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(54) **HANDLE ASSEMBLY AND SHOWER ROOM**

(57) Provided are a handle assembly and a shower room. The handle assembly comprises: a handle; a first bending portion (11) provided at one end of the handle; a second bending portion (12) provided at the other end of the handle; a first recessed engagement portion (111) provided at the end of the first bending portion (11); a second recessed engagement portion (121) provided at the end of the second bending portion (12); a first positioning member (2) to be fixed to an object being installed; a first protruding engagement portion (21) provided at an end of the first positioning member; a second positioning member (3) to be fixed to the object being installed; and a second protruding engagement portion (31) provided at an end of the second positioning member. The first positioning member (2) is inserted into the first bending portion (11) and/or the second positioning member (3) is inserted into the second bending portion (12), the first recessed engagement portion (111) is engaged with the first protruding engagement portion (21), and the second recessed engagement portion (121) is engaged with the second protruding engagement portion (31), so as to fix the handle. The shower room comprises a door panel and the handle assembly. The door panel is the object

being installed. The handle assembly allows for easy and simple on-site installation and does not damage the door panel.

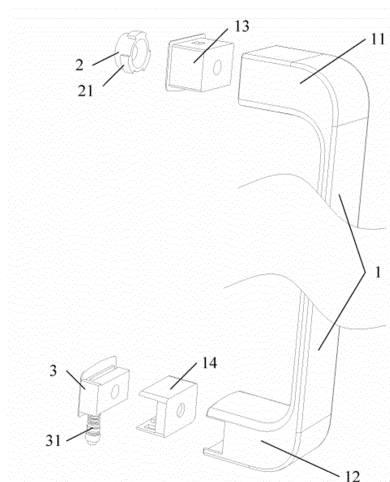


FIG. 1

Description

Technical Field

[0001] The present disclosure relates to, but is not limited to, the field of kitchen and sanitation technologies, in particular a handle assembly and a shower room.

Background

[0002] At present, shower rooms are all installed on the spot, and handles thereof are generally fixed to doors by screws, gaskets, etc. However, this way of fixing is complicated, and is also easy to damage the doors, especially glass doors which are easier to break, at the time of tightening the screws.

Summary

[0003] The following is a summary of the subject matter described in detail in the present disclosure. This summary is not intended to limit the protection scope of the claims.

[0004] The present disclosure provides a handle assembly including: a handle, having one end provided with a first bending portion and the other end provided with a second bending portion, an end portion of the first bending portion being provided with a first clamping portion, and an end portion of the second bending portion being provided with a second clamping portion; a first positioning member configured to be fixed on an installation member, an end portion of the first positioning member being provided with a first clamping mating portion; and a second positioning member configured to be fixed on the installation member, an end portion of the second positioning member being provided with a second clamping mating portion. The first positioning member extends into the first bending portion and/or the second positioning member extends into the second bending portion, and the first clamping portion is clamped on the first clamping mating portion and the second clamping portion is clamped on the second clamping mating portion, so as to realize fixing of the handle.

[0005] Optionally, the first clamping portion is a rotatable snap portion and the first clamping mating portion is a snap mating portion, the rotatable snap portion is rotationally clamped on the snap mating portion and the second positioning member is inserted into the second bending portion, and the second clamping portion is further clamped on the second clamping mating portion to position the second bending portion.

[0006] Optionally, the end portion of the second bending portion is formed with a slot with one side opened, the second clamping portion is a clamping hole provided on a side wall of the slot, the second clamping mating portion is an elastic member provided on a side surface of the second positioning member, the second positioning member is inserted into the slot, and the elastic mem-

ber is clamped into the clamping hole.

[0007] Optionally, the elastic member includes a spring and a clamping post, the clamping post includes an extending section and a pressing section, a side surface of the second positioning member facing away from the first positioning member is provided with an installation blind hole, and the clamping hole is arranged on a side wall of the slot facing away from the first bending portion. An end of the pressing section away from the extending section presses the spring in the installation blind hole, the extending section extends out of the installation blind hole and into the clamping hole, and an end of the pressing section adjacent to the extending section presses against an outer end surface of the clamping hole.

[0008] Optionally, an inner side surface of the slot is provided with a guide limiting rib, a side surface of the second positioning member is provided with a guide limiting groove, and the guide limiting rib is inserted into the guide limiting groove and guides the end portion of the second positioning member to be inserted into the slot from the opened end of the slot.

[0009] Optionally, the end portions of the first bending portion and the second bending portion are both provided with slots opened on the same side, the first clamping portion and the second clamping portion are located on inner side surfaces of the slots, the first clamping mating portion is located on a side surface of the first positioning member, and the second clamping mating portion is located on a side surface of the second positioning member. The first positioning member and the second positioning member are both inserted into the slots from the opened ends of the slots, and the first clamping portion and the second clamping portion are further correspondingly clamped on the first clamping mating portion and the second clamping mating portion.

[0010] Optionally, the first clamping portion and the second clamping portion are both clamping grooves, and the first clamping mating portion and the second clamping mating portion are both elastic protrusions.

[0011] Optionally, the first clamping portion and the second clamping portion are both elastic protrusions, and the first clamping mating portion and the second clamping mating portion are both clamping grooves.

[0012] Optionally, the slot is a T-shaped slot, the end portions of the first positioning member and the second positioning member each form a T-shaped tongue, and the T-shaped tongue is inserted into the T-shaped slot. A process notch for elastic deformation is provided at a side of the elastic protrusion.

[0013] Optionally, the handle includes: a handle body on which the first bending portion and the second bending portion are located; a first clamping member which is installed at the end portion of the first bending portion and on which the first clamping portion is located; and a second clamping member which is installed at the end portion of the second bending portion and on which the second clamping portion is located.

[0014] The present disclosure further provides a show-

er room including a door and the handle assembly according to any of the above embodiments, the installation member being the door.

[0015] According to the handle assembly provided by embodiments of the present disclosure, the first positioning member and the second positioning member are pre-installed on the installation member in advance, and during field installation, the handle is held and moved by a hand so that the first positioning member extends into the first bending portion and/or the second positioning member extends into the second bending portion, and after extending into place, the first clamping portion is clamped on the first clamping mating portion and the second clamping portion is clamped on the second clamping mating portion, thereby fixing the handle to the installation member. The on-site installation is simple and convenient, and will not damage the door, thus achieving better practicability.

[0016] Other features and advantages of the present disclosure will be set forth in the following description, and in part will become apparent from the description, or be learned by practice of the present disclosure. The objects and other advantages of the present disclosure may be realized and obtained by the structures particularly indicated in the description, claims and drawings.

Brief Description of Drawings

[0017] The accompanying drawings are used to provide a further understanding of the technical solutions of the present disclosure and form a part of the specification. Together with the embodiments of the present disclosure, they are used to explain the technical solutions of the present disclosure and do not constitute a limitation on the technical solutions of the present disclosure.

FIG. 1 is a schematic exploded structural view of a handle assembly according to an embodiment of the present disclosure.

FIG. 2 is a schematic exploded structural view of a first positioning member and a first clamping member in FIG. 1.

FIG. 3 is a schematic exploded structural view of a second positioning member and a second clamping member in FIG. 1.

FIGS. 4-6 are schematic structural views of the handle assembly shown in FIG. 1 during field assembly.

FIG. 7 is a schematic sectional structural view at the second bending portion in FIG. 6.

FIG. 8 is a schematic exploded structural view of a handle assembly according to another embodiment of the present disclosure.

FIG. 9 is a schematic exploded structural view of a first positioning member and a first clamping member in FIG. 8.

FIGS. 10-11 are schematic structural views of the handle assembly shown in FIG. 8 during field assembly.

FIG. 12 is a schematic sectional structural view at the first or second bending portion in FIG. 11.

FIG. 13 is a schematic exploded structural view of a further embodiment of the first positioning member and the first clamping member in the handle assembly shown in FIG. 8.

FIG. 14 is a schematic sectional structural view of the first positioning member and the first clamping member shown in FIG. 13 after they are assembled.

