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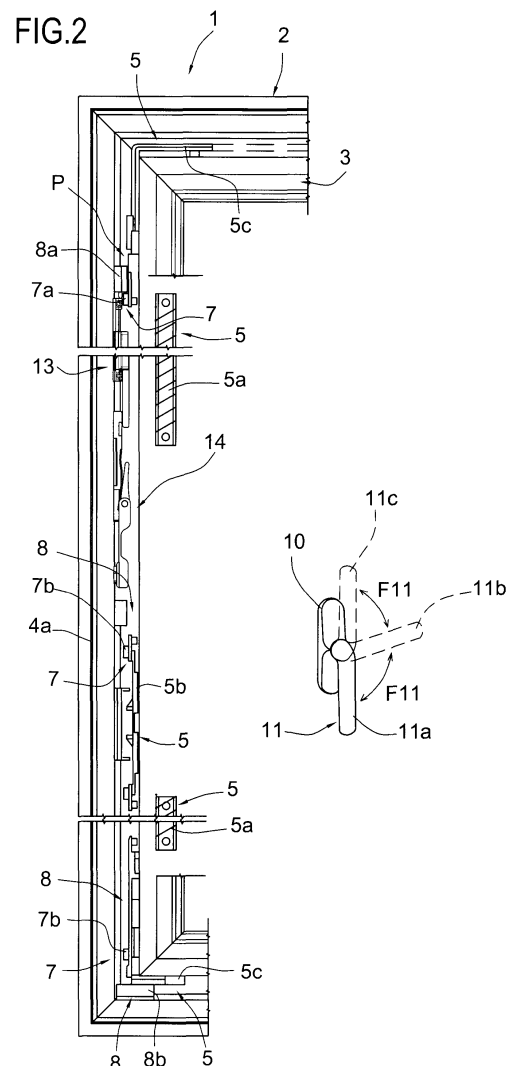
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(54) **Frame for tilt and turn doors and windows**

(57) A door or window frame comprises: a fixed frame (2) and a sash (3) hinged to one another along a stile (4); transmission means (5) designed to allow the movement of contact and/or closing elements (7), to define, in conjunction with fixed connecting elements (8) positioned on the fixed frame (2), door or window frame (1) closed, turned opened and tilted open configurations; a handle (10) acting on the transmission means (5) to determine, through rotation of its handgrip (11), the closed and open configurations, corresponding to three stable positions of the handgrip (11); sealing means (12) associated along the sash (3) and, in the closed configuration, positioned in contact with the fixed frame (2); an auxiliary connecting element (13), associated with the fixed frame (3) and acting on a sash (3) closing element (7a); activation/deactivation means (14) acting on the auxiliary element (13) allowing, in its activation configuration, guided interception of the closing element (7a), in one of the opening positions and alternatively to them, thus distancing the sealing means (12) from the fixed frame (2) with relative partial opening of the door or window frame (1) seal.



Description

[0001] The present invention relates to a frame for tilt and turn doors and windows, in particular a frame made of metal, PVC or the like, aluminium and wood, and so on.

[0002] At present, door and window frames of this type which can be turned open in the conventional way, or tilted open, basically comprise:

- a fixed frame and a sash hinged to one another, usually along a respective stile; and
- control and operating means positioned on the sash and acting between the sash and the fixed frame to allow the sash to be closed, turned open or tilted open.

[0003] In the specific case of door or window frames made of metal, PVC or a combination of PVC and wood, in which there is a profile forming a groove for both the fixed frame and the sash, housing operating accessories, these control and operating means, of the known type, may comprise, in the sash, transmission means slidably mounted in the groove (one or more rods connected to one another) and designed to move closing elements (for example bolts and/or contact pins) associated with the sliding transmission element.

[0004] In addition there are corner drive and control elements, of the known type, inserted between the rails of the fixed frame and the sash, designed to allow the sash to be opened by tilting, that is to say by angling the sash rail away from the fixed frame rail.

[0005] It is also widely known that in order to achieve said closed configuration of the sash on the fixed frame, the closing elements are combined with contact means (plugs or cup-shaped elements) made or associated on / in the fixed frame groove, which engage with the closing element present in the sash groove.

[0006] These contact means are usually positioned close to the lower and upper end zones of the fixed frame and in intermediate zones of the fixed stile (forming a so-called "third closing point") coupled with the movable stile opposite the hinged one.

[0007] A handle is used to operate these control means (in most cases a Cremona bolt handle) as the element for opening and closing the door or window unit. The handle moves by rotating to three stable positions, for opening the door or window by turning, opening it by tilting and closing it.

[0008] Over time, doors and windows of this kind have become more and more reliable, allowing rooms to be securely closed and sealed, thanks to the above-mentioned mechanisms and the customary seals present between the fixed frame and the sash.

[0009] However, such features, in particular the high level sealing provided by the seals, have resulted in the disadvantage of the need for regular ventilation of the rooms where these doors and windows are installed.

[0010] Ventilation is achieved by opening the door or

window frame by turning or, in most cases, by tilting, and this may create unwanted effects, such as: excessive temperature changes in the room (particularly in winter), lack of security for the room as regards the possibility of breaking and entering through the open door or window frame, since it is more likely that it can be forced when in the tilted open position, thus requiring opening times for ventilation to be minimised if no one is present in the room.

[0011] For this reason the Applicant has designed and produced a frame for doors and windows of the tilt and turn type with another configuration, alternative to the tilted configuration, designed to allow "micro-ventilation" of the room without affecting the construction architecture or the structure of the door or window frame as a whole and also maintaining a high level of door and window security.

[0012] Accordingly, the present invention achieves this aim with a frame for tilt and turn doors and windows, in particular a door or window frame comprising the technical features described in one or more of the claims herein.

[0013] The technical features of the invention, with reference to the above aims, are clearly described in the claims below and its advantages are more apparent from the detailed description which follows, with reference to the accompanying drawings which illustrate a preferred embodiment of the invention provided merely by way of example without restricting the scope of the inventive concept, and in which:

- Figure 1 is a schematic front view of a frame for tilt and turn doors and windows in accordance with the present invention;
- Figure 2 is a front view of part of the door or window frame of Figure 1 and a partly perspective view of accessories mounted on one side of the door or window frame;
- Figures 3 and 4 are top plan views with some parts cut away and others in cross-section of a part of the door or window frame of Figure 2 in two different operating configurations;
- Figures 5 and 6 are respectively a side view and a top plan view of a first embodiment of an accessory which can be applied to the door or window frame illustrated in the previous figures;
- Figures 7 and 8 are respectively a perspective view of the accessory of Figures 5 and 6 and an enlarged detail A from Figure 7;
- Figure 9 illustrates the accessory of Figures 5 to 8 applied to the fixed stile of the door or window frame;
- Figures 10 and 11 are respectively a side view and a top plan view of a second embodiment of an accessory which can be applied to the door or window frame of Figures 1 to 4;
- Figures 12 and 13 are respectively a side view and a top plan view of a third embodiment of an accessory which can be applied to the door or window frame

of Figures 1 to 4;

- Figure 14 is a cross-section XIV - XIV relative to Figure 13;
- Figure 15 illustrates the accessory of Figures 12 and 13 applied to the fixed stile of the door or window frame;
- Figure 16 is an exploded perspective view of a fourth embodiment of the accessory which can be applied to the door or window frame of Figures 1 to 4;
- Figure 17 is a rear perspective view of a detail of the accessory of Figure 16;
- Figures 18 and 19 are perspective views of the accessory of Figure 16 in two different configurations, respectively activation and deactivation;
- Figures 20 and 21 are top plan views with some parts cut away to better illustrate others, of the accessory of Figure 16 in two different positions, respectively operating and intermediate for passing from an activation configuration to a deactivation configuration;
- Figures 22 and 23 are respectively an exploded perspective view of a closing and/or contact element which can be applied to an operating element, and a perspective view of only the closing and/or contact element.

