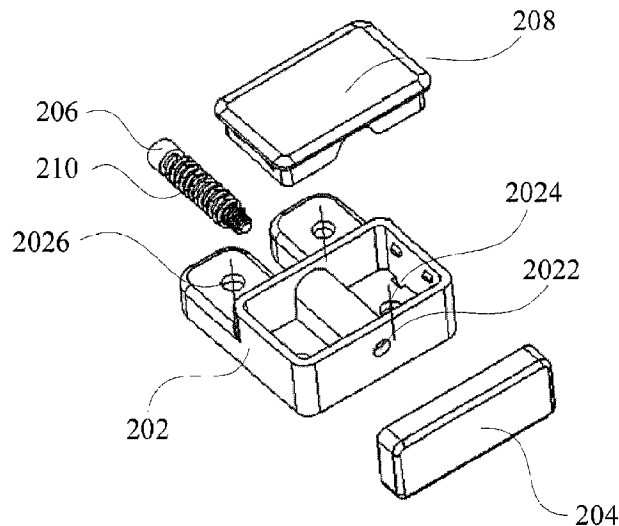




(86) **Date de dépôt PCT/PCT Filing Date:** 2017/02/28
(87) **Date publication PCT/PCT Publication Date:** 2018/04/26
(45) **Date de délivrance/Issue Date:** 2020/09/08
(85) **Entrée phase nationale/National Entry:** 2019/02/05
(86) **N° demande PCT/PCT Application No.:** CN 2017/075258
(87) **N° publication PCT/PCT Publication No.:** 2018/072372
(30) **Priorité/Priority:** 2016/10/20 (CN201621144328.1)

(51) **Cl.Int./Int.Cl. F25D 23/00** (2006.01),
A47B 77/08 (2006.01)
(72) **Inventeur/Inventor:**
YUAN, JINGUO, CN
(73) **Propriétaires/Owners:**
HEFEI HUALING CO., LTD., CN;
HEFEI MIDEA REFRIGERATOR CO., LTD., CN;
MIDEA GROUP CO., LTD., CN
(74) **Agent:** BERESKIN & PARR LLP/S.E.N.C.R.L., S.R.L.

(54) **Titre : STRUCTURE DE MONTAGE ET APPAREIL ELECTROMENAGER**
(54) **Title: MOUNTING STRUCTURE AND HOUSEHOLD APPLIANCE**



(57) **Abrégé/Abstract:**

A mounting structure for a household appliance comprises a base (202), a first fastener (206), and a position-limiting block (204). A through hole (2022) is arranged at a side wall of the base (202). The position-limiting block (204) is movably connected to the base (202) by means of the first fastener (206). The first fastener (206) partially passes through the through hole (2022) to connect to the position-limiting block (204). The position-limiting block (204) is rotatable around an axis of the first fastener (206), and is movable along an axial direction of the first fastener (206). After rotation, the position-limiting block (204) at least partially protrudes from a bottom surface of the base (204).

ABSTRACT

A mounting structure for a household appliance comprises a base (202), a first fastener (206), and a position-limiting block (204). A through hole (2022) is arranged at a side wall of the base (202). The position-limiting block (204) is movably connected to the base (202) by means of the first fastener (206). The first fastener (206) partially passes through the through hole (2022) to connect to the position-limiting block (204). The position-limiting block (204) is rotatable around an axis of the first fastener (206), and is movable along an axial direction of the first fastener (206). After rotation of the position-limiting block, the position-limiting block (204) at least partially protrudes from a bottom surface of the base (204).

MOUNTING STRUCTURE AND HOUSEHOLD APPLIANCE

TECHNICAL FIELD

The present disclosure relates to the technical field of household appliances, and particularly to a mounting structure and a household appliance.

BACKGROUND

At present, in the related art, as shown in Fig. 1 to Fig. 4, the mounting structure 104' of a household appliance merely serves the function of supporting and fixing the household appliance. When it is necessary to install a household appliance in a positioned manner and there are high requirements upon the precision of position, the installer needs to make repeated measurements and trials for the installation position, which leads to high installation difficulty and is also time-consuming and laborious.

As shown in Fig. 1 and Fig. 2, the door body of a cabinet refrigerator 10' is connected to the door of the cabinet by means of a slide rail or a special hinge. When the cabinet door 20' is opened, the refrigerator door 102' is opened simultaneously, and when the cabinet door 20' is closed, the refrigerator door 102' is closed simultaneously. When the refrigerator of this kind is placed into a cabinet, there is a strict requirement on the pushed-in depth thereof. If the actual installation size is greatly different from the theoretical value, there will occur the case where the cabinet door 20' is closed in place, but the refrigerator door 102' is not closed properly, or the case where the refrigerator door 102' is closed in place, but the cabinet door

20' is not closed properly. Therefore, during the practical installation process, it is necessary for the installer to repeatedly measure the distance in the depth direction between the refrigerator and the cabinet body in the process of pushing the refrigerator into the cabinet, so as to ensure that the installation size is correct. Such operation mode is time-consuming and laborious. It is difficult for a single person to implement such operation mode.

SUMMARY

The present disclosure is intended to solve at least one of the technical problems existing in the prior art or in the related art.

To this end, a first object of the present disclosure is to propose a mounting structure.

A second object of the present disclosure is to propose a household appliance.

In view of this, according to the first object of the present disclosure, the present disclosure provides a mounting structure, comprising a base, a first fastener and a position-limiting block; a through hole being arranged at a side wall of the base; the position-limiting block being movably connected to the base by means of the first fastener and the first fastener partially passing through the through hole to connect to the position-limiting block; wherein the position-limiting block is rotatable around an axis of the first fastener and is movable along an axial direction of the first fastener; and after rotation of the position-limiting block, the position-limiting block at least partially protrudes from a bottom surface of the base.

For the mounting structure provided by the present disclosure, by providing a position-limiting block, a household appliance is endowed with a positioning function in the installation process. In the installation process of a household appliance, the installer can accurately determine the installation position of the household appliance merely by performing positioning with the position-limiting block, which spares the installer from manual measurement and repeated adjustment. The installation is convenient and efficient. It

saves time and labor, which effectively reduces the work difficulty and work intensity of the installer.

