

(19)



(11)

EP 3 292 260 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:

30.09.2020 Bulletin 2020/40

(51) Int Cl.:

E05F 15/643 ^(2015.01)

(21) Application number: **16770198.6**

(86) International application number:

PCT/BE2016/000020

(22) Date of filing: **28.04.2016**

(87) International publication number:

WO 2016/176747 (10.11.2016 Gazette 2016/45)

(54) **SLIDING DOOR OR SLIDING WINDOW**

SCHIEBETÜR ODER SCHIEBEFENSTER

EPORTE OU FENÊTRE COULISSANTE

(84) Designated Contracting States:

**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

(30) Priority: **05.05.2015 BE 201505287**

01.07.2015 BE 201505417

(43) Date of publication of application:

14.03.2018 Bulletin 2018/11

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EP 3 292 260 B1

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Description

[0001] The present invention relates to a sliding door or sliding window.

[0002] As is known, sliding doors or sliding windows comprise a fixed frame that is composed of hollow profiles and a door element that is movably affixed in the frame.

[0003] Sliding doors and sliding windows are increasingly being driven by electric motors, which in the past were mounted visibly.

[0004] Such sliding doors or sliding windows generally contain a belt drive with a belt that is mounted out of view in a surface-mounted cabinet and which is guided over at least two return pulleys that are turnably affixed around shafts that are fixed in the frame, whereby the belt or similar is coupled to the movable door element and whereby the belt drive is driven by means of a motor drive that comprises a motor and if need be a transmission. EP 1 113 139 A2 discloses an example of a sliding door.

[0005] In order to meet the aesthetic requirements of the customer, the drive with the motor drive is increasingly mounted in a concealed way in the hollow profiles of the fixed frame so that its visibility is as limited as possible in both the closed and open position of the window or door.

[0006] The problem that thereby arises is that by mounting the motor or motor set in a concealed way, the accessibility of the various components is greatly limited, for example for installing cabling or for maintenance or replacement of parts or similar.

[0007] In the event of a fault in one of the components, it is disadvantageous that the entire motor or motor drive or large parts thereof often have to be replaced, which in the case of a built-in motor or motor drive is generally no easy task. In addition, different elements often have to be dismantled or detached, which brings about extra lost time.

[0008] Also the building in of the motor or motor drive and the provision of the necessary facilities for building in also bring about a relatively high cost for the producer.

[0009] The purpose of the invention is to provide a solution to one or more of the aforementioned and other problems.

[0010] To this end the invention concerns a sliding door according to claim 1.

In particular, the motor drive is mounted in a recess of the fixed frame and is at least partially movable from this recess without the belt drive having to be dismantled and without the motor or the motor drive having to be detached.

[0011] An advantage of a drive according to the invention is that for use it can be integrated in the frame of the door or window in a concealed way without the drive being visible, but notwithstanding this advantage the drive is easy to mount and afterwards the motor drive or components thereof are also easy to dismantle for maintenance, repair or replacement.

[0012] Preferably the motor drive or at least a part

thereof is rotatably affixed around the shaft of a return pulley of the belt drive between a usage position, whereby the motor drive is put away in the frame of the door of the window, and a mounting or dismantling position in which the motor drive is at least partially turned away from the usage position out of the frame.

[0013] The invention thus concerns a sliding window or sliding door with a modularly constructed motor or motor drive that is preferably built into a top profile of the fixed frame and of which at least a part can rotate downwards around the shaft of the return pulley. Hereby the crucial components are ergonomically accessible and parts of the rotating part or the entire part can be replaced if necessary.

[0014] Moreover, as a result the motor drive in the mounting-dismantling position can remain functionally coupled to the belt drive, which can be useful for test and adjustment purposes.

[0015] Because the motor drive or a part thereof rotates around a return pulley, the drive belt does not need to be detached and does not have to be adjusted again after the motor drive is put back in the usage position.

[0016] Preferably the motor drive comprises an electric motor with a mechanical coupling that enables the motor to be detached or snapped out of the motor drive so that the motor can easily be replaced.

[0017] By turning the motor drive or part thereof away, the motor can be detached from the electricity supply by means of a docking connector or coupling of which one connector part is immovably mounted in the frame and another connector part is mounted on the motor and which are detachable from one another, while the cabling for the supply and control can remain coupled to the fixed connector part, so that no cabling has to be detached for maintenance or repair.

[0018] According to a particular aspect of the invention, the aforementioned drive is made up of two profiles that are axially movable with respect to one another, i.e. a first profile that is intended to be mounted in the fixed frame of the sliding door or of the sliding window or which forms part of that fixed frame and on which the aforementioned belt drive and the motor drive are mounted on one side and a second profile that is intended to be mounted on the movable door or window element or that forms part thereof and which is locally connected to the belt of the aforementioned belt drive, whereby a recess is provided in the first profile to be able to move the motor drive or a part thereof at least partially to the other side of the profile concerned, without the belt drive having to be dismantled and without the motor or the motor drive having to be detached.

[0019] This enables the drive as a whole to be assembled beforehand at the supplier, which makes it easier for the installer of the windows to build in the drive, as only a limited number of separate components in a pre-assembled state have to be built in.

[0020] With the intention of better showing the characteristics of the invention, a preferred embodiment of a

sliding door or sliding window according to the invention is described hereinafter by way of an example, with reference to the accompanying drawings, wherein:

figure 1 schematically shows a perspective view of a sliding door according to the invention that is equipped with a drive during maintenance or repair by way of an example;
figure 2 shows a view of the window or door of figure 1 but from a different viewpoint;
figure 3 such shows a top view in perspective of a drive according to the invention;
figure 4 shows the drive of figure 3 but viewed from underneath;
figures 5 and 6 show the parts indicated in figure 3 by the boxes F5 and F6 on a larger scale;
figure 7 shows the part of figure 6 in a position during normal use of the drive;
figure 8 shows the situation of figure 6, but with a dismantled motor.

[0021] The sliding door 1 shown in figures 1 and 2 is made up of a frame 2 that is composed of a number of hollow profiles 3 of aluminium or similar, of which, for simplicity the top profile has been omitted in figure 1, whereby this frame 2 is intended to be built into a door opening not shown.

[0022] A fixed door element 4 is provided in the frame 2, as well as a door element 5 that is movably affixed in the frame 2 and which is movable between a closed position and an open position, as shown in figure 1, in which the door element 5 is slid in the direction of arrow P in front of the fixed door element 4.

[0023] For moving the movable door element 5, a drive 6 is provided that is shown as a separate built-in part in figures 3 and 4 that is intended to be built into the top hollow profile 3 or which can be directly integrated in the frame 2 and on the movable door element 5 as shown in figures 1 and 2.

[0024] In the rest of the description we will take this last situation as a basis.

[0025] In the presentation method of figure 3 to 8 the sliding door or window comprises two profiles, respectively a first profile 7, which in fact is the bottom profile wall of the top horizontal profile 3 of the frame 2, and a second profile 8 that in fact is the top profile wall of the top horizontal profile of the movable door element 5 and which in this way is axially movable on the underside 9 of the first profile 7 with respect to this profile 7.

[0026] On the top 10 of the first profile 7 a belt drive 11 is mounted with a belt 12, in this case a toothed belt, that is guided over two return pulleys 13 and 14 whose shafts 15 are fixed on this first profile 7.

[0027] Furthermore, the drive 6 is provided with a motor drive 17 for the belt drive 11, whereby this motor drive 17 is composed of an electric motor 18 and a transmission 19 between the motor 18 and the belt drive 11.

[0028] The motor 18 is preferably detachably connect-

ed to the transmission 19 by means of a detachable mechanical coupling 20, for example in the form of a plug coupling, snap coupling, bayonet fitting or similar.