[0018] The corresponding relationship between reference signs and component names in FIGS. 1-14 is as follows:

1- handle body, 11- first bending portion, 111- first clamping portion, 12- second bending portion, 121- second clamping portion, 122- slot, 1221- guide limiting rib, 13- first clamping member, 14- second clamping member, 2- first positioning member, 21- first clamping mating portion, 3- second positioning member, 31- second clamping mating portion, 311- spring, 312- clamping post, 32- installation blind hole, 33- guide limiting groove, 4- process notch, 5- installation member.

Detailed Description

[0019] Embodiments of the present disclosure will be described below in detail with reference to the accompanying drawings. It should be noted that the embodiments in the present disclosure and features in the embodiments can be combined with each other arbitrarily if there is no conflict.

[0020] In the following description, many specific details are set forth in order to fully understand the present disclosure. However, the present disclosure can also be implemented in other ways different from those described here. Therefore, the protection scope of the present disclosure is not limited by the specific embodiments disclosed below.

[0021] As shown in FIG. 1 to FIG. 14, a handle assembly provided by an embodiment of the present disclosure includes: a handle, having one end provided with a first bending portion 11 and the other end provided with a second bending portion 12, an end portion of the first bending portion 11 being provided with a first clamping portion 111, and an end portion of the second bending portion 12 being provided with a second clamping portion

121; a first positioning member 2 configured to be fixed on an installation member 5, an end portion of the first positioning member being provided with a first clamping mating portion 21; and a second positioning member 3 configured to be fixed on the installation member 5, an end portion of the second positioning member being provided with a second clamping mating portion 31. The first positioning member 2 extends into the first bending portion 11 and/or the second positioning member 3 extends into the second bending portion 12, and the first clamping portion 111 is clamped on the first clamping mating portion 21 and the second clamping portion 121 is clamped on the second clamping mating portion 31, so as to realize fixing of the handle.

[0022] According to the handle assembly, the first positioning member 2 and the second positioning member 3 are pre-installed on the installation member 5 in advance (e.g., before leaving the factory), and during field installation, the handle is held and moved by a hand so that the first positioning member 2 extends into the first bending portion 11 and/or the second positioning member 3 extends into the second bending portion 12, and after extending into place, the first clamping portion 111 is exactly clamped on the first clamping mating portion 21 and the second clamping portion 121 is exactly clamped on the second clamping mating portion 31, thereby fixing the handle to the installation member 5. The on-site installation is simple and convenient, and will not damage a door, thus achieving better practicability.

[0023] In an exemplary embodiment of the present invention, the handle may be a separated member. As shown in FIG. 1, for example, the handle includes: a handle body 1 on which the first bending portion 11 and the second bending portion 12 are located; a first clamping member 13 which is installed at the end portion of the first bending portion 11 and on which the first clamping portion 111 is located; and a second clamping member 14 which is installed at the end portion of the second bending portion 12 and on which the second clamping portion 121 is located. The end portions of the first bending portion 11 and the second bending portion 12 may be provided with structures such as corresponding installation grooves. The handle may also be pre-installed before leaving the factory.

[0024] In an exemplary embodiment, as shown in FIG. 2 and FIG. 4 to FIG. 6, the first clamping portion 111 is a rotatable snap portion and the first clamping mating portion 21 is a snap mating portion. The rotatable snap portion is rotationally clamped on the snap mating portion (the snap mating portion is located within the rotatable snap portion). The second bending portion 12 rotates to cause the second positioning member 3 to be inserted into the second bending portion 12. After the second positioning member is inserted in place, the second clamping portion 121 is exactly clamped on the second clamping mating portion 31 to position the second bending portion 12 and prevent the second bending portion 12 from swinging reversely and causing the second positioning

member 3 to come off, thereby realizing fixing of the handle on the door, without use of the components such as screws and gaskets on site.

[0025] Alternatively, it is also possible that the first clamping portion 111 is a snap mating portion, the second clamping portion 121 is a rotatable snap portion, and after being assembled, the first clamping portion 111 extends into the first positioning member 2. This mode can also achieve the object of the present disclosure, with its purpose not departing from the design idea of the present disclosure, which will not be described in detail here, and should be within the protection scope of the present disclosure.

[0026] Further, as shown in FIG. 3, the end portion of the second bending portion 12 is formed with a slot 122 with one side open, the second clamping portion 121 is a clamping hole arranged in a lower side wall of the slot 122, the second clamping mating portion 31 is an elastic member arranged on a lower side surface of the second positioning member 3, and the second positioning member 3 is inserted into the slot 122. The clamping hole may be located on a side wall of the slot 122 facing the first bending portion 11 or located on a side wall of the slot 122 facing away from the first bending portion 11, so as to prevent the second bending portion 12 from disengaging from the second positioning member 3. Moreover, the second bending portion 12 and the second positioning member 3 can be separated by pressing the elastic member inwardly from an exposed end of the clamping hole to make the elastic member come out of the clamping hole, thus realizing the action of detaching the handle from the installation member 5.

[0027] In an exemplary embodiment, as shown in FIGS. 1, 3 and 7, the elastic member includes a spring 311 and a clamping post 312. The clamping post 312 includes an extending section and a pressing section. The diameter of the extending section is smaller than that of the clamping hole, and the diameter of the clamping hole is smaller than that of the pressing section. A side surface of the second positioning member 3 facing away from the first positioning member 2 is provided with an installation blind hole 32, and the clamping hole is arranged on a side wall of the slot 122 facing away from the first bending portion 11. An end of the pressing section away from the extending section presses the spring 311 in the installation blind hole 32, the extending section extends out of the installation blind hole 32 and into the clamping hole, and an end of the pressing section adjacent to the extending section presses against an outer end surface of the clamping hole. The second bending portion 12 and the second positioning member 3 can be released just by pressing the extending section towards the inside of the slot 122 from the clamping hole, and the second positioning member 3 can be come out of the slot 122 by further swinging the handle reversely, thereby realizing the removal of the handle.

[0028] In an exemplary embodiment, the extending section is provided with a transition slope, so that when

the slot and the first positioning member move relative to each other, the clamping post rises upwardly by an upward thrust at the beginning, and when the clamping hole moves to the position corresponding to the clamping post, the clamping post is further lowered under the action of the spring to extend into the clamping hole.

[0029] In an exemplary embodiment, as shown in FIG. 3, an inner side surface of the slot 122 is provided with a guide limiting rib 1221, and a side surface of the second positioning member 3 is provided with a guide limiting groove 33. The guide limiting rib 1221 is inserted into the guide limiting groove 33 and guides the end portion of the second positioning member 3 to be inserted into the slot 122 from the open end of the slot 122, and at the same time limits the degree of freedom of movement of the second bending portion 12 towards a side away from the installation member 5, so that the handle is more stable after being fixed.

[0030] The guide limiting rib 1221 may be located on a side wall of the slot 122 facing the first bending portion 11, located on a side wall of the slot 122 facing away from the first bending portion 11, or located on both the side wall of the slot 122 facing the first bending portion 11 and the side wall of the slot 122 facing away from the first bending portion 11. These modes all can achieve the object of the present disclosure, with the purpose not departing from the design idea of the present disclosure, which will not be further described in detail here, and should be within the protection scope of the present disclosure.

[0031] In an exemplary embodiment of the present invention, the handle may be a separated member. As shown in FIG. 8, for example, the handle includes: a handle body 1 on which a first bending portion 11 and a second bending portion 12 are located; a first clamping member 13 which is installed at the end portion of the first bending portion 11 and on which the first clamping portion 111 is located; and a second clamping member 14 which is installed at the end portion of the second bending portion 12 and on which the second clamping portion 121 is located. The end portions of the first bending portion 11 and the second bending portion 12 may be provided with structures such as corresponding installation grooves. The handle may also be pre-installed before leaving the factory. The first positioning member 2 and the second positioning member 3 have the same structure, and the first clamping member 13 and the second clamping member 14 have the same structure.

[0032] In another exemplary embodiment, as shown in FIG. 9 and FIG. 12 to FIG. 14, the end portions of the first bending portion 11 and the second bending portion 12 are each provided with a slot 122 opened on the same side. The first clamping portion 111 and the second clamping portion 121 are located on the inner side surfaces of the slots 122, the first clamping mating portion 21 is located on the side surface of the first positioning member 2, and the second clamping mating portion 31 is located on the side surface of the second positioning

member 3. As shown in FIG. 10 and FIG. 11, the end portion of the first positioning member 2 and the end portion of the second positioning member 3 are inserted into the slots 122 from the open ends of the slots 122 at the same time, and after they are inserted in place, the first clamping portion 111 and the second clamping portion 121 are just correspondingly clamped on the first clamping mating portion 21 and the second clamping mating portion 31.

