



(12)

EUROPEAN PATENT APPLICATION

- (43)

Date of publication:  
21.08.2024 Bulletin 2024/34
- (51)

International Patent Classification (IPC):  
A47H 1/04 (2006.01) A47H 1/00 (2006.01)
- (21)

Application number: 23157404.7
- (52)

Cooperative Patent Classification (CPC):  
A47H 1/04; A47H 1/104; A47H 1/142; A47H 1/144;  
A47H 2/00; A47H 15/02; A47H 2001/006;  
A47H 2001/042
- (22)

Date of filing: 17.02.2023

<div>(84)</div> <div>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 ME MK MT NL NO PL PT RO RS SE SI SK SM TR Designated Extension States: BA Designated Validation States: KH MA MD TN</div>	<div>(72)</div> <div>Inventor: YU, Yu-Heng 33862 Taoyuan City (TW)</div> <div>(74)</div> <div>Representative: 2K Patentanwälte Blasberg Kewitz &amp; Reichel Partnerschaft mbB Schumannstrasse 27 60325 Frankfurt am Main (DE)</div>
<div>(71)</div> <div>Applicant: Arlinea Industries Co. Taoyuan City 33862 (TW)</div>	<div>Remarks:</div> <div>Amended claims in accordance with Rule 137(2) EPC.</div>

(54)

COMBINATION STRUCTURE OF DECORATIVE CURTAIN ROD AND TRACK

(57) This disclosure is a combination structure of a decorative curtain rod and a track. A decorative rod (10) includes a rod body (11) and an L-shaped opening (12). Multiple locking sets (20) are arranged spacedly on the L-shaped opening (12). Each locking set (20) includes a locking plate (21) and a locking piece (22). The locking plate (21) includes a plate body (211) and multiple blocking pieces (212). The blocking pieces (212) are arranged on the plate body (211) to form an insertion space (210). The locking plate (21) is combined on the rod body (11) to be rotatable. The track (30) includes a column (31) and a sliding slot (32). The column (31) includes a fixing plate (311) and a pair of wings (312). The wings (312) penetrate into the insertion space (210) and are blocked by the blocking pieces (212) to be combined in the L-shaped opening (12).

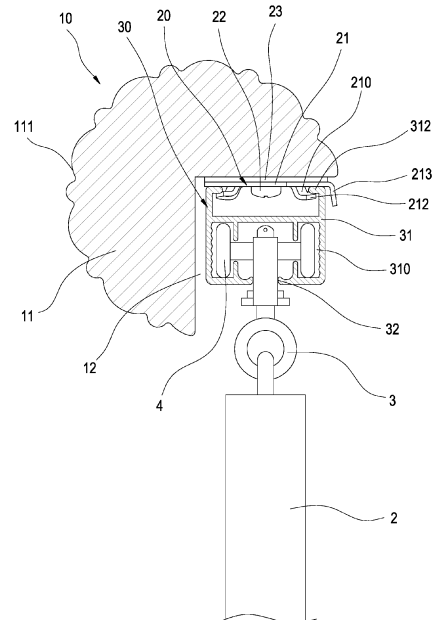


FIG.6

## Description

### BACKGROUND OF THE DISCLOSURE

#### Technical Field

[0001] This disclosure relates to a curtain, and more particularly relates to a combination structure of a decorative curtain rod and a track.

#### Description of Related Art

[0002] A modern curtain may be combined with a decorative panel on an outer side of the curtain rod hanging a curtain fabric for aesthetic purpose to make the curtain have a unique style as a whole. Thus, the overall quality may be improved.

[0003] Moreover, the decorative panel of curtains of the related art are installed on the outside of the curtain rod by screws, or inserted in the dovetail groove on the outside of the curtain rod. However, this installation of the related art decorative panel is cumbersome and difficult, so it needs to be improved.

[0004] The installation of the curtain track of the related art is to combine multiple brackets on the wall first, and then to combine the track on these brackets. However, there are many components between the curtain track and the brackets, and that may increase the difficulty of assembly.

[0005] In view of the above drawbacks, the inventor proposes this disclosure based on his expert knowledge and elaborate researches in order to solve the problems of related art.

### SUMMARY OF THE DISCLOSURE

[0006] One object of this disclosure is to provide a combination structure of a decorative rod and a track to simplify the combination of a decorative rod and a track for increasing the convenience of assembly.

[0007] This disclosure provides a combination structure of a decorative curtain rod and a track. The combination structure includes a decorative rod, a plurality of locking sets and a track. The decorative rod includes a rod body and an L-shaped opening disposed on a side of the rod body. The L-shaped opening is extended from one end of the rod body to another end of the rod body. The plurality of locking sets is arranged spacedly in the L-shaped opening. Each of the plurality of locking set includes a locking plate and a locking piece. The locking plate includes a plate body and a plurality of blocking pieces. The plurality of blocking pieces is arranged in pair and spacedly on the plate body to form an insertion space respectively, and each locking plate is combined on the rod body through the locking piece to be rotatable. The track includes a column and a sliding slot disposed on the column. The column includes a fixing plate and a pair of wings bent and extended from two sides of the fixing

plate. The pair of wings and the sliding slot are arranged on two sides of the fixing plate opposite to each other. The track is combined in the L-shaped opening through the locking plate being configured to rotate to make the pair of wings penetrate into the insertion space and be blocked by the blocking pieces.

[0008] In comparison with the related art, the combination structure of the decorative curtain rod and the track of this disclosure has an L-shaped opening disposed on the decorative rod. Additionally, the locking sets are arranged spacedly in the L-shaped opening. The locking plate includes a plurality of blocking pieces and is combined on the rod body through the locking pieces to be rotatable. Furthermore, the track has a pair of wings. The wings penetrate into the space of the blocking pieces of the locking plate by rotating the locking plate, and are combined in the L-shaped opening by the blocking of the blocking pieces. As a result, multiple brackets used in the track of the related art for combination are omitted, and the convenience of assembly is increased.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The features of the disclosure believed to be novel are set forth with particularity in the appended claims. The disclosure itself, however, may be best understood by reference to the following detailed description of the disclosure, which describes a number of exemplary embodiments of the disclosure, taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective schematic view of the combination structure of the decorative rod and the track in this disclosure.

FIG. 2 is an exploded perspective schematic view of the combination structure of the decorative rod and the track in this disclosure.

FIG. 3 is a perspective exploded schematic view of the locking set in this disclosure.

FIG. 4 is a cross sectional view of the combination structure of the decorative rod and the track in this disclosure.

FIG. 5 is a schematic view of the locking plate of the locking set rotating to engage with the track in this disclosure.

FIG. 6 is a cross sectional view of the assembly of the curtain decorative rod, the track, and the curtain ring in this disclosure.

FIG. 7 is a schematic view of the curtain decorative rod hanging with a curtain fabric in this disclosure.

FIG. 8 is an operation schematic view of the supporting piece combining with the track through the locking sets in this disclosure.

FIG. 9 and FIG. 10 are cross sectional views from two sides of the supporting piece and the track in this disclosure.

FIG. 11 and FIG. 12 are another embodiment of the combination structure of the decorative rod and the

track in this disclosure.

## DETAILED DESCRIPTION

**[0010]** The technical contents of this disclosure will become apparent with the detailed description of embodiments accompanied with the illustration of related drawings as follows. It is intended that the embodiments and drawings disclosed herein are to be considered illustrative rather than restrictive.

**[0011]** Please refer to FIG. 1 to FIG. 3, which depict a perspective schematic view and an exploded perspective schematic view of the combination structure of the decorative rod and the track in this disclosure, and a perspective exploded schematic view of the locking set in this disclosure. This disclosure provides a combination structure of the decorative curtain rod and the track. The combination structure includes a decorative rod 10, a plurality of locking sets 20 and a track 30. The track 30 is combined on the decorative rod 10 through the locking sets 20.

**[0012]** The decorative rod 10 includes a rod body 11 and an L-shaped opening 12 disposed on a side of the rod body 11. The L-shaped opening 12 is extended from one end of the rod body 11 to another end of the rod body 11. Furthermore, a plurality of decorative patterns 111 are disposed on an outer surface of the rod body 11. The arrangement of the decorative patterns 111 may enhance the aesthetics of the decorative rod 10.

