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- (54) Benævnelse: **Udløfte-beskyttelsesindretning for en parallelt forskydelig fløj i form af en forskydelig og kipbar fløj eller en forskydelig fløj**
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Carriage having a lift-out protection device for a leaf, which can be moved in a parallel manner, in the form of a sliding and tilting leaf or a sliding leaf.

The invention relates to a carriage having a lift-out protection device for a leaf, which can be moved in a parallel manner, in the form of a sliding and tilting leaf or a sliding
5 leaf, according to the preamble of claim 1.

The leaves of sliding and tilting or sliding windows or doors which can be moved in a parallel manner often have a relatively high mass which, when they are shut from the parallel position into the frame, is abruptly braked when the leaf strikes against the
10 fixed edging. The impacting of a leaf which can be moved in a parallel manner as a sliding and tilting leaf or sliding leaf can result in an unintended bouncing which allows the movable leaf to slip out of the guide rail, thereby causing a possible crashing down of the window or the door. The conventional sliding and tilting systems or sliding
15 systems which can be positioned in parallel also offer no certain protection against an unauthorised lifting out of the leaf of the parallel sliding and tilting or sliding window or door.

A lift-out protection device for movable sliding/tilting windows, having rollers which are arranged in sequence on the leaf in the latter's direction of movement and supported
20 on a slide rail, and having at least one extension arm or one extension stay, is known from DE 2 536 089 A1. A rail behind which the lower ends of the extension arm engage comprises at its free end a lateral, rail-shaped projection which is directed against the extension arms and under which a hook-like projection or a rail angular in cross-section
25 of the lower leaf cross-member engages in the leaf's sliding position in order to form a lift-out safety device.

Because of the large clearance and the angular configuration of the rail this lift-out safety device can easily be pulled out of the rail with the result that protection is removed. With this configuration of the lift-out safety device the leaf can also only be
30 mounted in the frame with considerable effort.

A lift-out safety device having a fitting for a horizontal sliding leaf which can be positioned in parallel, in particular for a horizontal sliding leaf of windows and doors which can be tilted and positioned in parallel, is known from DE 3 639 998 A1, having

lower extending devices acting on the leaf and mounted pivotably on a vertical plane which are each supported by a carriage which is guided on a running rail arranged parallel to the plane of the fixed frame and which can be moved sideways.

- 5 Because of the large clearance and horizontally configured projection, this known lift-out safety device can also be easily pulled out of its horizontal mating piece, with the result that protection is removed. The fixed arrangement of the lift-out safety device on the fitting of the leaf also makes mounting difficult.
- 10 A carriage for a leaf for moving the leaf longitudinally in a parallel position having a lift-out protection device is also known from EP 2 538 009 A2. Here, a housing region comprises at least two rollers and one bearing point for the pivotal bearing of an extension arm, whereby in an end section of the housing region an upward pointing spring piece is inserted in a movable manner so as to secure the carriage following a
- 15 pivot movement in the inserted state of the carriage against a straddling section of a carriage rail by a displacing of a spring piece and consequent reducing of a gap beneath a straddling section.

- Reducing the gap between the carriage and the carriage rail of the previously
- 20 described section by the spring piece which comprises the lift-out protection device can, in the tilt position especially, cause tensions which can create a restriction during the tilt opening or of the tilt opening width. The known lift-out protection device can also be incorrectly deactivated simply by hand, whether intentionally or unintentionally.

- 25 Reference is also made to EP 1 688 573 A1 with a sliding window having a frame, a leaf which has leaf frame sections and which can be opened parallel relative to the frame, and which can be moved parallel to the frame when in a position opened in parallel. In this case the carriages are protected from lifting out of a running rail by lift-out safety devices. The lift-out safety devices are attached to a rod. The lift-out safety
- 30 device comprises a through hole and so can be pushed onto the rod and fixed to the rod by clamping screw. A slide is able to engage behind an undercut rib of the running rail and so ensure that the respective carriage cannot unintentionally spring out of the running rail. The fitting parts can therefore be secured by the lift-out safety device through the undercut groove on the running rail.

The object of the present invention is therefore to eliminate the known shortcomings and by contrast to provide, with little effort and at little expense, a lift-out protection device on a parallel sliding and tilting or sliding window or doors [sic] which can also be
5 simply, quickly, safely and accurately fitted and adjusted, including retrospectively, and expertly removed.

This object is resolved by the features of claim 1.

The lift-out protection device must be arranged in such a way that it is suitable for a leaf
10 which can be moved in a parallel manner as a sliding and tilting leaf system or sliding leaf system of a window or door. As a sliding and tilting leaf system the leaf facilitates a tilting in a closed position of the leaf against a frame. The leaf can also be moved out of the closed position and into a parallel position with a frame, by way of at least one carriage having at least two rollers and one bearing point for the mounting of an
15 extension arm in a pivoting manner. The leaf in parallel position also permits a displacement, with the carriage being guided in a carriage rail by the lift-out protection device and protected against lifting out.

It also an advantage that the lift-out protection device can be pushed into the carriage rail sideways with clearance so that at least one lift-out protection device can be
20 connected at one end with the carriage and is guided with the carriage in the carriage rail in a movable manner. The connection is configured such that an assembly or disassembly is accessible but not directly visible for incorrect handling, and so it cannot be unintentionally unmade. A securing anchor attached to the lift-out protection device forms a stable form-fitting reduction of an undercut configured in a U-shape on the
25 carriage rail comprising by a support shoulder [sic], and secures the leaf located in the closed position, in the parallel position, and in the tilted open position against lifting out.

According to the invention, provision is made such that, in the closed position of the leaf to the frame, in the parallel movable position and in the tilted position of the leaf to the frame of the window or the door, the lift-out protection device mounted on the
30 carriage is positioned without change relative to the carriage rail, including when the carriage in tilted position moves in a pivoted manner. A consistent protection against lifting out is reliably ensured by the constant position of the lift-out protection device relative to the carriage rail in all position regions of the leaf to the frame.