In addition, the mounting structure in the above technical solution provided by the present disclosure may also have the following additional technical features:

In the technical solution described above, preferably, the bottom of a wall of the base connected with the position-limiting block is provided with a first installation hole at the end provided with the through hole and by passing a second fastener through the first installation hole, the base is fixedly connected to a fixed body that needs to be fixed to the household appliance, so as to fix the base.

In this technical solution, the mounting structure is fixed by passing the second fastener through the first installation hole. The installation is convenient and efficient. The connection strength is high and the connection is firm, which effectively prevents the household appliance from being moved by an external force.

In the technical solution described above, preferably, an installation platform is provided at the bottom of the base, the installation platform is provided with a second installation hole and the base is connected to the household appliance by passing a third fastener through the second installation hole.

In this technical solution, the mounting structure is connected to the household appliance by means of the third fastener, which is simple and firm, facilitating the fitting of the mounting structure.

In the technical solution described above, preferably, there are two first installation holes, located on two sides of the through hole, respectively.

In this technical solution, the number of first installation holes is two, so that the mounting structure is uniformly stressed and the installation is completed firmly.

In the technical solution described above, preferably, the base is provided with a downwardly recessed groove in which the first installation hole is located.

In this technical solution, by providing the first installation hole in the groove, it is ensured that the fastener is entirely embedded in the groove, effectively preventing the user or an article from being scratched by the fastener to cause injuries and loss.

In the technical solution described above, preferably, the mounting structure further comprises a foot cover plate which is fastened to the groove for opening or closing the groove.

In this technical solution, by fastening the foot cover plate to the groove to hide the fastener in the groove, the mounting structure has a clean and tidy appearance, which ensures the overall aesthetics of the household appliance and effectively improves the user experience.

In the technical solution described above, preferably, the foot cover plate and the base are connected by snap fit.

In this technical solution, the foot cover plate and the base are connected by snap fit. The installation mode is simple and convenient, which facilitates installation and removal.

In the technical solution described above, preferably, a spring is provided between the first fastener and the base for rotating the position-limiting block and/or restoring the protruding position-limiting block.

In this technical solution, by providing a spring on the first fastener, the position-limiting block can be automatically restored after use; moreover, after the completion of the installation, the spring will exert a stress to the position-limiting block, so that the position-limiting block will not move randomly, ensuring aesthetics and integrity of the mounting structure as a whole.

According to the second object of the present disclosure, the present disclosure provides a household appliance, comprising the mounting structure according to any of the technical solutions described above. Therefore, the household appliance has all the advantageous effects of the mounting structure of any of the technical solutions described above.

In the technical solution described above, preferably, the household appliance is a cabinet refrigerator.

In this technical solution, the method of installing the cabinet refrigerator in a cabinet is as follows: step 101, placing the cabinet refrigerator in the cabinet; step 103, rotating the position-limiting block on the mounting structure by 90° before completely pushing the cabinet refrigerator into the cabinet; step 105, completely pushing the cabinet refrigerator into the cabinet, wherein at this time, the spring is compressed to the limit and further pushing is impossible; step 107, rotating the position-limiting block by 90°, wherein the position-limiting block is restored under the action of the spring, at this time, the position-limiting block is kept flush with the cabinet body and door closing is not affected; step 109, opening the foot cover plate and fixing the mounting structure to a wooden cabinet with two bolts to prevent the cabinet refrigerator from moving during door opening; and step 111, closing the foot cover plate and completing the installation. The cabinet refrigerator is installed in the cabinet by this method. The mounting structure can ensure the correct position of the cabinet refrigerator in the cabinet in the depth direction, which spares the user from manual measurement and repeated adjustment; the installation process is simple, which is time-saving and labor-saving, and effectively improves the work efficiency.

Additional aspects and advantages of the present disclosure will partially be set forth in the following description and will partially become obvious from the following description, or will be understood by implementation of the present disclosure.

BRIEF DESCRIPTION OF DRAWINGS

The above and/or additional aspects and advantages of the present disclosure will become apparent and readily understood from the description of the embodiments in connection with the following drawings, in which:

Fig. 1 is a schematic diagram of an installation structure of a cabinet refrigerator in the related art;

Fig. 2 is a partially enlarged view of the installation structure of the cabinet refrigerator in the related art shown in Fig. 1, at position A;

Fig. 3 is a schematic diagram of a mounting structure in the related art;

Fig. 4 is a bottom view of the mounting structure in the related art shown in Fig. 3;

Fig. 5 is a schematic diagram of an installation structure of a household appliance according to one embodiment of the present disclosure;

Fig. 6 is a partially enlarged view of the installation structure of the household appliance according to one embodiment of the present disclosure shown in Fig. 5, at position B;

Fig. 7 is an exploded view of a mounting structure according to one embodiment of the present disclosure;

Fig. 8 is a rear view of the mounting structure according to one embodiment of the present disclosure shown in Fig. 7;

Fig. 9 is a schematic diagram of a mounting structure according to one embodiment of the present disclosure;

Fig. 10 is a sectional view of a mounting structure according to one embodiment of the present disclosure;

Fig. 11 is a schematic diagram of cabinet refrigerator installation step 101 according to one embodiment of the present disclosure;

Fig. 12 is a schematic diagram of cabinet refrigerator installation step 103 according to one embodiment of the present disclosure;

Fig. 13 is a schematic diagram of cabinet refrigerator installation step 105 according to one embodiment of the present disclosure;

Fig. 14 is a schematic diagram of cabinet refrigerator installation step 107 according to one embodiment of the present disclosure;

Fig. 15 is a schematic diagram of cabinet refrigerator installation step 109 according to one embodiment of the present disclosure; and

Fig. 16 is a schematic diagram of cabinet refrigerator installation step 111 according to one embodiment of the present disclosure.