**[0013]** In this embodiment, the decorative rod 10 further includes a pair of decorative heads 13, a pair of end plates 14 and a plurality of screws 15. The pair of end plates 14 are respectively disposed between each of the decorative heads 13 and each end of rod body 11 through the screws 15. Moreover, the pair of decorative heads 13 are combined on two ends of the rod body 11 opposite to each other. In some embodiments, each decorative head 13 is formed with a cover 131 on a side facing the rod body 11. The cover 131 is fastened on an end of the rod body 11.

**[0014]** The locking sets 20 are arranged spacedly on the rod body 11 at a side where the L-shaped opening 12 is located. Each of the locking sets 20 at least includes a locking plate 21 and a locking piece 22. The locking plate 21 includes a plate body 211 and a plurality of blocking pieces 212. The blocking pieces 212 are arranged in pair and spacedly on the plate body 211 to form an insertion space 210 respectively (refer to FIG. 6). Each of the locking plates 21 is combined on the rod body 11 and is rotatable through the locking piece 22.

**[0015]** Specifically, each of the locking plates 21 includes a handle 213. The handle 213 is disposed protrusively from the periphery of the locking plate 21 for the user to exert force to rotate the locking plate 21. Additionally, the locking plate 21 includes a stepped portion 214 located between the pair of the blocking pieces 212. The arrangement of the stepped portion 214 may enlarge the insertion space 210 for facilitating the insertion of the

track 30.

**[0016]** In one embodiment of this disclosure, each of the locking sets 20 further includes a gasket 23. The gasket 23 is disposed between the locking plate 21 and an inner wall of the L-shaped opening 12. The arrangement of the gasket 23 may facilitate the rotation of the locking plate 21.

**[0017]** The track 30 includes a column 31 and a sliding slot 32 arranged on the column 31. The column 31 includes a fixing plate 311 and a pair of wings 312 bent and extended from two sides of the fixing plate 311. The pair of wings 312 and the sliding slot 32 are arranged on two sides of the fixing plate 311 opposite to each other.

**[0018]** Please refer to FIG. 4 to FIG. 7, which are a cross sectional view of the combination structure of the decorative curtain rod and the track in this disclosure, a schematic view of the locking plate of the locking set rotating for combining with the track in this disclosure, and a cross sectional view of the assembly of the decorative rod, the track and the curtain ring in this disclosure, and a schematic view of the decorative rod hanging with a curtain fabric in this disclosure. As shown in the FIG. 4, the decorative rod 10 needs to be fixed before assembling the track 30 of this disclosure, and the locking sets 20 are arranged on a wall of the L-shaped opening 12. Additionally, when assembling the locking sets 20, the locking piece 22 is inserted to the gasket 23 and the locking plate 21 to be combined on the upper wall of the L-shaped opening 12, and then the track 30 is placed on the bottom side of the locking sets 20.

**[0019]** It should be noted that when the track 30 is not positioned yet, an external force is required for supporting.

**[0020]** As shown in FIG. 5 and FIG. 6, the handle 213 drives the locking plate 21 to rotate when being pulled by an external force. The wings 312 of the track 30 penetrate into the insertion space 210 of the locking plate 21 after the locking plate 21 rotates. Furthermore, the wings 312 of the track 30 are blocked by the blocking plates 212 to be positioned on the bottom side of the locking plate 21. Accordingly, the track 30 may be combined in the L-shaped opening 12 through the locking sets 20.

**[0021]** Please refer to FIG. 7, after the track 30 is combined on the decorative rod 10, a plurality of curtain rings 3 may be disposed on the track 30 for hanging a curtain fabric 2. In this embodiment, each curtain ring 3 is combined with the track 30 through a pair of pulleys 4. Specifically, the column 31 of the track 30 includes a pair of passageways 310 arranged on two sides of the sliding slot 32. The pair of pulleys 4 are arranged in the pair of passageways 310.

**[0022]** Please further refer to FIG. 8 to FIG. 10, which are an operation schematic view of the supporting piece combining with the track through the locking sets in this disclosure and two cross sectional views from two sides of the supporting piece and the track in this disclosure. The combination structure of the decorative curtain rod and the track in this disclosure further includes a plurality

of supporting pieces 40 and a plurality of brackets 50. Each supporting piece 40 is arranged between the inner wall of the L-shaped opening 12 and the track 30 for adjusting the position of the track 30 in the L-shaped opening 12. Accordingly, one end of each bracket 50 may be combined with the track 30 through the locking sets 20 to be fixed in the L-shaped opening 12. Therefore, another end of each bracket 50 is fixed on a wall 6 through a plurality of screws 5 to support the decorative rod 10 and the track 30.

**[0023]** Please further refer to FIG. 9 and FIG. 10. One end of the bracket 50 of this disclosure is combined with the track 30 through the locking sets 20 to be fixed between the inner wall of the L-shaped opening 12 and the track 30. Furthermore, the assembly of the locking set 20 is described as above and here is omitted for brevity.

**[0024]** It should be noted that the track 30 of this disclosure is combined on the decorative rod 10 through the locking sets 20. Additionally, the brackets 50 are also combined with the track 30 through the locking sets 20. Therefore, when assembling the track 30 and the brackets 50, the locking sets 20 may be shared. As a result, the convenience of assembling is increased and the purpose of simplifying the assembling is achieved.

**[0025]** Please further refer to FIG. 11 and FIG. 12, which are another embodiment of the combination structure of the decorative rod and the track in this disclosure. The combination structure includes a decorative rod 10a, a plurality of locking sets 20a, a track 30a, a plurality of supporting pieces 40a and a plurality of brackets 50a. The decorative rod 10a includes a rod body 11a and an L-shaped opening 12a disposed on a side of the rod body 11a. The locking sets 20a are arranged spacedly on the rod body 11a at a side where the L-shaped opening 12a is located. Each of the locking sets 20a includes a locking plate 21a, a locking piece 22a and a gasket 23a. The track 30a is combined on the decorative rod 10a through the locking sets 20a. Each supporting piece 40a is arranged between the inner wall of the L-shaped opening 12a and the track 30a for adjusting the position of the track 30a in the L-shaped opening 12a.

**[0026]** Comparing with the previous embodiment, this embodiment is different in that the rod body 11a is a hollow metal rod. Moreover, the rod body 11a is further combined with a decoration plate 60a on the side facing the L-shaped opening 12a. The outer surface of the decoration plate 60a is connected to the bottom side of the rod body 11a for covering the bottom side of the rod body 11a. Additionally, the arrangement of the locking sets 20a and the other components is the same as that of the previous embodiment and here is omitted for brevity.

## Claims

1. A combination structure, comprising:

a decorative rod (10), comprising a rod body (11)

and an L-shaped opening (12) disposed on a side of the rod body (11), the L-shaped opening (12) extended from one end of the rod body (11) to another end of the rod body (11);

a plurality of locking sets (20), arranged spacedly in the L-shaped opening (12), each of the plurality of locking sets (20) comprising a locking plate (21) and a locking piece (22), the locking plate (21) comprising a plate body (211) and a plurality of blocking pieces (212), wherein the plurality of blocking pieces (212) are arranged in pair and spacedly on the plate body (211), an insertion space (210) is defined on the locking plate (21), and the locking plate (21) is combined on the rod body (11) through the locking piece (22) to be rotatable; and

a track (30), comprising a column (31) and a sliding slot (32) disposed on the column (31), the column (31) comprising a fixing plate (311) and a pair of wings (312) bent and extended from two sides of the fixing plate (311), wherein the pair of wings (312) and the sliding slot (32) are arranged on two sides of the fixing plate (311) opposite to each other;

wherein, the track (30) is combined in the L-shaped opening (12) through the locking plate (21) being configured to rotate to make the pair of wings (312) penetrate into the insertion space (210) and be blocked by the blocking pieces (212).

2. The combination structure according to claim 1, wherein the decorative rod (10) further comprises a pair of decorative heads (13), and the pair of decorative heads (13) are combined on two ends of the rod body (11).

3. The combination structure according to claim 2, wherein the decorative rod (10) further comprises a pair of end plates (14) and a plurality of screws (15), and the pair of end plates (14) are respectively arranged between each of the decorative heads (13) and each end of the rod body (11) through the screws (15).