According to the invention the carriage is connected in a pivotal manner by a recess comprised in its carriage housing with an extension of the lift-out protection device as far as the tilted position. The automatic tilting movement of the carriage relative to the lift-out protection device is resolved by a simple construction of a form-fitting

5 connection. To achieve this, the cross-section of the recess is configured in a tapering manner from the top to the base of the carriage housing, with the extension lying unconstrained on the tapered side when the leaf is in the tilted position.

It proves to be expedient for the functional reliability of the lift-out protection device when at least part of the outer contour of the lift-out protection device in operative
10 connection with the carriage almost completely provides a form-fitting match of an inner cross-section contour of the carriage rail. By adhering to the contours it is possible to ensure a maximum result of the area of the lift-out protection device on the basis of the carriage rail, which has a beneficial effect on strength and rigidity.

The extension arranged integrally or by way of form or force fitting on the baseplate of
15 the lift-out protection device comprises a cutout for the simple linking of the lift-out protection device to the carriage. The carriage housing also preferentially comprises, starting from its upper side, a tapped hole extending into the recess, whereby the tapped hole and the cutout can be coupled by screwing in a clamp screw and anchor the carriage with the lift-out protection device in a rotatable manner.

20 The connection of the lift-out protection device to the carriage proves to be simply designed and effective for a movable coupling in that, with the screwed-in form-fitting position of the clamp screw in the tapped hole of the carriage housing with the carriage, when the leaf is tilted the clamp screw can be moved with the carriage in a pivoting manner in the cutout of the extension. The created form-fit of the clamp screw with the
25 recess facilitates a play which can be adjusted by screwing the clamp screw in or out such that the adjustability enables the carriage to be moved into a tilted position by the coupling without any resistance.

Another advantageous embodiment consists in the fact that, for the simplified screwing-in and subsequent adjusting of the clamp screw, the latter comprises a tool
30 socket for a handle (not shown) which can be accessed from the upper side of the carriage housing. Handling by way of the handle and the arrangement of the tool socket for a simple fitting or removal of the lift-out protection device require usual

expert knowledge and so cannot be manipulated incorrectly and improperly, with the result that safety against a lifting-out of the leaf is permanently guaranteed.

An especially preferred embodiment which has an advantageous configuration of the lift-out protection device is achieved in that the lift-out protection device consists of a baseplate, the extension and a slide plate which has an outer contour that is matched to the outer contour of the baseplate with a slightly enlarged periphery. Because of the enlarged outer contour of the slide plate, when moved by a displacement of the leaf to the frame the complete lift-out protection device is guided in a sliding manner with the carriage on the surface of the outer contour comprising the slide plate. The circumferentially enlarged slide plate also supports the lift-out protection device fully and without tension during a tilting movement of the leaf. Accordingly the lift-out protection device is not stressed and is also not subject to any wear in the mounted state. Frictional resistance and noise are therefore negligible as a result of the arranged [sic] slide plate on the lift-out protection device.

The baseplate and extension are made from a metal material to achieve high strength and hence an effective lift-out protection device. A space-saving arrangement is also achieved as a result. The active lift-out protection of the lift-out protection device acts through the form fit with the carriage rail and the carriage that is achieved with minimal play. The action of the lift-out protection is made possible solely by the baseplate, with the baseplate being guided with the one-piece connected securing anchor hooked into the U-shaped undercut of the carriage rail.

An additional contribution to reducing frictional resistance and noise is assisted by the slide plate preferably consisting of a plastic. In normal operation there is no direct contact between the metal baseplate and the carriage rail because the slide plate is approached as a priority on the carriage rail with its peripheral surface minimally enlarged relative to the baseplate. The baseplate guarantees the reliability of the lift-out protection even if the slide plate is absent or in a functionally restricted state.

In this way it is possible for the lift-out protection device with the slide plate to be guided in the carriage rail in a sliding manner with the flat outer contour, especially when displaced in the parallel position of the leaf, lying against the carriage, with the baseplate providing the active resistance against a lifting out of the leaf in the closed position, 'closed position' meaning the position of the leaf in contact and its position to the frame locked by the fitting. The resistance against lifting out is also formed in the

parallel position and when the leaf is in the tilted open position relative to the frame. In all previously described settings and positions of the leaf, the lift-out protection device remains in an unchanged position in the carriage rail, and the securing anchor remains in the support shoulder with U-shaped undercut formed by the carriage rail.

- 5 It has also been shown to be advantageous for the function, mounting and cost of the fitting that the lift-out protection device can be mounted on the carriage independently of the installation of the fitting. The size and weight of the window or door also determine the number of carriages, although irrespective of this multiple lift-out protection devices can also be mounted to increase the lift-out protection if required.
- 10 Preferred exemplary embodiments of the invention are shown schematically in the drawing and are explained in greater detail below with references to the figures of the drawing.

In the figures:

- 15 Fig. 1 and Fig. 2 show a frontal view and side view of a leaf, which can be moved in a parallel manner, as a sliding and tilting leaf system or sliding leaf system of a window or door,
- Fig. 3 and Fig. 4 show a frontal view and side view of a leaf, which can be moved in a parallel manner, as a sliding and tilting leaf system of a window or door, with the
20 leaf tilted open,
- Fig. 5 and Fig. 6 show a frontal view and side view of a leaf, which can be moved in a parallel manner, as a sliding and tilting leaf system or sliding leaf system of a
25 window or door, with the leaf in parallel position and pushed horizontally into an opening position,
- Fig. 7 shows a perspective view of a window or door in a according to Fig. 5 and Fig. 6
[sic] of the leaf, which can be moved in a parallel manner, as sliding and tilting
30 leaf system or sliding leaf system of a window or door, with the leaf in parallel position and pushed horizontally into an opening position, having a lift-out protection device on the carriage housing of the carriage,

