



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
16.03.2022 Bulletin 2022/11

(21) Application number: **21195961.4**

(22) Date of filing: **10.09.2021**

(51) International Patent Classification (IPC):
E06B 1/60 (2006.01) **E05D 15/06 (2006.01)**
E06B 3/46 (2006.01) **E06B 3/96 (2006.01)**
E06B 3/964 (2006.01)

(52) Cooperative Patent Classification (CPC):
E06B 3/4636; E05D 15/0665; E06B 1/60;
E06B 3/9636; E06B 3/9642

(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

(30) Priority: **10.09.2020 CN 202021969077 U**

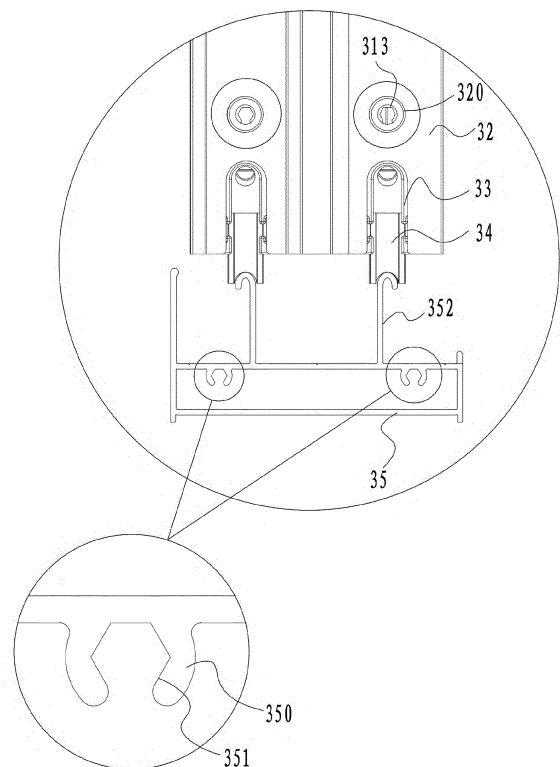
(71) Applicant: **Yotrio Group Co., Ltd.**
Linhai City 317004 (CN)

(72) Inventors:
• **GU, Zubin**
Linhai City, 317004 (CN)
• **XIE, Jianqiang**
Linhai City, 317004 (CN)

(74) Representative: **Schulz Junghans**
Patentanwälte PartGmbB
Großbeerenstraße 71
10963 Berlin (DE)

(54) **FAST-ASSEMBLED DOOR FRAME STRUCTURE FOR AN OUTDOOR SLIDING-DOOR TENT**

(57) The utility model pertains to the field of outdoor supplies and specifically relates to a fast-assembled door frame structure for an outdoor sliding-door tent. The fast-assembled door frame structure comprises an upper horizontal door frame tube, a lower horizontal door frame tube, a left vertical supporting and fixing frame tube and a right vertical supporting and fixing frame tube, the four frame tubes are mounted in a fit manner, second grooves are arranged on main bodies of the horizontal door frame tubes, the second grooves form second openings, and the second openings are fixed and mounted to the corresponding vertical supporting and fixing frame tubes by means of third fasteners. The present utility model has the following beneficial effects: Second openings are arranged on the horizontal door frame tubes, and fasteners are used to simplify the assembly between the horizontal door frame tubes and the vertical supporting and fixing frame tubes; and only one double-rib structure is provided for each vertical supporting and fixing frame tube to fit the vertical sliding door border tubes. There are no redundant exposed double-ribs and the appearance is better; and the vertical supporting and fixing frame tubes are designed to have groove portions, and the fasteners are arranged inside the groove portions and not exposed, so the appearance is better.



[Figure No.] Fig. 8

Description

TECHNICAL FIELD

[0001] The present utility model pertains to the field of outdoor supplies and specifically relates to a fast-assembled door frame structure for an outdoor sliding-door tent.

BACKGROUND ART

[0002] Outdoor sliding-door tents are outdoor tent products. In general, a rack constitutes the main body of an outdoor sliding-door tent, the top of the rack has a canopy structure that can be opened and closed, a door frame is provided around the rack, sliding doors that can be opened and closed, too, are embedded in the door frame, and the guide wheels on the sliding doors can slide on the door frame. The door frame comprises two horizontal door frame tubes and two vertical supporting and fixing frame tubes. The prior art has the following problems: 1. The installation structure between the horizontal door frame tubes and the vertical supporting and fixing frame tubes is complex and the installation is laborious; 2. When the vertical supporting and fixing frame tubes are mounted to the ring beam of the rack, screws need to be tapped from the inner side of the vertical borders of the door frame and are exposed, affecting the appearance; 3. On the inner side of a conventional vertical supporting and fixing frame tube, there are two double-rib structures used for fitting a border of the door panel. Actually, only one double-rib structure is used. The redundant double-rib structure affects the appearance.

SUMMARY OF THE UTILITY MODEL

[0003] In order to make up for the defects of the prior art, the present utility model provides a technical solution for a fast-assembled door frame structure for an outdoor sliding-door tent.

[0004] The fast-assembled door frame structure for an outdoor sliding-door tent, comprising an upper horizontal door frame tube, a lower horizontal door frame tube, a left vertical supporting and fixing frame tube and a right vertical supporting and fixing frame tube, which are mounted in a fit manner, wherein second grooves are arranged on main bodies of the horizontal door frame tubes, the second grooves form second openings, and the second openings are fixed and mounted to the corresponding vertical supporting and fixing frame tubes by means of third fasteners.

[0005] The fast-assembled door frame structure for an outdoor sliding-door tent, wherein groove portions formed from outward depression are arranged on the vertical supporting and fixing frame tubes and fixed and mounted to a ring beam of a rack by means of fourth fasteners, so that the fourth fasteners are concealed in the groove portions and not exposed.