4. The combination structure according to claim 2, wherein a cover (131) is disposed on a side of each of the decorative heads (13) facing the rod body (11), and the cover (131) is fastened on one end of the rod body (11).

5. The combination structure according to claim 1, wherein a plurality of decorative patterns (111) is disposed on an outer surface of the rod body (11).

6. The combination structure according to claim 1, wherein each of the locking sets (20) further comprises a gasket (23), and the gasket (23) is arranged

between the locking plate (21) and an inner wall of the L-shaped opening (12).

7. The combination structure according to claim 1, wherein the locking plate (21) comprises a handle (213), and the handle (213) is disposed protrusively on a periphery of the locking plate (21). 5
8. The combination structure according to claim 1, wherein the locking plate (21) comprises a stepped portion (214) located between a pair of the blocking pieces (212). 10
9. The combination structure according to claim 1, wherein the column (31) comprises a pair of passageways (310) arranged on two sides of the sliding slot (32), and a pair of pulleys (4) are arranged in the pair of passageways (310), and the pair of pulleys (4) is combined with a curtain ring. 15
10. The combination structure according to claim 1, further comprising a plurality of supporting pieces (40), wherein each of the supporting pieces (40) is combined on the decorative rod (10) through each locking sets (20). 20 25

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

1. A combination structure, comprising:

a locking set (20) comprising a locking plate (21) and a locking piece (22), the locking plate (21) comprising a plate body (211) and a plurality of blocking pieces (212), wherein the plurality of blocking pieces (212) are arranged in pair and spacedly on the plate body (211), an insertion space (210) is defined on the locking plate (21), and the locking plate (21) is rotatable; and 35 40

a track (30), comprising a column (31) and a sliding slot (32) disposed on the column (31), the column (31) comprising a fixing plate (311) and a pair of wings (312) bent and extended from two sides of the fixing plate (311), wherein the pair of wings (312) and the sliding slot (32) are arranged on two sides of the fixing plate (311) opposite to each other; 45

wherein, the track (30) is combined through the locking plate (21) being configured to rotate to make the pair of wings (312) penetrate into the insertion space (210) and be blocked by the blocking pieces (212); 50

**characterized by:**

a decorative rod (10), comprising a rod body (11) and an L-shaped opening (12) disposed on a side of the rod body (11), the L-

shaped opening (12) extended from one end of the rod body (11) to another end of the rod body (11);

a plurality of locking sets (20), arranged spacedly in the L-shaped opening (12), each of the plurality of locking sets (20) comprising a locking plate (21) and a locking piece (22), the locking plate (21) comprising a plate body (211) and a plurality of blocking pieces (212), wherein the plurality of blocking pieces (212) are arranged in pair and spacedly on the plate body (211), an insertion space (210) is defined on the locking plate (21), and the locking plate (21) is combined on the rod body (11) through the locking piece (22) to be rotatable; wherein the track is further combined in the L-shaped opening (12); wherein the decorative rod (10) further comprises a pair of decorative heads (13), and the pair of decorative heads (13) are combined on two ends of the rod body (11); and wherein the decorative rod (10) further comprises a pair of end plates (14) and a plurality of screws (15), and the pair of end plates (14) are respectively arranged between each of the decorative heads (13) and each end of the rod body (11) through the screws (15). 55

2. The combination structure according to claim 1, wherein a cover (131) is disposed on a side of each of the decorative heads (13) facing the rod body (11), and the cover (131) is fastened on one end of the rod body (11).
3. The combination structure according to claim 1, wherein a plurality of decorative patterns (111) is disposed on an outer surface of the rod body (11).
4. The combination structure according to claim 1, wherein each of the locking sets (20) further comprises a gasket (23), and the gasket (23) is arranged between the locking plate (21) and an inner wall of the L-shaped opening (12).
5. The combination structure according to claim 1, wherein the locking plate (21) comprises a handle (213), and the handle (213) is disposed protrusively on a periphery of the locking plate (21).
6. The combination structure according to claim 1, wherein the locking plate (21) comprises a stepped portion (214) located between a pair of the blocking pieces (212).
7. The combination structure according to claim 1, wherein the column (31) comprises a pair of pas-

sageways (310) arranged on two sides of the sliding slot (32), and a pair of pulleys (4) are arranged in the pair of passageways (310), and the pair of pulleys (4) is combined with a curtain ring.

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8. The combination structure according to claim 1, further comprising a plurality of supporting pieces (40), wherein each of the supporting pieces (40) is combined on the decorative rod (10) through each locking sets (20).

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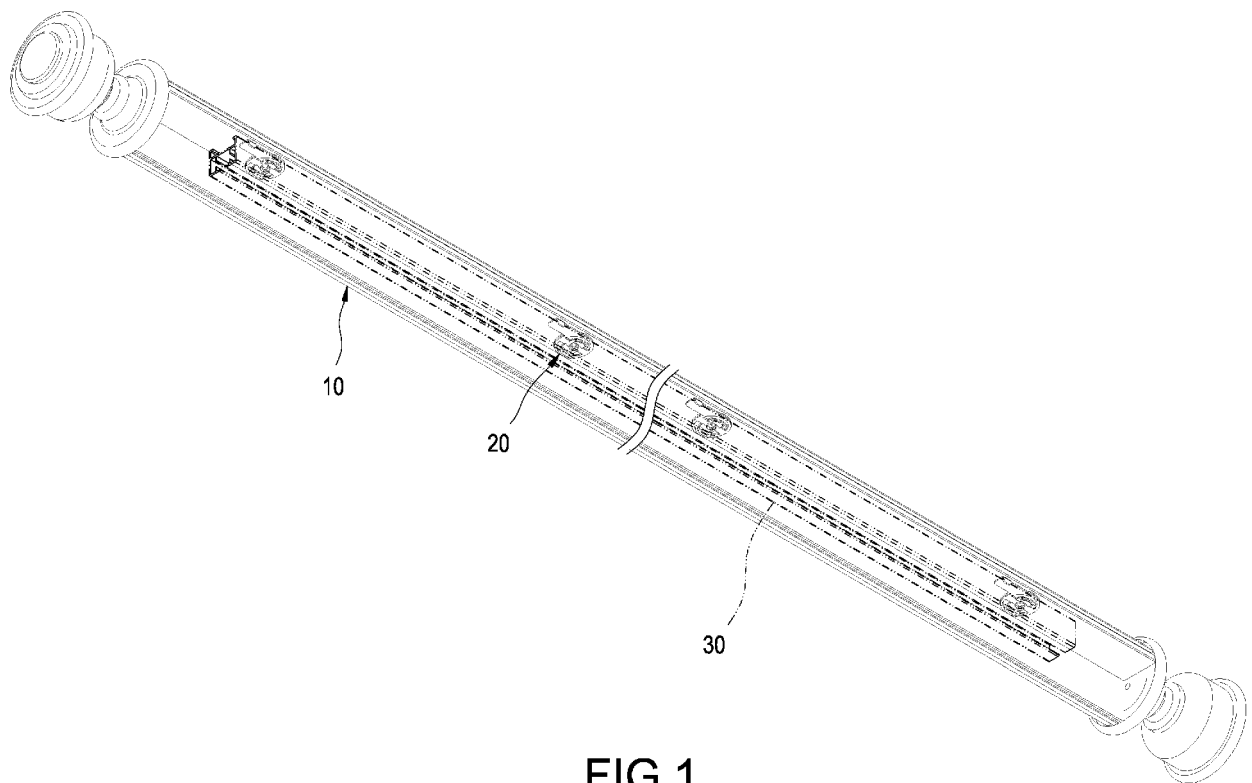
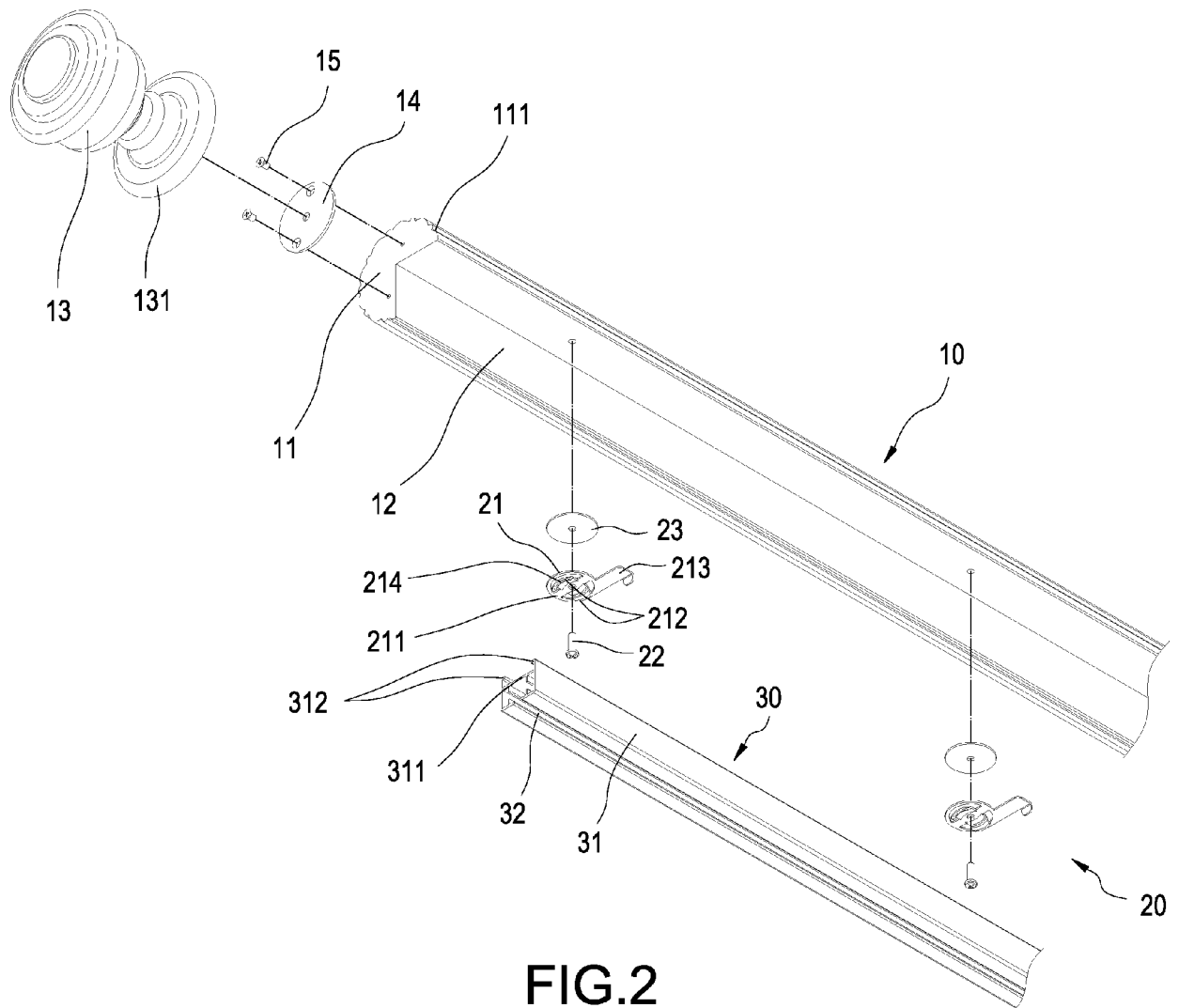


