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(54) **Structure of curtain rod**

(57) The structure of curtain rod of the present invention includes a main shaft, at least one fastening element and at least one slot. The main shaft includes a sliding shaft and two ornamental heads, wherein the two ornamental heads are disposed on two ends of the sliding shaft. The slot corresponds to one end of a support rod and the slot. The fastening element is used to fix the support rod and the slot together, wherein the slot is formed on a face of the main shaft toward wall. The fastening element is partially located in the main shaft and is partially exposed out of the slot. The fastening element is able to slide along the slot. One end of the support rod which is not connected to the slot is fixed to wall. Thus, the distance between the two fastening elements is adjustable.

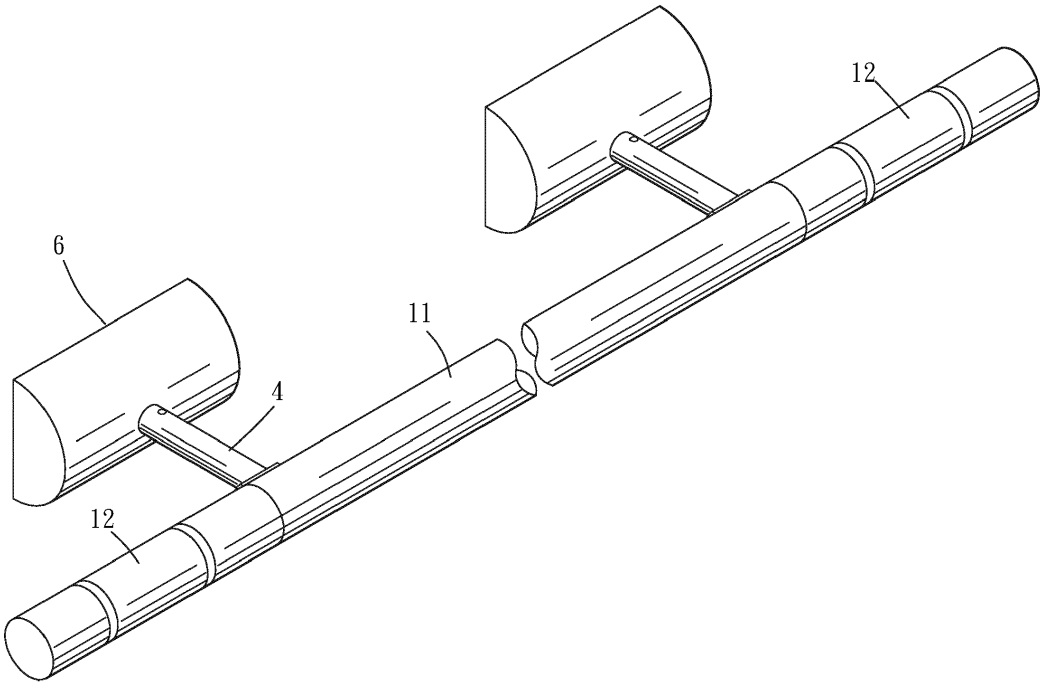

FIG. 1

EP 2 462 848 A2

Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a curtain rod, more particularly to a curtain rod having a positioning device of an elongated hole.

Description of the Prior Art

[0002] Generally speaking, a curtain rod which provides a curtain to drape and slide is fixed to wall by two support rods, wherein the two support rods are fixed to wall parallelly. At the very start, the curtain rod is placed just on the upper faces of the two support rods directly, wherein the end away from wall of each support rod has a hook portion or a recess to enable the curtain rod to be placed in, as disclosed in TW536998. This kind of curtain rod is convenient to install, but is also disavantageous in many aspects. For example, the structure is not stable, and the hook portion is exposed and is not pleasing to the eye.

[0003] Another structure which is disclosed to improve the disadvantages mentioned above has a fixing element to fix the curtain rod to the support rod. The fixing element is a bolt or a pin. The problem of unstable structure is solved by the improvement, but the hook portion is still exposed and is not pleasing to the eye.

[0004] Curtain rods also play a role of ornament, so the appearance of curtain rods is important. To provide a more aesthetic curtain rod, a curtain rod disclosed in US7490803 is fixed to the two support rods on the face facing to wall to prevent the support rods from being exposed. More precisely, two positioning holes are formed at two predeterminate positions on the curtain rod, and the two support rods thread to the two positioning holes respectively. Thus, the curtain rod is able to be fixed to the two support rods firmly. However, installation becomes difficult and lacks of flexibility. In other words, if the distance between the two support rods is not exactly equal to the distance between the two positioning holes, the two support rods are unable to point at the two positioning holes accurately. Such that, the positions of the support rods have to be adjusted several times, and installation becomes more difficult. Besides, if any object occupies the position to which the support rod is predetermined to be fixed, the support rod will be unable to be installed.

[0005] In addition, another kind of curtain rod which is adjustable is disclosed in US2003/0052244. A slot is formed on the support rod to enable the curtain rod to move in a direction perpendicular to wall in order to adjust the position of the curtain rod. But the distance between the two support rods is still impossible to adjust.

[0006] In conclusion, a curtain rod which permits the changing of the distance between the two support rods and is more aesthetic becomes an important goal.

