



(11) **EP 4 155 492 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
29.03.2023 Bulletin 2023/13

(51) International Patent Classification (IPC):
E05D 7/04 (2006.01) E05D 7/081 (2006.01)

(21) Application number: **22197222.7**

(52) Cooperative Patent Classification (CPC):
**E05D 7/081; E05D 7/04; E05D 5/0246;
E05Y 2900/114**

(22) Date of filing: **22.09.2022**

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

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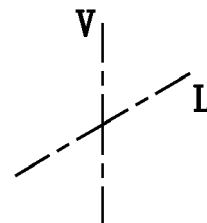
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(30) Priority: **28.09.2021 IT 202100024731**

(54) **HINGE AND HINGED DOOR COMPRISING SAID HINGE**

(57) A hinge installable on a hinged door, preferably of a shower cabin, comprises a primary body installable at a recess obtained along an edge of a hinged door. The primary body has an upper groove and a lower groove shaped to couple with a portion of the hinged door in which the recess is present. The hinge further comprises a secondary body insertable in the upper groove and has a length less than that of the upper groove so as to be slidably movable therein to allow the adjustment of the orientation of the hinged door. The secondary body has a hole adapted to receive a rotating pin for the movement of the hinged door. At least one locking element is interposable between the primary body and the secondary body and, furthermore, is configurable at least in a constraint position in which it maintains the same secondary body in a static and stable position with respect to the primary body. A hinged door comprising the aforesaid hinge also forms an object of the present invention.

Fig.1A



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Description

Technical field

[0001] The present invention relates to a hinged door.
[0002] In particular, the invention relates to a hinged door which can act as a door of a shower cabin or as a movable partition between adjacent environments.

Prior art

[0003] In the furniture sector, in particular in the sector of shower cabins, it is customary to hinge the hinged door along one of its side edges so as to be able to easily overcome any alignment problems if the walls of the room are not squared and, therefore, the walls are not plumb. Thereby, a coupleable profiled element is constrained with the hinges screwed to the hinged door, which has slots which allow an adjustment of the hinges to adjust the orientation of the hinged door so that the latter is plumb even if the side wall does not extend orthogonally with respect to the same floor.

[0004] However, a hinged door constrained laterally to a wall is generally unbalanced and, therefore, the hinges installed along the side edge are considerably stressed by the weight of the door (sometimes made entirely of thick glass) and, therefore, at risk of breaking or rupture of the door itself.

[0005] To overcome such a problem, some manufacturers install the hinges along the upper and lower edges of the hinged doors so that the weight of the door can be more balanced and unloaded more correctly on the ground along the vertical direction. However, such solutions also have some drawbacks which the present invention aims to overcome.

[0006] Firstly, the hinges usually used to constrain the hinged doors above and below are bulky and, therefore, can generate aesthetic problems. In addition, due to the encumbrance, such hinges may not be fully covered by any profiled elements installed on the hinged door and, therefore, may be subject to greater wear (mainly those arranged below) due to the use of water, soaps and/or detergents.

[0007] Another drawback of the known solutions is the limited possibility of correcting the orientation of the hinged door if the walls of the room are not perfectly squared with respect to the floor or if the floor is not levelled.

Summary

[0008] In this context, the technical task of the present invention is to propose a hinge and a hinged door which obviate the drawbacks of the known art as mentioned above.

[0009] In particular, an object of the present invention is to provide a hinge configured to allow the slow and controlled closure of a hinged door on which it is installed.

[0010] Another object of the present invention is to provide a hinge comprising a few small components which, at the same time, are sufficiently strong, durable over time and safe in their use.

[0011] A further object of the present invention is to provide a small hinge which is incorporated within the encumbrance of the hinged door on which it is installed so as to be almost invisible from the outside. That is, the present invention intends to offer a hinge which has the smallest possible encumbrance and, at the same time, is capable of hiding the mechanical components/gears of which it consists from view.

[0012] The invention also aims to provide a hinged door comprising the aforesaid hinge so as to be directly connected to the rotating pin of the hinge in a safe, durable and aesthetically pleasing manner (i.e., the hinge is almost invisible from the outside). The stated technical task and specified objects are substantially achieved by a hinge and a hinged door comprising such a hinge, which comprise the technical features disclosed in the respective independent claims. The dependent claims correspond to further advantageous aspects of the invention.

[0013] It should be appreciated that this summary introduces a selection of concepts in simplified form, which will be further developed in the detailed description below. The invention relates to a hinge installable on a hinged door, preferably of a shower cabin.

[0014] In particular, the hinge comprises a primary body installable at a recess obtained along an edge of a hinged door. The primary body extends along a longitudinal direction along which a lower groove and an upper groove are obtained so that the same primary body has a substantially "H"-shaped cross section. More precisely, the lower groove is shaped to couple with a portion of the hinged door in which the recess is present so that the primary body abuts against both surfaces of the hinged door.

[0015] The hinge further comprises a secondary body insertable in the upper groove and having a width and height equal to or less than those of the same upper groove. Furthermore, the secondary body has a longitudinal extension less than that of the upper groove so as to be slidably movable therein to allow the adjustment of the orientation and extension of the hinged door with respect to a horizontal axis (for example, parallel to the ground) or vertical axis (for example, parallel to a side wall). The secondary body has a hole obtained on an upper surface which is opposite, in use, to the upper groove of the primary body, which is adapted to receive a rotating pin for the movement of the hinged door.

[0016] At least one locking element is interposable between the primary body and the secondary body and, furthermore, is configurable at least in a constraint position in which it maintains the same secondary body in a static and stable position with respect to the primary body.

[0017] Advantageously, the aforesaid hinge substantially consists of only two components: the primary body and the secondary body. While the primary body can be

integrally constrained with the hinged door, the secondary body can be associated with the rotating pin of the door and, furthermore, can be moved with respect to the primary body so as to ensure the correct orientation and positioning of the hinged door even if the side wall to which the pin is connected is not perfectly plumb.

[0018] Even more advantageously, the hinge has a small encumbrance as it is easily installable at the respective recesses obtained on the hinged doors of the shower cabins so as to camouflage itself, not going to excessively impact the aesthetics of the hinged door of the shower cabin.

[0019] Despite its small size, the hinge is advantageously configured to offer two further advantages:

- the possibility of adjusting the inclination of the door so as to arrange it plumb even if the floor and the side wall of the room in which the shower cabin is arranged are not perfectly squared to each other (i.e., the side wall is not plumb and/or the floor is not levelled);
- the possibility of varying the transverse positioning of the door (arranged plumb) with respect to the side wall (i.e., that is, moving it to the right and/or left with respect to the ground), so as to vary the surface extension of the door so that the latter is capable of completely obstructing the access opening of the shower cabin (for example, if the side uprights of the shower cabin have been mounted farther/closer than necessary). The invention also relates to a hinged door, preferably for a shower cabin.

[0020] In particular, the hinged door comprises a door, preferably in glass, having a first recess obtained along an upper edge thereof and a second recess obtained along a lower edge thereof, a pair of hinges made in accordance with what is described above and each of which is installed at a respective recess and, finally, a pair of rotating pins for the rotation of the hinged door, each of which is associated with a respective hole of the secondary bodies.