[0014] With reference to the accompanying drawings, and in particular with reference to Figures 1 and 2, the door or window frame disclosed, labelled 1 as a whole, is of the tilt and turn type.

[0015] The door or window frame 1 may be made with profiles made of metal, PVC or the like, aluminium and wood, and so on, without limiting the scope of the invention.

[0016] This door or window frame 1 basically comprises:

- a fixed frame 2 and a sash 3 hinged to one another along a stile 4;
- transmission means 5, positioned along a first groove 6 of the sash 3 and designed to allow movement of contact and/or closing elements 7 along the first groove 6, so as to define, in conjunction with fixed connecting elements 8 positioned on a second groove 9 of the fixed frame 2, door or window frame 1 closed (11a), turned open (11b) and tilted open (11c) configurations;
- a control handle 10, positioned on the sash 3, and acting on the transmission means 5 so as to determine, through rotation of its handgrip 11, closed and tilted and turned open configurations, corresponding to three stable positions of the handgrip 11 (visible in Figure 2 with arrows F11);
- sealing means 12 acting between the fixed frame 2 and the sash 3 and positioned, in the door or window frame 1 closed configuration, in contact with the fixed frame 2 and the sash 3, for sealed door or window frame 1 closing.

[0017] In detail, again see Figure 2, the transmission means 5, of the known type, may be rods 5a, drive elements 5b connected to the handle 10, corner drives 5c.

[0018] The contact elements 7 may consist of bolts 7b and end contact pins 7c associated with the rods 5a. These elements operate in conjunction with the connecting elements 8 (for example cups 8b for housing the contact pins 7c) to determine the above-mentioned door or window frame 1 configurations.

[0019] In addition, the door or window frame 1 comprises:

- an auxiliary connecting element 13, associated with the fixed frame 2, and acting on one of the sash 3 closing elements 7a; and
- means 14 for activating/deactivating this auxiliary connecting element 13, acting on the latter element 13 so as to allow, in the activation configuration, its guided interception of the closing element 7a, when in the turned or tilted open position - and alternatively to both - so as to obtain limited distancing of the sash 3 from the fixed frame 2 corresponding to distancing of the sealing means 12 from the fixed frame 2 (see Figures 3 and 4 and arrow F12) in order to achieve at least a partial opening of the door or window frame 1 seal.

[0020] As illustrated in Figures 2, 3 and 4, the auxiliary connecting element 13 is associated on the second groove 9 of the fixed stile 4a opposite the hinged stiles 4.

[0021] The closing element 7a is positioned on the corresponding movable stile 3a so that, in the door or window frame 1 closed configuration, it forms an additional closing point in conjunction with a relative fixed connecting element 8.

[0022] As illustrated in Figures 3 and 4, the sealing means 12 comprise first seals 12a positioned on the sash 3 and second seals 12b positioned on the fixed frame 2 and, therefore in the door or window frame 1 alternative or ventilation configuration, the path for interception of the closing element 7a in the auxiliary connecting element 13 results in a distancing of the first seals 12a from the fixed frame 2 and a distancing of the sash 3 from the second seals 12b at least along an upper rail 4b and a partial section of the relative two movable stiles 4 and 4a adjacent to the upper rail 4a.

[0023] More precisely, the auxiliary connecting element 13 stably houses the closing element 7a when the handgrip 11 passes to the door or window frame 1 tilted open configuration, so as to define an alternative door or window frame 1 configuration to said tilt opening, when the means 14 are moved into an activation configuration.

[0024] As is clearly shown in Figures 2 to 4, the closing element consists of a bolt 7a associated with the transmission means 5 designed to allow it to move along the first groove 6 according to the possible door or window frame 1 configurations. This bolt 7a operates in conjunction with a relative fixed connecting element 8a associ-

ated with the fixed stile 4a in the door or window frame 1 closed configuration to form the above-mentioned additional closing point.

[0025] As illustrated in Figures 3 to 15, the auxiliary connecting element 13 comprises an open cup-shaped body 15 slidably associated with a first fixing base 16 integral with the second groove 9. The cup-shaped body 15 has shaped walls 15a and 15b forming a connecting path for the bolt 7a, with the handgrip 1 in the alternative position and the cup-shaped body 15 in the activation position, allowing the sash 3 to move into the configuration with limited distancing from the fixed frame 2.

[0026] The cup-shaped body 15 is positioned close to the fixed connecting element 8a and is connected to the activation/deactivation means 14 designed to allow it to slide between a stable non-operating position (see continuous line in Figures 9 and 15), in which the cup-shaped body 15 is distanced from the connecting element 8a, and a stable operating position (see dashed line and arrow F15 in Figures 9 and 15), in which the cup-shaped body 15 is moved close to the connecting element 8a, so that the bolt 7a can be housed in it with the passage to the alternative position.

[0027] More precisely, the cup-shaped body 15 has a first section 17 of one wall 15a extending at an angle and converging towards the inside of the cup-shaped body 15 to form a guided infeed path for the bolt 7a in the cup-shaped body 15 (see arrow F7a in Figures 9 and 15) with relative limited opening stroke for the sash 3.

[0028] As illustrated in Figures 5 to 9, a first embodiment of the activation/deactivation means 14 comprises a rod 18, pivoting at one end at the cup-shaped body 15 to allow the cup-shaped body 15 to slide, by manual pushing or pulling, between the two stable, non-operating and operating positions.

[0029] The rod 18 also has at least one through-hole 19, on its body and which can engage with a pin 20 on the lower end of the first fixing base 16 so as to lock the rod 18 at the cup-shaped body 15 operating position.

[0030] The rod 18 preferably has, on its body, two through holes 19 and 19a, distanced from one another, and when engaged alternatively with the pin 20, defining the cup-shaped body 15 stable, operating and non-operating positions, respectively.

[0031] In addition, in a non-operating position the rod 18 is housed in the second groove 9 of the fixed stile 4a, to avoid interference with the movement of the sash 3.

[0032] In practice, the user can lift the rod 18 manually (see arrow F18 in Figure 5), detaching it from the pin 20, so as to be able to push or pull the cup-shaped body 15 (see arrow F15) in order to move it into the operating or non-operating position and, subsequently lower the rod 18 again to return it to its position along the second groove 9 and simultaneously couple it to the pin 20 in the relative hole 19 or 19a.

[0033] In an alternative embodiment illustrated in Figures 10 and 11, the activation/deactivation means 14 comprise a slide 21 slidably associated with the second

groove 9 of the fixed stile 4a.

[0034] The slide 21 is associated at its first end with the end of the cup-shaped body 15 and, at the opposite end, it is connected to a projection 22 of a lever 23 pivoting, at 24, on both sides of a second base 25 fixed on the second groove 9.

[0035] The lever 23 can rotate about the pivoting point 24, through an angle α , defining two stable limit positions defining a pull and, respectively, a push on the slide 21 and so defining the corresponding non-operating position (Figures 10 and 11) and operating position of the cup-shaped body 15 (see Figures 12 and 13).

[0036] In said non-operating position, the slide 21 has an end portion connected to the lever 23 designed to be slidably housed in the second fixing base 25 (see Figures 10 and 11).

[0037] The lever 23 is parallel with the slide 21 and with the second fixing base 25 in its stable limit positions corresponding to the cup-shaped body 15 non-operating and operating positions, to avoid interference with the movement of the sash 3.

[0038] In the embodiment illustrated in Figures 10 and 11, the cup-shaped body 15 is slidably connected on the first guiding base 16 fixed to the second groove 9 of the fixed stile 4a as described in the previous embodiment.

[0039] In the third embodiment illustrated in Figures 12 to 15, the cup-shaped body 15 has a portion of its lower part which can be partly coupled to the second groove 9 and connected there by sliding coupling means 26 (a screw), positioned centrally to the body 15, and acting between the body 15 and a lower toothed plug 27 forming a sort of auxiliary base 16 for the cup-shaped body 15.