[0029] The belt 12 is immovably connected at a certain place to the second profile 8, for example by means of a connector, not shown, with which the ends of the belt 12 are connected together in a loop around the return pulleys 13, 14, such that when the belt drive 11 is driven in the one or the other direction, the profiles 7 and 8 move towards one another or away from one another.

[0030] According to a specific characteristic of the invention, the motor drive 17 or a part thereof is freely rotatably affixed around a shaft that is fixed on the profile 7, in this case around the shaft 16 of the return pulley 14 or a shaft that is coaxial with it.

[0031] Due to this rotatable connection of the motor drive 17 it is possible to rotate the motor drive 17 from the position shown in figure 6 in which this motor drive 17 is perpendicular to the belt drive 11 along the underside 9 of the profile 7, to the position shown in figure 7 in which the motor drive 17 on the top 10 of the profile 7 is positioned in line with the belt drive 11.

[0032] In order to enable this rotation of the position of figure 6 with the motor drive 17 essentially located on the underside 9 of the profile 7 to the position of figure 7 on the top 10 of the profile 7 a recess 21 is provided in the profile 7.

[0033] The position shown in figure 7 corresponds to the normal functional usage position of the motor drive 17 in which the complete drive 6 of the sliding door 1 is concealed in the top profile 3 of the frame 2 and the motor drive 17 is concealed in a recess 21' above the recess 21 of the profile 7.

[0034] A cover 22 can be provided that enables the recess 21 to be covered in order to hide the motor drive from view. In the mounted situation, this cover 22 is preferably in line with the top profile 3 of the frame 2 in order to disturb the profiling of the frame as little as possible.

[0035] Preferably the drive 6 is provided with a type of docking connector 23 for the electrical connection/disconnection of the motor 18, with a first connector part 23 that is equipped to be mounted in the fixed frame 2 and connected to cabling for the supply and any control, and a detachable complementary second connector part 25 of the motor 18 that can be coupled to the first connector part 24 when the motor drive of the position of figure 6 is turned to the usage position of figure 7.

[0036] For maintenance or repair, after removing the cover 22, the motor drive 17 can be turned away from the cavity of the frame 2 so that, as shown in figures 1 and 2, this motor drive 17 is then accessible for the fitter or repairer who, if need be, can also easily detach the motor.

[0037] By turning the motor drive 17 towards the outside the electricity supply is automatically disconnected by the disconnection of the connector 23 so that the sliding door 1 cannot be activated unintentionally.

[0038] It is clear that in an embodiment which is not

part of the invention, the drive 6 does not necessarily have to be built on the sliding profiles 7 and 8, but that the belt drive 11 and the motor drive 17 can be mounted directly in the frame and on the movable door element 5. It is clear that the term belt transmission can just as well mean a cable transmission or chain transmission.

It is clear that the motor drive 17 can also comprise two or more mutually coupled intermediate transmissions between the motor 18 and the belt drive 11, whereby one of these intermediate transmissions is rotatably affixed around a shaft that is fixed in the frame in order to be able to turn the motor out of the recess in the frame, whereby one or more intermediate transmissions remain in place as a part of the motor drive when turning the motor to the outside.

It is not excluded that the motor drive 17 does not comprise a transmission and which in that case the motor 18 directly drives the return pulley 14, for example.

[0039] In an embodiment which is not part of the invention, the motor drive or a part thereof is not rotatable, but alternatively is entirely or partially made to slide out.

[0040] It is clear that the motor drive 17 does not necessarily have to be mounted in a top profile 3 of the frame 2, but can also be mounted in a bottom profile 3 or in a side profile 3. Moreover, it is not necessary that the belt drive 11 and the motor drive 17 have to be mounted in the same profile 3, whereby the belt drive 11 is mounted in the top profile for example, while the motor drive 17 or a part thereof is mounted in a connecting side profile 3 of the frame 2.

The present invention is by no means limited to the embodiments described as an example and shown in the drawings, but a sliding door or sliding window according to the invention can be realised in all kinds of forms and dimensions without departing from the scope of the appended claims.

Claims

1. Sliding door or sliding window (1) with a fixed frame (2) that is composed of profiles (3) and is intended to be built in a door or window opening and that is provided with a door element or window element (5) that is movable in the frame (2), **characterised in that** a drive (6) is integrated in the sliding door (1) or sliding window, whereby the drive (6) comprises a belt drive (11), cable drive or chain drive for driving the movable door element or window element (5) and comprises a motor drive (17) with a motor (18) for driving the belt drive (11), cable drive or chain drive, whereby the motor drive (17) for functional use is mounted in a recess (21') of the fixed frame (2), whereby the motor drive (17) or a part thereof can at least be partially moved out of the fixed frame (2) without the belt drive (11) having to be dismantled and without the motor (18) or the motor drive (17) having to be detached from the drive (6), the motor

drive (17) or the aforementioned part thereof being movable out of the aforementioned recess (21') due to the motor drive (17) or the part concerned thereof being rotatably affixed around a shaft (16) that is fixed in the frame (2) and that is perpendicular to the direction in which the door element or window element (5) is movable in the frame.

2. Sliding door or sliding window (1) according to claim 1, **characterised in that** the said shaft (16) is a horizontal shaft (16).
3. Sliding door or sliding window (1) according to claim 1 or 2, **characterised in that** the motor drive (17) or the aforementioned part thereof is rotatably affixed over at least 15° around the said shaft (16), and is preferably rotatably affixed over at least 30° around the said shaft (16), and even more preferably is rotatably affixed over at least 45° around the said shaft (16).
4. Sliding door or sliding window (1) according to any one of the claims 1 to 3, **characterised in that** the belt drive (11), cable drive or chain drive is provided with a belt (12), cable or chain that is guided over at least two return pulleys (13,14) that are fixed in the fixed frame (2) and whereby the motor drive (17) or the rotatable part thereof is rotatable around the shaft (16) of one of the two return pulleys (13,14) or a shaft that is fixed coaxially with it in the frame (2).
5. Sliding door or sliding window (1) according to claim 4, **characterised in that** the motor drive (17) is rotatable as a whole around the shaft (16) of one of the two return pulleys (13,14) or a shaft that is fixed coaxially with it in the frame (2).
6. Sliding door or sliding window (1) according to any one of the previous claims, **characterised in that** the motor drive (17) comprises a mechanical coupling that enables the motor (18) to be detached from the motor drive (17).
7. Sliding door or sliding window (1) according to any one of the previous claims, **characterised in that** the recess (21') for the motor drive (17) is provided completely in a top profile (3) of the fixed frame (2).
8. Sliding door or sliding window (1) according to any one of the previous claims, **characterised in that** the fixed door or window is provided with a first electrical connector part (24) that is provided for the electrical connection of the motor (18) and which is mounted and electrically connected in the aforementioned recess (21') in the fixed frame (2), whereby the motor (18) is provided with a detachable complementary second electrical connector part (25) that is coupled to the first connector part (24) when the

motor drive (17) is brought to its functional usage position.

