(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 4 060 702 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
20.11.2024 Bulletin 2024/47

(21) Application number: **22155591.5**

(22) Date of filing: **08.02.2022**

(51) International Patent Classification (IPC):
H01H 19/04 *(2006.01)* ***H01H 19/14*** *(2006.01)*

(52) Cooperative Patent Classification (CPC):
H01H 19/04; H01H 19/14

(54) **POWER SWITCH**

LEISTUNGSSCHALTER

COMMUTATEUR DE PUISSANCE

(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

(30) Priority: **19.03.2021 TW 110203020 U**

(43) Date of publication of application:
21.09.2022 Bulletin 2022/38

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(56) References cited:
CN-A- 104 183 396 **JP-A- 2001 202 860**

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Description

BACKGROUND

1. Technical Field

[0001] The present disclosure relates to a power switch, and more particularly to a power switch applied to a light fixture.

2. Description of the Related Art

[0002] In general, a power switch of a light fixture is provided in a rail structure having a conductive copper piece, so that relative positions of the power switch, the rail structure and the light fixture are fixed.

[0003] Since the relative positions of the power switch and the light fixture are fixed, an illumination direction of the light fixture is invariable, in a way that the light fixture may not illuminate a dark area. Therefore, there is need for improvement of a conventional power switch.

[0004] JP 2001202860 A relating to a time switch comprises a housing assembly and a switch structure, and the switch structure is disposed in the housing assembly.

[0005] CN 104 183 396 B discloses a switch according to the preamble of claim 1.

SUMMARY

[0006] In view of the task above, it is a primary object of the present disclosure to provide a power switch, which solves, with a novel structural design of a housing assembly and a connection assembly, the issue of unadjustable relative positions of a conventional power switch and a light fixture.

[0007] To achieve the object above, the present disclosure provides a power switch applied to a light fixture. The power switch includes a housing assembly, a switch structure and a connection assembly. The housing assembly includes an annular accommodating groove. The switch structure is disposed in the housing assembly. The connection assembly is disposed in the annular accommodating groove and includes a connecting element and an outer collar. The connecting element is connected to the light fixture and has an annular portion. The outer collar is sleeved at the annular portion of the connecting element and is accommodated in the annular accommodating groove.

[0008] According to an embodiment of the present disclosure, the connecting element has a first limiting portion that is provided on an outer side of the annular portion, and the outer collar has a second limiting portion that is provided on an inner side of the outer collar, wherein the second limiting portion corresponds to the first limiting portion.

[0009] According to an embodiment of the present disclosure, when the outer collar and the connecting element are rotated to a predetermined position, the first limiting portion and the second limiting portion are mutually abutted.

[0010] According to an embodiment of the present disclosure, the housing assembly includes a limiting slot that is provided on an inner wall of the annular accommodating groove, the outer collar has a third limiting portion that is provided on an outer side of the outer collar, wherein the third limiting portion is provided in the limiting slot.

[0011] According to an embodiment of the present disclosure, the third limiting portion moves in the limiting slot such that the connection assembly rotates relative to the housing assembly.

[0012] According to an embodiment of the present disclosure, the power switch further includes a line contact group disposed in the housing assembly. The line contact group includes a live line contact and a neutral line contact. One end of the live line contact and one end of the neutral line contact are respectively located on the other ends of the two conductive contacts.

[0013] According to an embodiment of the present disclosure, when the switch structure is in an on state, the live line contact and the neutral line contact are respectively in contact with the other ends of the two conductive contacts.

[0014] According to an embodiment of the present disclosure, the housing assembly includes a first shell and a second shell.

[0015] According to an embodiment of the present disclosure, the two contact openings are respectively located on sidewalls of the first shell and the second shell.

[0016] According to an embodiment of the present disclosure, the housing assembly further includes a fixing element connecting the first shell and the second shell.

[0017] In continuation to the description above, the power switch of the present disclosure includes a housing assembly, a switch structure and a connection assembly. The housing assembly includes an annular accommodating groove. The connection assembly includes connecting element and an outer collar. The outer collar is sleeved at an annular portion of the connecting element and accommodated in the annular accommodating groove, such that the connecting element is rotatable relative to the housing assembly. The connecting element is connected to the light fixture, so that the light fixture is rotatable along with the connecting element relative to the housing assembly, allowing relative positions between the power switching and the light fixture to be adjusted.

[0018] Moreover, the housing assembly includes a limiting slot located on an inner wall of the annular accommodating groove. The connection assembly has a first limiting portion located on an outer side of the annular portion. The outer collar has a second limiting portion and a third limiting portion. The second limiting portion is provided on an inner side of the outer collar, and the third limiting portion is provided on the outer side of the outer collar. With the second limiting portion corresponding to the first limiting portion, the third limiting portion is

provided in the limiting slot. With the design of the first limiting portion and the second limiting portion, or the design of the third limiting portion and the limiting slot, the number of rotations of the connecting element can be restricted, so as to prevent an issue of tangled wires of the light fixture caused by an excess number of rotations.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019]

FIG. 1 is a schematic diagram of a power switch according to an embodiment of the present disclosure;
FIG. 2 is an exploded schematic diagram of the power switch shown in FIG. 1;
FIG. 3 is a schematic diagram of a first shell and a connection assembly shown in FIG. 2;
FIG. 4 is a schematic diagram of the connection assembly in FIG. 3 from another perspective;
FIG. 5A is a schematic diagram of the power switch shown in FIG. 1 in an on state;
FIG. 5B is a schematic diagram of a switch structure and a line contact group in the power switch shown in FIG. 5A;
FIG. 5C is a schematic diagram of the power switch shown in FIG. 5A installed to a rail structure;
FIG. 6A is a schematic diagram of the power switch shown in FIG. 1 in an off state; and
FIG. 6B is a schematic diagram of a switch structure and a line contact group in the power switch shown in FIG. 6A.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0020] In order to make the structure, characteristics, and effectiveness of the present disclosure further understood and recognized, a detailed description of the present disclosure is provided as follows, along with embodiments and accompanying figures.

