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(54) **Side panel for a roller shutter housing with a removable guide element**

Seitenwange für einen Rollladenkasten mit einem abnehmbaren Führungselement

Joue pour un boîtier de volet roulant avec un élément de guidage démontable

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EP 3 040 503 B1

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to roller shutter housings, more particularly to side panels for roller shutter housings. The present invention further relates to methods for mounting a roller shutter housing comprising such side panels.

BACKGROUND

[0002] Roller shutters, roller blinds, roll down screens and the like are used for various purposes such as for closing or protecting devices for windows and doors and for obscuring or blocking light. The devices typically comprise a flexible screen or hinged lamellae which can be wound on and unwound from a winding shaft provided in a roller shutter housing. The roller shutter housing is often positioned above a door or window and further provided with guide rails for guiding the roller shutter or screen. The housing may be integrated with the upper frame of the door or window or attached to the wall structure. The latter housings are often attached to the wall via a fixed guide pin which allows for connecting the roller shutter housing to the guide rails. Such systems are well known in the art but can give rise to problems during installation or uninstallation of the roller shutter housing.

[0003] More particularly, the installation of the housing requires movement of the housing along the longitudinal axis of the rails such that a certain amount of free space must be available above the housing. The connection to the guide rails can be particularly problematic for pre-installed roller shutters, wherein the housing is already provided with the screen, and optional elements such as a motor and cabling.

[0004] Therefore, some manufacturers provide systems wherein the housing is pre-connected to the guide rails. With such systems, the housing and guide rails are mounted to the wall simultaneously, such that no free space is required above the housing. However, such systems are particularly difficult to remove, e.g. for maintenance. WO2012/080386 describes a system whereby the housing is removable from the rails but the guide rails are mounted on the wall, such that there is only one way to uninstall the housing. Accordingly, there is a need for roller shutter systems which mitigate at least one of the above problems.

SUMMARY OF THE INVENTION

[0005] The present invention relates to a roller shutter housing, more particularly to side panels for a roller shutter housing. The side panels are provided with a guide element which, when the side panels are provided on the sides of a roller shutter housing, allows for the housing to be connected to (and disconnected from) guide rails.

[0006] More particularly, the present invention pro-

vides a side panel for a roller shutter housing, comprising a removable guide element having interconnected upper and lower legs forming a T-shape; the base plate is provided with one or more edges comprising at least a bottom edge, which is the edge for connecting the housing to the guide rails of the roller shutter. The base plate is further provided with a slot for accommodating the upper leg of the guide element, and wherein the slot is provided such that when the upper leg is positioned in the slot:

- the lower leg of the guide element projects outwardly from said bottom edge
- the slot allows for insertion and removal of the guide element from the base plate by sliding said upper leg in and out of the slot;

wherein, when said upper leg (13) of said guide element (12) is positioned in said slot: a distal end of said lower leg (15) projects outwardly from the bottom edge of the base plate; and a proximal end of said lower leg (16) is positioned in a further slot or sleeve (8) provided therefore on said base plate (6)..

[0007] More particularly, the base plate is characterized by having opposing (internal and external) sides and at least one of the sides is provided with a slot for accommodating the upper leg of the guiding element.

[0008] In particular embodiments, the base plate is further provided with a locking element which is movable between an unlocking position; and a locking position wherein it engages a locking feature provided on the guide element, thereby locking the position of said upper leg in the slot.

[0009] In further embodiments, the locking feature is a notch, hole, or recess provided on said upper leg. In certain embodiments, the locking element is provided with a resilient member for pressing said locking element into said locking position. In particular embodiments, the locking element is provided such that it can move to the locking position through gravity, magnetism, or an electro-mechanical force. In certain embodiments, the upper leg has a rounded end.

[0010] In certain embodiments, the internal side of the base plate is provided with a support for a winding shaft. In particular embodiments, the side panel is further provided with a removable cover panel for covering one side of said base plate.

[0011] Further provided herein is a set of two side panels as described herein, for opposing ends of a roller shutter housing. Further provided herein is a kit comprising a roller shutter housing and a set of two side panels as described herein. In particular embodiments, the kit may further be provided with a set of guide rails for guiding a roller shutter or screen.

[0012] Further provided herein are methods for installing a roller shutter housing provided with a set of two side panels as described herein.

In particular embodiments, the method comprises:

- (a) providing two guide rails, and connecting a guide element of said side panels to each of said guide rails via said lower legs of said guide elements, wherein said guide elements are not connected to said base plates; followed by
- (b) connecting a roller shutter housing provided with said base plates to the guide rails, via said upper legs of said guide elements.

In certain embodiments, the method comprises:

- (A) providing a roller shutter housing with said base plates, wherein said guide elements are connected to said base plates via said upper legs; and wherein the guide elements are not connected to a guide rail; followed by
- (B) connecting the roller shutter housing to a pair of guide rails, via the lower legs of said guide elements.

[0013] Roller shutter housings provided with the side panels described herein can be connected to guide rails which are mounted on a wall, via the guide elements of the side panels. The connection can be done via a movement of the housing in one of two different directions relative to the guide rails, at the choice of the user or technician. Similarly, the disconnection of the housing from the guide rails also can be done via a movement of the housing in one of these two directions, independently of the direction that was chosen during the installation. Moreover, in particular embodiments, the connection or disconnection may be performed without any tools. These aspects significantly facilitate the installation of the housing and subsequent removal thereof for maintenance and the like.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] The following description of the figures of specific embodiments of the invention is merely exemplary in nature and is not intended to limit the present teachings, their application or uses. Throughout the drawings, corresponding reference numerals indicate like or corresponding parts and features.

- Fig. 1** Schematic illustration of an exemplary configuration of a roller shutter system comprising a roller shutter housing (1) positioned above a window (2), and a pair of guide rails (3) positioned at opposing sides of the window for guiding a screen (4).
- Fig. 2** Base plate (6) according to a particular embodiment of the side panel described herein.
- Fig. 3** Guide element (12) according to a particular embodiment of the side panel described herein.
- Fig. 4** Locking element (17) according to a particular embodiment of the side panel described herein.
- Fig. 5** Cover panel (19) according to a particular embodiment of the side panel described herein.

Fig. 6 Detail of a roller shutter housing (1) provided with a particular embodiment of the side panel (5) described herein.

Fig. 7 A, B: Illustration of two possible ways of installing a roller shutter housing (1) provided with a particular embodiment of the side panel (5) described herein.

[0015] In the figures, the following numbering is used:

- 1 - Roller shutter housing; 2 - window; 3 - guide rail; 4 - screen; 5 - side panel; 6 - base plate; 7, 8, 9 - slot; 10, 11 - coupling feature; 12 - guide element; 13 - upper leg; 14 - lower leg; 15 - proximal end of lower leg; 16 - distal end of lower leg; 17 - locking element; 18 - engagement feature; 19 - cover panel; 20 - coupling feature; 21 - locking feature; 22 - resilient member.

DETAILED DESCRIPTION

[0016] The present invention will be described with respect to particular embodiments but the invention is not limited thereto but only by the claims. Any reference signs in the claims shall not be construed as limiting the scope thereof.

As used herein, the singular forms "a", "an", and "the" include both singular and plural referents unless the context clearly dictates otherwise.