[0021] Advantageously, the orientation of the hinged door is easily adjustable by virtue of the arrangement of the hinge described above.

[0022] In addition, since the aforesaid recesses are usually obtained on the doors of the shower cabins, the hinges are easily installable at such recesses so as to mask such machining without excessively impacting the aesthetics of the hinged door itself, as the encumbrance of the hinge is contained and capable of masking the components used for fastening (any screws) and those used for movement (any pistons).

Brief description of the drawings

[0023] Further features and advantages of the present invention will become more apparent from the indicative and thus non-limiting description of a preferred, but not

exclusive, embodiment of a hinged door comprising a hinge in accordance with the invention, as illustrated in the appended drawings, in which:

- 5 - figures 1A and 1B illustrate, respectively and in perspective view, a first embodiment of the hinged door and an enlargement of the upper portion of the latter in which a hinge is installed;
- figure 2 illustrates, in perspective view, an exploded view of the enlargement illustrated in figure 1B in which a first embodiment of a hinge is visible;
- 10 - figure 3 illustrates, in perspective view, an enlargement of the first embodiment of the hinge illustrated in figure 2;
- 15 - figure 4 illustrates, in side view, a section of the hinge illustrated in figures 1A and 1B;
- figures 5A and 5B illustrate, respectively and in perspective view, a second embodiment of the hinged door and an enlargement of the upper portion of the latter in which a hinge is installed;
- 20 - figure 6 illustrates, in perspective view, an exploded view of the enlargement illustrated in figure 5B in which a second embodiment of a hinge is visible;
- figure 7 illustrates, in perspective view, an enlargement of the first embodiment of the hinge illustrated in figure 6;
- 25 - figure 8 illustrates, in side view, a section of the hinge illustrated in figures 5A and 5B.

30 **[0024]** With reference to the drawings, they serve solely to illustrate embodiments of the invention with the aim of better clarifying, in combination with the description, the inventive principles on which the invention is based.

35 **Detailed description of at least one embodiment**

[0025] The present invention relates to a hinge and a hinged door comprising such a hinge. With reference to the drawings, the hinge has been generically indicated by the number 1, while the hinged door has been generically indicated by the number 100.

[0026] Any modifications or variants which, in the light of the description, are evident to the person skilled in the art, must be considered to fall within the scope of protection established by the present invention, according to considerations of technical equivalence.

[0027] Figures 1A and 5A show two different embodiments of a hinged door 100, preferably made of glass and even more preferably used as an access door of a shower cabin.

[0028] Figures 1B and 5B illustrate, respectively with reference to the previous figures, the enlargements of the aforesaid hinged doors 100 in which a hinge 1 configured to allow the controlled movement (regular and without impacts) of the hinged door 100 is installed.

[0029] In particular, a hinge 1 comprises a primary body 2 installable at a recess 101 obtained along an edge 102 of the hinged door 100. The primary body 2 extends

along a longitudinal direction L along which a lower groove 3 and an upper groove 4 are obtained so that the same primary body 2 has a substantially "H"-shaped cross section. That is, the lower groove 3 and the upper groove 4 are arranged opposite each other and are obtained along the longitudinal direction L along which the primary body 2 extends for its length.

[0030] In particular, the lower groove 3 is shaped to couple with a portion of the hinged door 100 in which the recess 101 is present so that the primary body 2 abuts against both surfaces of the same hinged door 100.

[0031] That is, the lower groove 3 is shaped so that the thickness of the hinged door 100 easily fits between the side portions 5 of the primary body 2 which delimit the same lower groove 3.

[0032] In addition, the hinge 1 comprises a secondary body 6 insertable in the upper groove 4 of the primary body 2 and, at the same time, having a width and height equal to or less than those of the same upper groove 4. In addition, the secondary body 6 has a depth at most equal, preferably equal, to the depth of the upper groove 4 so as not to be subject to any movement along a direction transverse to the longitudinal direction L.

[0033] In particular, the secondary body 6 has a longitudinal extension which is less than that of the upper groove 4 so as to be slidably movable within the same upper groove 4 along the longitudinal direction L (preferably, only along said longitudinal direction L and, as mentioned above, not along a direction transverse to the aforesaid longitudinal direction L) so as to allow the adjustment of the orientation and positioning of the hinged door 100 according to at least one horizontal axis and/or one vertical axis V. In fact, the secondary body 6 has a hole 7 obtained on its upper surface 8 opposite, in use, to the upper groove 4 of the primary body 2 and, furthermore, adapted to receive a rotating pin 103 for the movement of the hinged door 100.

[0034] More precisely, the dimension of the depth referred to above is a dimension transverse to the pair of side portions 5 of the primary body 2, substantially orthogonal to the longitudinal direction L and the vertical axis V.

[0035] That is, the movement of the secondary body 6 with respect to the primary body 2 within the upper groove 4 of the latter allows to vary the point of the edge 102 of the door in which the rotation fulcrum will be determined and, consequently, also the inclination which the same hinged door 100 has with respect to the ground and the side wall which may not be made squared (in fact, there may be an acute or obtuse angle between the ground and the side part which is usually fixed to the rotating pin 103 used for the rotation of the hinged door 100).

[0036] At least one locking element 10 is interposable between the primary body 2 and the secondary body 6 and, furthermore, is configurable at least in a constraint position in which it maintains the secondary body 6 in a static and stable position with respect to the primary body 2. That is, when the locking element 10 (or the locking

elements 10 if more than one) is configured in the constraint condition, the secondary body 6 is not capable of sliding within the upper groove 4, remaining fixed in an immutable position over time and ensuring the correct alignment between the pin 103 and the corresponding hole 7.

[0037] Thereby, the hinge 1 advantageously consists of a limited number of components, substantially the primary body 2 and the secondary body 6, in addition to any further locking elements and/or fastening means.

[0038] Preferably, the upper groove 4 is shaped like a slot within which the secondary body 6 is slidably movable. As a function of the inclination which must be conferred to the hinged door 100 with respect to the side wall of the room in which it is installed (generally the hinged door 100 must be arranged plumb), the secondary body 6 is moved in the upper groove 4 and locked in a stable position by the interposition between the same secondary body 6 and the primary body 2 of at least one locking element 10.

[0039] According to an aspect of the invention, the primary body 2 has a through side groove 9 to allow the configuration of each locking element 10 from the constraint condition to a free condition, in which the secondary body 6 is slidably movable in the upper groove 4, and vice versa.

[0040] Preferably, the side groove 9 is obtained on a side portion 5 of the primary body 2 and, furthermore, is arranged in communication with the upper groove 4 of the primary body 2. Thereby, each locking element 10 is arranged through the aforesaid side groove 9 to come into contact with the secondary body 6 and thus configure it in the constraint condition

[0041] Advantageously, therefore, the side groove 9 is also accessible when the hinge 1 is installed on a hinged door 100. Thereby, the locking element 10 is interposable and/or adjustable at any time even when the hinge 1 has already been installed on the hinged door 100 so as to obtain a more simplified, effective and precise operation precisely because the hinged door 100 is in position and, therefore, the user is easily able to evaluate how much to adjust the position and orientation thereof. Still in other words, the adjustment of the hinge 1 does not require that the same hinge 1 is disassembled from the hinged door 100.

