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(54) **FORCED ENTRY RESISTANT LOCK**

GEGEN GEWALTSAMES EINDRINGEN BESTÄNDIGES SCHLOSS

DISPOSITIF DE VERROUILLAGE RÉSISTANT AUX EFFRACTIONS

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EP-A2- 1 243 729 US-A- 1 660 325

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Description

[0001] The present invention relates to a forced entry resistant lock.

[0002] Currently, the most widespread international certifications for forced entry resistance for door and window assemblies, such as for example the EN1627 standard, entail various tests, including a manual test with burglary tools, which attempt to tear out the locking points of the hardware mounted on the leaf from the corresponding anchoring coupling mounted on the frame.

[0003] Up to now, in door or window assemblies with shutter-like or tilt-and-turn opening with a forced entry resistance function it is known to use single hook and tumbler systems, which however, by using burglary tools such as screwdrivers and crowbars, can be extracted easily from the coupling seat, since they are anchored only on one side.

[0004] Such known technical solutions, therefore, do not allow to attain the forced entry resistance class RC3, i.e., they are not resistant to the use of a screwdriver or crowbar by a burglar, according to the EN1627 standard.

[0005] Currently known locks, moreover, are inserted in a corresponding seat in the leaf of a door or window assembly and are fixed to the edge of the leaf by means of threaded elements that generally are visible.

[0006] Such fixing solution allows a burglar to tear the lock out of its seat in the leaf by acting on the heads of the screws or by tearing out said screws by using a screwdriver as a lever between the plate portion of the lock on which a threaded element is inserted and the underlying edge of said leaf.

[0007] US 1 660 325 A discloses a lock having a casing and a bolt movable outward of the casing along a path, actuating means for the bolt comprising a pivot member movable outward in unison with the bolt, and an abutment on the casing serving to cause the bolt to tilt laterally of the path of the bolt while continuing its movement outwardly. The abutment co-acts with the bolt to prevent it from tilting back to its original position until after the bolt and pivot member are partially retracted.

[0008] EP 1 243 729 A2 discloses a drive rod-actuated locking device comprising a connecting link which is slotted obliquely with respect to a displacement direction and which can be displaced longitudinally by a drive rod in a bolt housing, a pin engaging in the slot of the connecting link for sliding out or pulling back a lock in or out of a jamb closure piece. Two expander tongues articulated to the pin can slide in and out together with respect to the bolt housing, the tongues being hook shaped at the end to engage behind undercuts on the closure piece, while guides engage on the two expander tongues for an expanding movement at the end of sliding out.

[0009] The aim of the present invention is to provide a forced entry resistant lock capable of obviating the cited limitations of known locks.

[0010] Within this aim, an object of the invention is to provide a forced entry resistant lock capable of withstand-

ing burglary attempts performed with a screwdriver or crowbar.

[0011] Another object of the invention is to provide a forced entry resistant lock the extraction of which from its seat in the leaf is rendered far more difficult for a burglar.

[0012] A further object of the invention is to devise a forced entry resistant lock that can be installed easily, like forced entry resistant locks of the known type.

[0013] In accordance with the invention, there is provided a forced entry resistant lock as defined in the appended claims.

[0014] The aim of this invention is achieved by a forced entry resistant lock according to claim 1. Preferential embodiments are further defined in the dependent claims 2-7. A preferred but not exclusive embodiment of the forced entry resistant lock according to the invention is illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a sectional side view of a forced entry resistant lock according to the invention;

Figure 2 is a sectional top view of the lock of Figure 1;

Figures 3 to 6 are each a side view of a lock according to the invention in a corresponding step of operation,

Figure 7 is a plan view of an engagement element of the invention.

[0015] With reference to the figures, a forced entry resistant lock according to the invention is generally designated by the reference numeral 10.

[0016] The forced entry resistant lock 10 is shown in Figures 1 and 2 inserted in the frame 12 of a leaf 13 provided with a glass pane, particularly with a double-glazing unit, 14.

[0017] Said forced entry resistant lock 10 comprises:

- a casing 15 with an opening 16 for the passage of two engagement elements, respectively 17 and 18,
- two engagement elements 17 and 18, which are arranged with respective engagement teeth 19 and 20 that have mutually opposite orientations in the configuration for use with the lock in operation, as shown in Figures 1 and 3;
- a movable pivot 21, to which both of said engagement elements 17 and 18 are pivoted,
- means 23 for the translation of the movable pivot 21 in a direction for the exit of the engagement elements 17 and 18 from inside the casing 15, in an inactive configuration, toward the outside of the casing 15, in an intermediate configuration for translation and in a subsequent configuration for use,
- means 24 for the rotation in opposite directions of each engagement element 17 and 18 from an intermediate configuration for translation to a configuration for use,
- elastic means 25 for contrasting the rotation of the engagement elements 17 and 18 from said interme-

diate configuration to said configuration for use.

[0018] The engagement elements 17 and 18 are flat.

[0019] Each engagement element 17 and 18, for example the engagement element 17, clearly shown in Figure 7, comprises a pivoting portion 26, with a through hole 27 for the movable pivot 21, and an engagement portion 28, from which the corresponding engagement tooth 19 protrudes.

[0020] A coupling and rotation tab 30, which extends on the same side as the engagement tooth 19, and an abutment and stroke limiting tab 31 extend radially, in substantially opposite directions, from the pivoting portion 26.

