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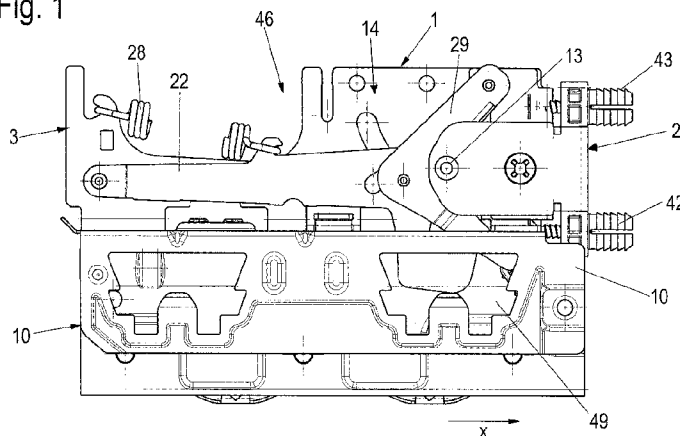
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(54) Title: CONNECTING FITTING

(54) Bezeichnung : VERBINDUNGSBESCHLAG

Fig. 1



(57) Abstract: The invention relates to a connecting fitting (1) for detachably fixing a panel-shaped furniture item, in particular a front panel (4), to a further panel-shaped furniture item, in particular a lateral wall frame (8) of a drawer (5) that for said purpose is angular, preferably rectangular. The connecting fitting comprises a carrier device (2), which is provided with an abutment that detachably engages with a locking device (3), wherein the locking device has the following features: a mounting base portion (21) extending perpendicularly to the mounting surface (16), wherein a locking lever (22) acted upon by a spring (28) is movably articulated on the mounting base portion and under spring force can be moved from a release position into a locking position and against the spring force out of the locking position back into the release position; the locking lever has a hook portion (23), which is used to engage the corresponding abutment, preferably the pin (13), in the locking position on the carrier device (2). The locking lever (22) is articulated with a pivot bearing (24) on the mounting base portion (21). The connecting fitting is characterised by a refined arrangement of the release lever on the construction.

(57) Zusammenfassung:

[Fortsetzung auf der nächsten Seite]



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— mit internationalem Recherchenbericht (Artikel 21 Absatz 3)

Ein Verbindungsbeschlag (1) zum lösbaren Befestigen eines plattenförmigen Möbelteils, insbesondere einer Frontblende (4), an einem hier zu winklig, vorzugsweise rechtwinklig, ausgerichteten weiteren plattenförmigen Möbelteil, insbesondere einer Seitenwandzarge (8) eines Schubkastens (5), wobei der Verbindungsbeschlag eine Trageinrichtung (2) aufweist, die mit einem Widerlager versehen ist, das in lösbaren Eingriff mit einer Arretiereinrichtung (3) ist, wobei die Arretiereinrichtung folgende Merkmale aufweist: einen sich senkrecht zur Montagefläche (16) erstreckenden Montagebasisabschnitt (21), an dem ein von einer Feder (28) beaufschlagter Arretierhebel (22) beweglich angelenkt ist, der unter Federkraft aus einer Lösestellung in eine Verriegelungsstellung und gegen die Federkraft aus der Verriegelungsstellung zurück in die Lösestellung beweglich ist und welcher einen Hakenabschnitt (23) aufweist, der dazu dient, das korrespondierende Widerlager, vorzugsweise den Stift (13), in der Verriegelungsstellung an der Trageinrichtung (2) zu hintergreifen; wobei der Arretierhebel (22) mit einem Schwenklager (24) an den Montagebasisabschnitt (21) angelenkt ist, zeichnet sich durch eine weiterentwickelte Anordnung des Lösehebels an der Konstruktion aus.

Connecting fitting

5 The invention relates to a connecting fitting for detachably fixing a panel-shaped furniture item, in particular a front panel, to a further panel-shaped furniture item, in particular a lateral wall frame of a drawer, which is aligned in an angular manner thereto, preferably in a rectangular manner, according to the preamble of claim 1.

10 A generic connecting fitting is known from EP 0 066 893 B1. The illustrated connecting fitting is characterised in that it is arranged in a compact way and that a fixed connection can be realised with said fitting between two panel-shaped furniture items which are to be connected with each other, which connection can simply be released again by a release lever integrated in the
15 connecting fitting. The possibility for automatically producing the connection by axially sliding in the corresponding support unit is advantageous.

The spring property of the mounted system appears to be less advantageous in this state of the art because impacts on the connecting area will be absorbed in
20 a relatively unsprung manner, which in the most extreme of cases can lead to damage in the mutually connected furniture items.

A connecting fitting which also utilises a connecting fitting with "automatic locking" in the manner of EP 0 066 893 B1, but which for the purpose of release
25 does not use an integrated release lever but a receiver in the locking lever that allows restoring by means of a separate tool such as a screwdriver, is further known from EP 0 740 917 B1. A locking member is moved from the locking lever by axially inserting the screwdriver into the receiver during the release and the dead centre of the release path can only be traversed by applying a
30 transverse force. It is especially disadvantageous that for the release of the front panel it is always necessary to have a tool at hand.

The invention provides a connecting fitting for detachably fixing a panel-shaped furniture item to a further panel-shaped furniture item which is aligned in an angular manner thereto with the connecting fitting comprising a carrier device which is provided with an abutment that is in detachable engagement with a

5 locking device, with the locking device having the following features:

a) a mounting base section extending perpendicularly to the mounting surface;

b) to which a locking lever loaded by a spring is movably linked, which is movable under spring force from a release position to a locking position and, against the spring force, from the locking position back to the release position;

10 c) with the locking lever further having a hook section which is used to engage behind the corresponding abutment in the locking position on the carrier device; d) with the locking lever being linked with a pivot bearing to the mounting base section;

e) with a release lever being provided which can be actuated manually;

15 f) the base section is further mounted or arranged on a frame adapter of the lateral frame, and that the release lever that can be actuated manually is linked to the locking lever and to the base section, and extends up into a free space in the frame adapter, so that it can be actuated in the free space by hand by a user;

20 wherein the locking device has a base angle as the base unit, which base angle is mounted with a mounting leg on a mounting surface of a leg of the frame adapter, said mounting surface being the upper one in the installation position, with the release lever extending through an opening in the mounting surface up into the free space in the frame adapter.

25

The base section is mounted or arranged on a frame adapter of the side frame and the release lever that can be actuated manually is linked to the locking lever and to the base section and extends up to a free space in the frame adapter in such a way that it can be actuated in the free space by the hand of a

30 user.

This allows omitting a tool such as a screwdriver for the release of the locking lever in an especially advantageous manner, since the release lever is integrated in an especially practical and compact way in the frame construction.

5 As a result, the actuation of the release lever can occur simultaneously on both sides of the drawer, i.e. on both side frames, so that the front panel can be released securely and without any damage by a user. There is also described herein a drawer with two side frames, a front panel and two of the connecting fittings as described above.

10

Further functions are integrated in the release lever according to variants of the dependent claims, which further improves the handling and safety properties of the connecting fitting.

15 A first connecting link is arranged in the mounting base section according to claim 2, which link overlaps with a second connecting link in the locking lever, wherein a pin which is movable in both connecting links penetrates both connecting links. This feature enables advantageous interaction between the components of the locking lever and the mounting base section in an especially
20 simple way.

In accordance with claim 3, the first connecting link is an arc-shaped connecting link in the mounting base section and the second connecting link is an angular connecting link in the locking lever, wherein a dead centre for the pin which can
25 be overpressed is formed by the angular connecting link. As a result, the mechanism required for the function of locking of the locking lever can be implemented in practice in an especially simple and reliable manner.

The pin is preferably arranged on the release lever (preferably in an opening),
30 which allows including the release lever with simple constructional means in the interaction of the connecting links on the locking lever and on the mounting base section.

It is further advantageous if a head is arranged on the pin, so that the locking lever is guided on the mounting base section in its connecting link when the locking lever moves between the opened position and the locking position.

5 Also described herein is a connecting fitting as described above, wherein the pivot bearing has play which is so large that the locking lever is displaceable under spring force in the pivot bearing in at least one direction on the locking device, especially parallel to or in a mounting direction (-X) for mounting on the carrier device. This can be regarded as a further development of connecting
10 fitting as described above but also as an independent embodiment, simply reduces the likelihood of damage to the front panel and possibly the drawer mechanism by impacts on the front panel because the locking lever of the drawer mechanism can move in a resilient manner in the region of its pivot bearing.

15

The resilient connecting fitting further allows that the front panel (if it is respectively pivotable) can be adjusted in its angle in relation to the further panel-shaped furniture item without having to release the connection during the adjustment, because the pivot bearing is able to compensate or take up the
20 respective movement of the front panel. This is not possible when the pivot bearing is practically arranged in any case as a fixed bearing which is regarded by the person skilled in the art as being "free from play".

25

Advantageous embodiments of the invention are shown in the dependent claims.

The invention will be explained below in closer detail by reference to an embodiment shown in the drawings, wherein:

30

Fig. 1 shows a side view of a connecting fitting with a first fitting part which is arranged as a locking device and which is placed on a frame adapter, and with a second fitting part arranged as a carrier device;

Fig. 2 shows a perspective exploded view of the locking device of Fig. 1 without the second fitting part;

5 Fig. 3 shows a perspective view of a piece of furniture with several drawers which are in the closed state;

Fig. 4 shows a perspective view of the piece of furniture of Fig. 3 with a drawer in the open state;

10 Fig. 5 shows a perspective view of one of the drawers of Fig. 4;

Fig. 6 shows the drawer of Fig. 5 without the front panel but with connecting fitting with locking device and carrier device;

15 Fig. 7 shows the drawer of Fig. 5 without the front panel with locking device, but without the carrier device;

Fig. 8 shows a perspective view of a part of a frame with locking device and carrier device with partly masked frame wall;

20

Fig. 9 shows a rear view of the arrangement of Fig. 1;

Fig. 10 shows a side view of the arrangement of Fig. 1 at the beginning of the insertion of the carrier part;

25

Figs. 11 to 15 show side views of the connecting fitting of Fig. 1 without the frame adapter during insertion of the carrier device, which illustrations show movement sequences during the mounting of the carrier part on the locking part in the manner of successive snapshots over time;

30

Fig. 15 shows the locking device in the release position without the carrier device;

Fig. 16 shows a rear view of Fig. 12.