[0042] That is, the groove 9 allows an operator to insert the tool necessary to act on the corresponding locking element 10, for example a screw or a threaded peg, to move it in the constraint condition in which it keeps the secondary body 6 stationary with respect to the primary body 2 in a stable position.

[0043] Preferably, as can be seen in particular from figures 3 and 4, the side groove 9 is obtained on a surface (at least one of the side portions 5 of the primary body 2) such that the insertion of the fastening element 10 occurs along a transverse direction, preferably perpendicular, to the longitudinal direction L.

[0044] Even more preferably, the interposition of each

fastening element 10 occurs along a direction substantially coinciding with the "depth" dimension of the secondary body described above, i.e., along a direction transverse to the side portions 5 of the primary body 2.

[0045] In accordance with a first aspect of the invention illustrated in figures 2-4, the secondary body 6 is made with a lower component 11 and an upper component 12 superimposed and constrained to each other by fastening means 13. In particular, the lower component 11 has at least one seat 14 in which the locking element 10 is insertable, while the upper component 12 has the hole 7 in which the rotating pin 103 is couplable.

[0046] Preferably, the fastening means 13 comprises screws and/or rivets.

[0047] Even more preferably, the lower component 11 has a pair of seats 14 for the insertion of a fastening means 13 in each of them.

[0048] In accordance with a second aspect of the invention illustrated in figures 6-8, the secondary body 6 is made in a single piece.

[0049] In accordance with a preferred aspect of the invention, each locking element 10 comprises a threaded locking peg.

[0050] Advantageously, the locking pegs have a significantly reduced encumbrance to the point that they are totally included within the encumbrance of the primary body 2 once they are installed to constrain the secondary body 6 and the primary body 2. Preferably, at least the primary body 2 and the secondary body 6 are made of aluminium, or steel, or brass, or zamak.

[0051] In accordance with a preferred aspect of the invention, the primary body 2 has a longitudinal length comprised between 75 millimetres and 100 millimetres, while the upper groove 4 has a longitudinal length comprised between 60 millimetres and 85 millimetres.

[0052] Preferably, the primary body 2 has a length of about 80 millimetres, while the upper groove 4 has a length of about 65 millimetres.

[0053] Thereby, the side portions 5 of the primary body 2 are capable of completely superimposing the recess 101 and, furthermore, a portion of the hinged door 100 surrounding the aforesaid recess 101.

[0054] That is, the side portions 5 are configured to be constrained to the hinged door 100 by gluing, pressure generated by the use of rubber gaskets arranged inside the lower groove 3 or by the interposition of a constraint means (for example, screws and/or rivets).

[0055] Advantageously, the length of the upper groove 4 allows a movement of the secondary body 6 even of a couple of centimetres, increasing the possibility of adjusting the orientation and positioning of the hinged door 100 with respect to the side walls and the floor of the room.

[0056] Conversely, the hinged doors of the prior art have simple slots which allow a slight displacement of a few millimetres according to vertical and/or horizontal directions, thus obtaining limited adjustments of the orientation of the hinged door 100.

[0057] The invention further relates to a hinged door 100, preferably to a hinged door of a shower cabin.

[0058] In particular, as illustrated in figures 1A, 2, 5A and 6, the hinged door 100 comprises a door 100a, preferably in glass, having a first recess 101 obtained along an upper edge 102 and a second recess obtained along a lower edge, a pair of hinges 1 (having one or more of the features previously described) and installed at the first and second recess 101, and a pair of rotating pins 103 for the rotation of the hinged door 100, each of which is associated with a respective hole 7 of the secondary bodies 6.

[0059] That is, a pair of hinges 1 is arranged on the door 100a, a hinge 1 along the upper edge 102 and a hinge 1 along the lower edge, both along the same vertical direction (coinciding with the vertical axis with respect to which the positioning of the door 100a is adjustable), so as to define the rotation fulcrum of the hinged door 100.

[0060] In accordance with an aspect of the invention, the primary bodies 2 of each hinge 1 are constrained to the door 100a by gluing.

[0061] In accordance with another aspect of the invention, the hinged door 100 comprises at least one actuator 104, for example a pneumatic and/or hydraulic piston, connected to one of the rotating pins 103. Thereby, advantageously, the actuator 104 is capable of preventing the closing of the hinged door 100 from occurring in an uncontrolled and abrupt manner.

[0062] Preferably, the actuator 104 is installed at the hinge 1 arranged along the upper edge 102 of the door 100a.

[0063] Alternatively, the actuator 104 can be installed at the lower edge or, alternatively, at both hinges 1 arranged on the hinged door 100.

[0064] In accordance with an aspect of the invention, the hinged door 100 comprises at least one profiled element 105 which at least partially extends along the longitudinal direction L parallel to the upper edge 102 of the same hinged door 100. In particular, the profiled element 105 has at least one opening adapted to receive a respective rotating pin 103 which must be coupled to the secondary body 6 of the hinge 1. Figure 1A shows a first embodiment of the hinged door 100, in which there are two profiles 105, one arranged above the upper edge 102 of the door 100a and the other arranged below along the lower edge of the same door 100a.

[0065] Thereby, the profiled elements 105 are capable of defining a support structure for the door 100a by virtue of the interposition of the hinges 1. In fact, the primary body 2 is directly constrained to the door 100a at the respective recess 101, while the secondary body 6 defines the connection with the respective profiled element 105 through the rotating pin 103 coupled to the hole 7 obtained on its upper surface 8. While the profiled element 105 arranged below can be directly constrained to the ground by gluing, for example with silicone, or by fastening with screws, the profiled element 105 arranged

above is preferably constrained to the side wall by a special support 106 illustrated in figure 2.

[0066] Consequently, if the side wall is not perfectly plumb, in order to allow the correct operation of the hinged door 100 (i.e., its opening and closing mechanism) and so as to make the positioning of the door 100a aesthetically pleasing and adjustable, it is necessary to adjust the positioning of the secondary body 6 within the upper groove 4 of the primary body 2 of the hinge 1 (of both hinges, if present) to correctly adjust the inclination of the door 100a with respect to the side wall (or, alternatively, with respect to the ground) so as to correctly align the rotating pins 103 with the respective holes 7. In accordance with an aspect of the invention illustrated at least in figures 1A and 2, at least one profiled element 105 is hollow so as to receive the actuator 104 therein, to which the rotating pin 103 is connected which must be arranged at the opening of the same profiled element 105.

[0067] Advantageously, therefore, an actuator 104, for example a hydraulic piston, of limited size can be inserted inside the support frame of the hinged door 100 so as to be invisible and protected from any substances which could damage it (water, soaps, detergents), compromising its operation and reducing its duration.

[0068] Figure 5A shows a second embodiment of the hinged door 100, in which the support structure for the door 100a is defined by a transverse profiled element 107, which can be constrained to the wall by gluing or fastening with screws, to which "L"-shaped profiles 105 are connected. As best seen in figure 6, the profiled elements 105 are constrained to the respective end of the transverse profiled element 107 and, furthermore, have at least one opening for receiving the rotating pin 103.

[0069] Like the embodiment of figure 1A, also in this case the adjustment of the positioning of the secondary body 6 in the upper groove 4 of the primary body 2 of the hinge 1 allows to adjust the inclination of the door 100a even if the side wall is inclined at an angle different from 90° with respect to the ground.