[0006] The fast-assembled door frame structure for an

outdoor sliding-door tent, wherein only one double-rib structure used for fitting a vertical sliding door border tube is arranged on the inner side of each vertical supporting and fixing frame tube.

[0007] The fast-assembled door frame structure for an outdoor sliding-door tent, wherein the second openings are polygonal holes.

[0008] The fast-assembled door frame structure for an outdoor sliding-door tent, wherein guide rails used for fitting with the guide wheel assembly are arranged on the main body of at least one of the two horizontal door frame tubes.

[0009] The fast-assembled door frame structure for an outdoor sliding-door tent, wherein the guide rails are hook structures.

[0010] The fast-assembled door frame structure for an outdoor sliding-door tent, wherein the third fasteners are tapping screws.

[0011] The present utility model has the following beneficial effects:

1) Second openings are arranged on the horizontal door frame tubes, and fasteners are used to simplify the assembly between the horizontal door frame tubes and the vertical supporting and fixing frame tubes;

2) Only one double-rib structure is provided for each vertical supporting and fixing frame tube to fit the vertical sliding door border tubes. There are no redundant exposed double-ribs, and the appearance is better;

3) The vertical supporting and fixing frame tubes are designed to have groove portions, and the fasteners are arranged inside the groove portions and not exposed, so the appearance is better.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012]

Fig. 1 is a structural schematic view of an outdoor sliding-door tent structure in which the present utility model is used;

Fig. 2 is an exploded structural schematic view of a sliding door assembly in an outdoor sliding-door tent in which the present utility model is used;

Fig. 3 is a structural schematic front view of sliding doors in an outdoor sliding-door tent in which the present utility model is used. Four sliding doors are shown in the figure;

Fig. 4 is a structural schematic top view of sliding doors in an outdoor sliding-door tent in which the present utility model is used. Four sliding doors are

shown in the figure;

Fig. 5 is a schematic view of the end face when a vertical sliding door border tube is connected to a chute tube in an outdoor sliding-door tent in which the present utility model is used;

Fig. 6 is a structural schematic right view of vertical sliding door border tubes in an outdoor sliding-door tent in which the present utility model is used. Two vertical sliding door border tubes are shown in the figure;

Fig. 7 is a locally enlarged structural schematic view of a vertical sliding door border tube in an outdoor sliding-door tent in which the present utility model is used;

Fig. 8 is a structural schematic view of the connection between vertical sliding door border tubes and a lower horizontal door frame tube in an outdoor sliding-door tent in which the present utility model is used;

Fig. 9 is a structural schematic view of the connection between vertical sliding door border tubes and an upper horizontal door frame tube in an outdoor sliding-door tent in which the present utility model is used;

Fig. 10 is a structural schematic view of a non-metallic part in an outdoor sliding-door tent in which the present utility model is used;

Fig. 11 is a structural schematic view of the connection between a vertical sliding door border tube and a vertical supporting and fixing frame tube in an outdoor sliding-door tent in which the present utility model is used;

Fig. 12 is a structural schematic view of the end face of a vertical supporting and fixing frame tube in an outdoor sliding-door tent in which the present utility model is used;

Fig. 13 is a structural schematic view of a horizontal sliding door border tube in an outdoor sliding-door tent in which the present utility model is used;

Fig. 14 is a structural schematic view of a guide wheel assembly in an outdoor sliding-door tent in which the present utility model is used.

DETAILED DESCRIPTION

[0013] The present utility model will be further illustrated with reference to accompanying drawings.

[0014] The figures show a fast-assembled door frame structure for an outdoor sliding-door tent, which is used

in an outdoor sliding-door tent. The outdoor sliding-door tent comprises a rack 1, a canopy structure 2 is mounted at the top of the rack 1 in a fit manner, and sliding door assemblies 3 are mounted in a fit manner on the front, left and right sides of the rack 1. Each sliding door assembly 3 comprises a door frame structure and four sliding doors that are slidably embedded in the door frame structure. Each sliding door comprises a door panel 30 and a border structure surrounding the door panel 30, the border structure comprises an upper horizontal sliding door border tube 31, a lower horizontal sliding door border tube 31, a left vertical sliding door border tube 32 and a right vertical sliding door border tube 32, and the four border tubes are mounted in a fit manner by means of first fasteners. Specifically, non-metallic parts 33 are built in the upper and lower ends of the vertical sliding door border tubes, respectively, the non-metallic parts 33 have guide holes 330, and the guide holes 330 are counter bores and used to provide guidance for the connection of the first fasteners between the horizontal sliding door border tubes 31 and the vertical sliding door border tubes 32.

[0015] As an optimization: The horizontal sliding door border tubes 31 comprise horizontal sliding door border tube bodies 310 and horizontal sliding door border tube slots 311 used for mounting the door panel 30, and a guide wheel assembly 34 is mounted in a fit manner inside the horizontal sliding door border tube body 310 of the lower horizontal sliding door border tube 31; a guide wheel frame 340 of the guide wheel assembly 34 is mounted to the vertical sliding door border tubes 32 by means of second fasteners, the non-metallic parts 33 have guide slots 331, and the guide slots 331 are used to provide guidance for the connection of the second fasteners between the guide wheel frame 340 and the vertical sliding door border tubes 32.

[0016] More specifically, the guide holes 330 on the non-metallic parts 33 are aligned with first mounting holes 312 on the horizontal sliding door border tubes 31 and second mounting holes 320 on the vertical sliding door border tubes 32, respectively, and the first fasteners are simultaneously connected to the second mounting holes 320, the guide holes 330 and the first mounting holes 312; the guide slots 331 on the non-metallic parts 33 are aligned with third mounting holes 3400 on the guide wheel frame 340 and mounting ports 321 on the vertical sliding door border tubes 32, respectively, and the second fasteners are simultaneously connected to the mounting ports 321, the guide slots 331 and the third mounting holes 313.