SUMMARY OF THE INVENTION

[0007] The main object of the present invention is to provide a structure of curtain rod which provides more flexible ways of using and is more aesthetic.

[0008] To achieve the above and other objects, the structure of curtain rod of the present invention includes a main shaft, at least one fastening element and at least one slot. The main shaft includes a sliding shaft and two ornamental heads, and the two ornamental heads are disposed on the two opposite ends of the sliding shaft. The slot corresponds to one end of a support rod and the fastening element. The fastening element is used to fasten the support rod and the slot to each other, wherein the slot is formed facing to wall on the main shaft. The fastening element is partially located in the main shaft and is also partially exposed out of the slot. The fastening element is able to slide along the slot. Besides, an end of the support rod which is not connected to the slot is fixed to wall.

[0009] Thereby, the structure of curtain rod of the present invention is enable the distance between the support rods to be adjusted. Also, the support rods are fixed to the face of the curtain rod facing to wall, and the connection is concealed in the curtain rod. Thus, the curtain rod is more aesthetic than traditional curtain rods.

[0010] The present invention will become more obvious from the following description when taken in connection with the accompanying drawings, which show, for purpose of illustrations only, the preferred embodiment (s) in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011]

Fig. 1 is a stereogram showing a structure of curtain rod of the present invention;
Fig. 2 is a breakdown drawing showing a structure of curtain rod of the present invention;
Fig. 3 is a partial enlargement schematic view showing a structure of curtain rod of the present invention;
Fig. 4 is a partial profile view showing a structure of curtain rod of the present invention;
Fig. 5 is a breakdown drawing of a second configuration showing a structure of curtain rod of the present invention;
Fig. 6 is a breakdown drawing of a third configuration showing a structure of curtain rod of the present invention;
Fig. 7 is a breakdown drawing of another embodiment showing a structure of curtain rod of the present invention;
Fig. 8 is a partial enlargement profile drawing of another embodiment showing a structure of curtain rod of the present invention;

Fig. 9 is a schematic view of another embodiment showing a structure of curtain rod of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] Please refer to Fig. 1 and Fig. 2, the structure of curtain rod of the present invention includes a main shaft 1, at least one fastening element 2 and at least one slot 3.

[0013] Please refer to Fig. 2, the main shaft includes a sliding shaft 11 and two ornamental heads 12, and has a first face facing away from wall and a second face toward wall. The two ornamental heads 12 are disposed on two opposite ends of the sliding shaft 11 respectively. The slot 3 is formed on the second face of the main shaft 1 and corresponds to one end of a support rod 4 and the fastening element 2. The fastening element 2 is used to fasten the support rod 4 and the slot 3 to each other. Besides, an end of the support rod 4 which is not connected to the slot 3 is fixed to wall via a positioning base 6.

[0014] The slot 3 can be formed on the sliding shaft 11, as shown in Fig. 2. The sliding shaft 11 is at least partially hollow. The slot 3 extends from an end of the sliding shaft 11 along the longitudinal direction of the sliding shaft 11. The fastening element 2 is placed into the sliding shaft 11 from an end having the slot 3. Thus, the fastening element 2 is partially located in the sliding shaft 11 and is partially exposed out of the slot 3.

[0015] The slot 3 also can be formed on the ornamental head 12, as shown in Fig. 5. The ornamental head 12 is at least partially hollow. The slot 3 extends from an end of the ornamental head 12 along the longitudinal direction of the ornamental head 12. The fastening element 2 is placed into the ornamental head 12 from an end having the slot 3. Thus, the fastening element 2 is partially located in the ornamental head 12 and is partially exposed out of the slot 3.

[0016] Besides, in another figuration of the present invention, as shown in Fig. 6, the sliding shaft 11 includes a sliding section 111 and two engaging sections 112, wherein the two engaging sections 112 are disposed on two opposite ends of the sliding section 111. The engaging section 112 is disposed between the sliding section 111 and the ornamental head 12. The slot 3 is formed at the end of the engaging section 112 near the sliding section 111.

[0017] About the fastening element 2, please refer to Fig. 2 to Fig. 4, the fastening element 2 is larger than a width of the slot 3, and the part of the fastening element 2 exposed out of the slot has a fixing hole 21. The support rod 4 has an aperture 41. A fixing element 5 is disposed in the aperture 41 and the fixing hole 21 in order to fix the support rod 4 and the fastening element 2 to each other. More specifically, the fixing element 5 is a bolt, and the aperture 41 and the fixing hole 21 are threaded holes. In another embodiment of the present invention, please refer to Fig. 7 to Fig. 9, a top section 22 and a bottom section 24 are defined at two opposite ends of the fastening element 2 respectively. The bottom section 24 is located in the main shaft 1. The part of the fastening element 2 except the bottom section 24 is exposed out of the slot 3 and extends into an end of the support rod 4. A middle section 23 is defined between the top section 22 and the bottom section 24 and has an external diameter smaller than an external diameter of the top section 22. A continuous incline is formed between the top section 22 and the middle section 23. The support rod 4 has an aperture 41 on an end connected to the fastening element 2, wherein the aperture 41 is a threaded hole. A fixing element 5 is disposed in the aperture 41 and presses against the incline between the top section 22 and the middle section 23. The fixing element 5 is bolt. The fixing element 5 is screwed into the support rod 4 and presses and pushes against the incline. And then, the fastening element 2 is moved in to the support rod 4, and the support rod 4 and the main shaft 1 are fixed together, as shown in Fig. 8 and Fig. 9. The fixing element 5 is able to press against the middle section 23 at most. When adjusting the distance between the two fastening elements 2, the two fastening elements 2 are moved to appropriate positions along the slots 3 and are fastened and fixed.