[0070] In conclusion, the hinge 1 and the hinged door 100 comprising at least one hinge 1 are capable of defining a special adjustable, small and aesthetically acceptable attachment which, at the same time, allows a simple assembly of the entire hinged door 100 and its effective adjustment of the inclination in the event of squaring inaccuracies between the walls and the floor of the room.

[0071] The simplicity of the details and the reduced dimensions of the hinge 1 and, consequently, also of the hinged door 100, in which at least one of them is installed, still ensure a robust, durable and aesthetically pleasing structure as they confer a modern and minimal design.

[0072] In addition, by virtue of the limited number of components required, their easy positioning on the door 100a and/or along the profiled elements 105, considerably simplify the assembly of the hinged door 100, the possibility of its adjustment and, furthermore, the possi-

bility of being able to provide a shower cabin with a door with a cushioned closure by virtue of the actuator 104.

5 Claims

1. A hinge (1) installable on a hinged door (100), preferably of a shower cabin, comprising:

- a primary body (2) installable at a recess (101) obtained along an edge (102) of a hinged door (100), said primary body (2) extending along a longitudinal direction (L) along which a lower groove (3) and an upper groove (4) are obtained so that said primary body (2) has a substantially "H"-shaped cross section, said lower groove (3) being shaped to couple with a portion of the hinged door (100) in which the recess (101) is present so that said primary body (2) abuts against both surfaces of the hinged door (100);

- a secondary body (6) insertable in said upper groove (4) and having a width and height equal to or less than those of said upper groove (4) and a depth at most equal to that of said upper groove, said depth being a dimension transverse to a pair of side portions (5) of said primary body (2), said secondary body (6) having a longitudinal extension less than that of said upper groove (4) so as to be slidably movable within said upper groove (4) along said longitudinal direction (L) to allow the adjustment of the orientation and extension of the hinged door (100), said secondary body (6) having a hole (7) obtained on an opposite upper surface (8), in use, to said upper groove (4) and adapted to receive a rotating pin (103) for the opening and closing movement of the hinged door (100);

- at least one locking element (10) interposable between said primary body (2) and said secondary body (6) and configurable at least in a constraint condition in which it maintains said secondary body (6) in a static and stable position with respect to said primary body (2), wherein said primary body (2) has a through side groove (9) to allow the configuration of said at least one locking element (10) between said constraint condition and a free condition in which said secondary body (6) is slidably movable in said upper groove (4), said side groove (9) being obtained on a side portion (5) of the primary body (6) and being in communication with said upper groove (4), said locking elements (10) being arranged through said side groove (9) to configure the secondary body (6) in the constraint condition..

2. The hinge (1) according to claim 1, wherein said secondary body (6) is made of a lower component (11) and an upper component (12) superimposed and

- constrained to each other by fastening means (13), said lower component (11) having at least one seat (14) in which said at least one locking element (10) can be inserted, said upper component (12) having said hole (7) in which the rotating pin (103) can be coupled. 5
3. The hinge (1) according to claim 2, wherein said fastening means (13) comprises screws. 10
4. The hinge (1) according to claim 1, wherein said secondary body (6) is made in a single piece.
5. The hinge (1) according to any one of the preceding claims, wherein said at least one locking element (10) comprises a threaded locking peg. 15
6. The hinge (1) according to any one of the preceding claims, wherein at least said primary body (2) and said secondary body (6) are made of aluminium or steel, or brass, or zamak. 20
7. The hinge (1) according to any one of the preceding claims, wherein said primary body (2) has a longitudinal length comprised between 75 mm and 100 mm and said upper groove (4) has a longitudinal length comprised between 60 mm and 85 mm. 25
8. A hinged door (100), preferably for a shower cabin, comprising: 30
- a door (100a), preferably made of glass, having a first recess (101) obtained along an upper edge (102) and a second recess (101) obtained along a lower edge (102); 35
 - a pair of hinges (1) according to any one of claims 1 to 7 installed at said first and second recesses (101);
 - a pair of rotating pins (103) for the rotation of the hinged door (100), each associated with a respective hole (7) of the secondary bodies (6). 40
9. The hinged door (100) according to claim 8, comprising at least one actuator (104) connected to one of said rotating pins (103). 45
10. The hinged door (100) according to claim 8 or 9, comprising at least one profiled element (105) which at least partly extends along a longitudinal direction parallel to the upper edge (102) of the hinged door (100), said profiled element (105) having at least one opening adapted to receive a respective rotating pin (103). 50
11. The hinged door (100) according to claim 9 and 10, wherein said profiled element (105) is hollow so as to receive said actuator (104) therein to connect with said rotating pin (103) arranged at said opening. 55
12. The hinged door (100) according to any one of claims 8 to 11, wherein each primary body (2) of each hinge (1) is constrained to said door (100a) of the hinged door (100) by means of gluing.

