



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
21.06.2023 Bulletin 2023/25

(51) International Patent Classification (IPC):
F21V 19/00 ^(2006.01) **F21S 8/06** ^(2006.01)
F21V 17/16 ^(2006.01) **H01R 13/58** ^(2006.01)

(21) Application number: **21215392.8**

(52) Cooperative Patent Classification (CPC):
F21V 19/006; F21S 8/061; F21V 17/164;
H01R 13/5812; H01R 33/05; H01R 13/506

(22) Date of filing: **17.12.2021**

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

(72) Inventor: **CHEN, YI**
DONGGUAN (CN)

(74) Representative: **Cabinet Chaillot**
16/20, avenue de l'Agent Sarre
B.P. 74
92703 Colombes Cedex (FR)

(71) Applicant: **LING MEI TE LIGHTING CO., LTD**
Dongguan, Guangdong (CN)

Remarks:
Amended claims in accordance with Rule 137(2)
EPC.

(54) **LAMP HOLDER WITH FIXED WIRE**

(57) A lamp holder with fixed wire, characterized by comprising: a lamp holder bottom cover (10); a wire fixing device (20) installed inside the lamp holder bottom cover (10); and a base body (30) connected to the bottom end of the lamp holder bottom cover; wherein the lamp holder bottom cover (10) includes a lamp holder bottom cover body (11), the bottom surface of the lamp holder bottom cover body has a recess (13), the wire fixing device (20) is installed in the recess (13); wherein the wire fixing device (20) includes a base ring (21), an abutting part (22) extending downwardly from the opposite sides of a bottom surface of the base ring (21), a clamping block (23) arranged alternately and spaced apart from the abutting part (22) and a plurality of barb teeth (24) connected to the inner wall of each clamping block (23); the outer surface of the clamp block (23) is used to abut the inner wall of the recess (13); the thickness of the clamp block (23) gradually increases from the lamp holder bottom cover (10) to the base body (30), and the maximum distance between the bottom ends of the two clamp blocks (23) is greater than the inner diameter of the recess (13). The lamp holder's structure is simple and convenient to use. The fixing device is inserted into the main body of the lamp holder bottom cover. The outer surfaces of the two clamping blocks are in contact with the inner wall of the recess, and the two clamping blocks are compressed and close to each other to clamp wire. Under such scenario, the barb teeth abuts the wire, the clamping effect of the wire is enhanced, the wire is tightened, effectively prevent the wire from being pulled out, the installation procedure is simplified, and the assembly efficiency is effectively improved.

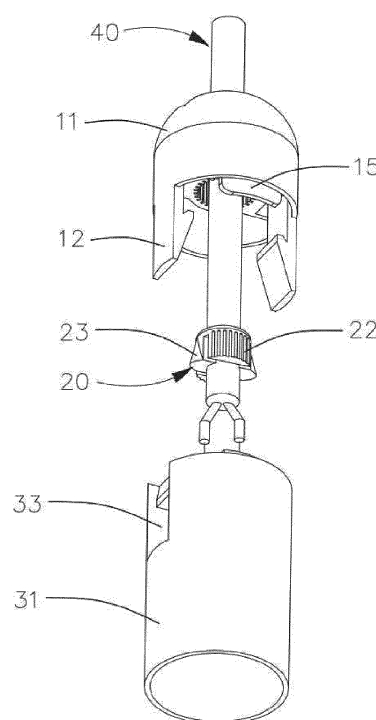


Fig.2

Description

FIELD

[0001] The present invention relates to the technical field of lamp accessories and, in particular, to a lamp holder with fixed wire.

BACKGROUND

[0002] Lamps and lanterns are commonly-seen commodities in people's daily life, and people heavily rely on them.

[0003] The holder structure of existing lamps is too complicated, and the function thereof tends to be overly simple. It is necessary to fix the wires with external lock screws to prevent the wire from being pulled out, which leads to cumbersome installation procedures and inconvenient assembling. Further, fast assembling is unable to reach.

SUMMARY OF THE DISCLOSURE

[0004] As such, the present invention provides a lamp holder with fixed wire. The lamp holder's structure is simple and convenient to use. The fixing device is inserted into the main body of the lamp holder bottom cover. The wire is tightened, effectively prevent the wire from being pulled out, so that the installation procedure is simplified, and the assembly efficiency is effectively improved.

[0005] To achieve the effectiveness as claimed, the lamp holder with fixed wire comprises a lamp holder bottom cover; a wire fixing device installed inside the lamp holder bottom cover; and a base body connected to the bottom end of the lamp holder bottom cover; wherein the lamp holder bottom cover includes a lamp holder bottom cover body, the bottom surface of the lamp holder bottom cover body has a recess, the wire fixing device is installed in the recess; wherein the wire fixing device includes a base ring, an abutting part extending downwardly from the opposite sides of a bottom surface of the base ring, a clamping block arranged alternately and spaced apart from the abutting part and a plurality of barb teeth connected to the inner wall of each clamping block; wherein the abutting part is used to abut the inner wall of the recess, the outer surface of the clamp block is used to abut the inner wall of the recess; the thickness of the clamp block gradually increases from the lamp holder bottom cover to the base body, and the maximum distance between the bottom ends of the two clamp blocks is greater than the inner diameter of the recess.

[0006] The lamp holder's structure is simple and convenient to use. The fixing device is inserted into the main body of the lamp holder bottom cover. The outer surfaces of the two clamping blocks are in contact with the inner wall of the recess, and the two clamping blocks are compressed and close to each other to clamp wire. Under such scenario, the barb teeth abuts the wire, the clamping

effect of the wire is enhanced, the wire is tightened, effectively prevent the wire from being pulled out, the installation procedure is simplified, and the assembly efficiency is effectively improved.

