



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
11.11.2020 Bulletin 2020/46

(51) Int Cl.:
A47H 5/032 (2006.01) **A47H 1/144** (2006.01)
A47H 1/04 (2006.01)

(21) Application number: **19173494.6**

(22) Date of filing: **09.05.2019**

(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: **Yu, Yu-Heng**
33862 Taoyuan City (TW)

(74) Representative: **Patentanwälte Bals & Vogel**
Universitätsstrasse 142
44799 Bochum (DE)

Remarks:

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

(71) Applicant: **Arlinea Industries Co.**
Taoyuan City 33862 (TW)

(54) **ELECTRIC CURTAIN TRACK STRUCTURE**

(57) An electric curtain track structure (1) includes a guiding track assembly (10), a first actuator (20), a transmission assembly (30) and a decorative assembly (40). The guiding track assembly comprises a guiding track main body (11) having first and second bending sections (111, 112) opposite from each other. The first actuator is installed on the first bending section. The transmission assembly comprises a transmission cable and first hooks (32). The transmission cable is inserted into said main

body and driven by the first actuator to move along said main body. The decorative assembly comprises a decorative panel (41) and decorative heads (42). The decorative panel is attached onto an outer side of said main body. Two ends of the decorative panel protrude out of the guiding track main body for the decorative heads to correspondingly install on two ends of the decorative panel. Consequently, the overall appearance thereof is improved.

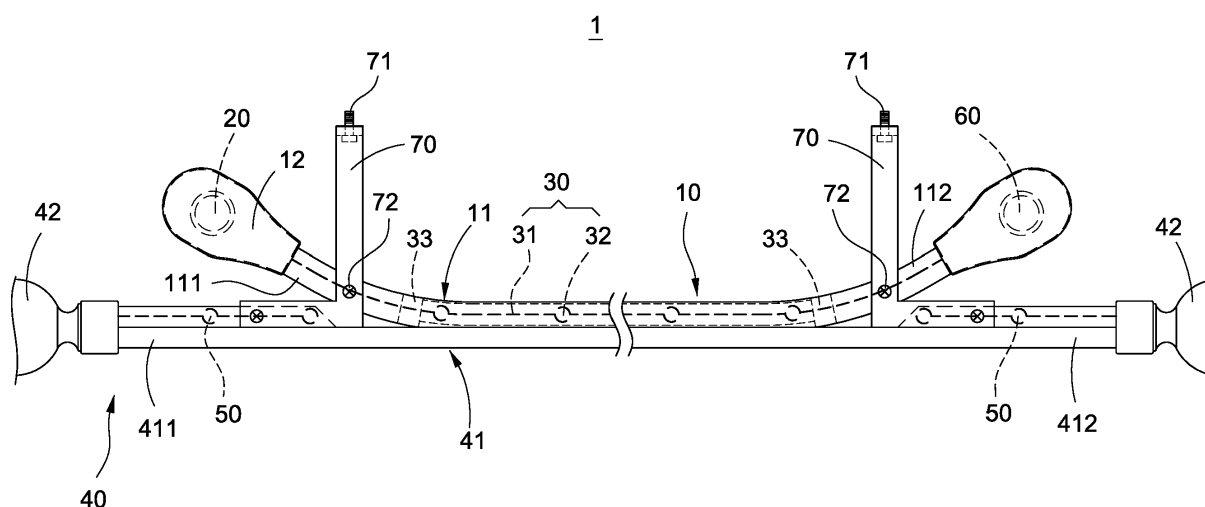


FIG.4

Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The technical field relates to a curtain track, in particular, to an electric curtain track structure.

Description of Related Art

[0002] To improve the stylish look and appearance, modern curtains are often installed with various types of decorative heads at the two ends of a horizontal curtain rod in order to present a unique style variation and visual sensation of the curtain, in light of increasing the overall quality appearance and economic benefit.

[0003] However, for electric curtains, since the rear ends of a curtain track are typically installed with actuators, the installation locations of the actuators can hinder the installation of the aforementioned decorative heads. Consequently, the decorative heads cannot be installed at the two ends of the curtain track, and the aesthetic appearance of the curtain is affected by the exposure of the actuators.

[0004] In view of above, the inventor seeks to overcome the aforementioned drawbacks associated with the currently existing technology after years of research and development along with the utilization of academic theories, which is also the objective of the development of the present invention.