[0021] FIG. 1 shows a schematic diagram of a power switch according to an embodiment of the present disclosure. FIG. 2 shows an exploded schematic diagram of the power switch shown in FIG. 1. FIG. 3 shows a schematic diagram of a first shell and a connection assembly shown in FIG. 2. FIG. 4 shows a schematic diagram of the connection assembly in FIG. 3 from another perspective. The description below is given with the foregoing accompanying drawings.

[0022] A power switch 1 of this embodiment is applied to a light fixture (not shown). The power switch 1 includes a housing assembly 10, a switch structure 20 and a connection assembly 30, wherein the switch structure 20 is disposed in the housing assembly 10. Referring to FIG. 3 and FIG. 4, the housing assembly 10 includes an annular accommodating groove 11 and a limiting slot 12, wherein the limiting slot 12 is provided on an inner wall of the annular accommodating groove 11. Specifically, the housing assembly 10 includes a first shell 13 and a second shell 14. Each of the first shell 13 and the second shell 14 has a semicircular groove, and the two semicircular grooves together form the annular accommodating groove 11. The semicircular groove of the first shell 13 in FIG. 2 and FIG. 3 are depicted as the annular accommodating groove 11, and it should be noted that the second shell 14 also has a corresponding semicircular groove that is however not depicted due to the angles in FIG. 2 and FIG. 3. Moreover, the housing assembly 10 may also have two limiting slots 12, which are preferably arranged symmetrically on the inner wall of the annular accommodating groove 11. In other words, the semicircular groove of each of the first shell 13 and the second shell 14 may be provided with the limiting slot 12.

[0023] Preferably, the housing assembly 10 may further include a fixing element 15 connecting the first shell 13 and the second shell 14. The fixing element 15 of this embodiment is an L-shaped fastener for simultaneously fastening the first shell 13 and the second shell 14, thereby fixing the first shell 13 and the second shell 14.

[0024] The connection assembly 30 is disposed in the annular accommodating groove 11, and is rotatable in the annular accommodating groove 11. As shown in FIG. 3 and FIG. 4, the connection assembly 30 of this embodiment includes a connecting element 31 and an outer collar 32. The connecting element 31 has an annular portion 311, and the outer collar 32 may be sleeved at the annular portion 311 of the connecting element 31. Accordingly, by accommodating the outer collar 32 in the annular accommodating groove 11, the connection assembly 30 may be disposed at the housing assembly 10. Since the annular accommodating groove 11, the annular portion 311 and the outer collar 32 are all annular structures, the connection assembly 30 is made rotatable relative to the housing assembly 10. Moreover, connection to the light fixture is achieved by the connecting element 31 of the connection assembly 30, so that the light fixture is also made rotatable along with the connecting element 31 relative to the housing assembly 10, further allowing relative positions between the power switch 1 and the light fixture to be adjusted.

[0025] Specifically, one end of the connecting element 31 is the annular portion 311 and is located in the annular accommodating groove 11, and the other end of the connecting element 31 is connected to the light fixture. When the connecting element 31 rotates relative to the outer collar 32, or the overall of the connection assembly 30 (i.e., the connecting element 31 and the outer collar 32) rotates in the annular accommodating groove 11, relative positions between the light fixture and the housing assembly 10 may be adjusted.

[0026] Preferably, the connecting element 31 further has a first limiting portion 312, which is provided on an outer side of the annular portion 311. Further, the outer collar 32 has a second limiting portion 321 and a third limiting portion 322. The second limiting portion 321 is provided on an inner side of the outer collar 32, and the

third limiting portion 322 is provided on an outer side of the outer collar 32. When the outer collar 32 is sleeved at the outer side of the annular portion 311, the second limiting portion 321 corresponds to the first limiting portion 312. When the outer collar 32 and the connecting member 31 relatively rotate to a predetermined position, the first limiting portion 312 and the second limiting portion 321 are mutually abutted. In other words, the outer collar 32 and the connecting element 31 are relatively rotatable; for example, the annular portion 311 rotates with the outer collar 32 until the first limiting portion 312 and the second limiting portion 321 become mutually abutted. With the structure of the first limiting portion 312 and the second limiting portion 321, the outer collar 32 and the connecting element 31 are allowed to rotate relatively by almost 360 degrees.

[0027] The third limiting portion 322 is provided in the limiting slot 12, and moves in the limiting slot 12. When the third limiting portion 322 of the outer collar 32 moves in the limiting slot 12, the overall of the connection assembly 30 and the light fixture are also driven to rotate, so as to adjust the relative positions between the light fixture and the housing assembly 10. In this embodiment, the radian of the limiting slot 12 is approximately 60 degrees, so that the connection assembly 30 is rotatable for approximately 60 degrees in the annular accommodating groove 11.

[0028] With the design of the first limiting portion 312 and the second limiting portion 321, or the design of the third limiting portion 322 and the limiting slot 12, the number of rotations of the connecting element 31 can be restricted, so as to prevent an issue of tangled wires of the light fixture caused by an excess number of rotations.

[0029] FIG. 5A shows a schematic diagram of the power switch shown in FIG. 1 in an on state. FIG. 5B shows a schematic diagram of a switch structure and a line contact group in the power switch shown in FIG. 5A. FIG. 5C shows a schematic diagram of the power switch shown in FIG. 5A installed to a rail structure. FIG. 6A shows a schematic diagram of the power switch shown in FIG. 1 in an off state. FIG. 6B shows a schematic diagram of a switch structure and a line contact group in the power switch shown in FIG. 6A. An on state and an off state of the power switch 1 are to be described below with the foregoing accompanying drawings.

[0030] As shown in FIG. 2 and FIG. 5B, the housing assembly 10 includes two contact openings 131 and 141, which are respectively located on sidewalls of the first shell 13 and the second shell 14. Moreover, the switch structure 20 includes a knob 21 and two conductive contacts 22. The knob 21 is partially exposed from the housing assembly 10 for a user rotate so as to turn on or turn off the power switch 1 (the light fixture). The two conductive contacts 22 are disposed at the knob 21, so that the conductive contacts 22 are rotatable along with the knob 21. In addition, the conductive contacts 22 are located inside the housing assembly 10, and respective one end of the conductive contacts 22, along with the rotation of the knob 21, may be exposed on the outside of the housing assembly 10 from the contact openings 131 and 141, respectively.