As shown in Fig. 1, every connecting fitting 1 comprises two corresponding functional units which can be brought into engagement with each other: a carrier device 2 and a locking device 3 which can be brought into detachable engagement with the carrier device 2.

The carrier device 2 will be fixed to a first panel-shaped furniture item, which is preferably arranged (see Figs. 3 to 5) as a front panel 4 of a drawer 5. Said drawer 5 can be inserted into a furniture body 6 of a piece of furniture 7, in which it is displaceably guided so that it can be pulled out of the furniture body 6 to an open position and can be pushed from the said open position to a closed position (see Figs. 3 and 4).

The locking device 3 (see Figs. 2 and 6, as well as 7 and 8) is configured on the other hand to be fastened to a second panel-shaped furniture item, which is preferably arranged as a lateral frame 8 of the drawer 5. The panel shape of the lateral frame is realised in this case by a metallic double-wall cover 9, which is placed over one or several frame adapters 10 and which can be locked in the known manner on the one or several frame adapters 10, e.g. by mounting means such as screws or latching means or the like. The frame adapters 10 are further used for accommodating a bottom 11 of a drawer (Fig. 6) on the mounting contours 12 (Fig. 2) and for placing on a rail construction (not shown) with which the drawer is displaceably guided on the furniture body.

Each drawer preferably comprises two of the frames 8 and two of the connecting fittings 1, so that the front panel 4 is connectable or connected in the mounted state in two areas via a respective one of the carrier devices 2 with the corresponding locking devices 3 on the corresponding two lateral frames 8.

The configuration of the carrier device 2 is substantially free within the scope of the present invention. It must be fixable however at least to the first panel-

shaped furniture item (e.g. the front panel 4) and comprise an abutment element, e.g. a suitable recess or a pin 13 extending in a horizontal manner in the installation position.

- 5 The locking device 3 comprises a base unit (also see Fig. 2), preferably a base angle 14, which is fixed with a leg (sections 15a, b) to a mounting surface 16 of the frame adapter 10 which is the upper one in the installation position, e.g. by welding. Such fixing could also occur by other connecting means such as screws. Furthermore, the base unit could also be integrally integrated in the
10 frame adapter 10 (both of which are not shown here).

Notice must be taken at this point that terms such as “above” and “below” shall not be understood in a generally limiting way. They rather relate to the conventional installation and structural position of a piece of furniture, as shown
15 in Fig. 2.

The leg (Fig. 2) is subdivided in this case into two leg sections 15a, b, between which there is a free space in order to enable the contours of further functional elements (not explained here in closer detail), said contours protruding
20 upwardly from the mounting surface 16.

The mounting surface 16 comprises an opening 17 in the front part, i.e. in the direction towards the carrier device 2, by means of which functional elements of the locking device 3 protrude into the frame adapter 10, wherein said functional
25 elements will be explained below in closer detail.

The frame adapter 10 has a substantially U-shaped cross section in a view perpendicularly to the front panel plane. Preferably, it is bent from a sheet metal, wherein the mounting surface 16 is formed by the shorter leg of the U. In
30 addition, the mounting contours 12 protrude from the frame adapter 10 towards the drawer bottom 11. A free space 20 is formed between the two longer legs

18, 19. Said free space 20 is dimensioned in such a way that a user is able to engage from below with his or her fingers into the same.

5 The leg sections 15a, b comprise a mounting base section 21 extending perpendicularly to the mounting surface 16. A locking lever 22 is movably linked to the mounting base section 21, said locking lever being movable from a release position to a locking position.

10 The locking lever 22 preferably always lies completely within the frame, so that no part of the locking device 3 extends up into the front panel 4.

15 The locking lever 22 comprises a hook section 23 which is used to engage behind the corresponding abutment, preferably the pin 13, on the carrier device 2. The locking lever 22 is arranged as a lever mounted on one side. Its pivot bearing 24 lies on its side facing away from the front panel 4. The locking lever 22 is penetrated in this region in an opening 45 preferably by a pin 25 which preferably penetrates an elongated opening 26 in the mounting base section 21.

20 The opening 26 has a dimension which in any case is considerably larger in the X direction than the diameter of the pin 25, so that the pin 25 penetrates the opening 26 with play.

25 Mounting contours 27, 49 are arranged like hooks on the mounting base section 21 and on the locking lever 22, on which a spring (in this case a coil spring 28) is mounted with its ends, which can form mounting arcs. The coil spring 28 is disposed in a virtually horizontal way. One of its ends is fixed in the mounted position preferably above the opening 26 in a recess 46 of the mounting base section 21, and the other end is preferably disposed
30 approximately centrally between the pin 25 and the hook section 23.

In this way, the coil spring 28 will draw the locking lever 22 to an upper locking position, in which the one plate-shaped component is fixed to the other one (when the hook-like section engages behind the abutment on the carrier part or the carrier device 2), i.e. in this case the front panel 4 on the one lateral frame 8.

As a result of the bearing of the pin 25 on the rear interior surface of the preferably slot-like opening 26 with play in the opening 26, the end of the locking lever 22 with the pin can slightly displace in the opening 26, especially in the direction parallel to the lateral frame 8 or perpendicularly to the front panel 4.

This is especially advantageous because the described measure prevents that hard impacts on the front panel will directly be transmitted with full impulse onto the lateral frame 8. Kinetic energy will rather be withdrawn from the impact impulse by the interaction between bearing play and the spring 28. The connecting fitting 1 in accordance with the invention thereby reduces in a simple manner the likelihood of damage to the lateral frame construction and to the fixing of the front panel 4 with the pin sections 42, 43 of the carrier device 2 of the connecting fitting 1.

It is advantageous if the play in the pivot bearing 24 lies in the range of 0.3 to 3 mm, especially preferably in the range of 0.5 to 2 mm, in at least one direction, preferably in the mounting direction or the "X direction" in this case (Fig. 1). The play can be formed on the opening 26 and/or in the connecting region between the pin 25 and the locking lever 22.

A release lever 29 which is integrated in the locking device 3 is used for releasing the locking lever 22 from the connecting position, as shown in Fig. 1.

The release lever 29 is preferably L-shaped, as seen in a side view. It comprises a lever arm 30 and a release arm 31 which is aligned angularly, and

in this case virtually rectangularly, in relation to the lever arm 30. The release arm 31 is further arranged in this case in a staggered manner in a view which is perpendicular to the side view (also see Fig. 2 here). A control surface 51 is arranged between the lever arm 30 and the release arm 31 at an angle which is enclosed by said arms, which control surface is arranged in a virtually perpendicular way in the open position of the locking device 3.

The lever arm 30 is advantageously linked with its end to the mounting base section 21, preferably towards the front panel 4 or the carrier device 2 close to the hook section 23 by means of the pin 32 which penetrates the respective openings 34 and 36 in the mounting base section 21 or in the release lever 29. An arc-shaped connecting link 44 is arranged in the mounting base section 21, which connecting link overlaps an angular connecting link 50 in the locking lever 22 in such a way that the pin 33 penetrates both connecting links 44, 50 and in which the pin 33 will move at a distance about its centre of rotation (which advantageously lies in this case in the region of an optionally provided doubling of material of the element 21 which stabilises the arrangement), formed by the bearing in the openings 34, 36, wherein a dead centre which can be overpressed is formed by the angular connecting link 50, and wherein the pin 33 is arranged in an opening 35 on the release lever 29. Furthermore, a head 38 is arranged on the pin 33, so that the locking lever 22 is guided securely on the mounting base section 21 in its connecting link 44 when the locking lever 22 moves between the open position and the locking position.

The release arm 31 protrudes downwardly through the opening 17 into the free space and can be gripped there with a finger.

During latching, i.e. during insertion of the carrier device 2, the release lever 29 on the control surface 51 will be actuated by the pin 13 and the pin 33 will thereby be moved over the dead centre position of the connecting link 50. As a result, the locking lever 22 will be released and will pivot upwardly by the force of the coil spring 28, with the pin 13 being engaged from behind.

Fig. 7 illustrates that the frame cover 9 may comprise a lateral opening 48 in order to enable lateral access to the panel adjustment on the carrier device 2.

5 When the release arm 31 is pulled in the direction of the carrier device 2 or the front panel 4, the locking lever 22 is pulled against the force of the spring 28 from the locking or upper position to an open or bottom position.

10 Preferably, the locking lever 22 is pivotable to such an extent by the pin 33 on the release lever 29 that a dead centre in the connecting link 50 can be overcome, so that the locking lever 22 can remain in an open position after a respective movement in this position, which especially facilitates final assembly because the carrier device 2 with the front panel 4 can be brought at first to a mounting position in the locking device. As a result of a sufficiently large force against the direction X on the front panel 4, the carrier device 2 will move the
15 release lever 29 by means of the pin 13 on the control surface 51 and thereby the pin 33 beyond the dead centre position of the connecting link 50, so that the locking lever 22 is drawn to its locking position by the spring 28, in which the hook section 23 engages behind the abutment (in this case the pin 13) on the carrier device 2.

20 A resilient, automatically restorable plastic shoe 39 can be attached to the free bottom end of the release lever 29 (i.e. to the release arm 31), in this case on an offset portion of the same, which plastic shoe makes gripping the release lever 29 more comfortable. Preferably, said plastic shoe 39 will further realise
25 an additional function.