[0040] In the latter embodiment, the cup-shaped body 15 is divided into two specular portions, joined without interruptions to form two open seats 28, opposite one another, for housing the closing bolt 7a: in this way, thanks to the fixing system and this specularity, the cup-shaped body 15 can be positioned on the second groove 9 according to the type of opening (right- or left-hand) of the door or window frame 1.

[0041] In the latter two embodiments, with the door or window frame 1 opened by turning, the user can move the cup-shaped body 15 from a non-operating position to the operating position (or vice versa) by rotating the lever 23.

[0042] If the cup-shaped body 15 were moved into the operating position, the user could move the handle 11 to the position originally used for opening by tilting so as to obtain, in this configuration, said limited opening of the movable stile 3 with distancing of only the seals 12 in order to achieve reduced ventilation of the room.

[0043] Another alternative embodiment is illustrated in Figures 16 to 20.

[0044] In this construction embodiment, the auxiliary connecting element 13 comprises a slide 113 slidably associated with a base 114 which can be fixed to the second groove 9 of the fixed stile 4a (for example with

screws 114v).

[0045] The slide 113 has two opposite ends 113a, 113b shaped so that each forms a connecting path for the bolt 7a, with the handgrip 11 in the alternative position and the slide 113 in the activation position (see Figure 18) using the activation/deactivation means 14, allowing the sash 3 configuration with limited distancing from the fixed frame 2.

[0046] Obviously, as in the case previously described, the ends 113a, 113b are opposite and specular to allow rapid and simple slide 113 mounting on the second groove 9 according to the type of opening (right- or left-hand) of the door or window frame 1.

[0047] As illustrated in Figures 16, 17 and 20, 21, the activation/deactivation means 14 comprise:

- a central portion 113c of the slide 113, for joining the shaped ends 113a, 113b, forming a manually operated section designed to allow the slide 113 to slide in both directions (see arrows F113 in Figures 18 and 19);
- an elastic element 115, inserted between the slide 113 and the base 114, acting on the slide 113 and designed to define two stable positions corresponding to the slide 113 activation and deactivation configurations visible in Figures 18 and 19.

[0048] More precisely, the elastic element consists of an open spring 115 with two free ends 115a and 115b having the shape of a hook and each able to stably connect in a relative lower seat 116a, 116b in the slide 113 (clearly visible in Figures 17, 20 and 21).

[0049] The spring 115 is also shaped to form two curved lateral portions 117 engaged in a groove 118 formed by a pair of inverted "L"-shaped wings 119 on the base 114 and in which the slide 113 also runs.

[0050] The base 114 also has two pairs of lateral openings 120, 121 (opposite pairs) in the groove 118, corresponding to the slide 113 activation/deactivation positions, designed for engagement, on each occasion, with the curved portions 117 of the spring 115, to render the positions assumed by the slide 113 stable.

[0051] In other words, the distance D120 between the two pairs of lateral openings 120, 121 represents the slide 113 activation or deactivation stroke: when the slide 113 is moved from one position to another or vice versa, by the user manually pushing or pulling on the central portion 113c of the slide, the spring 115 is laterally compressed and comes out of the relative pair of openings 120 or 121 (pulled by the slide 113 and visible in Figure 21) until the point where it meets the other pair of openings 121 or 120 in which the curved portions 117 engage, thus giving the new slide 113 positioning (see Figure 20).

[0052] In addition, the slide 113 has a lower outline 113s (visible in Figure 17) designed to retain at least another portion of the spring 115, to prevent the spring 115 from moving about a vertical axis or in any case its rotational axial movement, which could stop the movement

of the slide 113 along the base 114.

[0053] Figures 22 and 23 show an alternative embodiment of the bolt 7a which can be used with the accessories described above: this bolt 7a may have its projecting portion 122, for intercepting for example one of the above-mentioned shaped ends 113a and 113b, eccentric relative to its base 123 for fixing to the transmission element 5.

[0054] The eccentricity of the bolt 7a allows more precise adjustment of the sash 3 micro-ventilation position without affecting its primary closing or contact functions in the other door or window frame 1 configurations.

[0055] Therefore, the door or window frame structured in this way achieves the aims thanks to a substantial fourth door or window frame operating configuration which is an alternative to the tilting configuration.

[0056] The application of a single additional element and the relative activation means to accessories already planned or present allows limited opening of the door or window frame by the user for a minimum change of air, but maintains good anti-breaking and entering features, since the sash is quite close to the fixed frame and is connected at an intermediate closing point.

[0057] The possibility of using the handle to achieve an alternative position and activating a "micro"-ventilation configuration by manual selection only allows the technical features and appearance of the door or window frame and its accessories to remain unchanged.

[0058] In particular, the structure of this "micro"-ventilation accessory is such that it can even be retrofitted to existing door or window frames without having to modify any of their other accessories.

[0059] Moreover, the accessory structured in this way may advantageously be applied to the door or window frame even after the frame has been installed and without special machining and without any substitution of parts already fitted.

[0060] The invention described is suitable for industrial applications and may be modified and adapted in several ways without thereby departing from the scope of the inventive concept. Moreover, all the details of the invention may be substituted by technically equivalent elements.

Claims

1. A frame for tilt and turn doors and windows, the door or window frame (1) being of the type comprising at least:

- a fixed frame (2) and a sash (3) hinged to one another along a stile (4);
- transmission means (5), positioned along a first groove (6) of the sash (3) and designed to allow movement of contact and/or closing elements (7) along the first groove (6), so as to define, in conjunction with fixed connecting elements (8)

- positioned on a second groove (9) of the fixed frame (2), door or window frame (1) closed, turned open and tilted open configurations;
- a control handle (10), positioned on the sash (3), and acting on the transmission means (5) so as to determine, through rotation of its handgrip (11), said closed, turned open and tilted open configurations corresponding to three stable positions of the handgrip (11);
 - sealing means (12) positioned between the fixed frame (2) and the sash (3) and acting on said fixed frame and sash (2, 3), in the closed configuration, for sealed door or window frame (1) closing, the door or window frame (1) being **characterised in that** it comprises:
 - an auxiliary connecting element (13), associated with the fixed frame (2), and acting on a sash (3) closing element (7a);
 - means (14) for activating/deactivating this auxiliary connecting element (13), acting on the latter element (13) so as to allow, in the activation configuration, its guided interception of the closing element (7a), when in the turned or tilted open position, and alternatively to both, so as to obtain limited distancing of the sash (3) from the fixed frame (2), corresponding to at least partial and relative distancing of the sealing means (12) in order to achieve at least a partial opening of the door or window frame (1) seal.
2. The door or window frame according to claim 1, where the sealing means (12) comprise first seals (12a) positioned on the sash (3) and second seals (12b) positioned on the fixed frame (2), **characterised in that** in the door or window frame (1) alternative or ventilation configuration, the path for interception of the closing element (7a) in the auxiliary connecting element (13) results in a distancing of the first seals (12a) from the fixed frame (2) and a distancing of the sash (3) from the second seals (12b) at least along an upper rail (4b) and a partial section of the relative two movable stiles (4, 4a) adjacent to the upper rail (4a).
 3. The door or window frame according to claim 1, **characterised in that** the auxiliary connecting element (13) is associated on the second groove (9) of a fixed stile (4a) opposite the stiles (4) hinged to one another and the closing element (7a) is positioned on the corresponding movable stile (3a) so that, in the door or window frame (1) closed configuration, it forms an additional closing point in conjunction with a fixed connecting element (8).
 4. The door or window frame according to claim 1, **characterised in that** the auxiliary connecting element (13) stably houses the closing element (7a) with the passage of the handgrip (11) into the door or window frame (1) tilted open configuration, defining a door or window frame (1) opening configuration which is an alternative to the latter.
 5. The door or window frame according to claims 1 to 4, where the closing element (7) comprises a bolt (7a) associated with the transmission means (5) designed to allow it to move along the first groove (6) according to the door or window frame (1) configurations, **characterised in that** the auxiliary connecting element (13) comprises an open cup-shaped body (15) slidably associated with a first fixing base (16) integral with the second groove (9); the cup-shaped body (15) having walls (15a, 15b) shaped to form a connecting path for the bolt (7a), with the handgrip (11) in the alternative position and the cup-shaped body (15) in the activation position, allowing the sash (3) to move into the configuration with limited distancing from the fixed frame (2).
 6. The door or window frame according to claim 5, where the fixed stile (4a) is associated with a fixed connecting element (8a) operating in conjunction with the bolt (7a) in the door or window frame (1) closed configuration, **characterised in that** the cup-shaped body (15) is positioned close to the fixed connecting element (8a); the cup-shaped body (15) also being connected to the activation/deactivation means (14) designed to allow it to slide between a stable non-operating position, in which the cup-shaped body (15) is distanced from the connecting element (8a), and a stable operating position, in which the cup-shaped body (15) is moved close to the connecting element (8a), so that the bolt (7) can be housed in it when it moves into the alternative position.
 7. The door or window frame according to claims 5 and 6, **characterised in that** the cup-shaped body (15) has a first section (17) of one wall (15a) extending at an angle and converging towards the inside of the cup-shaped body (15) to form a guided infeed path for the bolt (7a) in the cup-shaped body (15) with a relative limited opening stroke for the sash (3).
 8. The door or window frame according to claims 5 to 7, **characterised in that** the activation/deactivation means (14) comprises a rod (18) pivoting at one end at the cup-shaped body (15) to allow the cup-shaped body (15) to slide, by manual action, between the two stable, non-operating and operating positions; the rod (18) having at least one through-hole (19), on its body and which can engage with a pin (20) on the lower end of the first fixing base (16), integral in the second groove (9) of the fixed stile (4a), so as to lock the rod (18) at the cup-shaped body (15) operating position.