[0031] The power switch 1 further includes a line contact group 40 disposed in the housing assembly 10, and in this embodiment, the line contact group 40 is disposed inside the first shell 13. The line contact group 40 includes a live line contact 41, a neutral line contact 42 and a ground line contact 43. One end of the live line contact 41 and one end of the neutral line contact 42 respectively contacts with respective other ends of the two conductive contacts 22. Specifically, respective one end of the conductive contacts 22 may be exposed on the outside of the housing assembly 10 through the contact openings 131 and 141, and the respective other ends are close to the live line contact 41 or the neutral line contact 42.

[0032] Moreover, the power switch 1 of this embodiment may be installed to a rail structure 9 of the light fixture, wherein the rail structure 9 includes a conductive copper piece 91. When a user intends to turn on the light fixture, the knob 21 may be rotated so as to drive the conductive contacts 22 to rotate. At this point, respective one end of the two conductive contacts 22 are exposed on the outside of the housing assembly 10 (as shown in FIG. 5A) from the contact openings 131 and 141, respectively, and the respective other ends of the two conductive contacts 22 are in contact with the live line contact 41 and the neutral line contact 42, respectively (as shown in FIG. 5B). The conductive contacts 22 are exposed on the outside of the housing assembly 10 from the contact openings 131 and 141, and can further contact with the conductive copper piece 91 of the rail structure 9 and be conducted (as shown in FIG. 5C). In other words, when the switch structure 20 is in an on state, the respective one end of the two conductive contacts 22 are exposed on the outside of the housing assembly 10 from the contact openings 131 and 141, and are conducted with the conductive copper piece 91 of the rail structure 9.

[0033] Conversely, when a user is to turn off the light fixture, the knob 21 is rotated in reverse to drive the conductive contacts 22 to rotate in reverse, such that the respective one end of the two conductive contacts 22 enter the housing assembly 10 (as shown in FIG. 6A) from contact openings 131 and 141, respectively, and the respective other ends of the conductive contacts 22 do not contact with the live line contact 41 and the neutral line contact 42 (as shown in FIG. 6B). In other words, when the switch structure 20 is in an off state, the respective one end of the two conductive contacts 22 enter the housing assembly 10 from the contact openings 131 and 141, respectively, and are not conducted with the conductive copper piece 91 of the rail structure 9.

[0034] In conclusion, the power switch of the present disclosure includes a housing assembly, a switch structure and a connection assembly. The housing assembly includes an annular accommodating groove. The connection assembly includes connecting element and an outer collar. The outer collar is sleeved at an annular

portion of the connecting element and accommodated in the annular accommodating groove, such that the connecting element is rotatable relative to the housing assembly. The connecting element is connected to the light fixture, so that the light fixture is rotatable along with the connecting element relative to the housing assembly, allowing relative positions between the power switching and the light fixture to be adjusted.

[0035] Moreover, the housing assembly includes a limiting slot located on an inner wall of the annular accommodating groove. The connection assembly has a first limiting portion located on an outer side of the annular portion. The outer collar has a second limiting portion and a third limiting portion. The second limiting portion is provided on an inner side of the outer collar, and the third limiting portion is provided on the outer side of the outer collar. With the second limiting portion corresponding to the first limiting portion, the third limiting portion is provided in the limiting slot. With the design of the first limiting portion and the second limiting portion, or the design of the third limiting portion and the limiting slot, the number of rotations of the connecting element can be restricted, so as to prevent an issue of tangled wires of the light fixture caused by an excess number of rotations.

[0036] It is noted that the above-described embodiments are merely illustrative of preferred embodiments of the present disclosure, and that in order to prevent redundancy, not all possible combinations of variations are described in detail; various changes and modifications may be made to the described embodiments without departing from the scope of the disclosure as described by the appended claims.

Claims

1. A power switch (1), being able to be connected to a light fixture, the power switch (1) comprising:

   a housing assembly (10);
   a switch structure (20), disposed in the housing assembly (10);
   characterized in that
   the housing assembly (10), comprising an annular accommodating groove (11); and the power switch (1) further comprising:
   a connection assembly (30), disposed at the annular accommodating groove (11), the connection assembly (30) comprising:

   a connecting element (31), adapted to be connected to the light fixture, the connecting element (31) having an annular portion (311); and
   an outer collar (32), sleeved at the annular portion (311) of the connecting element (31) and accommodated in the annular accommodating groove (11).

2. The power switch (1) according to claim 1, wherein the connecting element (31) has a first limiting portion (312) that is provided on an outer side of the annular portion (311), and the outer collar (32) has a second limiting portion (321) that is provided on an inner side of the outer collar (32), wherein the second limiting portion (321) corresponds to the first limiting portion (312).

3. The power switch (1) according to claim 2, wherein when the outer collar (32) and the connecting element (31) relatively rotated to a predetermined position, the first limiting portion (312) and the second limiting portion (321) are mutually abutted.

4. The power switch (1) according to claim 2, wherein the housing assembly (10) comprises a limiting slot (12) that is provided on an inner wall of the annular accommodating groove (11), and the outer collar (32) has a third limiting portion (322) that is provided on an outer side of the outer collar (32), wherein the third limiting portion (322) is provided in the limiting slot (12).

5. The power switch (1) according to claim 4, wherein the third limiting portion (322) moves in the limiting slot (12) so that the connection assembly (30) rotates relative to the housing assembly (10).

6. The power switch (1) according to claim 1, wherein the housing assembly (10) comprises two contact openings (131, 141), the switch structure (20) comprises a knob (21) and two conductive contacts (22), the two conductive contacts (22) are provided at the knob (21), and when the switch structure (20) is in an on state, respective one end of the two conductive contacts (22) are exposed on an outside of the housing assembly (10) from the contact openings (131, 141), respectively..

7. The power switch (1) according to claim 6, further comprising:
   a line contact group (40), disposed at the housing assembly (10), the line contact group (40) comprising a live line contact (41) and a neutral line contact (42), wherein one end of the live line contact (41) and one end of the neutral line contact (42) are respectively located on the other ends of the two conductive contacts (22).