[0021] The coupling and rotation tab 30 has a curved or cam-shaped edge 32 designed to abut against an external cover 33 of the casing 15 proximate to the opening 16; this coupling determines the beginning of the rotation of the engagement element 17 during the translation movement of the movable pivot 21, as better described hereinafter.

[0022] The abutment and stroke limiting tab 31 has a linear edge 34 that is adapted to couple to the external cover 33 on the opposite side proximate to the opening 16 but on the opposite side with respect to the coupling and rotation tab 30, so as to stop the rotation of the engagement element that began with the contact of the coupling and rotation tab 30 with the external cover 33.

[0023] The tabs 30 and 31 are thus shaped so that with respect to the translation that the engagement element 17 and 18 performs carried by the movable pivot 21, the coupling and rotation tab 30 couples to the outer cover 33 before the abutment and stroke limiting tab 31.

[0024] The engagement element 18 is to be understood as equal to the described engagement element 17 and mounted in a mirror-symmetrical manner on the same movable pivot 21.

[0025] The movable pivot 21, to which both of said engagement elements 17 and 18 are pivoted, is arranged so as to slide with the ends inserted in corresponding slots 35, which have a linear extension and are defined on the casing 15 along a direction that is at right angles to the outer edge 36 of the frame 12 of the leaf 13 in which the lock 10 is inserted, i.e., a direction 38 from the inside toward the outside of the casing 15, which is substantially at right angles to the outer edge 37 of said casing 15.

[0026] The means 23 for the translation of the movable pivot 21 in the direction 38, for the exit of the engagement elements 17 and 18 from inside the casing 15, are constituted by a moving body 40, designed to be coupled to corresponding actuation shafts 41 and 42 that are part of the hardware of which also the forced entry resistant lock 10 is a part.

[0027] The moving body 40 is adapted to be translated in a direction that is perpendicular to the direction 38 of translation of the movable pivot 21, therefore parallel to the outer edge 36 of the frame 12 of the leaf 13.

[0028] The moving body 40 is provided centrally with a cam-shaped slot 43 in which the movable pivot 21 is arranged so that it can slide.

[0029] The cam-shaped slot 43 comprises two linear portions 45 and 46 and a diagonal intermediate portion 47.

[0030] A first linear portion 45 is extended proximate to the external cover 33 of the casing 15.

[0031] The second linear portion 46 is extended proximate to the inner cover 48 of the casing 15.

[0032] The diagonal intermediate portion 47 is extended between the two linear portions 45 and 46.

[0033] The translation of the moving body 40 causes a thrust, by means of the edges of the diagonal portion 47 of the cam-shaped slot 43, on the movable pivot 21, such as to induce the translation of the movable pivot 21 in the linear slots 35 of the casing 15, with consequent translation either toward the outside of the casing 15 or toward the inside of the casing 15 of the two engagement elements 17 and 18, as in Figures 3 to 6.

[0034] The moving body 40, in the present non-limiting example of embodiment of the invention, comprises two rod-like elements 40a and 40b, which are shown schematically in Figure 2 and diverge in order to surround the engagement elements 17 and 18 inside the casing 15, each one of which has a cam-shaped slot 43 as described above.

[0035] The means 24 for the rotation of each engagement element 17 and 18 from an intermediate configuration for translation to a configuration for use are constituted by the coupling and rotation tab 30 and the abutment and stroke limiting tab 31, and by the external cover 33 with which the coupling and rotation tab 30 cooperates to rotate the engagement element, 17 or 18, to which it belongs, while the abutment and stroke limiting tab 31, by abutting against the external cover 33, stops the rotation of the engagement element 17 or 18 to which it belongs.

[0036] Contact of the coupling and rotation tab 30 with the external cover 33 occurs when the engagement teeth 19 and 20 are extracted from the casing 15 and are within a corresponding engagement seat 50 in an engagement coupling 51, which is fixed to the frame 52 of a door or window assembly.

[0037] The elastic means 25 for contrasting the rotation of the engagement elements 17 and 18 from the intermediate translation configuration to the configuration for use are constituted, for each engagement element 17 and 18, by a pusher lever 55 and 56 respectively.

[0038] Each pusher lever 55 and 56 is coupled by one end 60 to the casing 15, while the opposite end 61 is pushed by an elastic element 62, for example a helical spring; the intermediate region of the pusher lever 55 and 56 acts on the coupling and rotation tab 30 of the corresponding engagement element 17 and 18, causing a rotation thereof that is equal and opposite to the rotation that occurs during the exit of the engagement element 17 and 18 from the casing 15, during the translation for

retraction of the engagement element 17 and 18 inside the casing 15.

[0039] Moreover, the pusher lever 57 causes the corresponding engagement element 17 and 18 to remain in its inactive and minimum-bulk configuration inside the casing 15.

[0040] Each pusher lever 55 and 56 extends from a corresponding supporting block 65 and 66 by means of a bridge for pivoting thereto; the supporting block 65 and 66 is locked within the casing 15.

[0041] The elastic pusher element 62 is interposed between the free end of the corresponding pusher lever and an insertion groove 67 defined within the casing 15.

[0042] The forced entry resistant lock 10 according to the invention also comprises an internal fixing plate 80, which is intended to allow the fixing of the casing 15 from the inside of the leaf, in the interspace 82 between the glass pane 14 and the frame 12 of the leaf 13.