[0018] Thereby, even if the positioning bases 6 are not installed at exactly correct positions, adjusting the distance between the two fastening elements 2 by moving the fastening elements 2 can avoid the problem that the support rods 4 is unable to point at the slots 3 accurately. On the other hand, if any object occupies the predeterminate position of the positioning base 6, adjusting the distance between the two fastening elements 2 can be a solution to keep away from the object on wall.

[0019] In conclusion, the structure of curtain rod of the present invention is quite pleasing to the eye because the fixing device is hidden in the curtain rod, and the position of engagement is on the face toward wall. The most important is that the distance between the fastening elements is able to be adjusted. Thus, the flexibility of using is improved, and the difficulty of installation is decreased.

Claims

1. A structure of curtain rod including:

a main shaft (1) having a first face facing away from a wall and a second face facing toward a wall, the main shaft (1) including a sliding shaft (11);

at least one fastening element (2);

at least one slot (3), the slot (3) corresponding to one end of a support rod (4) and the fastening element (2), the fastening element (2) being used to fasten the support rod (4) and the slot

(3) to each other, wherein the slot (3) is arranged on the second face of the main shaft (1), the fastening element (2) is partially located in the main shaft (1) and is partially exposed out of the slots (3), the fastening element (2) is able to slide along the slot (3);
wherein an end of the support rod (4) away from the slot (3) is able to be fixed to a wall.

2. The structure of curtain rod of claim 1, wherein at least part of the sliding shaft (11) is hollow, the slot (3) is formed on a wall of the sliding shaft (11) and extends from one end of the sliding shaft (11) along a longitudinal direction of the sliding shaft (11), the fastening element (2) is placed into the slot (3) via an end of the sliding shaft (11), the fastening element (2) is partially located in the sliding shaft (11), the fastening element (2) is partially exposed out of the slot (3) and is engaged to the support rod (4).

3. The structure of curtain rod of claim 1, wherein the main shaft (1) includes two ornamental heads (12) which are disposed on two opposite ends of the sliding shaft (11) respectively.

4. The structure of curtain rod of claim 3, wherein at least part of each ornamental head (12) is hollow, the slot (3) is formed on a wall of one of the ornamental heads (12) and extends from one end of the ornamental head (12) along a longitudinal direction of the ornamental head (12), the fastening element (2) is placed into the slot (3) via an end of the ornamental head (12), the fastening element (2) is partially located in the ornamental head (12), the fastening element is partially exposed out of the slot (3) and is engaged to the support rod (4).

5. The structure of curtain rod of claim 1, wherein the fastening element (2) is larger than a width of the slot (3), a part of the fastening element (2) exposing out of the slot (3) has a fixing hole (21), an aperture (41) is formed on the support rod (4), a fixing element (5) is disposed in the aperture (41) and the fixing hole (21) in order to fasten the main shaft (1) and the support rod (4) to each other.

6. The structure of curtain rod of claim 2, wherein the fastening element (2) is larger than a width of the slot (3), a part of the fastening element (2) exposing out of the slot (3) has a fixing hole (21), an aperture (41) is formed on the support rod (4), a fixing element (5) is disposed in the aperture (41) and the fixing hole (21) in order to fasten the main shaft (1) and the support rod (4) to each other.

7. The structure of curtain rod of claim 4, wherein the fastening element (2) is larger than a width of the slot (3), a part of the fastening element (2) exposing out of the slot (3) has a fixing hole (21), an aperture (41) is formed on the support rod (4), a fixing element (5) is disposed in the aperture (41) and the fixing hole (21) in order to fasten the main shaft (1) and the support rod (4) to each other.

8. The structure of curtain rod of claim 1, wherein one end of the fastening element (2) has a top section (22), another end of the fastening element (2) has a bottom section (24), the bottom section (24) is located in the main shaft (1), a part except the bottom section (24) of the fastening element (2) is exposed out of the slots (3) and extends to one end of the support rod (4), a middle section (23) is located between the top section (22) and the bottom section (24), an external diameter of the middle section (23) is smaller than an external diameter of the top section (22), a continuous incline is formed between the top section (22) and the middle section (23), an aperture (41) is formed on an end of the support rod (4) connecting to the fastening element (2), a fixing element (5) props against the incline via the aperture (41), the fastening element (2) is moved toward an interior of the support rod (4) in order to fasten the support rod (4) and the main shaft (1) to each other when the fixing element (5) props and pushes against the incline continually.

9. The structure of curtain rod of claim 2, wherein one end of the fastening element (2) has a top section (22), another end of the fastening element (2) has a bottom section (24), the bottom section (24) is located in the main shaft (1), a part except the bottom section (24) of the fastening element (2) is exposed out of the slots (3) and extends to one end of the support rod (4), a middle section (23) is located between the top section (22) and the bottom section (24), an external diameter of the middle section (23) is smaller than an external diameter of the top section (22), a continuous incline is formed between the top section (22) and the middle section (23), an aperture (41) is formed on an end of the support rod (4) connecting to the fastening element (2), a fixing element (5) props against the incline via the aperture (41), the fastening element (2) is moved toward an interior of the support rod (4) in order to fasten the support rod (4) and the main shaft (1) to each other when the fixing element (5) props and pushes against the incline continually.