A sliding surface 52 is arranged on the plastic shoe in the corner region between the handle surface 53 and the securing surface 40, which sliding surface will at first strike a corner region 41 of the locking lever 22 during
30 drawing of the release arm 31 and will slide over said corner 41 only when a clearly perceivable, sufficiently high operating force is applied, i.e. when the plastic shoe 39 is pivoted against its spring force.

Since the pivoting of plastic shoe 39 is required for overcoming the corner region 41, an additional securing device against inadvertent release of the locking lever 22 from its locking position by means of a mere impact load on the front panel 4 for example is realised when the release lever 29 is not actuated by the user, wherein the plastic shoe 39 strikes the bottom edge of the release lever 22 in this case with its securing surface 40, i.e. it cannot pivot the release lever 29 to such an extent that the coupled release lever can release the pin 13 of the carrier device 2 with its hook section 23.

10 This connection will become especially clear from Figs. 10 to 15 and Fig. 1, which show side views of the connecting fitting of Fig. 1 with (Fig. 10, Fig. 1) and without the frame adapter (Fig. 11, 12, 13, 14, 15), wherein the sequences of movement during mounting of the carrier part 2 in the direction X (see Fig. 1) on the locking part 3 are illustrated in the manner of successive snapshots (Figs. 10, 11, 12, 13, 14, 1 and 15), and especially the aforementioned latching over of the plastic shoe 39 on the corner 41 is illustrated.

Notice must finally be taken that the carrier part 2 can be fixed in this case with one of several dowel-like pin section(s) 42, 43 in openings of the front panel 4 (in a clamping and/or adhesive manner). Alternatively it would also be possible to fix the carrier part 2 to the front panel 4 in another way, thus by means of screws (not shown here). This connection will be relieved considerably by the apparatus in accordance with the invention as described above and the operational lifespan of the piece of furniture will consequently be increased.

25 It is to be understood that, if any prior art publication is referred to herein, such reference does not constitute an admission that the publication forms a part of the common general knowledge in the art, in Australia or any other country.

30 In the claims which follow and in the preceding description of the invention, except where the context requires otherwise due to express language or necessary implication, the word "comprise" or variations such as "comprises" or

“comprising” is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence or addition of further features in various embodiments of the invention.

List of reference numerals

	Connecting fitting	1
	Carrier device	2
5	Locking device	3
	Front panel	4
	Drawer	5
	Furniture body	6
	Furniture	7
10	Lateral frame	8
	Double-wall cover	9
	Frame adapter	10
	Drawer bottom	11
	Mounting contours	12
15	Pin	13
	Base angle	14
	Leg sections	15a, 15b
	Mounting surface	16
	Opening	17
20	Leg	18, 19
	Free space	20
	Mounting base section	21
	Locking lever	22
	Hook section	23
25	Pivot bearing	24
	Pin	25
	Opening	26
	Mounting contour	27
	Coil spring	28
30	Release lever	29
	Lever arm	30
	Release arm	31

	Pins	32, 33
	Openings	34 to 37
	Head	38
	Plastic shoe	39
5	Securing surface	40
	Corner region	41
	Pin sections	42, 43
	Connecting link	44
	Opening	45
10	Recess	46
	Openings	47, 48
	Mounting contour	49
	Connecting link	50
	Control surface	51
15	Sliding surface	52
	Handle surface	53

CLAIMS:

- 5 1. A connecting fitting for detachably fixing a panel-shaped furniture item to a further panel-shaped furniture item which is aligned in an angular manner thereto with the connecting fitting comprising a carrier device which is provided with an abutment that is in detachable engagement with a locking device, with the locking device having the following features:
- 10 a) a mounting base section extending perpendicularly to the mounting surface;
- b) to which a locking lever loaded by a spring is movably linked, which is movable under spring force from a release position to a locking position and, against the spring force, from the locking position back to the release position;
- 15 c) with the locking lever further having a hook section which is used to engage behind the corresponding abutment in the locking position on the carrier device;
- d) with the locking lever being linked with a pivot bearing to the mounting base section;
- 20 e) with a release lever being provided which can be actuated manually;
- f) the base section is further mounted or arranged on a frame adapter of the lateral frame, and that the release lever that can be actuated manually is linked to the locking lever and to the base section, and
- 25 extends up into a free space in the frame adapter, so that it can be actuated in the free space by hand by a user;
- wherein the locking device has a base angle as the base unit, which base angle is mounted with a mounting leg on a mounting surface of a leg of the frame adapter, said mounting surface being the upper one in
- 30 the installation position, with the release lever extending through an opening in the mounting surface up into the free space in the frame

adapter.

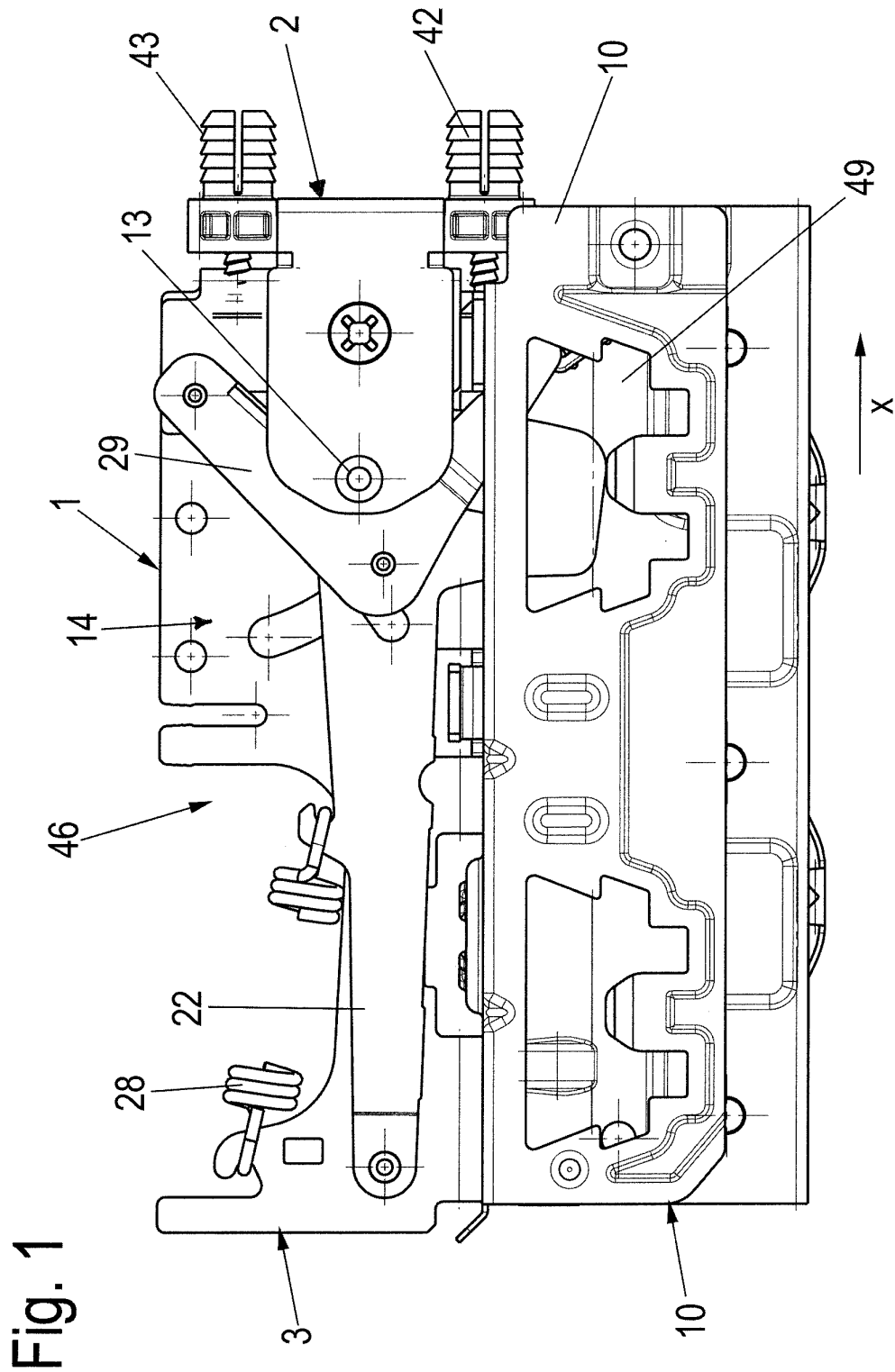
- 5 2. A connecting fitting according to claim 1, wherein a first connecting link is arranged in the mounting base section, which connecting link overlaps a second connecting link in the locking lever, with the pin which is movable in both connecting links penetrating both connecting links.
- 10 3. A connecting fitting according to claim 2, wherein the first connecting link is an arc-shaped connecting link in the mounting base section, and that the second connecting link is an angular connecting link in the locking lever, with a dead centre for the pin which can be overpressed being formed by the angular connecting link.
- 15 4. A connecting fitting according to claim 2 or 3, wherein the pin is arranged on the release lever, preferably in an opening.
- 20 5. A connecting fitting according to any one of the preceding claims, wherein a head is formed on the pin, so that the locking lever is guided on the mounting base section in its connecting link when the locking lever moves between the open position and the locking position.
- 25 6. A connecting fitting according to any one of the preceding claims, wherein the release arm protrudes through the opening into the free space, so that it can be grasped with a finger, preferably from below in the mounted position.
- 30 7. A connecting fitting according to any one of the preceding claims, wherein the release lever comprises a lever arm and a release arm which is aligned in an angular manner, and in a virtually rectangular manner in this case, in relation to the lever arm.