[0043] The casing 15 therefore has threaded holes 81 for corresponding screws 83, which are placed so as to pass through the internal fixing plate 80, which in turn is fixed to the inner face 85 of the frame 12.

[0044] The forced entry resistant lock 10 according to the invention then uses two engagement elements 17 and 18, which by acting in opposite directions inside the coupling 51 cooperate to prevent mutual extraction from said coupling 51, in practice rendering the closure compliant with the RC3 standard category, i.e., resistant to burglary attempts using a screwdriver and a crowbar; in fact, the attempt to disengage an engagement element from the coupling produces a greater engagement of the other engagement element.

[0045] The flat shape of the engagement elements and the rotation around a single movable pivot instead of around two spaced pivots allow the lock 10 to have very small dimensions in height, depth and thickness, and this is very important especially in the application to door or window assemblies having a "minimalist" structure, i.e., with compact leaf and frame profiles that support glazings.

[0046] Moreover, the internal fixing plate 80, arranged in the space that exists between the frame 12 of the leaf 13 and the glass pane, ensures that the casing 15 cannot be extracted from the outside of said leaf.

[0047] In practice it has been found that the invention achieves the intended aim and objects.

[0048] In particular, the invention provides a forced entry resistant lock that is capable of withstanding burglary attempts with a screwdriver or a crowbar.

[0049] Moreover, the invention provides a forced entry resistant lock the extraction of which from its seat in the leaf is made much more difficult for a burglar by way of its fixing by means of an inner fixing plate.

[0050] Moreover, the invention provides a forced entry resistant lock that can be installed easily like forced entry resistant locks of the known type.

[0051] The invention thus conceived is susceptible of numerous modifications and variations, all of which are

within the scope of the appended claims.

[0052] Where characteristics and technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A forced entry resistant lock (10), comprising:

- a casing (15) with a passage opening (16) for two engagement elements (17, 18),
 - two engagement elements (17, 18) arranged with respective engagement teeth (19, 20) that have opposite orientations in the configuration for use with the lock in operation,
 - a movable pivot (21), to which both of said engagement elements (17, 18) are pivoted,
 - means (23) for the translation of said movable pivot (21) in a direction for the exit of said engagement elements (17, 18) from inside said casing (15), in an inactive configuration, toward the outside of said casing, in an intermediate configuration for translation and in a subsequent configuration for use,
 - means (24) for the rotation in opposite directions of each engagement element (17, 18) from an intermediate configuration for translation to a configuration for use, and
 - elastic means (25) for contrasting the rotation of said engagement elements (17, 18) from said intermediate configuration to said configuration for use,
- each engagement element (17, 18) comprising a pivoting portion (26) for the movable pivot (21) wherein said pivoting portion (26) is provided with a through hole (27) for the movable pivot (21), and an engagement portion (28), from which the corresponding engagement tooth (19, 20) protrudes, **characterized in that** a coupling and rotation tab (30) protrudes on the same side as the engagement tooth (19) and an abutment and stroke limiting tab (31) extends radially, in substantially opposite directions, from the pivoting portion (26) of each engagement element (17, 18), and
- said tabs (30, 31) being shaped so that with respect to the translational motion to exit from said casing (15) that the engagement element (17, 18) performs by being carried by the movable pivot (21), the coupling and rotation tab (30) couples to an external cover (33) of said casing (15) before the abutment and stroke limiting tab (31).

2. The forced entry resistant lock according to claim 1, **characterized in that** said engagement elements (17, 18) are flat.
3. The forced entry resistant lock according to one or more of the preceding claims, **characterized in that** said movable pivot (21), to which both of said engagement elements (17, 18) are pivoted, is arranged so as to slide with the ends inserted in corresponding slots (35) having a linear extension which are defined on the casing (15) along a direction (38) from the inside toward the outside of said casing (15), said direction being substantially perpendicular to the outer edge (37) of said casing (15).
4. The forced entry resistant lock according to one or more of the preceding claims, **characterized in that** said means (23) for the translation of the movable pivot (21) in the direction (38) for exit and retraction for said engagement elements (17, 18) with respect to said casing (15) are constituted by a moving body (40), said moving body (40) being provided centrally with a cam-shaped slot (43) in which said movable pivot (21) is arranged so as to slide.
5. The forced entry resistant lock according to claim 4, **characterized in that** said cam-shaped slot (43) comprises two linear portions (45, 46) and a diagonal intermediate portion (47).
6. The forced entry resistant lock according to one or more of the preceding claims, **characterized in that** said means (24) for the rotation of each engagement element (17, 18) from an intermediate translation configuration to a configuration for use are constituted by said coupling and rotation tab (30) and said abutment and stroke limiting tab (31), and by said external cover (33) with which the coupling and rotation tab (30) cooperates to provide the rotation of the engagement element (17, 18) to which it belongs, while the abutment and stroke limiting tab (31), by abutting against said external cover (33), stops the rotation of the engagement element (17, 18) to which it belongs.
7. The forced entry resistant lock according to one or more of the preceding claims, **characterized in that** said elastic means (25) for contrasting the rotation of said engagement elements (17, 18) from said intermediate translation configuration to said configuration for use are constituted, for each engagement element (17, 18), by a pusher lever (55, 56).

