCKING MECHANISM FOR A DRAWER FRONT PANEL

Technical Field

- 5 The invention relates to a locking mechanism which enables practical attachment and removal of furniture drawer doors on reciprocal side panels of a drawer.

Background of the Invention

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In the previous art, patent no. Ep0740917 describes a device for fixing the front panel of a drawer to preferably double-walled drawer side frames having a holding part fixed to the front panel and projecting therefrom, and a supporting part which is associated with a drawer side frame, supports a movable arresting part, and with the latter, is located in its entirety behind the front leading edge of the drawer side frame, the arresting part, which couples the holding part to the supporting part, being acted upon by a spring, characterized in that the arresting part is constructed as a rocking lever which is rotatable about a horizontal axis, latches automatically with the holding part under spring action

15 when said holding part is inserted, and pulls the holding part towards the supporting part, and in that the rocking levels has a lateral receiving means for a screwdriver or like, by means of which it may be rotated out of the arrested position in opposition to the spring action, releasing the holding part.

- 25 In the previous art, in patent no. TR 200707253, the invention **relates to** a door locking mechanism which comprises a door locking hook associated and interacts with a spring and which includes at least one arresting element with a projected T-shape end attached to the front door for quick, practical and easy removal and installation of the drawer doors to the side plate group and the rail group symmetrically located on the right and left as a separate element from the drawer, and symmetrical front and back clamps in front and at the back, articulated symmetrically by means of a pin at the bottom and top in preferably
- 30 in a body element on the lateral plate; **characterized in that it includes**

preferably a self-springed **propelling element** which holds the back clamps of the locking hook in closed position at the maximum stressed position, which prevents movements of the front door when the standard cannot the installed hook on the body is not installed at the desired position, or the base plate
5 installed on the rail is not installed at the desired position, in other words when the standard distance of the hook to the front door is not achieved; and which moves towards the back clamps of the hook on the opening & closing direction of the drawer. Here, the biggest drawback is that the T arrester component deteriorates the position of the locking hooks and makes the lock dysfunctional
10 when the T arrester component on the door is tried to be pushed in the hook when the door locking hook interrelated with a spring and which contains symmetrical front and back clamps at the bottom and top, articulated by means of a pin symmetrically at the bottom and top in the body element, is accidentally closed.

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Purpose and brief explanation of the Invention.

According to the previous art, the purpose of the invention is to hold the arrester part fixed on the front door of the drawer is rigidly held in the advanced or
20 retracted position in the side panels of the drawer and the hook in the hook clamps rigidly, to prevent the looseness of the door when it is in closed position, and to protect the position of the locking hooks when the arrester component is forced towards the inner side of the hook when the locking hook is accidentally closed.

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In order to achieve the mentioned objective, the locking hooks which are fixed rotatably by means of reciprocal pins in the body, in the lateral panels of the drawer include interlaced projections at the overlapping points and overlapping
30 surfaces in fully closed position. So, when the door which includes an arrester on the right and left is tried to be closed on the lateral panels of the drawer; when the reciprocal hooks on the lateral panel are in closed position, position of the hooks will not be deteriorated as the hooks will act synchronously and have a resting point.

The structural and characteristic features of the invention and its all advantages will be understood more clearly by means of the following shapes and the detailed description given with references to the figures, and therefore the assessment must consider these figures and the detailed description.

Description of Figures

Figure 1 – Perspective view of the drawer front door of which can be removed and attached.

Figure 2 – Front perspective view of the interlocking hook and pusher member placed on the base plate and body.

Figure 3 – Left view of the interlocking hook and pusher member placed on the base plate and body.

Figure 4 – Right view which illustrates the connection of the arrester component with the interlocking hook and pusher component in locked position

Figure 5 – Right view which illustrates the connection of the arrester component with the interlocking hook and pusher component in unlocked position

Figure 6 – View of the position where the arrester component does not overlap the interlocking hook.

Figure 7 – Front perspective view of the pusher component.

Reference Numbers

- 1 - Drawer
- 2 – Front door
- 3 – Lateral plate
- 4 – Arrester component
- 4.1 – Holding end
- 5 – Base plate
- 6 – Body
- 7 – Arrester component fixation pin
- 8 – Pusher component

- 8.1 – Body
- 8.2 – Hole
- 8.3 - Spring
- 8.4 – Pulling button
- 5 8.5 – Curved pusher projection
- 9 – Interlocking hook
- 9.1 – Front clamp
- 9.2 – Back clamp
- 9.3 – Interlaced projections
- 10 9.4 – Overlapping surface
- 10 - Spring
- 11 – Pin

Detailed description of the invention

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Figure 1 illustrates the perspective view of the drawer (1), the front door of which can be removed and attached. According to the figure, a arrester component (4) is fixed on the front door (2) which can be installed to and removed from the lateral plate (3) symmetrically located on both lateral sides of the drawer (1).