8. A connecting fitting according to any one of the preceding claims, wherein a control surface is arranged between the lever arm and the release arm in the enclosed angle.
- 5 9. A connecting fitting according to any one of the preceding claims, wherein the lever arm is linked with its one end to the mounting base section, and preferably towards the front panel or towards the carrier device close to the hook section.
- 10 10. A connecting fitting according to any one of the preceding claims or according to the features a) to d) of claim 1, wherein the pivot bearing has play which is so large that the locking lever is displaceable under spring force in the pivot bearing in at least one direction on the locking device, especially parallel to or in a mounting direction (-X) for mounting
15 on the carrier device.
11. A connecting fitting according to claim 10, wherein the displaceability or the play is at least 0.2 mm, preferably at least 0.3 mm.
- 20 12. A connecting fitting according to any one of the preceding claims, wherein the locking lever is a lever mounted on one side and that the pivot bearing lies on the end of the locking lever which faces away from the carrier device.
- 25 13. A connecting fitting according to any one of the preceding claims, wherein the locking lever is penetrated by a pin for forming the pivot bearing, which pin additionally engages through a windows-shaped opening in the base section which has a diameter that in any case has play in one direction, especially in the mounting direction (-X), of
30 between 0.3 and 3 mm, preferably between 0.5 and 2 mm.

14. A connecting fitting according to any one of the preceding claims,
wherein the opening is arranged as an oblong hole.
- 5 15. A connecting fitting according to any one of the preceding claims,
wherein preferably the entire locking device, and especially its locking
lever, always lies completely within the frame cover in the mounted
position.
- 10 16. A connecting fitting according to any one of the preceding claims,
wherein mounting contours are formed on the mounting base section
and on the locking lever, with the spring being fixed to said mounting
contours.
- 15 17. A connecting fitting according to any one of the preceding claims,
wherein the spring is arranged in such a way that it is angularly disposed
in relation to the locking lever that it draws the same to its locking
position.
- 20 18. A connecting fitting according to any one of the preceding claims,
wherein the locking lever is movable over the dead centre into an open
position.
- 25 19. A connecting fitting according to any one of the preceding claims,
wherein the one end of the spring is fixed in the mounted position above
the opening and that its other end lies approximately centrally between
the pivot bearing and the hook section.
- 30 20. A connecting fitting according to any one of the preceding claims,
wherein the release arm and the locking lever cooperate in such a way
that an additional securing device against inadvertent release of the
locking lever is realized during movement of the locking lever to its

release position from the locking position.

21. A connecting fitting according to any one of the preceding claims,
wherein a shoe, preferably a plastic shoe, is attached to the release arm
of the release lever, with a sliding surface being arranged on the shoe in
the corner region between the handle surface and the securing surface,
which sliding surface will at first strike a corner region of the locking lever
during drawing of the release arm and will slide over said corner only
when a clearly perceivable, sufficiently high operating force is applied,
i.e. when the plastic shoe is pivoted against its spring force.



