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(54) **Locking closure with a driving bar for windows and/or doors**

Verschluss mit Treibstange für Fenster und/oder Türen

Fermeture avec crémone pour fenêtres et/ou portes

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Description

[0001] The present invention refers to fittings for windows and doors, respectively, that can be open and/or tilted and in particular for such windows and doors, respectively, the frames thereof are made of plastic material or wood. The invention refers in particular to a locking closure comprising a driving bar with locking members which is movable by means of a handle of a window and door, respectively.

[0002] A locking closure of the aforementioned kind is known from the publication of the European patent publication No. EP 0 538 562. Said known solution discloses a locking closure comprising a driving bar, a frame, a locking member on the driving bar, wherein the driving bar is formed with a plurality of oblong through-holes cooperating with a plurality of respective guides fixed in a groove in the frame of a window. Each of the said guides also has relatively small contact surface between the foot thereof and the driving bar. Also, there is provided a driving bar, which, over its length, has at predetermined points bent or embossed portions extending at least over part of its material thickness and over a predetermined length and transversely to its plane in order to cooperate with the said guides.

[0003] It is the object of the present invention to create a locking closure comprising a driving bar with locking members that is movable by means of a handle of a window and door, respectively, which is simple to assemble and to attach to the frame of the window and door, respectively.

[0004] The object as set above is solved by a locking closure according to claim 1.

[0005] The invention will be more readily understood on reading the following description with reference to the accompanying drawings, in which:

- Fig. 1 shows a side view of a locking closure according to a preferred embodiment of the invention,
- Fig. 2 shows a front view of a locking closure according to a preferred embodiment of the invention incorporated in a frame,
- Fig. 3 shows a sectional view along the line III-III of Fig. 2, and
- Fig. 4 shows a perspective view of a driving bar guide.

[0006] A locking closure according to a preferred embodiment of the invention comprises a driving bar 1 which extends with a slip fit through a multi-part and take-apart casing 2 in which there is placed a driving gear wheel 3. The latter engages the respective cutouts 4 in the driving bar 1. Said casing 2 with the driving bar 1 is arranged in a frame 5 of a window and door wing, respectively, and in the area where a handle is placed for closing and opening, respectively, not shown in the Fig. For this purpose, said gear wheel 3 is formed in its central part with a suitable multi-sided hole 6 cooperating with said handle not shown. Longitudinally spaced from the casing 2 there is

a plurality of locking members 7 arranged on the driving bar 1, each said locking member 7 cooperates with a respective receiver (not shown) on the frame of a window and door, respectively. The number of said locking members 7 depends on the height of the window and door rabbet, respectively, so that said number consists of at least two locking members.

[0007] When completely assembled, the driving bar 1 is arranged longitudinally movable with a slip fit in a transversal widening 8 of a groove 9 of the window and door frame 5, respectively. Typically, said widening 8 and groove 9 are standardised and equal for all kinds of the respective closure, therefore they are not described in detail. A plurality of guides 10 for the driving bar 1 are placed in said groove 9, said guides being fixed in the frame 5 by means of screws 11 cooperating with the bottom of the groove 9. With respect to the driving bar 1 said guides 10 are arranged in a manner that they are located, longitudinally to the driving bar 1, at least one on the left side and/or one on the right side with regard to the locking member 7. The driving bar 1 is formed in the area of each guide 10 with an oblong through-hole 12 cooperating with said guide 10.

[0008] According to the invention, said guide 10 is formed as a cuboid. The length 10a of the cuboid equals approximately the width of the groove 9 and is slightly bigger, respectively, and the length 10b thereof equals approximately the width of the through-hole 12 in the driving bar 1 and is slightly smaller, respectively. The guide 10 is formed at the top end thereof with a rectangular flange 13 extending only in the direction of the length 10a of the guide 10. A circular groove 14 is formed directly under said flange 13 and is intended for cooperation with the oblong through-hole 12 in the driving bar 1 and for that very reason the width thereof is slightly bigger than the width of the driving bar 1. Furthermore, said guide 10 comprises a through-hole 15 extending towards the free end thereof to receive said screw 11.