Patentansprüche

1. Einbruchresistente Verriegelung (10), die aufweist:

ein Gehäuse (15) mit einer Durchtrittsöffnung (16) für zwei Eingriffselemente (17, 18), zwei Eingriffselemente (17, 18), die mit jeweiligen Eingriffszähnen (19, 20) versehen sind, welche in der Konfiguration zur Verwendung der Verriegelung im Gebrauch entgegengesetzte Ausrichtung haben, einen bewegbaren Zapfen (21), an dem beide der Eingriffselemente (17, 18) drehbar gelagert sind, Mittel (23) zum Verschieben des bewegbaren Zapfens (21) in eine Richtung für den Austritt der Eingriffselemente (17, 18) aus dem Inneren des Gehäuses (15), in einer inaktiven Konfiguration, in Richtung der Außenseite des Gehäuses, in einer Zwischenkonfiguration zur Verschiebung und in einer Folgekonfiguration zum Gebrauch, Mittel (24) zum Drehen jedes Eingriffselements (17, 18) in entgegengesetzte Richtungen von einer Zwischenkonfiguration zur Verschiebung in eine Konfiguration zum Gebrauch, und elastische Mittel (25) zum Kontrastieren der Drehung der Eingriffselemente (17, 18) von der Zwischenkonfiguration in die Konfiguration zum Gebrauch, wobei jedes Eingriffselement (17, 18) einen Zapfenabschnitt (26) für den bewegbaren Zapfen (21) aufweist, wobei der Zapfenabschnitt (26) mit einem Durchgangsloch (27) für den bewegbaren Zapfen (21) versehen ist, und einen Eingriffsabschnitt (28), aus dem der entsprechende Eingriffszahn (19, 20) vorsteht, **dadurch gekennzeichnet, dass** eine Verbindungs- und Drehtasche (30) auf derselben Seite vorsteht wie der Eingriffszahn (19), und sich eine Anschlag- und Stoßbegrenzungsflasche (31) in im Wesentlichen entgegengesetzten Richtungen von dem Zapfenabschnitt (26) jedes Eingriffselements (17, 18) radial erstreckt, und die Laschen (30, 31) derart geformt sind, dass bezüglich der Verschiebungsbewegung, um aus dem Gehäuse (15) auszutreten, die das Eingriffselement (17, 18) durchführt, indem es von dem bewegbaren Zapfen (21) getragen wird, die Verbindungs- und Drehtasche (30) sich vor der Anschlag- und Stoßbegrenzungsflasche (31) an eine externe Abdeckung (33) des Gehäuses (15) koppelt.

2. Einbruchresistente Verriegelung nach Anspruch 1, **dadurch gekennzeichnet, dass** die Eingriffselemente (17, 18) flach sind.
3. Einbruchresistente Verriegelung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der bewegbare Zapfen (21), an dem beide der Eingriffselemente (17,

18) schwenkbar gelagert sind, so angeordnet ist, dass er mit den Enden gleitet, die in korrespondierende Schlitze (35) eingeführt sind, welche eine lineare Ausdehnung haben und an dem Gehäuse (15) entlang einer Richtung (38) vom Inneren in Richtung des Äußeren des Gehäuses (15) definiert sind, wobei die Richtung im Wesentlichen senkrecht zu der Außenkante (37) des Gehäuses (15) ist.

4. Einbruchresistente Verriegelung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Mittel (23) zur Verschiebung des bewegbaren Zapfens (21) in der Richtung (38) zum Austritt und zum Zurückfahren der Eingriffselemente (17, 18) bezüglich des Gehäuses (15) durch einen sich bewegenden Körper (40) gebildet sind, wobei der sich bewegende Körper (40) mittig mit einem nockenförmigen Schlitz (43) versehen ist, in dem der bewegbare Zapfen (21) gleitbar angeordnet ist.
5. Einbruchresistente Verriegelung nach Anspruch 4, **dadurch gekennzeichnet, dass** der nockenförmige Schlitz (43) zwei lineare Abschnitte (45, 46) und einen diagonalen Zwischenabschnitt (47) aufweist.
6. Einbruchresistente Verriegelung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Mittel (24) zur Drehung jedes Eingriffselements (17, 18) von einer Zwischenverschiebungskonfiguration in eine Konfiguration zum Gebrauch durch die Verbindungs- und Drehlasche (30) und die Anschlags- und Stoßbegrenzungs- lasche (31) gebildet sind, und durch die externe Abdeckung (33), mit der die Verbindungs- und Drehlasche (30) zusammenwirkt, um die Drehung des Eingriffselements (17, 18), zu dem sie gehört, bereitzustellen, während die Anschlags- und Stoßbegrenzungs- lasche (31) durch Anschlagen gegen die externe Abdeckung (33) die Drehung des Eingriffselements (17, 18), zu dem sie gehört, stoppt.
7. Einbruchresistente Verriegelung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die elastischen Mittel (25) zum Kontrastieren der Drehung der Eingriffselemente (17, 18) von der Zwischenverschiebungskonfiguration in die Konfiguration zum Gebrauch für jedes Eingriffselement (17, 18) durch einen Schubhebel (55, 56) gebildet sind.

