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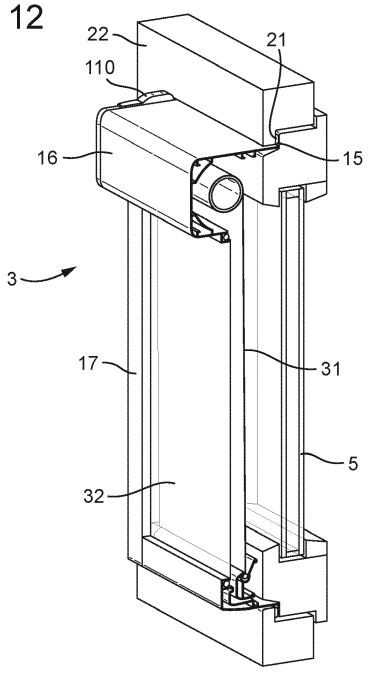
(54) **MOUNTING FRAME**

(57) A mounting frame for mounting a covering to an architectural opening frame surrounding an architectural opening comprises: at least one flange extending parallel to a plane defined by the architectural opening, the flange configured to abut a first surface of the architectural opening frame, the architectural opening frame having first and second surfaces on respective sides of the plane; at least one locking member moveable from an unlocked position to a locked position in which the locking member is configured to abut the second surface of the architectural opening frame, such that the architectural opening frame is held between the flange and the locking member, the at least one locking member configured to be moveable to the locked position in a direction towards the at least one flange, said direction having at least a component perpendicular to the plane; and at least one actuator configured to be operated to move the at least one locking member into the locked position.

Fig. 12



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Description

[0001] The present disclosure is in the field of architectural structure coverings, and in particular relates to a mounting frame for mounting a covering to an architectural opening frame surrounding an architectural opening.

[0002] Many different architectural structure coverings are known. Architectural structure coverings can be used with any type of architectural opening, for example a window, a door or a skylight. In general such coverings provide a shade or a screen which can be extended across the architectural structure opening.

[0003] There are many known arrangements for mounting a covering to an architectural opening frame surrounding an architectural opening. However, many known arrangements require invasive connecting means which cause permanent or semi-permanent structural damage to the frame, for example holes which are required to be drilled for fasteners such as screws. There is therefore a desire for a means for mounting a covering to an architectural opening frame without requiring such invasive connection means. This is particularly desirable for coverings such as outdoor blinds, which a user may wish to use seasonally.

[0004] It is also desirable to provide a means for mounting a covering which can be installed and secured in place from the inside of the building. This is particularly desirable in upper storeys where the outside of an architectural opening is not easily accessible.

[0005] Known arrangements attempt to address the above problems by providing a mounting frame having elements which act so as to hold a portion of the frame of the architectural opening. One of these elements is required to move in order to be able to arrange the elements around a portion of the architectural opening frame. However, these known arrangements may not adequately secure the mounting frame to the architectural opening frame. Furthermore, known arrangements can be aesthetically unappealing, requiring bulky elements to attach the mounting frame to the architectural opening frame. Known arrangements are also difficult to install.

[0006] It is an aim of the invention to at least partially address some of the above mentioned problems.

[0007] According to an aspect of the invention, there is provided a mounting frame for mounting a covering to an architectural opening frame surrounding an architectural opening; wherein the architectural opening defines a plane; the architectural opening frame has first and second surfaces on respective sides of the plane; and the mounting frame comprises: at least one flange extending parallel to the plane, the flange configured to abut the first surface of the architectural opening frame; at least one locking member moveable from an unlocked position, in which the locking member is spaced apart from the second surface, to a locked position, in which the locking member is configured to abut the second surface of the architectural opening frame such that the architectural opening frame is held between the flange and the locking member, the at least one locking member configured to be moveable to the locked position in a direction towards the at least one flange, said direction having at least a component perpendicular to the plane; and at least one actuator associated with the at least one locking member and configured to be operated to move the at least one locking member from the unlocked position to the locked position.

[0008] The direction of movement of the locking member means that the locking member approaches the architectural opening frame from the opposite side of the architectural opening frame to the flange. The locking member and flange can thus hold the architectural opening frame more securely, compared to arrangements in which a locking member moves in a direction parallel to the plane. Furthermore, because the locking member is moveable to the locked position in a direction towards the flange, said direction having at least a component perpendicular to the plane, it may be possible to accommodate different sizes and shapes of architectural opening frames. The arrangement of a locking member and flange means that no invasive connection means are required in order to mount a covering to an architectural opening frame. Furthermore, the at least one actuator which moves the at least one locking member into the locked position may make the mounting frame easier to install, because a user does not have to manually manipulate the locking member itself so as to sandwich the architectural opening frame between the locking member and the flange.

[0009] Optionally, at least one actuator is a rotatable member and rotation of the rotatable member causes linear movement of an associated locking member. This arrangement provides an easy to use and visually discreet actuator for moving the locking member without requiring a user to manually manipulate the locking member into the locked position.

[0010] Optionally, the rotatable member comprises one of an external thread and an internal thread and the associated locking member comprises the other of an external thread and an internal thread, and the external thread engages with the internal thread such that turning the rotatable member causes linear movement of the associated locking member. In this arrangement, the movement of the locking member into the locked position is facilitated by engagement between threads. Said engagement between threads allows the rotatable member and locking member to together exert a clamping force on the architectural opening frame. This helps to securely hold the mounting frame to the architectural opening frame.

[0011] Optionally, at least one locking member is configured to translate and at least one actuator is a projection from the associated locking member that translates with the associated locking member. By providing a projection from the locking member which a user can move to translate the locking member, the locking member it-

self is not required to be accessible to the user. Thus the locking member can be substantially concealed from view.

[0012] Optionally, the actuator which is configured to translate with the associated locking member is also configured to secure the locking member in the locked position. In this arrangement, the actuator performs two functions of translating the locking member into the locked position and then subsequently securing it in said locked position, meaning that the same components fulfils multiple functions, which can reduce the overall number of components needed, reducing complexity of manufacture.

[0013] Optionally, the actuator configured to translate with the associated locking member comprises a threaded section that engages with a corresponding threaded section of the locking member and is configured such that rotating the actuator secures the associated locking member in the locked position. In this arrangement, an easy to use mechanism is provided for locking the locking member into the locked position.

[0014] Optionally, the mounting frame comprises a slot configured to guide the translation of the locking member which is configured to translate with the actuator. Such a slot ensures that the locking member always moves in the desired direction towards the architectural opening frame. A user simply has to apply a pushing force in order to move the locking member into the correct position.

[0015] Optionally, for at least one locking member, the direction of movement of the locking member is perpendicular to the plane. This arrangement enables all of the clamping force of the locking member to be provided in the direction in which it is most needed, namely against the direction in which the mounting frame would otherwise be liable to fall out of the architectural opening frame.

[0016] Optionally, the locking member having movement perpendicular to the plane is provided in a region at the top of the mounting frame. Providing the locking member at the top of the mounting frame may be advantageous, because the holding force provided by the locking member is provided in the location where it is most needed, particularly as many arrangements of coverings are top heavy.

[0017] Optionally, the mounting frame comprises a cassette configured to house a retractable covering, wherein a portion of the locking member configured to abut the architectural opening frame is located on top of the cassette. In such an arrangement, the cassette fulfils a dual function of housing a retractable covering and also providing a surface along which the locking member can move.

[0018] Optionally, for at least one locking member, the direction of movement of the locking member has both a component perpendicular to the plane and a component parallel to the plane. Such an arrangement of locking member may be used to hold a portion of the architectural opening frame to the side of the architectural opening. Such a locking member may help to resist motion of the mounting frame about a vertical axis, further securing the position of the mounting frame within the architectural opening.

[0019] Optionally, the locking member for which the direction of movement has a component perpendicular to the plane and a component parallel to the plane is provided in the region at the bottom of the mounting frame. Such a locking member may be used to increase security of the mounting frame within the architectural opening frame. A bottom locking member may be preferable because it is more easily accessible to a user.

[0020] Optionally, the at least one locking member is a rigid body which does not substantially deform when clamping the architectural opening frame. A locking member which is a rigid body can exert a stronger clamping force than for example a thin strip like member. Furthermore, a locking member which does not substantially deform on abutting the architectural opening frame may be able to accommodate different sizes and types of architectural opening frames.

[0021] Optionally, the locked position of the at least one locking member is variable such that the mounting frame can be used with architectural opening frames with different thicknesses. In contrast to known arrangements, such a locking member may be utilised with different types and sizes of architectural opening frames.

[0022] Optionally, the at least one flange extends around an entire circumference of the mounting frame. Such an arrangement may allow the mounting frame to be secured to the architectural opening frame with fewer movable locking members, because the holding force provided by a single locking member extends over a wider range of the mounting frame, as provided by the flange. Furthermore, such an arrangement may be more visually appealing, and draft resistant.

[0023] Optionally, the at least one locking member is movable from the locked position to the unlocked position. In such an arrangement, the mounting frame may be repeatably mounted and dismounted, for example, according to the weather or season.

[0024] Optionally, the at least one actuator is configured to be operated from the side of the mounting frame having the flange. In such an arrangement, the mounting frame may be mounted from the inside of a building.