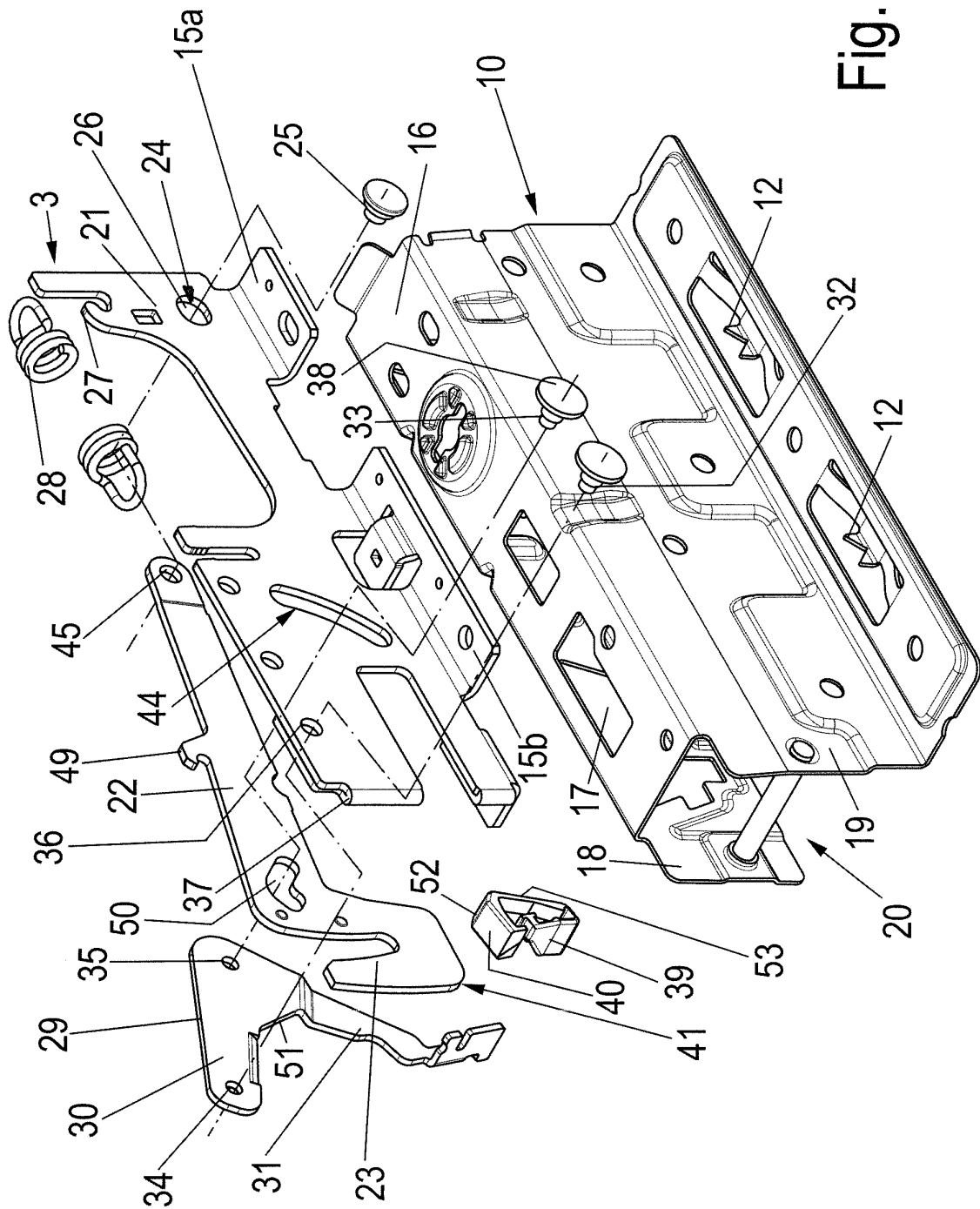


Fig. 2

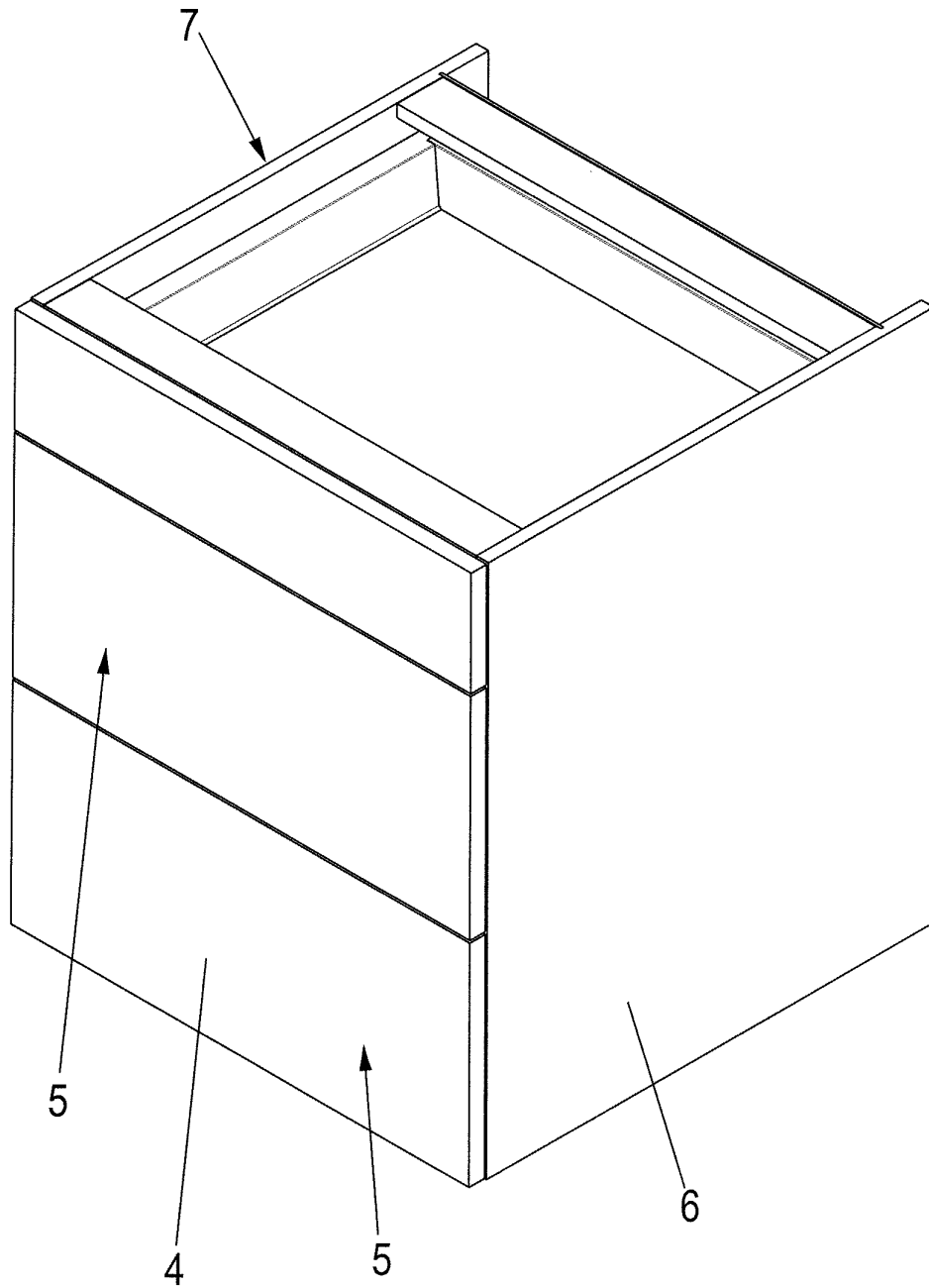


Fig. 3

Fig. 4

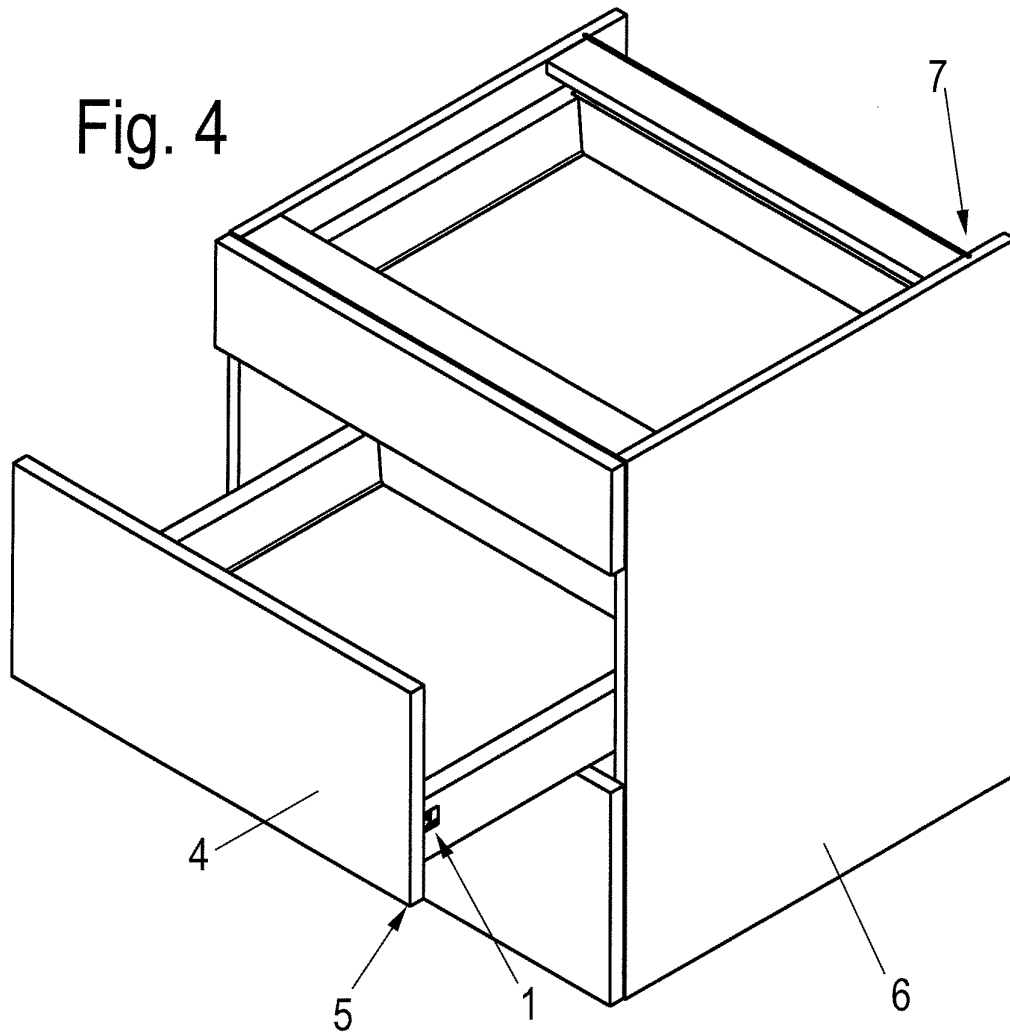