[0009] The driving bar 1 and the guides 10 are assembled before inserting into the frame 5 of a window and door, respectively, i.e. in a manner that each guide 10, with its shorter side 10b, is positioned lengthwise with respect to the through-hole 12 and pushed through so as the driving bar 1 is located with its thickness within the area of the circular groove 14, and afterwards the guide 10 is turned about its vertical axis by 90 degrees in order that the flange 13 with its bottom surface rests on the upper surface of the driving bar 1. The entire assembly of the driving bar 1 and the guides 10 is then inserted in the groove 9 and fixed by means of the screws 11. The guides 10 rest here on the bottom of the groove 9 while the driving bar 1 is sliding movably arranged in the circular groove 14 of the guide 10 and in the groove 8. Afterwards, the entire unit of the driving bar 1 and the guides 10 is inserted in the groove 9 and fixed by means of the screws 11. Here, the guide 10 rests on the bottom of the groove 9 while the driving bar 1 is arranged in a sliding movable manner in the circular groove 14 of the

guide 10 and in the groove 8. Said guide 10 is formed in a manner that the bottom surface of the groove 14 is aligned, when said guide is fixed in the groove 9, with the bottom surface of the groove 8.

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Claims

1. A locking closure comprising a driving bar (1) movable by means of a handle of a window and door, respectively, and a frame (5) of the window and door, respectively, the frame (5) thereof is made of plastic or wood, and locking members (7) on the driving bar (1), wherein with regard to each locking member (7) which is arranged on the driving bar (1) at a longitudinal distance from a casing (2) and in longitudinal direction on both sides with regard to said casing (2), said driving bar (1) is formed with a plurality of oblong through-holes (12) cooperating with a plurality of respective guides (10) fixed in a groove (9) in the frame (5) of the window and door, respectively, and wherein said guide (10) is formed as a cuboid and arranged with a press fit in the groove (9) of the frame (5), said guide (10) is formed at the first end thereof with a flange (13) and a circular groove (14) is formed directly below said flange (13), said circular groove (14) being intended for cooperation with the oblong through-hole (12) in the driving bar (1), and wherein the guide (10) also comprises a through-hole (15) for the receiving of a fixing means (11). 10
2. A locking closure according to claim 1, **characterised in that** said guide (10) is formed in a manner that the length (10a) thereof corresponds approximately to the width of the groove (9) and is slightly bigger, respectively, and the width (10b) thereof corresponds approximately to the width of the through-hole (12) in the driving bar (1) and is slightly smaller, respectively. 15
3. A locking closure according to any of the preceding claims, **characterised in that** with regard to the driving bar (1) said guides (10) are arranged in a manner that they are positioned in a longitudinal direction at least one on the left side and/or one on the right side with respect to each locking member (7). 20
4. A locking closure according to any of the preceding claims, **characterised in that** said oblong through-holes (12) are arranged in the driving bar (1) in a longitudinal direction at least one on the left side and/or one on the right side of the each locking member (7). 25
5. A locking closure according to any of the preceding claims, **characterised in that** the driving bar (1) is arranged with a slip fit in a transversal widening (8) of the groove (9). 30

6. A locking closure according to any of the preceding claims, **characterised in that** the driving bar (1) is arranged with a slip fit in a circular groove (14) of the guide (10). 35