8. The power switch (1) according to claim 7, wherein when the switch structure (20) is in an on state, the live line contact (41) and the neutral line (42) contact are respectively in contact with the other ends of the two conductive contacts (22), respectively.

9. The power switch (1) according to claim 6, wherein the housing assembly (10) comprises a first shell (13) and a second shell (14).

10. The power switch (1) according to claim 9, wherein the two contact openings (131, 141) are located on sidewalls of the first shell (13) and the second shell (14), respectively.

11. The power switch (1) according to claim 9, wherein the housing assembly (10) further comprises a fixing element (15) connecting the first shell (13) and the second shell (14).

Patentansprüche

1. Stromschalter (1), der mit einer Beleuchtungsvorrichtung verbunden werden kann, wobei der Stromschalter (1) aufweist:

eine Gehäusebaugruppe (10);
eine Schalterstruktur (20), die in der Gehäusebaugruppe (10) angeordnet ist;
dadurch gekennzeichnet, dass
die Gehäusebaugruppe (10) eine ringförmige Aufnahmenut (11) aufweist; und der Stromschalter (1) ferner aufweist:
eine Verbindungsbaugruppe (30), die an der ringförmigen Aufnahmenut (11) angeordnet ist, wobei die Verbindungsbaugruppe (30) aufweist:

ein Verbindungselement (31), das angepasst ist, um mit der Beleuchtungsvorrichtung verbunden zu sein/werden, wobei das Verbindungselement (31) einen ringförmigen Abschnitt (311) hat; und
einen äußeren Kragen (32), der an den ringförmigen Abschnitt (311) des Verbindungselements (31) gehülst ist und in der ringförmigen Aufnahmenut (11) aufgenommen ist.

2. Stromschalter (1) nach Anspruch 1, wobei das Verbindungselement (31) einen ersten Begrenzungsabschnitt (312) hat, der an einer Außenseite des ringförmigen Abschnitts (311) bereitgestellt ist, und der äußere Kragen (32) einen zweiten Begrenzungsabschnitt (321) hat, der an einer Innenseite des äußeren Kragens (32) bereitgestellt ist, wobei der zweite Begrenzungsabschnitt (321) zu dem ersten Begrenzungsabschnitt (312) korrespondiert.

3. Stromschalter (1) nach Anspruch 2, wobei, wenn der äußere Kragen (32) und das Verbindungselement (31) relativ zueinander zu einer vorbestimmten Position gedreht sind/werden, der erste Begrenzungsabschnitt (312) und der zweite Begrenzungsabschnitt (321) gegenseitig gegeneinanderstoßen.

4. Stromschalter (1) nach Anspruch 2, wobei die Gehäusebaugruppe (10) eine Begrenzungsaussparung (12) aufweist, die an einer Innenwand der ringförmigen Aufnahmenut (11) bereitgestellt ist, und der äußere Kragen (32) einen dritten Begrenzungsabschnitt (322) hat, der an einer Außenseite des äußeren Kragens (32) bereitgestellt ist, wobei der dritte Begrenzungsabschnitt (322) in der Begrenzungsaussparung (12) bereitgestellt ist.

5. Stromschalter (1) nach Anspruch 4, wobei sich der dritte Begrenzungsabschnitt (322) in der Begrenzungsaussparung (12) bewegt, sodass sich die Verbindungsbaugruppe (30) relativ zu der Gehäusebaugruppe (10) dreht.

6. Stromschalter (1) nach Anspruch 1, wobei die Gehäusebaugruppe (10) zwei Kontaktöffnungen (131, 141) aufweist, die Schalterstruktur (20) einen Knopf (21) und zwei leitfähige Kontakte (22) aufweist, wobei die zwei leitfähigen Kontakte (22) an dem Knopf (21) bereitgestellt sind, und, wenn die Schalterstruktur (20) in einem eingeschalteten Zustand ist, jeweils ein Ende jedes der zwei leitfähigen Kontakte (22) an einem Äußeren der Gehäusebaugruppe (10) von den Kontaktöffnungen (131, 141) freigelegt ist.

7. Stromschalter (1) nach Anspruch 6, welcher ferner aufweist:
eine Leitung-Kontakt-Gruppe (40), die an der Gehäusebaugruppe (10) angeordnet ist, wobei die Leitung-Kontakt-Gruppe (40) einen spannungsführenden Leitungskontakt (41) und einen neutralen Leitungskontakt (42) aufweist, wobei ein Ende des spannungsführenden Leitungskontakts (41) und ein Ende des neutralen Leitungskontakts (42) entsprechend zugeordnet an den anderen Enden der zwei leitfähigen Kontakte (22) positioniert sind.

8. Stromschalter (1) nach Anspruch 7, wobei, wenn die Schalterstruktur (20) in einem eingeschalteten Zustand ist, der spannungsführende Leitungskontakt (41) und der neutrale Leitungskontakt (42) jeweils in Kontakt mit den anderen Enden der zwei leitfähigen Kontakte (22) sind.

9. Stromschalter (1) nach Anspruch 6, wobei die Gehäusebaugruppe (10) eine erste Schale (13) und eine zweite Schale (14) aufweist.

10. Stromschalter (1) nach Anspruch 9, wobei die zwei Kontaktöffnungen (131, 141) entsprechend zugeordnet an Seitenwänden der ersten Schale (13) und der zweiten Schale (14) angeordnet sind.

11. Stromschalter (1) nach Anspruch 9, wobei die Gehäusebaugruppe (10) ferner ein Befestigungselement (15) aufweist, das die erste Schale (13) und

die zweite Schale (14) verbindet.

Revendications

1. Commutateur d'alimentation (1), pouvant être connecté à un luminaire, le commutateur d'alimentation (1) comprenant :

   un ensemble boîtier (10) ;
   une structure de commutateur (20), disposée dans l'ensemble boîtier (10) ;
   caractérisé en ce que
   l'ensemble boîtier (10) comprend une rainure de logement annulaire (11) ; et le commutateur d'alimentation (1) comprend en outre :
   un ensemble de connexion (30), disposé au niveau de la rainure de logement annulaire (11), l'ensemble de connexion (30) comprenant :

      un élément de connexion (31), adapté pour être connecté au luminaire, l'élément de connexion (31) ayant une partie annulaire (311) ; et
      un collier extérieur (32), manchonné au niveau de la partie annulaire (311) de l'élément de connexion (31) et logé dans la rainure de logement annulaire (11).