[0025] Optionally, a respective actuator is provided for each respective locking member. Such an arrangement is versatile, because each locking member can be operated independently from the other locking members. For example, only certain locking members may be employed in certain arrangements. For example, different locking members may translate through different distances according to different local shapes and/or thicknesses of architectural opening frame.

[0026] According to another aspect of the invention, there is also provided an outdoor blind comprising the mounting frame of the invention, wherein the at least one flange is configured to abut a surface of the architectural opening frame facing the interior of the building. The

mounting frame of the invention may be particularly useful for mounting an outdoor blind. When the at least one flange abuts a surface of the architectural opening frame facing the interior of the building, this allows the mounting frame and outdoor blind to be mounted from inside the building.

[0027] According to another aspect of the invention, there is also provided a method of mounting a mounting frame to an architectural opening frame surrounding an architectural opening, wherein the architectural opening defines a plane and the architectural opening frame has first and second surfaces on respective sides of the plane, the method comprising: positioning the mounting frame such that at least one flange of the mounting frame abuts the first surface of the architectural opening frame, the at least one flange extending parallel to the plane; and moving at least one locking member from an unlocked position, in which the locking member is spaced apart from the second surface, to a locked position, in which the locking member abuts the second surface of the architectural opening frame such that the architectural opening frame is held between the flange and the locking member; wherein moving the locking member to the locked position comprises moving the locking member in a direction towards a side of the mounting frame having the at least one flange, said direction having at least one component perpendicular to the plane from the side of the mounting frame on the opposite side of the plane to the at least one flange, by operating an actuator associated with the locking member.

[0028] This method may provide all of the advantages discussed above with respect to the mounting frame.

[0029] Optionally, positioning the mounting frame comprises inserting the mounting frame within the architectural opening frame from the interior of the building, with the at least one flange abutting a surface of the architectural opening frame facing the interior of the building, and the steps of positioning the mounting frame and operating the actuator are performed by a user located in the building.

[0030] The structural features of the mounting frame allow the mounting frame to be positioned within and secured to an architectural opening frame by a user located on one side of the architectural opening only, such as the inside of the building.

[0031] Embodiments of the invention will be more clearly understood from the follow description, given by way of example only, with reference to the accompanying drawings, in which:

Figure 1 illustrates a cross-sectional view of a mounting frame mounted within an architectural opening frame.

Figure 2 illustrates a mechanism for moving a locking member.

Figure 3 illustrates an exploded view of the mechanism of Figure 2.

Figure 4 illustrates another mechanism for moving a locking member.

Figure 5 illustrates an exploded view of the mechanism of Figure 4.

Figure 6 illustrates a mounting frame having a locking member provided in a region at the top of the mounting frame.

Figure 7 illustrates the mounting frame of Figure 6 used with a different type of architectural opening frame.

Figure 8 illustrates a possible direction of movement of a locking member.

Figure 9 illustrates the arrangement of Figure 8 used with a different type of architectural opening frame.

Figure 10 illustrates the location of a locking member in a region at the bottom of the mounting frame.

Figure 11 illustrates another arrangement of a locking member provided in a region at the bottom of the mounting frame.

Figure 12 illustrates an outdoor blind having an example of a mounting frame according to the invention.

Figure 13 illustrates a method for installing the mounting frame within an architectural opening frame.

[0032] An arrangement of a mounting frame for mounting a covering to an architectural opening frame surrounding an architectural opening is depicted schematically in Figure 1. Figure 1 shows a cross-sectional view of a mounting frame 1 installed within an architectural opening frame 2 defining an architectural opening 4. The mounting frame 1 can be configured to mount any type of covering to the architectural opening frame. Many types of coverings such as blinds and screens are known in the art.

[0033] Architectural openings include windows, doors, slanted roof windows, skylights, and the like. An architectural opening defines a plane. The plane defined by the architectural opening spans the area occupied by the architectural opening, generally defined by the height and width of the opening, for example in the case of a window or door. The plane defined by an architectural opening is generally parallel to a wall of the architectural structure having the opening.

[0034] Preferably, the mounting frame of the present disclosure is mounted within a vertically orientated architectural opening (that is, the plane defined by the opening is parallel to the vertical direction), such as a window or door. However, the mounting frame could also be installed within an architectural opening having a plane which is tilted with respect to the vertical direction, such as may be found for example in a roof window. In the arrangement depicted in Figure 1, the plane P defined by the architectural opening 4 is parallel to the vertical direction. That is, the plane P is oriented such that the vertical direction lies within the plane. The arrangement in Figure 1 may represent a view from above or a view from the side. For the sake of convenience of explanation,

the plane P is defined as passing through the architectural opening frame 2 as shown in Fig. 1, such that the architectural opening frame 2 has surfaces 21, 22 on respective sides of the plane P. The plane P is not necessarily coincident with a plane defined by a sheet of glass of a window or door of the architectural opening (when the window or door is in a closed configuration). For example, in the arrangement shown in Figure 12, the plane P, lying between surfaces 21 and 22 of the architectural opening frame 2, is offset with respect to the glass of the window 5.

[0035] The architectural opening frame 2 may be a separately provided window frame or door frame, or could be a portion of the architectural structure, such as a wall, defining and surrounding the architectural opening 4. As shown in Figure 1, the architectural opening frame 2 has first and second surfaces 21, 22 on respective sides of the plane P. In some arrangements, the first and second surfaces 21, 22 of the architectural opening frame are parallel and opposite to one another as shown in Figure 1. However, the first and second surfaces 21, 22 are not required to be parallel to one another. The first and second surfaces, 21, 22 are only required to be on respective sides of the plane such, that one of the surfaces faces towards one side of the plane and the other surface faces towards the other side of the plane. For example, in Figure 1, first surface 21 faces towards the side of the plane on the right hand side of the drawing, for example towards the inside of a building, and second surface 22 faces towards the side of the plane on the left hand side of the drawing, for example towards the outside of a building. The first and second surfaces, 21, 22 face away from each other such that the architectural opening frame may be held by respective elements (a locking member and a flange to be described later) abutting each of the first and second surfaces.

[0036] As will be appreciated by those skilled in the art, architectural opening frames often have complicated structures with multiple surfaces provided at different depths and at different angles through the opening. The first and second opposite surfaces 21, 22 may be surfaces of a portion of the architectural opening frame 2, such as a lip or a flange, projecting inwards to the architectural opening 4. That is, the part denoted 2 in Figure 1 may be a portion of an architectural opening frame rather than an entire architectural opening frame.

[0037] The mounting frame 1 may have a supporting structure which comprises and/or supports at least one flange, at least one locking member, and at least one actuator, which are described below. The supporting structure of the mounting frame 1 may comprise horizontal upper and lower members and vertical side members configured to surround the opening, for example. The assembly of horizontal and vertical members of the supporting structure is configured to fit within the architectural opening frame.

[0038] The terms "upper", "top", "lower", "bottom", "vertical" and "horizontal", used in relation to the mounting frame, are to be understood in the context of the mounting frame 1 being installed within a vertically oriented architectural opening 4. A mounting frame 1 for mounting a covering will be configured to be used in a specific orientation, such that the "top" and "bottom" are defined for a preferred mounting orientation of a given mounting frame.

[0039] An arrangement of a flange and locking member of the mounting frame will now be described.

[0040] The combination of elements forming the mounting frame 1 is configured to contact the first and second surfaces 21, 22 of the architectural opening frame 2 in order to hold at least a portion of the architectural opening frame 2 as described in further detail below. As shown in Figure 1, the mounting frame 1 comprises at least one flange 15 extending parallel to the plane P defined by the architectural opening 4. The at least one flange 15 is configured to abut the first surface 21 of the architectural opening frame 2 when the mounting frame 1 is installed within the opening 4. Therefore, the flange 15 extends in a direction outwards from the mounting frame 1 (from the supporting structure of the mounting frame) with respect to the opening 4.

[0041] In Figure 1, a flange 15 is depicted on either side of the opening across the opening. However, the number of flanges 15 and their locations around a perimeter of the architectural opening frame 2 can be determined as appropriate for a specific configuration of mounting frame 1 and covering. The at least one flange 15 is configured such that, when the flange 15 (or plurality of flanges) abuts the first surface 21 of the architectural opening frame 2, the mounting frame 1 cannot pass through the architectural opening frame 2. The position of the flange (or flanges) 15 relative to the frame structure of the mounting frame 1 may be fixed. That is, the at least one flange 15 is configured not to move when the mounting frame 1 is in situ within an opening 4.

[0042] The mounting frame 1 is also provided with at least one locking member 110, 130, which holds a portion of the architectural opening frame 2 in combination with the at least one flange 15. The at least one locking member 110, 130 is moveable from an unlocked position to a locked position in which the locking member is configured to abut the second surface 22 of the architectural opening frame 2. In this way, the architectural opening frame 2 is held between the at least one flange 15 and an associated locking member 110, 130.

[0043] The locking member 110, 130 associated with a flange 15 is provided directly opposite the flange, on the opposite side of the architectural opening frame 2 (i.e. on the opposite side of the plane P) from the flange. For example, a flange and associated locking member may be provided directly opposite one another at the top (or bottom or any side) of the mounting frame 1. In an arrangement, the mounting frame 1 may be configured such that it can be mounted to the architectural opening frame 2 such that the at least one flange 15 is on the side of the architectural opening frame 2 corresponding to the

inside of a building and the locking member 110, 13 is on the side of the architectural opening frame 2 corresponding to the outside of a building.