SUMMARY OF THE INVENTION

[0005] An objective of the present invention is to provide an electric curtain track structure in order to allow the decorative heads to be installed onto the two ends of the decorative panel, such that the overall aesthetic appearance of the curtain can be improved.

[0006] To achieve the aforementioned objective, the present invention provides an electric curtain track structure comprising a guiding track assembly, a first actuator, a transmission assembly and a decorative assembly. The guiding track assembly comprises a guiding track main body having a first bending section and a second bending section opposite from each other. The first actuator is installed on the first bending section. The transmission assembly comprises a transmission cable and a plurality of first hooks. The transmission cable is inserted into the guiding track main body and driven by the first actuator in order to move along the guiding track main body together with the plurality of first hooks. The decorative assembly comprises a decorative panel and a pair of decorative heads. The decorative panel is attached onto an outer side surface of the guiding track main body, and two ends of the decorative panel respectively protruded out of the guiding track main body in order to allow the decorative heads to be correspondingly installed on an

outer side of the first bending section and the second bending section respectively.

[0007] In comparison to prior arts, the electric curtain track structure of the present invention includes first bending section and the second bending section arranged opposite from each other, and the decorative panel of the decorative assembly is attached onto an outer side surface of the guiding track main body. In addition, the two ends of the decorative panel protrude out of the guiding track main body in order to allow the decorative heads to be correspondingly installed onto the outer sides of the first bending section and the second bending section. Accordingly, the decorative heads can be prevented from being hindered by the first actuator in order to be installed on the two ends of the decorative panel. Therefore, the first actuator can be concealed such that the aesthetic appearance is improved and the practicality of the present invention is enhanced.

BRIEF DESCRIPTION OF DRAWING

[0008]

FIG. 1 is a perspective exploded view of the electric curtain track structure of the present invention; FIG. 2 is a partial perspective view of the electric curtain track structure of the present invention; FIG. 3 is partial assembly view of the electric curtain track structure of the present invention; and FIG. 4 is a top view of the electric curtain track structure of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0009] The following provides a detailed technical content of the present invention along with the accompanied drawings. However, the accompanied drawings are provided for reference and illustrative purpose only such that they shall not be used to limit the scope of the present invention.

[0010] Please refer to FIG. 1 to FIG. 4, respectively showing a perspective exploded view, a perspective side view, a partial attachment view and a top view of an electric curtain track structure according to an exemplary embodiment of the present invention. The present invention provides an electric curtain structure 1 comprising a guiding track assembly 10, a first actuator 20, a transmission assembly 30 and a decorative assembly 40. The transmission assembly 30 is arranged on the guiding track assembly 10 and is configured to move relative to the guiding track assembly 10 under the driving by the first actuator 20. In addition, the decorative assembly 40 is attached onto one side of the guiding track assembly 10 in order to increase the overall aesthetic appearance of the electric curtain track structure 1. Please refer to further detail of the electric curtain track structure as described in the following.

[0011] The guiding track assembly 10 comprises a

guiding track main body 11. The guiding track main body 11 includes a first bending section 111 and a second bending section 112. In addition, the first bending section 111 and the second bending section 112 are bent toward an identical direction relative to one side of the guiding track main body 11.

[0012] In an exemplary embodiment of the present invention, the guiding track main body 11 is an aluminum extruded track. In addition, the guiding track main body 11 comprises a plurality of supporting plates 113 and a plurality of channels 114 formed among the plurality of supporting plates 113. It shall be noted that during the actual implementation, the guiding track main body 11 is not limited to such configuration only.

[0013] The first actuator 20 is a driving element, and preferably, it is configured to be a driving element, such as a motor etc., in order to drive the transmission assembly 30 to move. The first actuator 20 is installed on the first bending section 111 of the guiding track main body 11 or is installed adjacent to the first bending section 111.

[0014] In an exemplary embodiment of the present invention, the guiding track assembly 10 further comprises a first installation portion 12. In addition, the first installation portion 12 is arranged on the first bending section 111, and the first actuator 20 is located inside the first installation portion 12.

[0015] In addition, the transmission assembly 30 comprises a transmission cable 31 and a plurality of first hooks 32. The transmission cable 31 is inserted into the guiding track main body 11 and is driven by the first actuator 20 in order to move along the guiding track main body 11 together with the plurality of first hooks 32.