The terms "comprising", "comprises" and "comprised of" as used herein are synonymous with "including", "includes" or "containing", "contains", and are inclusive or open-ended and do not exclude additional, non-recited members, elements or method steps. The terms "comprising", "comprises" and "comprised of" when referring to recited components, elements or method steps also include embodiments which "consist of" said recited components, elements or method steps.

Furthermore, the terms "first", "second", "third" and the "like" in the description and in the claims, are used for distinguishing between similar elements and not necessarily for describing a sequential or chronological order, unless specified. It is to be understood that the terms so used are interchangeable under appropriate circumstances and that the embodiments of the invention described herein are capable of operation in other sequences than described or illustrated herein.

Reference throughout this specification to "one embodiment" or "an embodiment" means that a particular feature, structure or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Thus, appearances of the phrases "in one embodiment" or "in an embodiment" in various places throughout this specification are not necessarily all referring to the same embodiment. Furthermore, the particular features, structures or characteristics may be combined in any suitable manner, as would be apparent to a person skilled in the art from this dis-

closure, in one or more embodiments. Furthermore, while some embodiments described herein include some but not other features included in other embodiments, combinations of features of different embodiments are meant to be within the scope of the invention, and form different embodiments, as would be understood by those in the art. For example, in the appended claims, any of the features of the claimed embodiments can be used in any combination.

The values as used herein when referring to a measurable value such as a parameter, an amount, a temporal duration, and the like, is meant to encompass variations of $\pm 10\%$ or less, preferably $\pm 5\%$ or less, more preferably $\pm 1\%$ or less, and still more preferably $\pm 0.1\%$ or less of and from the specified value, insofar such variations are appropriate to perform in the disclosed invention. It is to be understood that each value as used herein is itself also specifically, and preferably, disclosed.

The recitation of numerical ranges by endpoints includes all numbers and fractions subsumed within the respective ranges, as well as the recited endpoints.

All documents cited in the present specification are hereby incorporated by reference in their entirety.

Unless otherwise defined, all terms used in disclosing the invention, including technical and scientific terms, have the meaning as commonly understood by one of ordinary skill in the art to which this invention belongs. By means of further guidance, definitions for the terms used in the description are included to better appreciate the teaching of the present invention. The terms or definitions used herein are provided solely to aid in the understanding of the invention.

[0017] Provided herein are side panels for a roller shutter housing. The term "roller shutter housing" as used herein is not strictly limited to housings for roller shutters, but also includes housings for any shutter or screen which is wound around a shaft. The shutter or screen may be provided as a sheet of a flexible material such as a fabric, or be made of interconnected lamellae as known in the art. More particularly, the side panels described herein may be used for housings for devices such as but not limited to roll-down shutters, roller blinds, roller doors, roller curtains, sun blinds, awnings, sun screens, and projection screens. Accordingly, the term "roller shutter housing" is also referred to herein as "housing" and generally refers to a housing which can accommodate a winding shaft around which a roller shutter or the like is to be wound. The side panels described herein are typically provided at opposite ends of the roller shutter housing, such that they are provided near opposite ends of the winding shaft.

The side panels provided herein allow for connecting a roller shutter housing to a guide rail for guiding a roller shutter or screen. Guide rails are typically provided at opposed sides of the surface which is to be covered by the roller shutter or screen, for holding the roller shutter screen in place. Such rails are well known in the art.

[0018] The side panels described herein comprise a

base plate and a removable guide element. The guide element has two interconnected legs, more particularly an upper leg for connecting to the base plate and a lower leg for connecting to a guide rail. These characteristics will be explained in more detail below.

[0019] The side panels described herein are provided with a base plate and a removable guide element for providing a connection between the base plate and a guide rail.

More particularly, the guide element has an upper leg and a lower leg which are interconnected, thereby forming a T-shape. Preferably, the guide element will be provided as a rigid, single piece. The interconnected upper leg and lower leg of the guide element are also referred to herein as "legs". The terms "upper leg" and "lower leg" refer to the relative position of these legs when used in a roller shutter configuration as shown in **Fig. 1**, i.e. on a vertical wall, with the housing above the guide rails. However, the skilled person will understand that the guide rails and housing connected thereto may have other orientations, wherein the lower leg is not situated above the upper leg. The legs typically each have a longitudinal shape, i.e. have a length/width ratio of at least 1.5, preferably at least 2, for example between 2 to 10.

This allows for a stable connection of the guide element to the base plate and a guide rail. The legs preferably essentially have a straight shape, although it is not excluded that in particular embodiments the legs may be somewhat curved.

Preferably, the (longitudinal axis of the) upper leg and the (longitudinal axis of the) lower leg form an angle between 80 and 100 degrees, more preferably between 85 and 95 degrees, even more preferably about 90 degrees. This allows for an optimal flexibility when connecting a housing provided with side panels as described herein to a pair of guide rails.

The legs each have a proximal and distal end. The ends of the legs which are (first) inserted in the corresponding slots or sleeves in the base plate and guide rail are referred to herein as "proximal end". In a T-shaped configuration. The distal end of the upper leg is typically connected to the lower leg between the proximal and distal ends of the lower leg, preferably closer to the distal end than to the proximal end.

Preferred dimensions of the legs depend on the characteristics of the roller shutter housing for which the side panel is provided, in particular the dimensions and total weight (including the winding shaft, screen, optional motor, etc.). In particular embodiments, the length of the upper leg (distance between the proximal end of the upper leg and its intersection and the point where it meets the lower leg) is at least 2 cm, preferably at least 4 cm, even more preferably 5 cm. In particular embodiments, the distance between the proximal end of the lower leg the point where the lower leg meets the upper leg is at least 2 cm, preferably at least 4 cm, even more preferably 5 cm.

The guide element is made of a rigid material as to pro-

vide a connection between the base plate and the guide rail which is sufficiently strong to support a roller shutter housing, screen, motor, etc. Preferably, the guide element is made of a metal or alloy such as (stainless) steel or aluminium. However, also other materials may be used, such as polyvinylchloride (PVC).

[0020] In addition to the guide element, the side panel described herein further comprises a base plate, for positioning on a side wall of a roller shutter housing, or for forming the side wall of a roller shutter housing. Accordingly, the base plate is dimensioned such that it fits at least one of the ends of a roller shutter housing. The base plate typically has a planar shape.

The base plate has opposing sides, more particularly one internal side for facing towards the housing and one external side for facing away from the housing. The sides of the base plate are delimited by edges comprising a bottom edge. The bottom edge is the lower edge of the base plate when provided on a housing in a typical configuration as shown in **Fig. 1**, i.e. on a vertical wall positioned above a pair of vertical guide rails on a vertical surface. However, the skilled person will understand that the housing and rails may be provided in other configurations such as on horizontal surfaces, wherein the bottom edge is no longer the lowest edge. The skilled person will further understand that the base plate may have rounded edges which blend into each other. In such case, the edges of the bottom half of the base plate may be considered comprising the bottom edge. The bottom edge can also be considered as the edge a bottom edge for mating with the guide rail, as it corresponds to the side of the base-plate which will connect with the guide rail upon assembly of the roller shutter housing on the guide rail.

In the side panels described herein, one of the sides of the base plate is provided with a slot or sleeve for accommodating the upper leg of the guide element. Typically only one of the sides is provided with such slot or sleeve. However, it is not excluded that in certain embodiments the internal and external sides each are provided with a slot or sleeve, adapted to the same or different guide elements. This may allow for using the same side panels with different types of guide rails, or for connecting the side panel via two guide elements for additional strength.