Fig. 8 shows a partially perspective view of the carriage with opened extension arm and with a carriage rail and an exploded view of the lift-out protection device of Fig. 7,

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Fig. 9 shows a plan view of the carriage with the carriage rail and the lift-out protection device mounted on the carriage housing,

10 Fig. 10 shows a side view of the carriage with the carriage rail and the lift-out protection device mounted on the carriage housing according to Fig. 9,

Fig. 11 shows a side view of the carriage with the carriage rail and the lift-out protection device mounted on the carriage housing according to Fig. 10 in section through the centreline of a clamp screw and an extension of the lift-out protection device,

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Fig. 12 shows a side view of the carriage with the carriage rail and the lift-out protection device mounted on the carriage housing according to Fig. 10 in section through a slide plate and an extension of the lift-out protection device,

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Fig. 13 shows a side view of the carriage with the carriage rail and the lift-out protection device mounted on the carriage housing according to Fig. 10 in section through a baseplate of the lift-out protection device,

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Fig. 14 shows a plan view of the carriage with the carriage rail and the lift-out protection device, mounted on the carriage housing, of the sliding and tilting leaf system of the window or of a door with the leaf open in the tilted position,

30 Fig. 15 shows a side view of the carriage with the carriage rail and the lift-out protection device mounted on the carriage housing according to Fig. 14,

Fig. 16 shows a side view of the carriage with the carriage rail and the lift-out protection device mounted on the carriage housing according to Fig. 14 in section through the centreline of a clamp screw and an extension of the lift-out protection device,

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Fig. 17 shows a side view of the carriage with the carriage rail and the lift-out protection device mounted on the carriage housing according to Fig. 14 in section through a slide plate and an extension of the lift-out protection device, and

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Fig. 18 shows a side view of the carriage with the carriage rail and the lift-out protection device mounted on the carriage housing according to Fig. 14 in section through a baseplate of the lift-out protection device.

15 Fig. 1 to Fig. 6 of the drawing show a window or a door 3 which in a fixed-position frame 4 comprises an immovably mounted leaf or fixed door panel 30 and which are also equipped with a movable leaf 2.

Movable leaf 2 can on the one hand be moved relative to fixed-position frame 4 and to the immovably mounted leaf or door panel 30 from the closed position indicated in Fig. 1 and Fig. 2 to the tilted position as can be seen in Fig. 3 and Fig. 4. With a further
20 embodiment or by way of further structural components of fitting 31 on the other hand, leaf 2 can also be moved relative to fixed position frame 4 and the immovably mounted leaf or fixed door panel 30 into a secured parallel ventilation position or to a parallel position, in which case leaf 2 can be moved out of the region of through hole 32 of fixed
25 position frame 4 horizontally in front of the immovably installed leaf or fixed door panel 30, as can be seen in Fig. 5 and Fig. 6.

To make these 4 positions of leaf 2 relative to fixed position frame 4 and to the immovably mounted leaf or fixed door panel 30 possible, a special fitting arrangement, namely a so-called parallel sliding and tilting leaf system or sliding leaf system, of
30 which for the sake of simplicity Fig. 1 to Fig. 6 only indicatively show an operating handle 33 on leaf 2 and an upper opening device 34 and lower carriage 5 between leaf 2 and fixed position frame 4, is provided between leaf 2 and fixed position frame 4.

Upper opening device 34 and lower carriage 5 with extension arms 8 can be designed kinematically similar to one another. However they can also receive fundamentally different embodiments. In the case of upper opening device 34 it must be ensured that its frame-side linkage points engage continuously in a horizontal slide guide 35
5 according to Fig. 7 on the upper transverse spar of fixed position frame 1 [sic] and that a synchronous movement of its extension arms is ensured.

Lower carriages 5 must in any case be designed such that they safely support the weight of movable leaf 2 while interacting with a carriage rail 9 on the lower transverse spar of fixed position frame 4.

10 Both the closed-side and the open-side carriage 5 comprise an extension arm 8, as shown in Fig. 7 to Fig. 18. Each of these extension arms 8 is pivotably articulated on carriage 5 about an essentially vertical bearing point 7 according to Fig. 8, Fig. 9 and Fig. 14. Both carriages 5 are each equipped with two rollers 6 which can rotate freely on the essential [sic] ¹⁾ horizontal axes and by way of which they are supported in a
15 movable manner, as shown in Fig. 1 to Fig. 7, on carriage rail 9 of fixed position frame 4 parallel to the latter's plane. Extension arm 8 is also rotatably mounted at its end pointing to leaf 2.

The two carriages 5 which support extension arms 8 are in fixed connection with one another, e.g. by a coupling rod 36 which is indicated partially and by a broken line in
20 Fig. 7. Supporting carriages 5 are continually held at a constant distance from one another with the aid of this coupling rod 36. Leaf 2, both carriages 5 with coupling rod 36 and both extension arms 8 together form a linkage parallelogram. With the aid of this linkage parallelogram, leaf 2 can be moved transversely to its plane and also transversely to the plane of fixed position frame 4 between the closed position defined
25 by Fig. 2 and the parallel offset positions of leaf 2 shown in Fig. 5 and Fig. 6, also running through the intermediate function positions shown in Fig. 3 and Fig. 4.

Whereas with the position of opening device 8 shown in Fig. 3 and Fig. 4 a movement of leaf 2 from the closed position corresponding to Fig. 1 and Fig. 2 to the tilted position seen in Fig. 3 and Fig. 4 is readily possible, when opening device 8 is in the position
30 corresponding to the parallel offset position shown in Fig. 5 and Fig. 6, leaf 2 can be moved horizontally in the direction indicated by arrow 37 to the open position seen in Fig. 7.