[0016] In an exemplary embodiment of the present invention, the guiding track main body 11 includes an open-type through slot 110. Furthermore, the transmission cable 31 is inserted into the through slot 110 in order to allow the plurality of first hooks 32 to be exposed on an outer side of the through slot 110 such that a curtain fabric (not shown in the drawings) can be mounted thereon.

[0017] The decorative assembly 40 comprises a decorative panel 41 and a pair of decorative heads 42. The decorative panel 41 is attached onto an outer side surface of the guiding track main body 11, and the two ends of the decorative panel 41 protrude out of the guiding track main body 11 respectively in order to allow the pair of decorative heads 42 to be correspondingly installed onto an outer side of the first bending section 111 and the second bending section 112. Accordingly, the pair of decorative heads 42 can be installed onto the two ends of the decorative panels 41 without being hindered by the first actuator 20.

[0018] As shown in FIG. 3, in an exemplary embodiment of the present invention, the guiding track main body 11 includes a set of protruding ribs 13 formed on one side thereof. In addition, the decorative panel 41 includes a set of grooves 410 formed on one side surface facing toward the guiding track main body 11. The decorative panel 41 is attached onto the set of protruding ribs 13 of

the guiding track main body 11 with the set of grooves 410. In other words, the decorative panel 41 is slidably arranged onto the protruding ribs 13 of the guiding track main body 11 from one side end of the guiding track main body 11 with the set of grooves 410. Accordingly, the decorative panel 41 can be attached onto one side surface of the guiding track main body 11.

[0019] To be more specifically, the decorative panel 41 comprises a first installation section 411 and a second installation section 412 protruding out of the two ends of the guiding track main body 11. The pair of decorative heads 42 are mounted onto a rear end of the first installation section 411 and the second installation section 412 respectively.

[0020] In addition, the electric curtain track structure 1 further comprises a plurality of second hooks 50. The plurality of second hooks 50 are installed spaced apart from each other on the first installation section 411 and the second installation section 412, and are also located on two outer sides of the plurality of first hooks 32.

[0021] It shall be noted that during the actual implementation, the electric curtain track structure 1 may further comprise a second actuator 60. The second actuator 60 is installed onto the second bending section 112 and cooperates in conjunction with the first actuator 20 to jointly drive the transmission assembly 30 to move in order to further facilitate the operation of the electric curtain.

[0022] As shown in FIG. 4, the two ends of the decorative panel 41 of the electric curtain structure 1 of the present invention protrude out of the guiding track main body 11 respectively in order to allow the pair of decorative heads 42 to be installed onto an outer side of the first bending section 111 and the second bending section 112 correspondingly. Accordingly, the pair of decorative heads 42 can be installed onto the two ends of the decorative panel 41 without being hindered by the first actuator 20, and the first actuator 20 can also be concealed in order to improve the aesthetic appearance thereof.

[0023] Furthermore, the electric curtain track structure 1 of the present invention uses the plurality of second hooks 50 in conjunction with the plurality of first hooks 32 for the mounting of a curtain fabric (not shown in the drawings) in order to allow the length of the curtain fabric to extend to the first installation section 411 and the second installation section 412 of the decorative panel 41, such that it is able to achieve the effect of concealing the first actuator 20 as well as to further improve the overall aesthetic appearance of the electric curtain track structure 1.

[0024] In addition, it shall be noted that in this exemplary embodiment, the transmission assembly 30 further comprises a retaining member 33. The retaining member 33 is arranged at one side of the transmission cable 31 adjacent to the installation portion 12 in order to be used for preventing the curtain fabric from overly closed crowding at one area that may affect the appearance thereof. Furthermore, the electric curtain track structure 1 may

further comprises at least one supporting rack 70, and the supporting rack 70 is fastened onto one securement surface via a fastener 71. Moreover, the supporting rack 70 is used for supporting the transmission assembly 30. The transmission assembly 30 can be secured onto the supporting rack 70 at an appropriate location via another fastener 72, thereby supporting the weight of the transmission assembly 30 and the first actuator 20 as well as the second actuator 60.