The corresponding relation between reference signs in Fig. 1 to Fig. 16 and the component names is as follows:

10': cabinet refrigerator; 20': cabinet; 102': refrigerator door; 104': mounting structure; 10: household appliance; 102: cabinet refrigerator; 20: mounting structure; 202: base; 2022: through hole; 2024: first installation hole; 2026: second installation hole; 204: position-limiting block; 206: first fastener; 208: foot cover plate; 210: spring; 30: cabinet

DETAILED DESCRIPTION OF EMBODIMENTS

In order to understand the objects, features and advantages of the present disclosure more clearly, further detailed description is made on the present disclosure in connection with the accompanying drawings and the embodiments. It should be noted that the embodiments of the present application and the features of the embodiments can be combined with each other if there is no conflict.

In the following description, numerous details are set forth to facilitate full understanding of the present disclosure. However, the present disclosure may also be implemented in other ways than those described herein. Thus, the protection scope of the present disclosure is not limited by the embodiments disclosed below.

Next, a mounting structure and a household appliance according to some embodiments of the present disclosure will be described with reference to Fig. 5 to Fig. 16.

In an embodiment of a first aspect of the present disclosure, as shown in Fig. 5 to Fig. 10, the present disclosure provides a mounting structure, comprising a base 202, a first fastener 206 and a position-limiting block 204; a through hole 2022 being arranged at a side wall of the base 202; the position-limiting block 204 being movably connected to the base 202 by means of the first fastener 206, and the first fastener 206 partially passing through the through hole 2022 to connect to the position-limiting block 204; wherein the position-limiting block 204 is rotatable around an axis of the first fastener 206 and is movable along an axial direction of the first fastener 206; and after rotation of the position-limiting block, the position-limiting

block 204 at least partially protrudes from a bottom surface of the base 202. In this disclosure, the mounting structure, for example, could be a foot structure.

In this embodiment, by providing a position-limiting block 204, the household appliance 10 is endowed with a positioning function in the installation process. In the installation process of the household appliance 10, the installer can accurately determine the installation position of the household appliance 10 merely by performing positioning with the position-limiting block 204, which spares the installer from manual measurement and repeated adjustment. The installation is convenient and efficient and saves time and labor, which effectively reduces the work difficulty and work intensity of the installer.

In one embodiment of the present disclosure, preferably, as shown in Fig. 7 and Fig. 8, the bottom of a wall of the base 202 connected with the position-limiting block 204 is provided with a first installation hole 2024 at the end provided with the through hole 2022 and by passing a second fastener through the first installation hole 2024, the base 202 is fixedly connected to a fixed body that needs to be fixed to the household appliance 10, so as to fix the base 202.

In this embodiment, the mounting structure 20 is fixed by passing the second fastener through the first installation hole 2024. The installation is convenient and efficient, the connection strength is high and the connection is firm, which effectively prevents the household appliance 10 from being moved by an external force.

In one embodiment of the present disclosure, preferably, as shown in Fig. 7 and Fig. 8, an installation platform is provided at the bottom of the base 202, the installation platform is provided with a second installation hole 2026 and the base 202 is connected to the household appliance 10 by passing a third fastener through the second installation hole 2026.

In this embodiment, the mounting structure 20 is connected to the household appliance 10 by means of the third fastener, which is simple and firm, facilitating the fitting of the mounting structure 20.

In one embodiment of the present disclosure, preferably, as shown in Fig. 7 and Fig. 8, there are two first installation holes 2024, located on two sides of the through hole 2022, respectively.

In this embodiment, the number of first installation holes 2024 is two, so that the mounting structure 20 is uniformly stressed and the installation is completed firmly.

In one embodiment of the present disclosure, preferably, as shown in Fig. 7 and Fig. 8, the base 202 is provided with a downwardly recessed groove in which the first installation hole 2024 is located.

In this embodiment, by providing the first installation hole 2024 in the groove, it is ensured that the fastener is entirely embedded in the groove, effectively preventing the user or an article from being scratched by the fastener to cause injuries and loss.

In one embodiment of the present disclosure, preferably, as shown in Fig. 7 and Fig. 8, the mounting structure further comprises a foot cover plate 208 which is fastened to the groove for opening or closing the groove.

In this embodiment, by fastening the foot cover plate 208 to the groove to hide the fastener in the groove, the mounting structure 20 has a clean and tidy appearance, which ensures the overall aesthetics of the household appliance 10 and effectively improves the user experience.

In one embodiment of the present disclosure, preferably, as shown in Fig. 7 and Fig. 8, the foot cover plate 208 and the base 202 are connected by snap fit.

In this embodiment, the foot cover plate 208 and the base 202 are connected by snap fit. The installation mode is simple and convenient, which facilitates installation and removal.

In one embodiment of the present disclosure, preferably, as shown in Fig. 7 and Fig. 8, a spring 210 is provided between the first fastener 206 and the base 202 for rotating the position-limiting block 204 and/or restoring the protruding position-limiting block 204.

In this embodiment, by providing a spring 210 on the first fastener 206, the position-limiting block 204 can be automatically restored after use; moreover, after the

completion of the installation, the spring 210 will exert a stress to the position-limiting block 204, so that the position-limiting block 204 will not move randomly, ensuring aesthetics and integrity of the mounting structure 20 as a whole.

In an embodiment of a second aspect of the present disclosure, the present disclosure provides a household appliance 10, comprising the mounting structure according to any of the technical solutions described above. Therefore, the household appliance 10 has all the advantageous effects of the mounting structure of any of the technical solutions described above.

In one embodiment of the present disclosure, preferably, the household appliance 10 is a cabinet refrigerator 102.

In this embodiment, the method of installing the cabinet refrigerator 102 in a cabinet 30 is as follows: step 101, placing the cabinet refrigerator 102 in the cabinet 30, as shown in Fig. 11; step 103, rotating the position-limiting block 204 on the mounting structure by 90° before completely pushing the cabinet refrigerator 102 into the cabinet 30, as shown in Fig. 12; step 105, completely pushing the cabinet refrigerator 102 into the cabinet 30, wherein at this time, the spring 210 is compressed to the limit and further pushing is impossible, as shown in Fig. 13; step 107, rotating the position-limiting block 204 by 90°, wherein the position-limiting block 204 is restored under the action of the spring 210, at this time, the position-limiting block 204 is kept flush with the cabinet body and door closing is not affected, as shown in Fig. 14; step 109, opening the foot cover plate 208 and fixing the mounting structure to a wooden cabinet with two bolts to prevent the cabinet refrigerator 102 from moving during door opening, as shown in Fig. 15; and step 111, closing the foot cover plate 208 and completing the installation, as shown in Fig. 16. The cabinet refrigerator 102 is installed in the cabinet 30 by this method. The mounting structure can ensure the correct position of the cabinet refrigerator 102 in the cabinet 30 in the depth direction, which spares the user from manual measurement and repeated adjustment; the installation process is simple, which is time-saving and labor-saving and effectively improves the work efficiency.