[0007] Preferably, in one of the embodiments, the barb teeth extends downwardly from the inner wall of the clamp block toward the direction of the base body.

[0008] Preferably, in one of the embodiments, the base ring and the recess are coaxially arranged, and the barb teeth are located on the opposite sides of the inner periphery of the base ring.

[0009] Preferably, in one of the embodiments, the inner wall of the lamp holder bottom cover body corresponding to the recess has a first anti-skid teeth arranged at uniform intervals, the outer surface of the abutting portion has a second anti-skid teeth at even intervals, and the second anti-skid teeth matches and abuts against the first anti-skid teeth.

[0010] Preferably, in one of the embodiments, the lamp holder bottom cover further includes a clamping pin connected to the opposite sides of the bottom end of the lamp holder bottom cover body, the base body includes a shell, the opposite sides of the top end of the shell are respectively provided with clamping holes, and the clamping slots and the clamping feet are buckled each by each.

[0011] Preferably, in one of the embodiments, the lamp holder bottom cover body is also provided with a wire passing hole corresponding to the middle of the recess, the wire passing hole penetrates the lamp holder bottom cover body, and the wire passing hole is used for the power supply wire to be arranged through.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012]

Fig. 1 is a three-dimensional schematic diagram of a lamp holder with fixed wire according to an embodiment of the present invention;

Fig. 2 is an exploded schematic diagram of the lamp holder with fixed wire shown in Fig. 1;

Fig. 3 is an exploded schematic view of the lamp holder with fixed wire shown in Fig. 2 from another perspective;

Fig. 4 is a schematic diagram of comparison between the lamp holder bottom cover and the fixing device in the fixing lamp holder shown in Fig. 2;

Fig. 5 is a three-dimensional schematic diagram of the fixing device in the fixing lamp holder shown in Fig. 4;

Fig. 6 is a three-dimensional schematic diagram of a lamp holder with fixed wire according to another embodiment of the present invention;

Fig. 7 is a three-dimensional schematic diagram of a lamp holder with fixed wire according to yet another embodiment of the present invention; and

Fig. 8 is an exploded schematic diagram of the lamp

holder with fixed wire shown in Figure 7.

DETAILED DESCRIPTION

[0013] In order to facilitate the understanding of the present invention, the present invention will be described more fully below with reference to the relevant drawings. The preferred embodiments of the present invention are shown in the accompanying drawings. However, the present invention can be implemented in many different forms and is not limited to the embodiments described herein. On the contrary, the purpose of providing these embodiments is to make the understanding of the disclosure of the present invention more thorough and comprehensive.

[0014] It should be noted that when an element is referred to as being "fixed to" another element, it can be directly on the other element or a central element may also be present. When an element is considered to be "connected" to another element, it can be directly connected to the other element or an intermediate element may be present at the same time.

[0015] Unless otherwise defined, all technical and scientific terms used herein have the same meaning as commonly understood by those skilled in the technical field of the present invention. The terms used in the specification of the present invention herein are only for the purpose of describing specific embodiments, and are not intended to limit the present invention.

[0016] Reference is collectively made to Figures 1 to 8, each shows a lamp holder with fixed wire according to the embodiments of the present invention. The lamp holder includes a lamp holder bottom cover 10, a fixing device 20 installed inside the lamp holder bottom cover 10, and a base body 30 connected to the bottom end of the lamp holder bottom cover 10. The base body 30 is used to connect the bulb, and the wire 40 is used to be passed through the lamp holder bottom cover 10, and the fixing device 20 and is connected to the base body 30 to provide power to the bulb.

[0017] The lamp holder bottom cover 10 includes a lamp holder bottom cover body 11 and clamping legs 12 connected to the opposite sides of the bottom end of the lamp holder bottom cover body 11. The bottom surface of the lamp holder bottom cover body 11 is provided with a recess 13 (or has a recess 13) arranged in a substantially circular shape, and the recess 13 is used for positioning and installing the fixing device 20. Further, on the inner wall of the lamp holder bottom cover body 11 corresponding to the recess 13, a first anti-skid teeth 130 protruding therefrom are provided at even intervals. The lamp holder bottom cover body 11 is further provided with a wire passing hole 14 (or has a wire passing hole) in the middle corresponding to the recess 13. The wire passing hole 14 penetrates the lamp holder bottom cover body 11, and the wire 40 passes through the wire hole 14 and is clamped on the wire holder 20.

[0018] Reference is next made to Figures 3 and 4. In

the present embodiment, the lamp holder bottom cover 10 further includes a positioning insert 15 connected to the bottom end of the lamp holder bottom cover body 11. The positioning inserts 15 and the pins 12 are alternately arranged, and the positioning inserts 15 is used to insert the base body 30 to greatly improve the stability of installation.

[0019] The fixing device 20 includes a base ring 21, an abutting part 22 extending downwardly from the opposite sides of the bottom surface of the base ring 21, a clamping block 23 staggered and spaced apart from the abutting part 22 and connected to each clamping block 23, and a plurality of barb teeth 24 connected to the inner wall of each clamping block 23. The barb teeth 24 extends downwardly from the inner wall of the clamping block 23 towards the base body 30. The base ring 21 and the recess 13 are arranged coaxially, the abutting portion 22 is used to abut against the inner wall of the recess 13, and the barb teeth 24 is located on the opposite sides of the inner periphery of the base ring 21 and in between two clamping blocks 23.

[0020] In the present embodiment, the second anti-skid teeth 220, protruding from the outer surface, are provided on the outer surface of the abutment portion 22 at even intervals. The second anti-skid teeth 220 matches and abuts against the first anti-skid teeth 130, which prevent relative sliding between the fixing device 20 and the lamp holder bottom cover body 11, improving the stability of the connection.