Patentansprüche

1. Verriegelungverschluss, umfassend eine Antriebsstange (1), die mittels eines Griffs eines Fensters bzw. einer Tür bewegbar ist, einen Rahmen (5) eines Fensters bzw. einer Tür, wobei der Rahmen (5) aus Kunststoff oder Holz hergestellt ist, und Verriegelungsbauteile (7) an der Antriebsstange (1), wobei im Hinblick auf jedes Verriegelungsbauteil (7), das an der Antriebsstange (1) in einer Entfernung von einem Gehäuse (2) in Längsrichtung und in Längsrichtung an beiden Seiten hinsichtlich des Gehäuses (2) angeordnet ist, wobei die Antriebsstange (1) mit einer Vielzahl von länglichen Durchgangsöffnungen (12) ausgebildet ist, die mit einer Vielzahl von entsprechenden Führungen (10) zusammenwirken, die in der Nut (9) in dem Rahmen (5) des Fensters bzw. der Tür fixiert sind, und wobei die Führung (10) als ein Quader ausgebildet ist und mit einer Presspassung in der Nut (9) des Rahmens (5) angeordnet ist, wobei die Führung (10) an einem ersten Ende davon mit einem Flansch (13) ausgebildet ist und eine ringförmige Nut (14) direkt unterhalb des Flansches (13) ausgebildet ist, wobei die ringförmige Nut (14) zum Zusammenwirken mit der länglichen Durchgangsöffnung (12) in der Antriebsstange (1) vorgesehen ist und wobei die Führung (10) weiterhin eine Durchgangsöffnung (15) zur Aufnahme eines Festhaltungsmittels (11) umfasst. 40
2. Verriegelungverschluss nach Anspruch 1, **dadurch gekennzeichnet, dass** die Führung (10) derart ausgebildet ist, dass deren Länge (10a) annähernd der Breite der Nut (9) entspricht bzw. geringfügig grösser ist und dass deren Breite (10b) annähernd der Breite der Durchgangsöffnung (12) in der Antriebsstange (1) entspricht bzw. geringfügig kleiner ist. 45
3. Verriegelungverschluss nach einem der vorgehenden Ansprüche, **dadurch gekennzeichnet, dass** die Führungen (10) im Hinblick auf die Antriebsstange (1) derart angeordnet sind, dass sie in einer Längsrichtung bezüglich jedem Verriegelungsbauteil (7) zumindest mit einer an der linken Seite und/oder einer an der Rechten Seite positioniert sind. 50
4. Verriegelungverschluss nach einem der vorgehenden Ansprüche, **dadurch gekennzeichnet, dass** die länglichen Durchgangsöffnungen (12) in der Antriebsstange (1) in einer Längsrichtung mit zumindest einer an der linken Seite und/oder einer an der 55

rechten Seite von jedem Verriegelungsbauittel (7) angeordnet sind.

5. Verriegelungsverschluss nach einem der vorgehenden Ansprüche, **dadurch gekennzeichnet, dass** die Antriebsstange (1) durch eine Spielpassung in einer transversalen Erweiterung (8) der Nut (9) angeordnet ist. 5
6. Verriegelungsverschluss nach einem der vorgehenden Ansprüche, **dadurch gekennzeichnet, dass** die Antriebsstange (1) durch eine Spielpassung in einer ringförmigen Nut (14) der Führung (10) angeordnet ist. 10