9. Sliding door or sliding window (1) according to any one of the claims 1 to 4 and claim 8, **characterised in that** the connection between the first and second electrical connector part (24,25) can be brought into being by rotating the rotatable motor drive (17) or the aforementioned part thereof that is rotatable to the functional usage position. 5
10. Sliding door or sliding window (1) according to any one of the previous claims, **characterised in that** the drive comprises two profiles (7 and 8) that are axially movable with respect to one another, i.e. a first profile (7) that is mounted in or on the fixed frame (2) of the sliding door (1) or of the sliding window or which forms part of that fixed frame (2), and on which the aforementioned belt drive (11) and the motor drive (17) are mounted on one side (10), and a second profile that is mounted on the movable door element or window element (5) or forms part thereof and which is locally connected to the belt (12) of the aforementioned belt drive (11), whereby a recess (21) is provided in the first profile (7) in order to be able to move the motor drive (17) or a part thereof at least partially to the other side (9) of the first profile (7) concerned without having to dismantle the belt drive (11) and without having to detach the motor (18) or the motor drive (17). 10 15 20 25 30
11. Sliding door or sliding window according to any one of the previous claims, **characterised in that** the frame (2) is made up of hollow profiles (3) and that the aforementioned drive (6) is integrated in one or more of these hollow profiles (3). 35
12. Sliding door or sliding window according to claim 13, **characterised in that** the drive (6) is integrated in one single profile (3) of the hollow profiles (3) of the frame. 40
13. Sliding door or sliding window (1) according to any one of the previous claims, **characterised in that** the motor drive (17) or the aforementioned part thereof can be moved to outside the profiles of the frame without the belt drive (11) having to be dismantled and without the motor (18) or the motor drive (17) having to be detached. 45 50
14. Sliding door or sliding window (1) according to any one of the previous claims, **characterised in that** the motor drive (17) is mounted in a recess (21') of the fixed frame (2) whereby the motor drive (17) or a part thereof can at least be partially moved out of the aforementioned recess (21') without the belt drive (11) having to be dismantled and without the motor (18) or the motor drive (17) having to be de- 55

tached.

Patentansprüche

1. Schiebetür oder Schiebefenster (1) mit einem feststehenden, aus Profilen (3) zusammengesetzten Rahmen (2) und zum Einbau in eine Tür- oder Fensteröffnung bestimmt und mit einem in dem Rahmen (2) bewegbaren Tür- oder Fensterelement (5) versehen, **dadurch gekennzeichnet, dass** in der Schiebetür (1) oder dem Schiebefenster ein Antrieb (6) integriert ist, wobei der Antrieb (6) einen Riementrieb (11), Seiltrieb oder Kettentrieb als Antrieb des beweglichen Tür- oder Fensterelements (5) und einen Motorantrieb (17) mit einem Motor (18) als Antrieb des Riementriebs (11), Seiltriebs oder Kettentriebs aufweist, wobei der Motorantrieb (17) zur funktionellen Verwendung in einer Ausnehmung (21') des feststehenden Rahmens (2) montiert ist, wobei der Motorantrieb (17) oder ein Teil davon zumindest teilweise aus dem feststehenden Rahmen (2) herausbewegt werden kann, ohne dass der Riementrieb (11) demontiert werden muss und ohne dass der Motor (18) oder der Motorantrieb (17) vom Antrieb (6) gelöst werden muss, wobei der Motorantrieb (17) oder der vorgenannte Teil davon aus der vorgenannten Ausnehmung (21') herausbewegbar ist, weil der Motorantrieb (17) oder der betreffende Teil davon um eine Welle (16) drehbar befestigt ist, die im Rahmen (2) befestigt ist und die senkrecht zu der Richtung ist, in der das Tür- oder Fensterelement (5) im Rahmen bewegbar ist. 5 10 15 20 25 30 35
2. Schiebetür oder Schiebefenster (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** die Welle (16) eine horizontale Welle (16) ist. 40
3. Schiebetür oder Schiebefenster (1) nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** der Motorantrieb (17) oder der vorgenannte Teil davon um mindestens 15° drehbar um die genannte Achse (16) befestigt ist, und vorzugsweise um mindestens 30° drehbar um die genannte Achse (16) befestigt ist, und noch stärker bevorzugt um mindestens 45° drehbar um die genannte Achse (16) befestigt ist. 45 50
4. Schiebetür oder Schiebefenster (1) nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, dass** der Riementrieb (11), Seiltrieb oder Kettentrieb mit einem Riemen (12), einem Seil oder einer Kette versehen ist, der bzw. die über mindestens zwei Umlenkrollen (13, 14) geführt ist, die im feststehenden Rahmen (2) befestigt sind, und wobei der Motorantrieb (17) oder dessen drehbarer Teil um die Welle (16) einer der beiden Umlenkrollen (13, 14) oder einer koaxial dazu im Rahmen (2) befestigten Welle drehbar ist. 55

5. Schiebetür oder Schiebefenster (1) nach Anspruch 4, **dadurch gekennzeichnet, dass** der Motorantrieb (17) vollständig um die Welle (16) einer der beiden Umlenkrollen (13, 14) oder eine koaxial dazu im Rahmen (2) befestigte Welle drehbar ist. 5
6. Schiebetür oder Schiebefenster (1) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Motorantrieb (17) eine mechanische Kupplung umfasst, die es ermöglicht, den Motor (18) vom Motorantrieb (17) zu lösen. 10
7. Schiebetür oder Schiebefenster (1) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Ausnehmung (21') für den Motorantrieb (17) vollständig in einem oberen Profil (3) des feststehenden Rahmens (2) bereitgestellt ist. 15
8. Schiebetür oder Schiebefenster (1) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die feststehende Tür oder das feststehende Fenster mit einem ersten elektrischen Verbinderteil (24) versehen ist, das für den elektrischen Anschluss des Motors (18) vorgesehen ist und das in der vorgenannten Ausnehmung (21') des feststehenden Rahmens (2) montiert und elektrisch verbunden ist, wobei der Motor (18) mit einem abnehmbaren, komplementären zweiten elektrischen Verbinderteil (25) versehen ist, das mit dem ersten Verbinderteil (24) gekoppelt ist, wenn der Motorantrieb (17) in seine funktionelle Gebrauchsposition gebracht wird. 20 25 30
9. Schiebetür oder Schiebefenster (1) nach einem der Ansprüche 1 bis 4 und Anspruch 8, **dadurch gekennzeichnet, dass** die Verbindung zwischen dem ersten und zweiten elektrischen Verbinderteil (24, 25) durch Drehen des drehbaren Motorantriebs (17) oder des vorgenannten Teils davon, der in die funktionelle Gebrauchsposition drehbar ist, hergestellt werden kann. 35 40
10. Schiebetür oder Schiebefenster (1) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Antrieb zwei Profile (7 und 8) umfasst, die axial gegeneinander beweglich sind, d. h. ein erstes Profil (7), das in oder an dem feststehenden Rahmen (2) der Schiebetür (1) oder des Schiebefensters montiert ist oder einen Teil dieses feststehenden Rahmens (2) bildet und an dem auf einer Seite (10) der oben genannte Riementrieb (11) und der Motorantrieb (17) montiert sind, und ein zweites Profil, das an dem beweglichen Tür- oder Fensterelement (5) montiert ist oder einen Teil davon bildet und das lokal mit dem Riemen (12) des oben genannten Riementriebs (11) verbunden ist, wobei in dem ersten Profil (7) eine Ausnehmung (21) vorgesehen ist, um den Motorantrieb (17) oder einen Teil davon zumindest teilweise auf die andere Seite (9) des betreffenden ersten Profils (7) bewegen zu können, ohne den Riementrieb (11) demontieren zu müssen und ohne den Motor (18) oder den Motorantrieb (17) lösen zu müssen. 5 10 15 20 25 30 35 40 45 50 55
11. Schiebetür oder Schiebefenster nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Rahmen (2) aus Hohlprofilen (3) besteht und dass der vorgenannte Antrieb (6) in einem oder mehreren dieser Hohlprofile (3) integriert ist.
12. Schiebetür oder Schiebefenster nach Anspruch 13, **dadurch gekennzeichnet, dass** der Antrieb (6) in einem einzigen Profil (3) der Hohlprofile (3) des Rahmens integriert ist.
13. Schiebetür oder Schiebefenster (1) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Motorantrieb (17) oder der vorgenannte Teil davon ohne Demontage des Riementriebs (11) und ohne Lösen des Motors (18) oder des Motorantriebs (17) aus den Profilen des Rahmens herausbewegt werden kann.
14. Schiebetür oder Schiebefenster (1) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Motorantrieb (17) in einer Ausnehmung (21') des feststehenden Rahmens (2) montiert ist, wodurch der Motorantrieb (17) oder ein Teil davon zumindest teilweise aus der vorgenannten Ausnehmung (21') herausbewegt werden kann, ohne dass der Riementrieb (11) demontiert werden muss und ohne dass der Motor (18) oder der Motorantrieb (17) gelöst werden muss.