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Figure 2 and 3 provide perspective and left views of interlocking hook (9) and the pusher member (8) placed on the base plate (5) and body (6). According to the figure, the pusher component (8) is fixed on the base plate (5) by means of a pin (7) through the hole (8.2) on its body (8.1) (figure 7), and the interlocking hook (9) is articulated with lower and upper pins (11) in the body (6) of the base plate (5) in front of the pusher component (8).

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Figure 4 provides a lateral view which illustrates the connection of the arrester component (4) with the interlocking hook (9) and pusher component (8) in locked position. According to the figure, the arrester component (4) fixed on the front door (2) includes a holding end (4.1). The drawer's lateral plate includes an interlocking hook (9) in other words a clamp which is symmetrically located

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at the bottom and top, and locks the mentioned end (4.1) with the front clamps (9.1). Here, when the front door is closed on the lateral panel of the drawer, the end (4.1) of the arrestor component (4) fixed on the front door applies an F force from the inner side of the front clamps (9.1) to the interlocking hook (9) and creates a moment; as a result of this moment, the front clamps (9.1) of the interlocking hook (9) arrest the end (4.1) of the arrestor component (4) and brings the drawer's front door (2) to the closed position, and also preferably, the pusher element with preferably trapezoidal curved projection (8.5) springs by means of a spring (8.3) and arrests the back clamps (9.2) of the locking hook (9) at the maximum tensioning position, and prevents the opening of the locking and the movements on the front door when the installed hook (9) on the body (6) is not installed at the desired position or the base plate (5) installed on the rail (1) is not installed at the desired position; in other words, when the standard is not achieved regarding the distance of the hook (9) to the front door.

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Figure 5 provides a lateral view which illustrates the connection of the arrestor component (4) with the locking hook (9) and pusher component (8) in unlocked position. According to the figure, a retraction button (8.4) is created on the preferably curved pusher projection (8.5) in order to release the front door arrestor (4) from the front clamps (9.1) of the locking hook; so, the pusher element projection (8.5) retracted at the closing direction of the drawer springs by means of a spring (8.3) and it is released from the back clamps (9.2) of the hook; in that position, the arrestor component (4) fixed on the front clamp (2) is released from the locking hook (9) when the door is retracted.

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Figure 6 provides the view related with closing the front door when the locking hook is in closed position. According to the figure, when closing the drawer's door on the drawer's lateral panel is desired when the hook (9) is in involuntarily closed position, the drawer's door contains interlacing projections (9.3) on reciprocal contact surfaces and at least one overlapping surface (9.4) to prevent interlacing of the hooks due to being released from the pins.

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Also on the figures mentioned, at least one spring (10) is positioned to prevented unintended closure of the locking hooks during transportation between the reciprocal symmetric locking hooks (9) articulated on the body with a pin (11).

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CLAIMS

1 – The invention relates to a door locking mechanism for drawers which includes at least one arrester component (4.1) with one projecting end attached to the front door (2) for quick, practical and easy installation and removal of the furniture drawer doors (2) to the rail group (1) symmetrically located on the right and left as a component separate from the drawer, and to the drawer's lateral plate (3),
a door locking hook (9) with symmetrical front and back clamps (9.1, 9.2) at the bottom and top articulated to each other symmetrically by means of a pin (11) at the bottom and top preferably in a body element (5) on the lateral plane (5), and a spring (10) related between the mentioned hooks to prevent the hooks' unintended closure in open position,
a preferably self-spring (8.3) pusher component (9) which moves by springing towards the back clamps (9.2) of the hook in opening and closing direction of the drawer (1) and prevents the movements that may occur on the front door (2) as a result of not and prevents the opening of the locking and the movements on the front door when the installed hook (9) on the body (6) is not installed at the desired position or the base plate (5) installed on the rail (1) is not installed at the desired position; in other words, when the standard is not achieved regarding the distance of the hook (9) to the front door, **characterized in that;** when closing the drawer's door (2) on the drawer's lateral panel (3) is desired when the hooks (9) are in unintended closed position, the drawer's door contains interlacing projections (9.3) on reciprocal contact surfaces and at least one overlapping surface (9.4) to prevent interlacing of the hooks due to being released from the pins (11).