[0017] Still further, the first mounting holes 312 are first openings in an inner-hexagon shape, which are formed by first grooves 313 arranged on the horizontal sliding door border tube bodies 310.

[0018] As an optimization: The vertical sliding door border tubes 32 comprise vertical sliding door border tube bodies 323 used for mounting non-metallic parts 33, and vertical sliding door border tube slots 324 mounted in

cooperation with the horizontal sliding door border tubes 31 and the door panel 30.

[0019] As an optimization: The non-metallic parts 33 are built in the ports of the vertical sliding door border tube bodies 323.

[0020] As an optimization: The non-metallic parts 33 adopt plastic structures.

[0021] As an optimization: The vertical sliding door border tubes 32 adopt vertically symmetrical structures.

[0022] As an optimization: Chute tubes 322 on the vertical sliding door border tubes 32 are snap-fit with the vertical sliding door border tubes 32. More specifically, clamp slots 325 are arranged on both sides of the end of each vertical sliding door border tube 32 facing away from a door body 30, clamp bars 3220 used for buckling the clamp slots 325 are arranged on both sides of the chute tubes 322, and the clamp bars 3220 have wedge bulges that can be snapped into the clamp slots 325.

[0023] As an optimization: The door frame structure comprises an upper horizontal door frame tube 35, a lower horizontal door frame tube 35, a left vertical supporting and fixing frame tube 36 and a right vertical supporting and fixing frame tube 36, the four frame tubes are mounted in a fit manner, second grooves 350 are arranged on main bodies of the horizontal door frame tubes 35, the second grooves 350 form second openings 351 in an inner-hexagon shape and the second openings 351 are fixed and mounted to the corresponding vertical supporting and fixing frame tubes 36 by means of third fasteners. Here, the main bodies of the horizontal door frame tubes 35 are rectangular tube structures. Guide rails 352 are arranged on the main bodies of the horizontal door frame tubes 35. The guide rails 352 adopt hook structures.

[0024] In the foregoing structures, groove portions 360 formed from outward depression are arranged on the vertical supporting and fixing frame tubes 36 and fixed and mounted to a ring beam of a rack 1 by means of fourth fasteners, so that the fourth fasteners are concealed in the groove portions 360 and not exposed.

[0025] In the foregoing structures, only one double-rib structure 361 used for fitting a vertical sliding door border tube 32 is arranged on the inner side of each vertical supporting and fixing frame tube 36.

[0026] As an optimization: Side panels 4 are further mounted in a fit manner on the two sides of the rack 1 and between the corresponding door frame structure and canopy structure. The side panels 4 adopt triangular structures, so that the canopy structure in the present utility model is in a tilted state. The canopy structure 2 comprises a plurality of roof panels arranged in a stepped manner and can be opened and closed by sliding the roof panels. Specifically, lower roof panels slide to the lower ends of higher roof panels to open the canopy. On the contrary, the canopy can be closed. The canopy structure 2 is prior art and can achieve the sliding of roof panels manually or electrically.

[0027] As an optimization: The guide wheel assembly 34 in the present utility model is a retractable structure

with an adjustable height to facilitate the adjustment to the balance of the sliding door. The guide wheel assembly 34 can be achieved using prior art.

[0028] The foregoing door panel 30 is a glass pane, and the foregoing side panels 4 are polycarbonate hollow sheets. The foregoing fasteners are all tapping screws.

[0029] The present utility model has the following features:

1) The vertical sliding door border tubes 32 adopt vertically symmetrical structures and the holes and slots matched with the vertical sliding door border tubes are all designed to be symmetrical to simplify the process and avoid confusion during assembly;

2) The horizontal sliding door border tubes 31 are designed to have first openings and tapping screws are used to simplify the assembly between the horizontal sliding door border tubes and the vertical sliding door border tubes;

3) Non-metallic parts 33 are built in the two ports of each vertical sliding door border tube 32, and the horizontal sliding door border tubes 31 are fixed with tapping screws through the guide holes 330 of the non-metallic parts 33, showing effects of guidance, reinforcement, and reducing noise during sliding of the sliding door;

4) Only one double-rib structure 361 is provided for each vertical supporting and fixing frame tube 36 to fit the vertical sliding door border tubes 32. There are no redundant exposed double-ribs, and the appearance is better;

5) The vertical supporting and fixing frame tubes 36 are designed to have groove portions 360, and the screw heads are arranged inside the groove portions and not exposed, so the appearance is better;

6) The vertical sliding door border tubes 32 and the chute tubes 322 are designed to be split buckle structures, to minimize the border tubes of the sliding door and simplify the manufacturing process of the vertical sliding door border tubes 32. The left vertical sliding door border tube 32 and the right vertical sliding door border tube 32 are interchangeable and it is not necessary to produce two types of vertical sliding door border tubes;