FIG.1





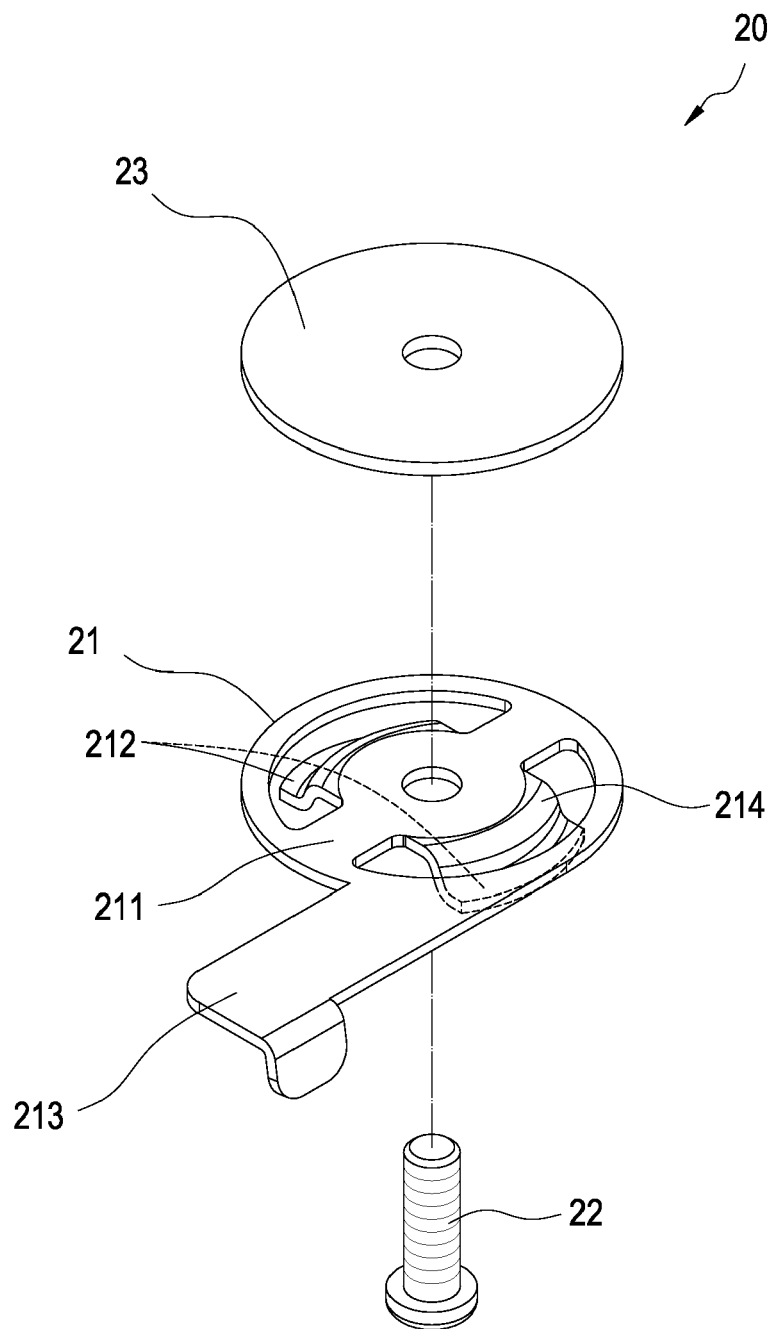


FIG.3

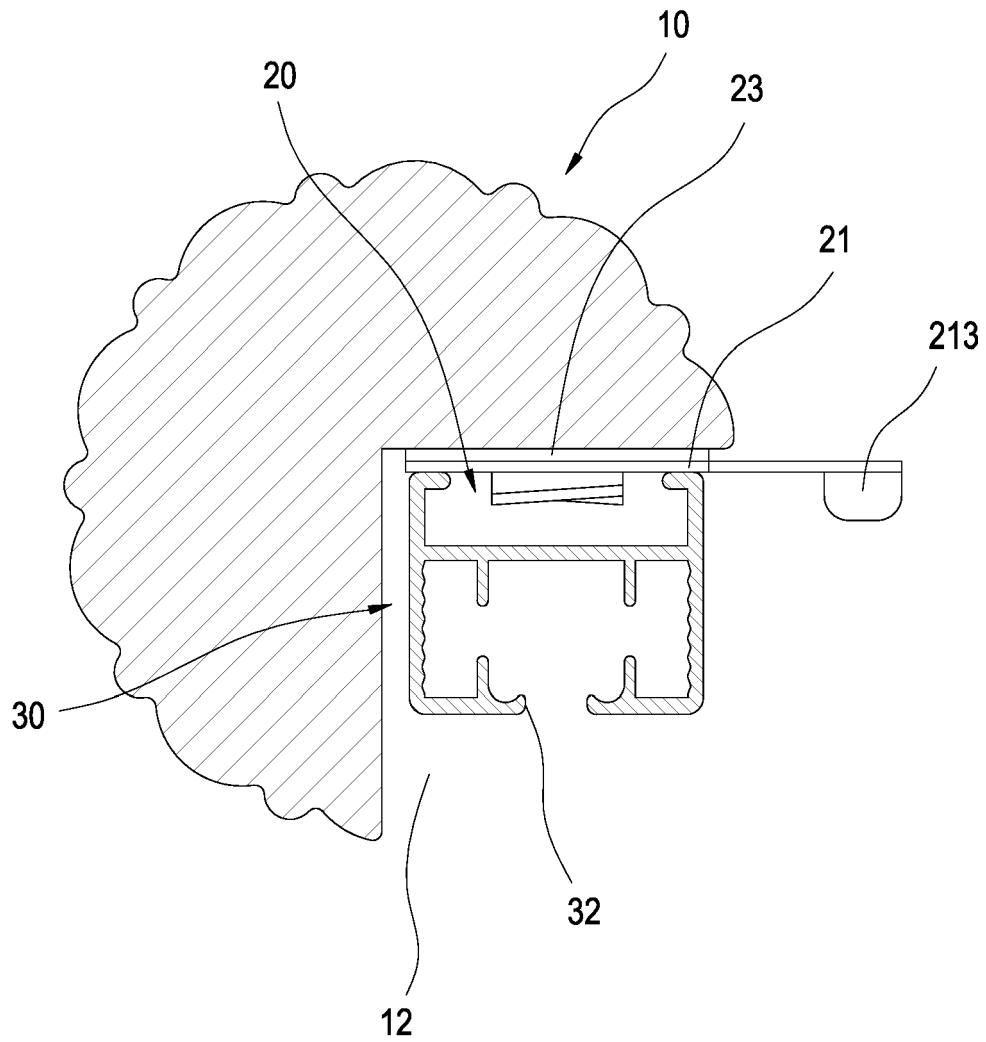


FIG.4

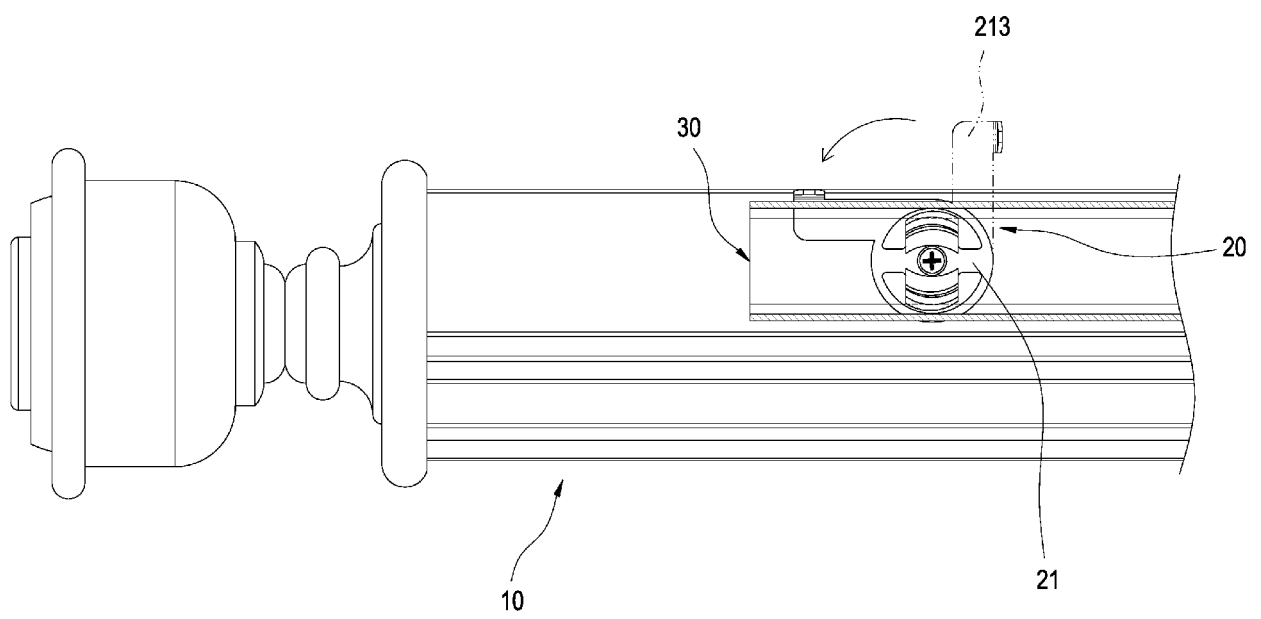


FIG.5

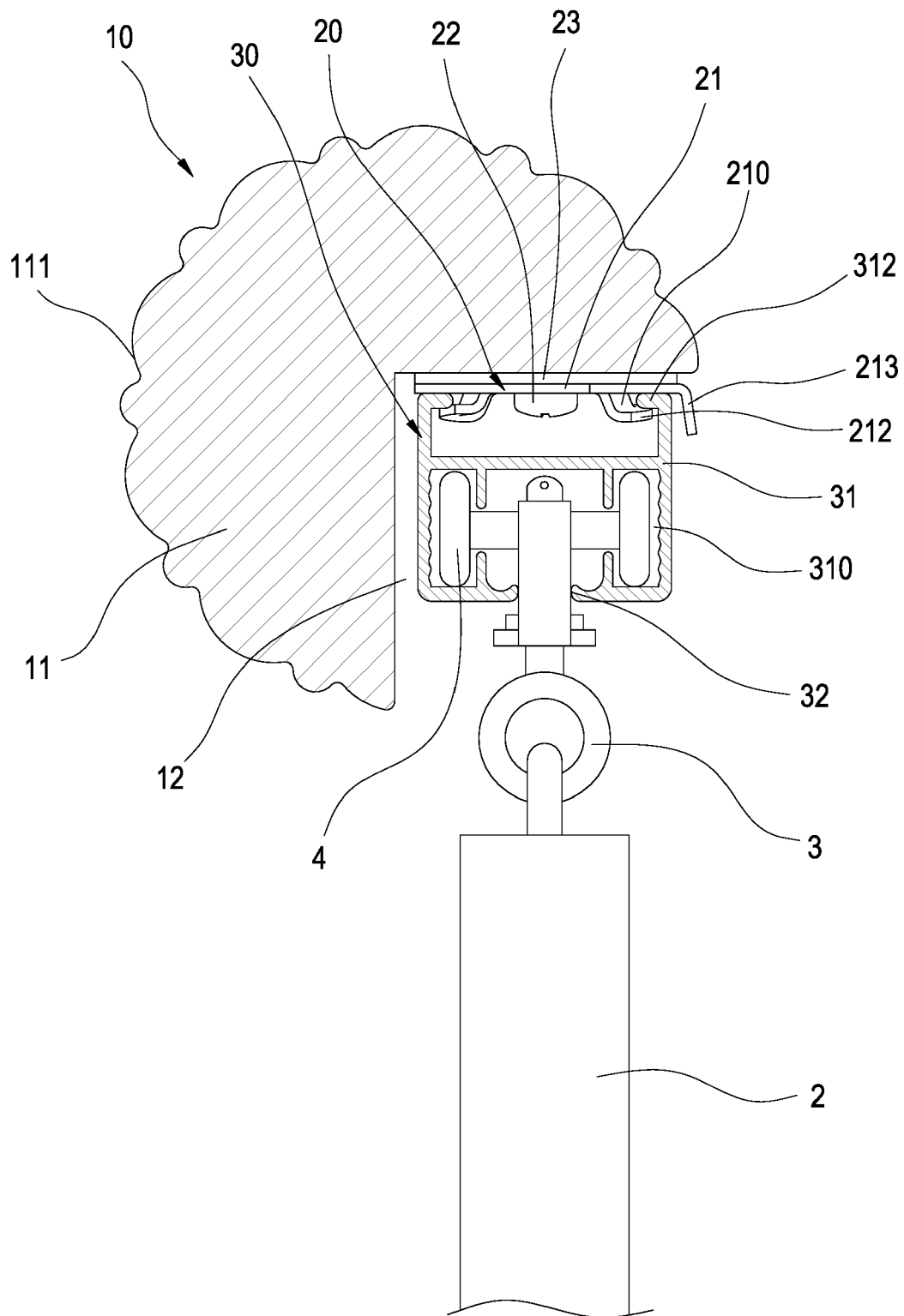


FIG.6

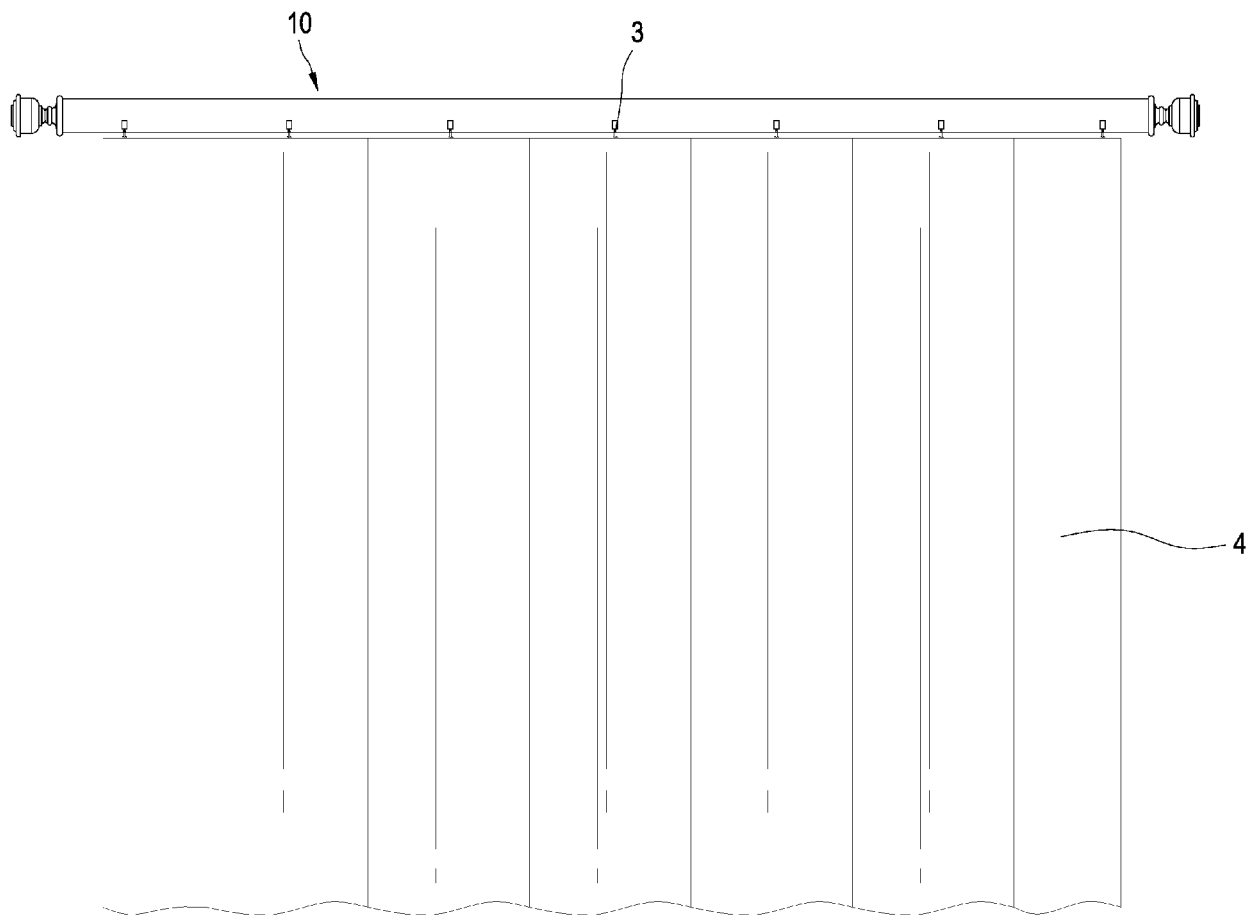


FIG.7

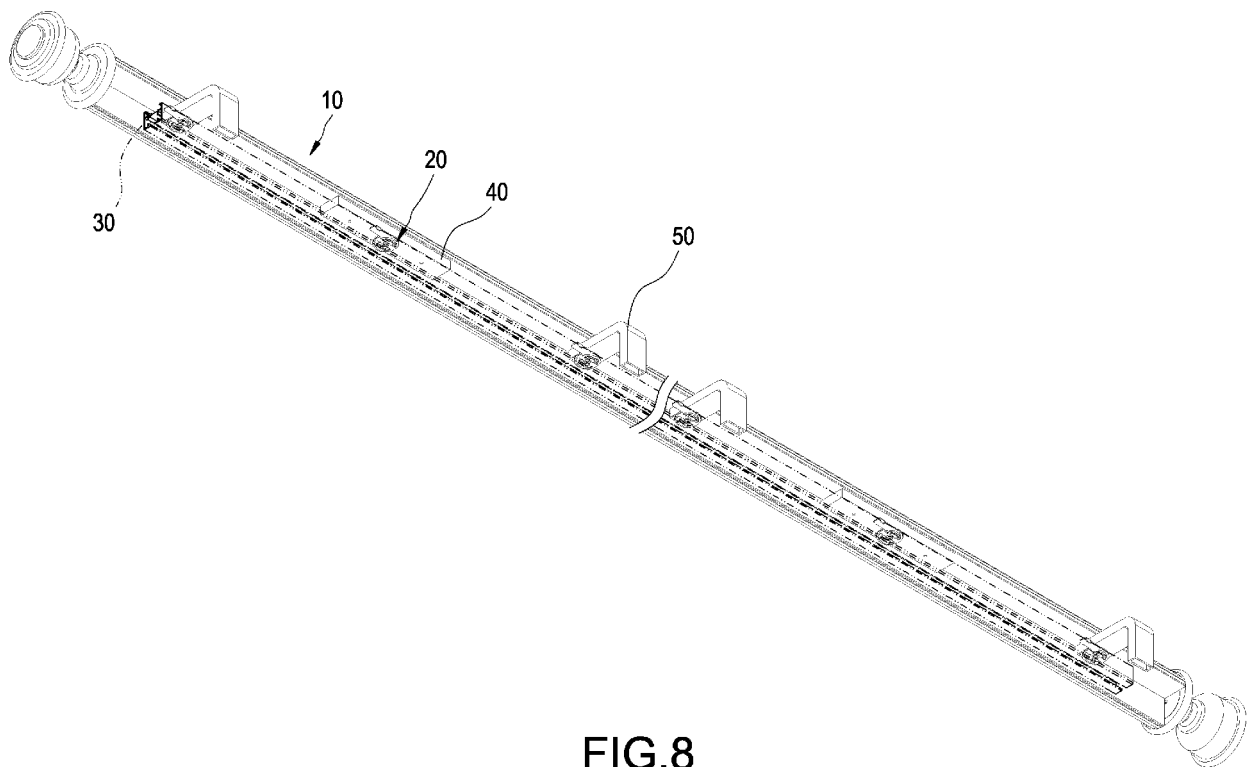


FIG.8

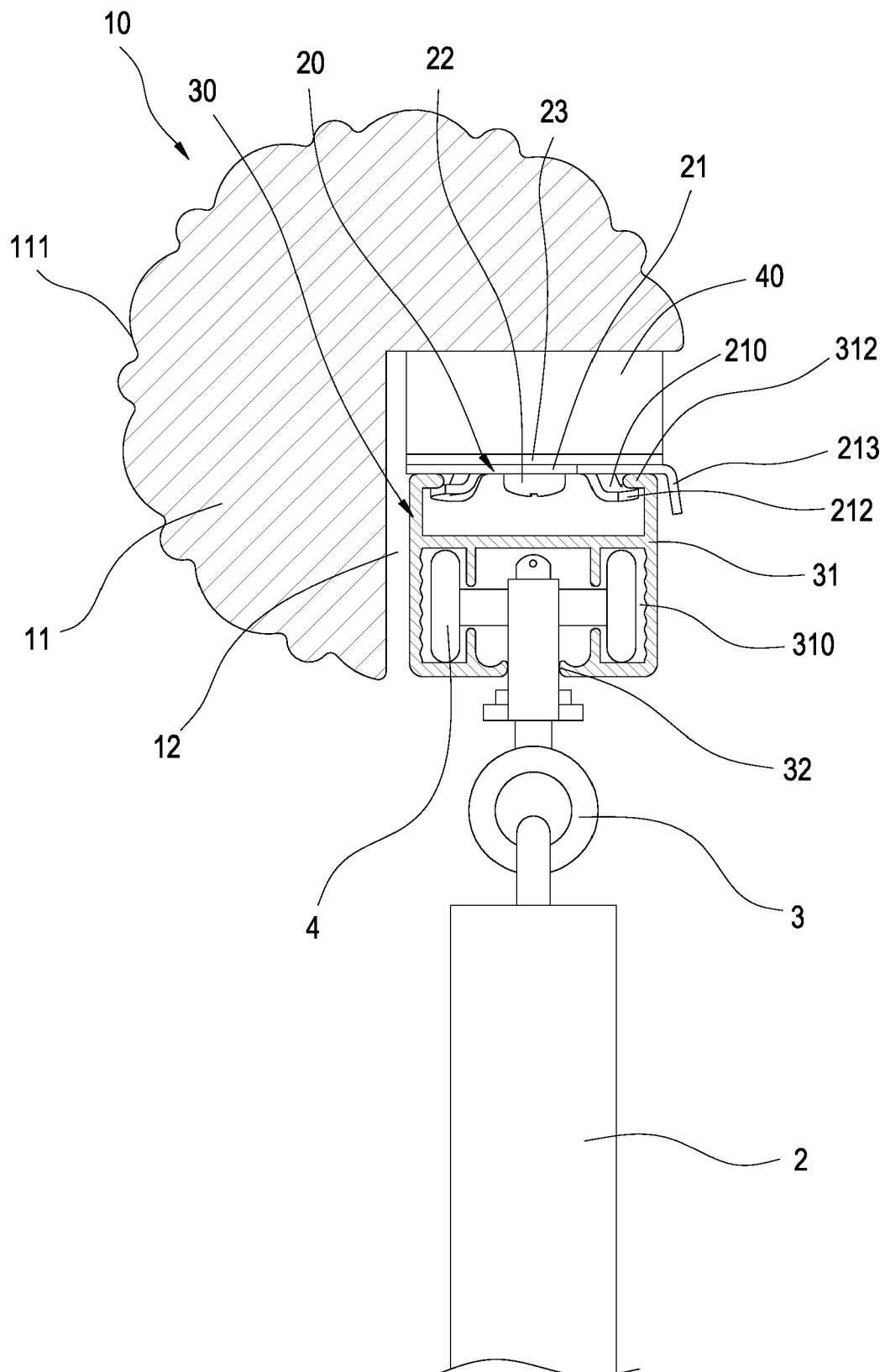


FIG.9

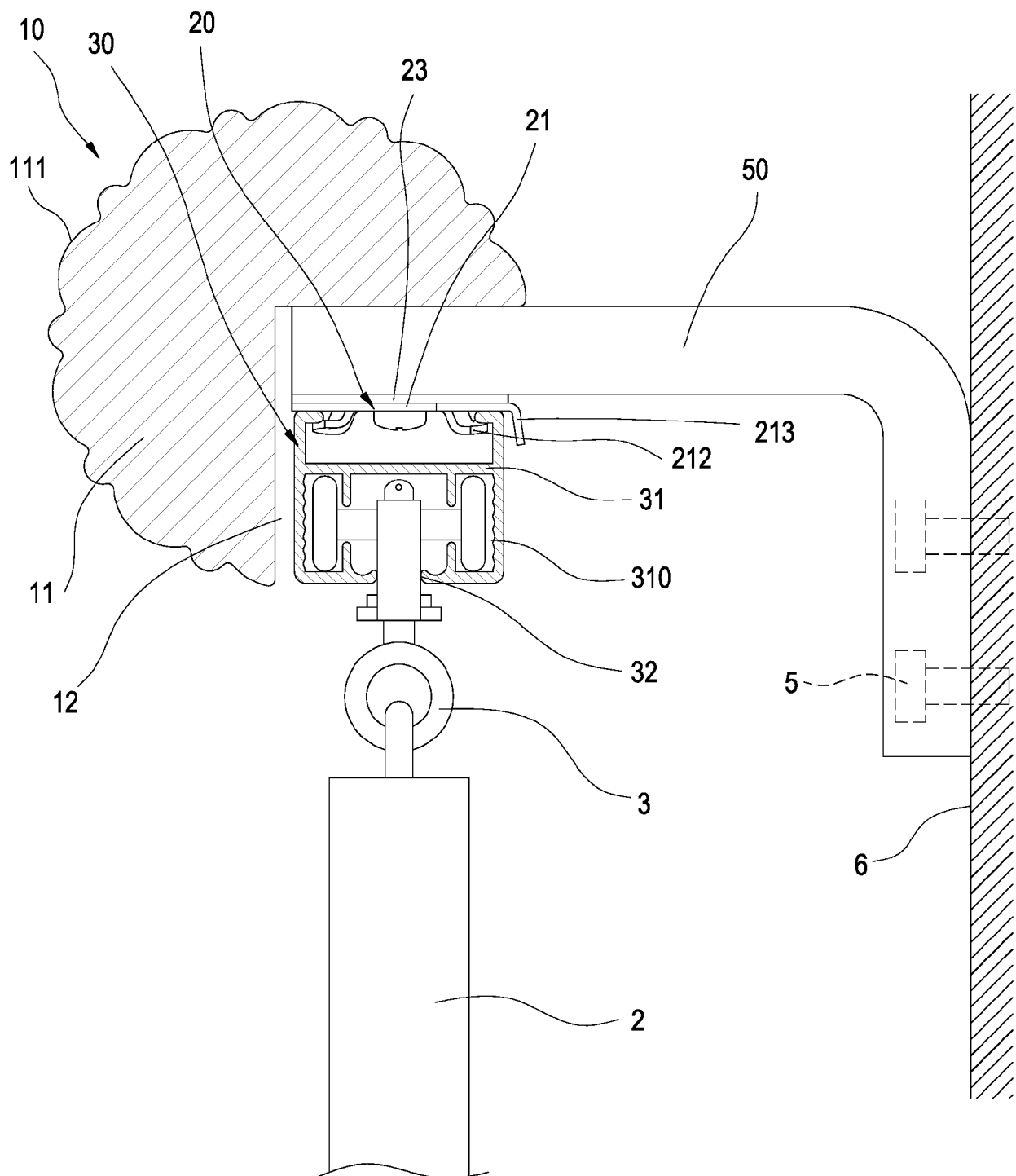


FIG.10



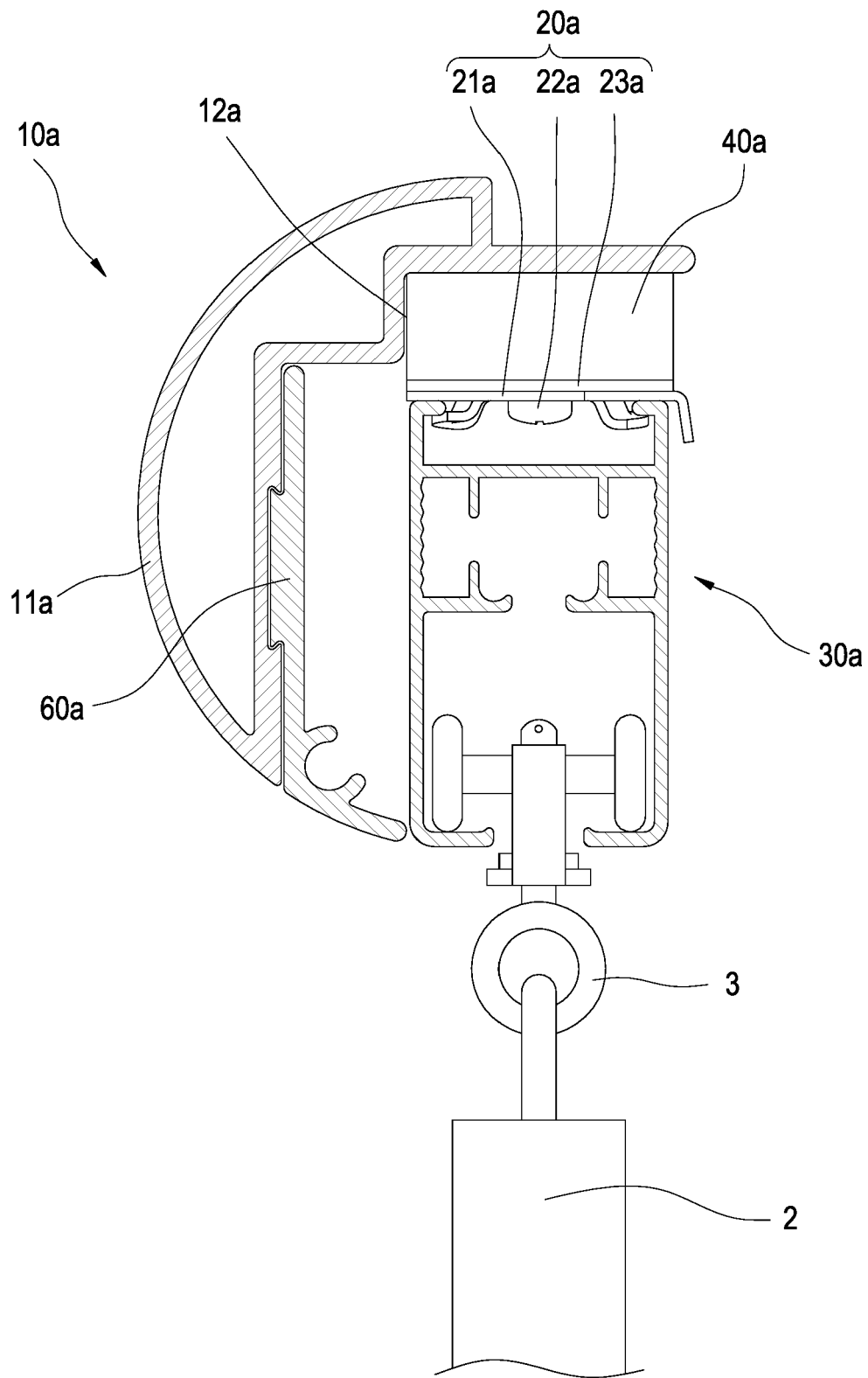


FIG.11

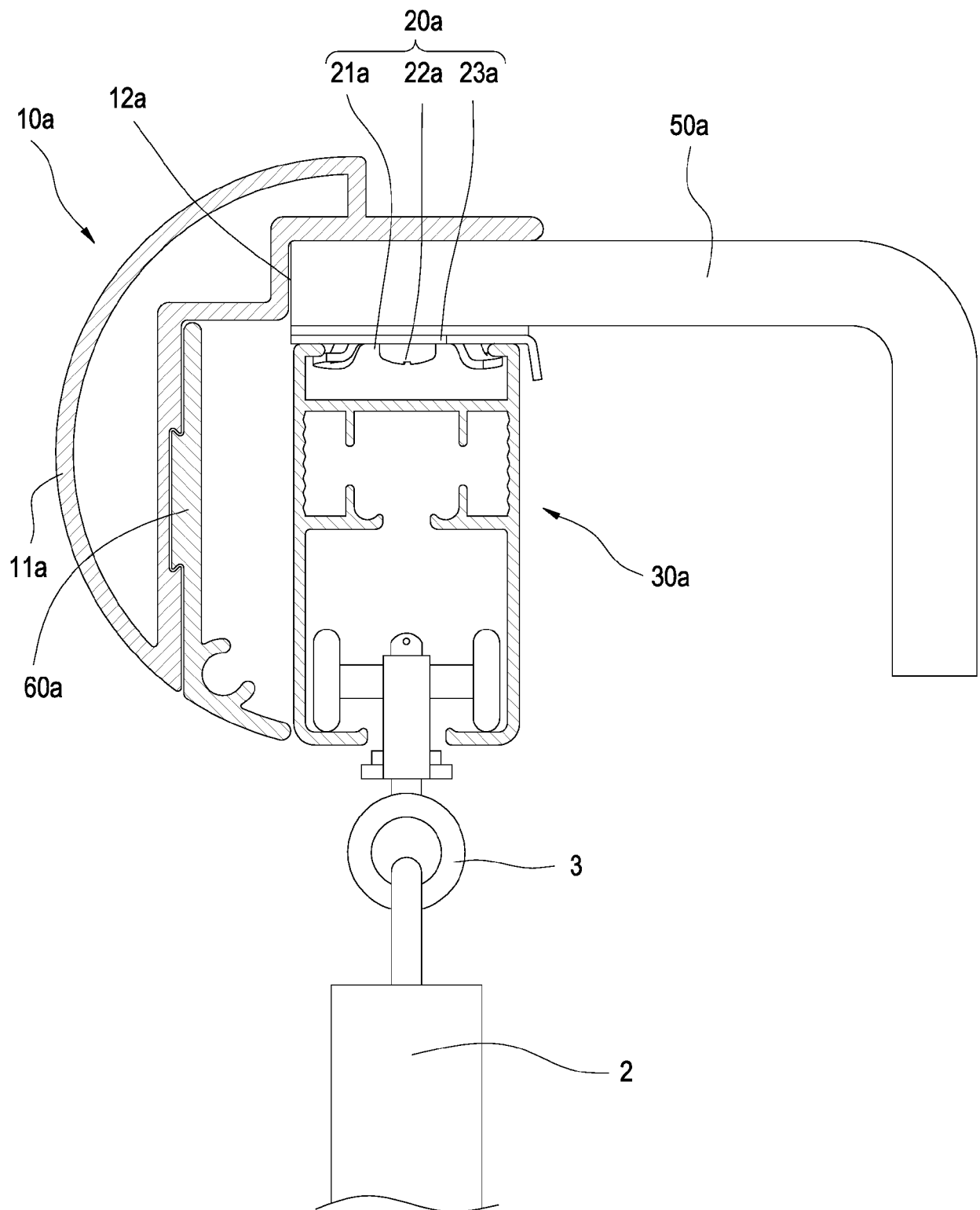