[0021] The outer surface of the clamping block 23 is used to abut the inner wall of the recess 13. Specifically, the thickness of the clamping block 23 gradually increases from the lamp holder bottom cover 10 toward the seat 30, and the maximum distance between the bottom ends of the two clamping blocks 23 is greater than the inner diameter of the recess 13. Since the clamping block 23 and the abutting part 22 are not continuous, the connection strength of the clamping block 23 is relatively reduced, so that the clamping block 23 has a certain elastic deformation ability. Therefore, when the fixing device 20 is installed in the recess 13, the two clamps is in contact with the inner wall of the recess 13, and the two clamping blocks 23 are compressed to close to each other to clamp the wire 40. Under such scenario, the barb teeth 24 abuts the wire 40, the wire 40 is tightened, effectively prevent the wire 40 from being pulled out, which effectively enhances the clamping effect of the wire 40. Comparing with traditional engagement method by external screwing, the present invention only needs to have the fixing device 20 pressed into and installed in the recess 13, which effectively simplifies the installation procedure and effectively improves the assembly efficiency.

[0022] The base 30 includes a housing 31, a terminal block 32 mounted on the top of the housing 31, and a metal connector (not shown) mounted inside the housing 31. The metal terminal is electrically connected to the input terminal 32, and the metal terminal is used to connect the bulb. The wire 40 is passed through the lamp

holder bottom cover body 11 of the lamp holder bottom cover 10 and the fixing device 20 and then connected to the terminal block 32 to provide power to the bulb. The opposite sides of the top end of the housing 31 are respectively provided with clamping slots 33, and the clamping slots 33 and the clamping feet 12 are buckled in a one-to-one correspondence manner, to realize the connection and installation of the base body 30 and the lamp holder bottom cover 10

[0023] Specifically, in the present embodiment, a gap 34 is provided between the housing 31 and the terminal block 32. The gap 34 is used for the positioning insert 15 to be inserted, and can limit the relative position of the base body 30 and the lamp holder bottom cover 10 to prevent the base body. The relative rotation between the base body 30 and the lamp holder bottom cover 10 can effectively improve the stability of installation.

[0024] Reference is next made to Fig. 6. In the present embodiment, the lamp holder bottom cover 10 further includes a sleeve 16 connected to the top of the lamp holder bottom cover body 11, the sleeve 16 and the cable hole 14 are arranged coaxially, and the sleeve 16 is used for power supply. Wire 40 is threaded through the sleeve 16.

[0025] In another embodiment, as shown in Figs. 7 and 8, the outer surface of the cover lamp holder tail cover body 11 has a cover plate 17 extending circumferentially outward, and the cover plate 17 is used to increase the shielding area and facilitate the adaptation. The lamp holder as provided in the present invention can be easily adapted, and is practical. The outer surface of the housing 31 is provided with an external thread 35, which can be used to connect the locking ring (not shown).

[0026] The fixing device 20 is inserted into the main body 11 of the lamp holder bottom cover 10. The outer surfaces of the two clamping blocks 23 are in contact with the inner wall of the recess 13, and the two clamping blocks 23 are compressed to close to each other to clamp wire 40. Under such scenario, the barb teeth 24 abuts the wire 40, the wire 40 is tightened, effectively prevent the wire from being pulled out, the clamping effect of the wire 40 is enhanced, the installation procedure is simplified, and the assembly efficiency is effectively improved.

[0027] The technical features of the above-mentioned embodiments can be combined arbitrarily. In order to make the description concise, all possible combinations of the various technical features in the above-mentioned embodiments are not described. However, as long as there is no contradiction in the combination of these technical features. All should be considered as the scope of this specification.

[0028] The above-mentioned embodiments only express several implementation modes of the present invention, and their description is relatively specific and detailed, but they should not be understood as a limitation on the scope of the invention patent. It should be pointed out that for those of ordinary skill in the art, without departing from the concept of the present invention, several

modifications and improvements can be made, and these all fall within the protection scope of the present invention. Therefore, the protection scope of the patent of the present invention should be subject to the appended claims.

Claims

1. A lamp holder with fixed wire, **characterized by** comprising:

a lamp holder bottom cover (10);
a wiring fixing device (20) installed inside the lamp holder bottom cover (10); and
a base body (30) connected to the bottom end of the lamp holder bottom cover (10);
wherein the lamp holder bottom cover (10) includes a lamp holder bottom cover body (11), the bottom surface of the lamp holder bottom cover body (11) has a recess (13), the wire fixing device (20) is installed in the recess (13);
wherein the wire fixing device (20) includes a base ring (21), an abutting part (22) extending downwardly from the opposite sides of a bottom surface of the base ring (21), a clamping block (23) arranged alternately and spaced apart from the abutting part (22) and a plurality of barb teeth (24) connected to the inner wall of each clamping block (23);
wherein the abutting part (22) is used to abut the inner wall of the recess (13), the outer surface of the clamp block (23) is used to abut the inner wall of the recess (13), the thickness of the clamp block (23) gradually increases from the lamp holder bottom cover to the base body (30), and the maximum distance between the bottom ends of the two clamp blocks (23) is greater than the inner diameter of the recess (13).

2. The lamp holder according to claim 1, **characterized in that** the barb teeth (24) extends downwardly from the inner wall of the clamp block (23) toward the direction of the base body (30).

3. The lamp holder according to claim 1, **characterized in that** the base ring (21) and the recess (13) are coaxially arranged, and the barb teeth (24) are located on the opposite sides of the inner periphery of the base ring (21).