[0044] By holding the architectural opening frame 2 between a flange 15 and an associated locking member 110, 130, movement of the mounting frame 1 relative to the architectural opening frame 2 is prevented, at least perpendicular to plane P. It will be appreciated that a locking member 110, 130 and corresponding flange 15 provided in a certain region of the mounting frame may prevent movement of the portion of the mounting frame 1 which is held, without preventing movement of the mounting frame as a whole. In other words, a locking member 110, 130 and corresponding flange 15 provided in a region of the mounting frame may prevent local movement of the mounting frame 1 relative to the architectural opening frame 2. Plural locking members may be used to fully secure the mounting frame.

[0045] A locking member 110, 130 and associated flange 15 prevent movement of the mounting frame in a direction perpendicular to the plane P of the architectural opening 4. In particular, such movement is prevented when the flange and locking member 110, 130 abut opposite surfaces 21, 22 of the architectural opening frame on either side of the plane P, as shown in Fig. 1. In many arrangements, movement of the mounting frame 1 parallel to the plane P is prevented by an inner edge of the architectural opening frame 2 surrounding the supporting structure of the mounting frame 1 around a perimeter of the mounting frame 1.

[0046] In order to be moved into the locked position, the locking member 110, 130 is moveable in a direction towards the at least one flange 15 associated with the locking member 110, 130. This means that the locking member 110, 130 moves towards the second surface 22 of the architectural opening frame 2. The direction of movement into the locked position has at least a component perpendicular to the plane. The locking member is moveable from an unlocked position, in which the locking member does not abut the architectural opening frame, to a locked position in which the locking member abuts the second surface of the architectural opening frame.

[0047] When the locking member is in the unlocked position, it is further away from the associated flange (than in the locked position) so as to allow a large enough gap between the locking member and the flange so that the mounting frame may be positioned with the flange and locking member on either side of the architectural opening frame. Movement of the locking member in this context means translation of the locking member from the unlocked position to the locked position. Movement of the locking member is relative to the flange 15 and the supporting structure of the mounting frame 1. Both in the unlocked position and the locked position, the locking member 110, 130 is on an opposite side of the plane to the flange when the mounting frame 1 is mounted in the architectural opening. The locking member as a whole may be configured to move from the unlocked position to the locked position. In other words in this example it is not the case that a part of the locking member moves into the locked position while another part remains stationary.

[0048] An actuator configured to be operated to move the locking member into the locked position is schematically illustrated in Figure 1. In general, the actuator 120, 140 is a moving element, movement of which by a user results in movement of the locking member associated with the actuator from the unlocked position to the locked position. The actuator could be engaged by hand and/or by a tool. If by a tool, the actuator could be engaged by a commonly available tool such as a screwdriver or an Allen key (also known as a hex key).

[0049] A mechanism for moving a locking member into the locked position will now be described.

[0050] In some arrangements, at least one actuator is a rotatable member 120 wherein rotation of the rotatable member 120 causes linear movement of an associated locking member 110. That is, in order to move the locking member 110 into the locked position from the unlocked position, a user rotates the rotatable member 120, which is mechanically engaged with the locking member 110, such that rotation of the rotatable member 120 directly causes the locking member 110 to move from the unlocked position to the locked position. When the locking member 110 abuts the second surface 22 of the architectural opening frame 2, the locking member is in the locked position. Therefore, a user rotates the rotatable member 120 until the locking member 110 abuts the second surface 22 of the architectural opening frame 2, at which point the architectural opening frame is held between the flange 15 and the locking member 110. The rotatable member 120 may be configured such that it can only rotate about its axis, and does not translate.

[0051] In some arrangements, the rotatable member 120 comprises one of an external thread and an internal thread, and the associated locking member 110 comprises the other an external thread and an internal thread. The internal thread and external thread engage with one another such that turning the rotatable member 120 about its axis causes linear movement of the associated locking member from the unlocked position to the locked position. An external thread means a threaded portion formed on an outside surface of a member, for example a substantially cylindrical outside surface. An internal thread means a threaded portion formed on an internal surface, such as the inside of a through hole.

[0052] As mentioned above, the movement of the rotatable member 120 may be restricted to rotation about its axis. Movement of the associated locking member 110 is restricted to translation from the unlocked position to the locked position (and optionally the reverse direction, which will be described later). Other movement of the locking member 110 may be prevented by a part of the supporting structure of the mounting frame 1 surrounding the locking member 110. The axis of rotation of the rotatable member 120 is preferably parallel with the direc-

tion of movement of the locking member 110. Thus, rotating the rotatable member 120 about its axis, while the threads are engaged, results in translation of the locking member 110 in a direction parallel to the axis of the rotatable member 120. The engagement of the threads also provides frictional forces required to secure the locking member in the locked position.

[0053] An example of such a mechanism is illustrated in Figure 2. Figure 2 shows a partially exploded perspective view of an upper corner of a mounting frame 1. Figure 3 shows an exploded view of the arrangement of Figure 2. In the example shown in Figure 2, the locking member 110 is located in an upper corner of the mounting frame. However, such a mechanism may be provided for a locking member provided in any region of a mounting frame. The direction of movement from the unlocked position to the locked position (shown by the arrow) in the example shown in Figure 2 is entirely perpendicular to the plane P of the architectural opening. However, the mechanism could be applied to a locking member 110 having a direction of movement with both a component perpendicular to the plane and parallel to the plane.

[0054] In the arrangement shown in Figures 2 and 3, the rotatable member 120 comprises an external thread 121, and the locking member 110 comprises an internal thread 112. The rotatable member 120 is a threaded bolt. The locking member 110 includes a corresponding nut having the internal thread 112. However, it will be appreciated that in alternative arrangements, the locking member 110 could include an internally threaded portion 112 without requiring a separate nut. In the illustrated example, the locking member body 111, being the portion of the locking member 110 configured to abut the architectural opening frame 2, includes a nut housing portion 113 which houses the nut and restricts its movement such that it cannot move relative to the locking member body 111. In other words, the locking member body 111 and the nut 112 move as a unit. The locking member body 111 may be formed as a single-part member with the nut 112 and nut housing portion 113.

[0055] The rotatable member 120 has a screw head 122 comprising a recess configured to be engaged by a tool in order to rotate the rotatable member 120 about its axis. Once the mounting frame 1 has been situated within the architectural opening 4 with the flange 15 abutting the first surfaces 21 of the architectural opening frame respectively, a user engages the screw head 122 of the rotatable member 120, with a tool, to rotate it in a first rotational direction. This rotation of the external thread 121 which is engaged with the internal thread 112 causes the locking member 110 to move in a direction parallel to the shaft of the rotatable member 120 towards the screw head 122. The screw head 122 applies a force to the portion of the supporting structure 17 through which it is inserted, effectively creating a force pulling the nut 112 and locking member 110 towards the architectural opening frame. Thus, this mechanism provides an active clamping force to the portion of the architectural opening frame 2 abutted by the locking member 110. Furthermore, it is not necessary for the locking member 110 itself to be accessible to a user. The user only needs access to the screw head 122 in order to move the locking member into the locked position.

[0056] A second mechanism for moving a locking member into the locked position will now be described.

[0057] In a second mechanism for moving a locking member, at least one locking member 130 is configured to translate and at least one actuator comprises a projection 140 from the locking member that translates with the locking member. That is, the locking member 130 is configured to translate from the unlocked position to the locked position with said translation being directly caused by a user translating the projection 140. By providing a projection 140 from the locking member 130, which a user operates, it is not necessary for the locking member 130 itself to be accessible to a user. A user only needs to access the projection 140 in order to move the locking member into the locked position. The projection 140 configured to translate with the locking member 130 can also be configured to secure the locking member in the locked position, after the locking member has been moved into the locked position. In this way, the same projection 140 fulfils both functions of moving and securing the locking member 130 in the locked position, such that only the projection 140 needs to be accessible to a user. This allows for a mounting solution that may be easy to use and visually discreet.

[0058] The projection 140 configured to translate with the locking member 130 can comprise a threaded section 141 that engages with a corresponding threaded section 133 of the locking member, such that rotating the projection 140 secures the locking member in the locked position.

[0059] An example of such a mechanism is illustrated in Figures 4 and 5. Figure 4 shows a perspective view of a lower corner of a mounting frame as viewed from the side of the mounting frame having the flange 15. However, the same mechanism may be provided for a locking member provided in any region of the mounting frame 1. Figure 5 shows an exploded perspective view of the mechanism for moving the locking member 130.

[0060] As shown in Figure 5, the actuator is a threaded bolt 140 having an external thread 141. The bolt 140 has a screw head 142 including a recess configured for engagement with a tool. The screw head 142 of the bolt 140 provides the projection from the locking member 130 to provide the actuator. The locking member 130 includes a through hole 132. The shaft of the bolt 140 passes through the through hole 132 of the locking member with an axis of the bolt 140 and axis of the through hole 132 being perpendicular to the direction of movement of the locking member 130. In this way, moving the bolt 140 in the direction of movement of the locking member 130 pushes the locking member towards the locked position. A portion of the supporting structure 17 includes a slot 171 for guiding the movement of the locking member 130

towards the locked position from the unlocked position (and optionally towards the unlocked position from the locked position).