Fig.1A

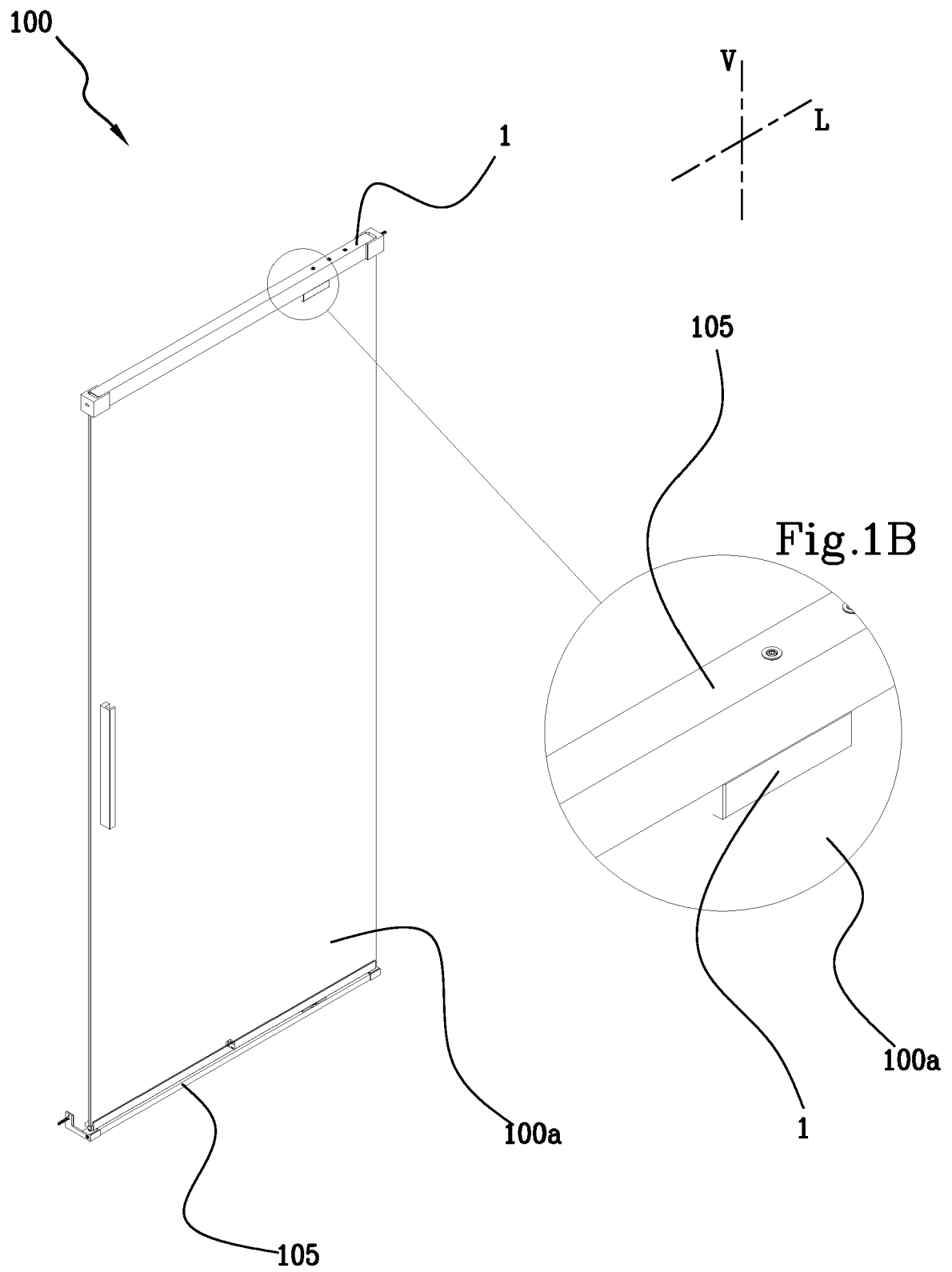


Fig.2

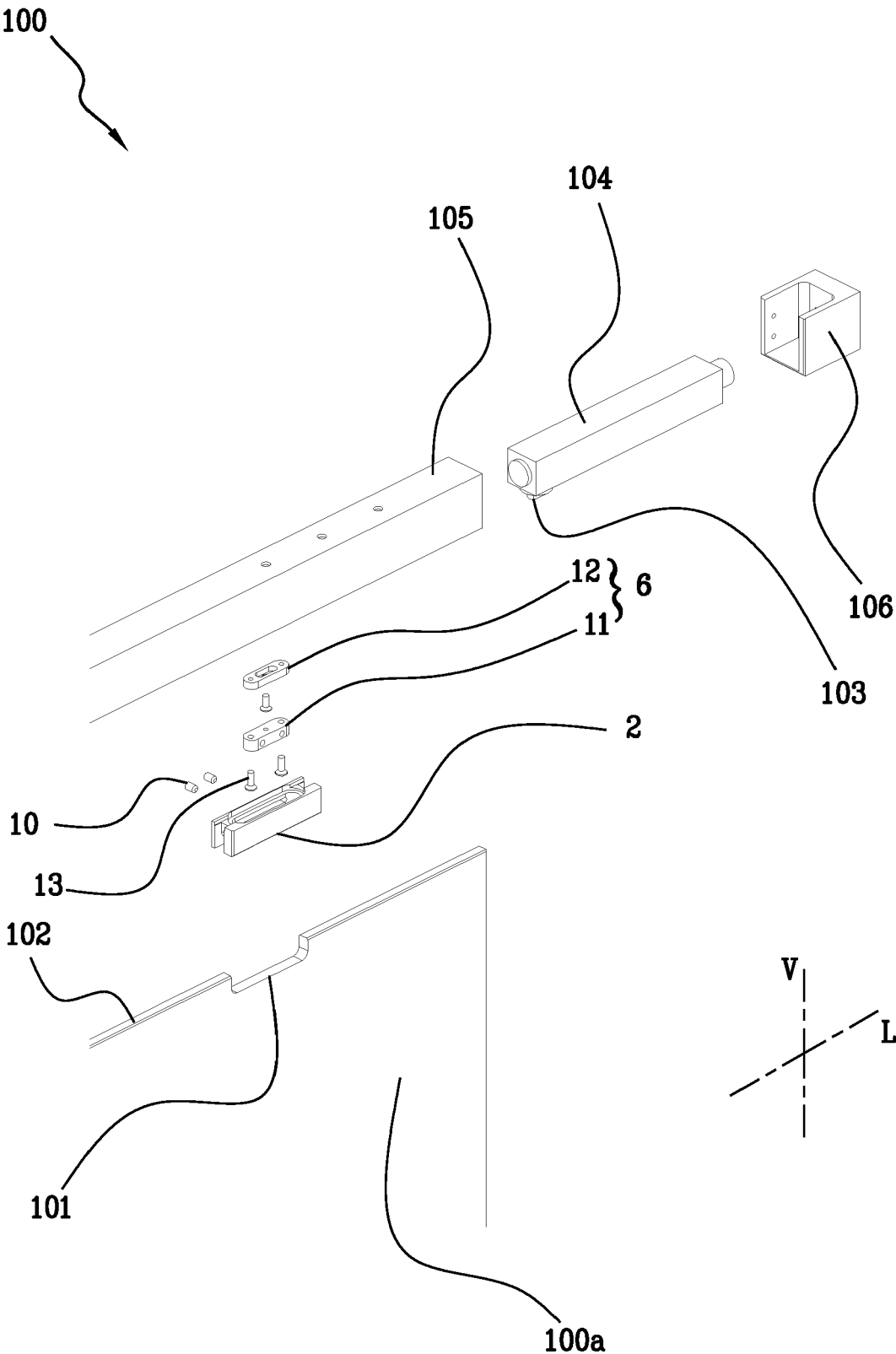


Fig.3