The description above is merely preferred embodiments of the present disclosure, which are not used to limit the present disclosure. For those skilled in the art, the present disclosure may have various changes and variations. Any modifications, equivalent substitutions, improvements, etc. within the spirit and principle of the present disclosure shall all be included in the protection scope of the present disclosure.

What is claimed is:

1. A mounting structure, applied to a household appliance, wherein, the mounting structure comprises:

a base, a through hole being arranged at a side wall of the base;

a first fastener; and

a position-limiting block, the position-limiting block being movably connected to the base by means of the first fastener and the first fastener partially passing through the through hole to connect to the position-limiting block;

wherein the position-limiting block is rotatable around an axis of the first fastener and is movable along an axial direction of the first fastener; and

after rotation of the position-limiting block, the position-limiting block at least partially protrudes from a bottom surface of the base.

2. The mounting structure according to claim 1, wherein,

a bottom of a wall of the base connected with the position-limiting block is provided with a first installation hole at an end provided with the through hole and by passing a second fastener through the first installation hole, the base is fixedly connected to a fixed body that needs to be fixed to the household appliance, so as to fix the base.

3. The mounting structure according to claim 2, wherein,

an installation platform is provided at a bottom of the base, the installation platform is provided with a second installation hole and the base is connected to the household appliance by passing a third fastener through the second installation hole.

4. The mounting structure according to claim 2, wherein, there are two first installation holes, located on two sides of the through hole, respectively.

5. The mounting structure according to claim 4, wherein, the base is provided with a downwardly recessed groove in which the first installation hole is located.

6. The mounting structure according to claim 5, further comprising:
a foot cover plate which is fastened to the groove for opening or closing the groove.

7. The mounting structure according to claim 6, wherein, the foot cover plate and the base are connected by snap fit.

8. The mounting structure according to any one of claims 1-7, wherein,
a spring is provided between the first fastener and the base for rotating the position-limiting block and/or restoring the protruding position-limiting block.

9. A household appliance, wherein, the household appliance is a cabinet refrigerator and wherein the household appliance comprises the mounting structure according to any one of claims 1-8.