[0021] The slot or sleeve will typically be provided on the base plate as a recess and/or upstanding ridges, wherein said recess or ridges follow the contours of the upper leg as to hold the upper leg in place. In preferred embodiments, the recess or ridges will form an undercut which prevents the upper leg from moving out of the plane of the base plate. However, this may also be obtained in other ways, e.g. by using a cover plate (see further) which prevents the upper leg from moving out of the plane of the base plate. The slot or sleeve is provided such that when the upper leg is positioned in the slot or sleeve, the (proximal end of the) lower leg projects outwardly from the bottom edge of the base plate. This allows for con-

necting (a housing provided with) the side panel to a guide rail via the lower leg. The skilled person will understand that such connection may be a direct or indirect connection. Preferably, the connection is a direct connection, wherein the lower leg of the guide element is positioned in a slot or sleeve provided in the guide rail. However, it is envisaged that in certain embodiments, the connection may be an indirect connection. More particularly, when the lower leg of the guide element is not compatible with the guide rails, a separate adapter piece may be provided in order to allow for a connection of the side panel to the guide rail.

It is not necessary that the lower leg completely projects from the bottom edge. Preferably, at least 2 cm of the lower leg projects from the bottom edge, more preferably at least 3 cm, even more preferably at least 5 cm. The inventors found this to provide a sufficient stability for most applications.

The slot or sleeve is provided such that when the upper leg is positioned in the slot or sleeve, the slot or sleeve allows for insertion and removal said guide element from said base plate by sliding said upper leg in and out of said slot or sleeve, more particularly along the length of the upper leg, even more particularly along the longitudinal axis of the upper leg. More particularly said movement is a horizontal movement, i.e. transversal to the direction of the lower leg of the guide element or of the guide rails when mounted. This makes it possible to disconnect the housing from the guide rails, while the guide element remains positioned with the lower leg in the guide rail. Typically, the slot or sleeve in the base plate is provided such that no other movement of the upper leg is allowed.

The legs of the guide element form a T-shape and the base plate will typically be provided with a first slot or sleeve for the upper leg and a second slot or sleeve for the distal end of the lower leg, such that when the upper leg is positioned in the first slot or sleeve, the distal end of said lower leg projects from the bottom edge; and the proximal end of the lower leg is positioned in the second slot or sleeve. Of course, this second slot or sleeve should not prevent the upper leg from sliding in and out of the first slot or sleeve as described above. The use of a T-shaped guide element may allow for providing additional stability compared to the use of an L-shaped guide element.

In particular embodiments, the slot or sleeve is provided on the external side of the base plate. In this way, it is possible to visually check whether the guide element is correctly positioned in the base plate, which can facilitate the installation of the housing. However, it is envisaged that in certain embodiments, the slot or sleeve is provided on the internal side of the base plate; or on both sides of the base plate.

[0022] In certain embodiments, the base plate may be provided with one or more holes and/or recesses for the passage of a cable from inside the roller shutter housing to a guide rail on which the cable housing is (to be) po-

sitioned. Such cable may be for the power supply of an electromotor which is positioned inside the roller shutter housing for driving the winding shaft.

[0023] In particular embodiments, the side panel described herein is for positioning on a side wall of a roller shutter housing. The side panel is then typically provided as a separate part which is connected or connectable to a housing. In such embodiments, the base plate will typically be provided with coupling features which allow for coupling the side panel to the side wall of the housing. Such coupling features may include various elements such as screw holes (through holes from the external side to the internal side); or features provided on the internal side of the base plate which cooperate with coupling features provided on the side wall of the housing as to provide a snap fit system, interlocking features, or the like.

In certain embodiments, the side panel described herein can function itself as a side wall of a roller shutter housing. In such embodiments, the base plate may be an integral part of the housing, or be provided as a separate (removable) part. In embodiments wherein the side panel itself forms the side wall of a housing, the internal side of the base plate may be provided with a support for (the end of) a winding shaft. Suitable shaft supports which allow for a rotational movement of the shaft are well known in the art. The shaft support may be removable from the base plate or be provided as an integral part of the base plate.

[0024] In preferred embodiments, the side panel described herein is further provided with a locking element which, through actuation thereof, is movable between an unlocking position and a locking position.

In the unlocking position, the locking element does not prevent the upper leg to slide out of the side panel. In the locking position, the locking element engages a locking feature provided on the guide element, thereby locking the position of the upper leg in the slot or sleeve provided therefore in the base plate. Examples of suitable locking features include but are not limited to a notch, hole, or recess provided on the guide element. In preferred embodiments, the locking feature is provided on the upper leg of the guide element. Depending on the location of the locking feature, the slot or sleeve provided on the base plate may or may not be provided with an opening as to allow the locking element to engage the locking feature.

The locking element can have various shapes and designs, and may for example be provided as a lever, a slider, a clamp, etc. In preferred embodiments, the locking element is provided with a resilient member such as but not limited to a coil spring, a flat spring, a piece of resilient material such as rubber, and the like. The resilient member can ensure that when the locking element is not actuated, it automatically moves to the locking position. Additionally or alternatively, the locking feature can be designed such that when not actuated, it moves into the locking position through the force of gravity. Exam-

ples of such locking features include a lever wherein one side is heavier than the other, and a sliding element which moves down by gravity. Additionally or alternatively, the locking feature can be designed such that it moves into the locking position through magnetism, i.e. a (electro)magnetic force. Accordingly, in certain embodiments, the locking feature may be provided with a (electro)magnetic actuator for moving the locking feature into the locking position. Additionally or alternatively, the locking feature may move into the locking position through electromechanical force. For example, the locking feature may be operated through an electromechanical component such as a manually operated switch which controls an electronic actuator for moving the locking feature.

[0025] In particular embodiments, the (proximal) end of the upper leg is rounded, particularly when the locking feature is provided on the upper leg and when the locking element automatically moves to its locking position when not actuated. In this way, it may be ensured that the upper leg can slide into the slot or sleeve provided therefore without being blocked by the locking element, until the locking element engages the locking feature.

The locking element will typically be provided at least partially on the same side of the base plate as the guide element as to allow the locking element to engage the locking feature on the guide element. However, it is envisaged that means for actuating the locking feature may be provided on the side opposite to the side provided with the guiding feature. More particularly, if the guiding feature is provided on the internal side of the base plate, it is preferred that the locking element can be actuated from the external side of the base plate.

[0026] In preferred embodiments, the side panel described herein is further provided with a removable cover panel for covering the external side of the base plate. The cover panel can be used for protecting the guide element and optional locking element of the side panel. The cover panel may also help to keep the guide element in the slot or sleeve of the base plate, by pressing the guide element in the slot or sleeve.

The side panels described herein may allow for connecting a roller shutter housing provided with such panels to a pair of guide rails without using any tools, which greatly facilitates installation. However, it is envisaged that in certain embodiments, the side panels are designed such that a specialized tool such as a key is required for disconnecting the roller shutter housing, e.g. as an anti-tampering or anti-theft measure. In particular embodiments, the cover panel can be provided with a lock.