9. The door or window frame according to claim 8, **characterised in that** the rod (18) has, on its body, two through holes (19, 19a), distanced from one another, and when engaged alternatively with the pin (20), defining the cup-shaped body (15) stable, operating and non-operating positions. 5
10. The door or window frame according to claims 7 to 9, **characterised in that**, in a non-operating position, the rod (18) is housed in the second groove (9) of the fixed stile (4a), to avoid interference with the movement of the sash (3). 10
11. The door or window frame according to claims 5 and 6, **characterised in that** the activation/deactivation means (14) comprise a slide (21) slidably associated with the second groove (9) of the fixed stile (4a); the slide (21) being associated, at its first end, with the end of the cup-shaped body (15) and, at the opposite end, being connected to a projection (22) of a lever (23) pivoting, at (24), on both sides of a second base (25) fixed on the second groove (9) of the fixed stile (4a), allowing lever (23) rotation about the pivoting point (24), through an angle (α), defining two stable limit positions defining a respective pull and push on the slide (21) and thus defining the corresponding cup-shaped body (15) non-operating and operating positions. 20 25
12. The door or window frame according to claim 11, **characterised in that** the slide (21) has an end portion connected to the lever (23) designed to be slidably housed in the second fixing base (25) with the cup-shaped body (15) in the non-operating position. 30
13. The door or window frame according to claim 11, **characterised in that** the lever (23) is parallel with the slide (21) and with the second fixing base (25) in its stable limit positions corresponding to the cup-shaped body (15) non-operating and operating positions, avoiding interference with the movement of the sash (3). 35 40
14. The door or window frame according to claim 11, **characterised in that** the cup-shaped body (15) is slidably connected on a first guiding base (16) fixed to the second groove (9) of the fixed stile (4a). 45
15. The door or window frame according to claim 11, **characterised in that** the cup-shaped body (15) has a portion of its lower part which can be partly coupled to the second groove (9) and connected there by sliding coupling means (26), positioned centrally to the body (15), and acting between the body (15) and a lower toothed plug (27). 50 55
16. The door or window frame according to claim 11, **characterised in that** the cup-shaped body (15) is divided into two specular portions, joined without interruptions to form two open seats (28), opposite one another, for housing a closing bolt (7a) and able to be positioned in the second groove (9) according to the type of door or window frame (1) opening.
17. The door or window frame according to claims 1 to 4, **characterised in that** the auxiliary connecting element (13) comprises a slide (113) slidably associated with a base (114) which can be fixed to the second groove (9) of the fixed stile (4a); the slide (113) having two opposite ends (113a, 113b) each shaped to form a connecting path for the bolt (7a), with the handgrip (11) in the alternative position and the slide (113) in the activation position using the activation/deactivation means (14), allowing the sash (3) configuration with limited distancing from the fixed frame (2).
18. The door or window frame according to claim 17, **characterised in that** the activation/deactivation means (14) comprise:
- a central portion (113c) of the slide (113), for joining the shaped ends (113a, 113b), forming a manually operated section designed to allow the slide (113) to slide in both directions;
 - an elastic element (115), inserted between the slide (113) and the base (114), acting on the slide (113) and designed to define two stable positions corresponding to the slide (113) activation and deactivation configurations.
19. The door or window frame according to claim 18, **characterised in that** the elastic element consists of an open spring (115) with two free ends (115a, 115b) having the shape of a hook and each able to stably connect in a relative lower seat (116a, 116b) in the slide (113); the spring (115) being shaped to form two curved lateral portions (117) engaged in a groove (118) formed by a pair of inverted "L"-shaped wings (119) on the base (114) and in which the slide (113) also runs; the base (114) also having two pairs of lateral openings (120, 121) in the groove (118), corresponding to the slide (113) activation/deactivation positions, designed for engagement, on each occasion, with the curved portions (117) of the spring (115), to render the positions assumed by the slide (113) stable.
20. The door or window frame according to claims 18 and 19, **characterised in that** the slide (113) has a lower outline (113s) designed to retain at least another portion of the elastic element (115), to prevent it from moving about a vertical axis.
21. The door or window frame according to claims 1 to 4 and 18, **characterised in that** the bolt (7a) pro-

jecting portion (122), for intercepting one of the shaped ends (113a, 113b), is eccentric relative to the fixing base (123).

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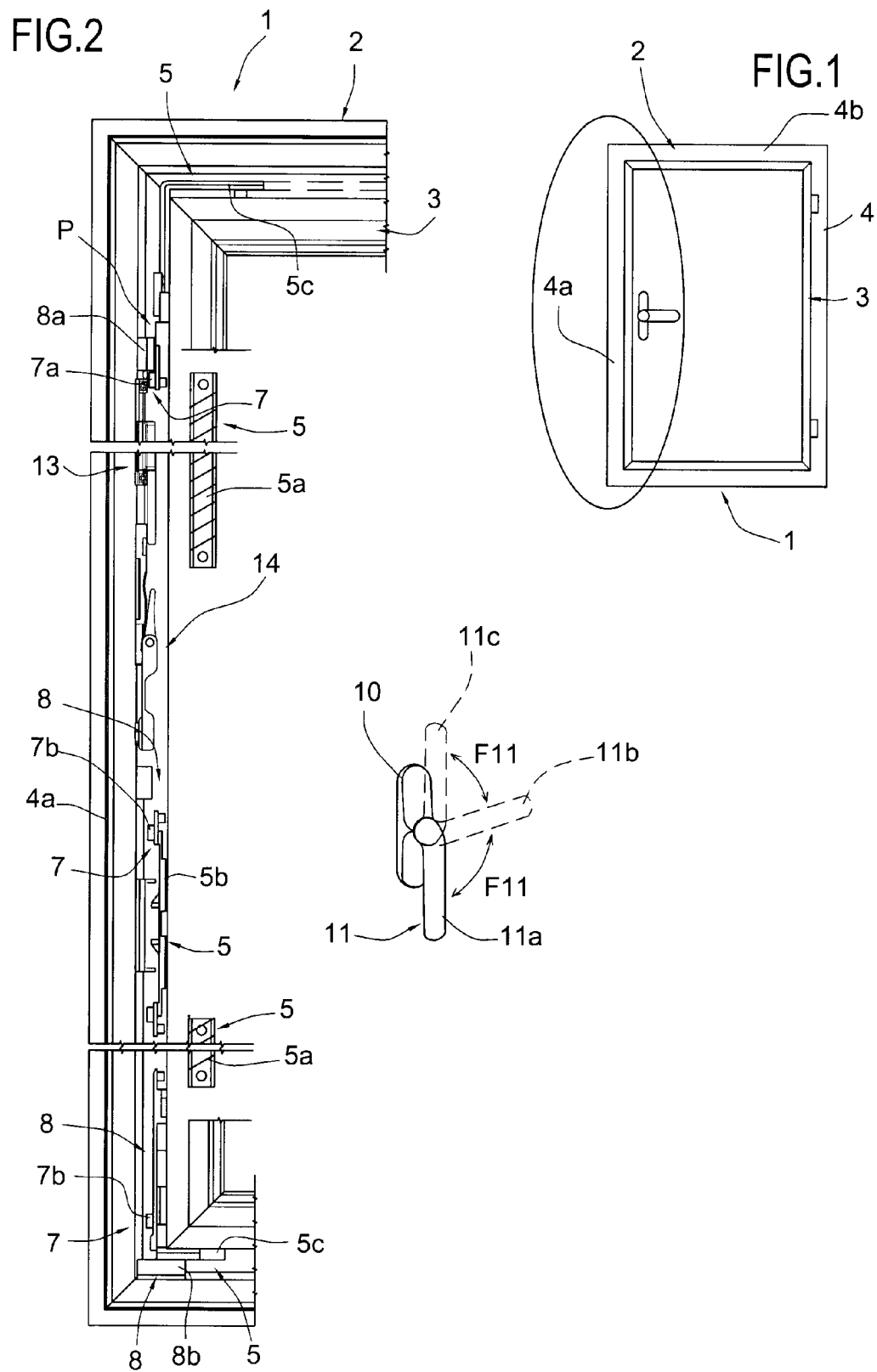