2- Structure which relates to a door locking mechanism according to Claim 1, characterized in that; it includes a curved pusher projection (8.5) which prevents dislocation of the door (2) at the end of the mentioned pusher component (8) preferably in trapezoid form, by holding the back clamps (9.2) of the hook (9) in a tense form at each position when the door is closed.

3 –Structure according to the door locking mechanism in accordance with Claim 1 and 2, characterized in that, the mentioned pusher component's (8) preferably curved pusher projection (8.5) includes a retraction button (8.4) on the side surface.

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4 – Structure related with a door locking mechanism according to any of the foregoing claims, characterized in that it includes at least one spring component (8.3) between the curved pusher projection (8.4) and the pusher body (8.1).

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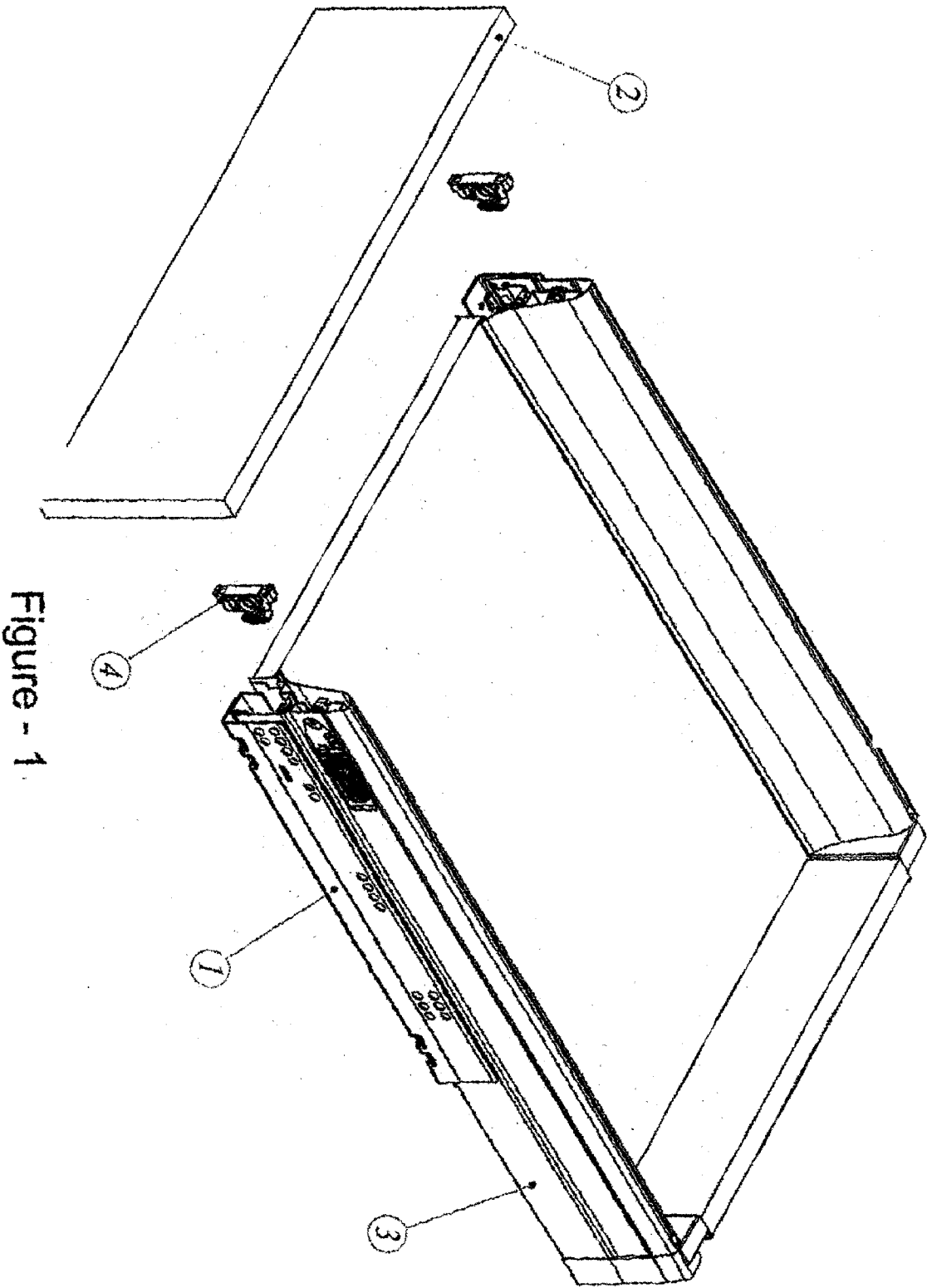