2. Commutateur d'alimentation (1) selon la revendication 1, dans lequel l'élément de connexion (31) a une première partie de limitation (312) qui est fournie sur un côté extérieur de la partie annulaire (311), et le collier extérieur (32) a une deuxième partie de limitation (321) qui est fournie sur un côté intérieur du collier extérieur (32), dans lequel la deuxième partie de limitation (321) correspond à la première partie de limitation (312).

3. Commutateur d'alimentation (1) selon la revendication 2, dans lequel, lorsque le collier extérieur (32) et l'élément de connexion (31) sont tournés relativement vers une position prédéterminée, la première partie de limitation (312) et la deuxième partie de limitation (321) sont mutuellement en butée.

4. Commutateur d'alimentation (1) selon la revendication 2, dans lequel l'ensemble boîtier (10) comprend une fente de limitation (12) qui est fournie sur une paroi intérieure de la rainure de logement annulaire (11), et le collier extérieur (32) a une troisième partie de limitation (322) qui est fournie sur un côté extérieur du collier extérieur (32), dans lequel la troisième partie de limitation (322) est fournie dans la fente de limitation (12).

5. Commutateur d'alimentation (1) selon la revendication 4, dans lequel la troisième partie de limitation (322) se déplace dans la fente de limitation (12) de sorte que l'ensemble de connexion (30) tourne par rapport à l'ensemble boîtier (10).

6. Commutateur d'alimentation (1) selon la revendication 1, dans lequel l'ensemble boîtier (10) comprend deux ouvertures de contact (131, 141), la structure de commutation (20) comprend un bouton (21) et deux contacts conducteurs (22), les deux contacts conducteurs (22) sont fournis au niveau du bouton (21), et lorsque la structure de commutation (20) est dans un état de marche, une extrémité respective des deux contacts conducteurs (22) est exposée sur un extérieur de l'ensemble boîtier (10) à partir des ouvertures de contact (131, 141), respectivement.

7. Commutateur d'alimentation (1) selon la revendication 6, comprenant en outre :
   un groupe de contacts de ligne (40), disposé au niveau de l'ensemble boîtier (10), le groupe de contacts de ligne (40) comprenant un contact de ligne sous tension (41) et un contact de ligne neutre (42), dans lequel une extrémité du contact de ligne sous tension (41) et une extrémité du contact de ligne neutre (42) sont respectivement situées sur les autres extrémités des deux contacts conducteurs (22).

8. Commutateur d'alimentation (1) selon la revendication 7, dans lequel, lorsque la structure de commutateur (20) est dans un état de marche, le contact de ligne sous tension (41) et le contact de ligne neutre (42) sont respectivement en contact avec les autres extrémités des deux contacts conducteurs (22), respectivement.

9. Commutateur d'alimentation (1) selon la revendication 6, dans lequel l'ensemble boîtier (10) comprend une première coque (13) et une deuxième coque (14).

10. Commutateur d'alimentation (1) selon la revendication 9, dans lequel les deux ouvertures de contact (131, 141) sont situées sur des parois latérales de la première coque (13) et de la deuxième coque (14), respectivement.

11. Commutateur d'alimentation (1) selon la revendication 9, dans lequel l'ensemble de boîtier (10) comprend en outre un élément de fixation (15) connectant la première coque (13) et la deuxième coque (14).