FIG.3

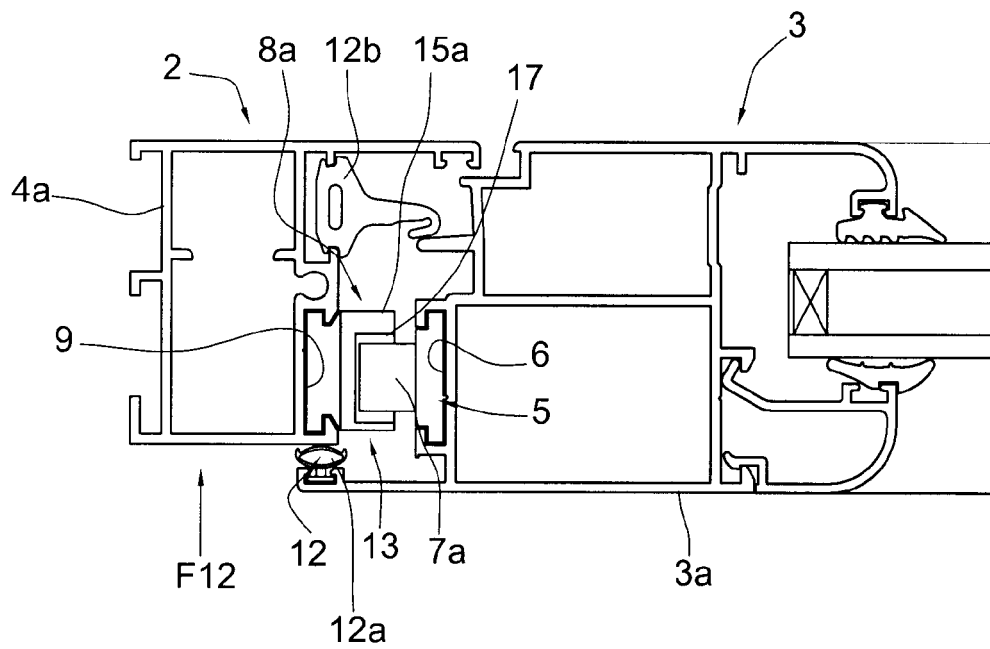


FIG.4

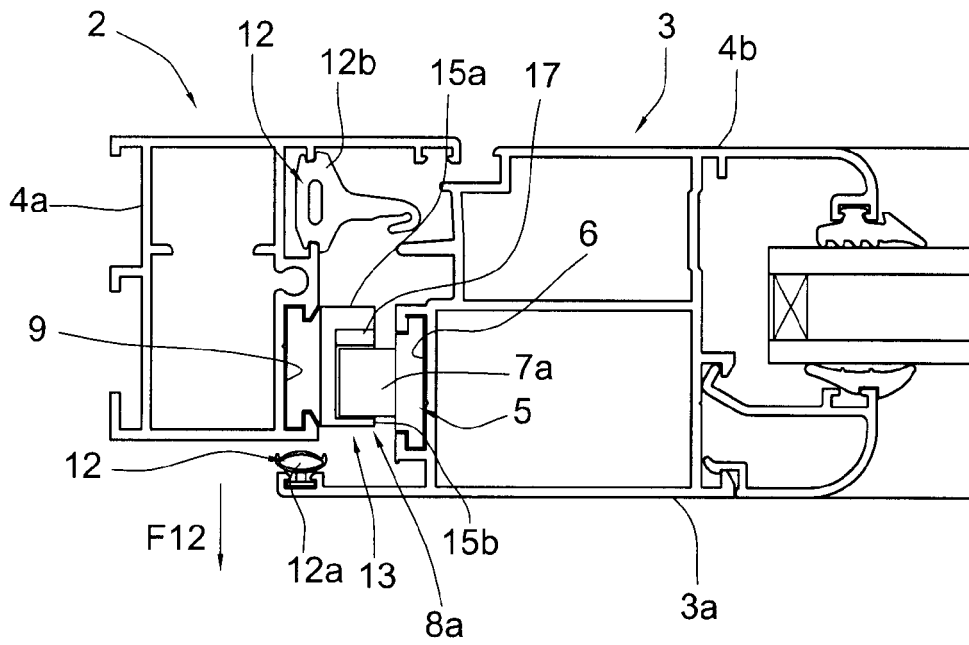


FIG.5

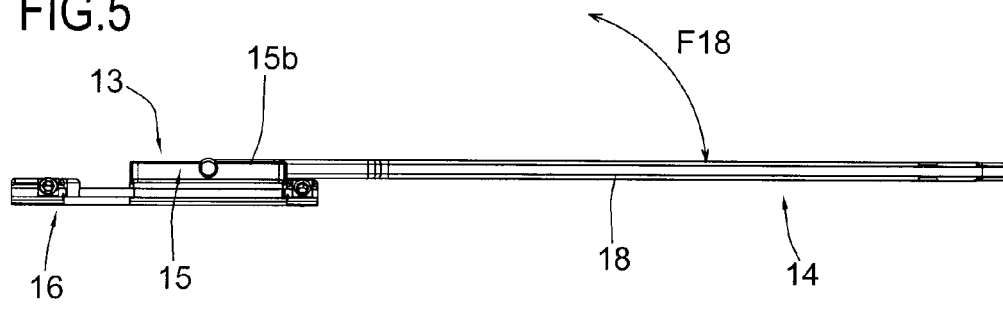


FIG.6

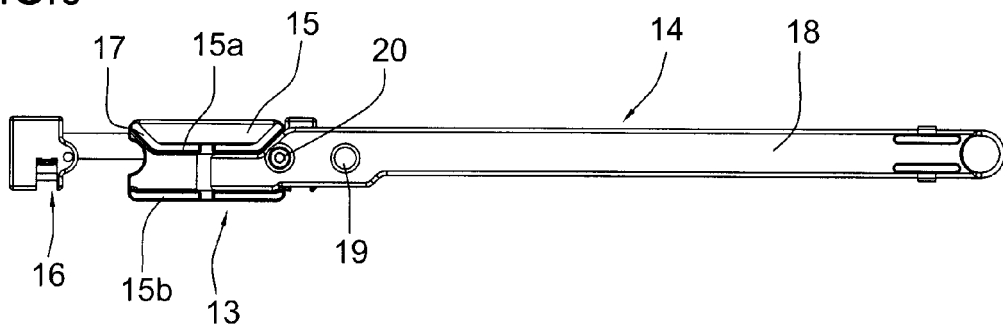


FIG.7

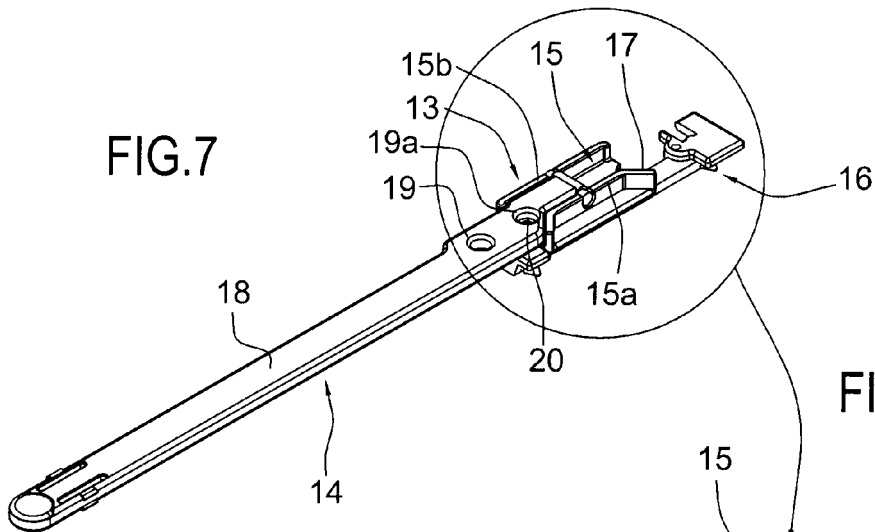


FIG.8