Revendications

1. Serrure résistant à l'entrée par effraction (10), comportant :
 - un boîtier (15) avec une ouverture de passage

(16) pour deux éléments de prise (17, 18),
 - deux éléments de prise (17, 18) agencés avec des dents de prise (19, 20) respectives qui ont des orientations opposées dans la configuration d'utilisation avec la serrure opérationnelle,
 - un pivot mobile (21), sur lequel pivotent lesdits deux éléments de prise (17, 18),
 - des moyens (23) pour la translation dudit pivot mobile (21) dans une direction de sortie desdits éléments de prise (17, 18) à partir de l'intérieur dudit boîtier (15), dans une configuration inactive, vers l'extérieur dudit boîtier, dans une configuration intermédiaire de translation et dans une configuration d'utilisation ultérieure,
 - des moyens (24) pour la rotation dans des directions opposées de chaque élément de prise (17, 18) d'une configuration de translation intermédiaire à une configuration d'utilisation, et
 - des moyens élastiques (25) pour s'opposer à la rotation desdits éléments de prise (17, 18), de ladite configuration intermédiaire à ladite configuration d'utilisation,
 chaque élément de prise (17, 18) comportant une partie de pivotement (26) pour le pivot mobile (21) dans laquelle ladite partie de pivotement (26) est pourvue d'un trou traversant (27) pour le pivot mobile (21), et d'une partie de prise (28), à partir de laquelle la dent de prise (19, 20) correspondante fait saillie,
caractérisée en ce qu'un ergot de couplage et de rotation (30) fait saillie du même côté que la dent de prise (19) et un ergot de butée et de limitation de course (31) s'étend radialement, dans des directions sensiblement opposées, à partir de la partie de pivotement (26) de chaque élément de prise (17, 18), et
 lesdits ergots (30, 31) étant formés de sorte que par rapport au mouvement de translation pour sortir dudit boîtier (15) que l'élément de prise (17, 18) réalise en étant porté par le pivot mobile (21), l'ergot de couplage et de rotation (30) se couple à un couvercle externe (33) dudit boîtier (15) avant l'ergot de butée et de limitation de course (31).

2. Serrure résistant à l'entrée par effraction selon la revendication 1, **caractérisée en ce que** lesdits éléments de prise (17, 18) sont plats.
3. Serrure résistant à l'entrée par effraction selon une ou plusieurs des revendications précédentes, **caractérisée en ce que** ledit pivot mobile (21), sur lequel pivotent lesdits deux éléments de prise (17, 18), est agencé de manière à coulisser avec les extrémités insérées dans des fentes (35) correspondantes ayant une extension linéaire qui sont définies sur le boîtier (15) le long d'une direction (38) depuis l'intérieur vers l'extérieur dudit boîtier (15), ladite direction

étant sensiblement perpendiculaire au bord extérieur (37) dudit boîtier (15).