Figure - 1

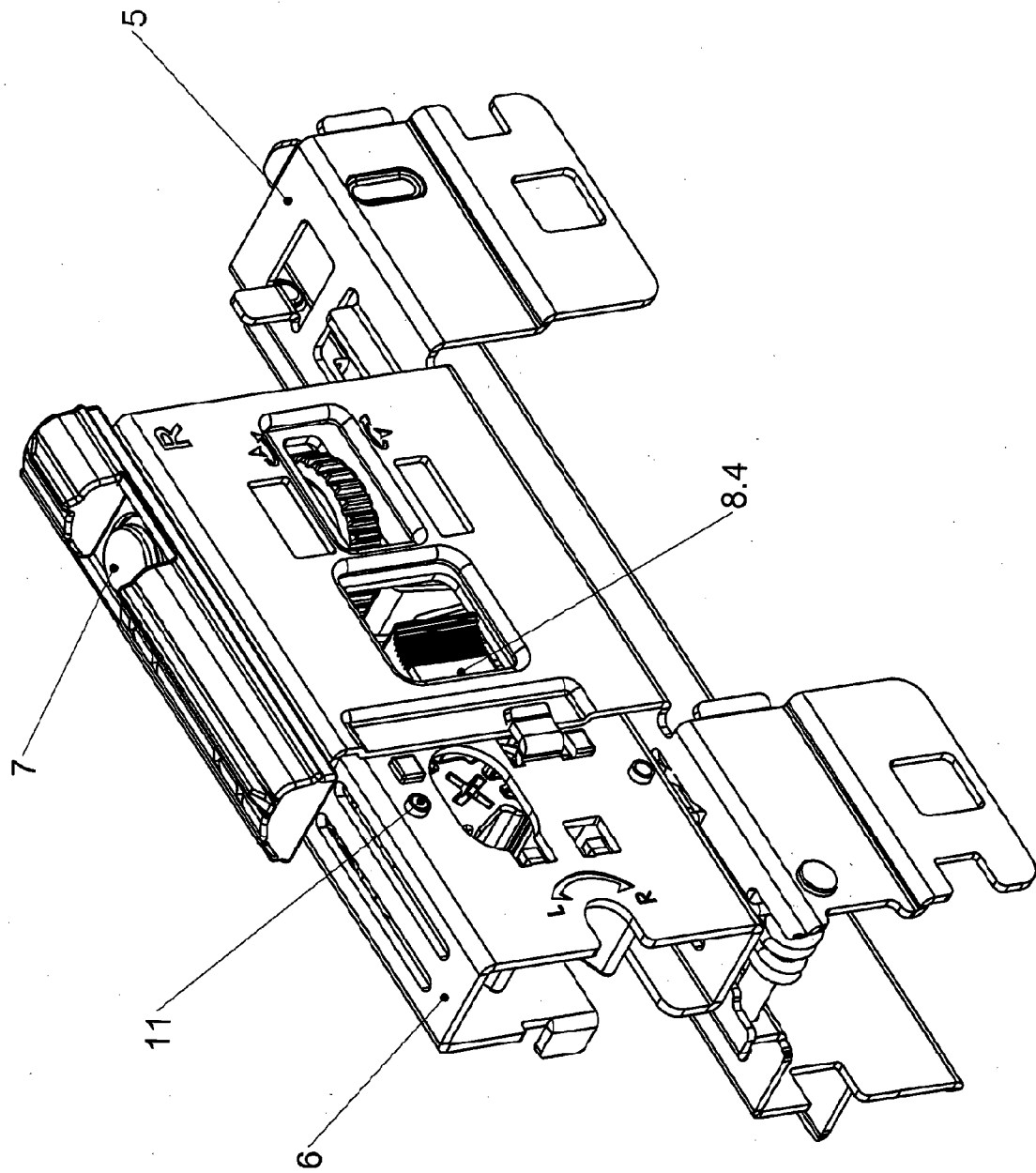


Figure - 2

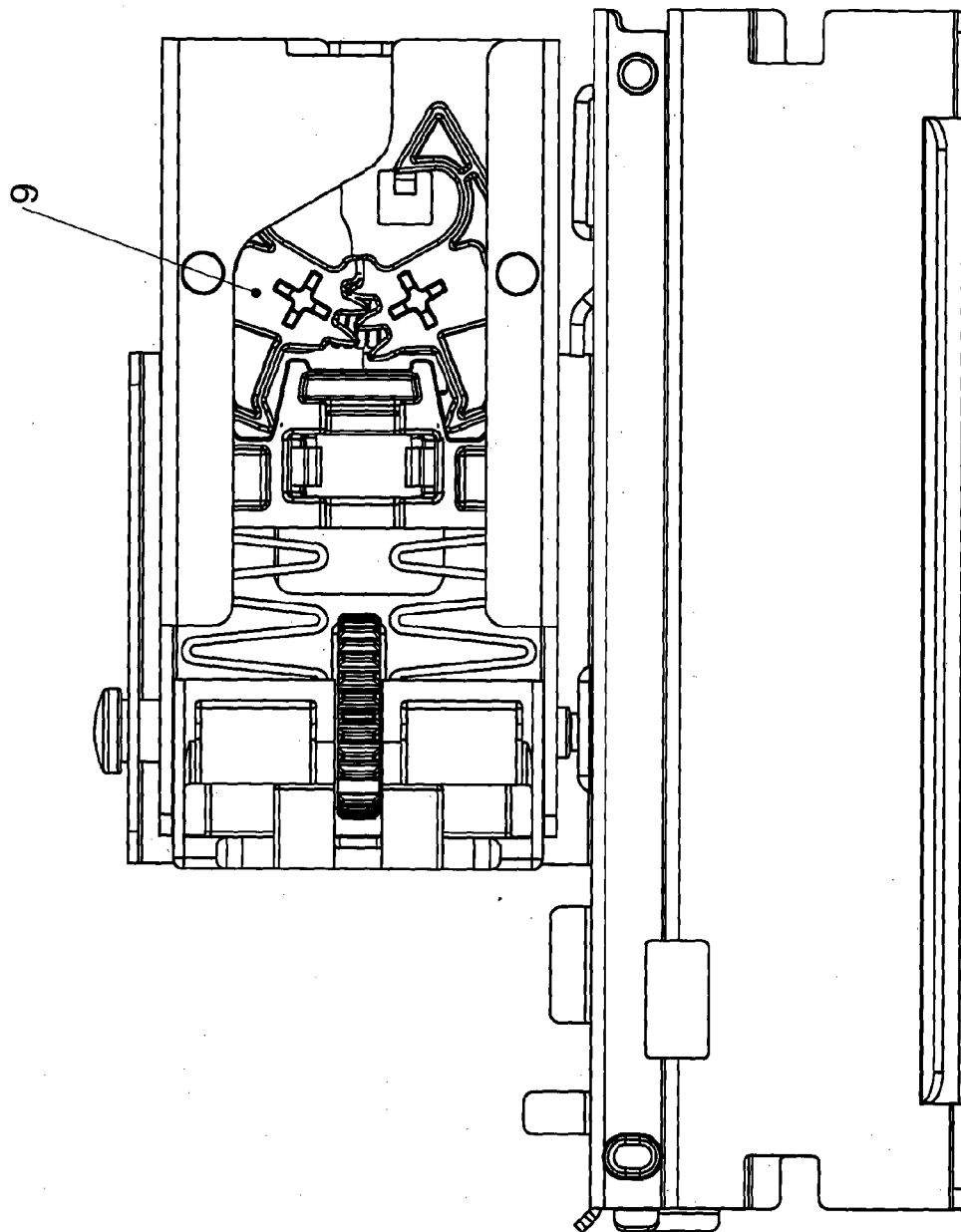


Figure - 3

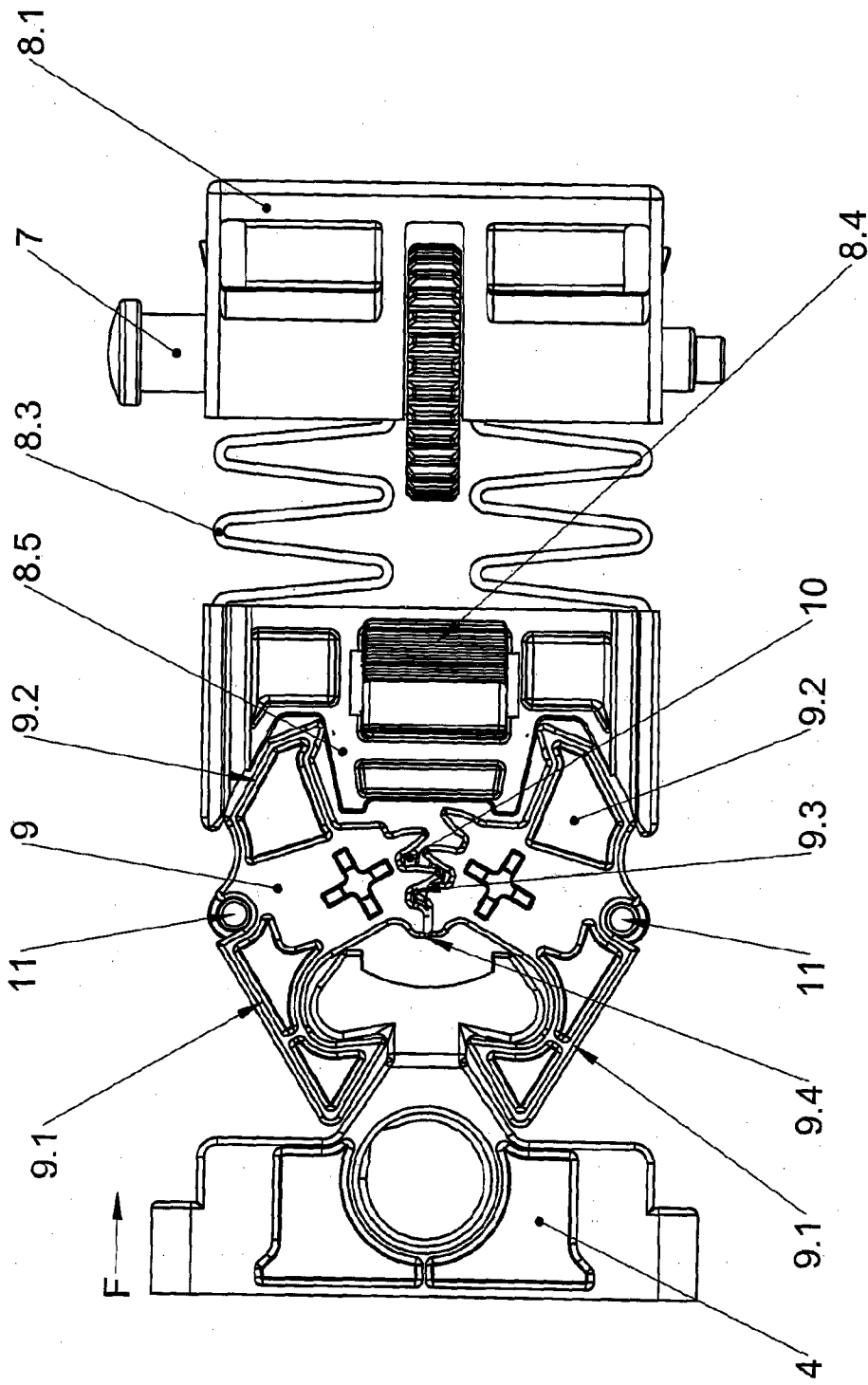


Figure - 4

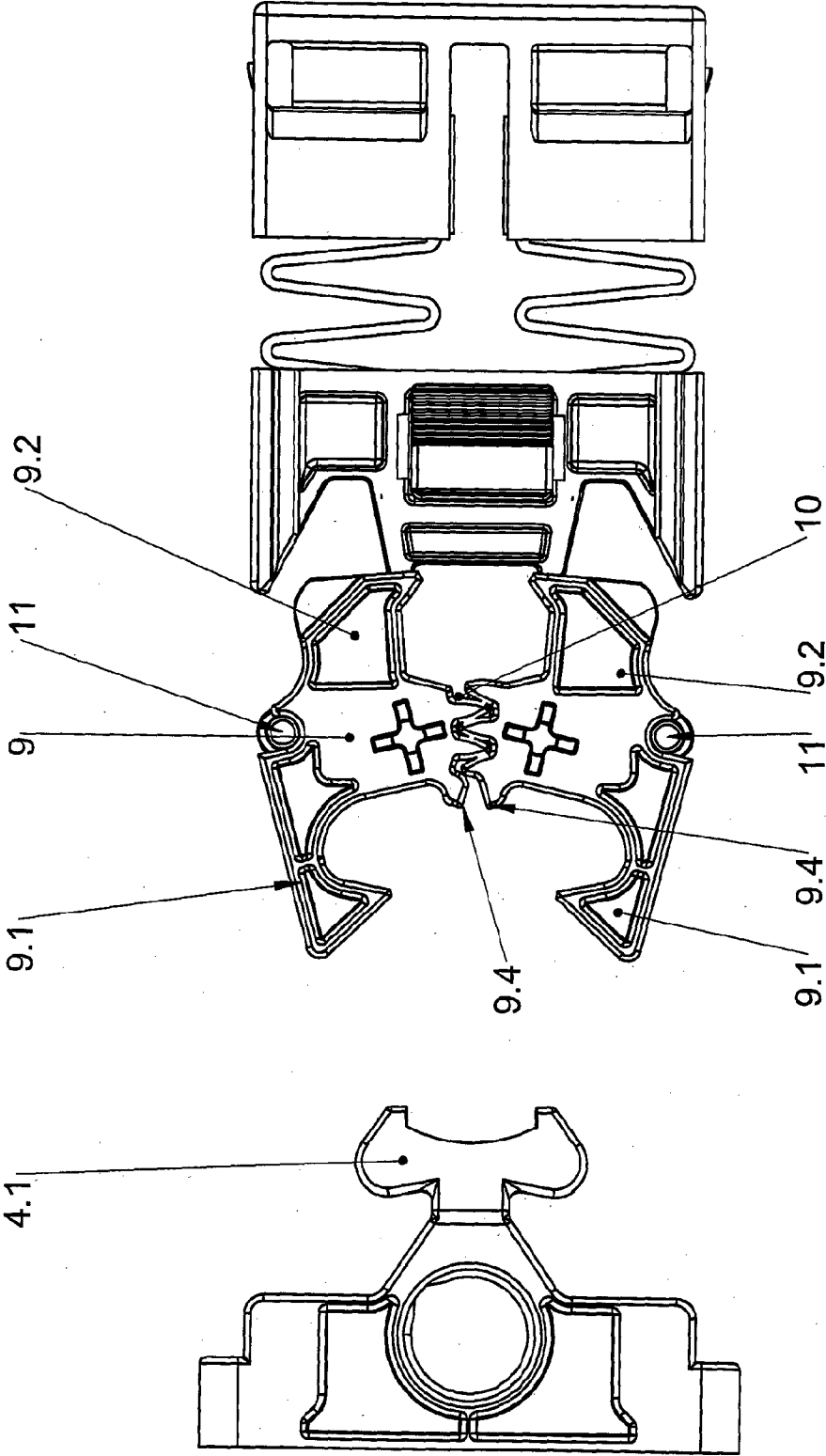


Figure - 5

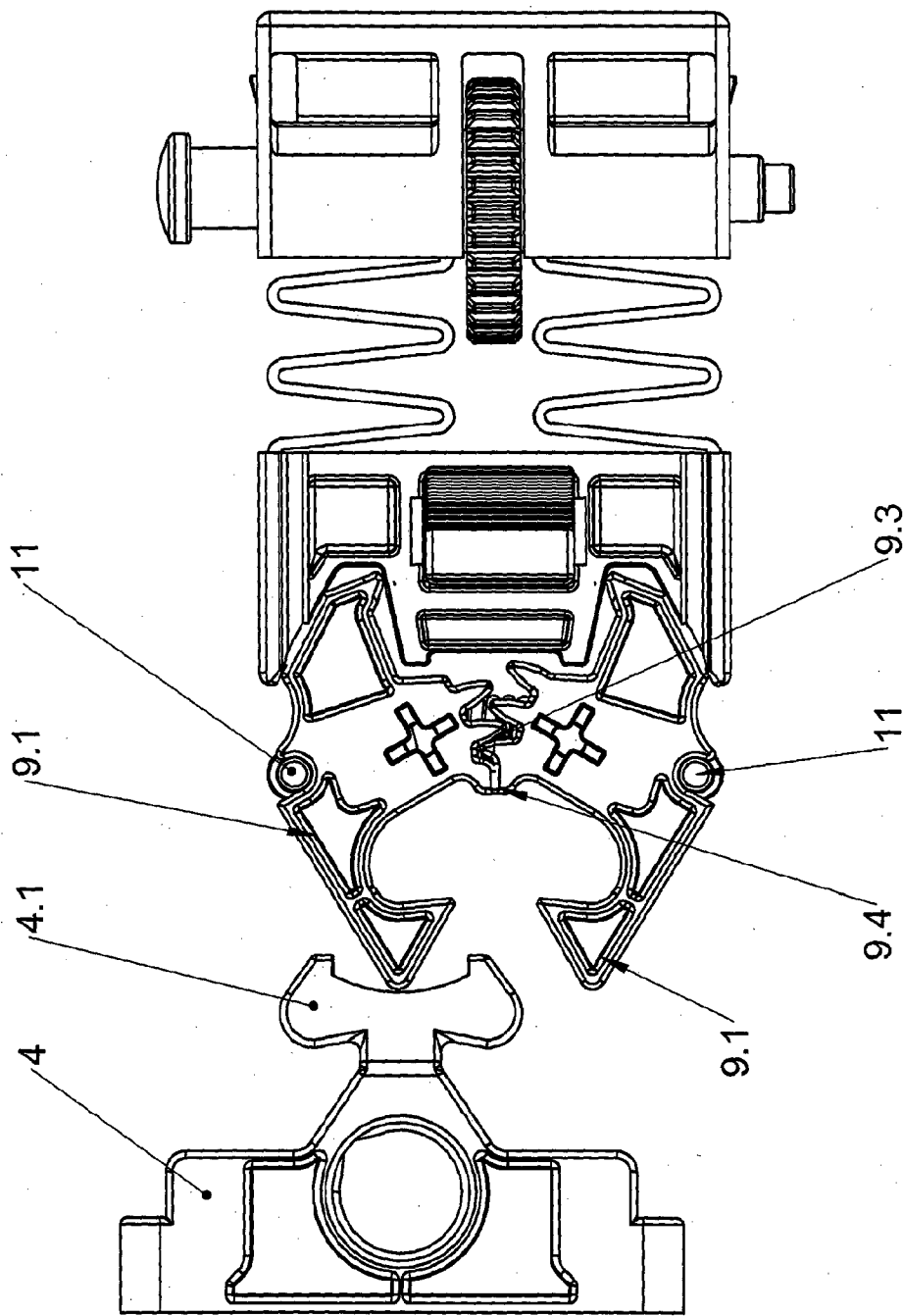