Revendications

1. Fermeture à verrouillage comprenant une barre de commande (1) déplaçable au moyen d'une poignée d'une fenêtre et d'une porte, respectivement, et un cadre (5) de la fenêtre et de la porte, respectivement, le cadre (5) de celles-ci étant réalisé en matière plastique ou en bois, et des éléments de verrouillage (7) sur la barre de commande (1), dans laquelle, par rapport à chaque élément de verrouillage (7) qui est disposé sur la barre de commande (1) à une distance longitudinale d'un boîtier (2) et dans une direction longitudinale des deux côtés par rapport audit boîtier (2), ladite barre de commande (1) comporte une pluralité de trous traversants oblongs (12) coopérant avec une pluralité de guides respectifs (10) fixés dans une rainure (9) dans le cadre (5) de la fenêtre et de la porte, respectivement, et dans laquelle ledit guide (10) se présente sous la forme d'un cuboïde et est disposé avec ajustement serré dans la rainure (9) du cadre (5), ledit guide (10) comportant à la première extrémité de celui-ci une bride (13) et une rainure circulaire (14) étant formée directement au-dessous de ladite bride (13), ladite rainure circulaire (14) étant destinée à coopérer avec le trou traversant oblong (12) dans la barre de commande (1), et dans laquelle le guide (10) comprend également un trou traversant (15) pour la réception d'un moyen de fixation (11). 20 25 30 35 40 45
2. Fermeture à verrouillage selon la revendication 1, **caractérisée par le fait que** ledit guide (10) est formé d'une manière telle que la longueur (10a) de celui-ci correspond approximativement à la largeur de la rainure (9) et est légèrement plus grand, respectivement, et que la largeur (10b) de celui-ci correspond approximativement à la largeur du trou traversant (12) dans la barre de commande (1) et est légèrement plus petit, respectivement. 50 55
3. Fermeture à verrouillage selon l'une quelconque des revendications précédentes, **caractérisée par le**

fait que, par rapport à la barre de commande (1), lesdits guides (10) sont disposés d'une manière telle qu'ils sont positionnés dans une direction longitudinale, au moins l'un sur le côté gauche et/ou l'un sur le côté droit par rapport à chaque élément de verrouillage (7).

4. Fermeture à verrouillage selon l'une quelconque des revendications précédentes, **caractérisée par le fait que** lesdits trous traversants oblongs (12) sont disposés dans la barre de commande (1) dans une direction longitudinale, au moins l'un sur le côté gauche et/ou l'un sur le côté droit de chaque élément de verrouillage (7).
5. Fermeture à verrouillage selon l'une quelconque des revendications précédentes, **caractérisée par le fait que** la barre de commande (1) est disposée avec ajustement glissant dans un élargissement transversal (8) de la rainure (9).
6. Fermeture à verrouillage selon l'une quelconque des revendications précédentes, **caractérisée par le fait que** la barre de commande (1) est disposée avec ajustement glissant dans une rainure circulaire (14) du guide (10).