[0061] The locking member 130 comprises a locking nut 131 having an internal thread 133 corresponding to the thread 141 of the bolt 140. The locking nut 131 is provided with its axis coincident with the axis of the through hole 132 and within the locking member body. The position of the locking nut 131 is fixed relative to the locking member body, such that they move as a unit. Once the locking member is in the locked position, a user rotates the bolt 142, which is engaged with the locking nut 131, to secure the locking member in the locked position. Because the position of the locking nut 131 relative to the locking device 130 is fixed, rotating the bolt 142 in a first rotational direction causes a portion of the locking device surrounding the through hole and a coincident portion of the supporting structure 17 surrounding the slot 171 to be clamped together between the screw head 142 and the locking nut 131, thereby securing the locking member in the locked position.

[0062] The direction of movement and location of locking members will now be described.

[0063] The mounting frame 1 can have a plurality of locking members 110, 130 provided at different locations around the perimeter of the mounting frame. A plurality of locking members 110, 130 can also have different respective directions of movement from the unlocked position to the locked position (and vice versa).

[0064] In some arrangements, for at least one locking member, the direction of movement of the locking member is entirely perpendicular to the plane P. A locking member which is configured to move towards the flange in a direction perpendicular to the plane may apply a clamping force in the direction it is most needed in order to prevent movement of the mounting frame 1 in a direction perpendicular to the plane P. A locking member having movement perpendicular to the plane is preferably provided in a region at the top of the mounting frame. However, such a locking member could also be provided at the bottom of the mounting frame, or adjacent a side of the mounting frame. It is preferable to provide a locking member (or locking members) having a direction of movement perpendicular to the plane on one side of the mounting frame (such as the top) only. This makes it easier to insert the mounting frame within the architectural opening frame, as will become further apparent when a method of installing the mounting frame is described later.

[0065] In some arrangements, the mounting frame comprises a cassette at the top side of the mounting frame configured to house a retractable covering. In such an arrangement, a portion of a locking member configured to abut the architectural opening frame may be located above the cassette. Such an arrangement is illustrated in Figures 6 and 7.

[0066] Figures 6 and 7 show a cross-sectional side view of an upper portion of a mounting frame 1 installed within an architectural opening frame 2 but depict the use of the mounting frame 1 with different types of opening frame 2. As shown in Figures 6 and 7, the supporting structure 17 of the mounting frame 1 includes a cassette 16. The cassette 16 is a housing which is configured to contain a retractable covering when the covering is retracted. A cassette 16 is generally provided at the top of a mounting frame 1. In the arrangement of Figures 6 and 7, a portion of the locking member 110 sits directly on top of an upper surface of the cassette 16. That is, the cassette provides a surface along which a portion of the locking member 110 can move.

[0067] The portion of the locking member 110 which abuts the architectural opening frame above the cassette is not generally accessible to a user when the mounting frame is in situ. Therefore, a portion of the locking member 110 extends through a hole in the upper surface of the cassette to an interior of the mounting frame 1. This portion of the locking member which is in the interior of the mounting frame 1 engages with the actuator 110. Preferably, the mechanism for moving the locking member 110 illustrated in Figures 6 and 7 is the mechanism as described with respect to Figures 2 and 3. The active clamping force provided by the mechanism described with respect to Figure 2 and 3 is particularly useful for supporting the extra mass of the cassette. However, the mechanism as described with respect to Figures 4 and 5 could also be used with the locking member shown in Figures 6 and 7.

[0068] For some arrangements of mounting frame, at least one locking member has a direction of movement with both a component perpendicular to the plane and a component parallel to the plane. That is, a locking member can be configured to move in a direction including a component perpendicular to the plane P and towards the flange 15, and also a component which is parallel to the plane P and laterally, outwards from the mounting frame 1 (towards the architectural opening frame 2). In this way, the locking member can be retractable within the supporting structure of the mounting frame, when in the unlocked position.

[0069] An example of such a locking member is illustrated in Figures 8 and 9. Figures 8 and 9 show a cross-sectional view of a portion of a mounting frame 1 mounted within an architectural opening frame 2, as viewed from vertically above. As shown in Figures 8 and 9, the direction of movement of the locking member 130 is diagonal with respect to the plane P when viewed from above. In this way, the locking member 130 abuts a part of the surface 22 of the architectural opening frame which is adjacent the side of the mounting frame 1. The horizontal and diagonal direction of movement of the locking member 130 means that the majority of the locking member body is retracted or concealed within (the supporting structure of) the mounting frame 1, as shown in Figures 8 and 9. This allows for locking members to be used on multiple sides of the mounting frame (for example, the top and both sides on either side of the opening), without

increasing the overall area of the mounting frame, such that the part of the mounting frame including the locking members can be passed through the opening. The advantages of this will be further apparent when a method of mounting the mounting frame within an opening is described later.

[0070] Furthermore, the locking member 130 having a direction of movement having components both perpendicular and parallel to the plane P, and thus being retractable, is more visually discreet. This may be particularly desirable when the locking member 130 is used at a side of the mounting frame 1, as opposed to on top of the mounting frame 1 where the locking member would be out of sight, for example, if provided above a cassette housing a retractable covering.

[0071] The locking member 130 illustrated in Figures 8 and 9 is provided in a region at the bottom of the mounting frame. Specifically, it is provided in a bottom corner of the mounting frame 1, as shown in Figures 10 and 11. However, the locking member 130 may be provided in any other region of the mounting frame. The portion of the architectural opening frame 2 shown in Figures 8 and 9 is to the side of the opening 4, however, it could equally be below the opening 4, for example.

[0072] The shape of a locking member will now be described.

[0073] Preferably, each locking member is a rigid body which does not substantially deform when clamping the architectural opening frame. This means that an amount of deformation of the locking member body when the locking member abuts the architectural opening frame is significantly smaller than the distance through which the locking member is configured to move. This may provide a secure mounting of the mounting frame to the architectural opening frame, namely ensuring essentially no relative movement. As soon as the locking member body contacts the architectural opening frame (i.e. arrives in the locked position), the locking member is stopped by the architectural opening frame and does not deform around the architectural opening frame. In other words, the shape of the locking member does not change (there is no substantial deformation of the locking member) between the unlocked position and locked position. Slight deformation of the locking member may occur due to bulk elasticity of the material from which the locking member body is formed. The locking member body may be formed from a plastics or polymer material for example. Alternatively, the locking member body may be formed from a metal material, for example diecast metal.

[0074] The locking member body is preferably a 3-dimensional solid body rather than a thin strip-like member, which may deform when clamping the architectural opening frame. The locking member 110 illustrated in Figures 2, 3, 6 and 7 has an elongate form, with its longest dimension parallel to its direction of movement. The shape of the locking member 110 of this arrangement is approximately cuboid with curved upper edges. The surface of the locking member body 111 which is configured to contact the architectural opening frame may be at least partly curved or provided with a rounded edge. The locking member body 111 has a flat base which sits on a surface of the supporting structure, such as the upper surface of the cassette as shown in Figure 6. The nut housing portion 113 is a protrusion from the base of the locking member body which is configured to extend inside the supporting structure.

[0075] The locking member 130 illustrated in Figures 4, 5, 8 and 9 also has an elongate form with its longest dimension parallel to its direction of movement. The shape of the locking member body of this arrangement may be approximately cuboid with curved surfaces at its ends. The surface of the locking member body which is configured to contact the architectural opening frame is substantially curved. A portion of the surface configured to contact the architectural opening frame is flattened so as to be perpendicular to the plane. As shown in Figure 8, this may allow the end of the locking member to engage with a second surface 22 of the architectural opening frame that is formed at an angel to the plane P.

[0076] The locking member 130 shown in Figure 5 also has a cut-out portion at the end configured to abut the architectural opening frame. This cut-out portion is optionally provided if the architectural opening frame has a protruding portion to be accommodated by the shape of the locking member 130. For example, the architectural opening frame may include large window leaves, or a strip of beading, for example weather beads, which are accommodated by the cut-out portion.

[0077] Further features of the mounting frame will now be described.

[0078] The locked position of any locking member described herein is preferably adjustable. This allows the mounting frame to be used with architectural opening frames with different thicknesses, that is, different distances between the first and second surfaces 21, 22, and/or with architectural opening frames having first and/or second surfaces 21, 22 provided at an angle to the plane P. The locked position of the locking member may not be a fixed position relative to the flange. Rather, the locked position is defined as the position at which the locking member abuts the second surface 22 while the flange 15 is in abutment with the first surface 21. The mechanisms for moving a locking member described above allow the locking member to travel through different distances and be locked in different positions, depending on the shape and size of the architectural opening frame.

[0079] For example, when a thin architectural opening frame (such as a typical aluminium frame) is used, the distance between the flange 15 and the locking member in the locked position is smaller than when a thicker architectural opening frame (such as a typical PVC or wooden frame) is used. This is illustrated for a locking member 110 having a direction of movement perpendicular to the plane in Figure 6, showing a thin architectural opening frame, and Figure 7, showing a thick architec-

tural opening frame. This is also the case for a locking member 130 having a direction of movement with components both perpendicular and parallel to the plane. Figure 8 shows such a locking member 130 in use with a thick architectural opening frame and Figure 9 shows such a locking member 130 in use with a thin architectural opening frame.