Revendications

1. Porte coulissante ou fenêtre coulissante (1) comprenant un cadre fixe (2) qui se compose de profilés (3) et qui est destiné à être monté dans une ouverture de porte ou de fenêtre et qui est muni d'un élément de porte ou d'un élément de fenêtre (5) qui est mobile dans le cadre (2), **caractérisée en ce qu'un entraînement** (6) est intégré dans la porte coulissante (1) ou dans la fenêtre coulissante, dans laquelle l'entraînement (6) comprend un entraînement du type à courroie (11), un entraînement du type à câble ou un entraînement du type à chaîne destiné à l'entraînement de l'élément mobile de porte ou de l'élément mobile de fenêtre (5) et comprend un entraînement par moteur (17) comprenant un moteur (18) destiné à entraîner l'entraînement du type à courroie (11), l'entraînement du type à câble ou l'entraînement du type à chaîne, dans laquelle l'entraînement par moteur (17), pour une utilisation fonctionnelle, est monté dans un évidement (21') du cadre fixe (2), dans

- laquelle l'entraînement par moteur (17) ou une partie de ce dernier peut être retiré au moins en partie hors du cadre fixe (2) sans devoir démonter l'entraînement du type à courroie (11) et sans devoir détacher le moteur (18) ou l'entraînement par moteur (17) de l'entraînement (6), l'entraînement par moteur (17) ou la partie susmentionnée de ce dernier pouvant être retiré hors de l'évidement susmentionné (21') du fait que l'entraînement par moteur (17) ou la partie concernée de ce dernier est fixé en rotation autour d'un arbre (16) qui est fixé dans le cadre (2) et qui est perpendiculaire à la direction dans laquelle l'élément de porte ou l'élément de fenêtre (5) est mobile dans le cadre.
2. Porte coulissante ou fenêtre coulissante (1) selon la revendication 1, **caractérisée en ce que** ledit arbre (16) est un arbre horizontal (16).
 3. Porte coulissante ou fenêtre coulissante (1) selon la revendication 1 ou 2, **caractérisée en ce que** l'entraînement par moteur (17) ou la partie susmentionnée de ce dernier est fixé en rotation en formant un angle d'au moins 15° autour dudit arbre (16) et est de préférence fixé en rotation en formant un angle d'au moins 30° autour dudit arbre (16), et de manière encore plus préférée est fixé en rotation en formant un angle d'au moins 45° autour dudit arbre (16).
 4. Porte coulissante ou fenêtre coulissante (1) selon l'une quelconque des revendications 1 à 3, **caractérisée en ce que** l'entraînement du type à courroie (11), l'entraînement du type à câble ou l'entraînement du type à chaîne est équipé d'une courroie (12), d'un câble ou d'une chaîne qui est guidé par-dessus au moins deux poulies de renvoi (13, 14) qui sont fixées dans le cadre fixe (2), et dans laquelle l'entraînement par moteur (17) ou la partie susmentionnée de ce dernier est rotatif autour de l'arbre (16) d'une des deux poulies de renvoi (13, 14) ou d'un arbre qui est fixé en position coaxiale avec ladite poulie dans le cadre (2).
 5. Porte coulissante ou fenêtre coulissante (1) selon la revendication 4, **caractérisée en ce que** l'entraînement par moteur (17) est rotatif dans son intégralité autour de l'arbre (16) d'une des deux poulies de renvoi (13, 14) ou d'un arbre qui est fixé en position coaxiale avec ladite poulie dans le cadre (2).
 6. Porte coulissante ou fenêtre coulissante (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** l'entraînement par moteur (17) comprend un couplage mécanique qui permet de détacher le moteur (18) de l'entraînement par moteur (17).
 7. Porte coulissante ou fenêtre coulissante (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** l'évidement (21') pour l'entraînement par moteur (17) est prévu complètement dans un profilé supérieur (3) du cadre fixe (2).
 8. Porte coulissante ou fenêtre coulissante (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** la porte ou la fenêtre fixe est équipée d'un premier élément (24) faisant office de raccord électrique qui est prévu pour le raccordement électrique du moteur (18) et qui est monté et raccordé par voie électrique dans l'évidement susmentionné (21') dans le cadre fixe (2), dans laquelle le moteur (18) est équipé d'un deuxième élément complémentaire amovible (25) faisant office de raccord électrique, qui est couplé au premier élément (24) faisant office de raccord lorsque l'entraînement par moteur (17) est amené dans sa position d'utilisation fonctionnelle.
 9. Porte coulissante ou fenêtre coulissante (1) selon l'une quelconque des revendications 1 à 4 et selon la revendication 8, **caractérisée en ce que** la connexion entre le premier et le deuxième élément (24, 25) faisant office de raccord électrique peut être établie par la mise en rotation de l'entraînement rotatif par moteur (17) ou de la partie susmentionnée de l'entraînement en question, qui est rotative, jusque dans la position d'utilisation fonctionnelle.
 10. Porte coulissante ou fenêtre coulissante (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** l'entraînement comprend deux profilés (7 et 8) qui sont mobiles dans la direction axiale l'un par rapport à l'autre, c'est-à-dire un premier profilé (7) qui est monté dans ou sur le cadre fixe (2) de la porte coulissante (1) ou de la fenêtre coulissante ou bien qui fait partie de ce cadre fixe (2), et sur lequel sont montés l'entraînement susmentionné (11) du type à courroie et l'entraînement par moteur (17) sur un côté (10), et un deuxième profilé qui est monté sur l'élément mobile de porte ou sur l'élément mobile de fenêtre (5) ou qui fait partie de l'élément en question et qui est relié localement à la courroie (12) de l'entraînement susmentionné (11) du type à courroie, dans laquelle un évidement (21) est prévu dans le premier profilé (7) dans le but de pouvoir déplacer l'entraînement par moteur (17) ou une partie de ce dernier au moins en partie dans la direction de l'autre côté (9) du premier profilé (7) concerné sans devoir démonter l'entraînement (11) du type à courroie et sans devoir détacher le moteur (18) ou l'entraînement par moteur (17).
 11. Porte coulissante ou fenêtre coulissante (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** le cadre (2) est réalisé à partir de profilés creux (3), et **en ce que** l'entraîne-

ment susmentionné (6) est intégré dans un ou plusieurs de ces profilés creux (3).