1/8

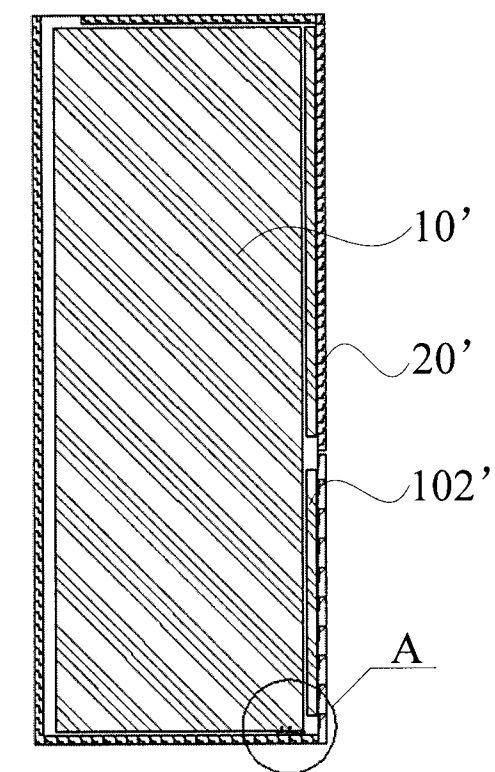


FIG. 1

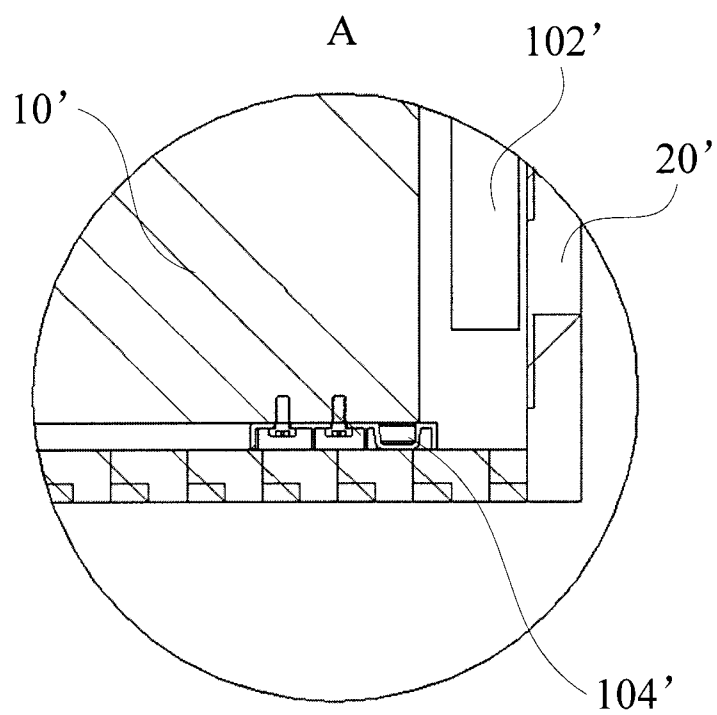


FIG. 2

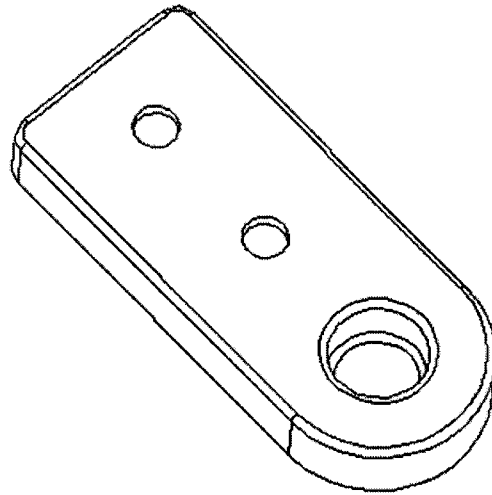


FIG. 3

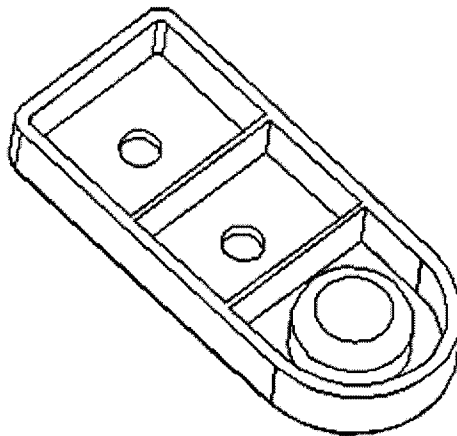


FIG. 4