[0080] In the illustrated example, the at least one flange extends substantially around the entire circumference of the mounting frame. This means that a flange extends substantially along the whole width of the mounting frame at both the top and bottom of the mounting frame, and a flange extends substantially along the whole height of the mounting frame on both sides of the mounting frame across the opening. This is best shown in Figure 13. The top, bottom and two side flanges can be connected so as to form a continuous flange around the mounting frame. This may assist in providing a secure engagement with the architectural opening frame and/or may provide an aesthetically attractive appearance. Alternatively, plural separate flanges may be provided, for example, a separate flange for each locking member.

[0081] In the illustrated example, each of the locking members is also moveable from the locked position to the unlocked position. This means that, for a locking member which has been locked in the locking position, it is possible to reverse the process of moving the locking member into the locked position, so as to dismount the mounting frame. For the mechanisms described with reference to Figures 2 to 5, the locking member can be moved from the locked position to the unlocked position by performing the steps of moving the locking member into the locked position in reverse.

[0082] As discussed above, the locked position is not a fixed position relative to the flange, but it defined as the position at which the locking member abuts the architectural opening frame. Likewise, the unlocked position may not be a fixed position, but rather a position (or range of positions) at which there is a gap between the locking member and the flange such that the architectural opening frame is no longer held by the locking member and the flange.

[0083] Preferably, the at least one actuator is configured to be operated from the side of the mounting frame having the flange. The mounting frame described herein is particularly useful when surface 22 (abutted by the locking member) faces the outside of a building, and the surface 21 (abutted by the flange) faces the inside of the building. This makes the mounting frame easier to install, because a user can push the flange against the surface 21 from inside the building. The user therefore does not have to access the architectural opening from the outside which can be particularly troublesome on upper storeys. In arrangements discussed above, the actuator is configured to be operated from the side of the mounting frame having the flange, making it accessible to a user located inside the building.

[0084] For example, for the mechanism shown in Figures 2 and 3, the locking member 110 is moveable by engaging and rotating rotatable member 120, having its engagement portion (screw head 122) located on the same side of the mounting frame as the flange. For the mechanism shown in Figures 4 and 5, the actuator 140 is located on the flange side of the supporting structure of the mounting frame.

[0085] As already mentioned, the mounting frame can have a plurality of locking members 110, 130. Preferably, a respective actuator 120, 140 is provided for each respective locking member. This allows each locking member to be moved and locked in position independently from all of the other locking members. In the illustrated example, the mounting frame 1 has two arrangements of locking member 110 and actuator 120 as described with respect to Figures 2, 3, 6 and 7, provided at the top of the mounting frame 1 in each corner. The mounting frame 1 also has two arrangements of locking member 130 and actuator 140 as described with respect to Figures 4, 5, 8 and 9, provided in each lower corner of the mounting frame.

[0086] An outdoor blind comprising the mounting frame will now be described.

[0087] A particularly useful application of the mounting frame of the invention is an outdoor blind (also known as an outside blind). Although, the invention is not limited to an outdoor blind and could be applied to any type of covering in general. In an outdoor blind, the at least one flange of the mounting frame is configured to abut a surface of the architectural opening frame facing the interior of the building having the architectural opening. That is, surface 21 faces towards the interior of the building, and surface 22 faces towards the exterior of the building.

[0088] An outdoor blind 3 is illustrated in Figure 12. An outdoor blind is an architectural structure covering which projects outwards to an exterior of the architectural structure in which it is installed. In Figure 12, the exterior of the building is on the left hand side, and the interior of the building is on the right hand side. As shown in Figure 12, the outdoor blind 3 is located outwards of a window 5, which may for example be a moveable window leaf. The flange 15 is sandwiched between the window and the first surface 21 when the window 5 is closed. The outdoor blind 3 including the mounting frame 1 is located on the exterior side of the surface 22, except for the flange (and optionally the actuator) which is on the interior side of the surface 21, and a connecting portion of the supporting structure of the mounting frame 1 which connects the flange to the rest of the mounting frame.

[0089] Outdoor blinds are provided with one or more retractable coverings and/or screens, such as an insect screen. The outdoor blind shown in Figure 12 includes a retractable covering 31, specifically a roller covering, which is extendable across the architectural opening 4. The retractable covering 31 is housed within the cassette 16 when not in use. The retractable covering 31 can be manually operated or motorised. The illustrated outdoor blind also has a fixed screen 32, such as an insect screen.

Outdoor blinds may be configured to be used with different window types, in particular turn and tilt (TAT) windows.

[0090] A method of mounting a mounting frame, as described herein, to an architectural opening frame will now be described. This method can also be used to install an outdoor blind (or any type of covering) having a mounting frame as described herein.

[0091] Firstly, the mounting frame may be positioned relative to the architectural opening frame such that the flange (or plurality of flanges) abuts the first surface of the architectural opening frame, as previously described. Then a locking member is moved from the unlocked position to the locked position in which the locking member abuts the second surface of the architectural opening frame such that the architectural opening frame is held between the flange and the locking member. Moving the locking member to the locked position comprises moving the locking member in a direction towards the at least one flange, said direction having at least one component perpendicular to the plane, as previously described. The locking member is moved to the locked position by operating an associated actuator. The locking member and associated actuator can comprise any of the mechanisms described herein. Optionally, the process of moving a locking member into the locked position is repeated for a plurality of locking members.

[0092] Preferably, positioning the mounting frame comprises inserting the mounting frame within the architectural opening frame from the interior of the building, with the at least one flange abutting a surface (i.e. surface 21) of the architectural opening frame facing the interior of the building. This makes the installation as easier, as discussed above, because the steps of positioning the mounting frame and operating the actuator are performed by a user located inside the building. In this way, there is no need for a user to access the exterior of the building in order to install the mounting frame.

[0093] Figure 13 illustrates an example of how a mounting frame is preferably positioned within an architectural opening frame. The step of abutting the flange 15 against the surface 21 is performed by firstly abutting the flange against the surface 21 at the top of the architectural opening frame, whilst the top of the mounting frame is tilted towards the architectural opening. Then, the lower part of the mounting frame is slid forward such that the flange 15 abuts the surface 21 at the bottom of the architectural opening frame. This allows the cassette 16 to be passed through the opening 4. The arrangements of locking member described herein are configured so as to allow for an easy mounting of the mounting frame, whilst ensuring the mounting frame is secure. In particular, the locking members 130 which are retractable within the supporting structure of the mounting frame allow the mounting frame to be passed through the architectural opening as shown in Figure 13.

[0094] The present disclosure is set forth in various levels of detail in this application and no limitation as to the scope of the claimed subject matter is intended by either the inclusion or non-inclusion of elements, components, or the like in the summary. In certain instances, details that are not necessary for an understanding of the disclosure or that render other details difficult to perceive may have been omitted. It should be understood that the claimed subject matter is not necessarily limited to the particular embodiments or arrangements illustrated herein.

[0095] The accompanying drawings are provided for purposes of illustration only, and the dimensions, positions, order, and relative sizes reflected in the drawings attached hereto may vary. The detailed description will be better understood in conjunction with the accompanying drawings, with reference made in detail to embodiments of the present subject matter, one or more examples of which are illustrated in the drawings. Each example is provided by way of explanation of the present subject matter, not limitation of the present subject matter. In fact, it will be apparent to those skilled in the art that various modifications and variations can be made in the present disclosure without departing from the scope or spirit of the present subject matter. Thus, it is intended that the present subject matter covers such modifications and variations as come within the scope of the appended claims and their equivalents.

[0096] In the foregoing description, it will be appreciated that the phrases "at least one", "one or more", and "and/or", as used herein, are open-ended expressions that are both conjunctive and disjunctive in operation. The term "a" or "an" entity, as used herein, refers to one or more of that entity. As such, the terms "a" (or "an"), "one or more" and "at least one" can be used interchangeably herein.

Claims

1. A mounting frame for mounting a covering to an architectural opening frame surrounding an architectural opening;

wherein the architectural opening defines a plane;
the architectural opening frame has first and second surfaces on respective sides of the plane; and
the mounting frame comprises:

at least one flange extending parallel to the plane, the flange configured to abut the first surface of the architectural opening frame;
at least one locking member moveable from an unlocked position, in which the locking member is spaced apart from the second surface, to a locked position, in which the locking member is configured to abut the second surface of the architectural opening

frame such that the architectural opening frame is held between the flange and the locking member,
the at least one locking member configured to be moveable to the locked position in a direction towards the at least one flange, said direction having at least a component perpendicular to the plane; and
at least one actuator associated with the at least one locking member and configured to be operated to move the at least one locking member from the unlocked position to the locked position.

2. The mounting frame of claim 1, wherein at least one actuator is a rotatable member and rotation of the rotatable member causes linear movement of an associated locking member,
and, optionally, the rotatable member comprises one of an external thread and an internal thread and the associated locking member comprises the other of an external thread and an internal thread, and the external thread engages with the internal thread such that turning the rotatable member causes linear movement of the associated locking member.

3. The mounting frame of any preceding claim, wherein at least one locking member is configured to translate and at least one actuator is a projection from the associated locking member that translates with the associated locking member,

optionally, the actuator configured to translate with the associated locking member is also configured to secure the locking member in the locked position,
and, further optionally, the actuator configured to translate with the associated locking member comprises a threaded section that engages with a corresponding threaded section of the locking member and is configured such that rotating the actuator secures the associated locking member in the locked position.