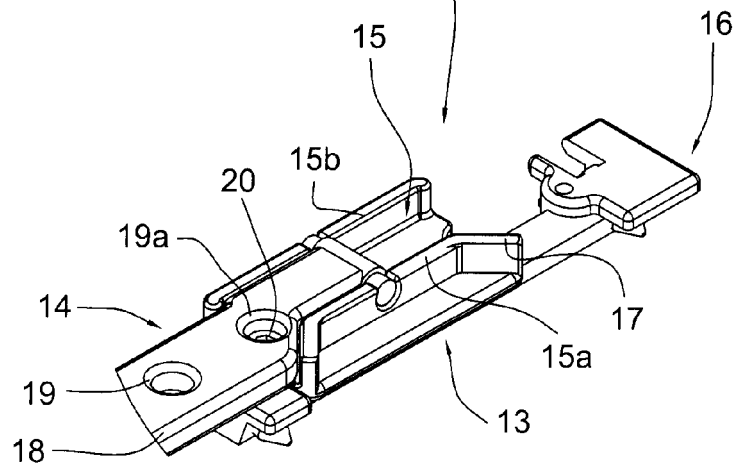


FIG.9

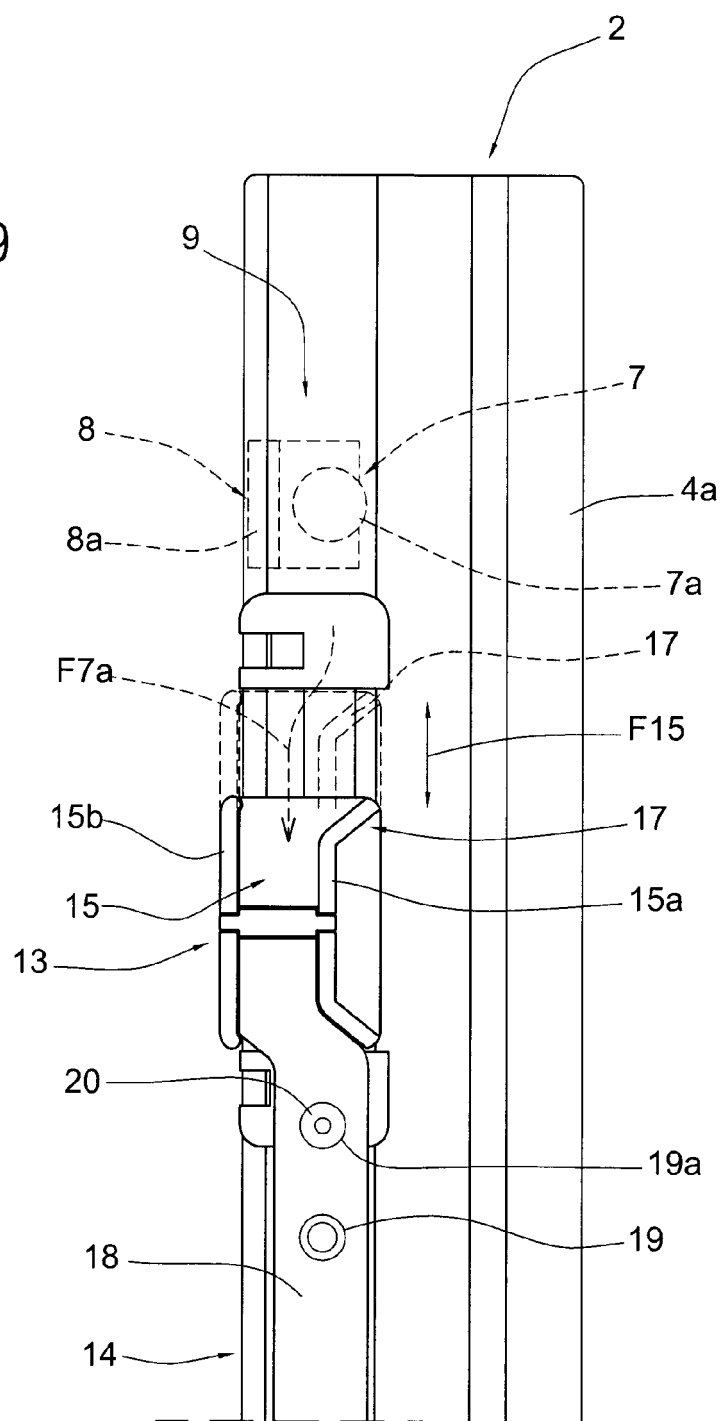


FIG.10

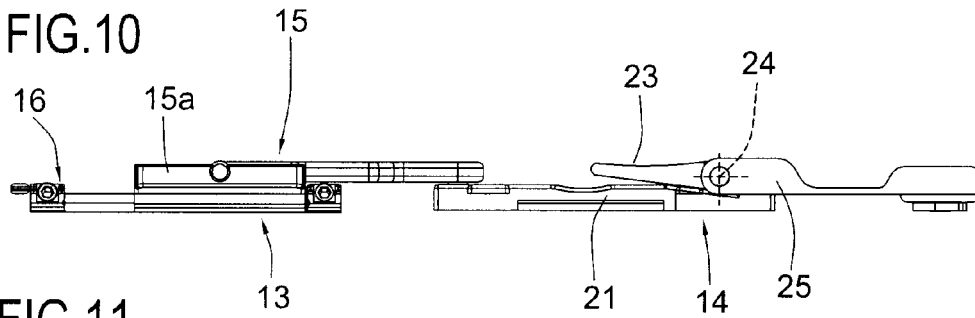


FIG.11

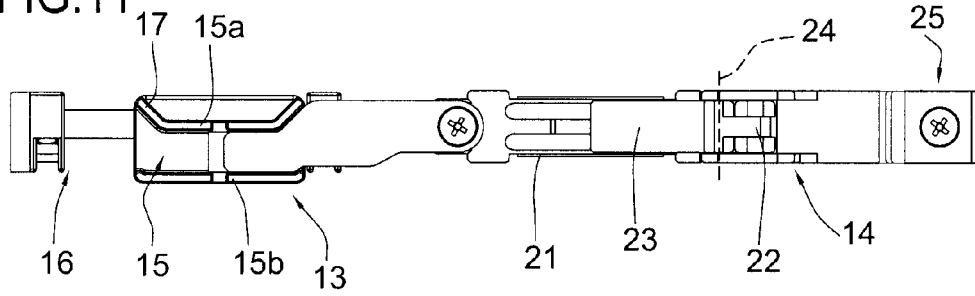


FIG.12

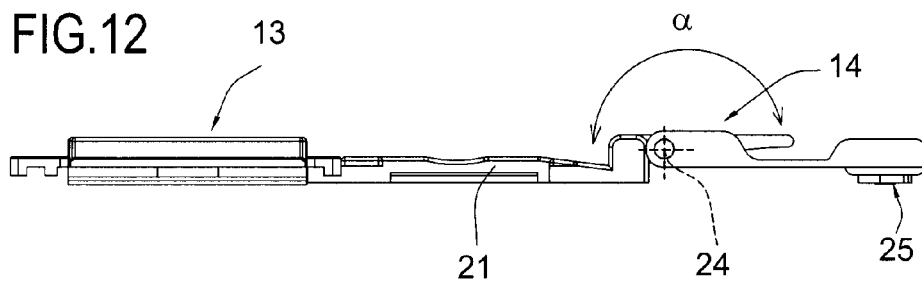


FIG.13