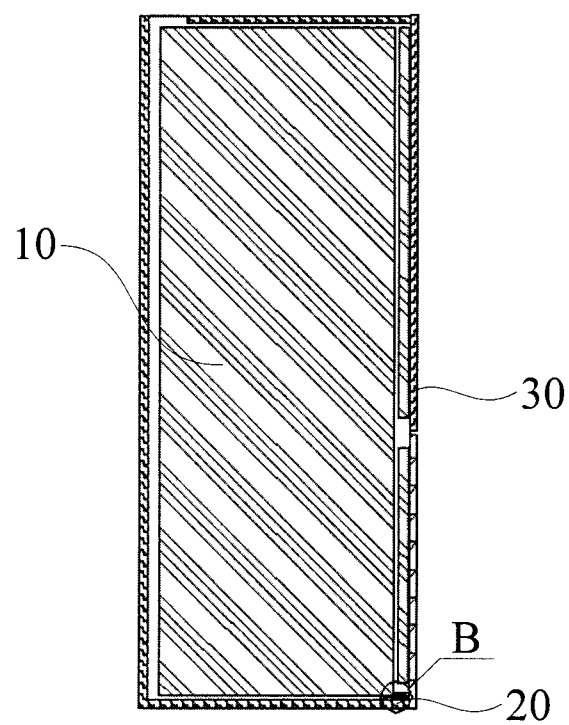


FIG. 5

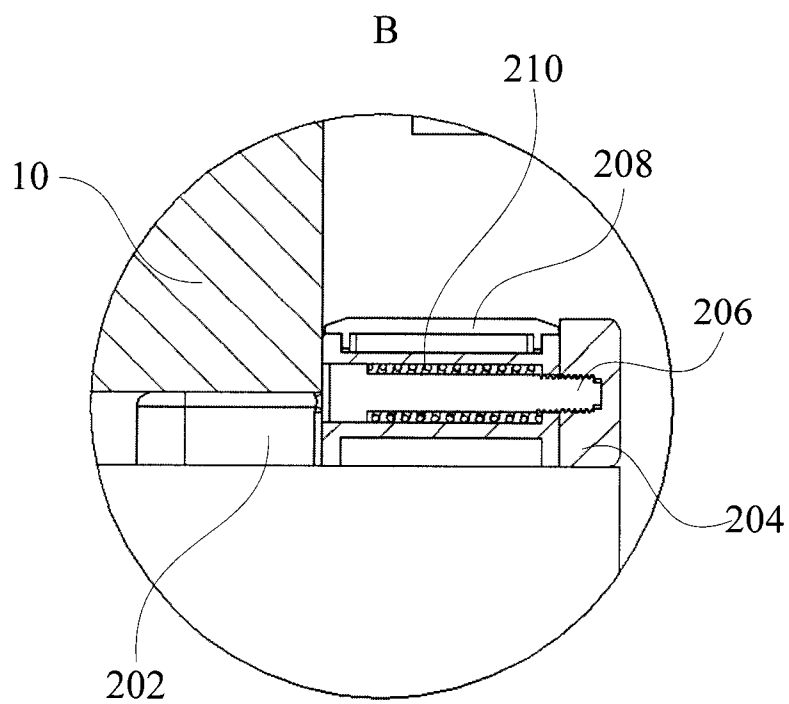


FIG. 6

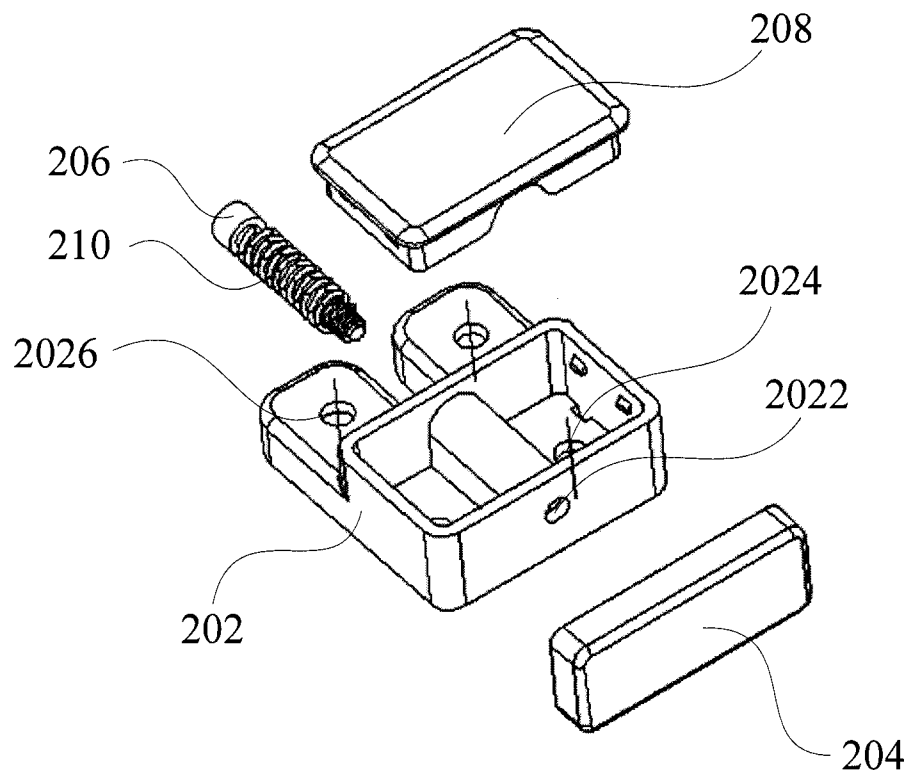


FIG. 7

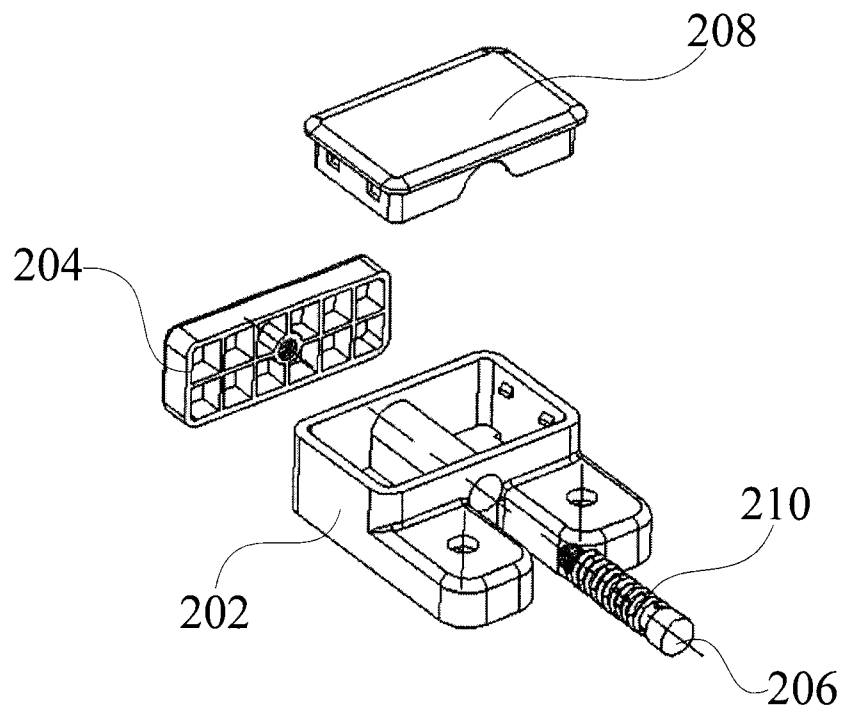


FIG. 8