4. The lamp holder according to claim 1, **characterized in that** the inner wall of the lamp holder bottom cover body (11) corresponding to the recess (13) has a first anti-skid teeth (130) arranged at uniform intervals, the outer surface of the abutting part (22) has a second anti-skid teeth (220) at even intervals, and the second anti-skid teeth (220) matches and abuts

against the first anti-skid teeth (130).

5. The lamp holder according to claim 1, **characterized in that** the lamp holder bottom cover further includes a clamping pin connected to the opposite sides of the bottom end of the lamp holder bottom cover body (11), the base body (30) includes a shell, the opposite sides of the top end of the shell are respectively provided with clamping holes, and the clamping slots and the clamping feet are buckled each by each.
6. The lamp holder according to claim 1, **characterized in that** the lamp holder bottom cover body (11) is also provided with a wire passing hole (14) corresponding to the middle of the recess (13), the wire passing hole (14) penetrates the lamp holder bottom cover body (11), and the wire passing hole (14) is used for the power supply wire (40) to be arranged through.

Amended claims in accordance with Rule 137(2) EPC.

1. A lamp holder with fixed wire, comprising:

a lamp holder bottom cover (10);
a wiring fixing device (20) installed inside the lamp holder bottom cover (10); and
a base body (30) connected to the bottom end of the lamp holder bottom cover (10);
wherein the lamp holder bottom cover (10) includes a lamp holder bottom cover body (11), the bottom surface of the lamp holder bottom cover body (11) has a recess (13), the wire fixing device (20) is installed in the recess (13);
wherein the wire fixing device (20) includes a base ring (21), an abutting part (22) extending downwardly from the opposite sides of a bottom surface of the base ring (21), a clamping block (23) arranged alternately and spaced apart from the abutting part (22) and a plurality of barb teeth (24) connected to the inner wall of each clamping block (23);
wherein the abutting part (22) is used to abut the inner wall of the recess (13), the outer surface of the clamp block (23) is used to abut the inner wall of the recess (13), the thickness of the clamp block (23) gradually increases from the lamp holder bottom cover to the base body (30), and the maximum distance between the bottom ends of the two clamp blocks (23) is greater than the inner diameter of the recess (13), **characterized in that** the inner wall of the lamp holder bottom cover body (11) corresponding to the recess (13) has a first anti-skid teeth (130) arranged at uniform intervals, the outer surface of the abutting part (22) has a second anti-skid

teeth (220) at even intervals, and the second anti-skid teeth (220) matches and abuts against the first anti-skid teeth (130).

2. The lamp holder according to claim 1, **characterized in that** the barb teeth (24) extends downwardly from the inner wall of the clamp block (23) toward the direction of the base body (30).
3. The lamp holder according to claim 1, **characterized in that** the base ring (21) and the recess (13) are coaxially arranged, and the barb teeth (24) are located on the opposite sides of the inner periphery of the base ring (21).
4. The lamp holder according to claim 1, **characterized in that** the lamp holder bottom cover further includes a clamping pin connected to the opposite sides of the bottom end of the lamp holder bottom cover body (11), the base body (30) includes a shell, the opposite sides of the top end of the shell are respectively provided with clamping holes, and the clamping slots and the clamping feet are buckled each by each.
5. The lamp holder according to claim 1, **characterized in that** the lamp holder bottom cover body (11) is also provided with a wire passing hole (14) corresponding to the middle of the recess (13), the wire passing hole (14) penetrates the lamp holder bottom cover body (11), and the wire passing hole (14) is used for the power supply wire (40) to be arranged through.