Claims

1. An electric curtain track structure, comprising:

a guiding track assembly (10) comprising a guiding track main body (11) having a first bending section (111) and a second bending section (112) opposite from each other;

a first actuator (20) installed on the first bending section (111);

a transmission assembly (30) comprising a transmission cable (31) and a plurality of first hooks (32); the transmission cable (31) being inserted into the guiding track main body (11) and driven by the first actuator (20) in order to move along the guiding track main body (11) together with the plurality of first hooks (32); and a decorative assembly (40) comprising a decorative panel (41) and a pair of decorative heads (42); the decorative panel (41) being attached onto an outer side surface of the guiding track main body (11), and two ends of the decorative panel (41) being protruded out of the guiding track main body (11) in order to allow the decorative heads (42) to be correspondingly installed on an outer side of the first bending section (111) and the second bending section (112) respectively.

2. The electric curtain track according to Claim 1, wherein the first bending section (111) and the second bending section (112) are bent toward an identical direction relative to one side of the guiding track main body (11).

3. The electric curtain track according to Claim 1, wherein the guiding track main body (11) includes an open-type through slot (110), and the transmission cable (31) is inserted into the through slot (110) in order to allow the plurality of first hooks (32) to be exposed at an outer side of the through slot (110).

4. The electric curtain track according to Claim 1, wherein the guiding track main body (11) includes a set of protruding ribs (13) formed on one side thereof; the decorative panel (41) includes a set of grooves (410) formed on one side surface facing toward the

guiding track main body (11), and the decorative panel (41) is attached onto the set of protruding ribs (13) of the guiding track main body (11) with the set of grooves (410).

5. The electric curtain track according to Claim 1, wherein the guiding track main body (11) is an aluminum extruded track, and the guiding track main body (11) comprises a plurality of supporting plates (113) and a plurality of channels (114) are formed among the plurality of supporting plates (113).

6. The electric curtain track according to Claim 1, wherein the guiding track assembly (10) further comprises a first installation portion (12); the first installation portion (12) is arranged on the first bending section (111), and the first actuator (20) is located inside the first installation portion (12).

7. The electric curtain track according to Claim 1, wherein the decorative panel (41) comprises a first installation section (411) and a second installation section (412) protruding out of two ends of the guiding track main body (11); the pair of decorative heads (42) are mounted onto a rear end of the first installation section (411) and the second installation section (412) respectively.

8. The electric curtain track according to Claim 7, further comprising a plurality of second hooks (50) installed spaced apart from each other on the first installation section (411) and the second installation section (412) as well as located at two outer sides of the plurality of first hooks (32).

9. The electric curtain track according to Claim 1, wherein the first actuator (20) is a motor.

10. The electric curtain track according to Claim 1, further comprising a second actuator (60) installed on the second bending section (112).

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

1. An electric curtain track structure, comprising:

a guiding track assembly (10) comprising a guiding track main body (11) having a first bending section (111) and a second bending section (112) opposite from each other;

a first electrical actuator (20) installed on the first bending section (111);

a transmission assembly (30) comprising a transmission cable (31) and a plurality of first hooks (32); the transmission cable (31) being inserted into the guiding track main body (11)