[0027] Roller shutter systems are typically provided with a roller shutter housing with guide rails at opposing ends of the housing. Accordingly, in order to connect the housing to both guide rails, both ends of the housing will typically be provided with a side panel as described herein. Accordingly, further provided herein is a set of two side panels as described herein, for opposing ends of a roller shutter housing, i.e. a left and right side panel. Each of the side panels comprises a guide element and cor-

responding base plate, and may optionally comprise a locking element and/or cover panel.

Further provided herein is a kit comprising a roller shutter housing and a set of two side panels as described above. The side panels may be provided as separate parts or may be an integral part of the housing. In particular embodiments, the kit may further be provided with a set of guide rails for guiding a roller shutter or screen. Preferably, at least one of the ends of each the guide rails is provided with a slot for accommodating the (proximal end of) a guide element of the side panels, thereby allowing for a direct connection between the guide rail and a side panel. Alternatively, the kit may further comprise an adapter element which allows for an indirect connection between the rails and the side panels via the guide elements thereof.

[0028] The side panels described herein allow for connecting a roller shutter housing to corresponding guide rails in two different ways, each requiring movement of the housing in a different direction relative to the guide rails. The direction of the movement depends on whether the guide element is first connected to the base plate and then to the guide rail, or vice versa. Accordingly, further provided herein are two alternative methods for mounting a roller shutter housing provided with side panels as described herein, more particularly using a kit as described above.

More particularly, provided herein is a method of installing a roller shutter housing provided with side panels as described herein, comprising:

(a) providing two guide rails, and connecting a guide element of to each of said guide rails via said lower legs of said guide elements, wherein said guide elements are not connected to said base plates; followed by

(b) connecting a roller shutter housing provided with the base plates to the guide rails, via said upper legs of said guide elements; more particularly by sliding the upper legs into the slots or sleeves provided therefore in the base plates.

Preferably, the guide rails are mounted on the surface to be provided with the roller shutter housing prior to step (a) or (b). The guide rails are typically mounted parallel to each other as known in the art. Step (a) may involve a direct connection or indirect connection (via an adapter) of the guide elements to the guide rails, as described above. Further provided herein is a method of installing a roller shutter housing provided with side panels as described herein, comprising:

(A) providing a roller shutter housing with the base plates, wherein the guide elements are connected to the base plates via their upper legs; and wherein the guide elements are not connected to guide rails; followed by

(B) connecting the roller shutter housing to a pair of

guide rails, via the lower legs of the guide elements.

Again, the guide rails are mounted on the surface to be provided with the roller shutter housing prior to step (A) or (B). The guide rails are typically mounted parallel to each other as known in the art. Step (B) may involve a direct connection or indirect connection (via an adapter) of the guide elements to the guide rails, as described above.

[0029] The following examples are provided for the purpose of illustrating the present invention and by no means are meant and in no way should be interpreted to limit the scope of the present invention.

EXAMPLES

[0030] Fig. 2 shows a base plate (6) according to a particular embodiment of the side panel (5) described herein, showing the external side. The base plate (6) is provided with slots (7, 8) for accommodating the corresponding guide element (12) as shown in Fig. 3. More particularly, the guide element (12) comprises an upper leg (13) and a lower leg (14) which are interconnected, thereby forming a T-shape. The upper leg (13) fits in a first slot (7) of the base plate and the distal end of the second leg (16) fits in a second slot (8) provided therefore. The slots (7, 8) are provided such that the guide element (12), when positioned in the slots (7, 8) can only move along the longitudinal direction of the first leg (13). Thus, the slots (7, 8) allow for connecting the guide element (12) to the base plate (6), and also allows for subsequent disconnection.

[0031] In order to prevent the guide element (12) from moving in the slots (7, 8), the base plate comprises a further slot (9) for accommodating a locking element (17) as shown in Fig. 4. The slot (9) allows for the locking element (17) to be moved between a locking position and an unlocking position. In the locking position, an engagement feature (18) of the locking element (17) engages a locking feature such as a notch (16) provided on the guide element, thereby blocking the position of the guide element (12). The locking element (17) is provided with a resilient member (22) such as a rubber ring for pressing the locking element into the locking position.

[0032] In order to protect the guide element (12) and locking element (17) on the base plate (6), a cover panel (19) may be provided, as shown in Fig. 5. The cover panel (19) may comprise coupling features (20) which interact with coupling features (11) on the base plate (6), thereby allowing for a connection between the cover panel (19) and the base plate (6). The base plate may further comprise coupling features such as screw holes (10) for connecting the base plate to the side of a roller shutter housing.

[0033] Fig. 6 shows a detail of a roller shutter housing (1) provided with a side panel (5) as described herein, connected to a guide rail (3) via the lower leg (not shown) of the guide element (12).

[0034] The connection as shown in Fig. 6 can be obtained in two alternative ways as shown in **Fig. 7A** and **Fig. 7B**. In Fig. 7A, the guide element (12) is first connected to the guide rail (3), followed by connection to the side panel (5). This involves a horizontal movement of the housing (1) with respect to the rail (3). In Fig. 7B, the guide element (12) is first connected to the side panel (5), followed by connection to the rail (3). This involves a vertical movement of the housing (1) with respect to the rail (3). This shows that the side panels described herein allow for a great flexibility when installing roller shutter housings. Uninstalment of the housing can also be done in a flexible way, by reversing the order of the steps shown in Fig. 7A or Fig. 7B, regardless of which alternative was chosen for the instalment

[0035] In certain embodiments, the base plate may be provided with a recess for allowing a cable to pass from the inside of the roller shutter housing to the guide rail onto which the housing is positioned via the guide elements.

Claims

1. A side panel (5) for a housing (1) of a roller shutter with guide rails (3) comprising:

- a removable guide element (12) having interconnected upper (13) and lower (15) legs forming a T-shape; and
- a base plate (6) bounded by one or more edges comprising at least a bottom edge for mating with the guide rail (3); said base plate (6) being provided with a slot (7) for accommodating said upper leg (13) of said guide element (12), wherein said slot (7) is provided such that, when the upper leg (13) is positioned in the slot (7):

- said lower leg (15) of said guide element (12) projects outwardly from said bottom edge of said base plate (6)
- said slot (7) allows for insertion and removal of said guide element (12) from said base plate (6) by sliding said upper leg (13) in and out of said slot (7);

wherein, when said upper leg (13) of said guide element (12) is positioned in said slot:

- a distal end of said lower leg (15) projects outwardly from the bottom edge of the base plate; and
- a proximal end of said lower leg (16) is positioned in a further slot or sleeve (8) provided therefore on said base plate (6).

2. The side panel (5) according to claim 1, wherein said base plate (6) is further provided with a locking ele-

ment which is movable between

- an unlocking position; and
- a locking position wherein it engages a locking feature provided on said guide element (12), thereby locking the position of said upper leg (13) in said slot.

3. The side panel (5) according to claim 2, wherein said locking feature is a notch, hole, or recess provided on said upper leg (13).

4. The side panel (5) according to claim 2 or 3, wherein said locking element is provided with a resilient member for pressing said locking element into said locking position.

5. The side panel (5) according to any one of claims 2 to 4, wherein said locking element is provided such that it can move to said locking position through gravity, magnetism, or an electromechanical force.

6. The side panel (5) according to any one of claims 2 to 5, wherein said upper leg (13) has a rounded end.

7. The side panel (5) according to any one of claims 1 to 6, wherein an internal side of said base plate (6) is provided with a support for a winding shaft.