FIG.12



## EUROPEAN SEARCH REPORT

Application Number

EP 23 15 7404

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EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	GB 1 244 385 A (KLEIN GERARDO [ES]) 2 September 1971 (1971-09-02)	1, 2, 4-10	INV.
A	* figures 1, 2, 4 * * claim 1 *	3	A47H1/04 A47H1/00
Y	JP 2005 066209 A (HINAKA SEISAKUSHO KK) 17 March 2005 (2005-03-17)	1, 2, 4-10	
A	* figures 1, 2 *	3	
A	JP H10 33359 A (PAROMA INTETSUKUSU KK) 10 February 1998 (1998-02-10) * the whole document *	1-10	
A	JP 2005 185746 A (HINAKA SEISAKUSHO KK) 14 July 2005 (2005-07-14) * the whole document *	1-10	
A	FR 2 423 665 A1 (ARQUATI SPA [IT]) 16 November 1979 (1979-11-16) * figure 2 *	8	
A	GB 10536 A A.D. 1902 (VOURET CHARLES ALPHONSE [FR]) 19 March 1903 (1903-03-19) * figures 2-4 *	5	TECHNICAL FIELDS SEARCHED (IPC) A47H
The present search report has been drawn up for all claims			
Place of search <b>Munich</b>		Date of completion of the search <b>1 August 2023</b>	Examiner <b>Cornu, Olivier</b>
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	

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 23 15 7404

5

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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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
<b>GB 1244385 A</b>	<b>02-09-1971</b>	<b>DE 1815629 A1</b>	<b>31-07-1969</b>
		<b>ES 136112 U</b>	<b>16-06-1968</b>
		<b>GB 1244385 A</b>	<b>02-09-1971</b>
		<b>IE 32794 B1</b>	<b>12-12-1973</b>
		<b>NL 6818895 A</b>	<b>29-07-1969</b>
<hr/>			
<b>JP 2005066209 A</b>	<b>17-03-2005</b>	<b>NONE</b>	
<hr/>			
<b>JP H1033359 A</b>	<b>10-02-1998</b>	<b>NONE</b>	
<hr/>			
<b>JP 2005185746 A</b>	<b>14-07-2005</b>	<b>NONE</b>	
<hr/>			
<b>FR 2423665 A1</b>	<b>16-11-1979</b>	<b>DE 7911349 U1</b>	<b>25-10-1979</b>
		<b>FR 2423665 A1</b>	<b>16-11-1979</b>
		<b>GB 2021934 A</b>	<b>12-12-1979</b>
<hr/>			
<b>GB 190210536 A</b>	<b>19-03-1903</b>	<b>NONE</b>	
<hr/>			