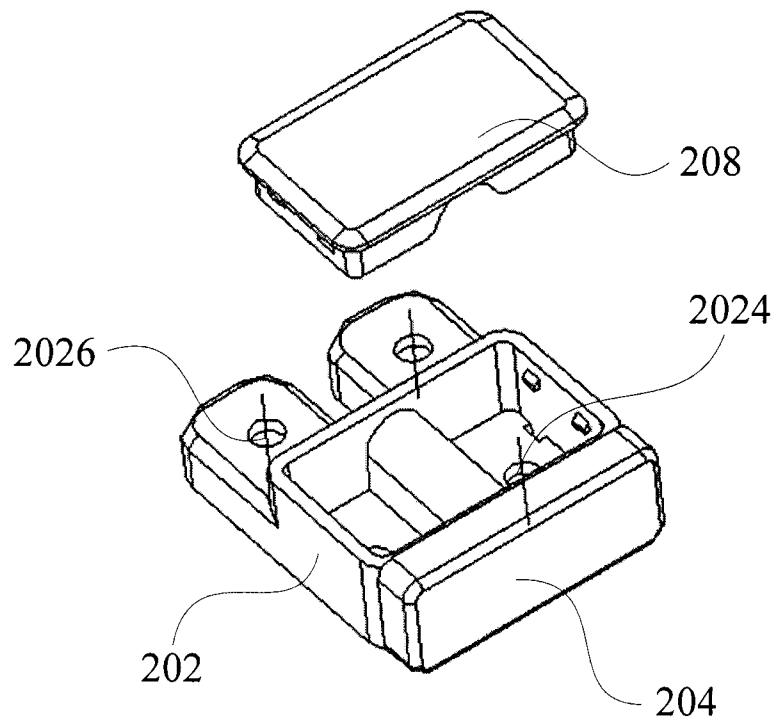


FIG. 9

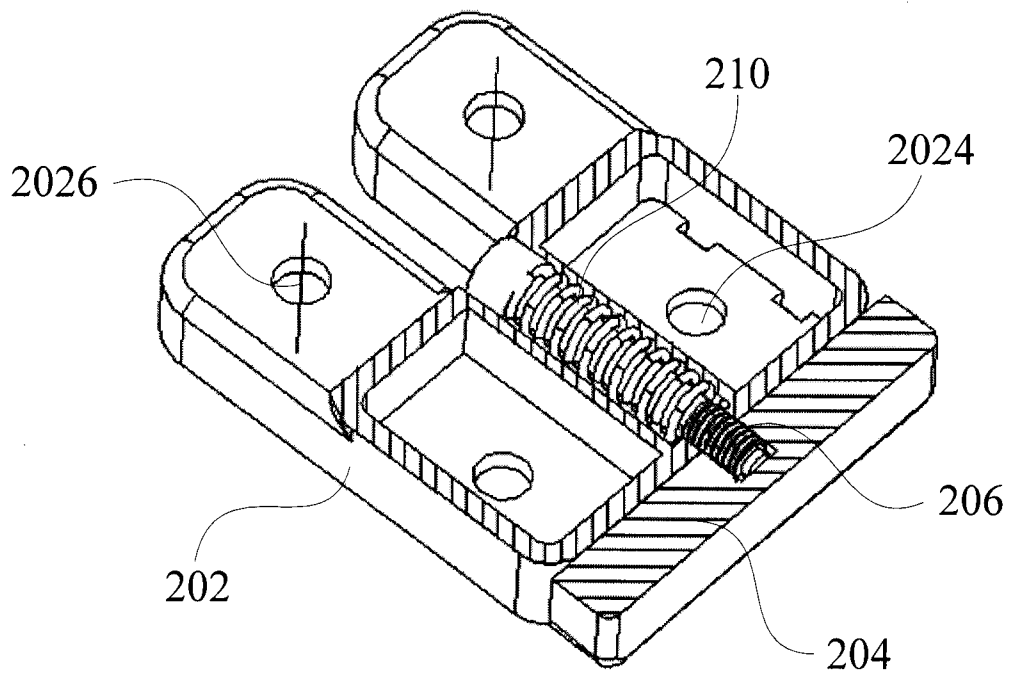


FIG. 10

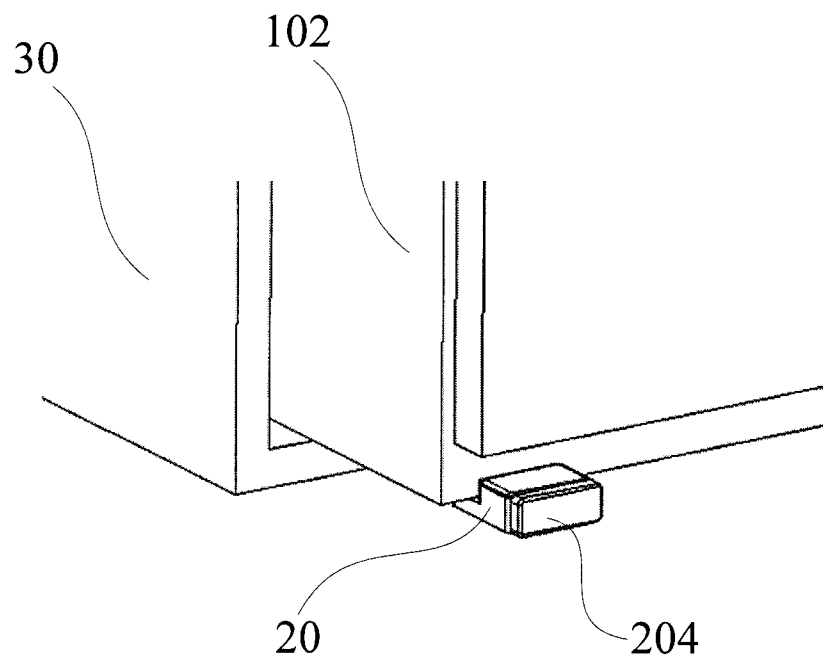


FIG. 11

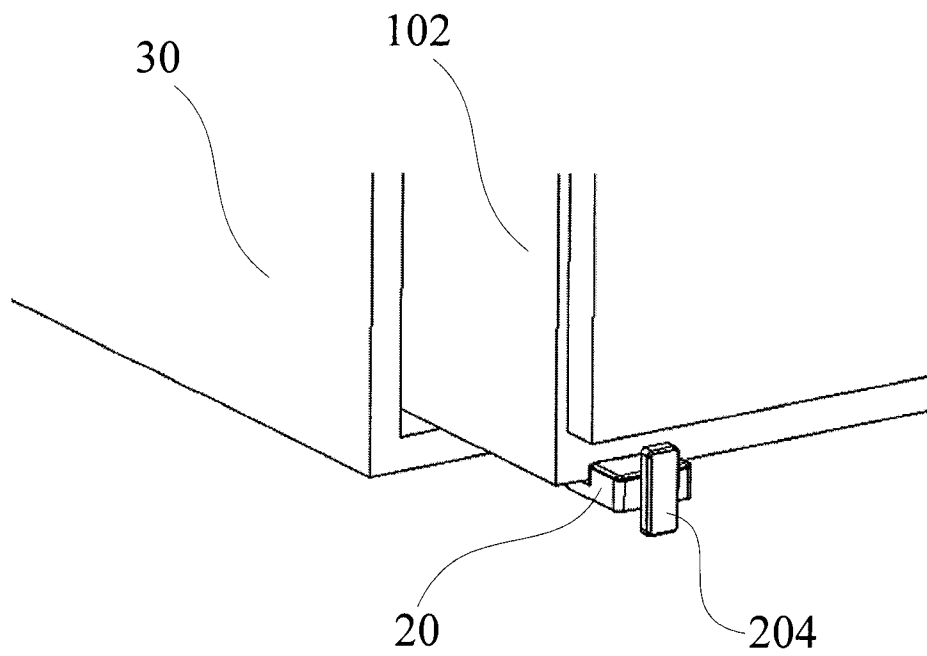


FIG. 12