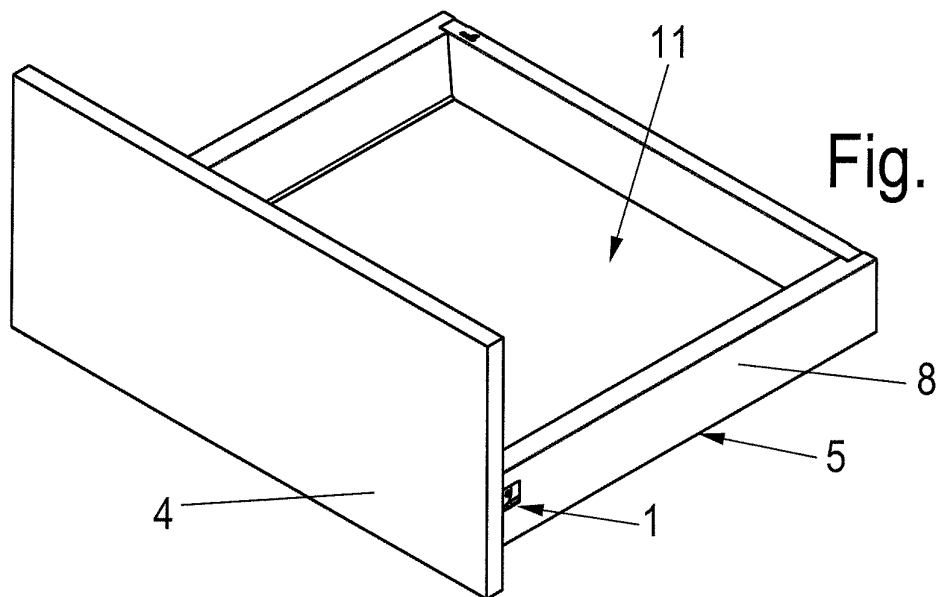
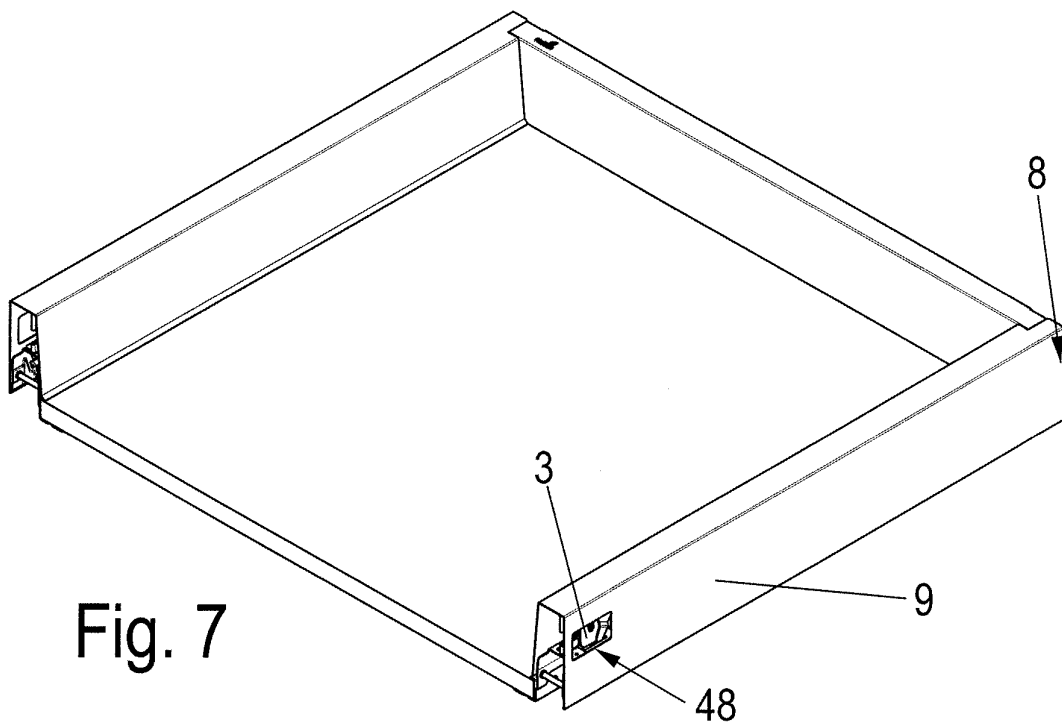
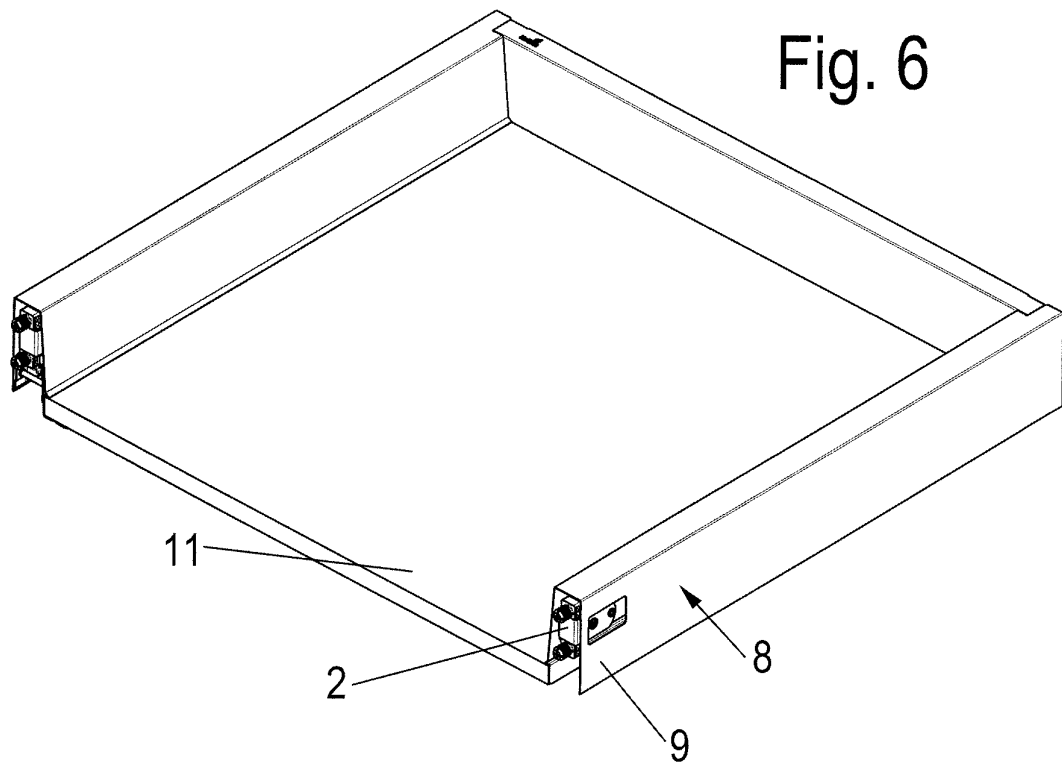