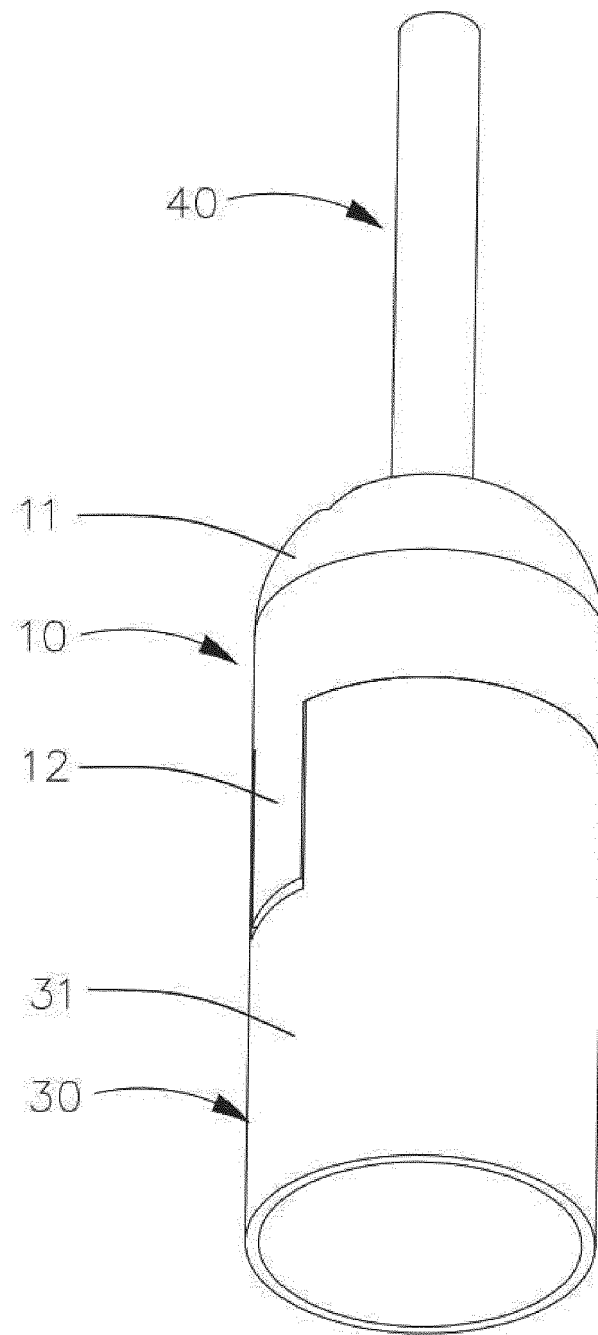


Fig.1

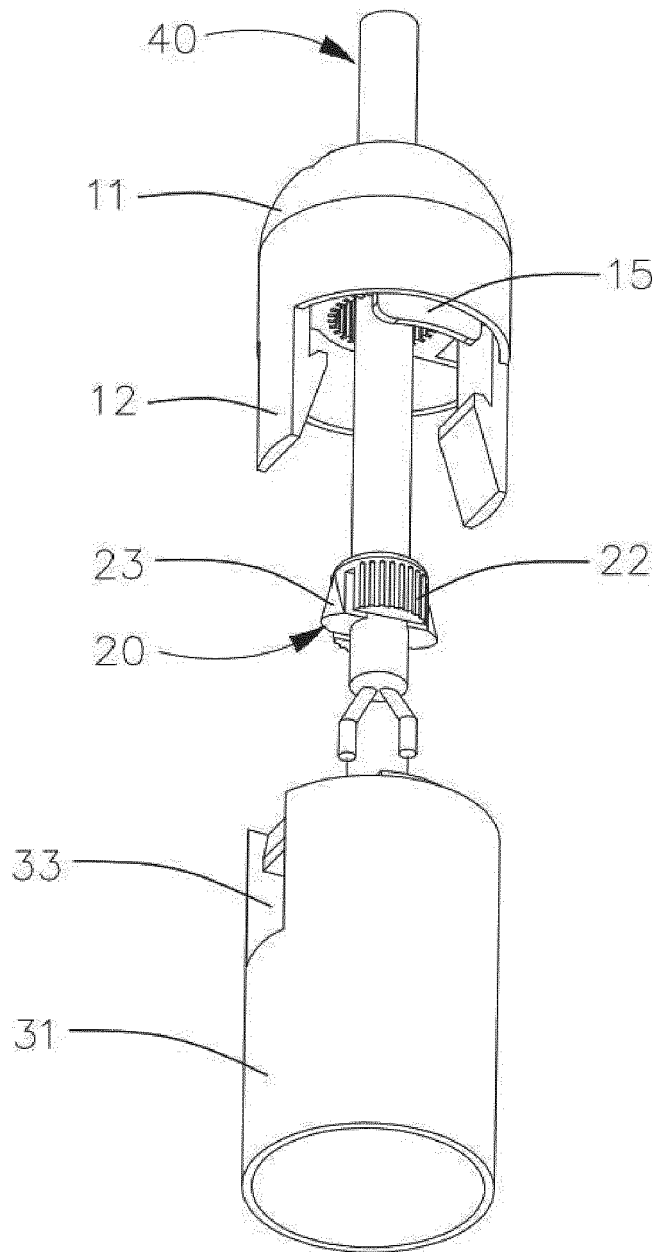


Fig.2

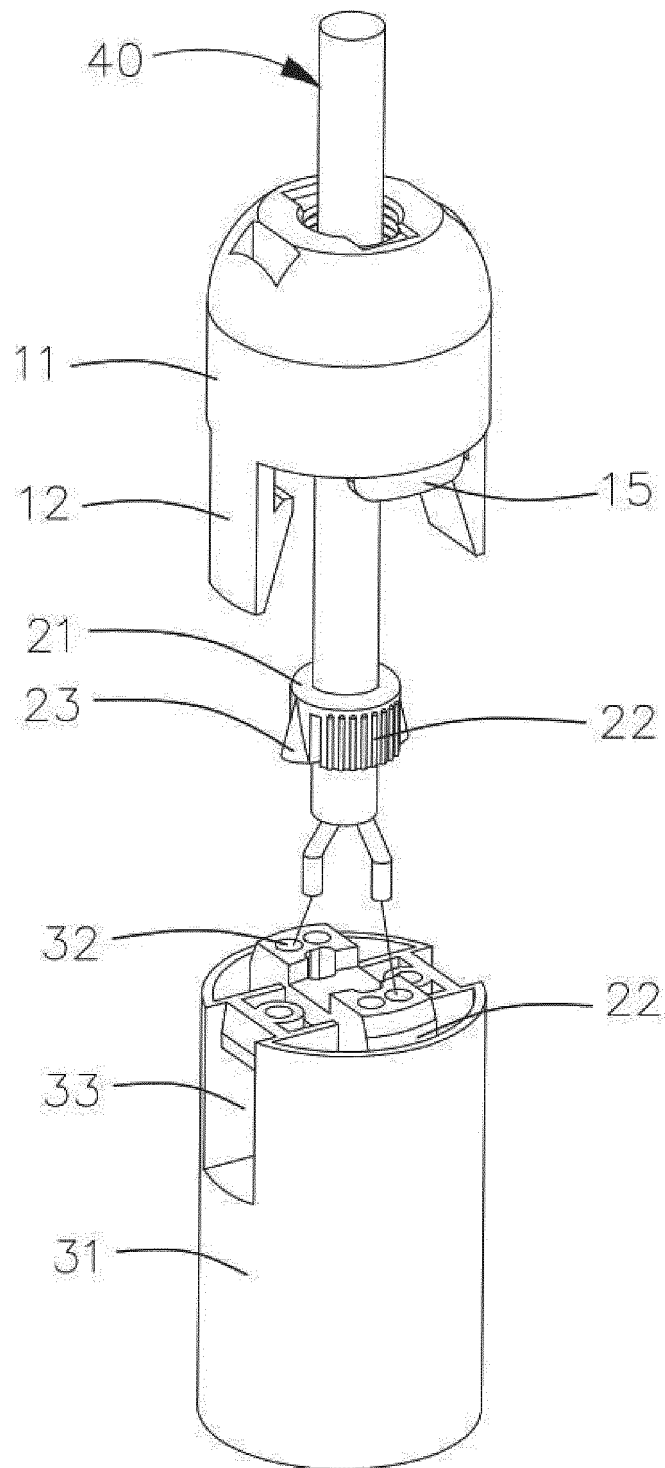


Fig.3

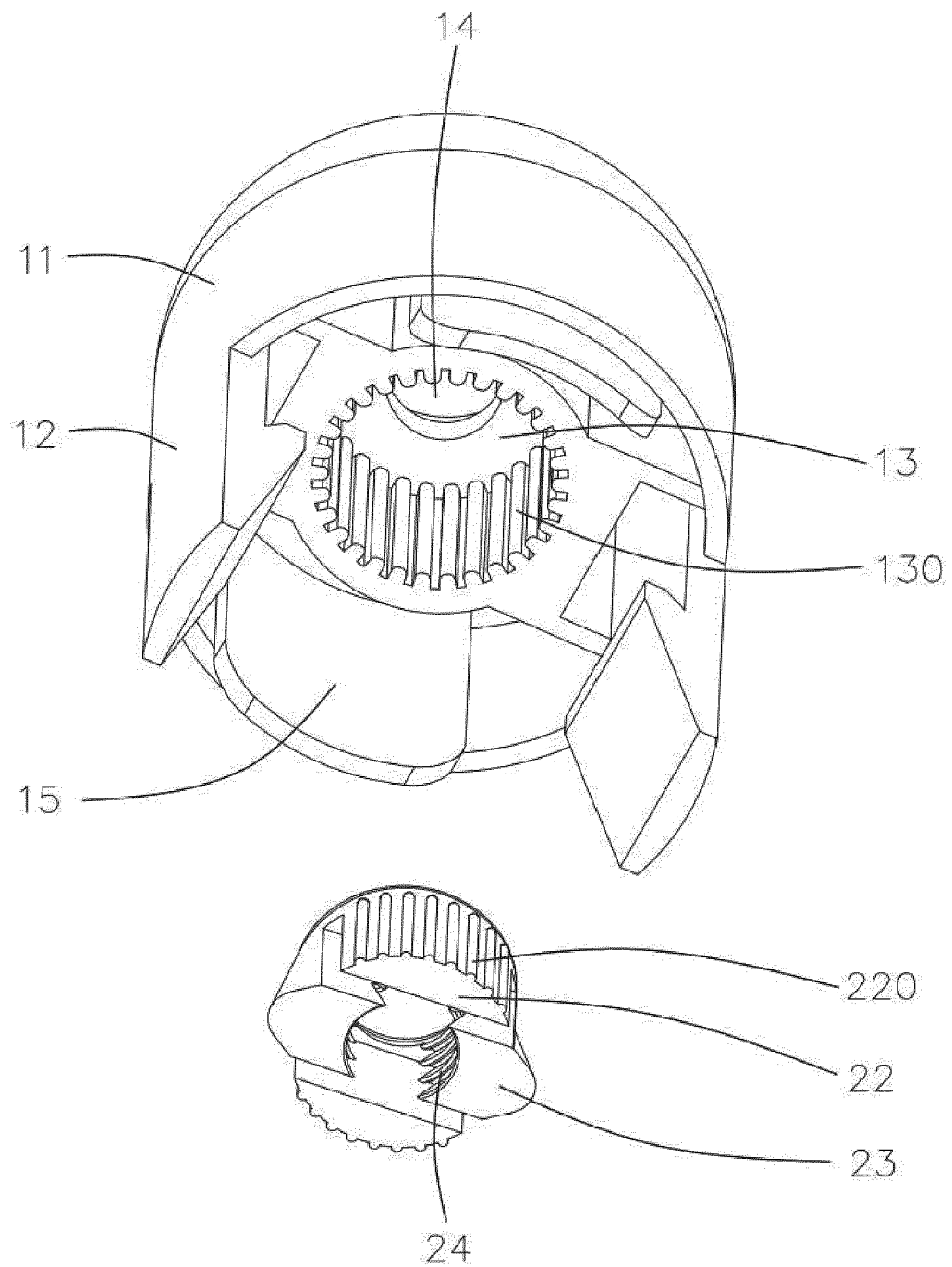