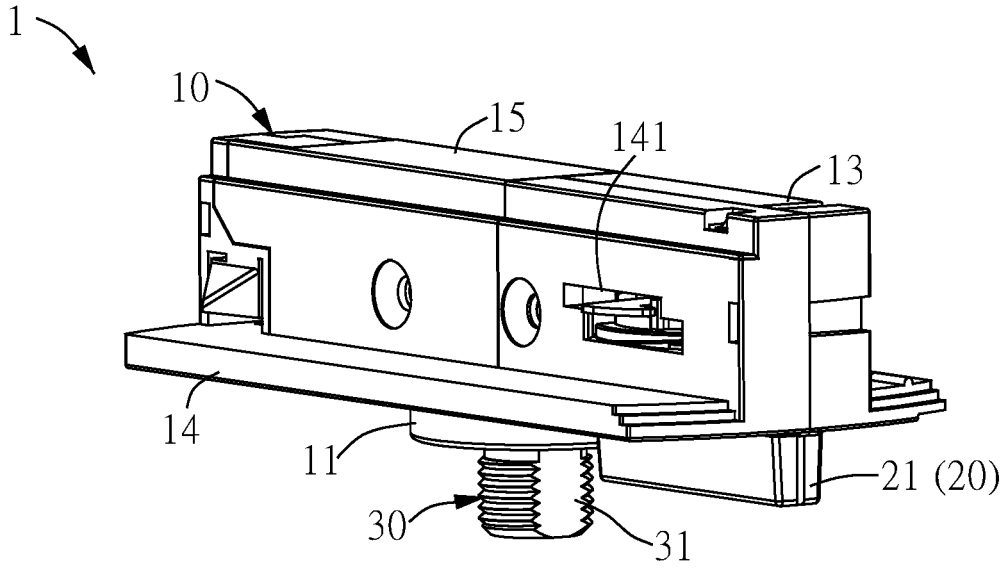


FIG. 1

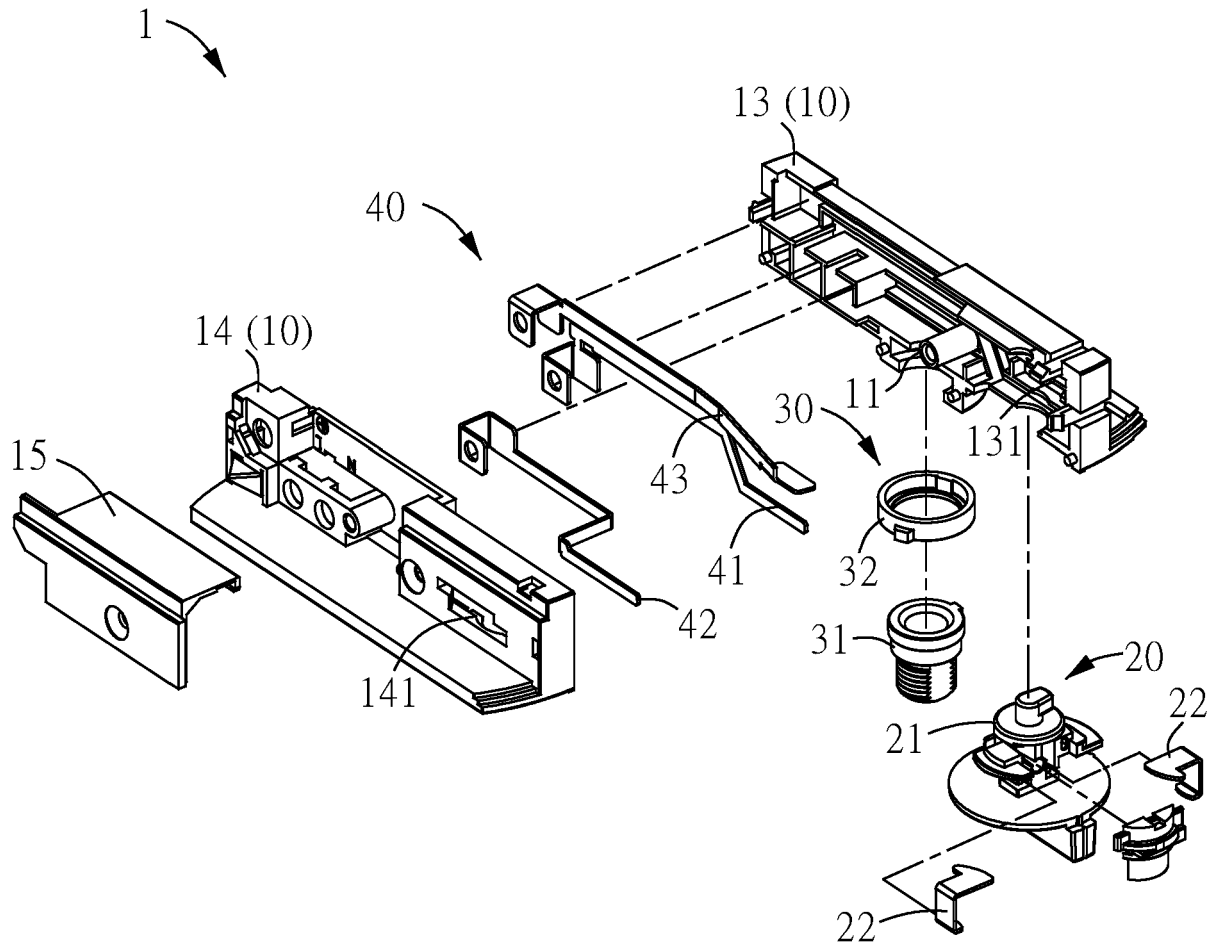


FIG. 2

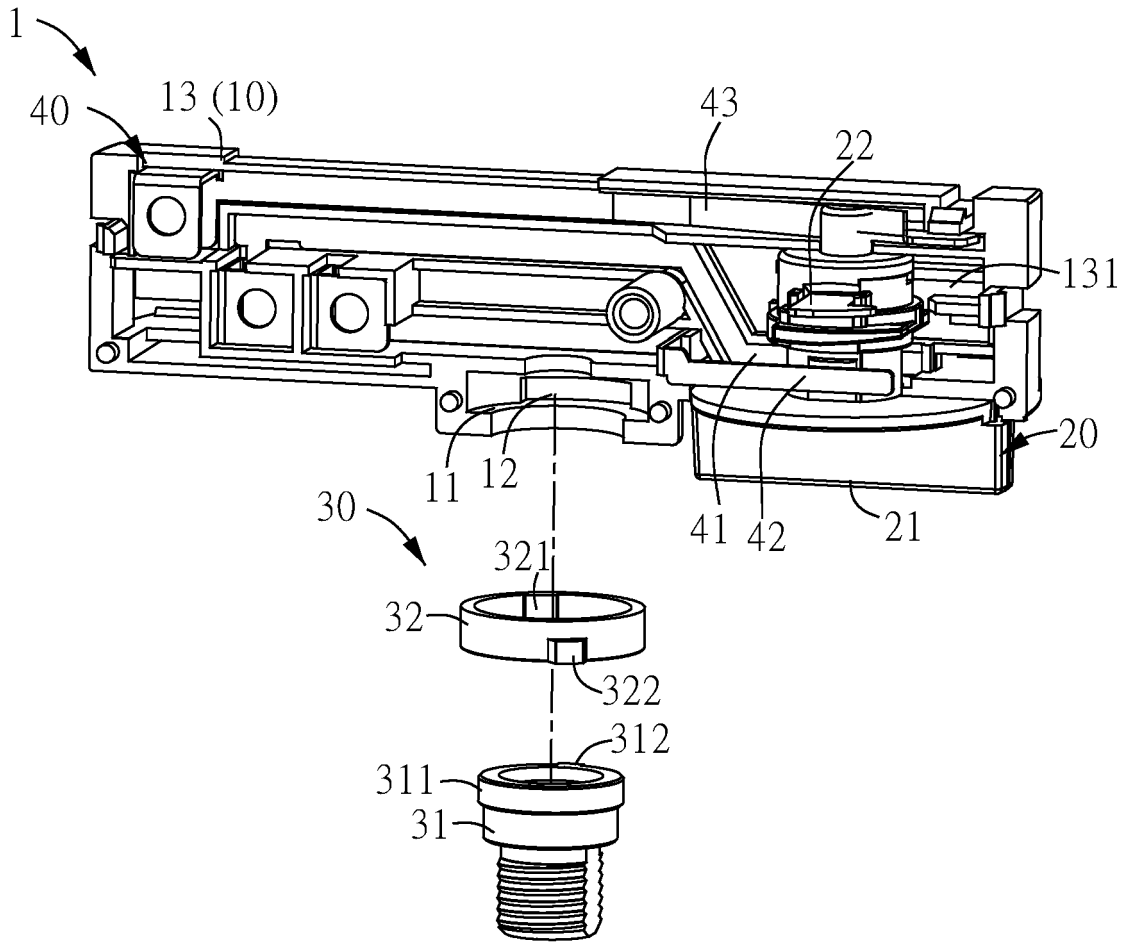


FIG. 3

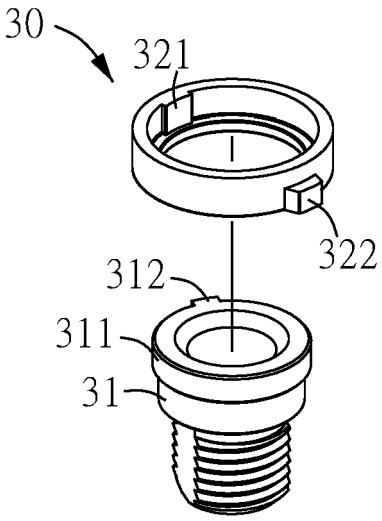