Fig. 5





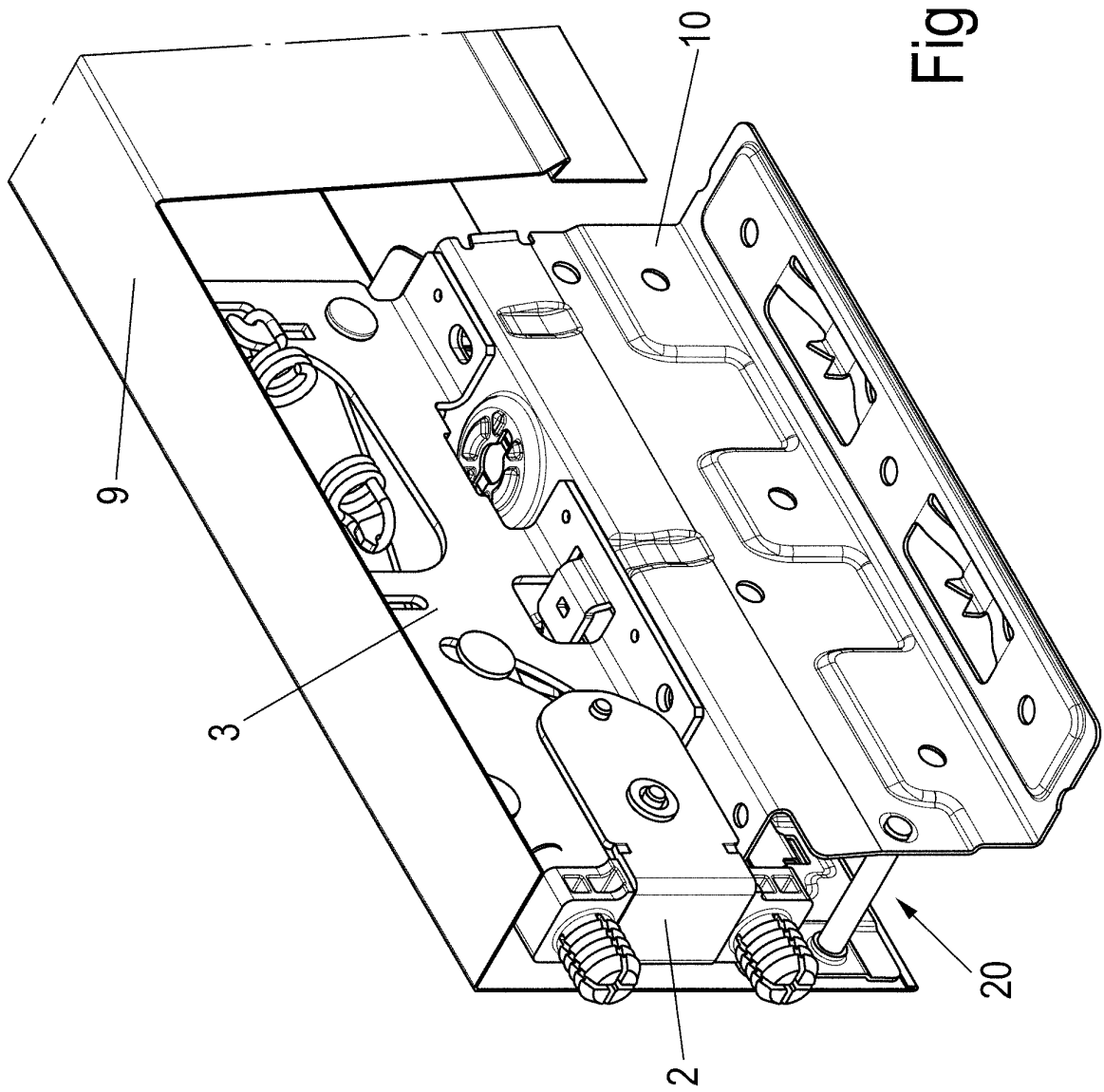


Fig. 8

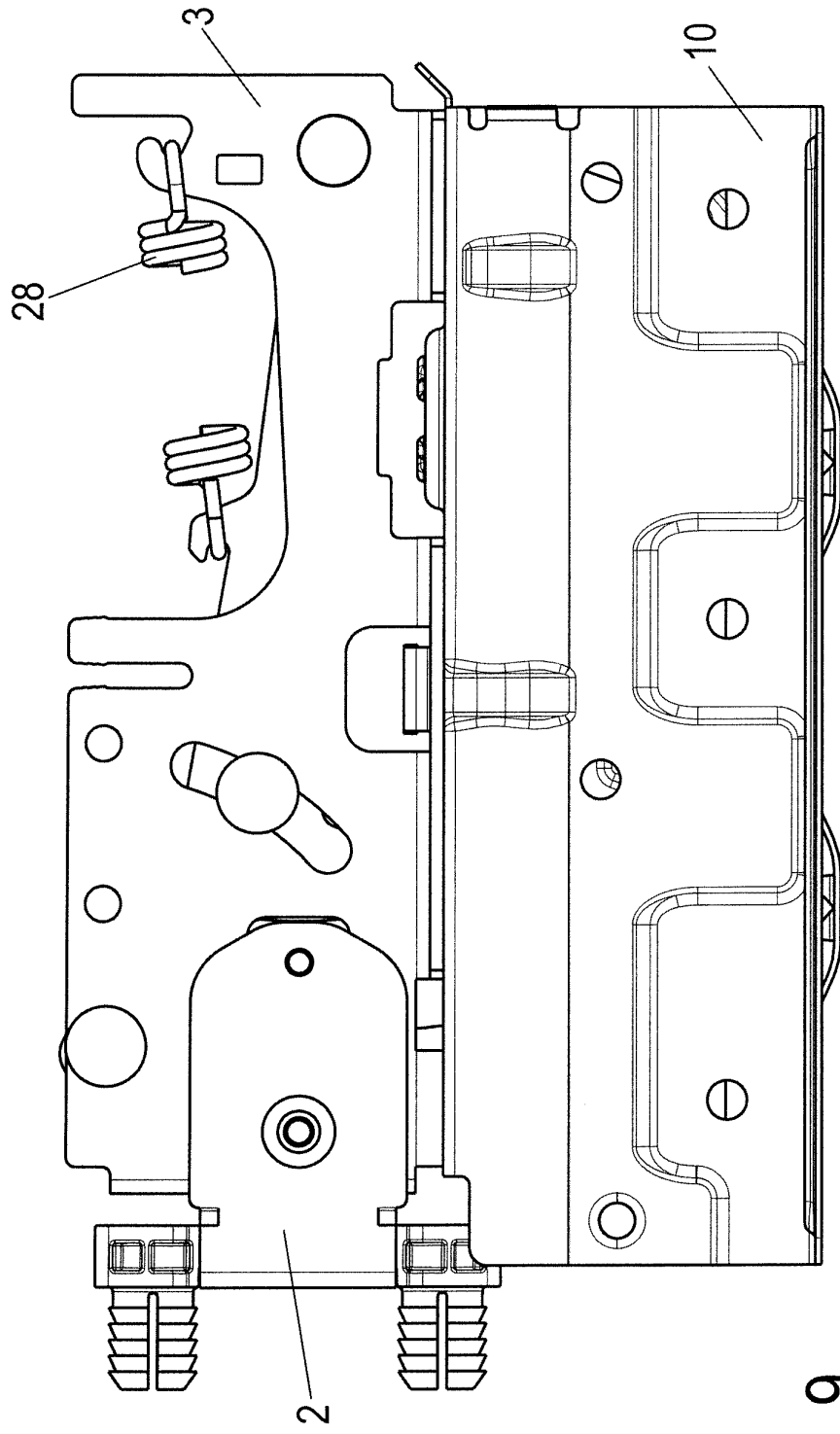
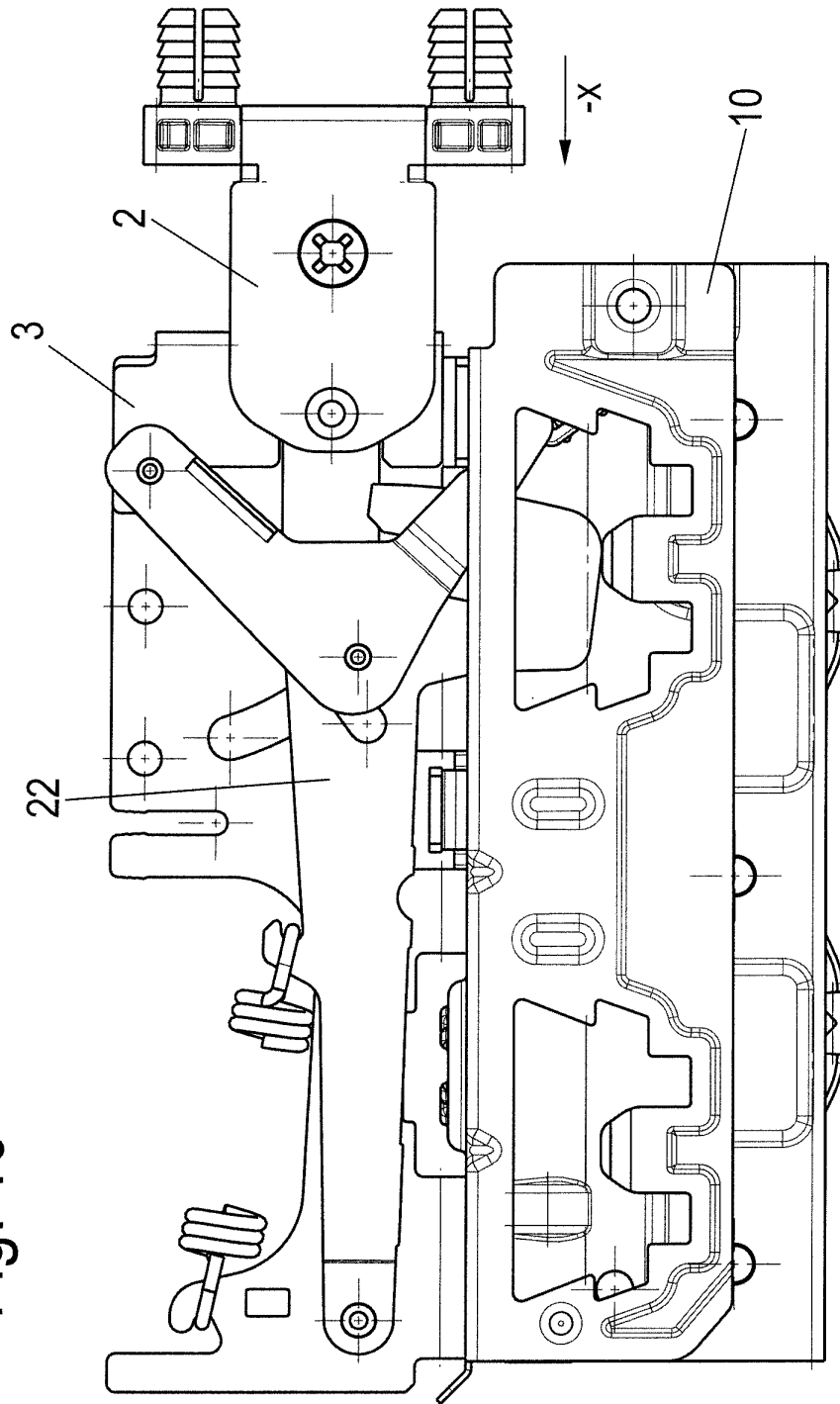