12. Porte coulissante ou fenêtre coulissante (1) selon la revendication 13, **caractérisée en ce que** l'entraînement (6) est intégré dans un seul profilé (3) parmi les profilés creux (3) du cadre. 5
13. Porte coulissante ou fenêtre coulissante (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** l'entraînement par moteur (17) ou la partie susmentionnée de ce dernier peut être déplacé jusqu'à l'extérieur des profilés du cadre sans devoir démonter l'entraînement (11) du type à courroie et sans devoir détacher le moteur (18) ou l'entraînement par moteur (17). 10 15
14. Porte coulissante ou fenêtre coulissante (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** l'entraînement par moteur (17) est monté dans un évidement (21') du cadre fixe (2), dans lequel l'entraînement par moteur (17) ou une partie de ce dernier peut être retiré, au moins en partie, hors de l'évidement susmentionné (21') sans devoir démonter l'entraînement (11) du type à courroie et sans devoir détacher le moteur (18) ou l'entraînement par moteur (17). 20 25

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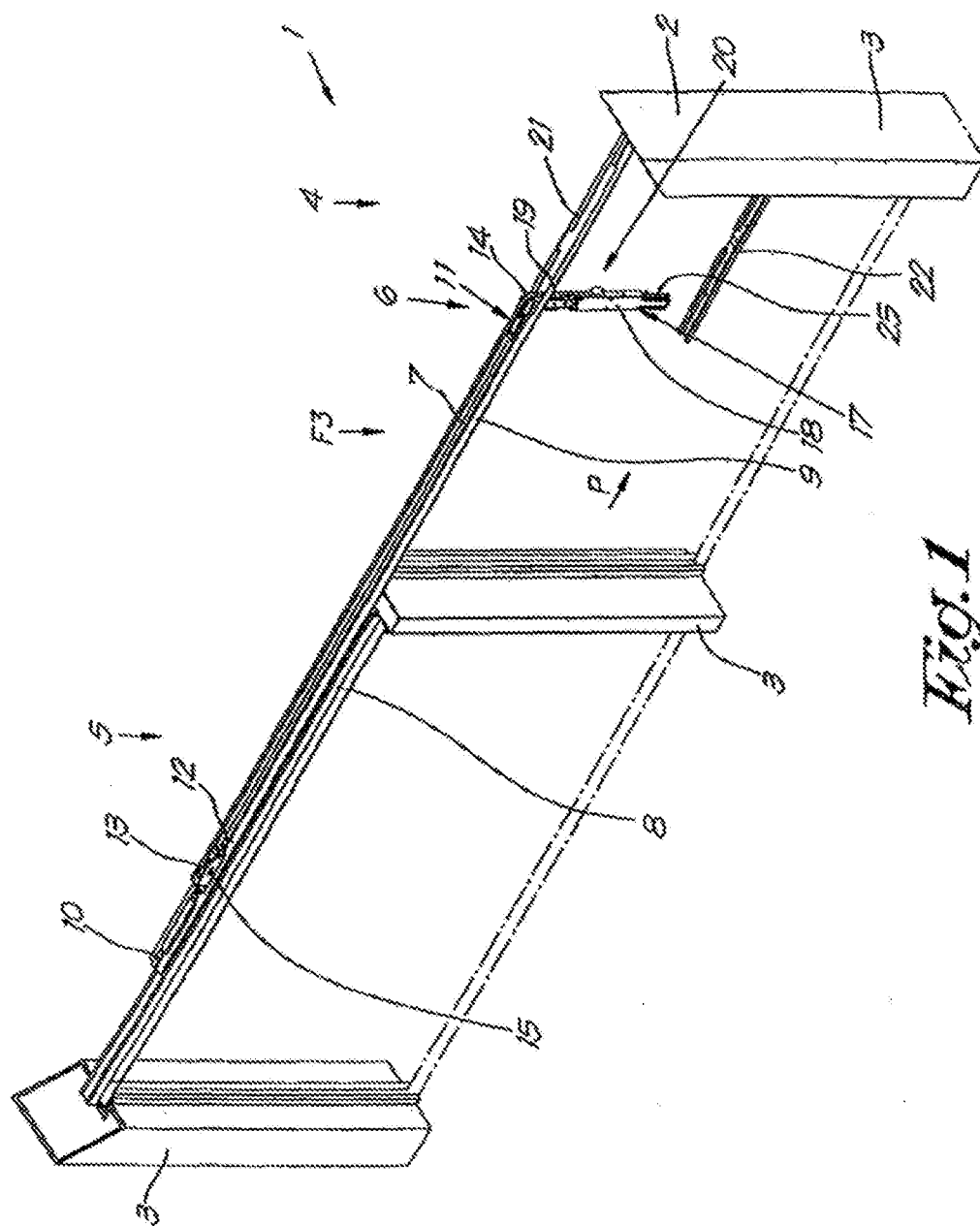