8. The side panel (5) according to any one of claims 1 to 7, further provided with a removable cover panel for covering one side of said base plate (6).

9. A set of two side panels according to any one of claims 1 to 8, for opposing ends of a roller shutter housing (1).

10. A kit comprising a roller shutter housing and a set of two side panels according to claim 9.

11. The kit according to claim 10, further provided with a set of guide rails for guiding a roller shutter or screen.

12. A method of installing a roller shutter housing provided with a set of two side panels according to claim 9, comprising:

- (a) providing two guide rails, and connecting a guide element of said side panels to each of said guide rails via said lower legs of said guide elements, wherein said guide elements are not connected to said base plates; followed by
- (b) connecting a roller shutter housing provided with said base plates to the guide rails, via said upper legs of said guide elements.

13. A method of mounting a roller shutter housing pro-

vided with a set of two side panels according to claim 9, comprising:

- (A) providing a roller shutter housing with said base plates, wherein said guide elements are connected to said base plates via said upper legs; and wherein the guide elements are not connected to a guide rail; followed by
(B) connecting the roller shutter housing to a pair of guide rails, via the lower legs of said guide elements.

Patentansprüche

1. Seitenwange (5) für ein Gehäuse (1) eines Rollladens mit Führungsschienen (3), die Folgendes umfasst:

- ein entfernbares Führungselement (12) mit einem oberen (13) und einem unteren (15) Schenkel, die miteinander verbunden sind und eine T-Form bilden; und
- eine Basisplatte (6), die durch einen oder mehrere Ränder begrenzt wird, die mindestens einen unteren Rand zum Zusammenpassen mit der Führungsschiene (3) umfassen; wobei die Basisplatte (6) mit einem Schlitz (7) zur Aufnahme des oberen Schenkels (13) des Führungselements (12) versehen ist, wobei der Schlitz (7) derart vorgesehen ist, dass, wenn der obere Schenkel (13) in dem Schlitz (7) positioniert ist:

- der untere Schenkel (15) des Führungselements (12) von dem unteren Rand der Basisplatte (6) nach außen vorragt,
- der Schlitz (7) das Einführen und Entfernen des Führungselements (12) in die bzw. aus der Basisplatte (6) durch Schieben des oberen Schenkels (13) in den und aus dem Schlitz (7) gestattet;

wobei, wenn der obere Schenkel (13) des Führungselements (12) in dem Schlitz positioniert ist:

- ein distales Ende des unteren Schenkels (15) von dem unteren Rand der Basisplatte nach außen vorragt; und
- ein proximales Ende des unteren Schenkels (16) in einem weiteren Schlitz oder einer Hülse (8), der bzw. die dazu an der Basisplatte (6) vorgesehen ist, positioniert ist.

2. Seitenwange (5) nach Anspruch 1, wobei die Basisplatte (6) ferner mit einem Verriegelungselement versehen ist, das zwischen

- einer Entriegelungsstellung; und

- einer Verriegelungsstellung, in der es mit einem an dem Führungselement (12) vorgesehenen Verriegelungsmerkmal in Eingriff steht, wodurch die Position des oberen Schenkels (13) in dem Schlitz verriegelt wird,

bewegbar ist.

3. Seitenwange (5) nach Anspruch 2, wobei das Verriegelungsmerkmal eine Kerbe, ein Loch oder eine Vertiefung, die bzw. das auf dem oberen Schenkel (13) vorgesehen ist, ist.

4. Seitenwange (5) nach Anspruch 2 oder 3, wobei das Verriegelungselement mit einem elastischen Glied zum Drücken des Verriegelungselements in die Verriegelungsstellung versehen ist.

5. Seitenwange (5) nach einem der Ansprüche 2-4, wobei das Verriegelungselement derart vorgesehen ist, dass es sich durch Schwerkraft, Magnetismus oder eine elektromechanische Kraft in die Verriegelungsstellung bewegen kann.

6. Seitenwange (5) nach einem der Ansprüche 2-5, wobei der obere Schenkel (13) ein abgerundetes Ende aufweist.

7. Seitenwange (5) nach einem der Ansprüche 1-6, wobei eine Innenseite der Basisplatte (6) mit einer Stütze für einen Wickelschaft versehen ist.

8. Seitenwange (5) nach einem der Ansprüche 1-7, die ferner mit einer entfernbaren Abdeckwange zum Abdecken einer Seite der Basisplatte (6) versehen ist.

9. Satz aus zwei Seitenwangen nach einem der Ansprüche 1-8 für gegenüberliegende Enden eines Rollladenkastens (1).

10. Kit, der einen Rollladenkasten und einen Satz aus zwei Seitenwangen nach Anspruch 9 umfasst.

11. Kit nach Anspruch 10, der ferner mit einem Satz Führungsschienen zum Führen eines Rollladens oder einer Blende versehen ist.

12. Verfahren zum Installieren eines Rollladenkastens, der mit einem Satz aus zwei Seitenwangen nach Anspruch 9 versehen ist, das Folgendes umfasst:

- (a) Bereitstellen von zwei Führungsschienen und Verbinden eines Führungselements der Seitenwangen mit jeder der Führungsschienen über die unteren Schenkel der Führungselemente, wobei die Führungselemente nicht mit den Basisplatten verbunden sind; gefolgt von
- (b) Verbinden eines Rollladenkastens, der mit

den Basisplatten versehen ist, mit den Führungsschienen über die oberen Schenkel der Führungselemente.

13. Verfahren zum Befestigen eines Rollladenkastens, der mit einem Satz aus zwei Seitenwangen nach Anspruch 9 versehen ist, das Folgendes umfasst:

(A) Bereitstellen eines Rollladenkastens mit den Basisplatten, wobei die Führungselemente über die oberen Schenkel mit den Basisplatten verbunden sind; und wobei die Führungselemente nicht mit einer Führungsschiene verbunden sind; gefolgt von

(B) Verbinden des Rollladenkastens mit einem Paar Führungsschienen über die unteren Schenkel der Führungselemente.

Revendications

1. Panneau latéral (5) pour un boîtier (1) d'un volet roulant comprenant des rails de guidage (3), comprenant:

- un élément de guidage amovible (12) présentant des branches supérieure (13) et inférieure (15) interconnectées qui forment une forme ou de T; et

- une plaque de base (6) délimitée par un ou plusieurs bord(s) comprenant au moins un bord inférieur pour se coupler au rail de guidage (3); ledit panneau de base (6) comportant une fente (7) destinée à recevoir ladite branche supérieure (13) dudit élément de guidage (12), dans lequel ladite fente (7) est prévue de telle sorte que, lorsque la branche supérieure (13) est positionnée dans la fente (7):

- ladite branche inférieure (15) dudit élément de guidage (12) fasse saillie vers l'extérieur à partir dudit bord inférieur de ladite plaque de base (6);
- ladite fente (7) permette l'insertion et le retrait dudit élément de guidage (12) dans et à partir de ladite plaque de base (6) en faisant glisser ladite branche supérieure (13) dans et hors de ladite fente (7);

dans lequel, lorsque ladite branche supérieure (13) dudit élément de guidage (12) est positionnée dans ladite fente:

- une extrémité distale de ladite branche inférieure (15) fait saillie vers l'extérieur à partir du bord inférieur de la plaque de base; et
- une extrémité proximale de ladite branche inférieure (16) est positionnée dans une fente ou un manchon supplémentaire (8) prévu(e) à cet effet sur ladite plaque de base (6).