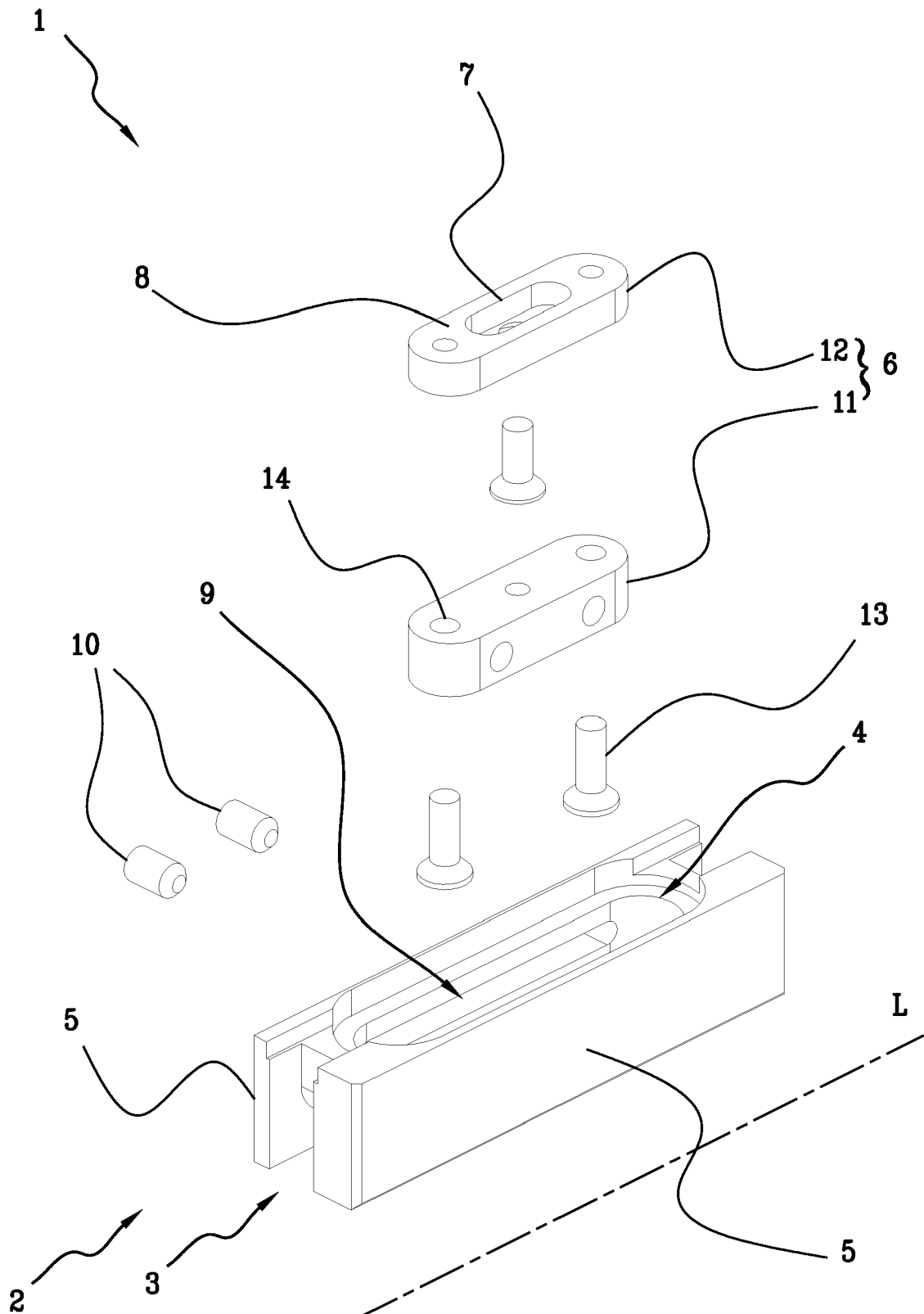


Fig.4

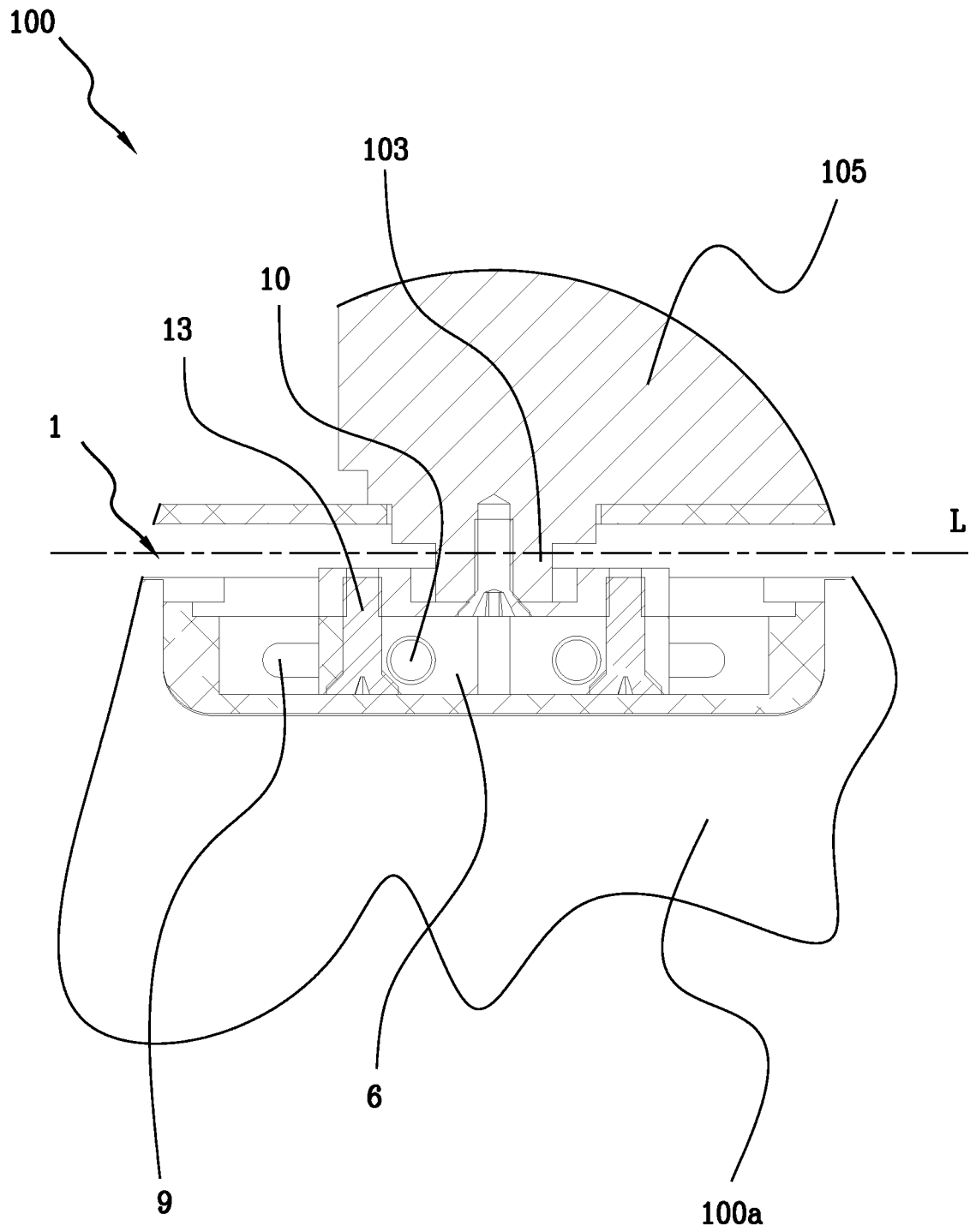


Fig.5A