Fig. 1

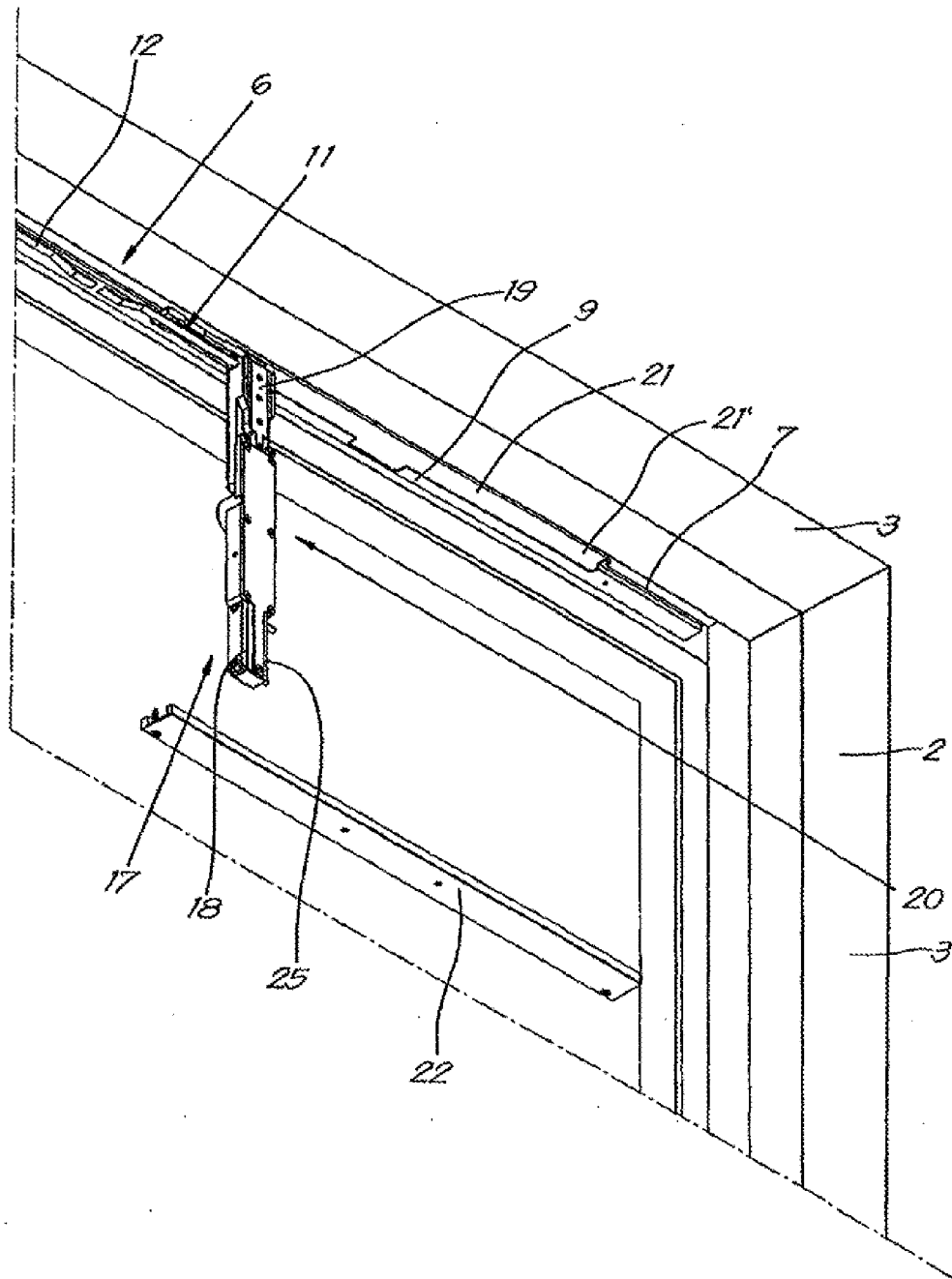


Fig. 2

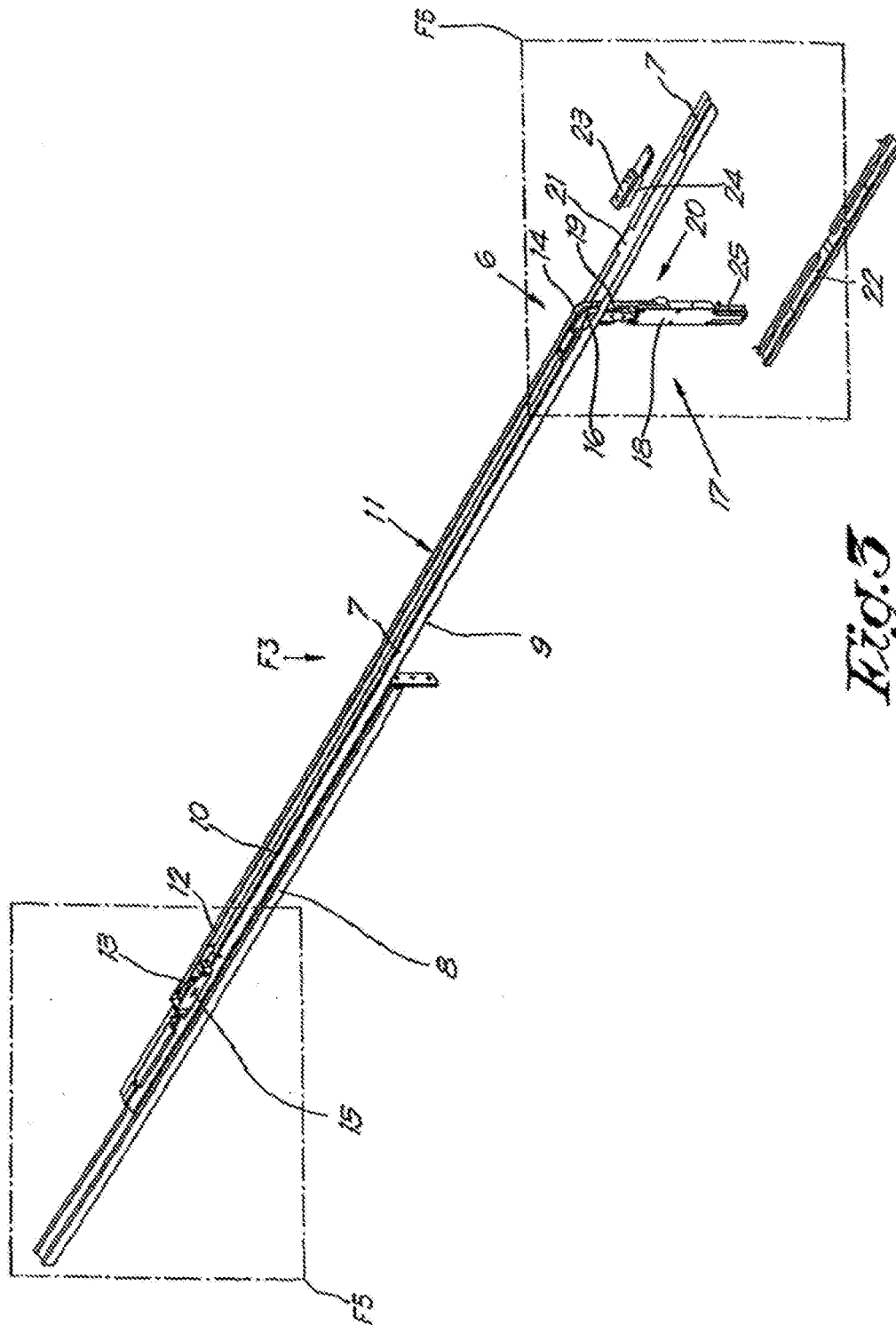


Fig. 5

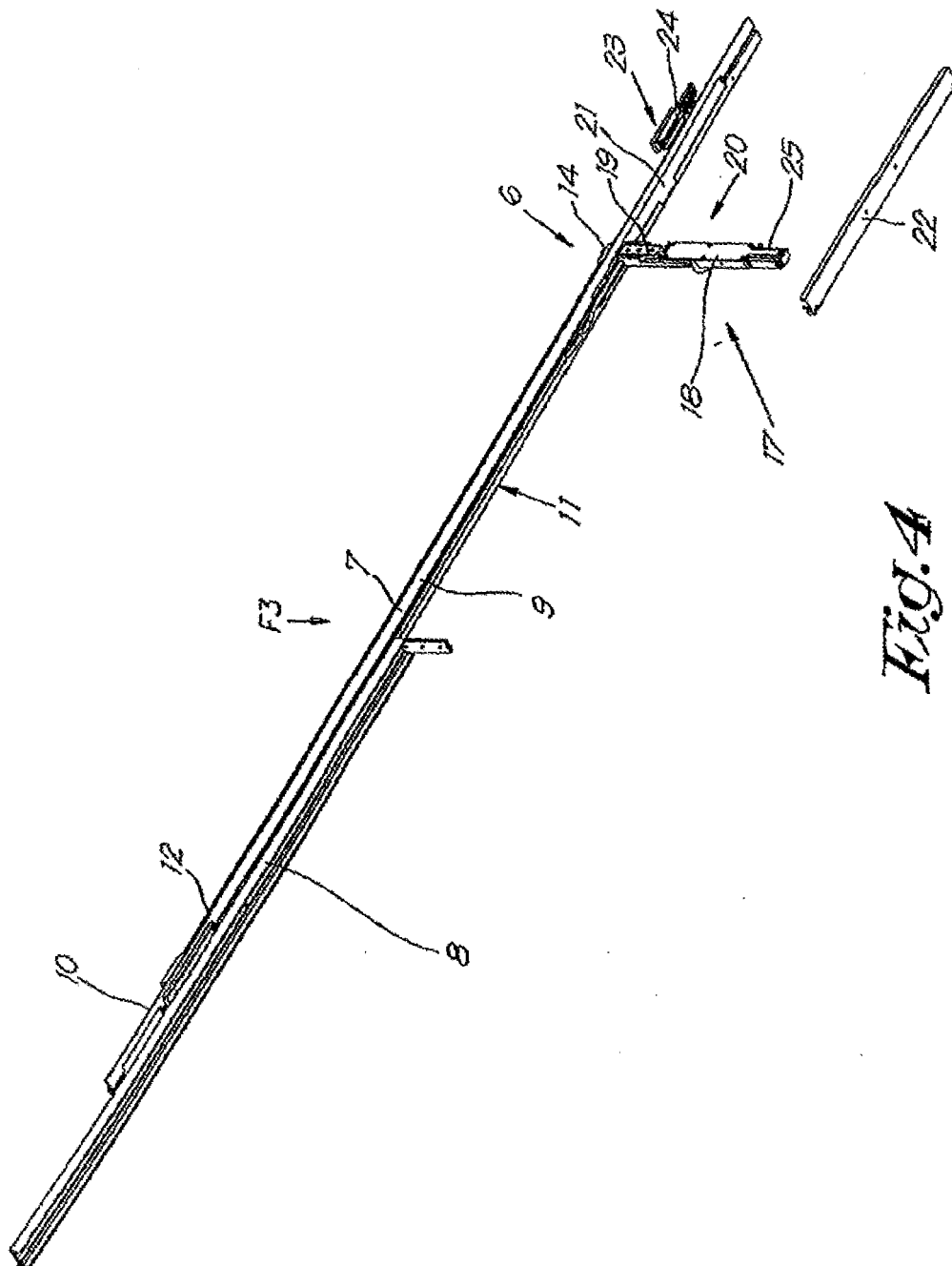