[0033] The same side may be the upper side, or the lower side, or the left side, or the right side or the like of the door, and they all can achieve the object of the present disclosure, with the purpose not departing from the design idea of the present disclosure, which will not be further described in detail here and should be within the protection scope of the present disclosure. In this embodiment, the same side is set as the lower side.

[0034] Alternatively, as shown in FIG. 9 and FIG. 12, the first clamping portion 111 and the second clamping portion 121 are both clamping grooves, and the first clamping mating portion 21 and the second clamping mating portion 31 are both elastic protrusions. The slot 122 is configured as a T-shaped slot, and the end portions of the first positioning member 2 and the second positioning member 3 both form a T-shaped tongue. The T-shaped tongue is inserted into the T-shaped slot to limit the degree of freedom of movement of the handle towards a side away from the door. That is, the slot and the tongue cooperate to prevent the handle from moving outwardly relative to the side surface of the door. A process notch 4 for elastic deformation is provided at a side of the elastic protrusion, so that the elastic protrusion is of a cantilever structure, which is more conducive to elastic deformation.

[0035] Alternatively, as shown in FIG. 13 and FIG. 14, the first clamping portion 111 and the second clamping portion 121 are both elastic protrusions, and the first clamping mating portion 21 and the second clamping mating portion 31 are both clamping grooves. The slot 122 is configured as a T-shaped slot, and the end portions of the first positioning member 2 and the second positioning member 3 both form a T-shaped tongue. The T-shaped tongue is inserted into the T-shaped slot to limit the degree of freedom of movement of the handle towards a side away from the door. A process notch 4 for elastic deformation is provided at a side of the elastic protrusion, so that the elastic protrusion is of a cantilever structure, which is more conducive to elastic deformation.

[0036] For the convenience of detachment, the outer surface of the elastic protrusion and the inner surface of the clamping groove are both configured as cylindrical surfaces or spherical surfaces, so that the handle can be detached from the installation member 5 just by being pushed forcibly and reversely (i.e., being pushed upwardly).

[0037] In the above two exemplary embodiments, the assembly and disassembly of the handle and the installation member 5 are convenient and fast, and the handle

assembly has good universality, and the installation member 5 will not be damaged during the installation process. The installation member 5 may be a component such as a door or a drawer.

[0038] The shower room (not shown in the figures) provided by an embodiment of the present disclosure includes a door and the handle assembly according to any of the above embodiments, the installation member being the door.

[0039] The shower room provided by an embodiment of the present disclosure has all the advantages of the handle assembly described in any of the above embodiments, which will not be repeated here.

[0040] To sum up, in the handle assembly provided by an embodiment of the present disclosure, the first positioning member and the second positioning member are pre-installed on the installation member in advance, and during field installation, the handle is held and moved by a hand so that the first positioning member extends into the first bending portion and/or the second positioning member extends into the second bending portion, and after extending into place, the first clamping portion is clamped on the first clamping mating portion and the second clamping portion is clamped on the second clamping mating portion, thereby fixing the handle to the installation member. The on-site installation is simple and convenient, and will not damage the door, thus achieving better practicability.

[0041] In the description of the present disclosure, the terms "install", "connect", "link", "fix" and the like should be broadly interpreted, for example, "connect" may be fixed connection, detachable connection, or integral connection; and may be direct connection, or indirect connection through an intermediary. Those of ordinary skills in the art can understand the specific meanings of the above terms in the present disclosure according to specific situations.

[0042] In the description of this specification, the description with reference to the terms "an embodiment", "some embodiments", "specific embodiments" and the like means that a specific feature, structure, material, or characteristic described in connection with the embodiment or example is included in at least one embodiment or example of the present disclosure. In this specification, schematic illustration of the above terms is not necessarily directed to the same embodiment or example. Moreover, the specific features, structures, materials, or characteristics described may be combined in any one or more embodiments or examples in a proper way.

[0043] Although the embodiments disclosed in the present disclosure are described above, the described content is only the embodiments adopted for facilitating understanding of the present disclosure and is not intended to limit the present disclosure. Any person skilled in the art to which the present disclosure pertains may make any modifications and variations in the forms and details of implementation without departing from the spirit and scope of the present disclosure. Nevertheless, the

scope of patent protection of the present disclosure shall still be determined by the scope defined by the appended claims.

Claims

1. A handle assembly, comprising:

a handle, having one end provided with a first bending portion and the other end provided with a second bending portion, an end portion of the first bending portion being provided with a first clamping portion, and an end portion of the second bending portion being provided with a second clamping portion;
a first positioning member configured to be fixed on an installation member, an end portion of the first positioning member being provided with a first clamping mating portion; and
a second positioning member configured to be fixed on the installation member, an end portion of the second positioning member being provided with a second clamping mating portion;
wherein the first positioning member extends into the first bending portion and/or the second positioning member extends into the second bending portion, and the first clamping portion is clamped on the first clamping mating portion and the second clamping portion is clamped on the second clamping mating portion, so as to realize fixing of the handle.

2. The handle assembly according to claim 1, wherein the first clamping portion is a rotatable snap portion and the first clamping mating portion is a snap mating portion, the rotatable snap portion is rotationally clamped on the snap mating portion, such that the first positioning member is inserted into the first bending portion, and the second clamping portion is clamped on the second clamping mating portion to position the second bending portion.

3. The handle assembly according to claim 2, wherein the end portion of the second bending portion is formed with a slot with one side opened, the second clamping portion is a clamping hole provided on a side wall of the slot, the second clamping mating portion is an elastic member provided on a side surface of the second positioning member, the second positioning member is inserted into the slot, and the elastic member is clamped into the clamping hole.

4. The handle assembly according to claim 3, wherein the elastic member comprises a spring and a clamping post, the clamping post comprises an extending section and a pressing section, a side surface of the second positioning member facing away from the

first positioning member is provided with an installation blind hole, and the clamping hole is arranged on a side wall of the slot facing away from the first bending portion,

wherein an end of the pressing section away from the extending section presses the spring in the installation blind hole, the extending section extends out of the installation blind hole and into the clamping hole, and an end of the pressing section adjacent to the extending section presses against an outer end surface of the clamping hole.

5. The handle assembly according to claim 3, wherein an inner side surface of the slot is provided with a guide limiting rib, a side surface of the second positioning member is provided with a guide limiting groove, and the guide limiting rib is inserted into the guide limiting groove and guides the end portion of the second positioning member to be inserted into the slot from the opened end of the slot.

6. The handle assembly according to claim 1, wherein the end portions of the first bending portion and the second bending portion are each provided with a slot opened on the same side, the first clamping portion and the second clamping portion are located on inner side surfaces of the slots, the first clamping mating portion is located on a side surface of the first positioning member, and the second clamping mating portion is located on a side surface of the second positioning member, wherein the first positioning member and the second positioning member are both inserted into the slots from the opened ends of the slots, and the first clamping portion and the second clamping portion are further correspondingly clamped on the first clamping mating portion and the second clamping mating portion.

7. The handle assembly according to claim 6, wherein the first clamping portion and the second clamping portion are both clamping grooves, and the first clamping mating portion and the second clamping mating portion are both elastic protrusions; or the first clamping portion and the second clamping portion are both elastic protrusions, and the first clamping mating portion and the second clamping mating portion are both clamping grooves.

8. The handle assembly according to claim 7, wherein the slot is a T-shaped slot, the end portions of the first positioning member and the second positioning member each form a T-shaped tongue, and the T-shaped tongue is inserted into the T-shaped slot, wherein a process notch for elastic deformation is provided at a side of the elastic protrusion.

9. The handle assembly according to any one of claims

1-8, wherein the handle comprises:

a handle body on which the first bending portion and the second bending portion are located; and a first clamping member which is installed at the end portion of the first bending portion and on which the first clamping portion is located; and a second clamping member which is installed at the end portion of the second bending portion and on which the second clamping portion is located.

10. A shower room, comprising a door and the handle assembly according to any one of claims 1-9, wherein the installation member is the door.