10. The structure of curtain rod of claim 4, wherein one end of the fastening element (2) has a top section (22), another end of the fastening element (2) has a bottom section (24), the bottom section (24) is located in the main shaft (1), a part except the bottom section (24) of the fastening element (2) is exposed out of the slots (3) and extends to one end of the support rod (4), a middle section (23) is located be-

tween the top section (22) and the bottom section (24), an external diameter of the middle section (23) is smaller than an external diameter of the top section (22), a continuous incline is formed between the top section (22) and the middle section (23), an aperture (41) is formed on an end of the support rod (4) connecting to the fastening element (2), a fixing element (5) props against the incline via the aperture (41), the fastening element (2) is moved toward an interior of the support rod (4) in order to fasten the support rod (4) and the main shaft (1) to each other when the fixing element (5) props and pushes against the incline continually.

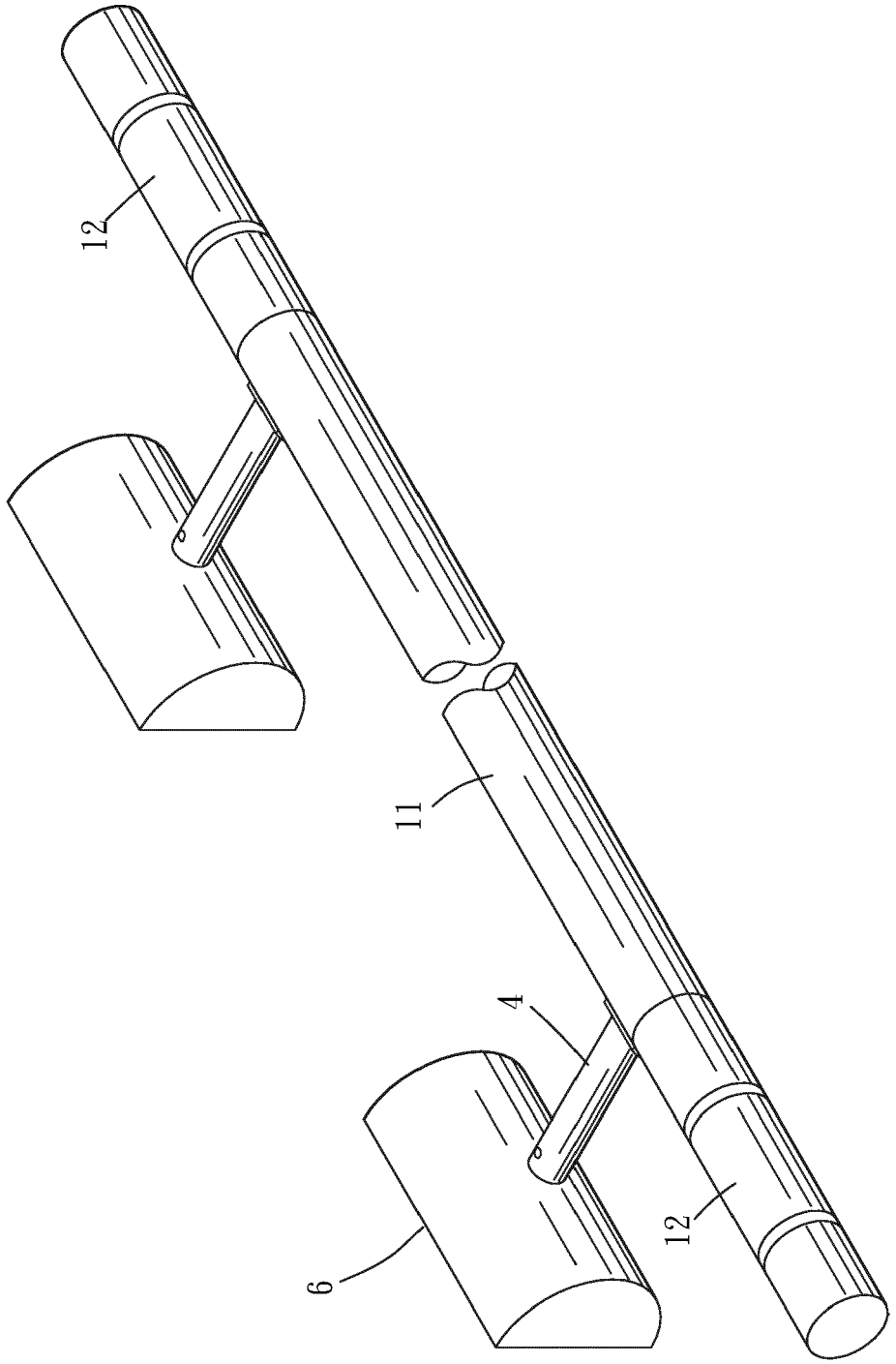

FIG. 1

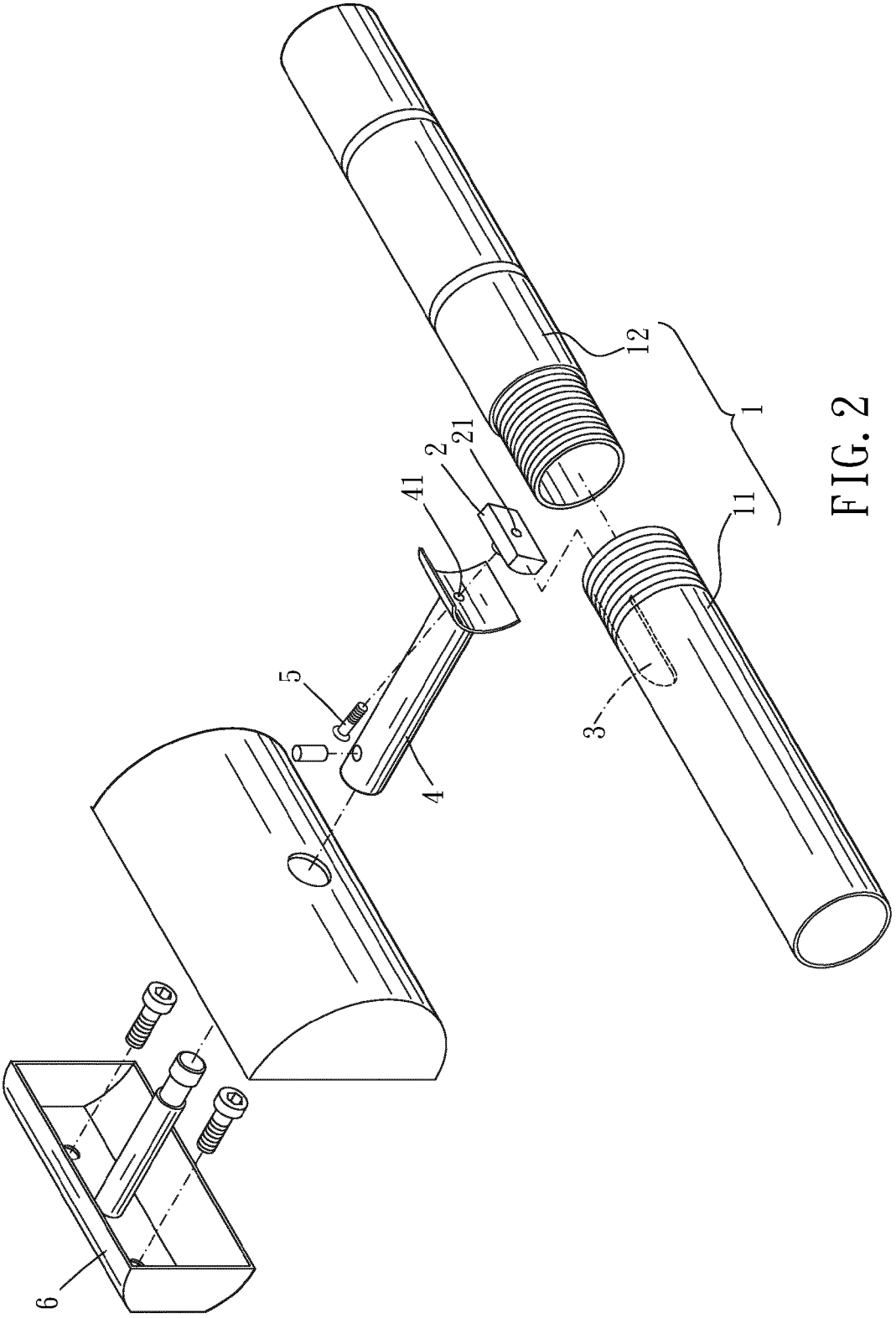

FIG. 2

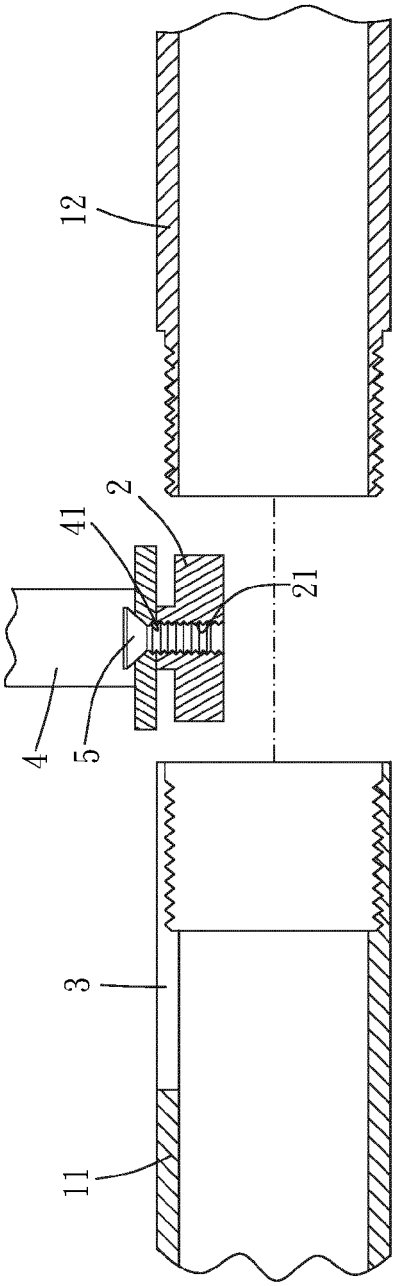

FIG. 3

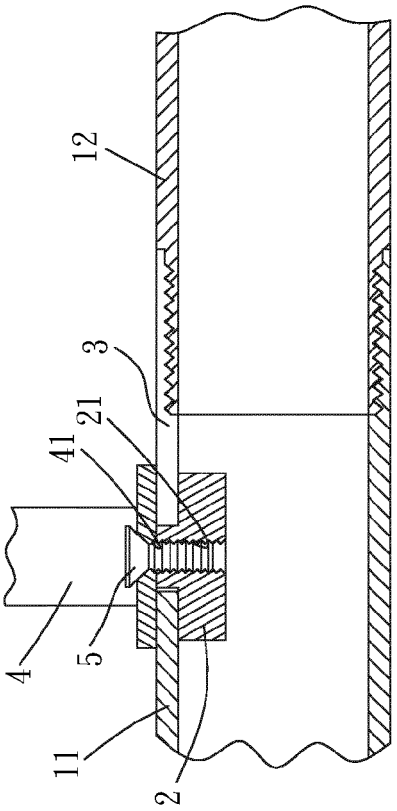

FIG. 4

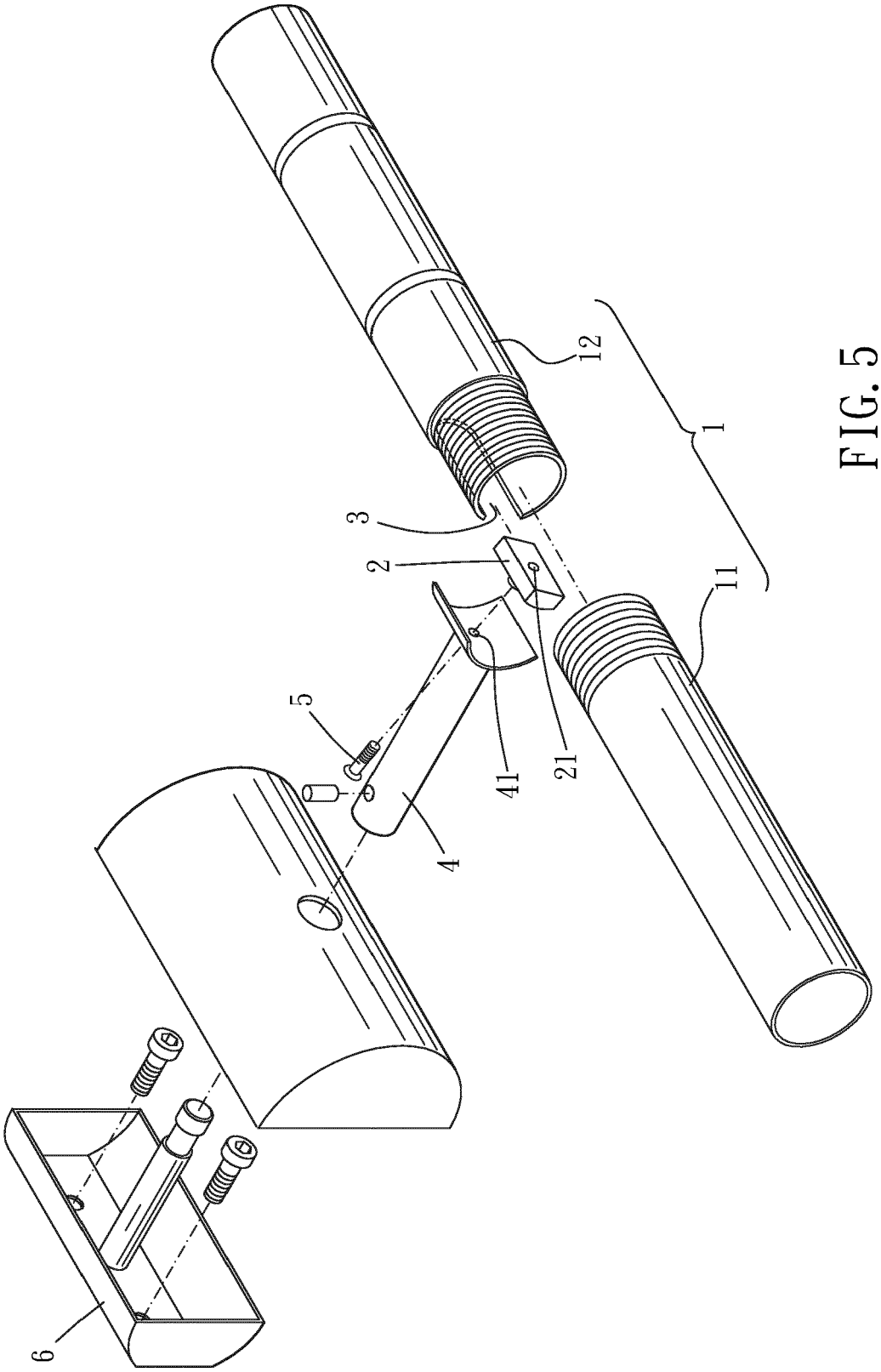

FIG. 5