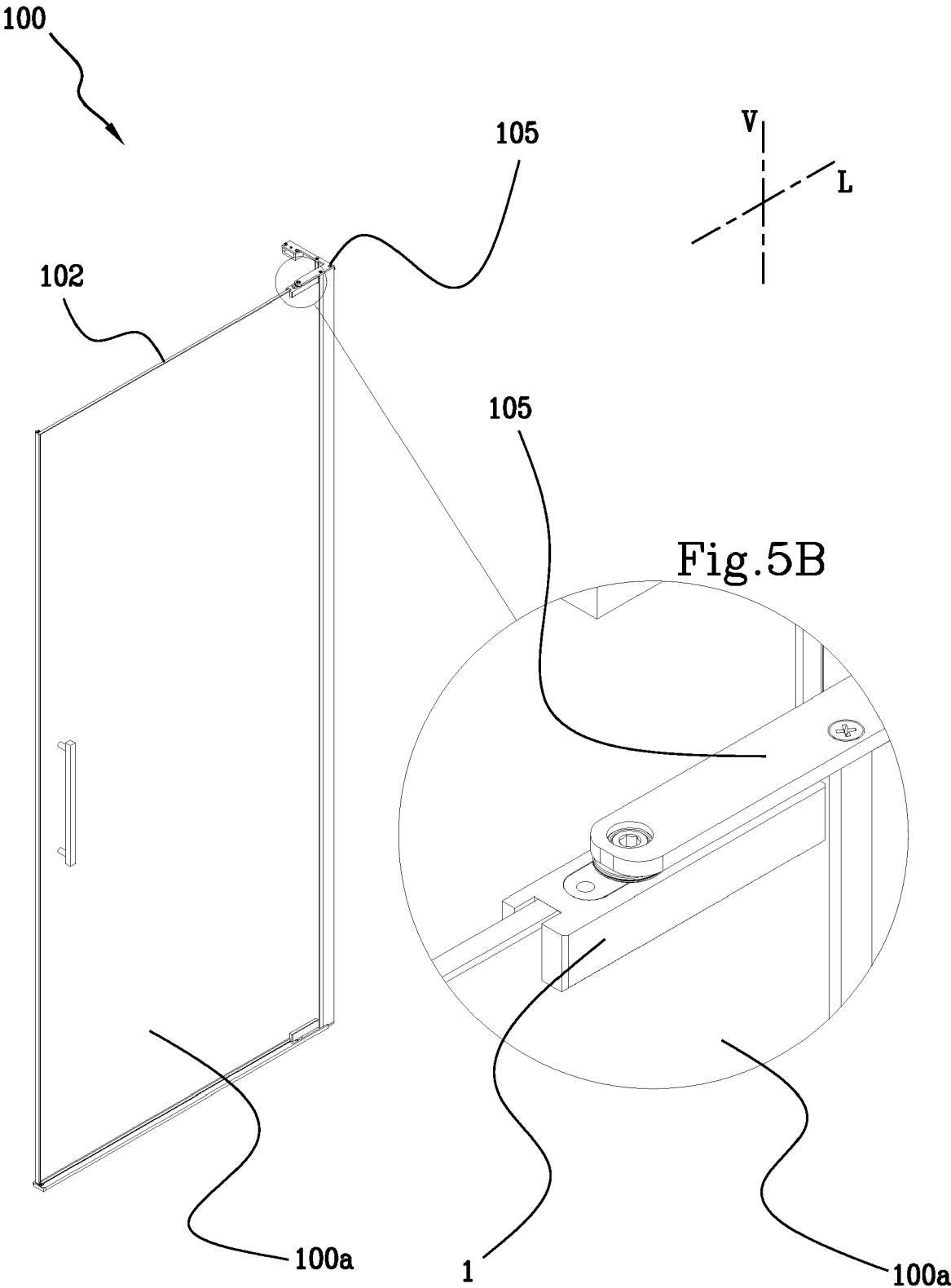


Fig.6

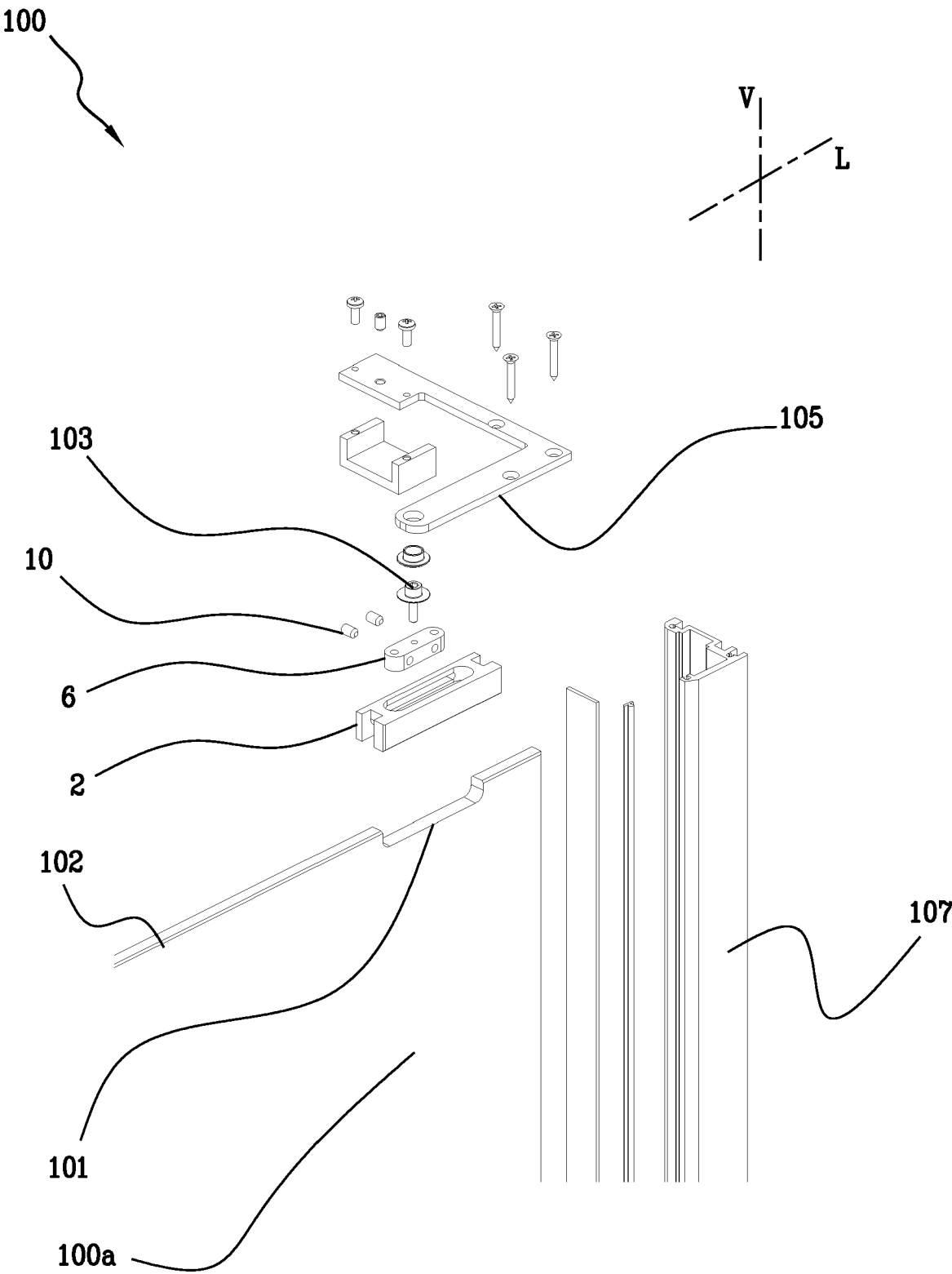


Fig.7

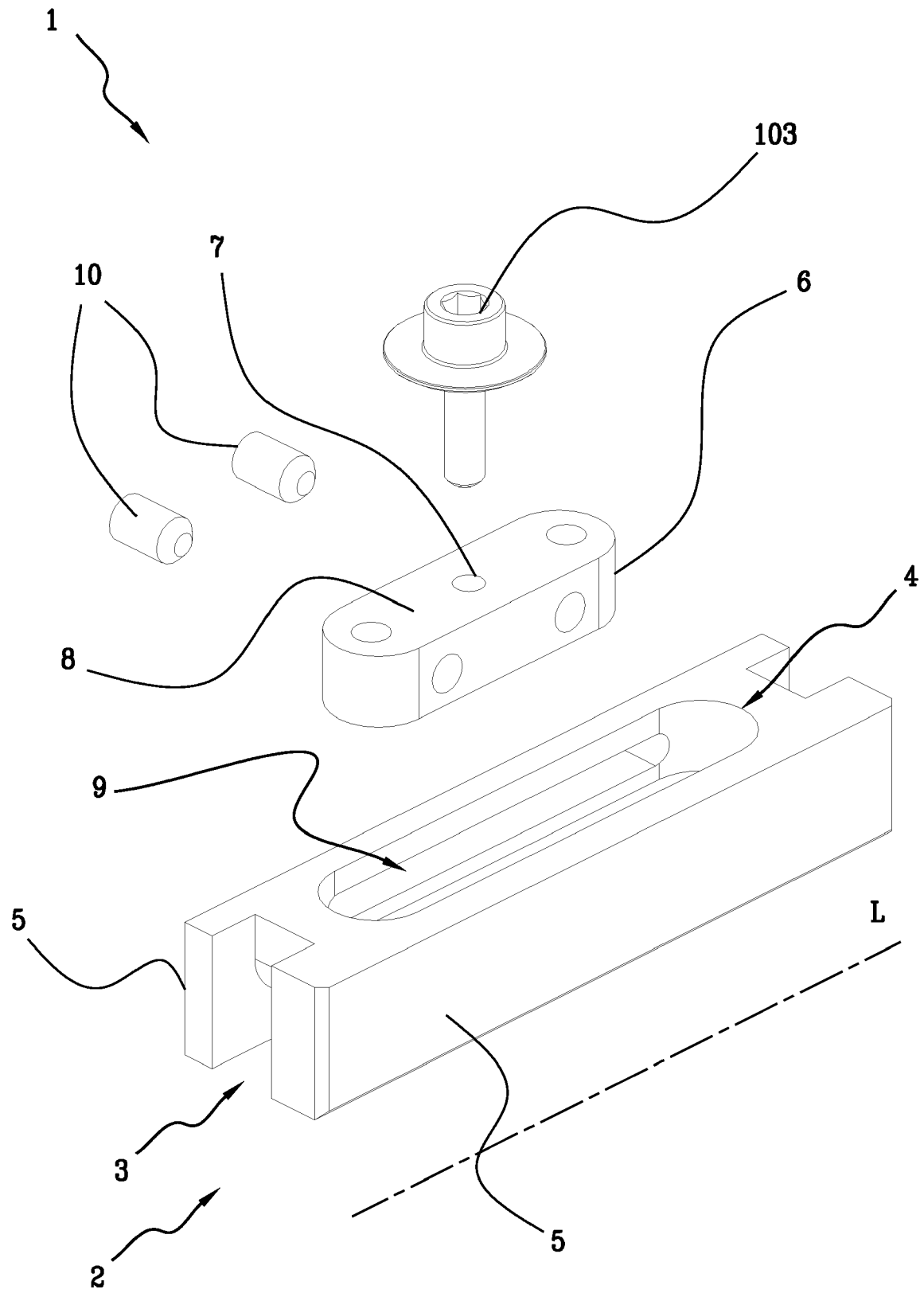