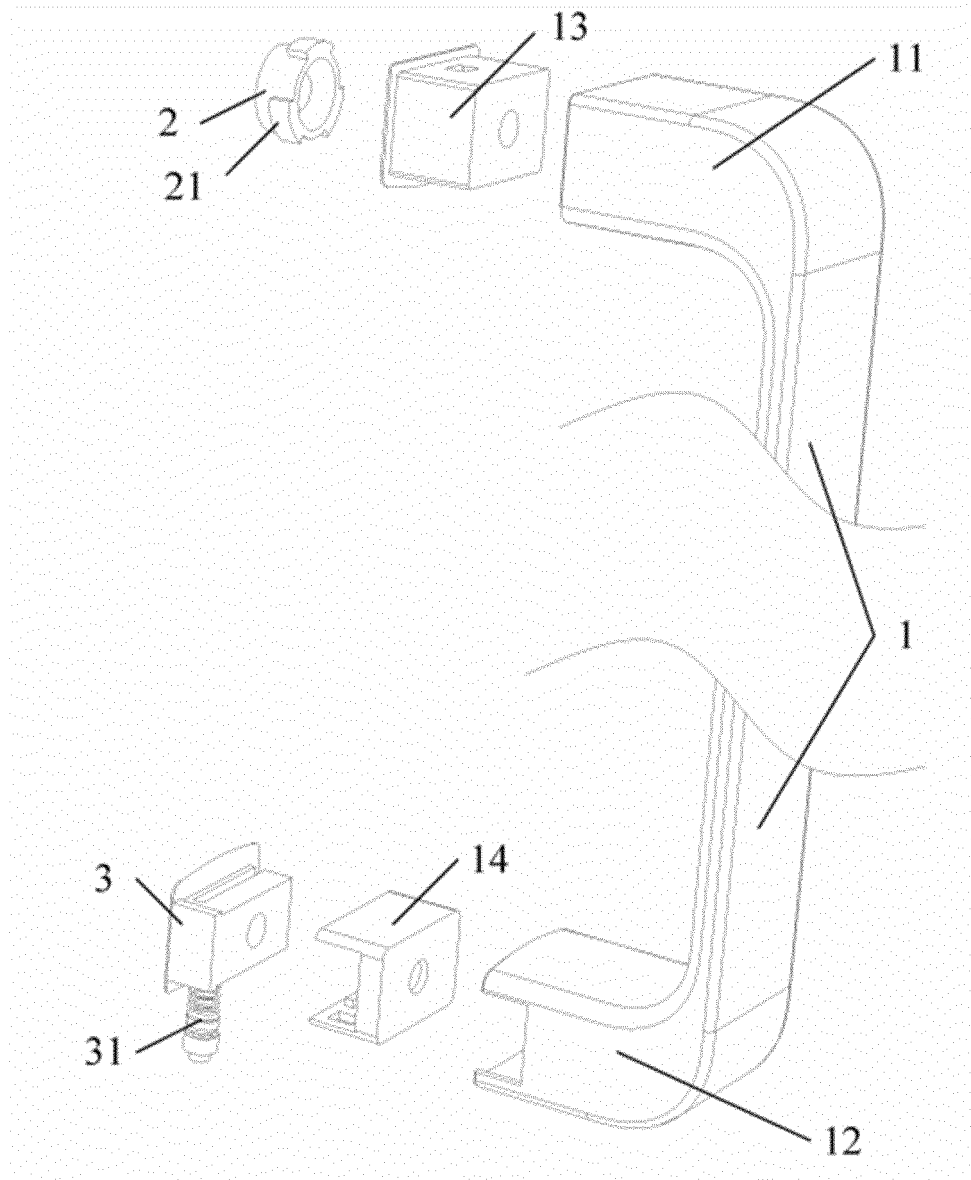


FIG. 1

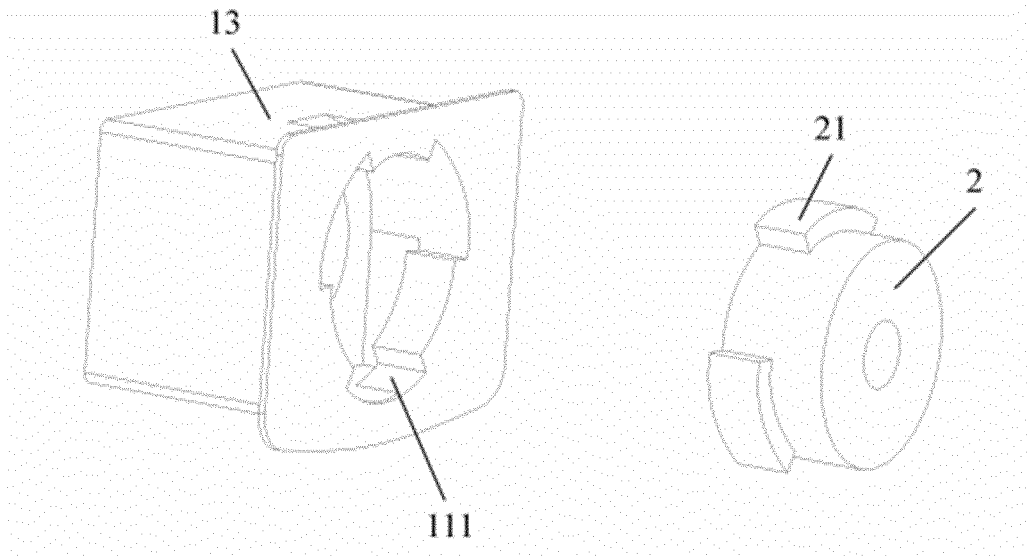


FIG. 2

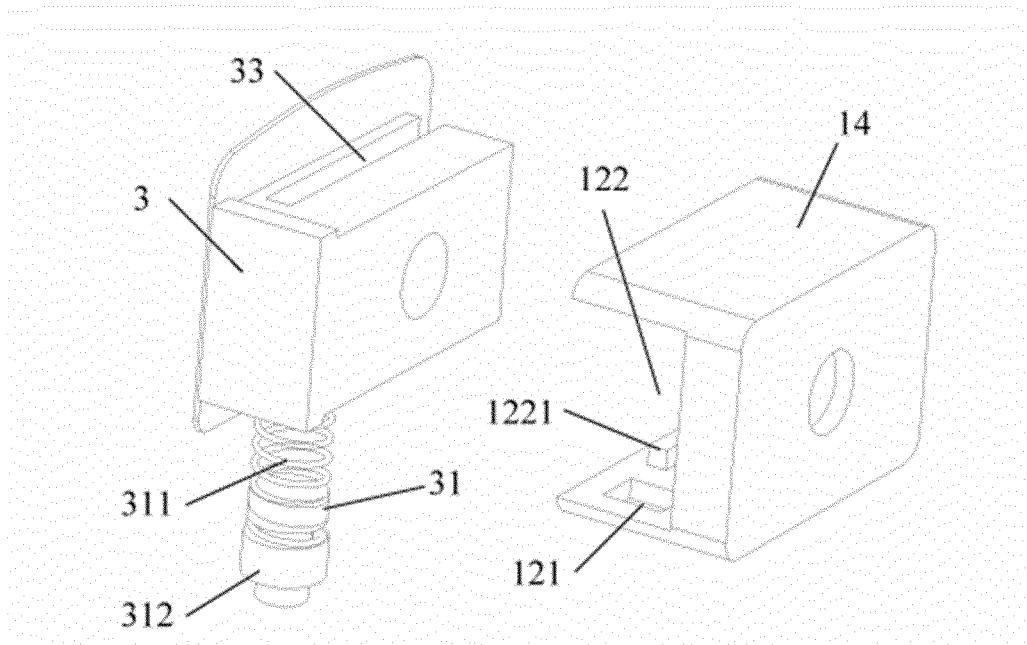


FIG. 3

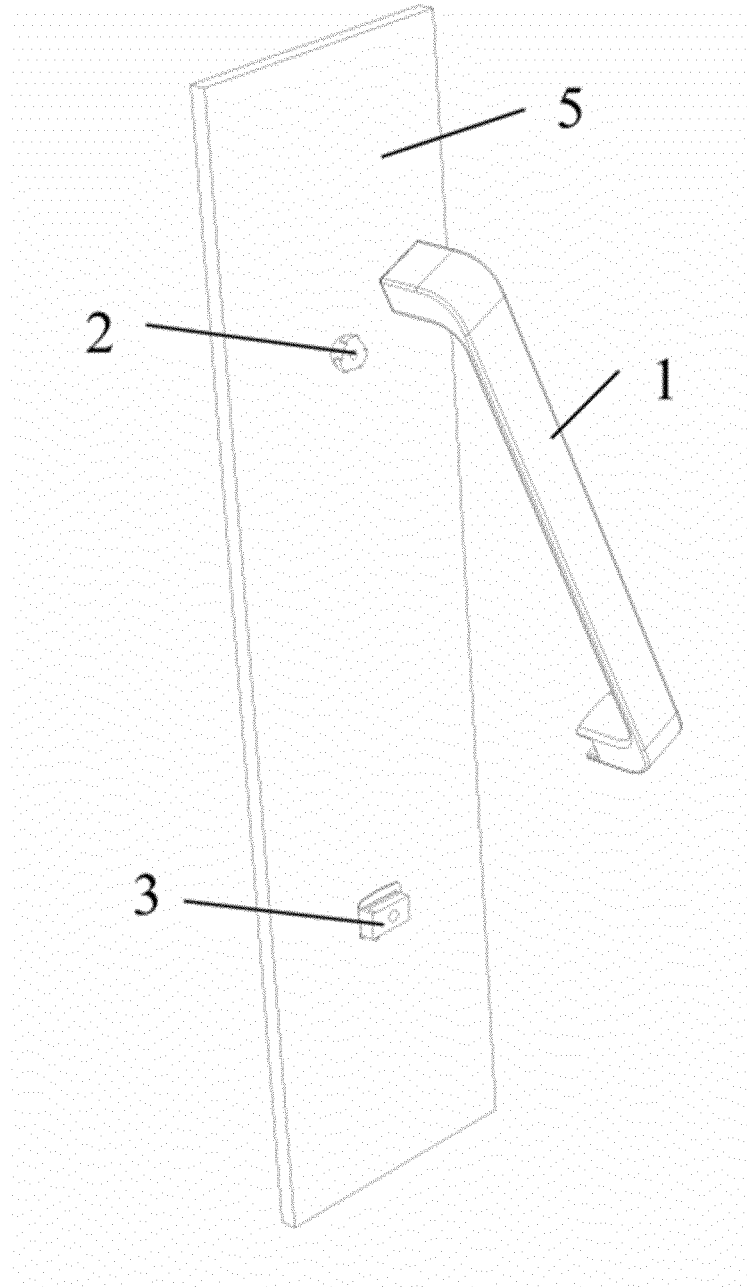


FIG. 4

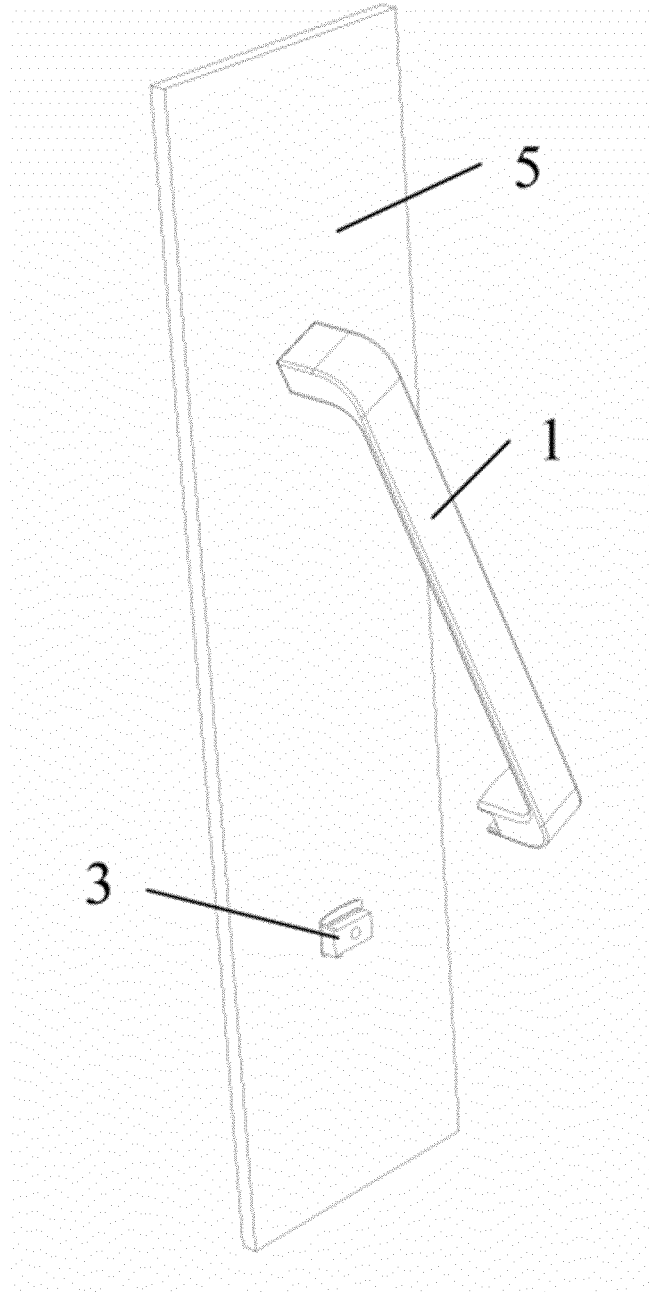


FIG. 5

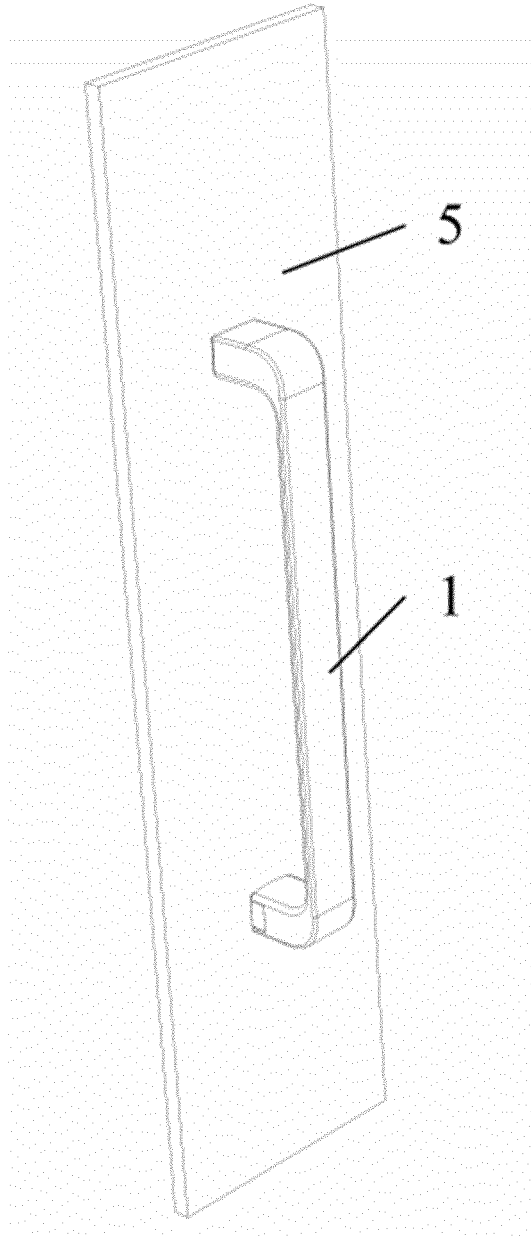


FIG. 6

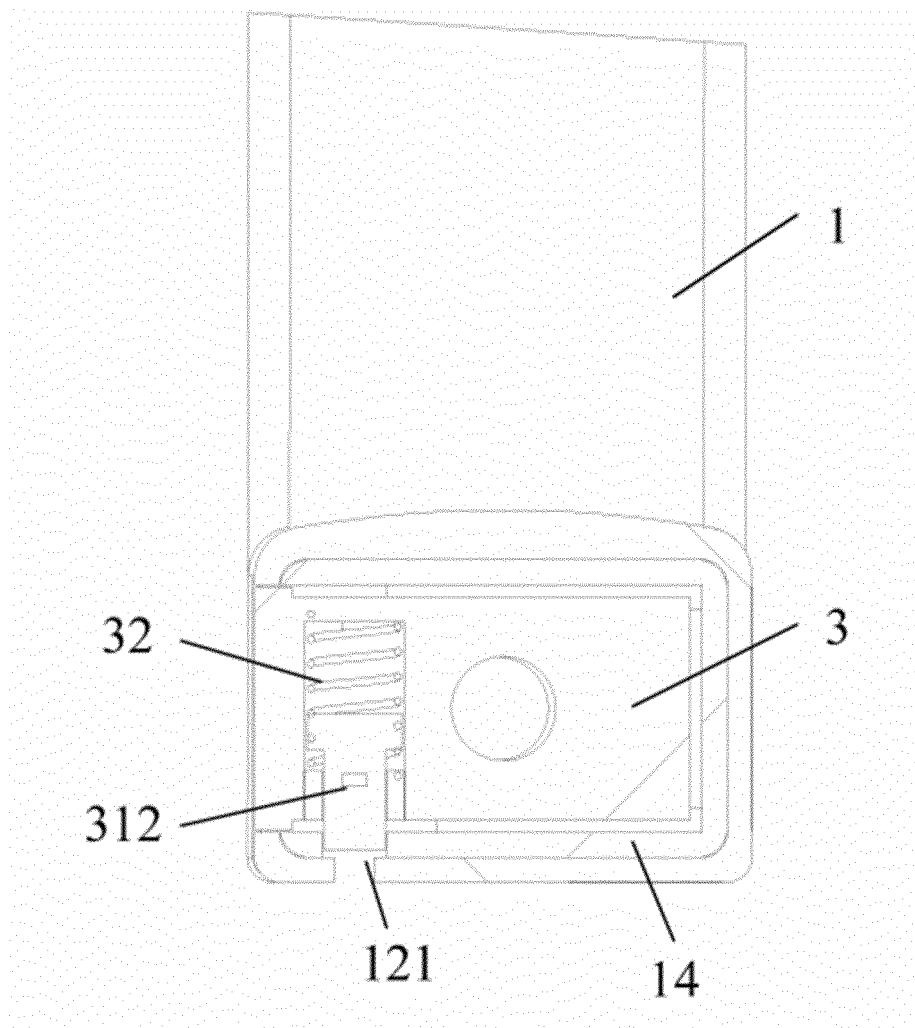


FIG. 7

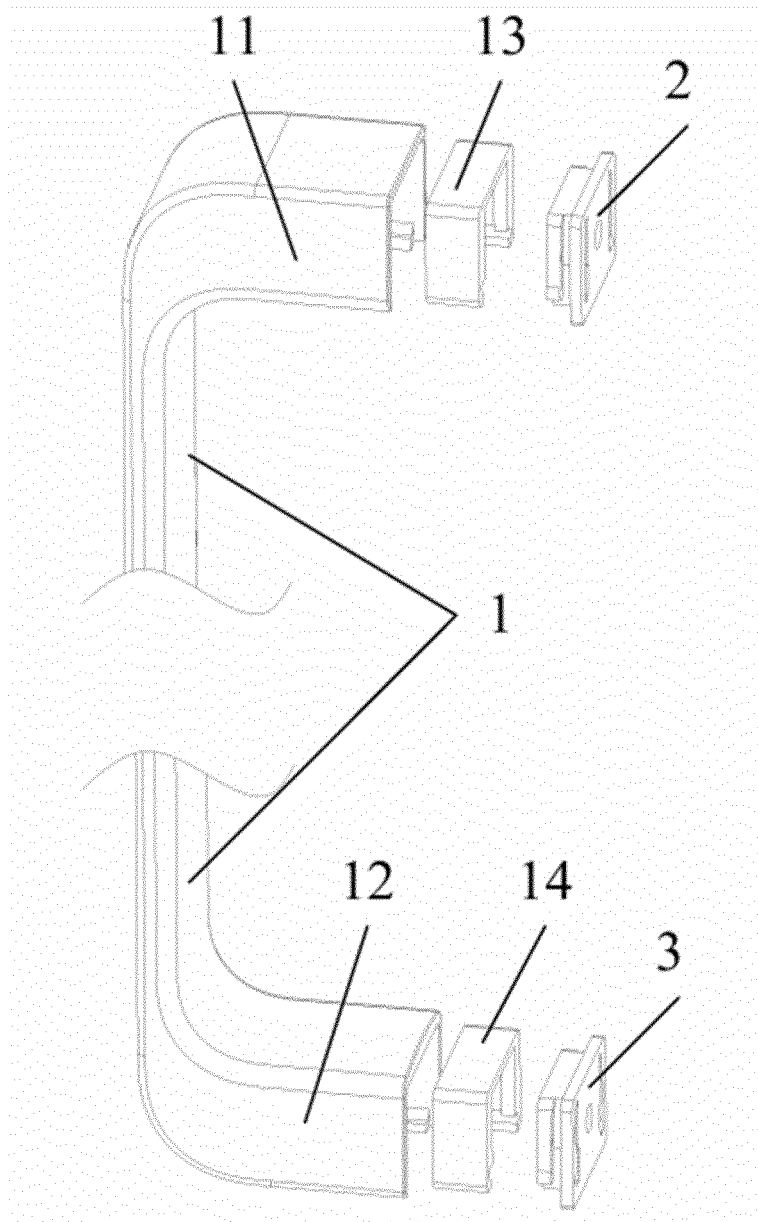


FIG. 8

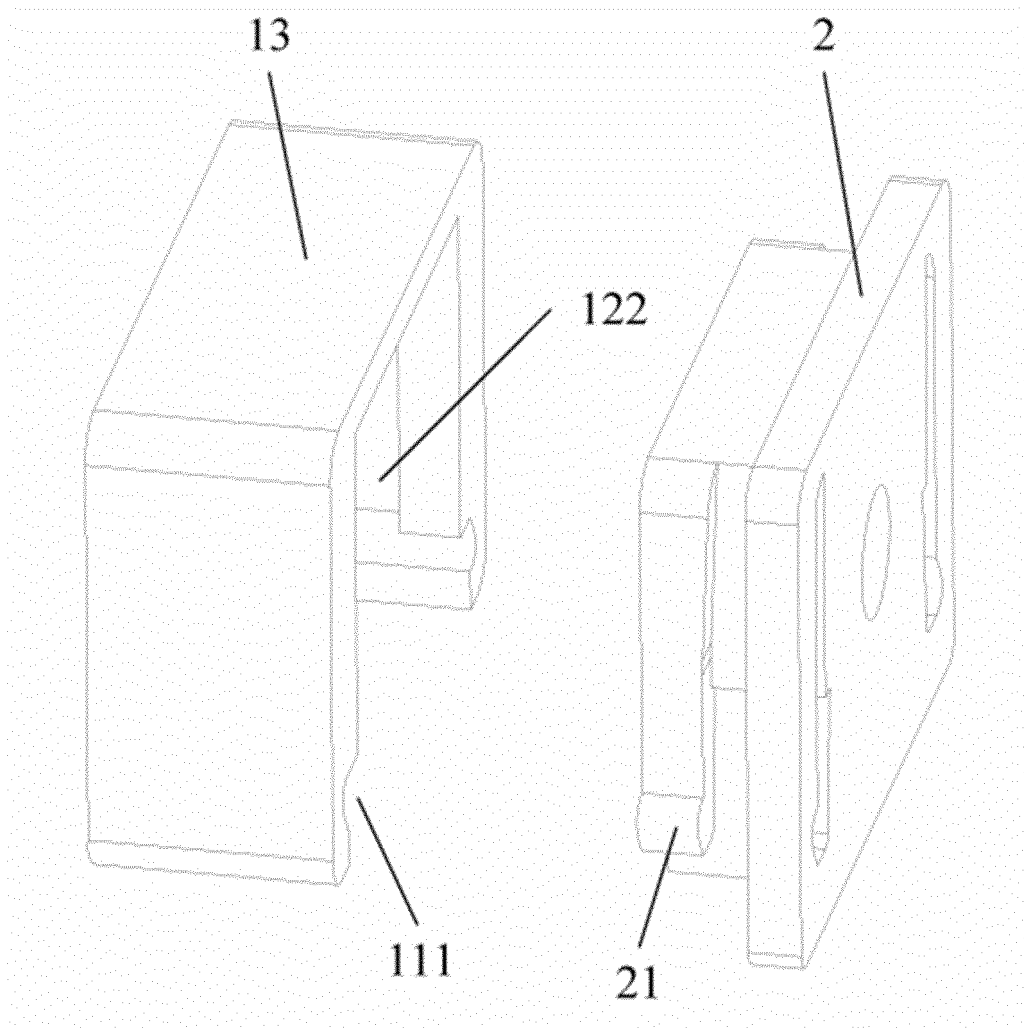


FIG. 9

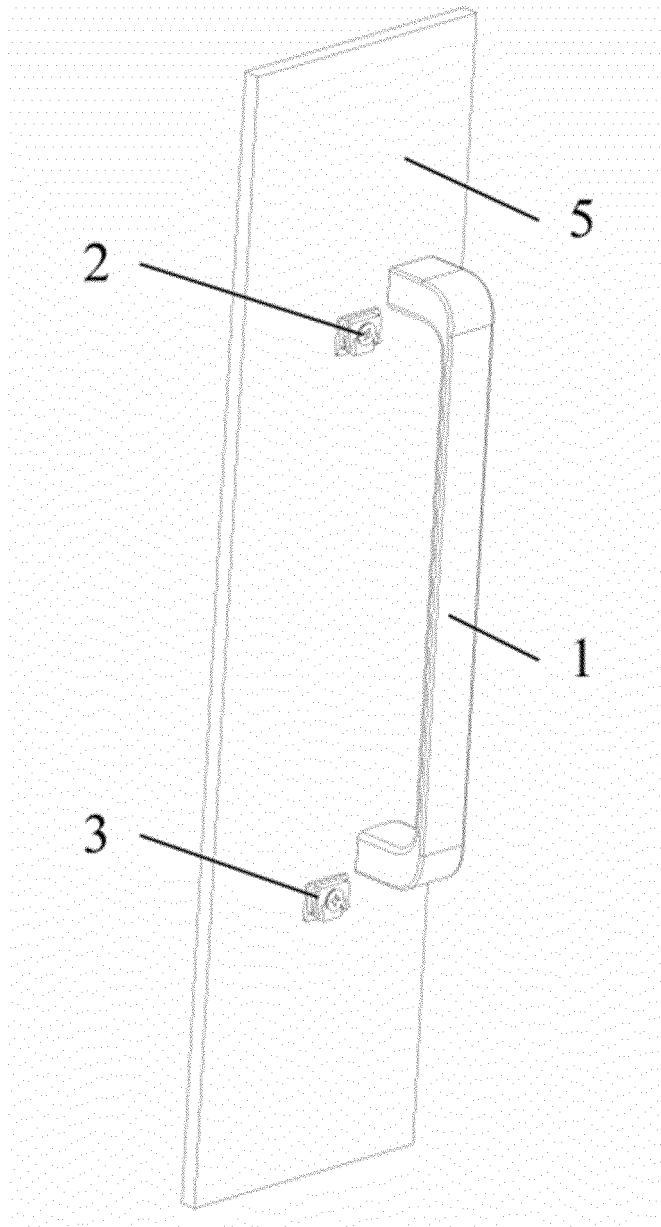


FIG. 10

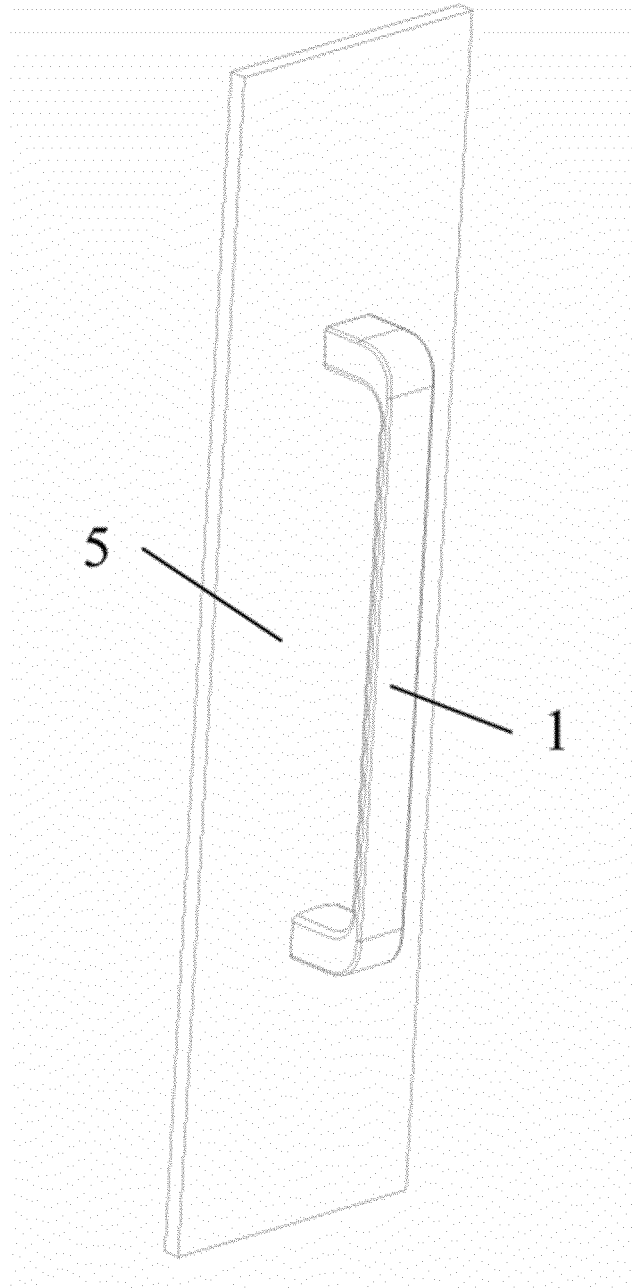


FIG. 11

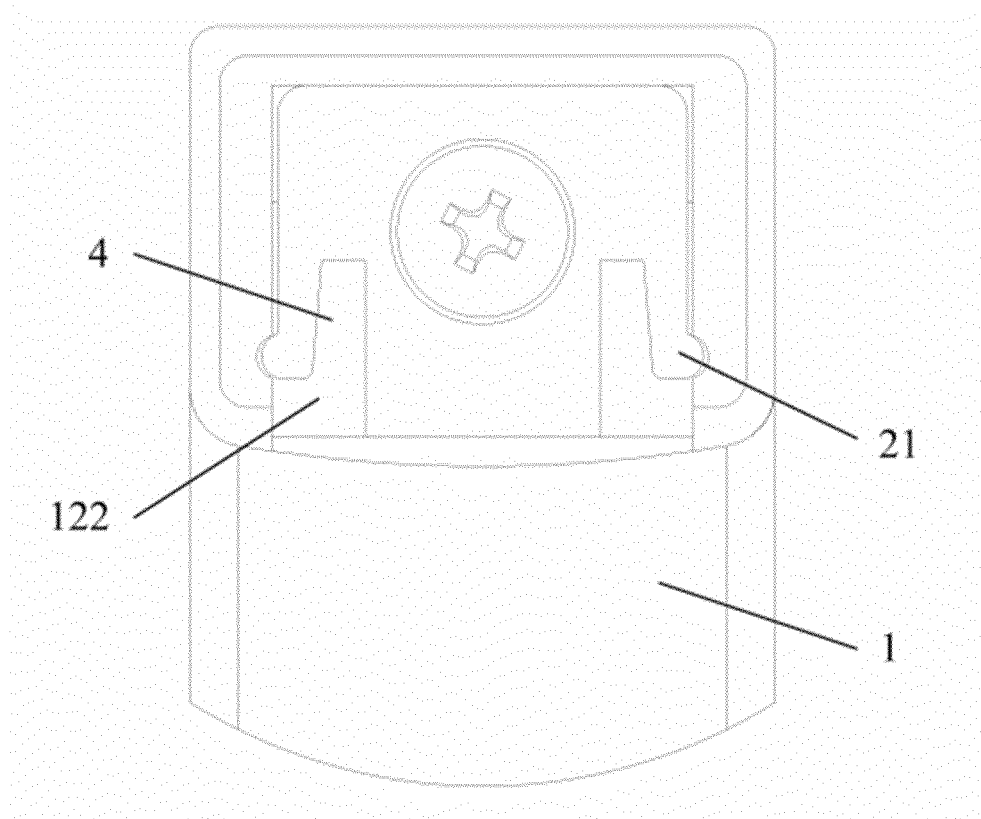


FIG. 12

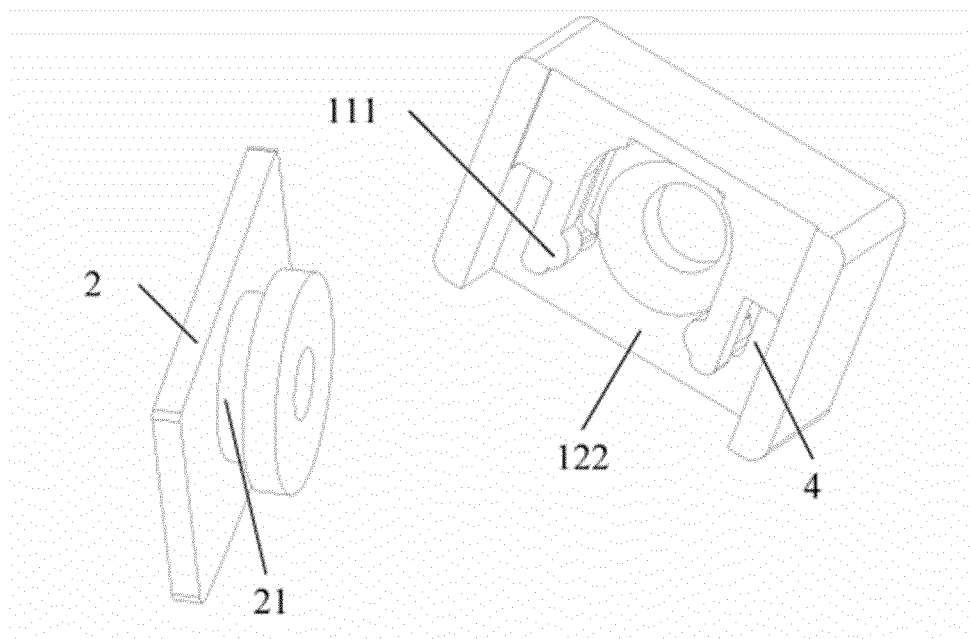


FIG. 13

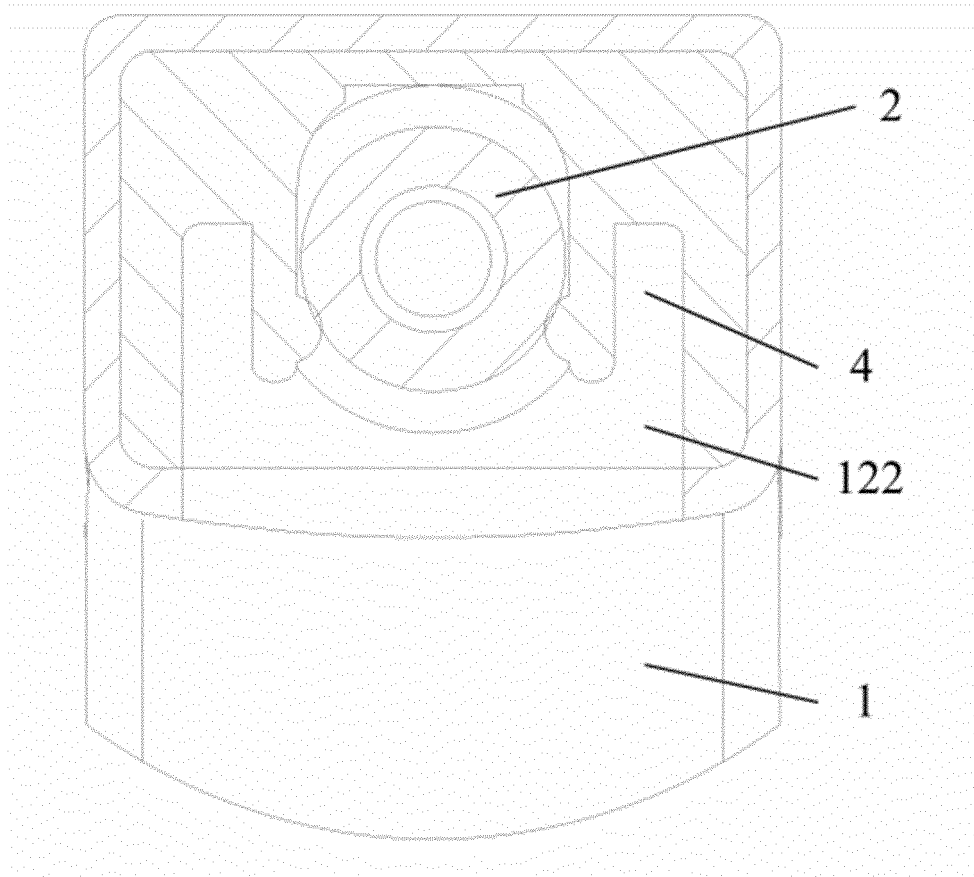