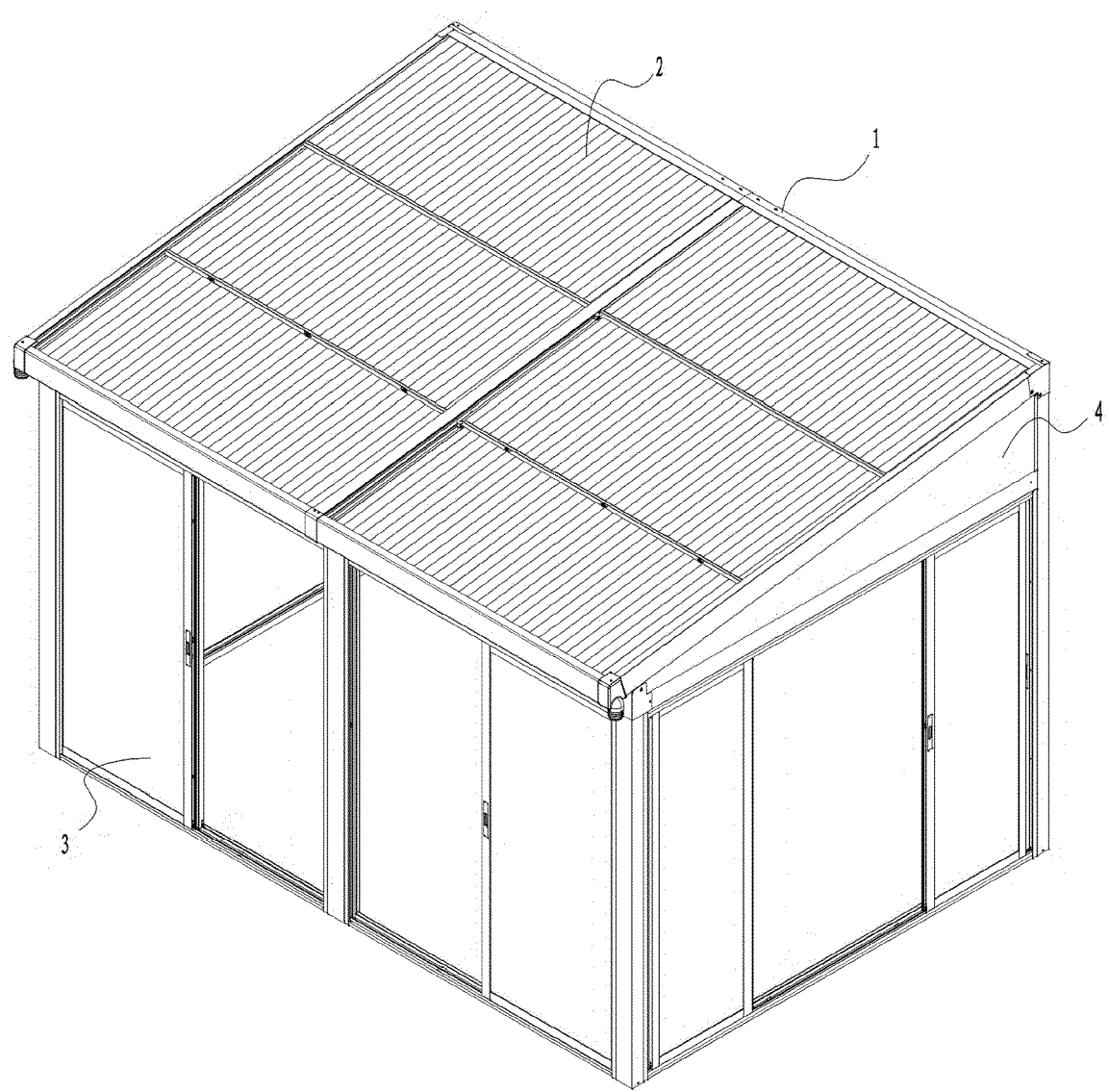
7) Second openings 351 are arranged on the horizontal door frame tubes 35, and tapping screws are used to simplify the assembly between the horizontal door frame tubes 35 and the vertical supporting and fixing frame tubes 36.

[0030] Lastly it should be noted that the foregoing embodiments are intended to describe and not to limit the

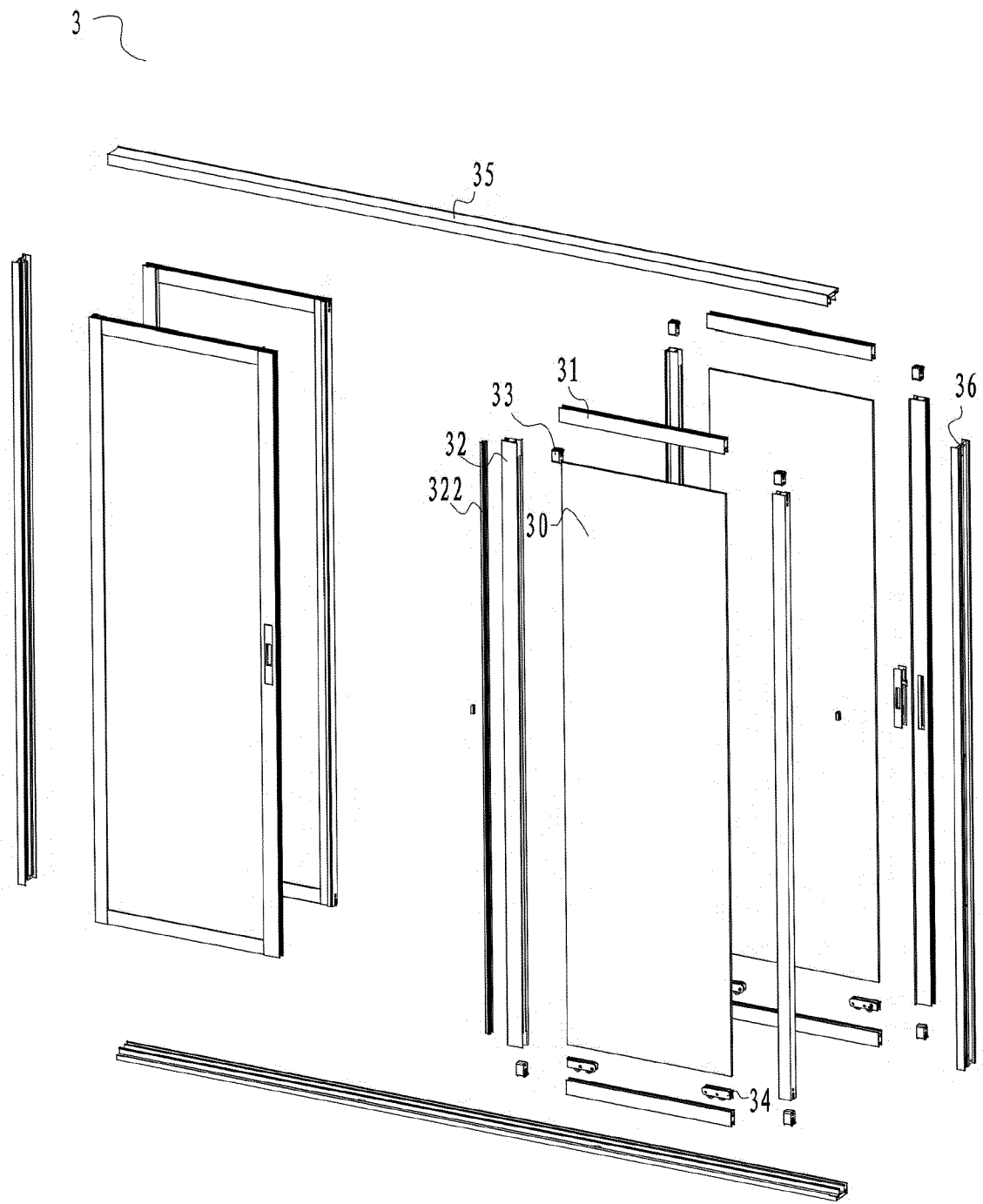
technical solutions of the present utility model. Although the present utility model has been elaborated by referring to the foregoing embodiments, those of ordinary skill in the art should understand that they still can modify the technical solutions of the foregoing embodiments, or equivalently replace some or all of the technical features therein; and such modifications or replacements will not result in essential departure of the corresponding technical solutions from the scope of the technical solutions of the embodiments of the present utility model.