FIG. 4

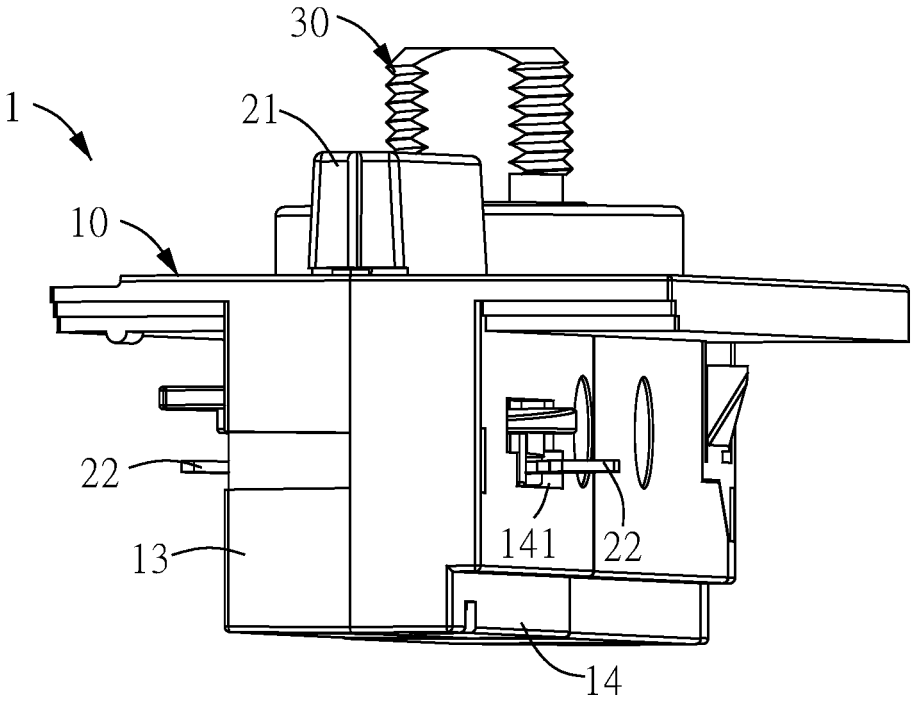


FIG. 5A

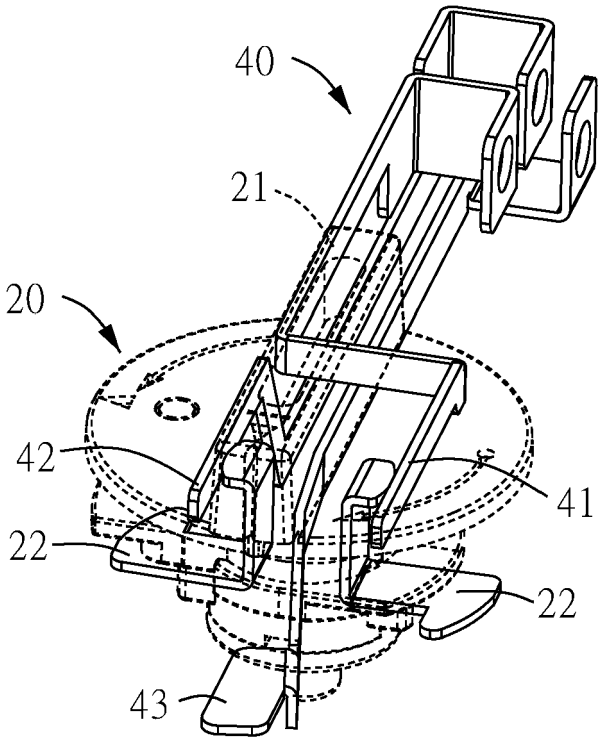


FIG. 5B

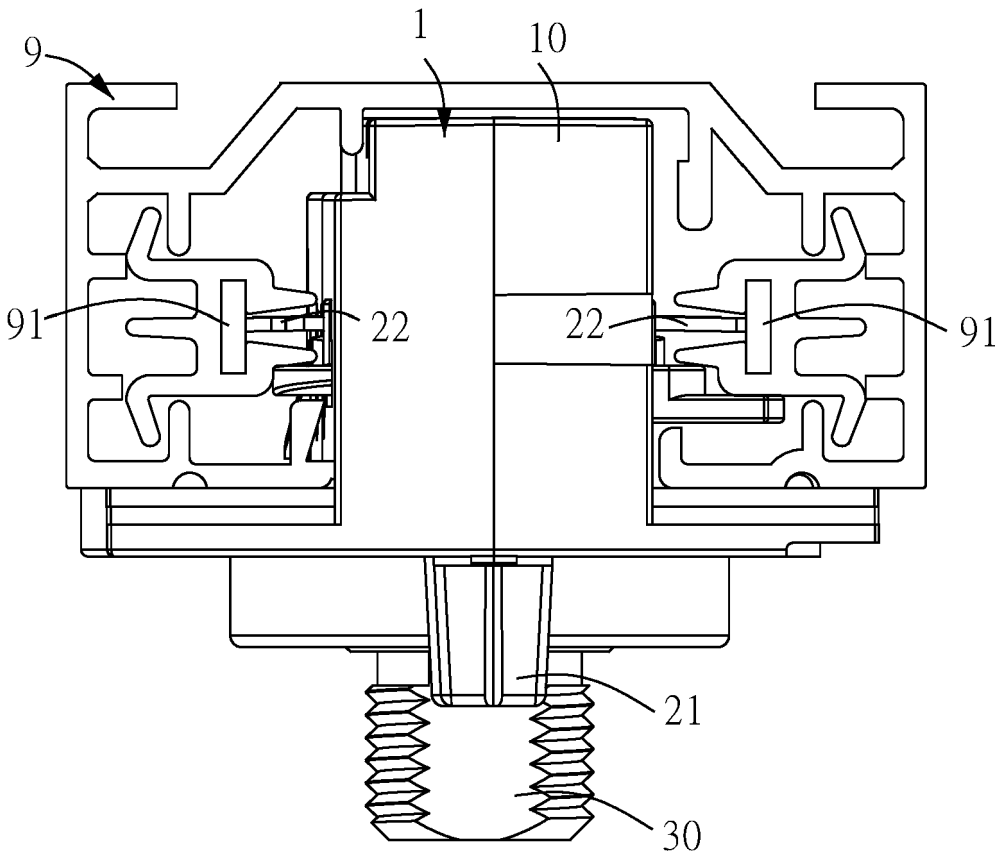


FIG. 5C