Fig.4

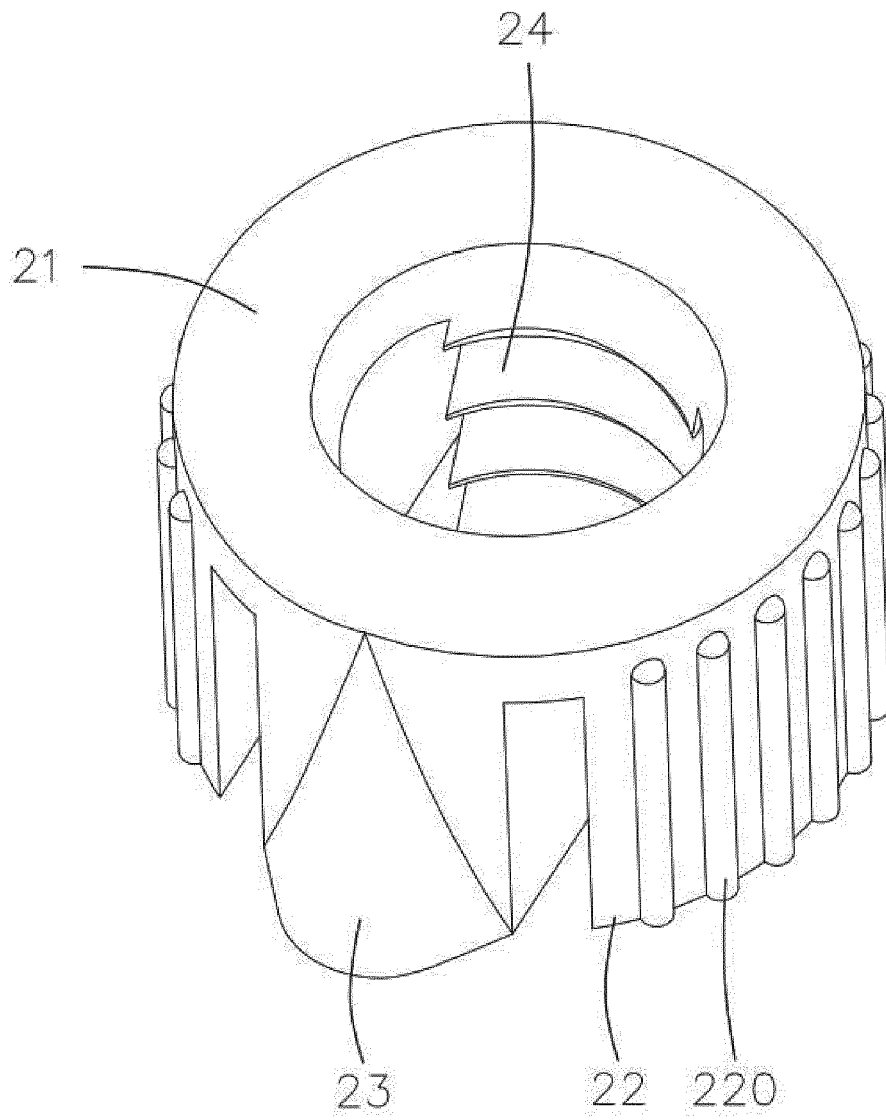


Fig.5

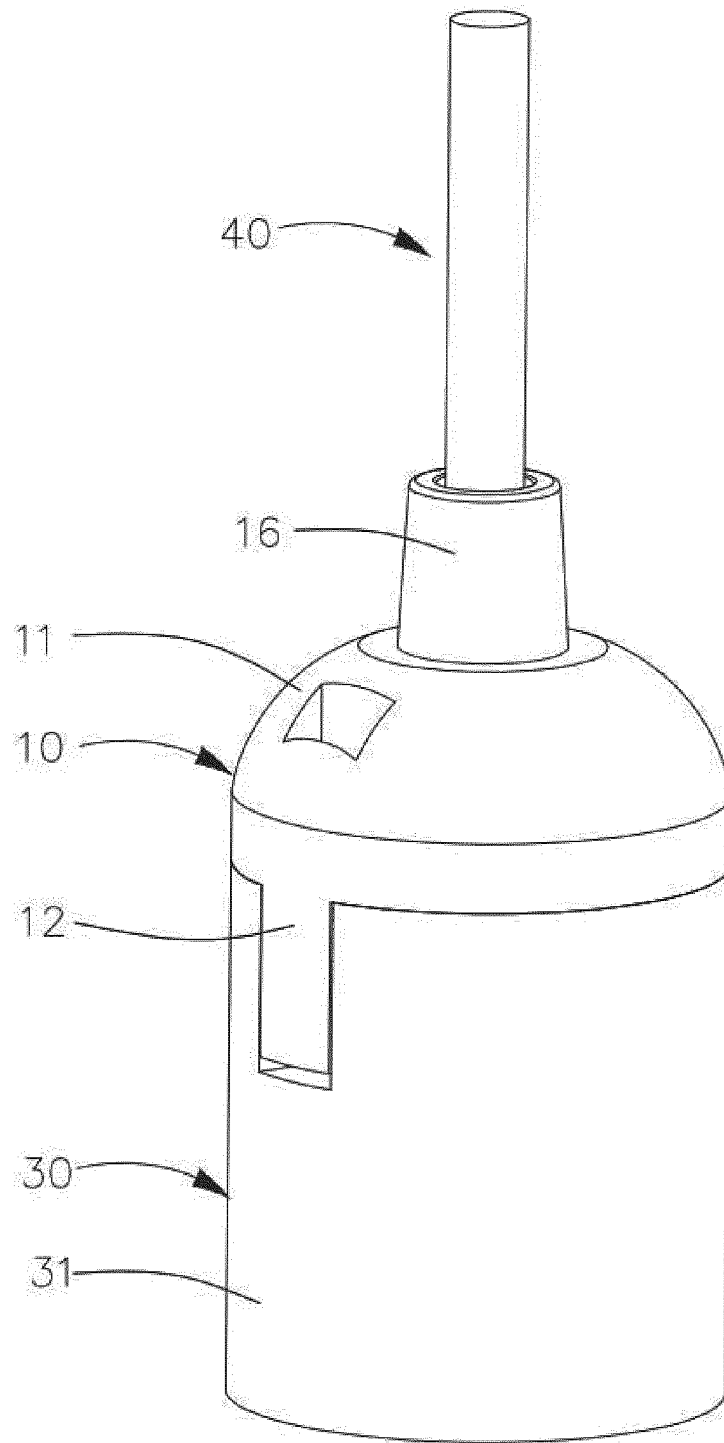


Fig.6

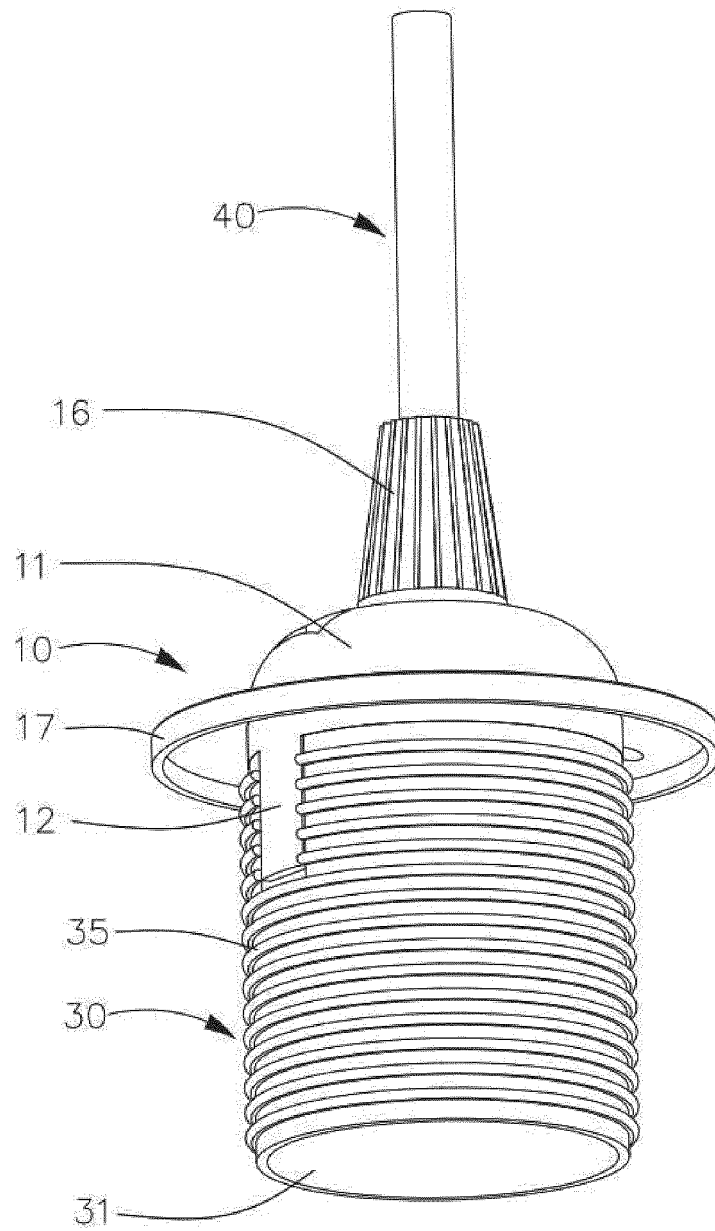


Fig.7