- and driven by the first electrical actuator (20) in order to move along the guiding track main body (11) together with the plurality of first hooks (32); and
 a decorative assembly (40) comprising a decorative panel (41) and a pair of decorative heads (42); the decorative panel (41) being disposed at an outer side surface of the guiding track main body (11), and two ends of the decorative panel (41) being extended beyond the guiding track main body (11) in order to allow the decorative heads (42) to be correspondingly disposed at an outer side of the first bending section (111) and the second bending section (112) respectively.
2. The electric curtain track according to Claim 1, wherein the first bending section (111) and the second bending section (112) are bent toward an identical direction relative to one side of the guiding track main body (11).
 3. The electric curtain track according to Claim 1, wherein the guiding track main body (11) includes an open-type through slot (110), and the transmission cable (31) is inserted into the through slot (110) in order to allow the plurality of first hooks (32) to be exposed at an outer side of the through slot (110).
 4. The electric curtain track according to Claim 1, wherein the guiding track main body (11) includes a set of protruding ribs (13) formed on one side thereof; the decorative panel (41) includes a set of grooves (410) formed on one side surface facing toward the guiding track main body (11), and the decorative panel (41) is attached onto the set of protruding ribs (13) of the guiding track main body (11) with the set of grooves (410).
 5. The electric curtain track according to Claim 1, wherein the guiding track main body (11) is an aluminum extruded track, and the guiding track main body (11) comprises a plurality of supporting plates (113) and a plurality of channels (114) are formed among the plurality of supporting plates (113).
 6. The electric curtain track according to Claim 1, wherein the guiding track assembly (10) further comprises a first installation portion (12); the first installation portion (12) is arranged on the first bending section (111), and the first electrical actuator (20) is located inside the first installation portion (12).
 7. The electric curtain track according to Claim 1, wherein the decorative panel (41) comprises a first installation section (411) and a second installation section (412) protruding out of two ends of the guiding track main body (11); the pair of decorative heads (42) are mounted onto a rear end of the first installation section (411) and the second installation section (412) respectively.
 8. The electric curtain track according to Claim 7, further comprising a plurality of second hooks (50) installed spaced apart from each other on the first installation section (411) and the second installation section (412) as well as located at two outer sides of the plurality of first hooks (32).
 9. The electric curtain track according to Claim 1, wherein the first electrical actuator (20) is a motor.
 10. The electric curtain track according to Claim 1, further comprising a second electrical actuator (60) installed on the second bending section (112).