4. The mounting frame of claim 3, wherein the mounting frame comprises a slot configured to guide the translation of the locking member which is configured to translate with the actuator.

5. The mounting frame of any preceding claim, wherein for at least one locking member, the direction of movement of the locking member is perpendicular to the plane,

optionally, the locking member having movement perpendicular to the plane is provided in a region at the top of the mounting frame,
and, further optionally, the mounting frame comprises a cassette configured to house a retractable covering, wherein a portion of the locking member configured to abut the architectural opening frame is located on top of the cassette.

6. The mounting frame of any preceding claim, wherein for at least one locking member, the direction of movement of the locking member has both a component perpendicular to the plane and a component parallel to the plane,
and, optionally, the locking member, for which the direction of movement has a component perpendicular to the plane and a component parallel to the plane, is provided in a region at the bottom of the mounting frame.

7. The mounting frame of any preceding claim, wherein the at least one locking member is a rigid body which does not substantially deform when clamping the architectural opening frame.

8. The mounting frame of any one preceding claim, wherein the locked position of the at least one locking member is adjustable such that the mounting frame can be used with architectural opening frames with different thicknesses.

9. The mounting frame of any preceding claim, wherein the at least one flange extends around an entire circumference of the mounting frame.

10. The mounting frame of any preceding claim, wherein the at least one locking member is moveable from the locked position to the unlocked position.

11. The mounting frame of any preceding claim, wherein the at least one actuator is configured to be operated from the side of the mounting frame having the flange.

12. The mounting frame of any preceding claim, wherein a respective actuator is provided for each respective locking member.

13. An outdoor blind comprising the mounting frame of any preceding claim, wherein the at least one flange is configured to abut a surface of the architectural opening frame facing the interior of the building.

14. A method of mounting a mounting frame to an architectural opening frame surrounding an architectural opening, wherein the architectural opening defines a plane and the architectural opening frame has first and second surfaces on respective sides of the plane, the method comprising:

positioning the mounting frame such that at least one flange of the mounting frame abuts the first

surface of the architectural opening frame, the at least one flange extending parallel to the plane; and

moving at least one locking member from an unlocked position, in which the locking member is spaced apart from the second surface, to a locked position, in which the locking member abuts the second surface of the architectural opening frame such that the architectural opening frame is held between the flange and the locking member;

wherein moving the locking member to the locked position comprises moving the locking member in a direction towards the at least one flange, said direction having at least one component perpendicular to the plane, by operating an actuator associated with the locking member.

15. The method of claim 14, wherein

positioning the mounting frame comprises inserting the mounting frame within the architectural opening frame from the interior of the building, with the at least one flange abutting a surface of the architectural opening frame facing the interior of the building,

and the steps of positioning the mounting frame and operating the actuator are performed by a user located inside the building.