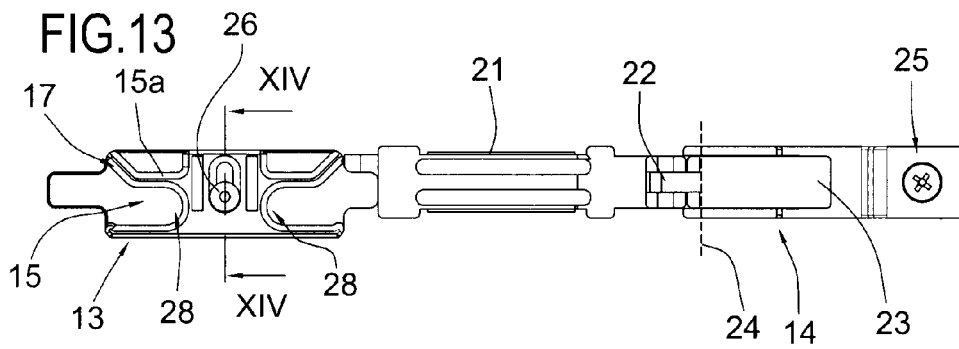


FIG.14

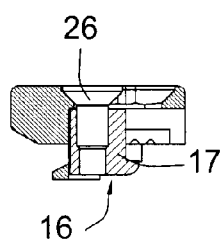


FIG.15

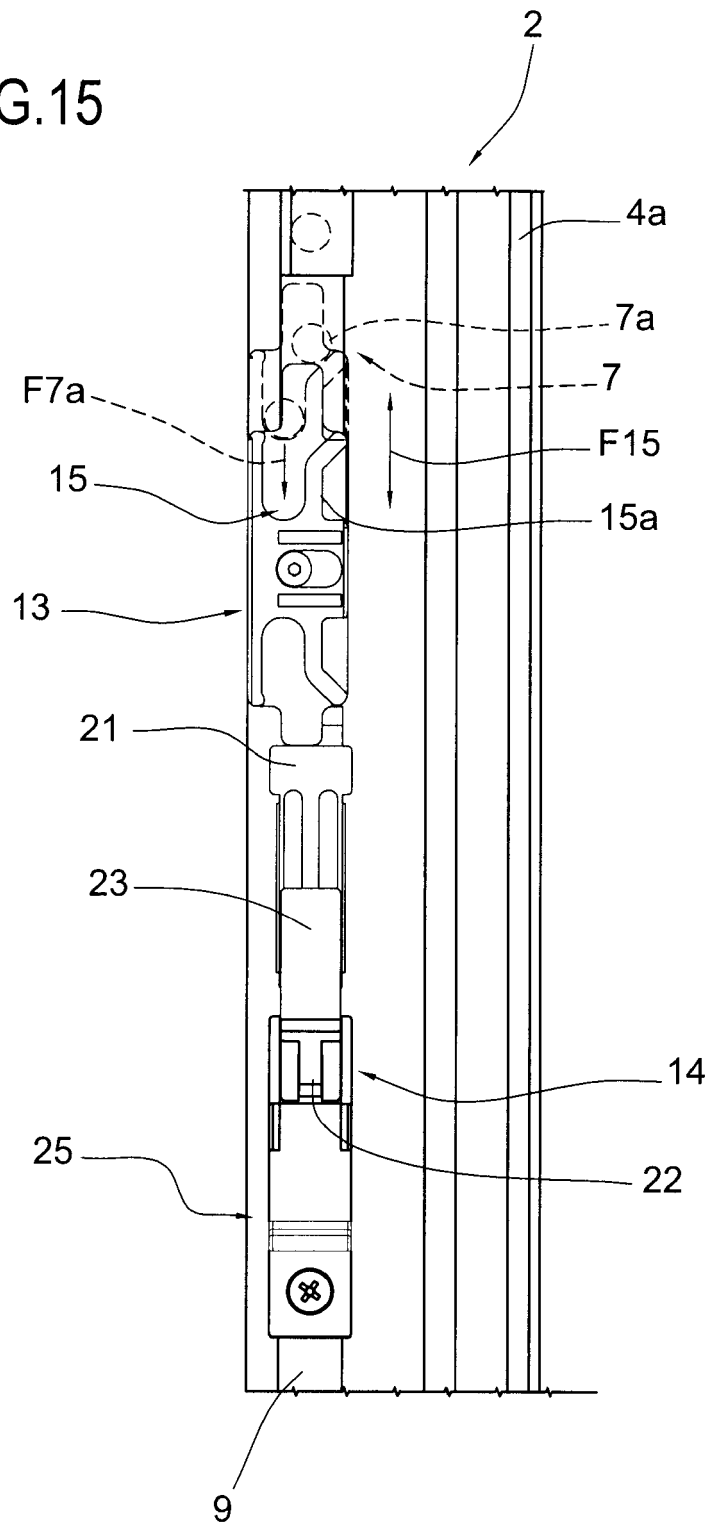


FIG.16

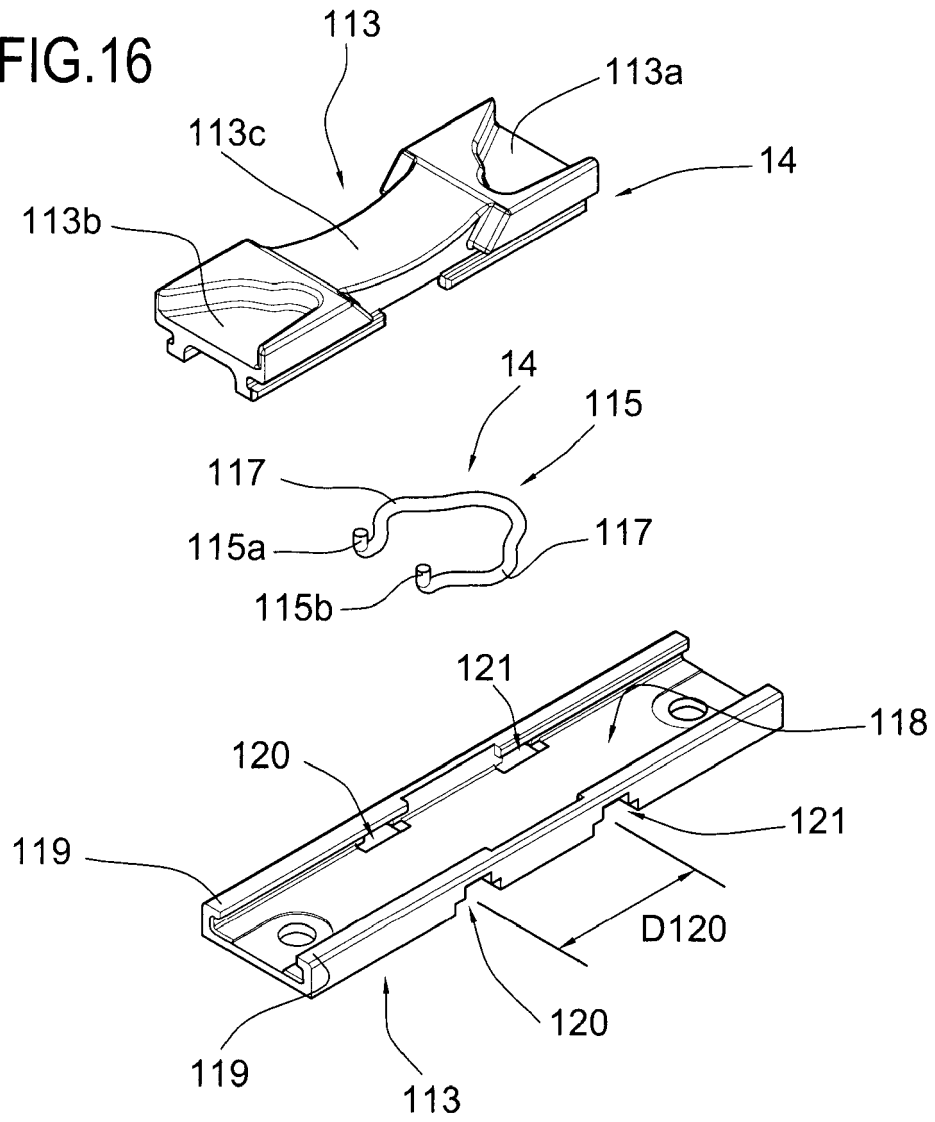


FIG.17

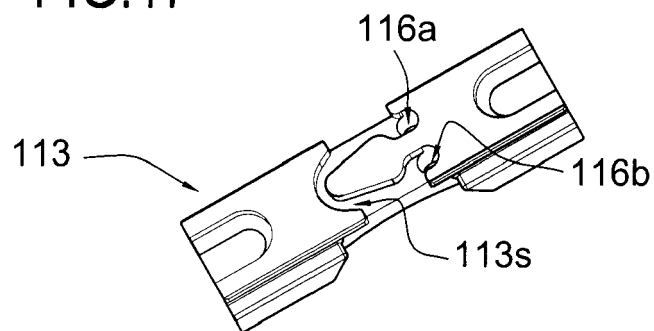


FIG.18