Claims

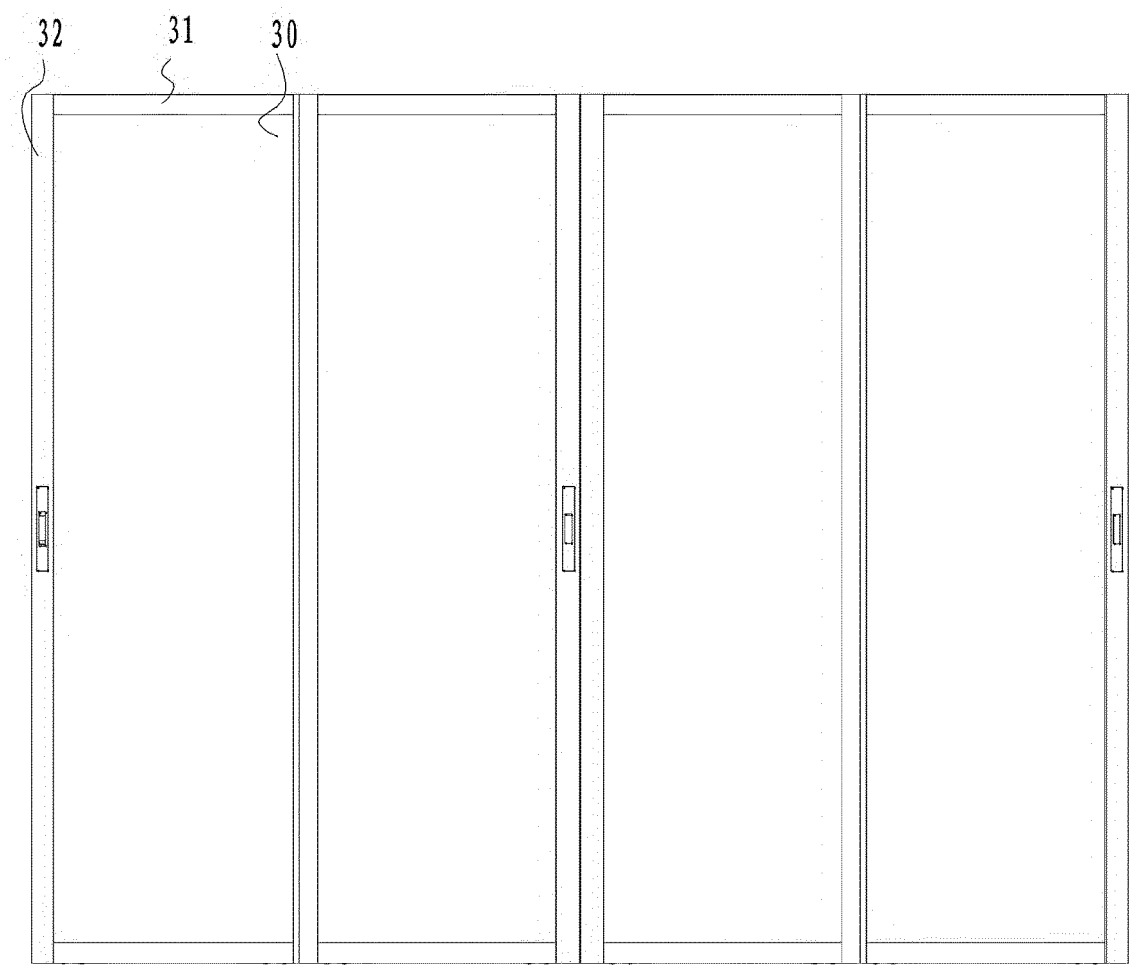
1. A fast-assembled door frame structure for an outdoor sliding-door tent, comprising an upper horizontal door frame tube (35), a lower horizontal door frame tube (35), a left vertical supporting and fixing frame tube (36) and a right vertical supporting and fixing frame tube (36), which are mounted in a fit manner, wherein second grooves (350) are arranged on main bodies of the horizontal door frame tubes (35), the second grooves (350) form second openings (351), and the second openings (351) are fixed and mounted to the corresponding vertical supporting and fixing frame tubes (36) by means of third fasteners. 5 10 15 20 25
2. The fast-assembled door frame structure for an outdoor sliding-door tent according to claim 1, wherein groove portions (360) formed from outward depression are arranged on the vertical supporting and fixing frame tubes (36) and fixed and mounted to a ring beam of a rack (1) by means of fourth fasteners, so that the fourth fasteners are concealed in the groove portions (360) and not exposed. 30 35
3. The fast-assembled door frame structure for an outdoor sliding-door tent according to claim 1, wherein only one double-rib structure (361) used for fitting a vertical sliding door border tube (32) is arranged on the inner side of each vertical supporting and fixing frame tube (36). 40
4. The fast-assembled door frame structure for an outdoor sliding-door tent according to claim 1, wherein the second openings (351) are polygonal holes. 45
5. The fast-assembled door frame structure for an outdoor sliding-door tent according to any of claims 1 to 4, wherein guide rails (352) used for fitting with the guide wheel assembly (34) are arranged on the main body of at least one horizontal door frame tube (35) of the two horizontal door frame tubes (35). 50
6. The fast-assembled door frame structure for an outdoor sliding-door tent according to claim 5, wherein the guide rails (352) are hook structures. 55
7. The fast-assembled door frame structure for an outdoor sliding-door tent according to any of claims 1 to 4, wherein the third fasteners are tapping screws.