2. Panneau latéral (5) selon la revendication 1, dans lequel ladite plaque de base (6) est en outre pourvue d'un élément de verrouillage qui est déplaçable entre:

- une position de déverrouillage; et
- une position de verrouillage dans laquelle il engage une caractéristique de verrouillage prévue sur ledit élément de guidage (12), verrouillant de ce fait la position de ladite branche supérieure (13) dans ladite fente.

3. Panneau latéral (5) selon la revendication 2, dans lequel ladite caractéristique de verrouillage est une encoche, un trou ou un évidement prévu(e) sur ladite branche supérieure (13).

4. Panneau latéral (5) selon la revendication 2 ou 3, dans lequel ledit élément de verrouillage est pourvu d'un élément élastique pour presser ledit élément de verrouillage dans ladite position de verrouillage.

5. Panneau latéral (5) selon l'une quelconque des revendications 2 à 4, dans lequel ledit élément de verrouillage est prévu de telle sorte qu'il puisse se déplacer vers ladite position de verrouillage par gravité, par magnétisme ou par une force électromécanique.

6. Panneau latéral (5) selon l'une quelconque des revendications 2 à 5, dans lequel ladite branche supérieure (13) présente une extrémité arrondie.

7. Panneau latéral (5) selon l'une quelconque des revendications 1 à 6, dans lequel un côté interne de ladite plaque de base (6) est pourvu d'un support pour un arbre d'enroulement.

8. Panneau latéral (5) selon l'une quelconque des revendications 1 à 7, comprenant en outre un panneau de recouvrement amovible pour couvrir un côté de ladite plaque de base (6).

9. Ensemble de deux panneaux latéraux selon l'une quelconque des revendications 1 à 8, pour des extrémités opposées d'un boîtier de volet roulant (1).

10. Kit comprenant un boîtier de volet roulant et un ensemble de deux panneaux latéraux selon la revendication 9.

11. Kit selon la revendication 10, comprenant en outre un ensemble de rails de guidage pour guider un volet roulant ou un écran.

12. Procédé d'installation d'un boîtier de volet roulant pourvu d'un ensemble de deux panneaux latéraux selon la revendication 9, comprenant les étapes suivantes:

(a) prévoir deux rails de guidage, et connecter un élément de guidage desdits panneaux latéraux à chacun desdits rails de guidage par l'intermédiaire de ladite branche inférieure desdits éléments de guidage dans lequel lesdits éléments de guidage ne sont pas connectés auxdites plaques de base; suivie par 5

(b) connecter un boîtier de volet roulant pourvu desdites plaques de base aux rails de guidage, par l'intermédiaire desdites branches supérieures desdits éléments de guidage. 10

13. Procédé de montage d'un boîtier de volet roulant comprenant un ensemble de deux panneaux latéraux selon la revendication 9, comprenant les étapes suivantes: 15

(A) équiper un boîtier de volet roulant avec lesdites plaques de base, dans lequel lesdits éléments de guidage sont connectés auxdites plaques de base par l'intermédiaire desdites branches supérieures; et dans lequel les éléments de guidage ne sont pas connectés à un rail de guidage; suivie par 20

(B) connecter le boîtier de volet roulant à une paire de rails de guidage, par l'intermédiaire des branches inférieures desdits éléments de guidage. 25

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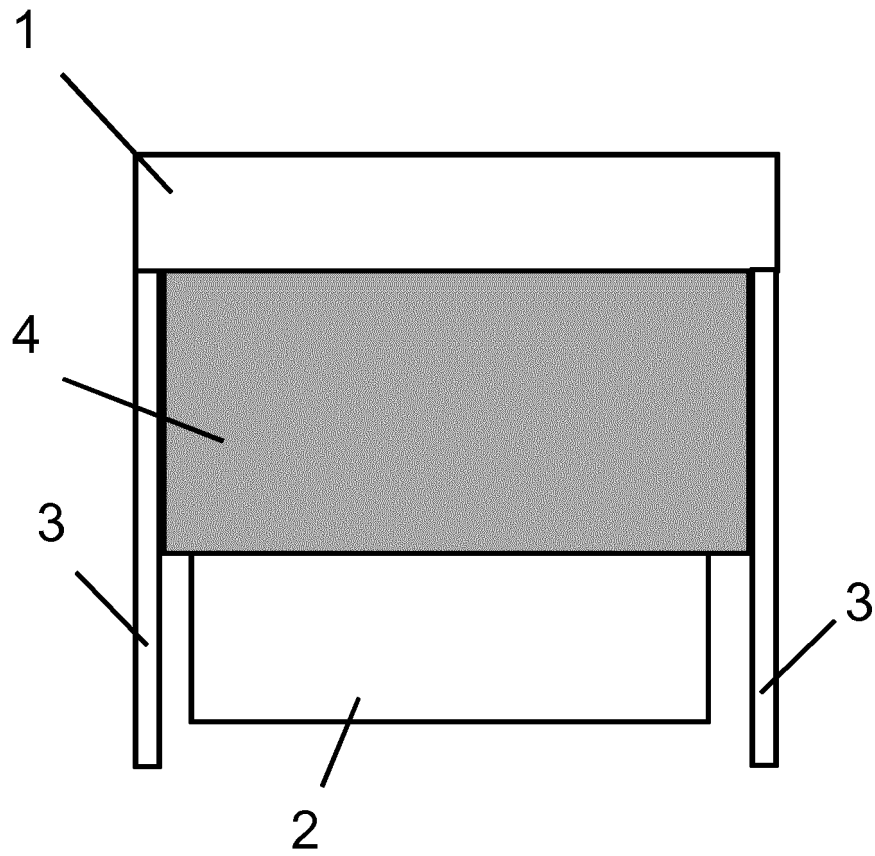