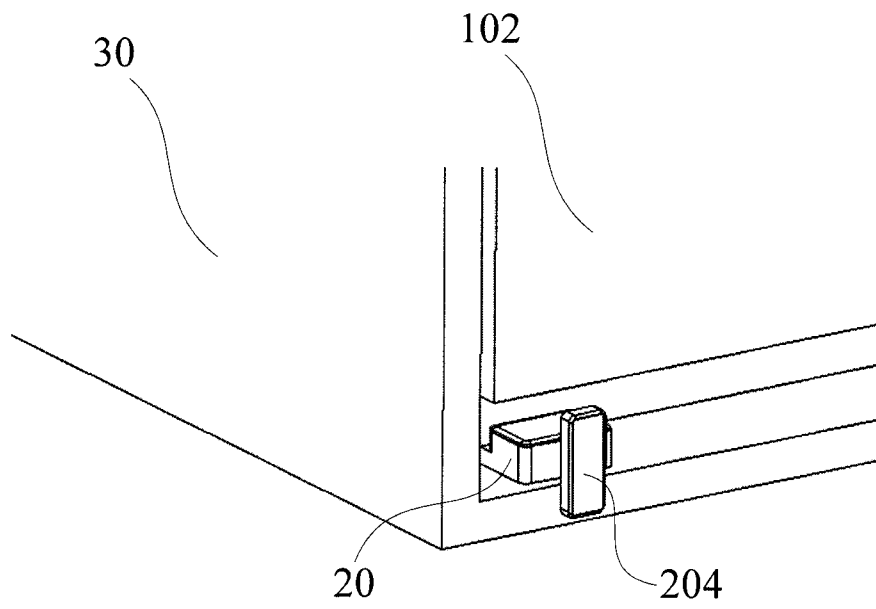


FIG. 13

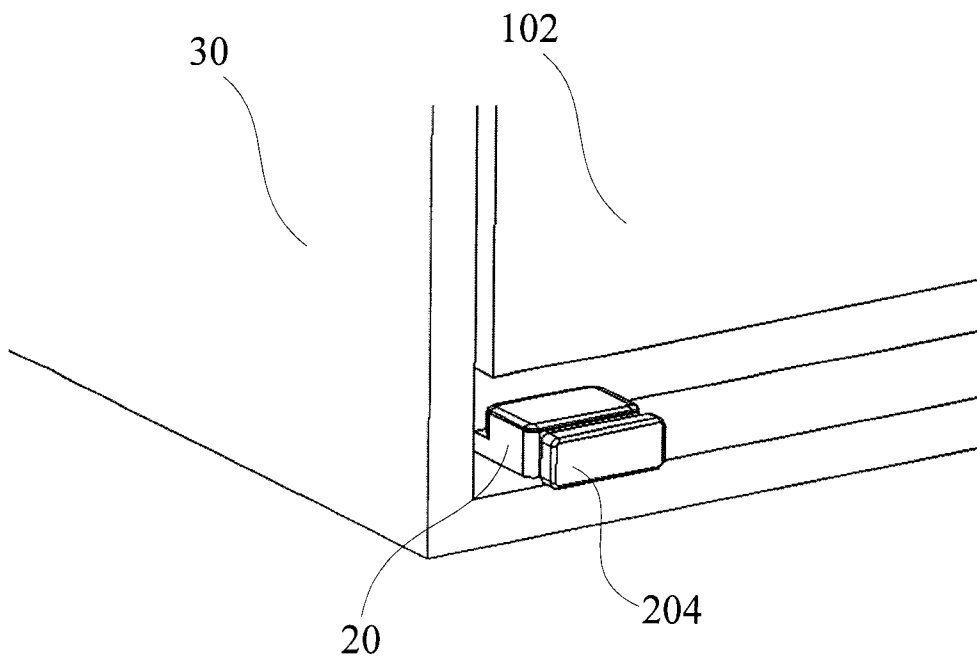


FIG. 14

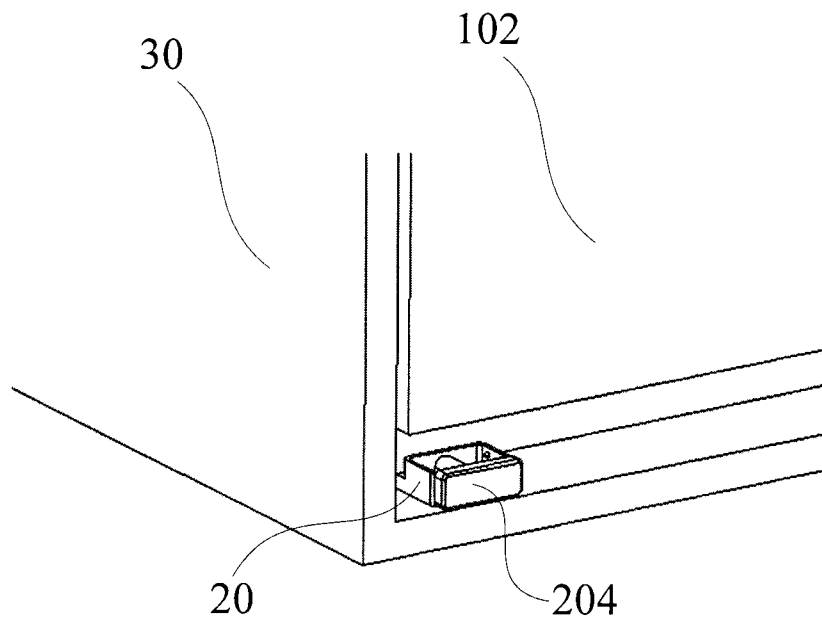


FIG. 15

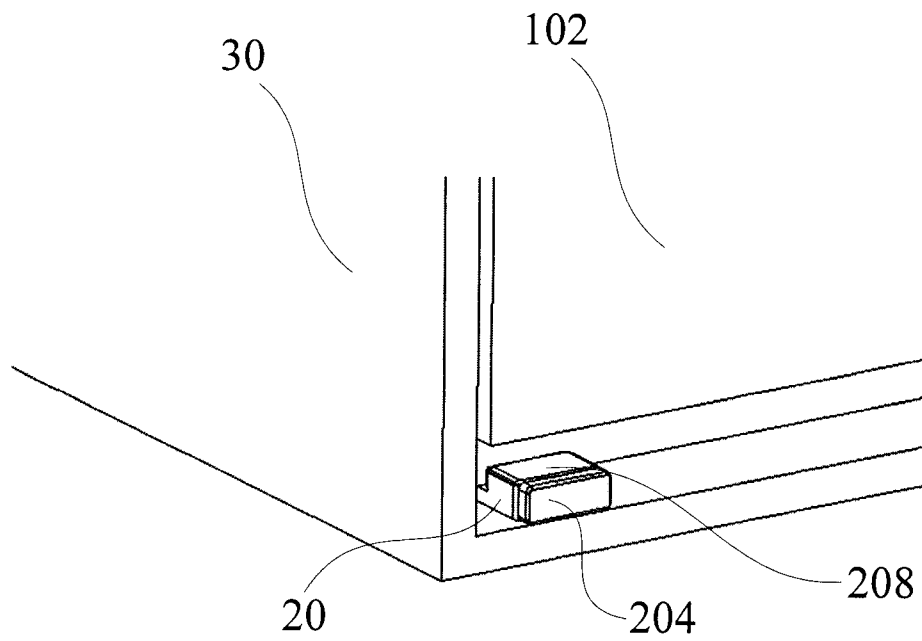


FIG. 16