In order for leaf 2 relative to fixed position frame 4 to be continually secured relative to fixed position frame 4 [*sic*]²) against being lifted out of carriage rail 9 while in its locked closed position according to Fig. 1 and Fig. 2, in the unlocked closed position, in the tilted position according to Fig. 3 and Fig. 4 and in the horizontally parallel offset position according to Fig. 5 to Fig. 7, and so to prevent a malfunction and provide security against break-in, it is necessary for leaf 2 which can be moved in a parallel manner as a so-called sliding and tilting leaf system or sliding leaf system of the window or of a door 3 to comprise at least one lift-out protection device 1 according to Fig. 8 to 18. When lift-out protection device 1 is pushed into an open end of carriage rail 9, lift-out protection device 1 can be connected to one end 10 of carriage 5 and movably guided with carriage 5 in in carriage rail 9. A securing anchor 11 attached to lift-out protection device 1, as shown for example in Fig. 8, Fig. 10 and Fig. 18, and which engages in a U-shaped undercut 13 formed by a support shoulder 12 on carriage rail 9, provides a form-fitting operative connection for this purpose. With the movable seating of support shoulder 12 in undercut 13 and the connection of lift-out protection device 1 to carriage 5, carriage 5 and with it leaf 2 is held securely guided vertically from leaf 2 to frame 4 and in the cross-section of the window or door 3 horizontally from leaf 2 to frame 4. The form-fitting connection of support shoulder 12 in undercut 13 of carriage rail 9 and form-fitting contour 38 of lift-out protection device 1 to convex running rail 39 for rollers 6 of carriage 5 interact to prevent leaf 2 relative to frame 4 from being lifted out of carriage rail 9. Rollers 6 are mounted on carriage rail 9 in a supporting and movable manner. Support shoulder 12 and raised running rail 39 of carriage rail 9 are oriented pointing to one another and, through the form-fitting movable bond forming on carriage rail 9, protect window or door 3 from being lifted out transversely to the plane of leaf 2 and also transversely to the plane of fixed position frame 4 towards the parallel position of leaf 2.

In the closed position (not shown), in the position of lift-out protection device 1 parallel offset movable position [*sic*] according to Fig. 10 and in the tilted position according to Fig. 15 of leaf 2 of window or door 3, lift-out protection device 1 is mounted on carriage 5 in the unchanged position relative to carriage rail 9, with carriage 5 in the tilted position according to Fig. 15 moving in a pivotable manner with no displacement of lift-out protection device 1.

Fig. 8, Fig. 11 and Fig. 16 show that carriage 5 having a recess 15 comprising [sic] in its carriage housing 14 is connected in a rotatable manner to an extension 16 of lift-out protection device 1 as far as into the tilted position, the cross-section of recess 15 being configured in a tapering manner from the upper side 17 to the lower side 18 of carriage housing 14.

It proves to be expedient for the functional reliability of lift-out protection device 1 according to Fig. 8 and Fig. 10 when an outer contour 19 of lift-out protection device 1 in operative connection with carriage 5 provides a form-fitting match of an inner cross-section contour 20 of carriage rail 9. By adhering to the contours it is possible to ensure a maximum result for the contact of the area of lift-out protection device 1 with carriage rail 9, which has a beneficial effect on strength and rigidity.

Extension 16 arranged integrally or by way of form or force fitting on lift-out protection device 1 comprises a cutout 21 for the simple linking of lift-out protection device 1 to carriage 5. Carriage housing 14 also comprises, starting from upper side 17, a tapped hole 22 extending into recess 15, whereby tapped hole 22 and cutout 21 can be coupled by screwing in a clamp screw 23 and anchor carriage 5 with lift-out protection device 1 in a rotatable manner.

When clamp screw 23 is in the tightened form-fitting position in tapped hole 22 of carriage housing 14 with carriage 5 according to Fig. 11 and Fig. 16, in the coupled and fixed position of carriage 5 with lift-out protection device 1, when leaf 2 is tilted clamp screw 23 can be moved with carriage 5 in a pivoting manner in cutout 21 of extension 16. The generated form fit of clamp screw 23 with cutout 21 comprises some play so that carriage 5 can be moved by the coupling into a tilted position according to Fig. 16.

To simplify the tightening of clamp screw 23 and subsequent adjustment of its position, clamp screw 23 as shown in Fig. 8 comprises a tool socket 24 for a handle (not shown) which is accessible from the upper side 17 of carriage housing 14.

From Fig. 8 in particular it can be seen that lift-out protection device 1 consists of a baseplate 25, of extension 16 and of a slide plate 27 which has an outer contour 26 that is matched to the outer contour 19 of baseplate 25 with a slightly enlarged

periphery. Because of the enlarged outer contour 19 of baseplate 25 [sic]³⁾, according to Fig. 7 during movement by a displacing of leaf 2 relative to frame 4 the complete lift-out protection device 1 is guided in a sliding manner with carriage 5 on the reduced area of outer contour 19 according to Fig. 12. Frictional resistance and noise generated by lift-out protection device 1 are therefore negligible. Slide plate 27 also comprises a recess 28 which is configured congruently with recess 15 of carriage housing 14 to facilitate a tilting of carriages 5 with leaf 2.

Baseplate 25 and extension 16 is [sic] made from a metal material to achieve high strength and hence an effective lift-out protection device 1. An additional contribution to reducing frictional resistance and noise is assisted by slide plate 27 preferably consisting of a plastic.

It is clear from Fig. 1, Fig. 3 and Fig. 5 that, especially when leaf 2 is moved into the parallel position, lift-out protection device 1 through slide plate 27 lies against carriage 5 in carriage rail 9 guided with a flat outer contour 26 in a sliding manner. Baseplate 25 forms the active resistance to a lifting out of leaf 2 in the closed position, in the parallel position and in the tilted open position relative to frame 4.