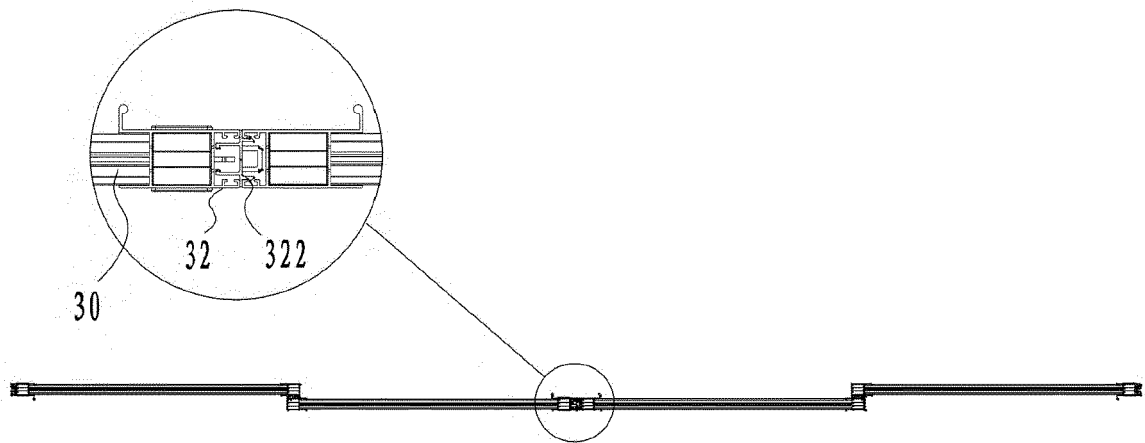
[Figure No.] Fig. 1



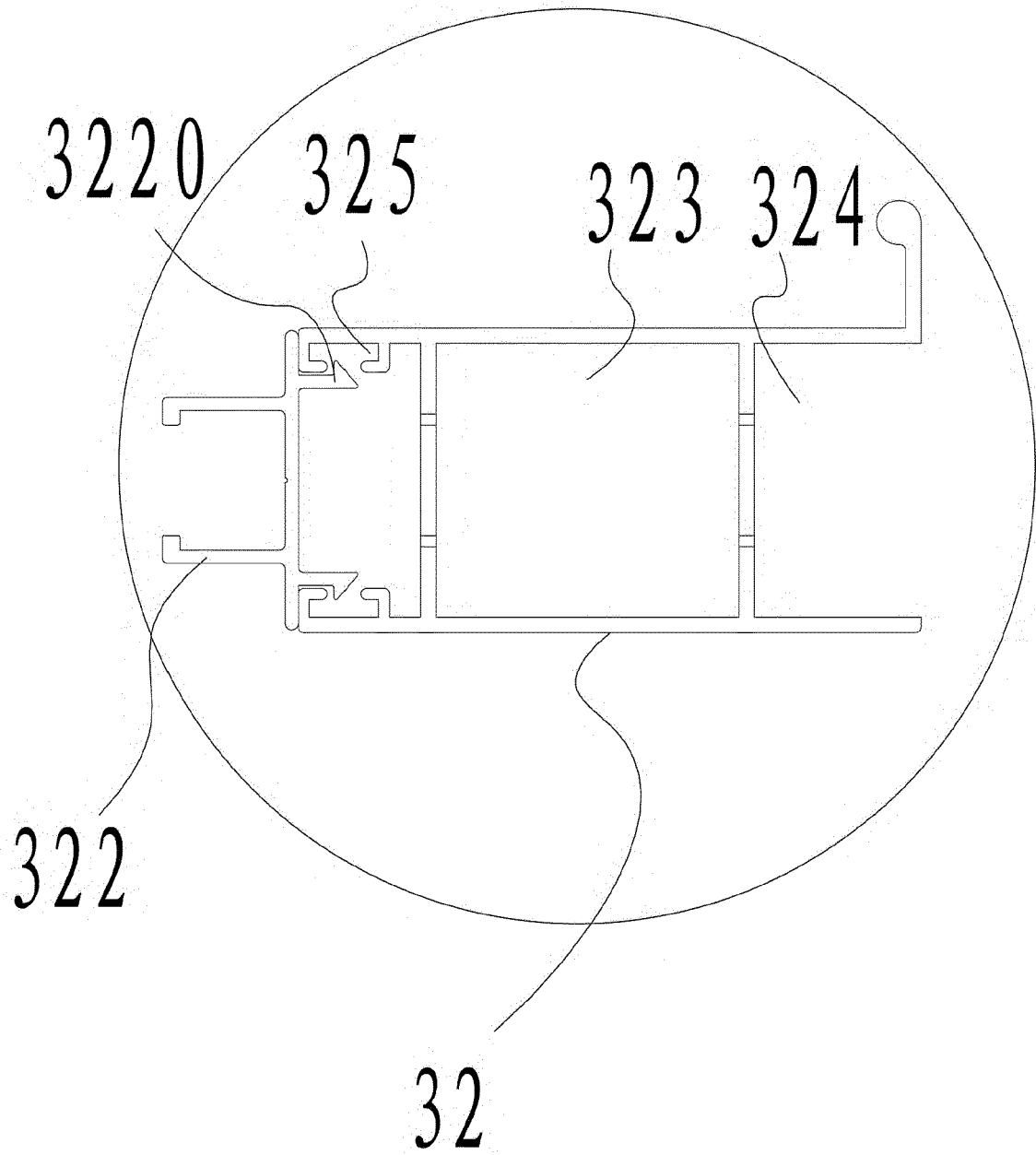