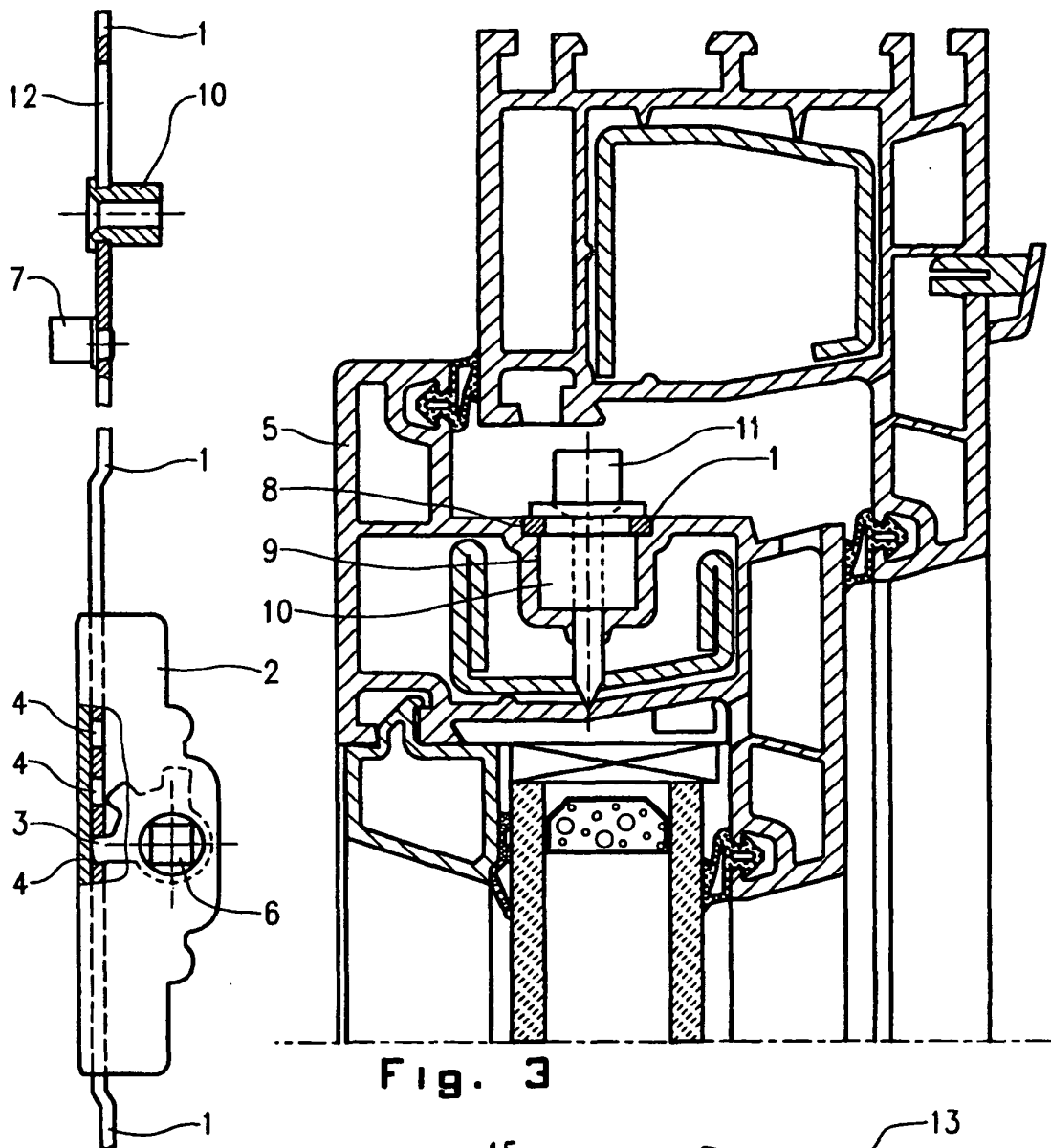


Fig. 3

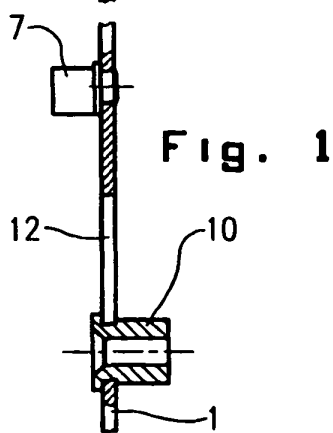


Fig. 1

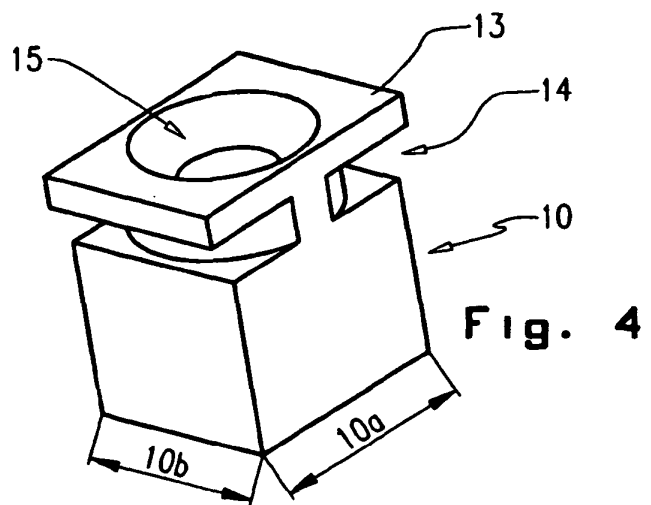