In all previously described settings and positions of leaf 2 according to Fig. 1 to Fig. 7, lift-out protection device 1 remains in the unchanged position of Fig. 10 and Fig. 15 in carriage rail 9. Securing anchor 11 of baseplate 25 is also connected in a form-fitting manner to carriage rail 9 in U-shaped undercut 13 formed by support shoulder 12.

³⁾

List of reference characters

	1	Lift-out protection device
5	2	Leaf
	3	Window or door
	4	Frame
	5	Carriage
	6	Rollers
10	7	Bearing point
	8	Extension arm
	9	Carriage rail
	10	End
	11	Securing anchor
15	12	Support shoulder
	13	Undercut
	14	Carriage housing
	15	Recess
	16	Extension
20	17	Upper side
	18	Lower side
	19	Outer contour
	20	Cross-sectional contour
	21	Cutout
25	22	Tapped hole
	23	Clamp screw
	24	Tool socket
	25	Baseplate
	26	Outer contour
30	27	Slide plate
	28	Recess
	30	Door panel
	31	Fitting
	32	Through hole
35	33	Operating handle

- | | | |
|---|----|-----------------|
| | 34 | Opening device |
| | 35 | Slide guide |
| | 36 | Coupling rod |
| | 37 | Arrow direction |
| 5 | 38 | Contour |
| | 39 | Running rail |

PATENTKRAV

1. Løbevogn (5) med en udløfte-beskyttelsesindretning (1) for en parallelt forskydelig fløj (2) som glide-vippe-fløjsystem for et vindue eller en dør (3), hvorved fløjen (2) som glide-vippe-fløjsystem muliggør en vipning i en lukket position, i hvilken fløjen (2) hviler mod en karm (4) og kan overføres fra den lukkede position til en position, i hvilken fløjen befinder sig parallelt med en karm (4), ved hjælp af mindst en løbevogn (5) med mindst to ruller (6) og et lejepunkt (7) til svingbar understøtning af en udliggerarm (8), og når fløjen (2) befinder sig i parallelposition, således at løbevognen (5) ledes i en løbevognsskinne (9), tillader en glidebevægelse, hvorved mindst én udløfte-beskyttelsesindretning (1) kan forbindes til en ende (10) af løbevognen (5) og med løbevognen (5) form-følgende er ført i løbevognsskinnen (9), hvorved et på udløfte-beskyttelsesindretningen (1) anbragt sikringsanker (11) i løbevognsskinnen (9) griber ind i en underskæring (13), som er dannet i U-form ved hjælp af en støtteskulder (12) og sikrer fløjen (2), der befinder sig i lukkeposition, i parallelt henstillet position og i vippe-åbningsstilling, **kendetegnet ved, at** udløfte-beskyttelsesindretningen (1) i lukkepositionen, i den parallelt forskydelige position og i vippestillingen for fløjen (2) for vinduet eller døren (3), der er monteret på løbevognen (5), uændret er positioneret i forhold til løbevognsskinnen (9), hvorved løbevognen med en udsparring (15) i sit løbevognshus (14) er forbundet svingbart med en forlængelse (16) af udløfte-beskyttelsesindretningen (1) indtil i den vippede position, og med udsparringens (15) tværsnit udformet som spidsende fra oversiden (17) til undersiden (18) af løbevognshuset (14).

2. Løbevogn (5) med en udløfte-beskyttelsesindretning (1) ifølge krav 1, **kendetegnet ved, at** en yderkontur (19) for udløfte-beskyttelsesindretningen (1) i operativ forbindelse med løbevognen (5) tilvejebringer en form-følgende tilpasning af en indre tværsnitskontur (20) for løbevognsskinnen (9).

3. Løbevogn (5) med en udløfte-beskyttelsesindretning (1) ifølge krav 1,

kendetegnet ved, at

- forlængelsen (16) omfatter en udskæring (21), og løbevognshuset (14), udgående fra oversiden (17), omfatter en gevindboring (22), der strækker sig ind i udsparingen (15), hvorved gevindboringen (22) og udskæringen (21) kan sammenkobles ved indskrining af en spændeskruer (23) og roterbart forankrer løbevognen (5) til udløfte-beskyttelsesindretningen (1).

4. Løbevogn (5) med en udløfte-beskyttelsesindretning (1) ifølge krav 3,

kendetegnet ved, at

- spændeskruen (23) ved indskruet position i gevindboringen (22) i løbevognshuset (14) indgår i en kraftfølgende operativ forbindelse med løbevognen (5), hvorved, når løbevognen (5) er koblet til udløfte-beskyttelsesindretningen (1), spændeskruen (23) i udskæringen (21) i forlængelsen (16) svingbart kan bevæges med vognen (5), når fløjen (2) er vipet.

5. Løbevogn (5) med en udløfte-beskyttelsesindretning (1) ifølge krav 4,

kendetegnet ved, at

- spændeskruen (23) omfatter en værktøjssokkel (24) for et håndtag, og som er tilgængelig fra oversiden (17) af løbevognshuset (14).

6. Løbevogn (5) med en udløfte-beskyttelsesindretning (1) ifølge et eller flere af de foregående krav 1 til 5,

kendetegnet ved, at

- udløfte-beskyttelsesindretningen (1) består af en basisplade (25), af forlængelsen (16) og af en glideplade (27), der omfatter en ydre kontur (26), som er tilpasset til den ydre kontur (19) for basispladen (25) med en let forstørret periferi, samt en udsparring (28), der er udformet som kongruent med udsparingen (15) i løbevognens hus (14).

7. Løbevogn (5) med en udløfte-beskyttelsesindretning (1) ifølge krav 6,

kendetegnet ved, at

- basispladen (25) og forlængelsen (16) er fremstillet af et metalmateriale, og glidepladen (27) fortrinsvis består af et plastmateriale.