[Figure No.] Fig. 2



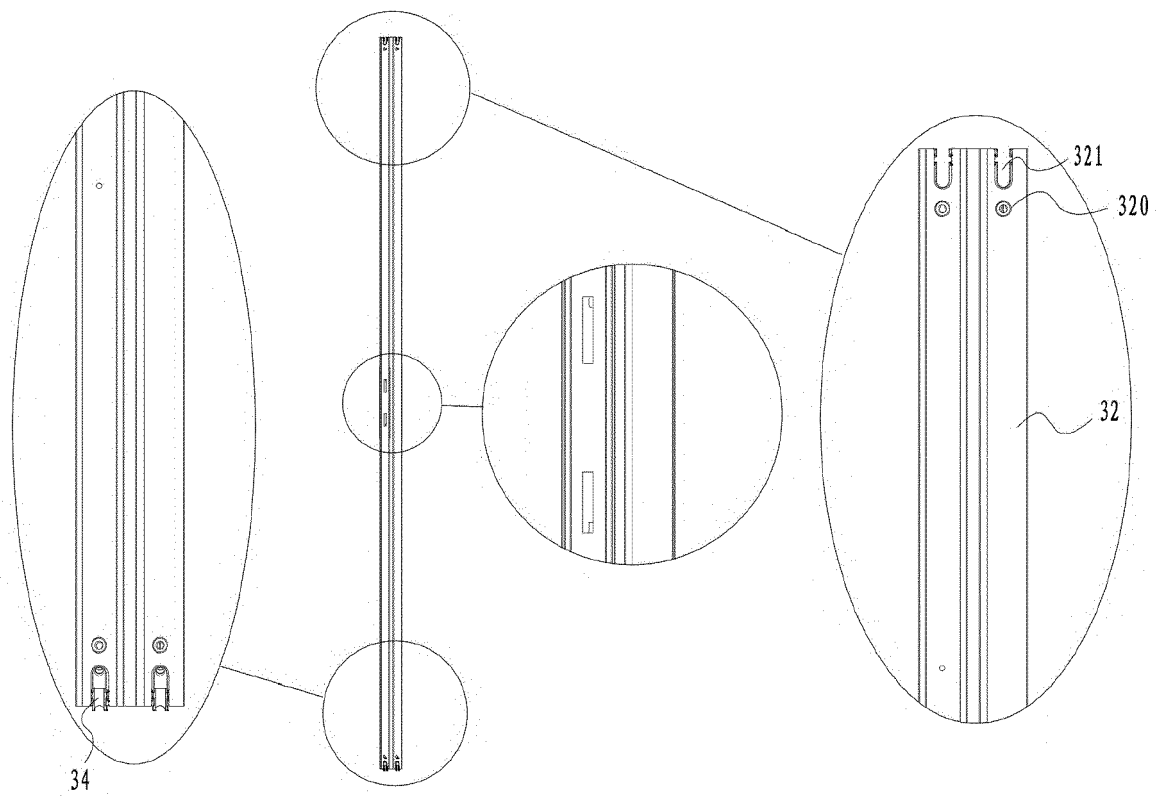
[Figure No.] Fig. 3



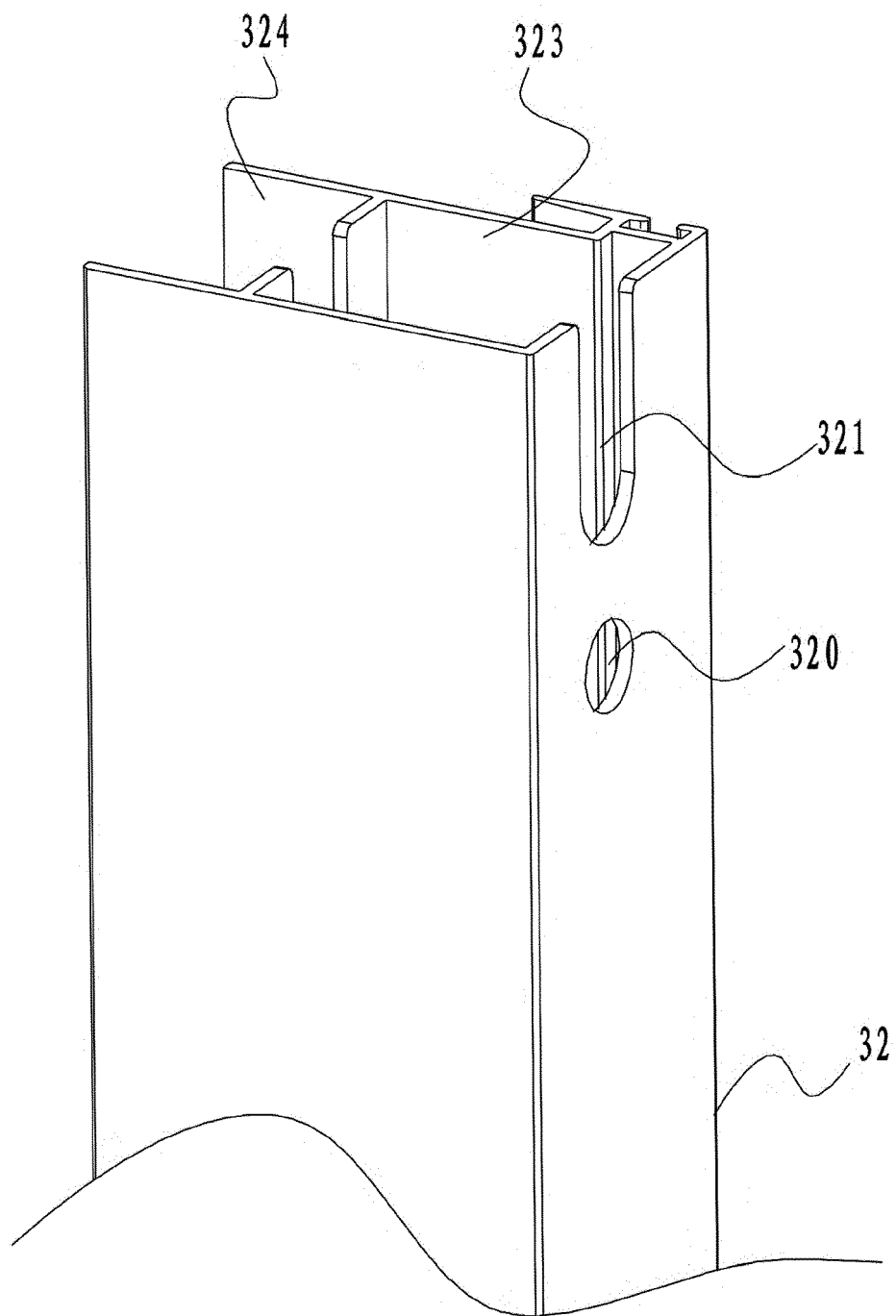