Fig. 9

Fig. 10



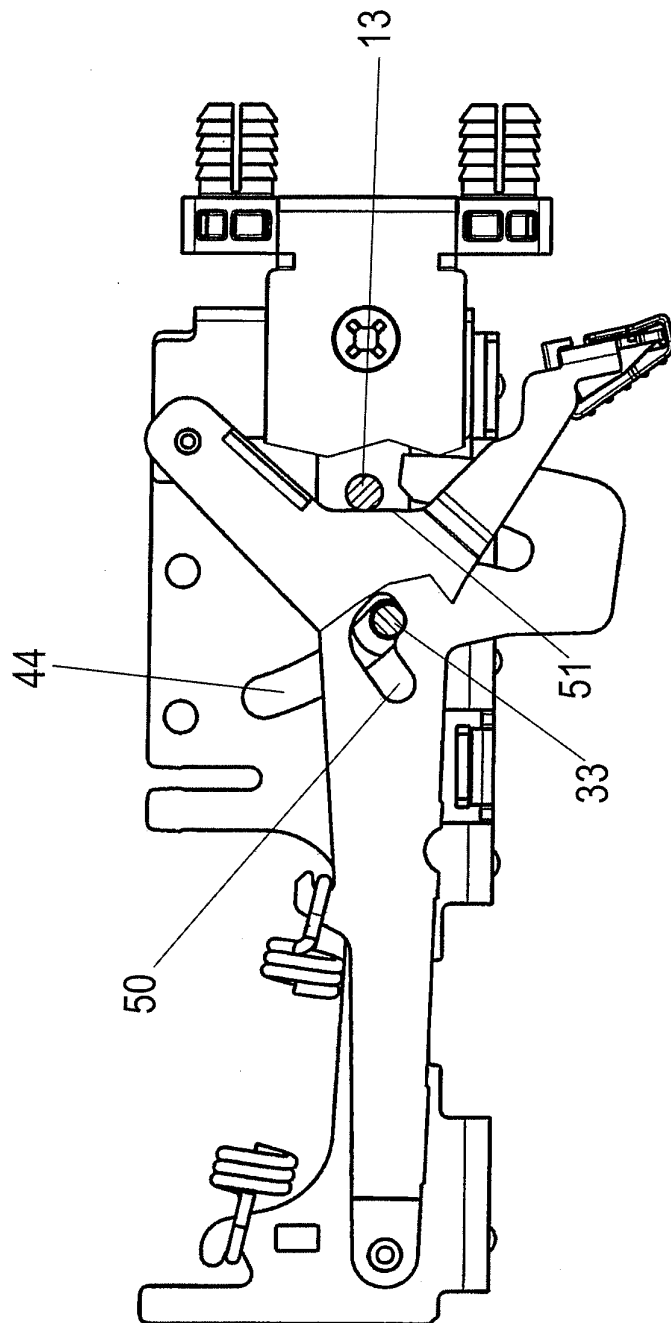


Fig. 11

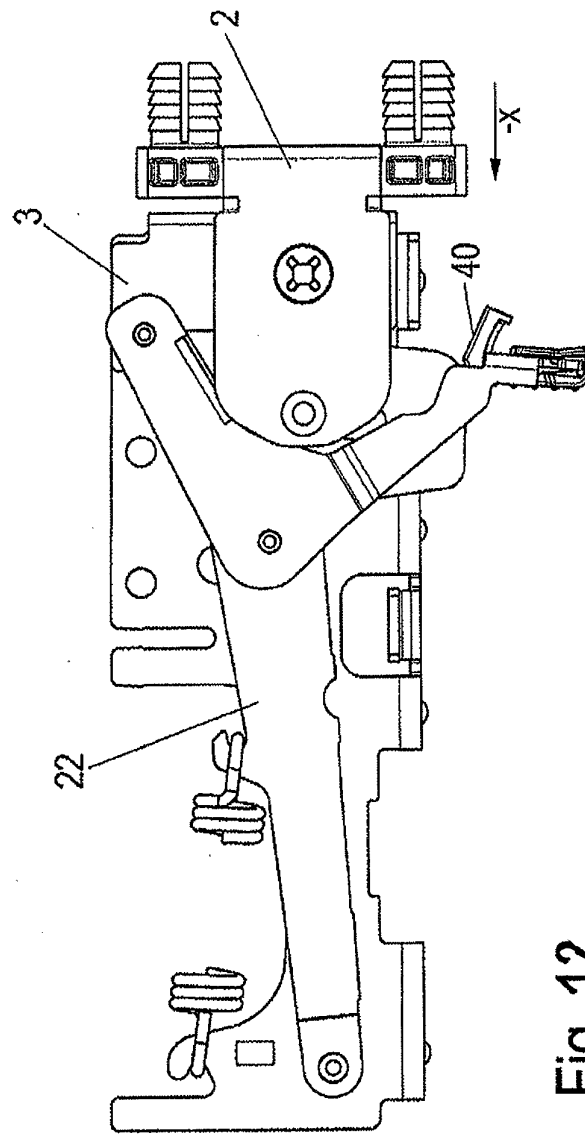


Fig. 12

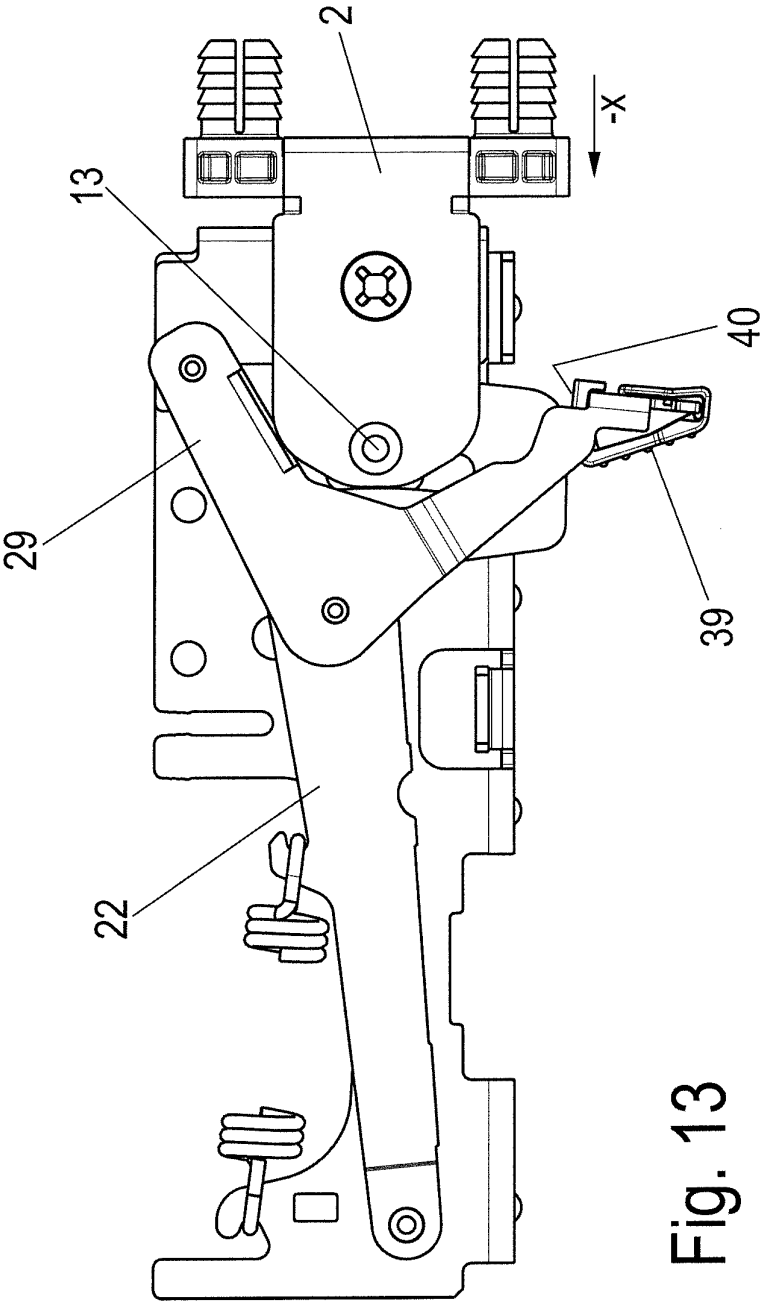


Fig. 13

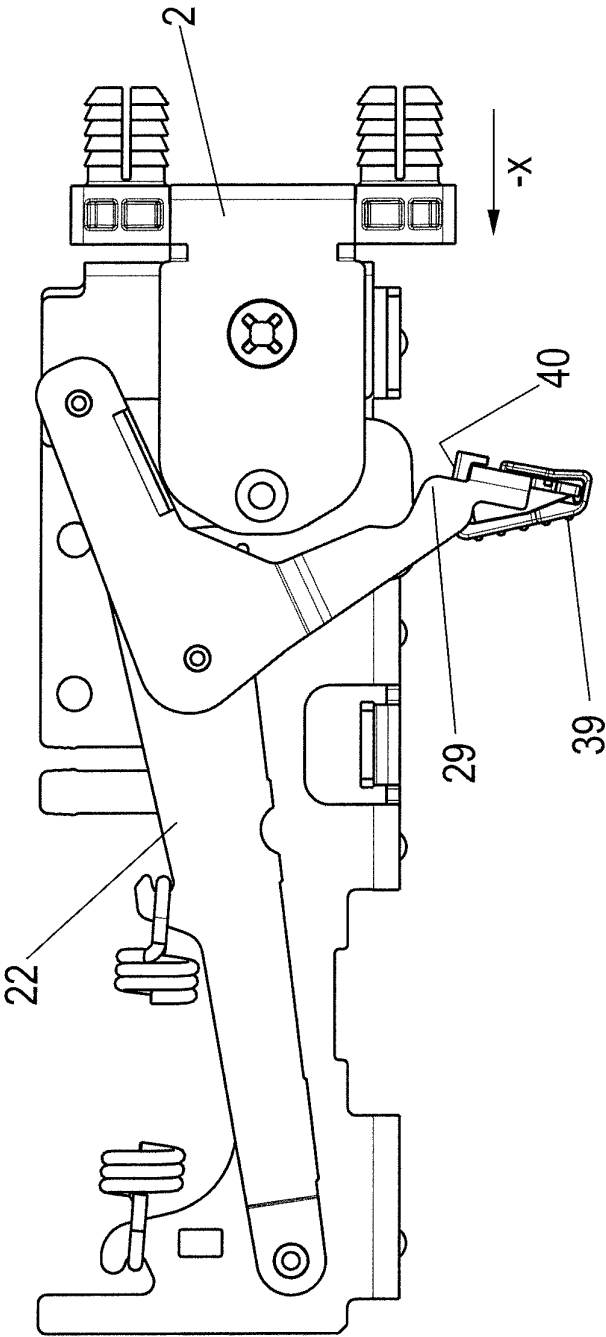


Fig. 14

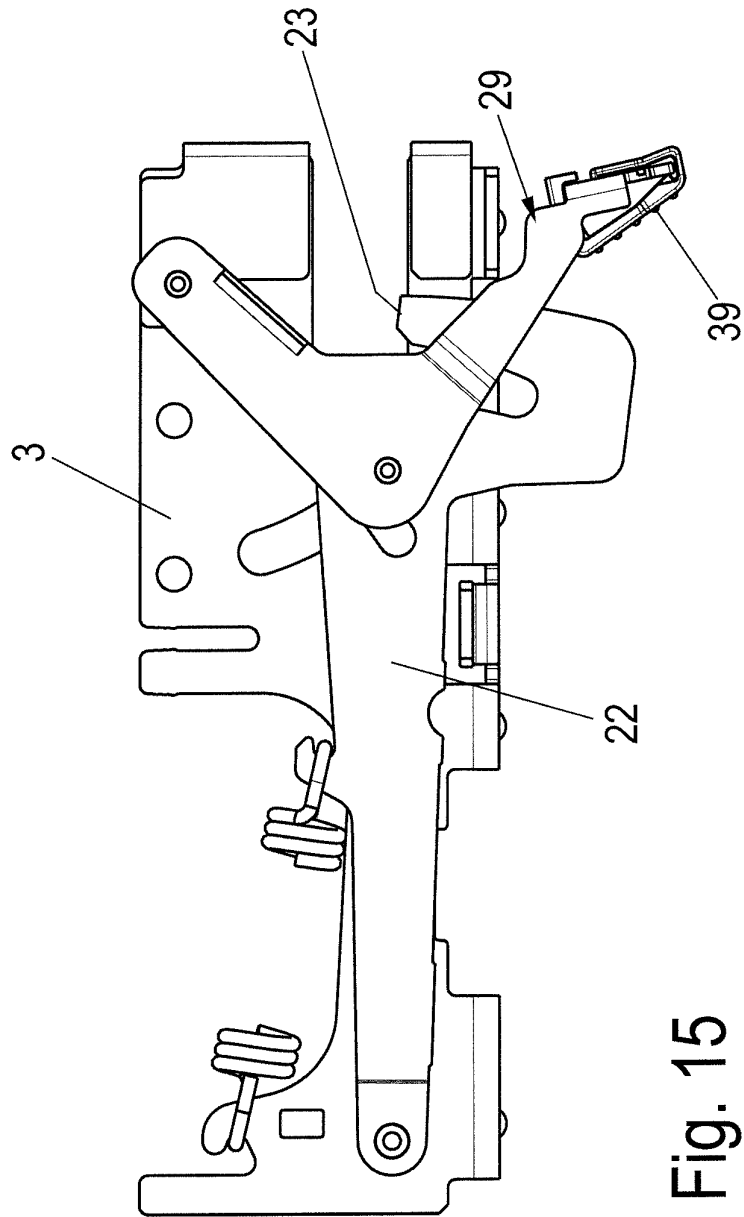


Fig. 15

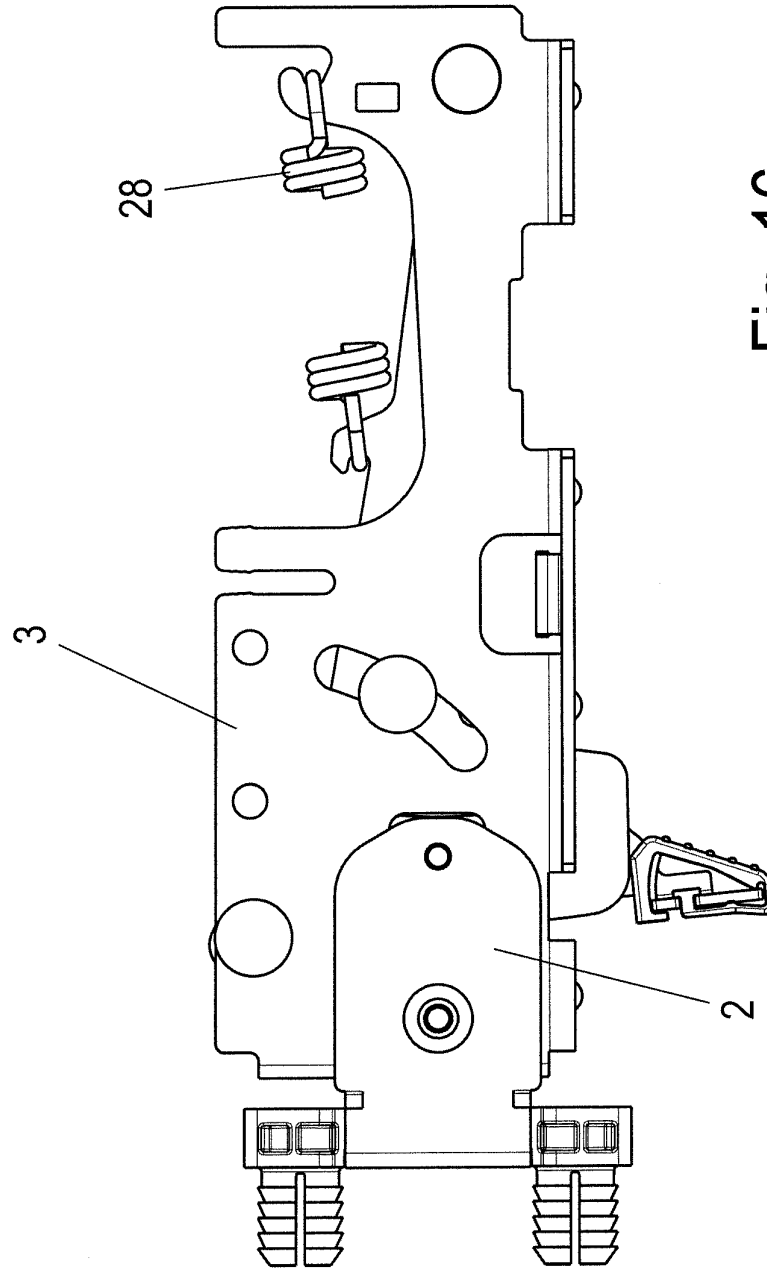


Fig. 16