8. Løbevogn (5) med en udløfte-beskyttelsesindretning (1) ifølge krav 6,

kendetegnet ved, at

glidepladen (27) for udløfte-beskyttelsesindretningen (1) føres glidende i løbevognsskinnen med en flad yderkontur, navnlig ved forskydning i bladets parallelposition, liggende mod løbevognen, hvorved basispladen (25) tilvejebringer den aktive modstand mod udløftning af fløjen (2) fra karmen (4).

5

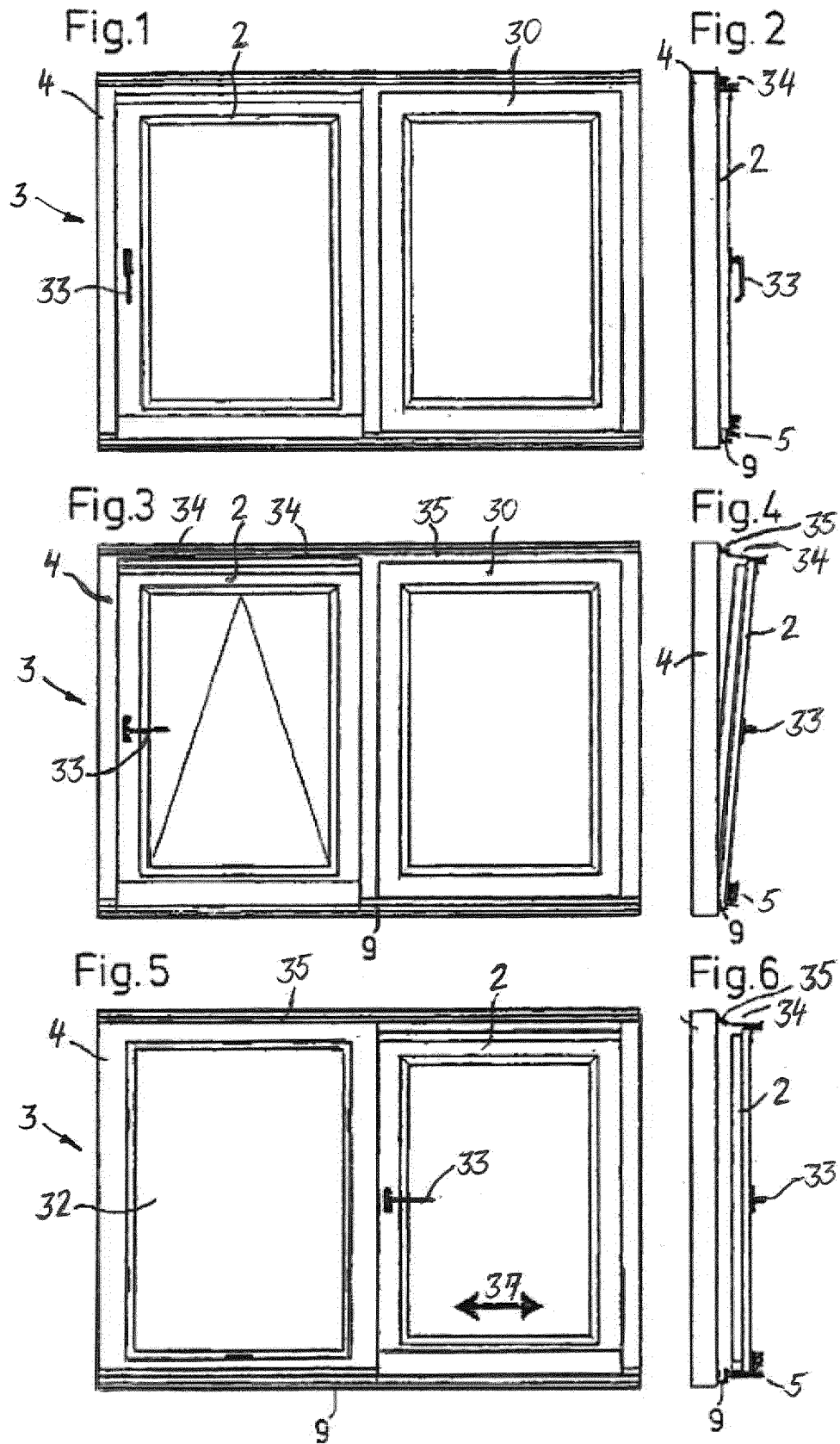


Fig.7

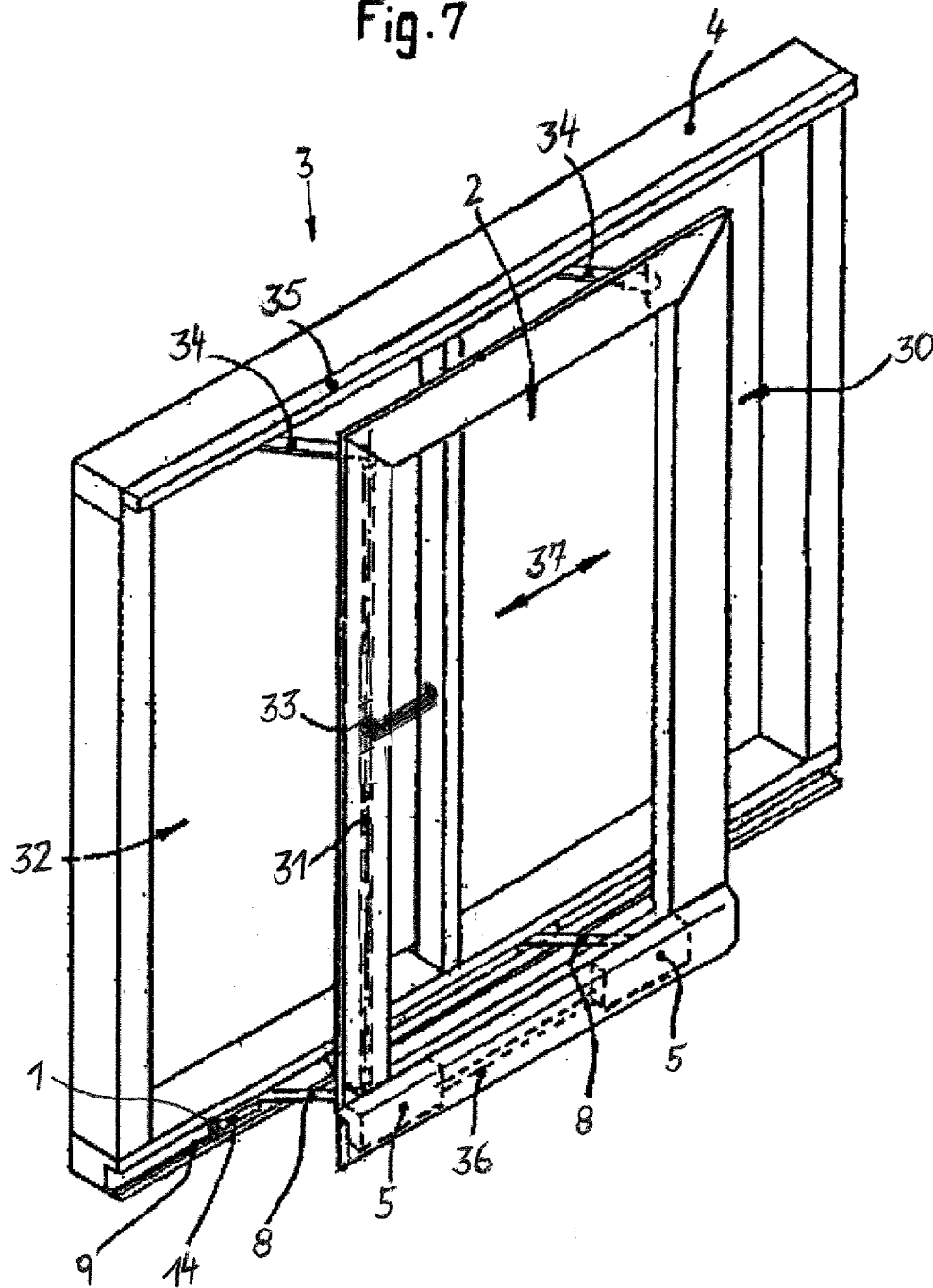


Fig. 8

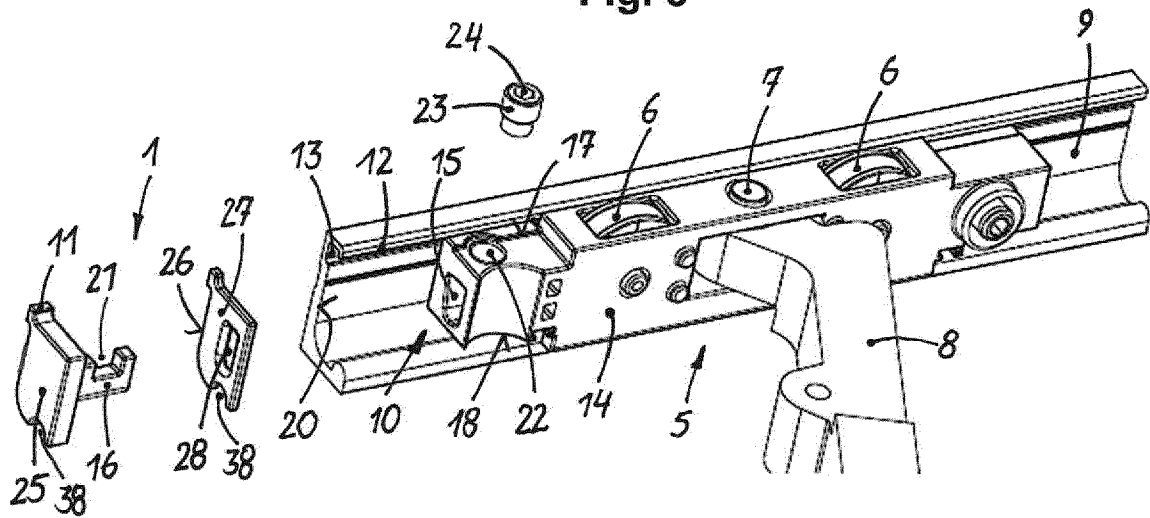


Fig. 9

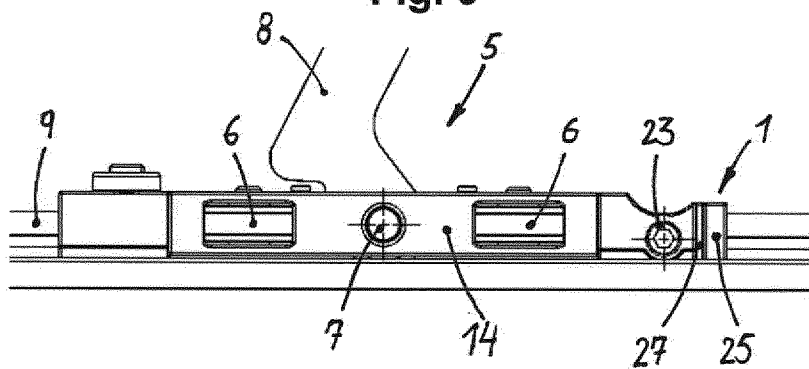


Fig. 10

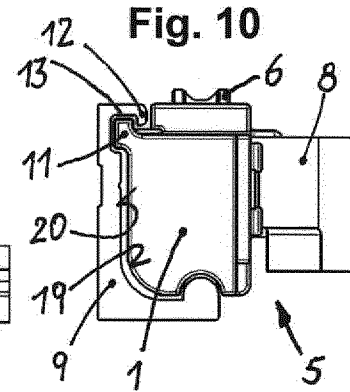


Fig. 11

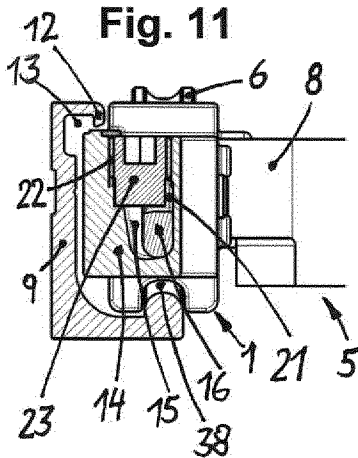