Fig. 1

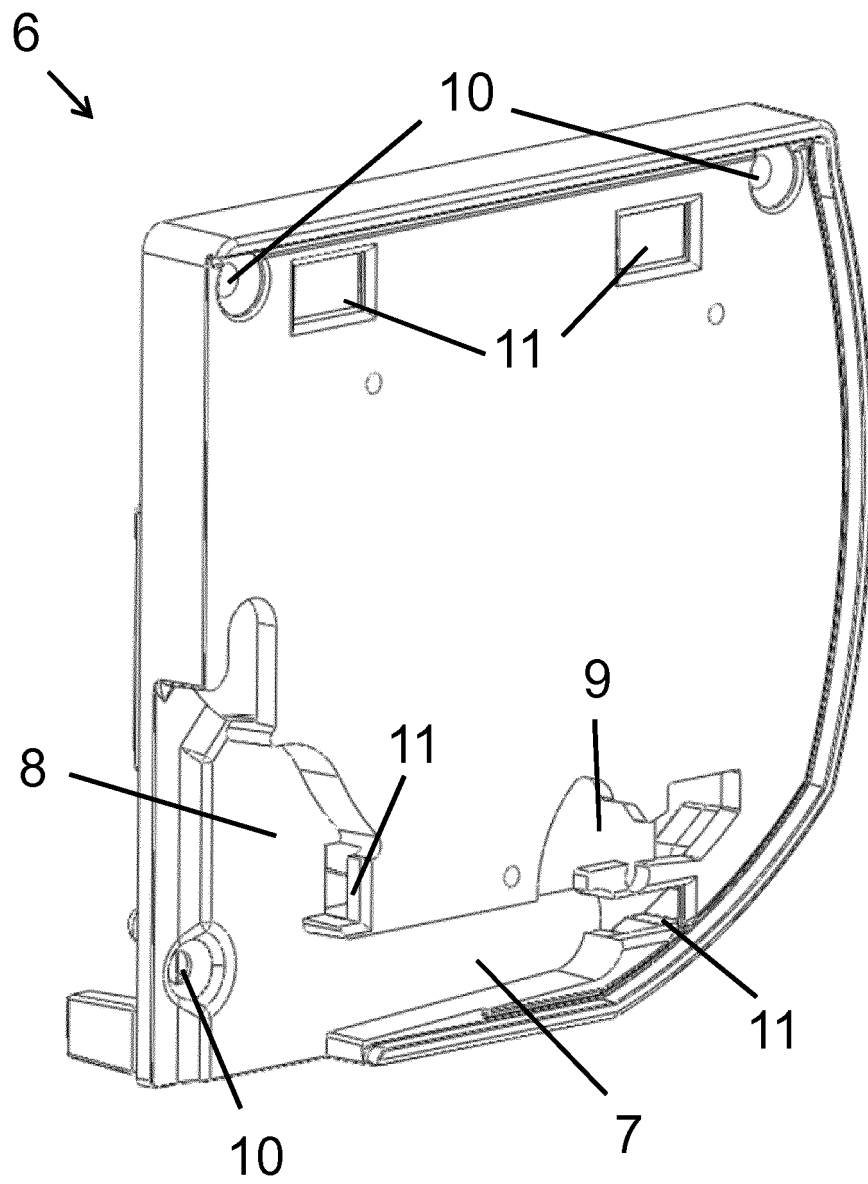


Fig. 2

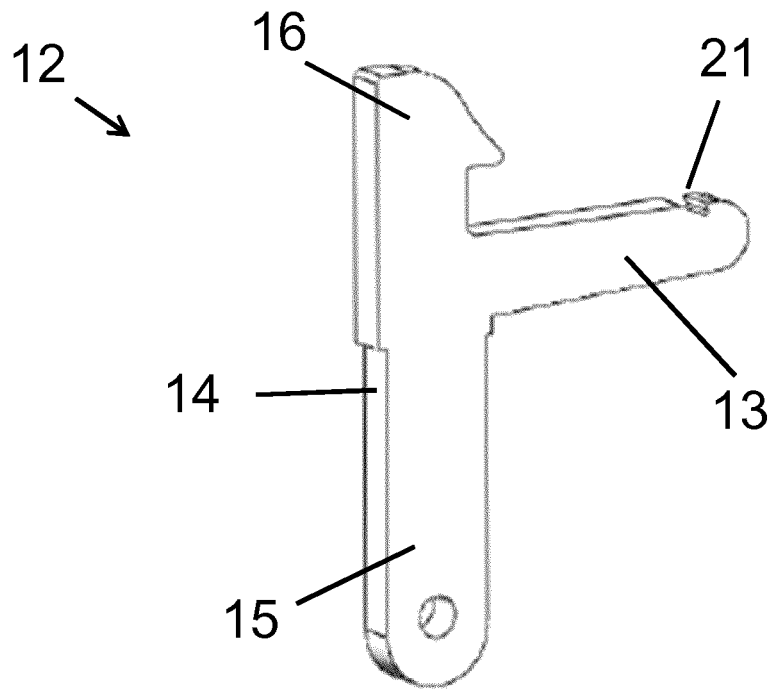


Fig. 3

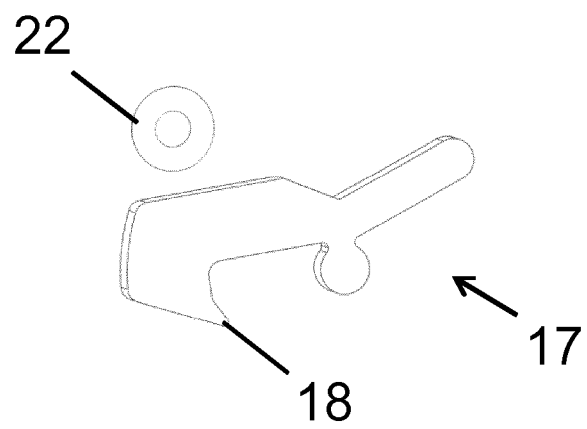


Fig. 4

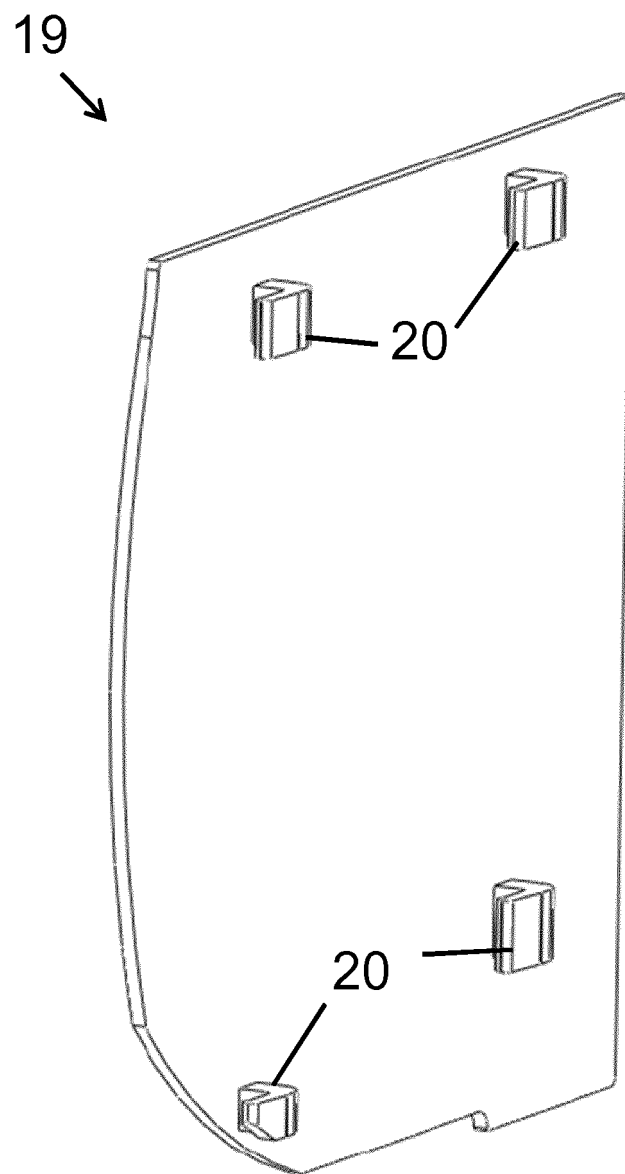