Fig. 4

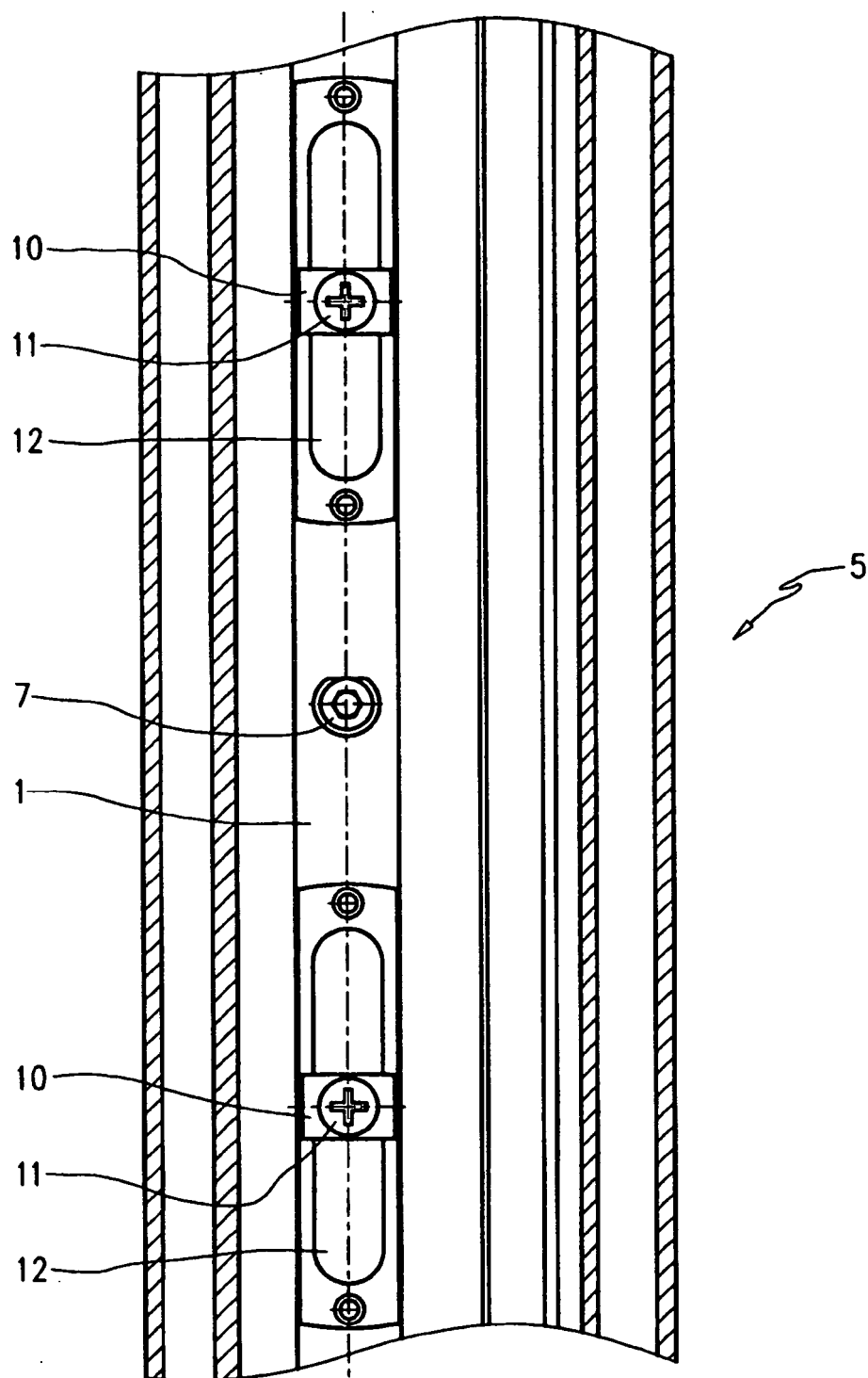


Fig. 2

REFERENCES CITED IN THE DESCRIPTION

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