Fig. 12

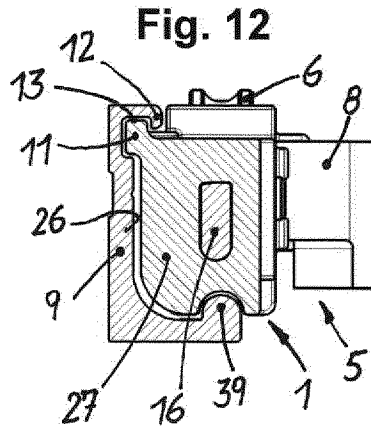


Fig. 13

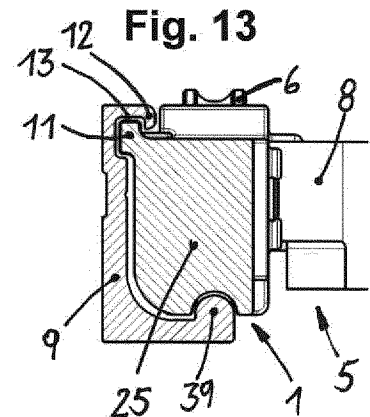


Fig. 14

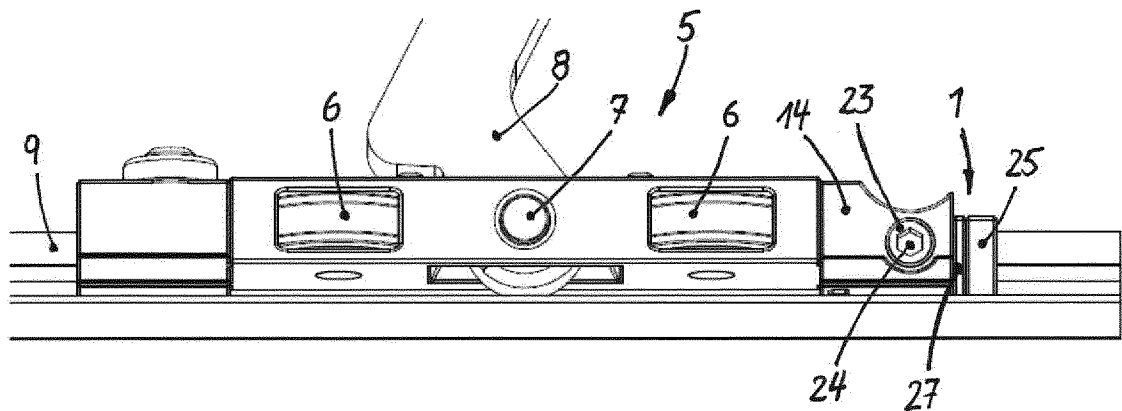


Fig. 15

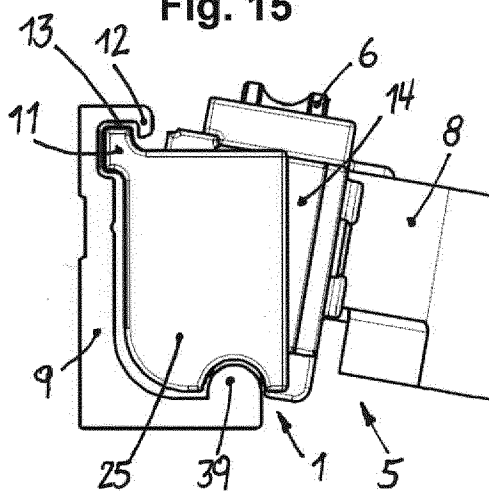


Fig. 16

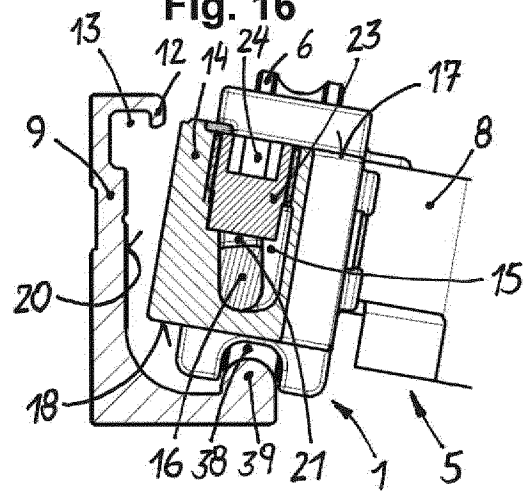


Fig. 17

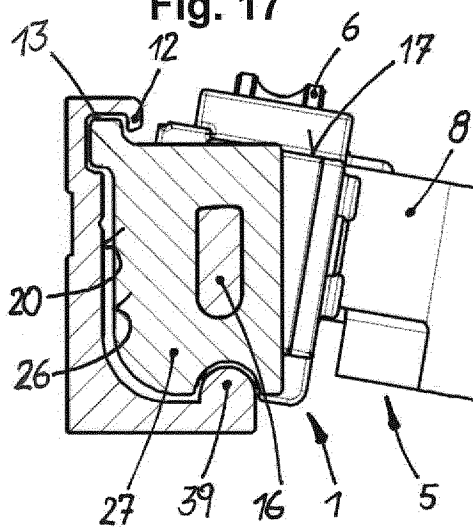


Fig. 18