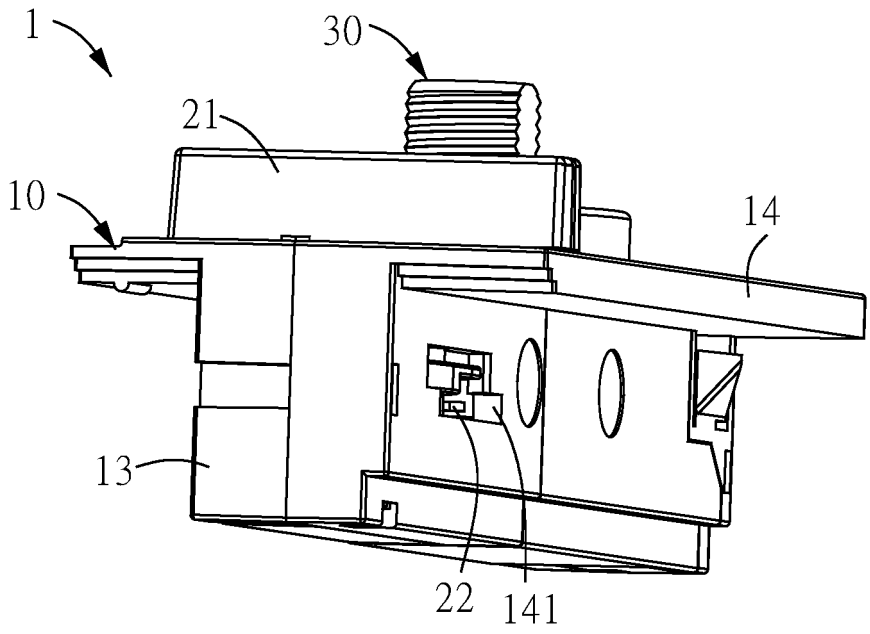


FIG. 6A

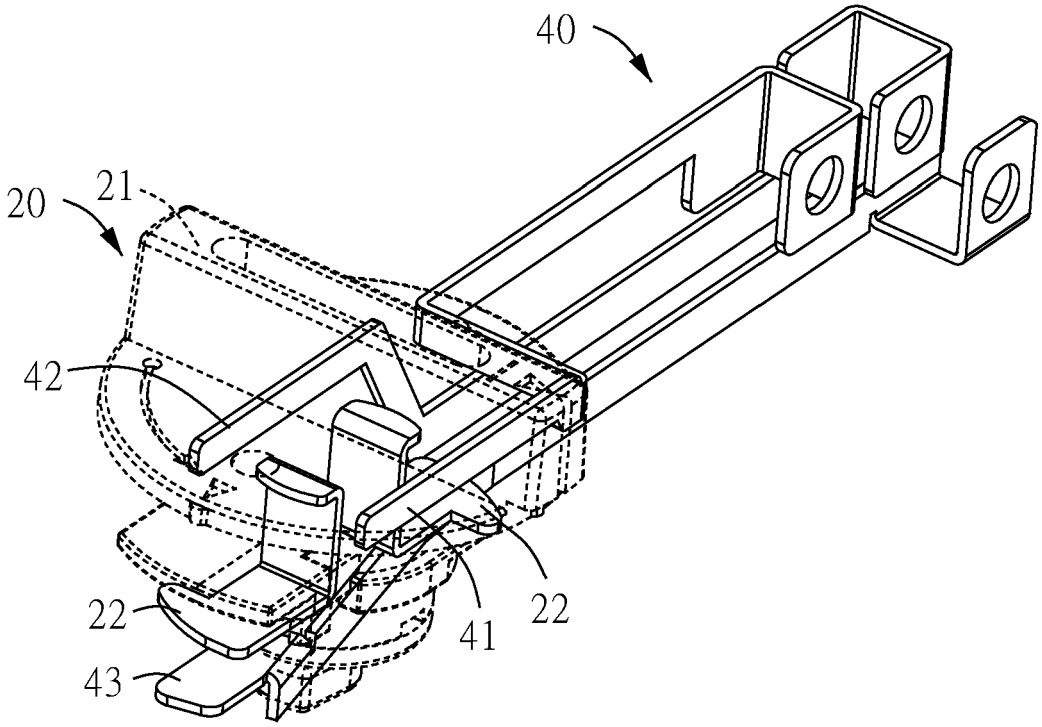


FIG. 6B

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JP 2001202860 A **[0004]**
- CN 104183396 B **[0005]**