Fig. 1

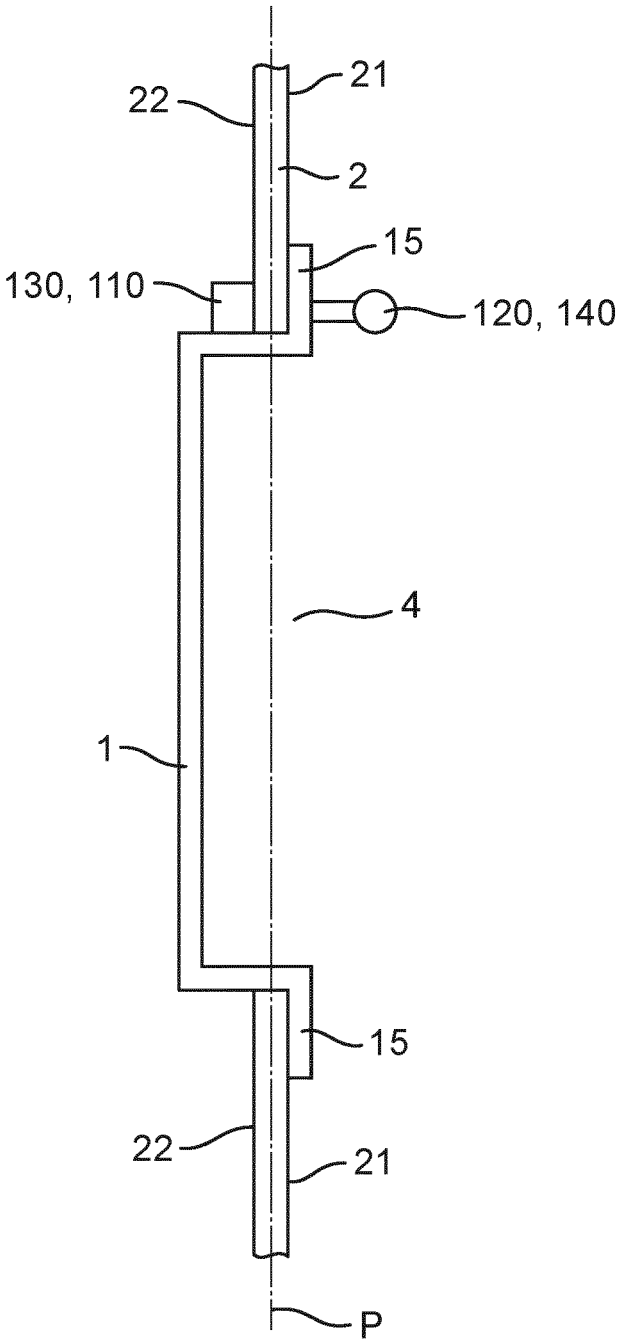


Fig. 2

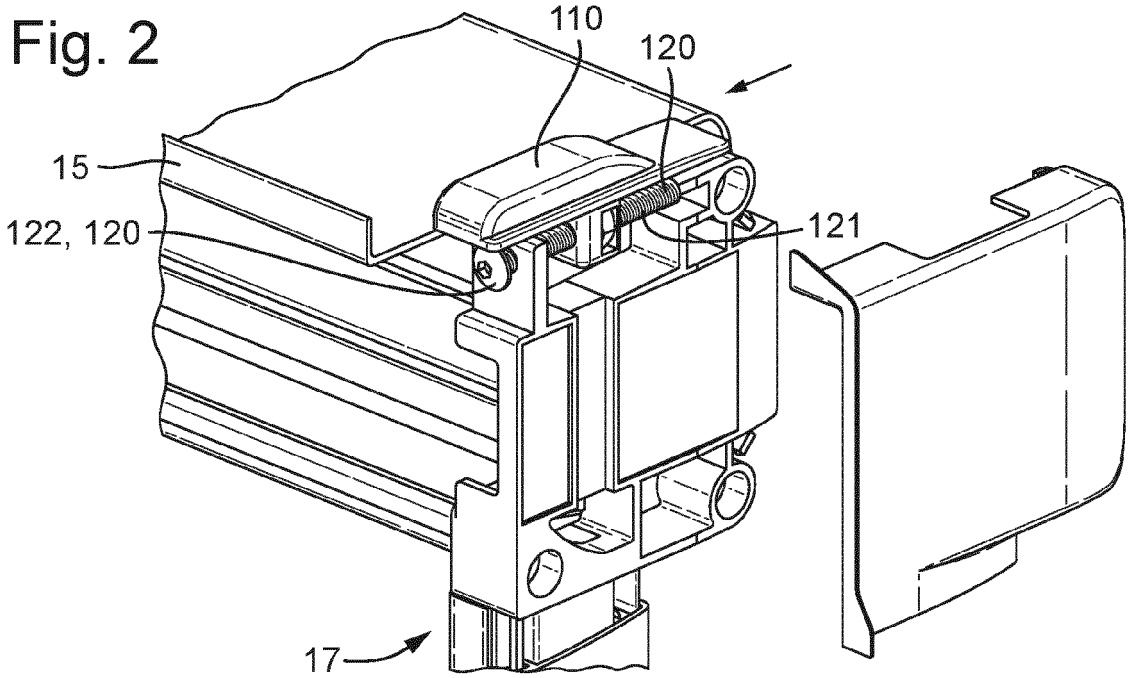


Fig. 3

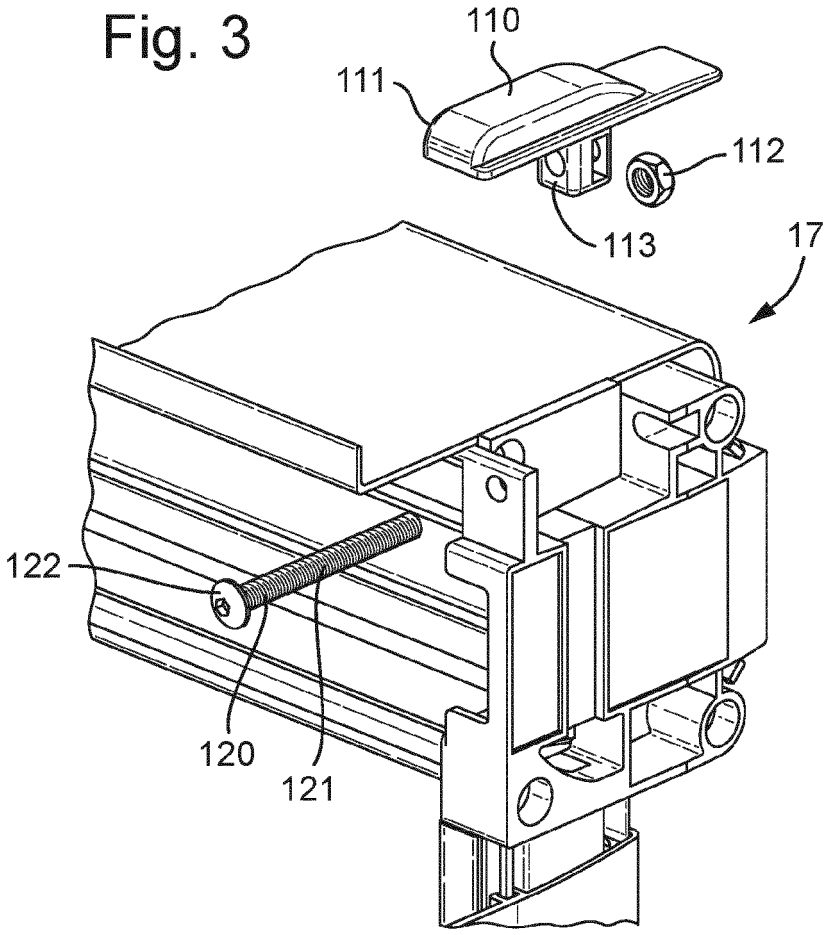


Fig. 4

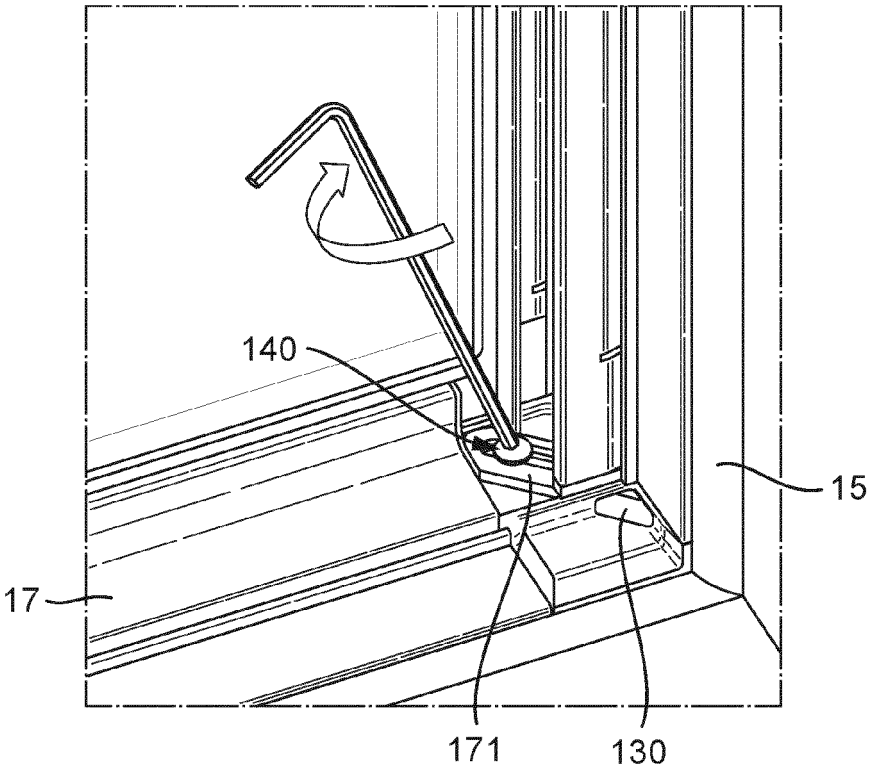


Fig. 5

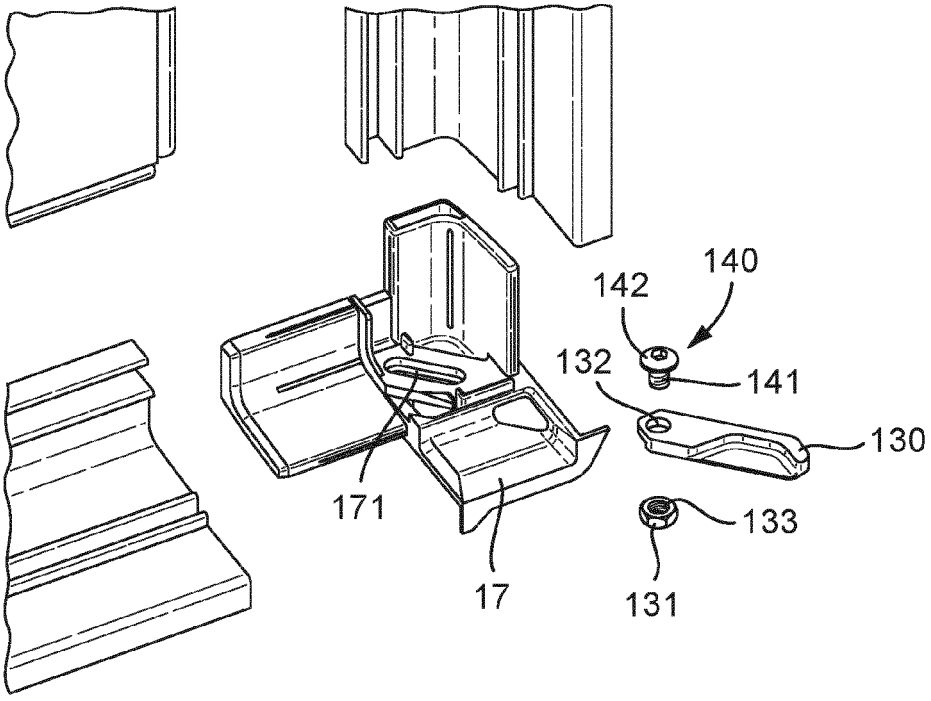


Fig. 6

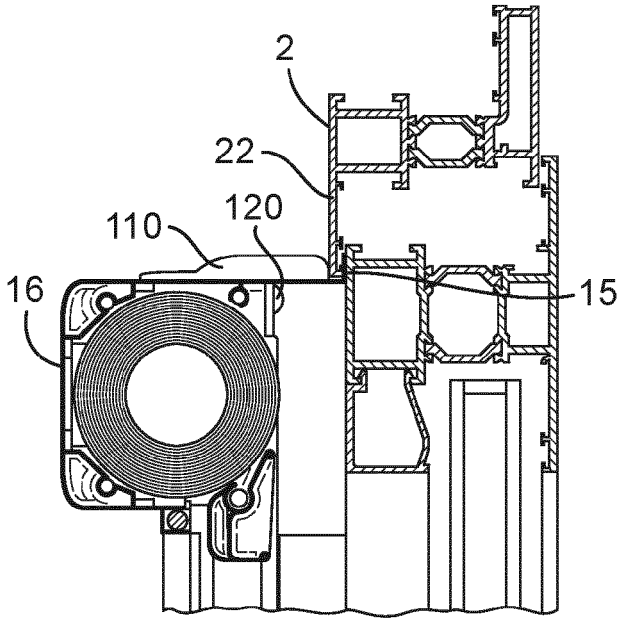


Fig. 7

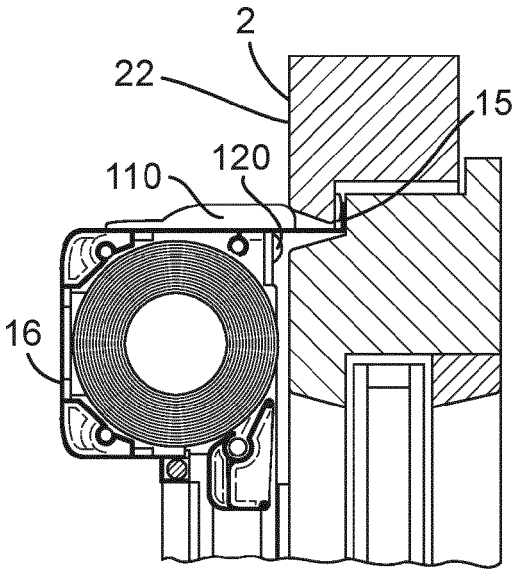


Fig. 8

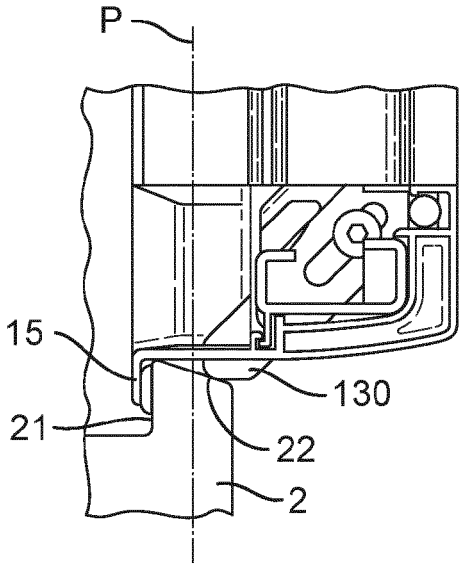


Fig. 9

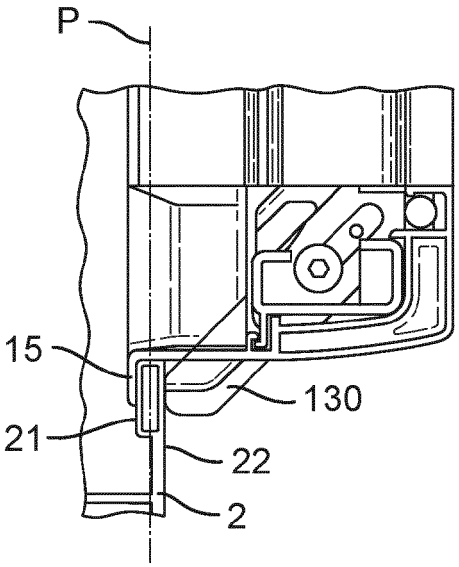


Fig. 10

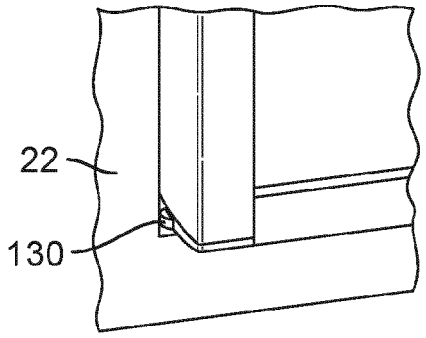


Fig. 11

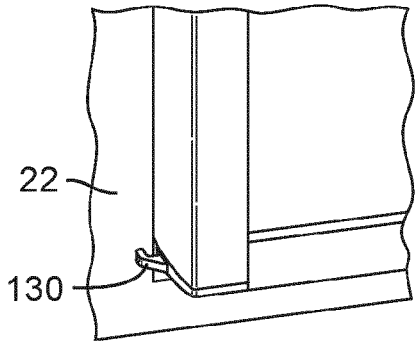


Fig. 12

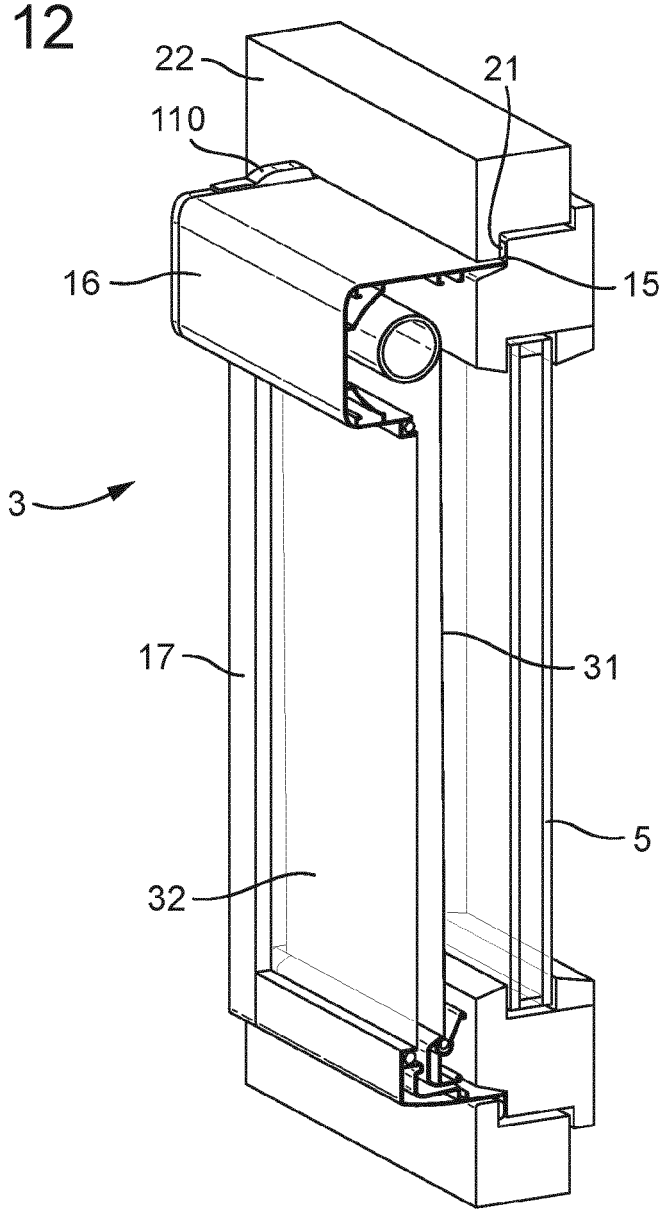
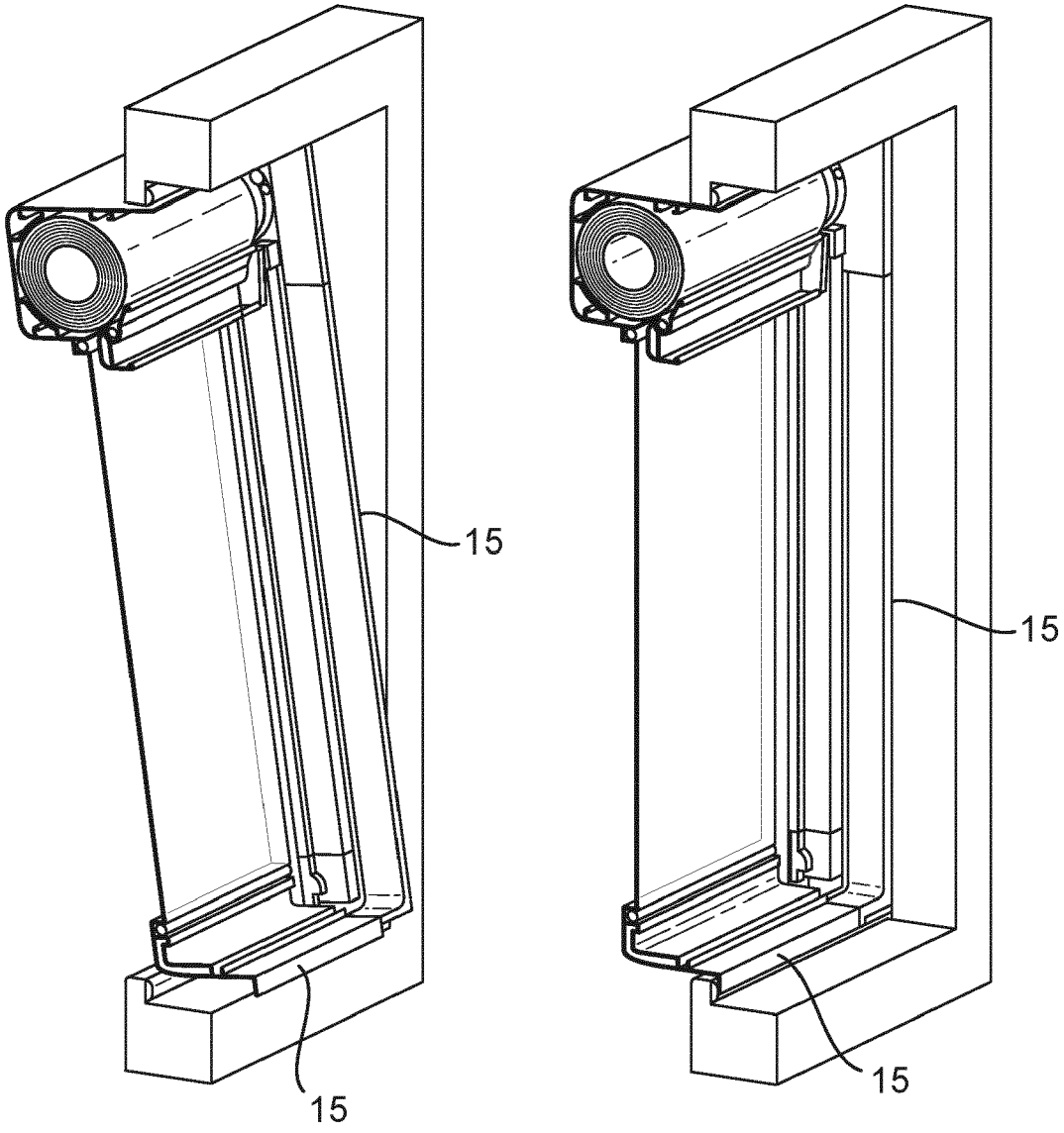


Fig. 13



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EUROPEAN SEARCH REPORT

Application Number
EP 23 17 7050

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X A	CN 112 523 673 A (SHANDONG MINGTAI NOVEL MAT CO LTD) 19 March 2021 (2021-03-19) * paragraphs [0019], [0030], [0031], [0032]; figures 1-2 *	1-5,7,8, 10,12-15 6,9,11	INV. E06B9/54
X A	EP 3 569 808 A2 (INVENTEX ESTAB [LI]) 20 November 2019 (2019-11-20) * paragraphs [0048] - [0055], [0069]; figures 1-3 *	1,2,5, 7-12,14 3,4,6, 13,15	
			TECHNICAL FIELDS SEARCHED (IPC)
			E06B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	23 October 2023	Kofoed, Peter

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 23 17 7050

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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23-10-2023

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
CN 112523673 A	19-03-2021	NONE	
EP 3569808 A2	20-11-2019	DE 102018111808 A1	21-11-2019
		EP 3569808 A2	20-11-2019

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82