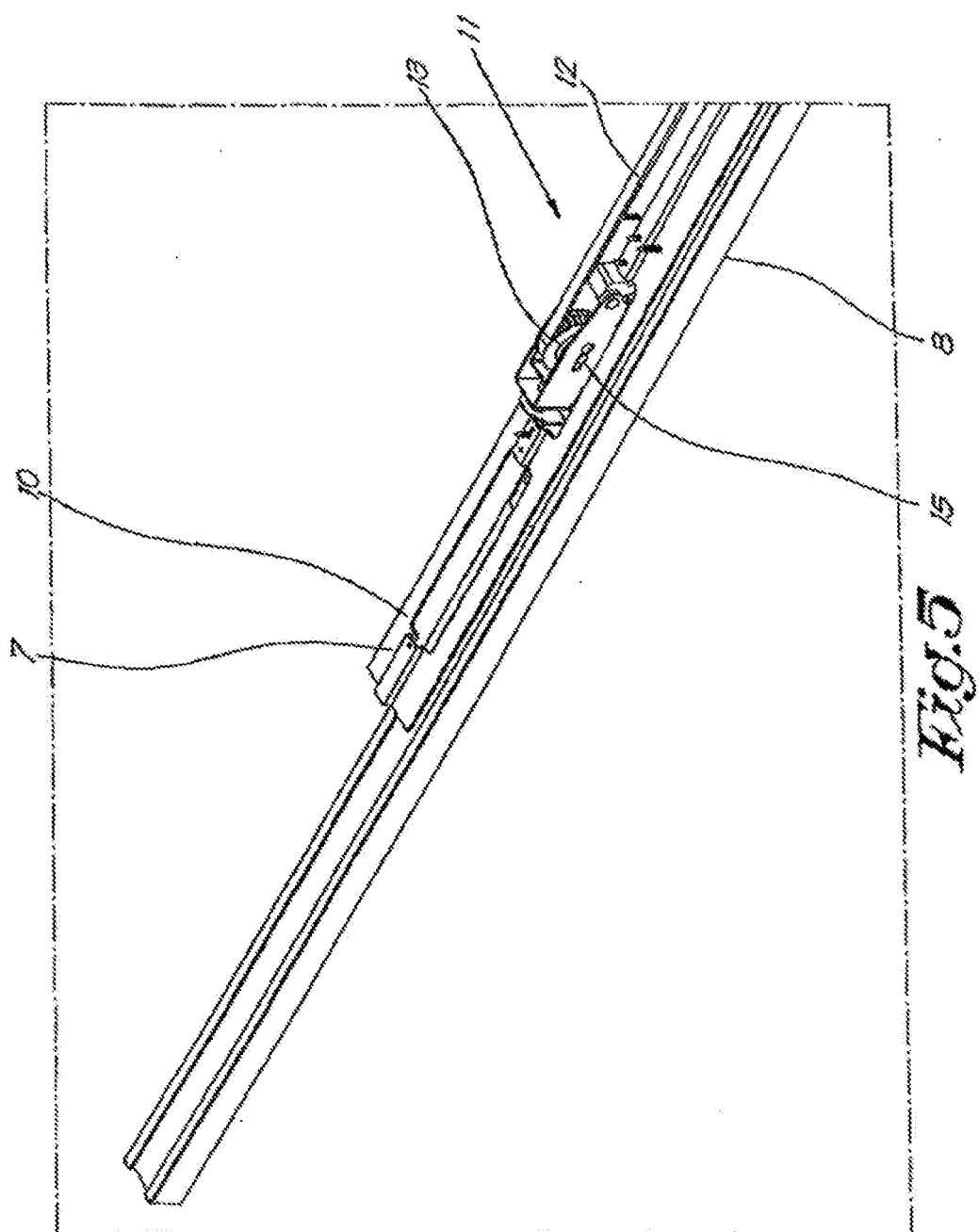
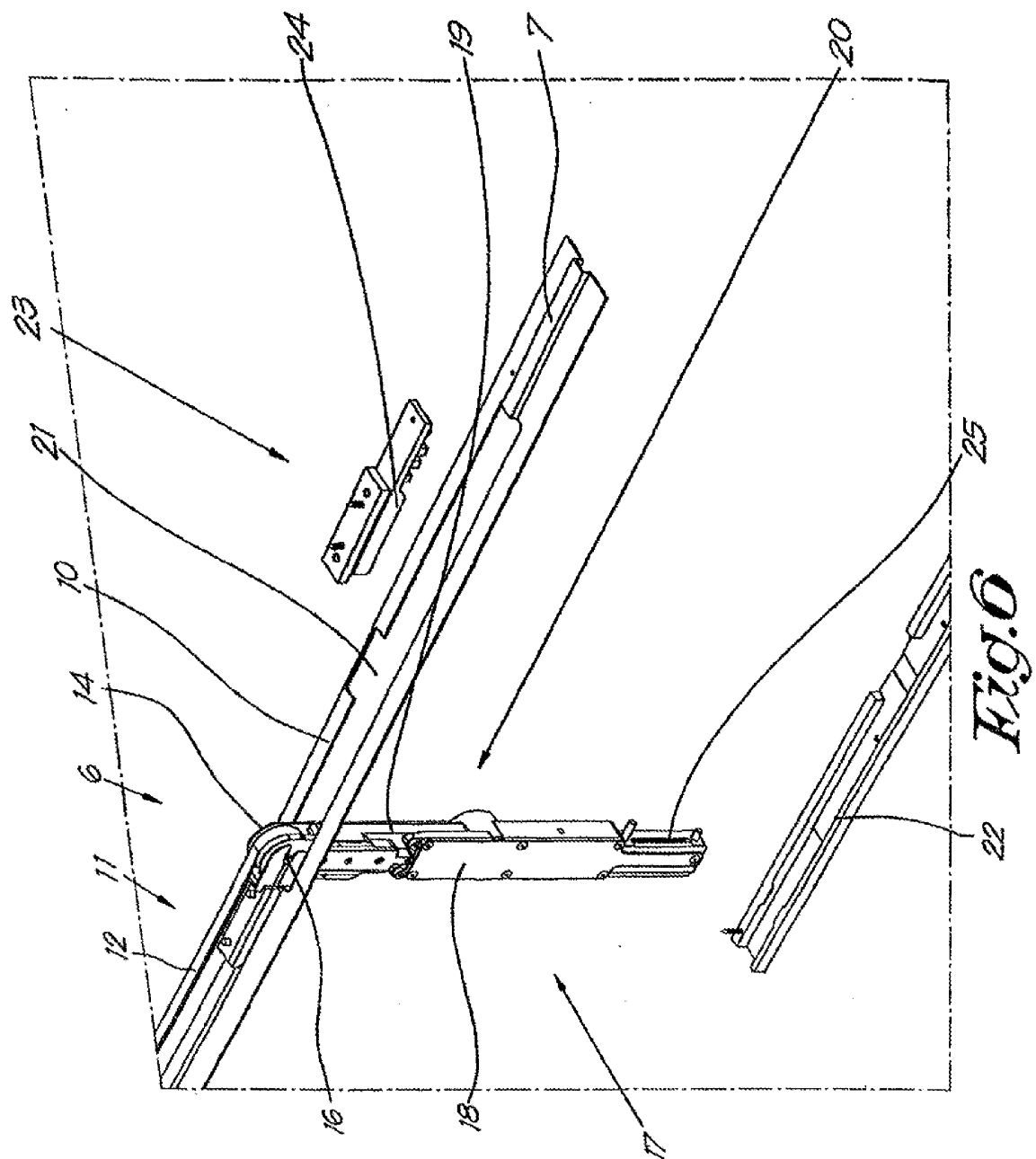
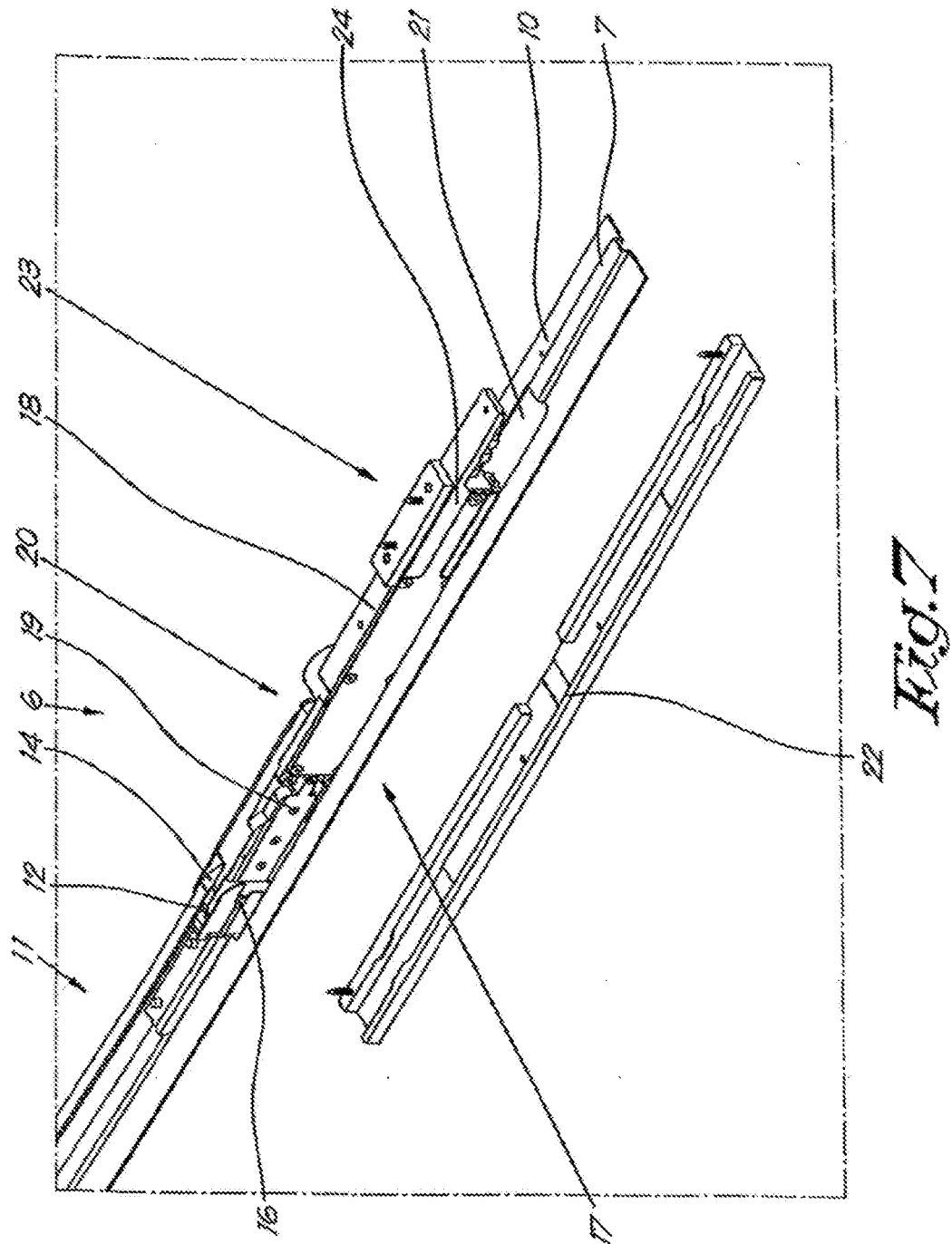