Fig. 5

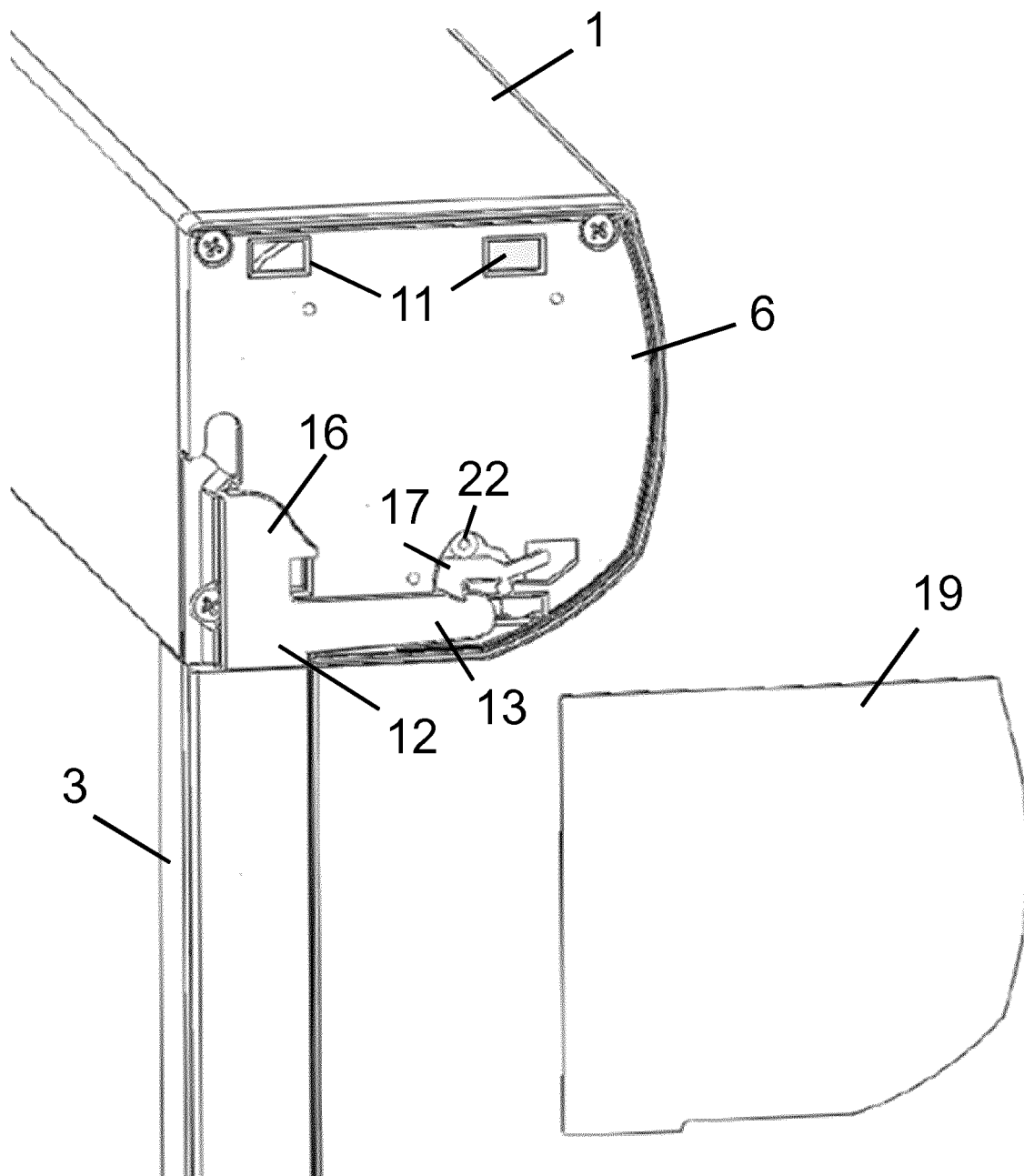
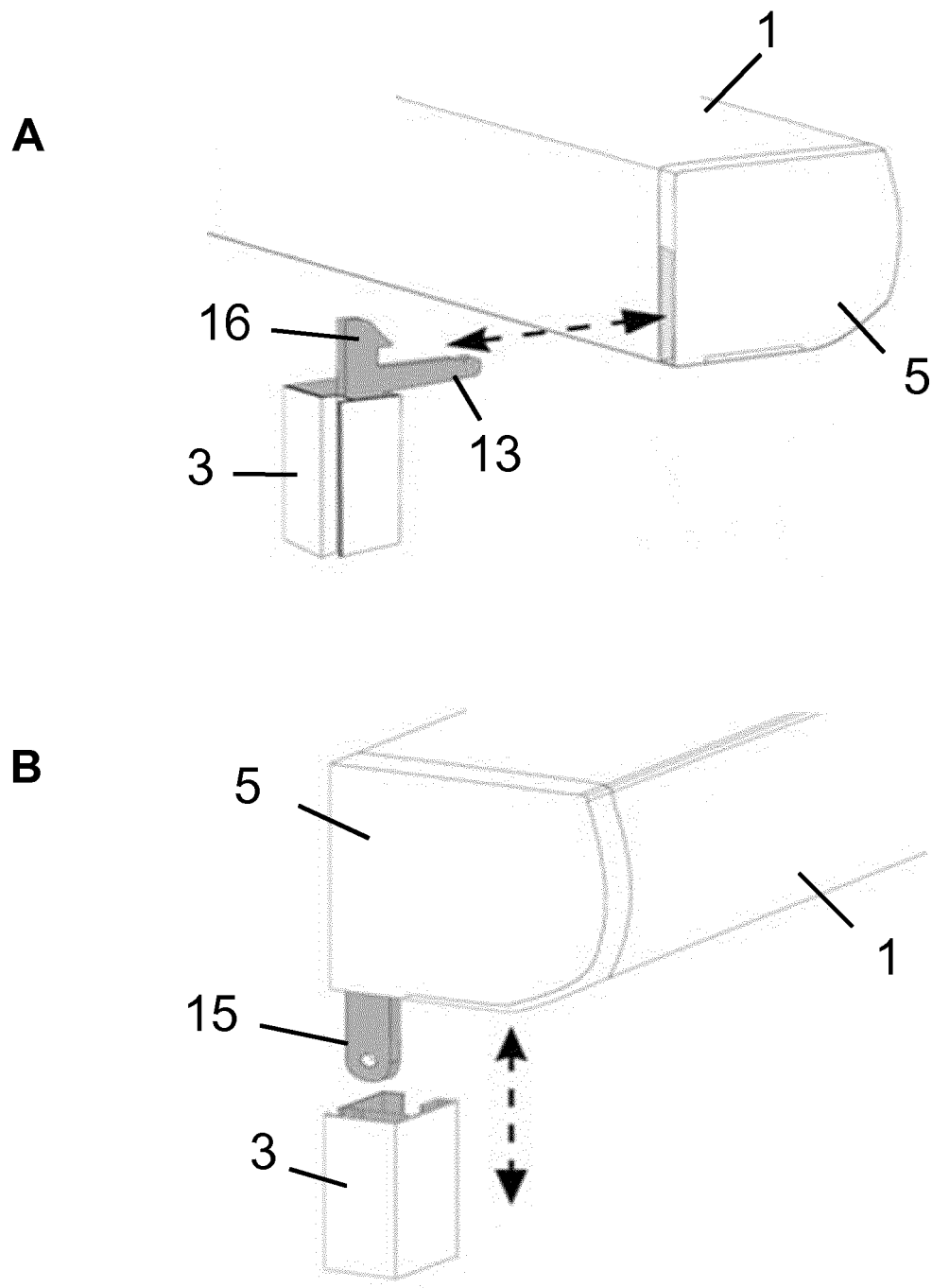


Fig. 6



REFERENCES CITED IN THE DESCRIPTION

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