4. Serrure résistant à l'entrée par effraction selon une ou plusieurs des revendications précédentes, **caractérisée en ce que** lesdits moyens (23) pour la translation du pivot mobile (21) dans la direction (38) de sortie et de rétraction desdits éléments de prise (17, 18) par rapport audit boîtier (15) sont constitués d'un corps mobile (40), ledit corps mobile (40) étant centralement pourvu d'une fente en forme de came (43) dans laquelle ledit pivot mobile (21) est agencé de manière à coulisser. 5
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5. Serrure résistant à l'entrée par effraction selon la revendication 4, **caractérisée en ce que** ladite fente en forme de came (43) comporte deux parties linéaires (45, 46) et une partie intermédiaire diagonale (47) . 15
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6. Serrure résistant à l'entrée par effraction selon une ou plusieurs des revendications précédentes, **caractérisée en ce que** lesdits moyens (24) pour la rotation de chaque élément de prise (17, 18) d'une configuration de translation intermédiaire à une configuration d'utilisation sont constitués dudit ergot de couplage et de rotation (30) et dudit ergot de butée et de limitation de course (31), et dudit couvercle externe (33) avec lequel l'ergot de couplage et de rotation (30) coopère pour assurer la rotation de l'élément de prise (17, 18) auquel il appartient, alors que l'ergot de butée et de limitation de course (31), en venant en butée contre ledit couvercle externe (33), arrête la rotation de l'élément de prise (17, 18) auquel il appartient. 25