FIG. 14

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2019/089038

A. CLASSIFICATION OF SUBJECT MATTER E05B 1/00(2006.01)i According to International Patent Classification (IPC) or to both national classification and IPC																								
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) E05B Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched																								
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) CNABS, VEN, CNKI: 拉手, 把手, 卡接, 卡孔, 插槽, 弹性件, 弹簧, 固定, 定位, gripe, handle, knob, block, clip, hole, trough, groove, slot, spring+, elastic, flex+, fix+, anchor																								
C. DOCUMENTS CONSIDERED TO BE RELEVANT <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>CN 107675940 A (CHONGQING HUAWANLUN ELECTRICAL APPLIANCE CO., LTD.) 09 February 2018 (2018-02-09) description, paragraphs 10-11, and figures 1-2</td> <td>1-2, 6-10</td> </tr> <tr> <td>X</td> <td>CN 2409277 Y (HONG, Fangxing) 06 December 2000 (2000-12-06) description, page 2, line 10 to page 3, line 12, and figures 1-8</td> <td>1-2, 6-10</td> </tr> <tr> <td>A</td> <td>CN 105201280 A (CENTER INTERNATIONAL GROUP COMPANY LIMITED) 30 December 2015 (2015-12-30) entire document</td> <td>1-10</td> </tr> <tr> <td>A</td> <td>CN 202520069 U (ZHANG, Shaoming) 07 November 2012 (2012-11-07) entire document</td> <td>1-10</td> </tr> <tr> <td>A</td> <td>JP H09144395 A (HOKUMEI KK) 03 June 1997 (1997-06-03) entire document</td> <td>1-10</td> </tr> <tr> <td>A</td> <td>KR 2010007440 A (KIM, M.H.) 22 January 2010 (2010-01-22) entire document</td> <td>1-10</td> </tr> <tr> <td>A</td> <td>US 2013206054 A1 (VICENTE, J.) 15 August 2013 (2013-08-15) entire document</td> <td>1-10</td> </tr> </tbody> </table>	Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	CN 107675940 A (CHONGQING HUAWANLUN ELECTRICAL APPLIANCE CO., LTD.) 09 February 2018 (2018-02-09) description, paragraphs 10-11, and figures 1-2	1-2, 6-10	X	CN 2409277 Y (HONG, Fangxing) 06 December 2000 (2000-12-06) description, page 2, line 10 to page 3, line 12, and figures 1-8	1-2, 6-10	A	CN 105201280 A (CENTER INTERNATIONAL GROUP COMPANY LIMITED) 30 December 2015 (2015-12-30) entire document	1-10	A	CN 202520069 U (ZHANG, Shaoming) 07 November 2012 (2012-11-07) entire document	1-10	A	JP H09144395 A (HOKUMEI KK) 03 June 1997 (1997-06-03) entire document	1-10	A	KR 2010007440 A (KIM, M.H.) 22 January 2010 (2010-01-22) entire document	1-10	A	US 2013206054 A1 (VICENTE, J.) 15 August 2013 (2013-08-15) entire document	1-10
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Information on patent family members

International application No.

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Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
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