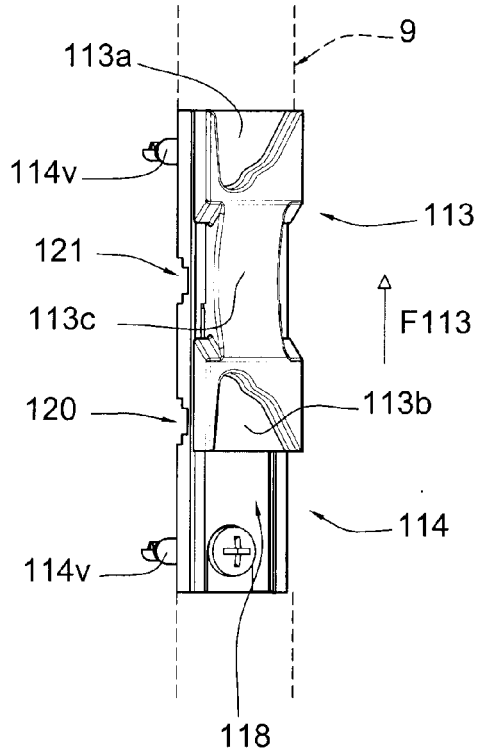


FIG.19

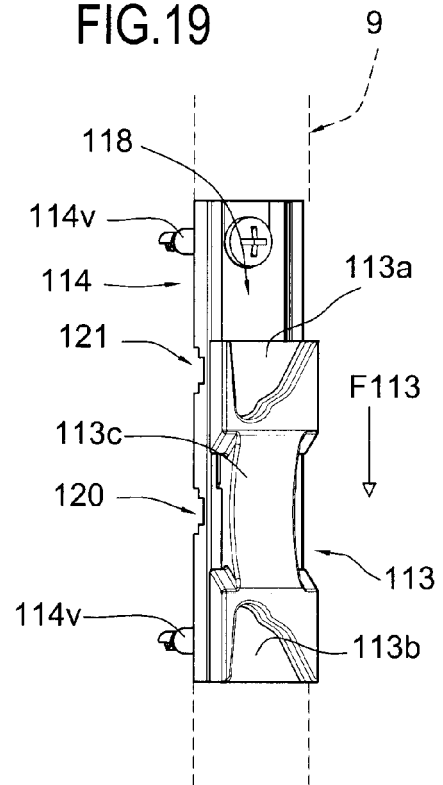


FIG.22

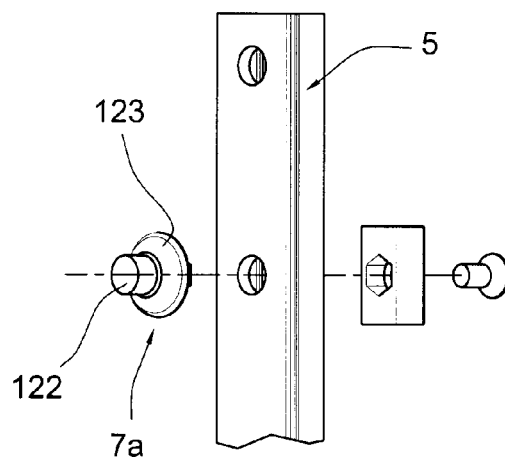


FIG.23

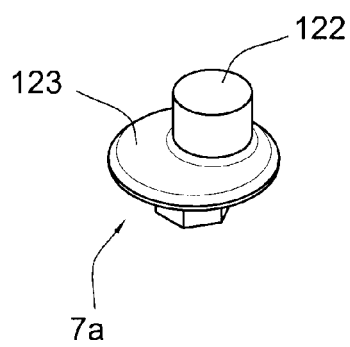


FIG.20

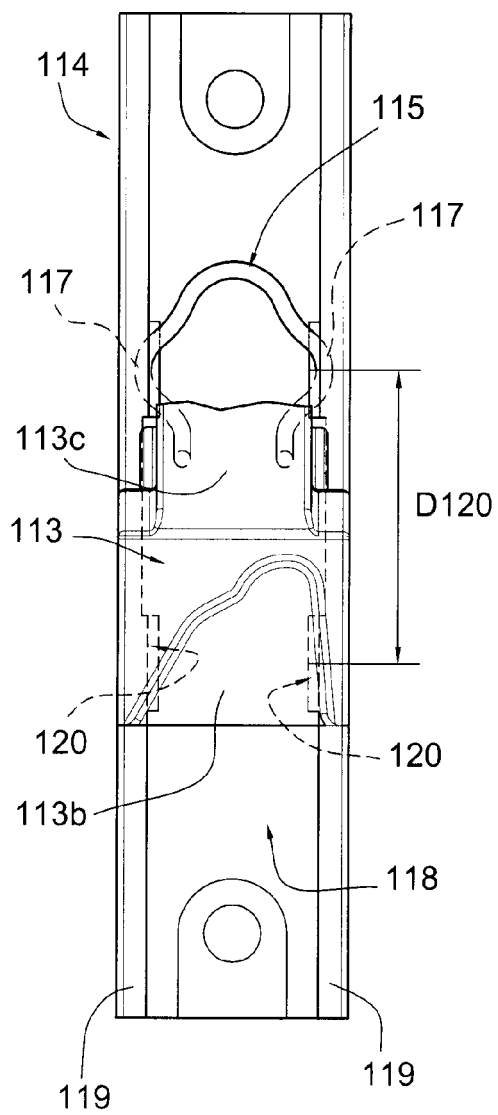


FIG.21