Fig. 4







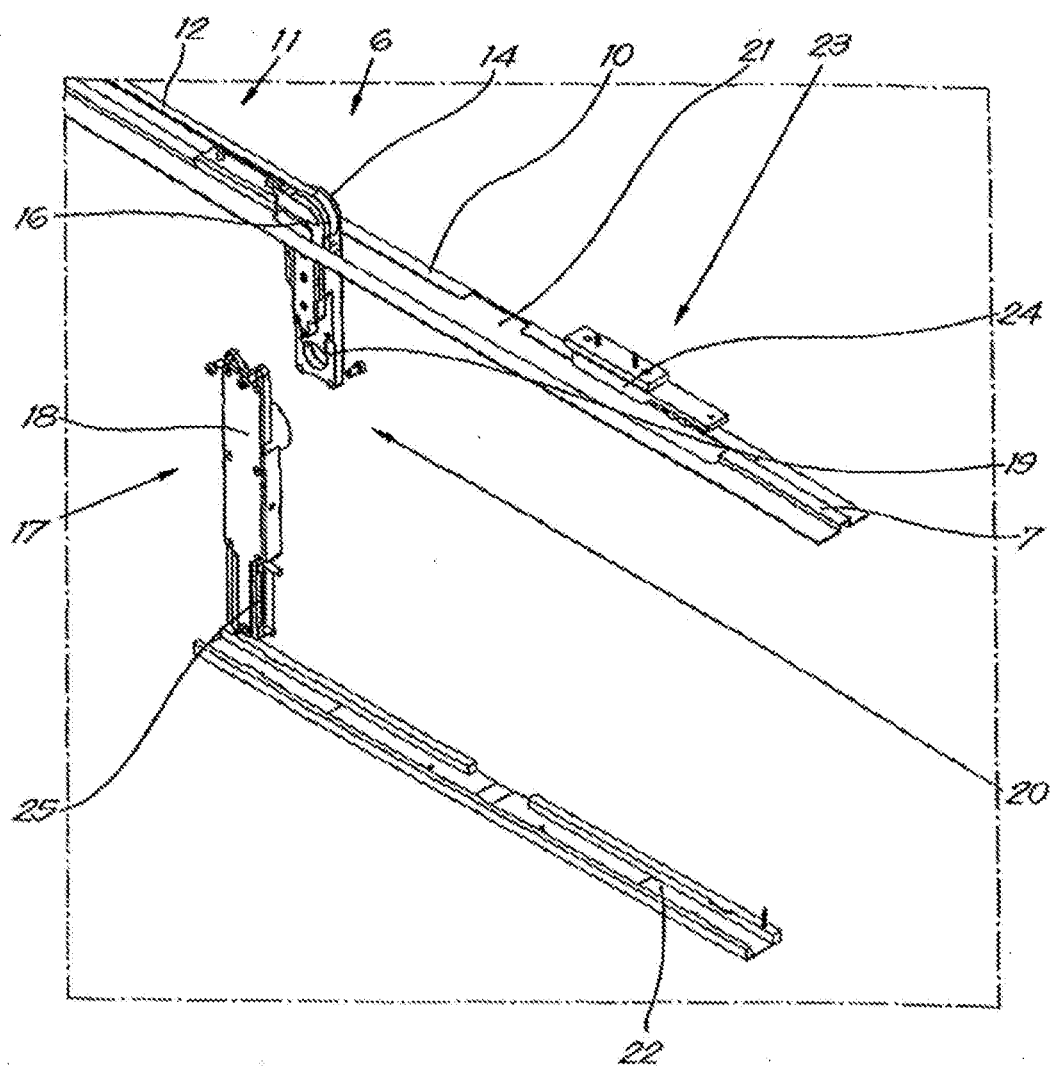


Fig. 8

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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