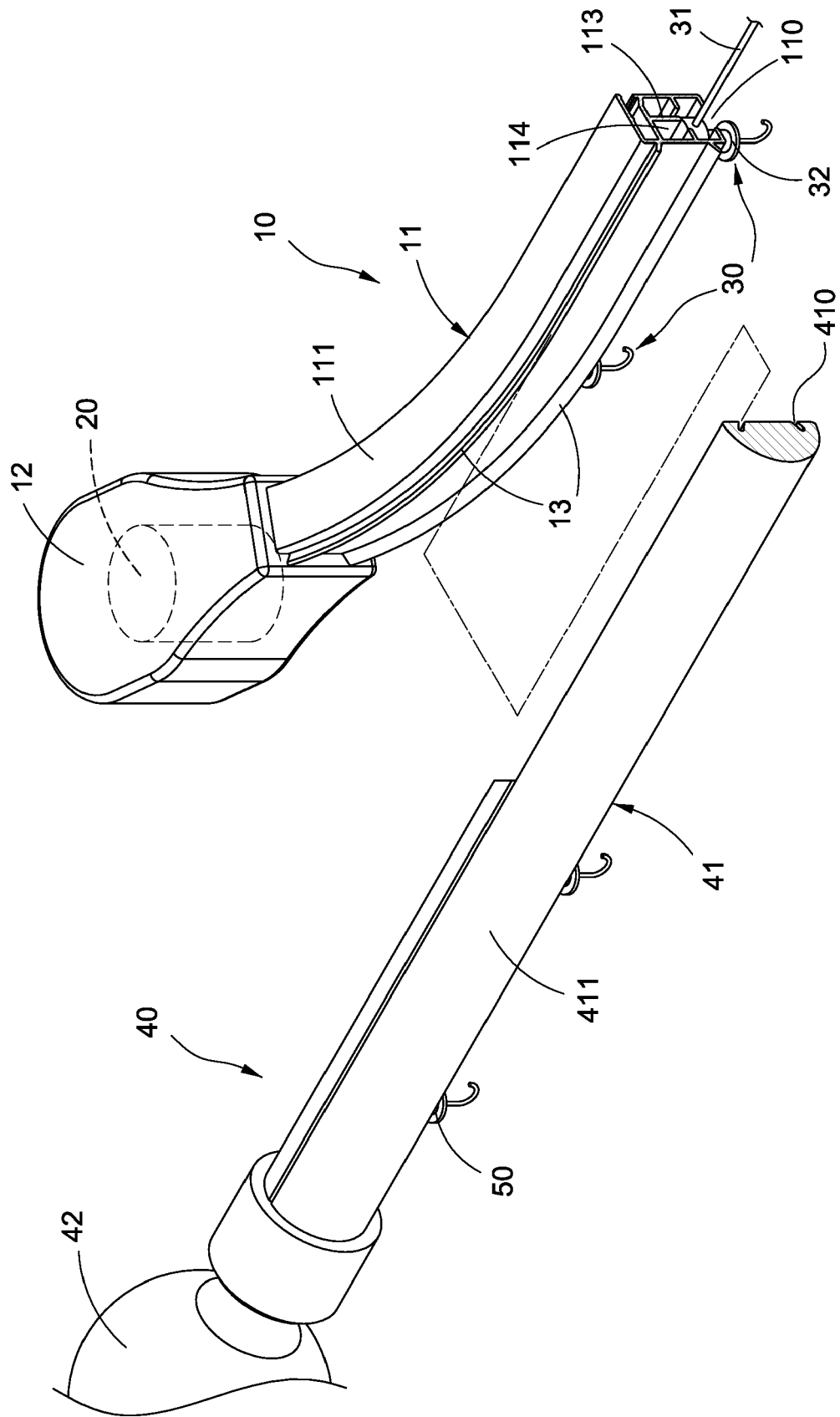


FIG.1

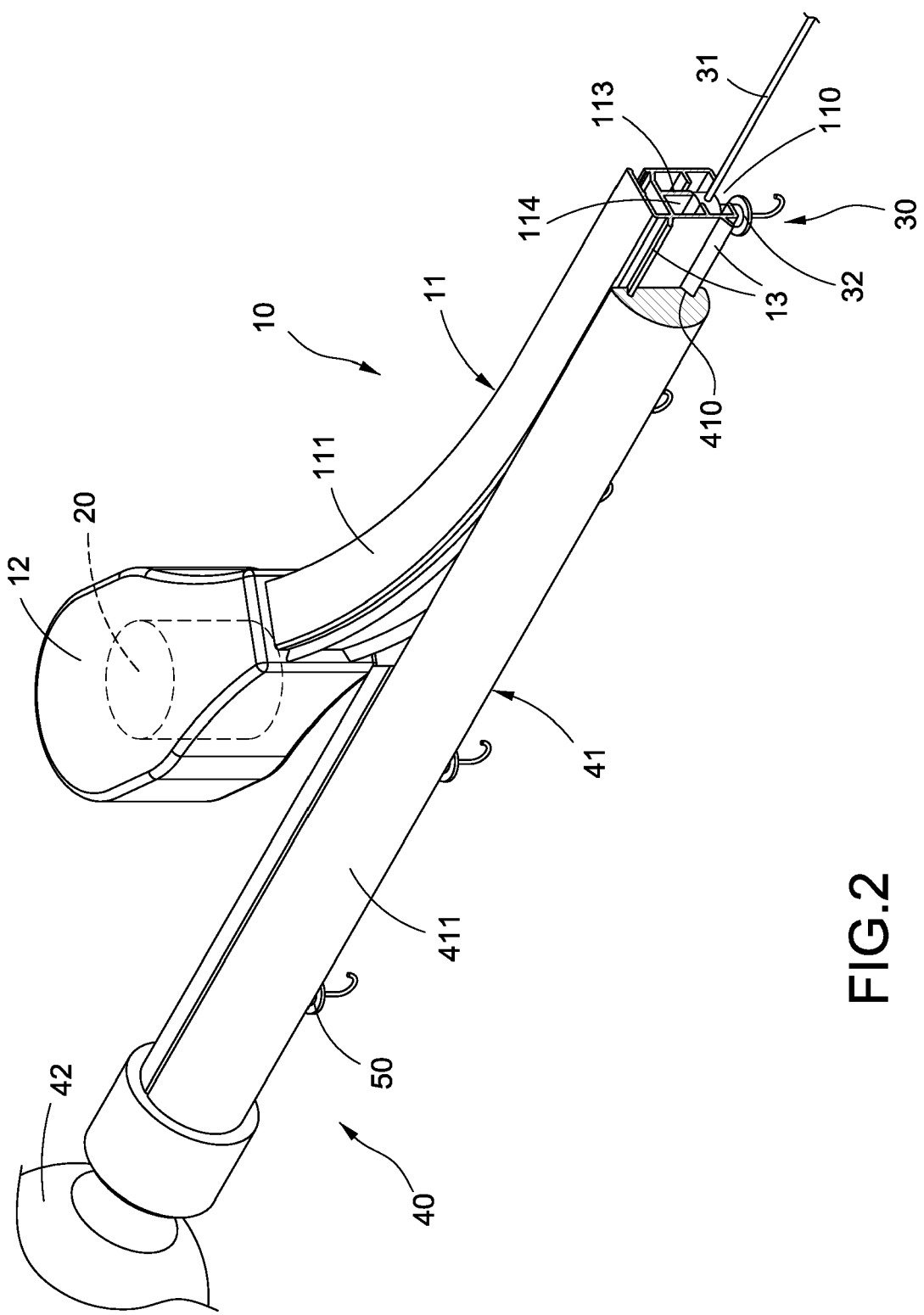


FIG.2

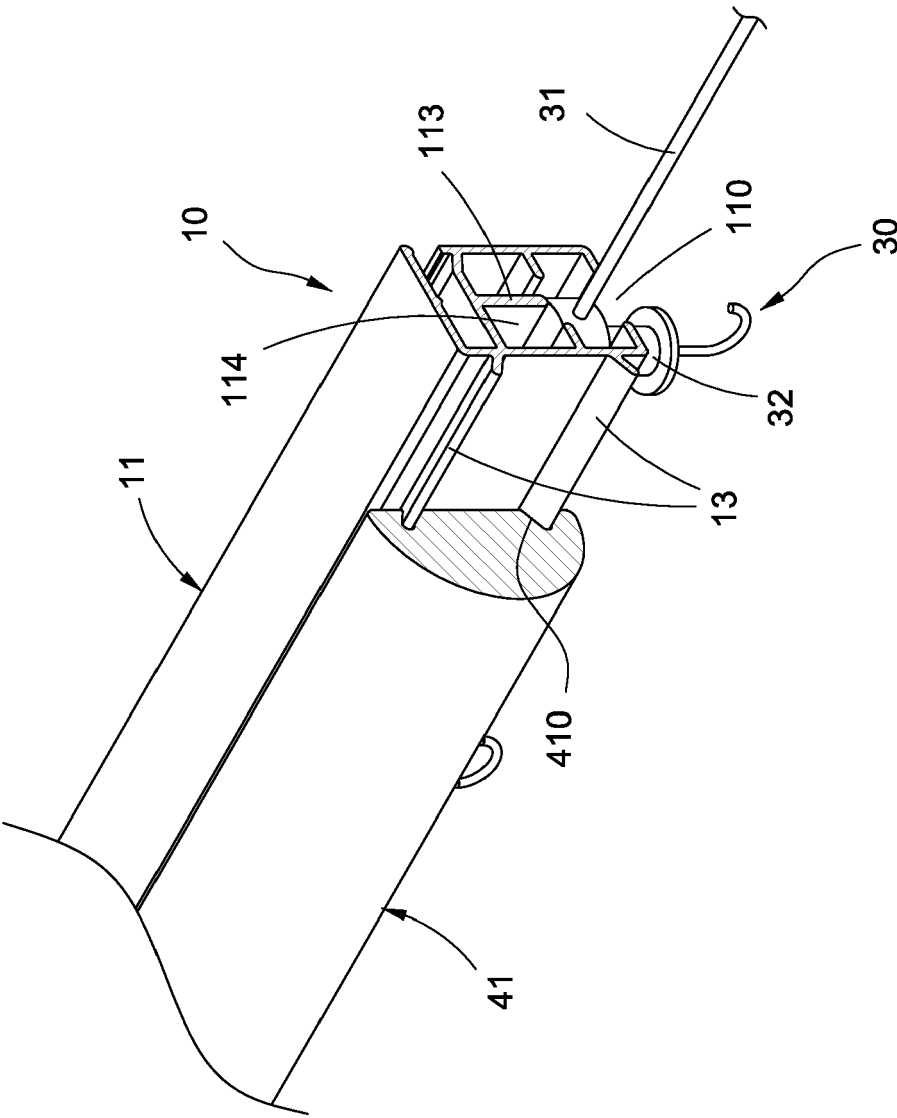


FIG.3

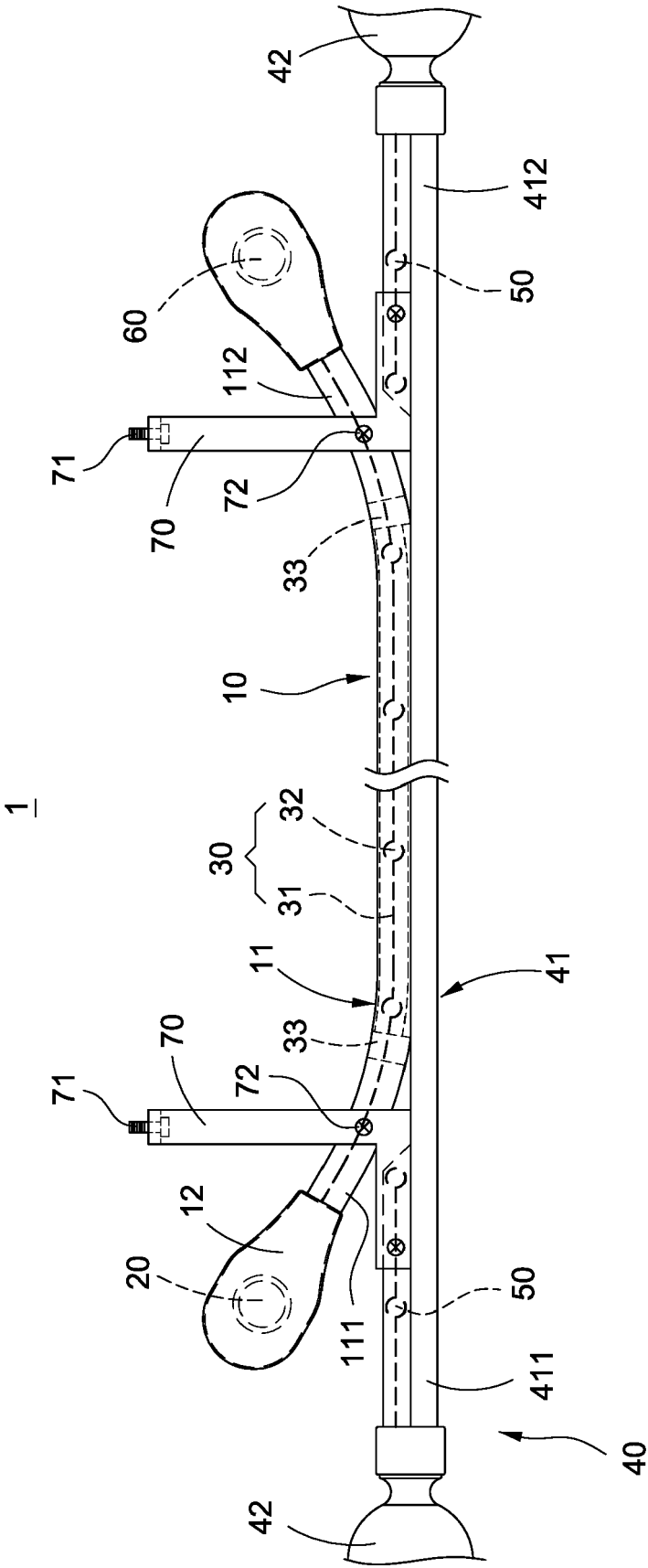


FIG.4



EUROPEAN SEARCH REPORT

Application Number
EP 19 17 3494

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	EP 2 954 808 A1 (ARLINEA IND CO [TW]) 16 December 2015 (2015-12-16) * figures 1,2,4 *	1-10	INV. A47H5/032
A	EP 2 250 949 A2 (FOREST GROUP NEDERLAND BV [NL]) 17 November 2010 (2010-11-17) * figures 1,2,4 *	1-10	ADD. A47H1/144 A47H1/04
A	CN 204 764 895 U (ARLINEA IND CO) 18 November 2015 (2015-11-18) * figures 1,4,5 *	1,4,5	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47H
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 18 October 2019	Examiner Tänzler, Ansgar
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			

EPO FORM 1503 03.02 (P04C01)

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

EP 19 17 3494

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

18-10-2019

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2954808 A1	16-12-2015	EP 2954808 A1	16-12-2015
		JP 3197789 U	04-06-2015
		TW M491078 U	01-12-2014
		US 2015354274 A1	10-12-2015
EP 2250949 A2	17-11-2010	EP 2250949 A2	17-11-2010
		NL 1036947 C2	15-11-2010
		US 2011168341 A1	14-07-2011
CN 204764895 U	18-11-2015	NONE	