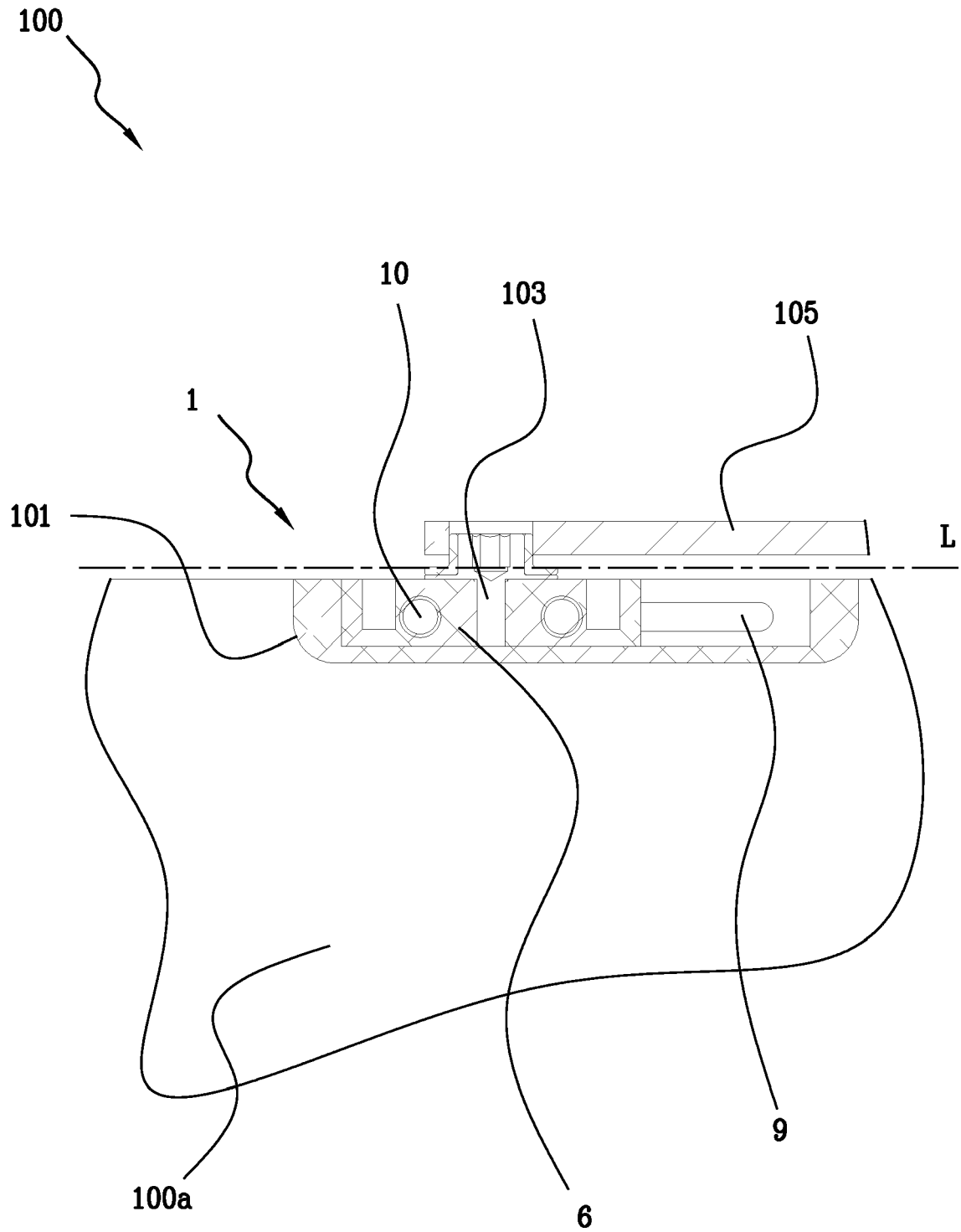


Fig.8





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