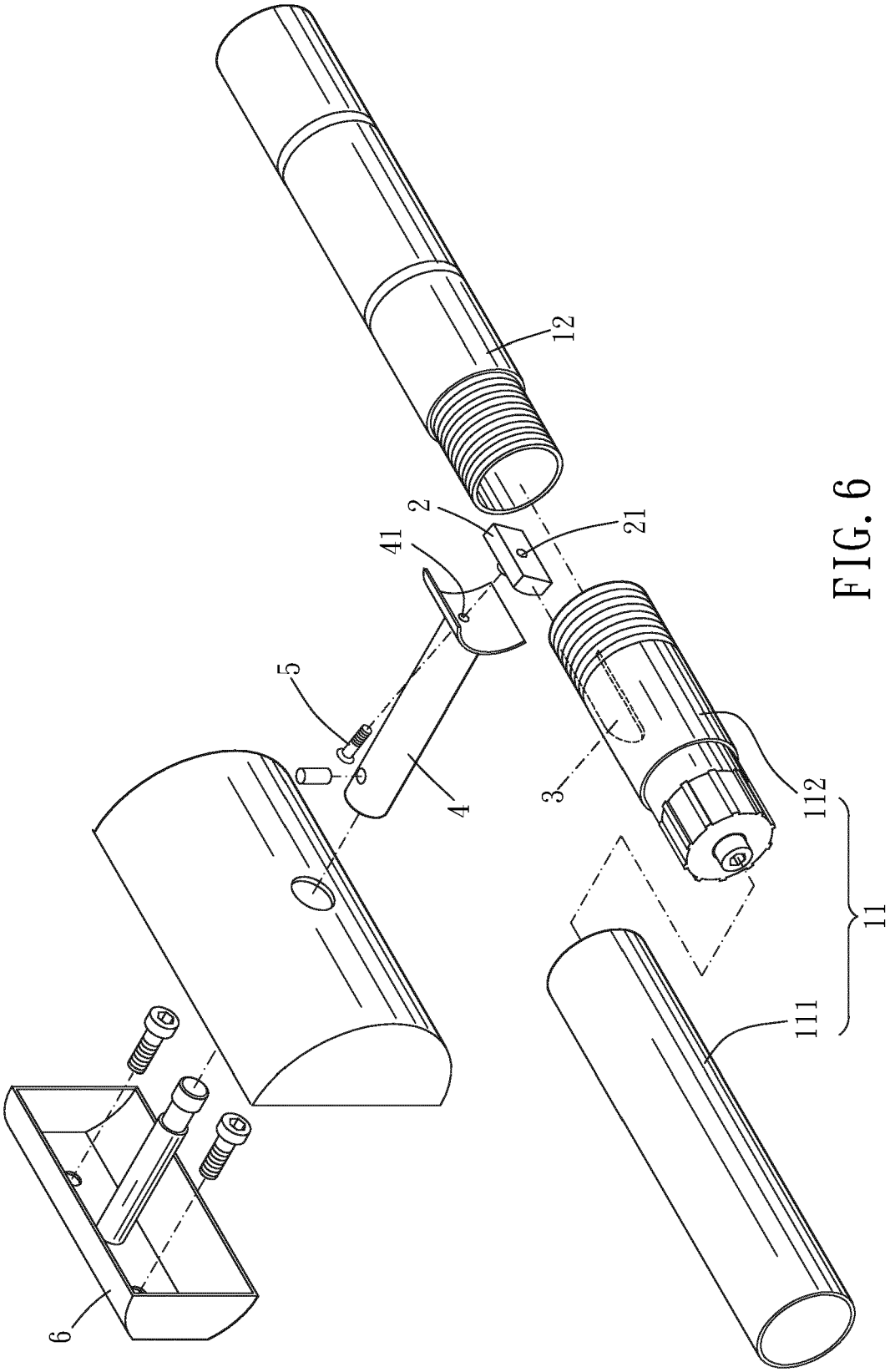

FIG. 6

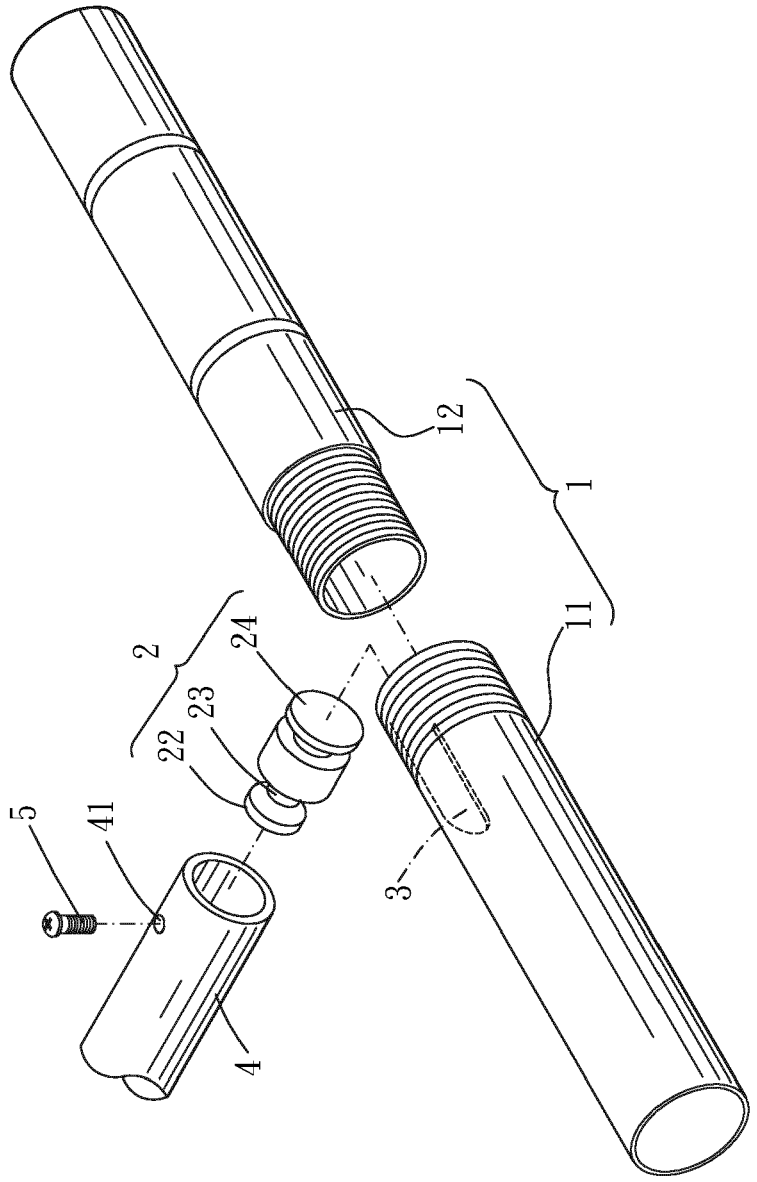

FIG. 7

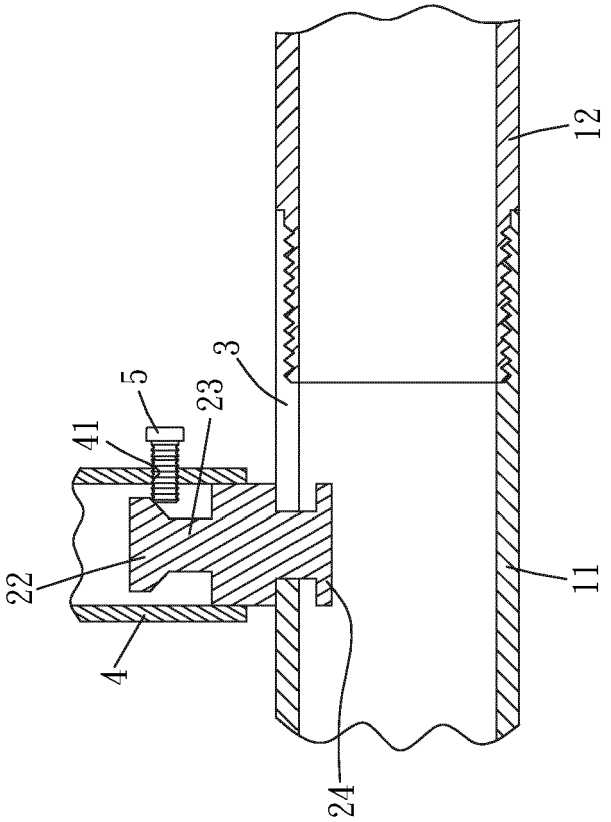

FIG. 8

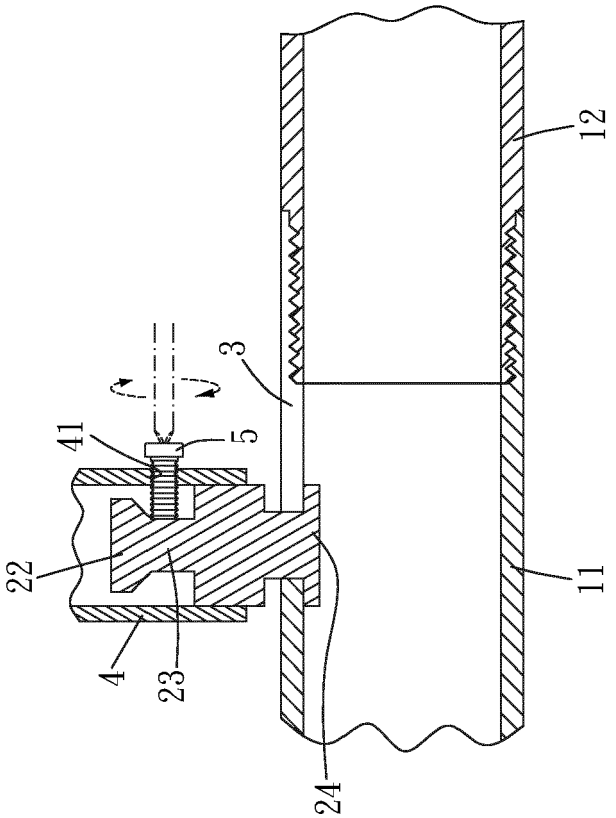

FIG. 9

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- TW 536998 **[0002]**
- US 7490803 B **[0004]**
- US 20030052244 A **[0005]**