Figure - 6

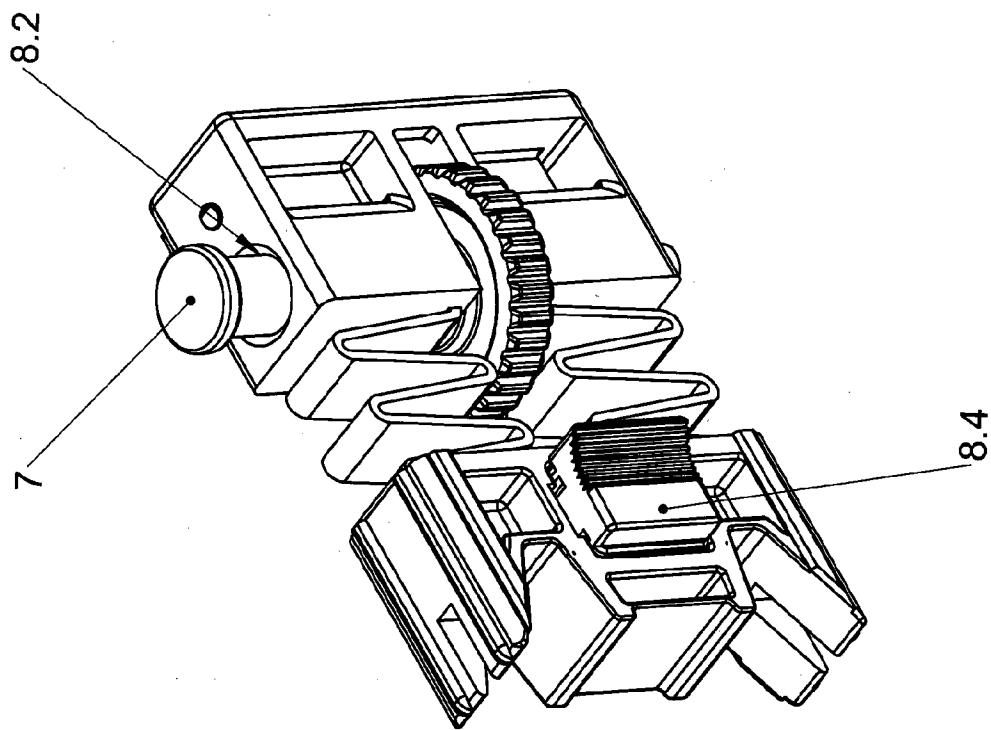


Figure - 7

INTERNATIONAL SEARCH REPORT

International application No

PCT/TR2012/000089

A. CLASSIFICATION OF SUBJECT MATTER

INV. A47B88/00

ADD.

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A47B

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2010/136228 A1 (HETTICH PAUL GMBH & CO KG [DE]; BABUCKE-RUNTE GUIDO [DE]; KAETHLER AND) 2 December 2010 (2010-12-02) page 7 - page 17, paragraph 2; figures 1-41	1-4
A	WO 96/28995 A1 (BLUM GMBH JULIUS [AT]; BRUESTLE KLAUS [AT]) 26 September 1996 (1996-09-26) abstract; figures 1-12	1-4
A	EP 0 160 733 A1 (DUEPREE HANS WERNER) 13 November 1985 (1985-11-13) abstract; figures 1-11	1-4
A	EP 0 865 745 A2 (BLUM GMBH JULIUS [AT]) 23 September 1998 (1998-09-23) abstract; figures 1-16	1-4



Further documents are listed in the continuation of Box C.



See patent family annex.

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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