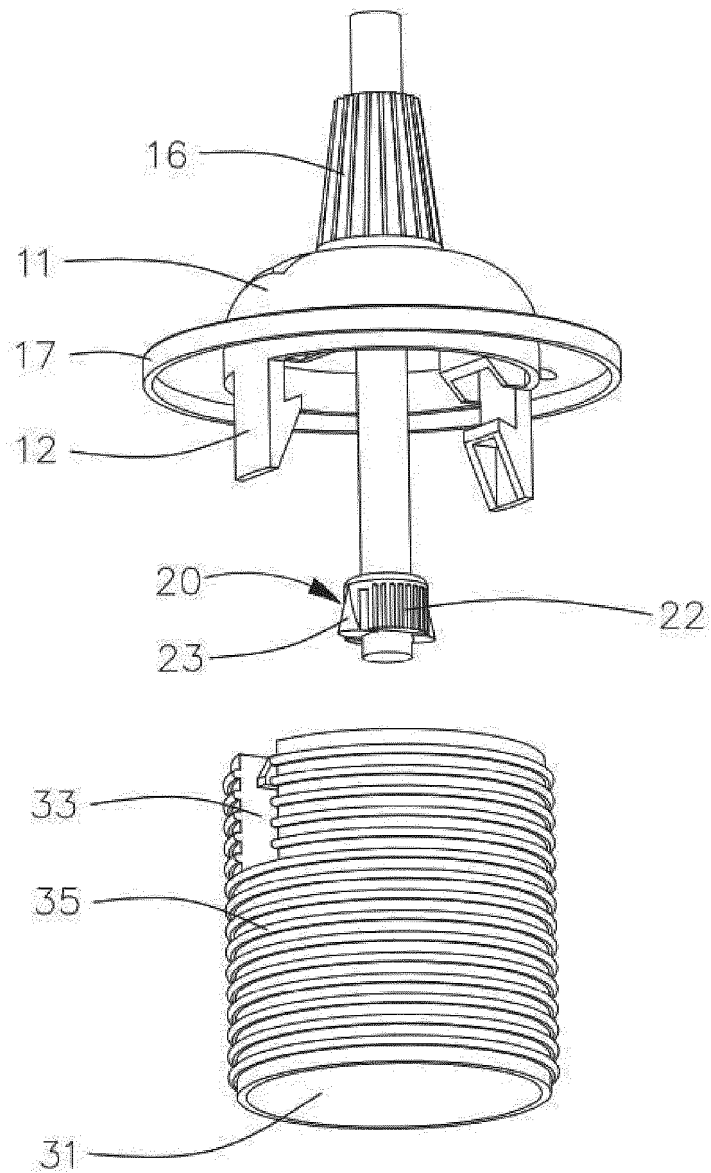


Fig.8



EUROPEAN SEARCH REPORT

Application Number

EP 21 21 5392

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
			F21V F21S H01R
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		11 May 2022	Demirel, Mehmet
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EP 21 21 5392

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