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7. Serrure résistant à l'entrée par effraction selon une ou plusieurs des revendications précédentes, **caractérisée en ce que** lesdits moyens élastiques (25) pour s'opposer à la rotation desdits éléments de prise (17, 18) de ladite configuration de translation intermédiaire à ladite configuration d'utilisation sont constitués, pour chaque élément de prise (17, 18), d'un levier-poussoir (55, 56). 40
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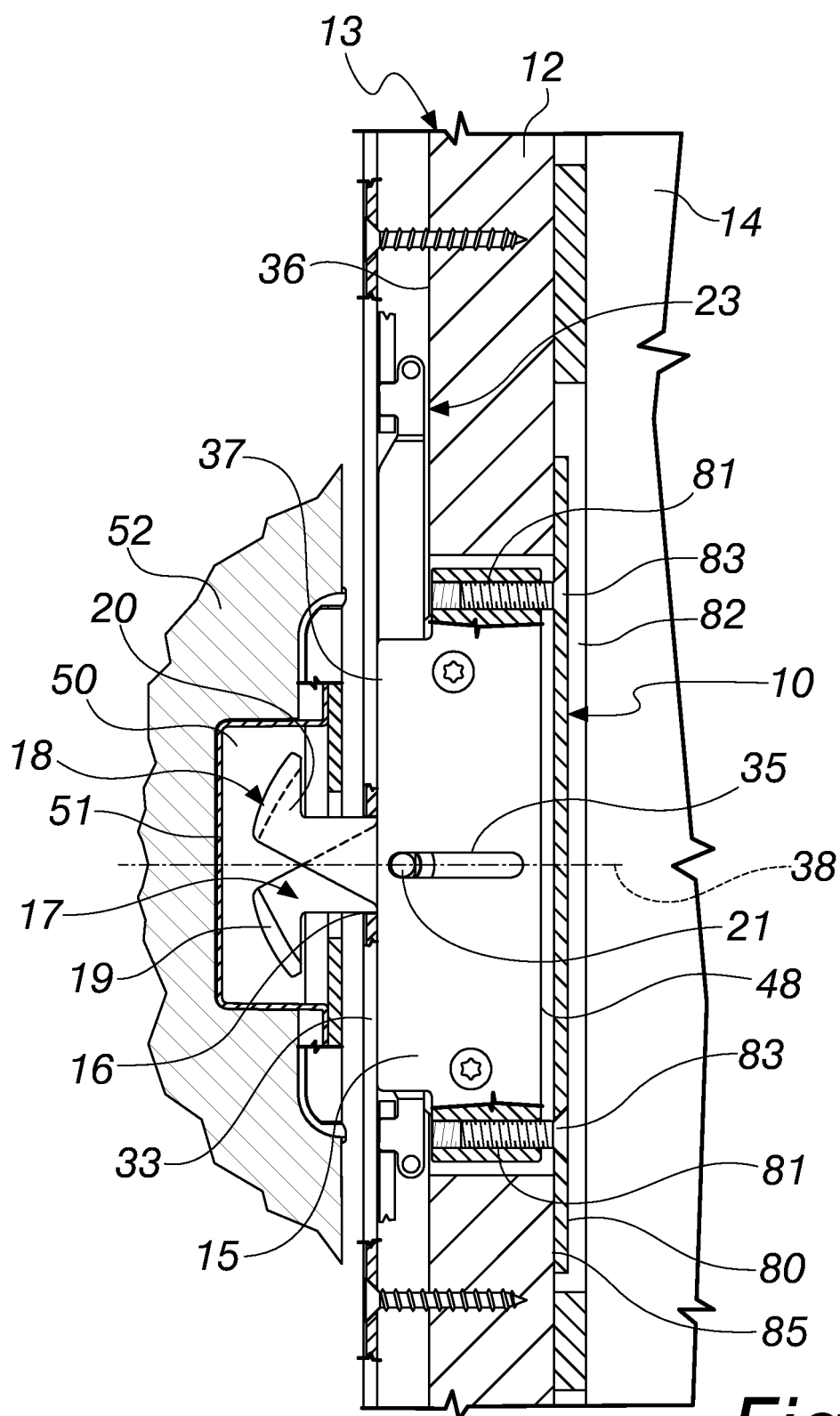
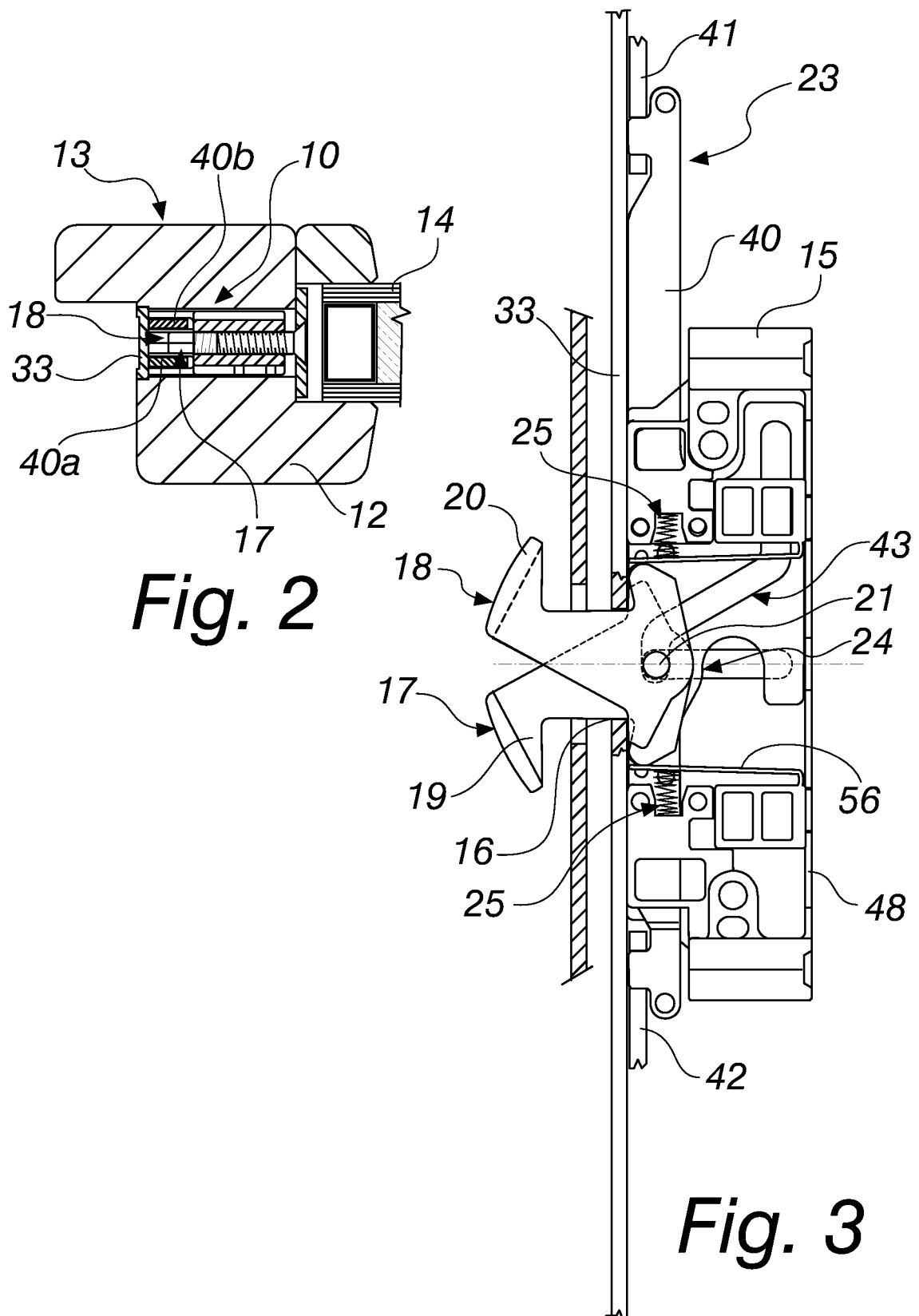
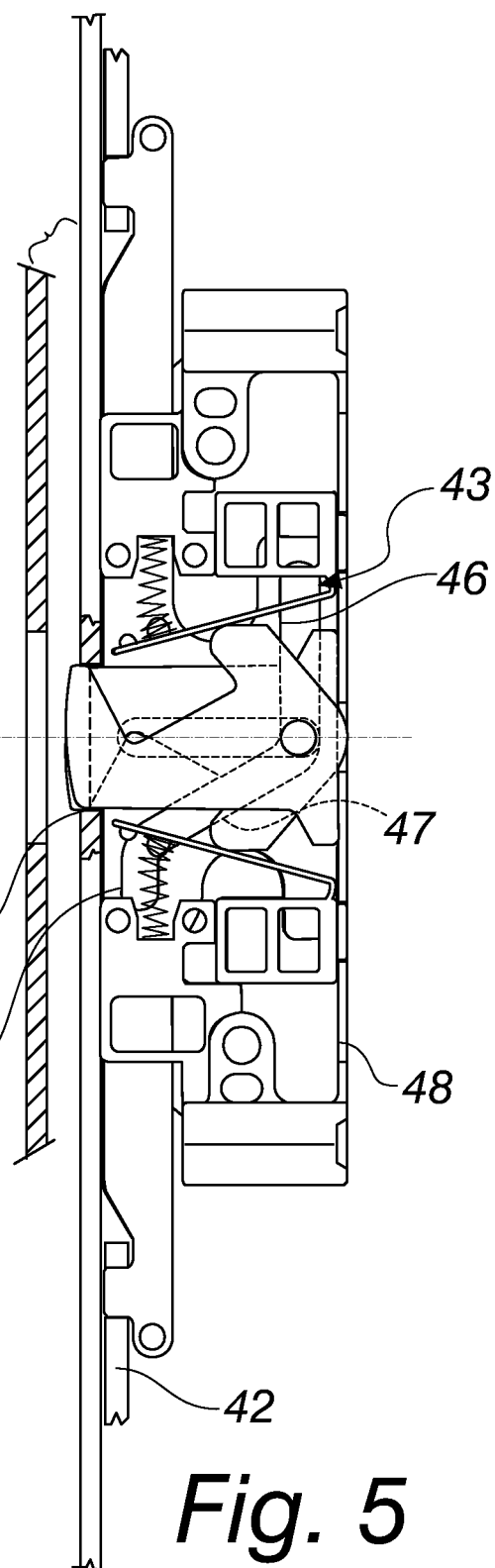
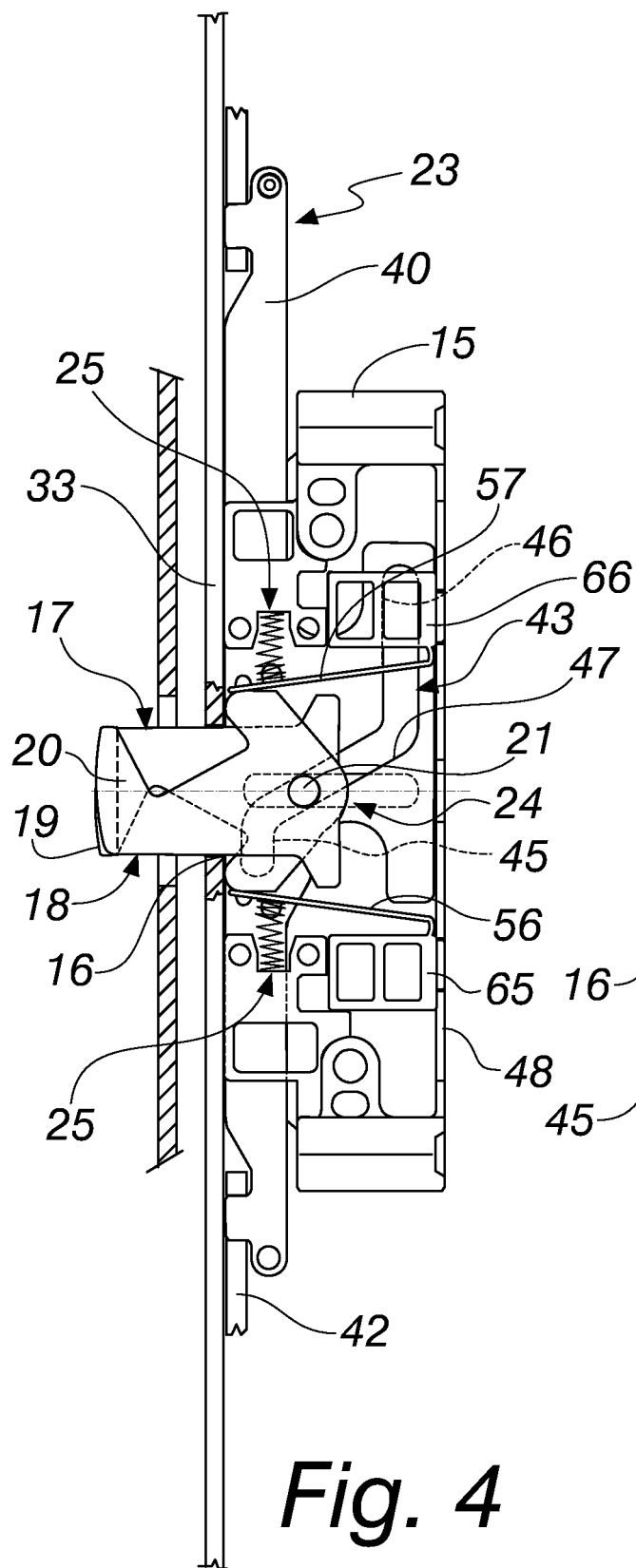
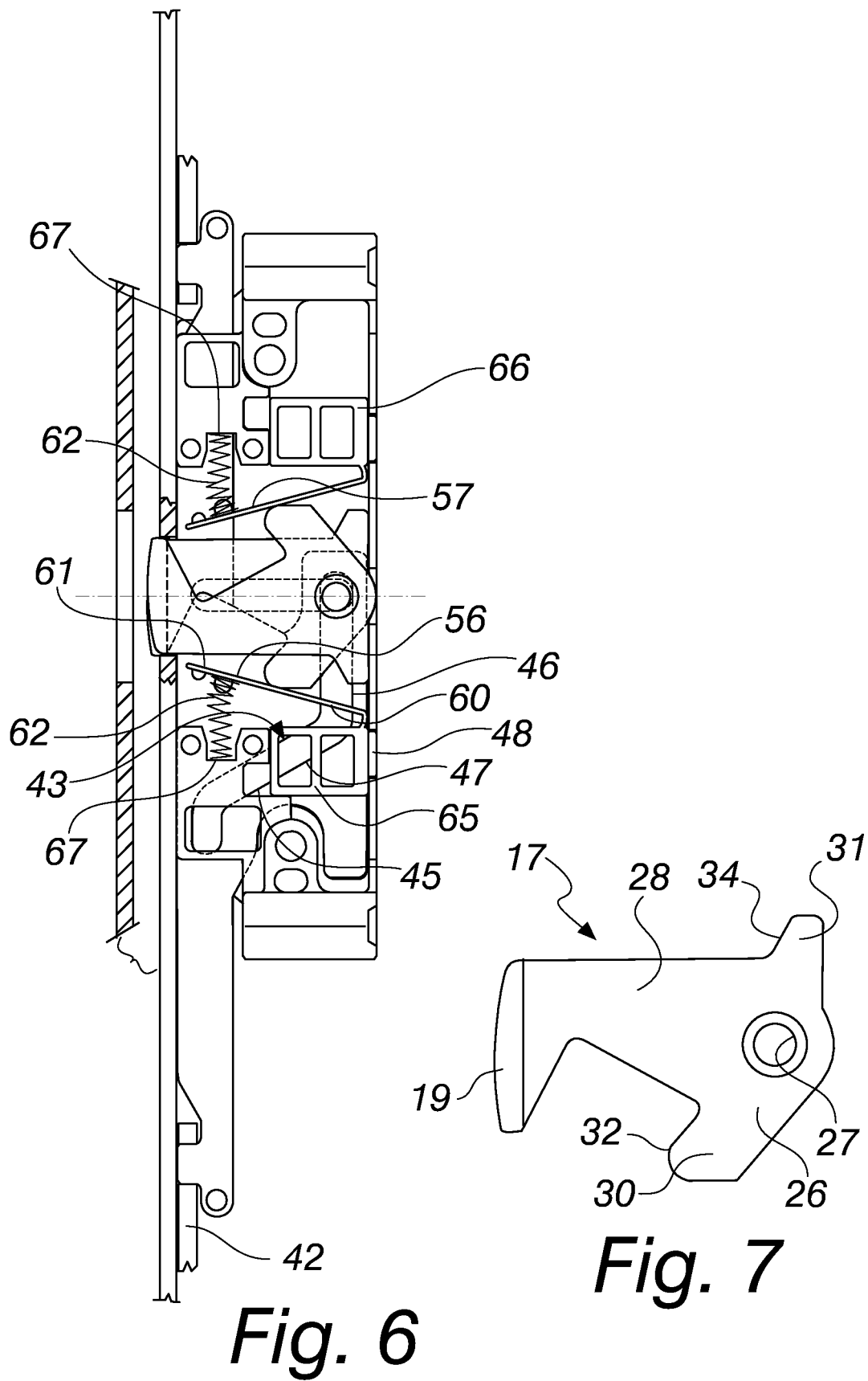


Fig. 1







REFERENCES CITED IN THE DESCRIPTION

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