[Figure No.] Fig. 4



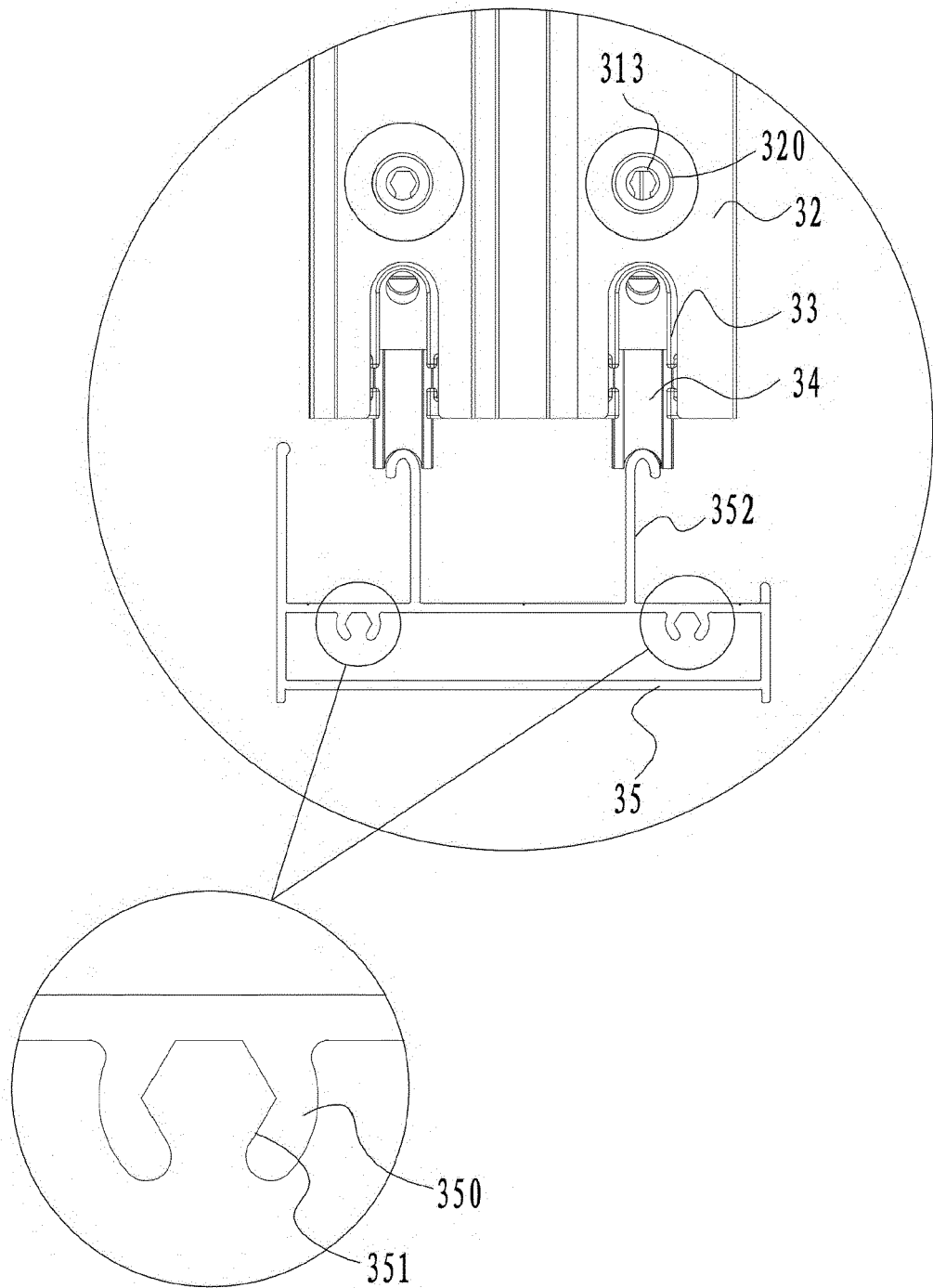
[Figure No.] Fig. 5



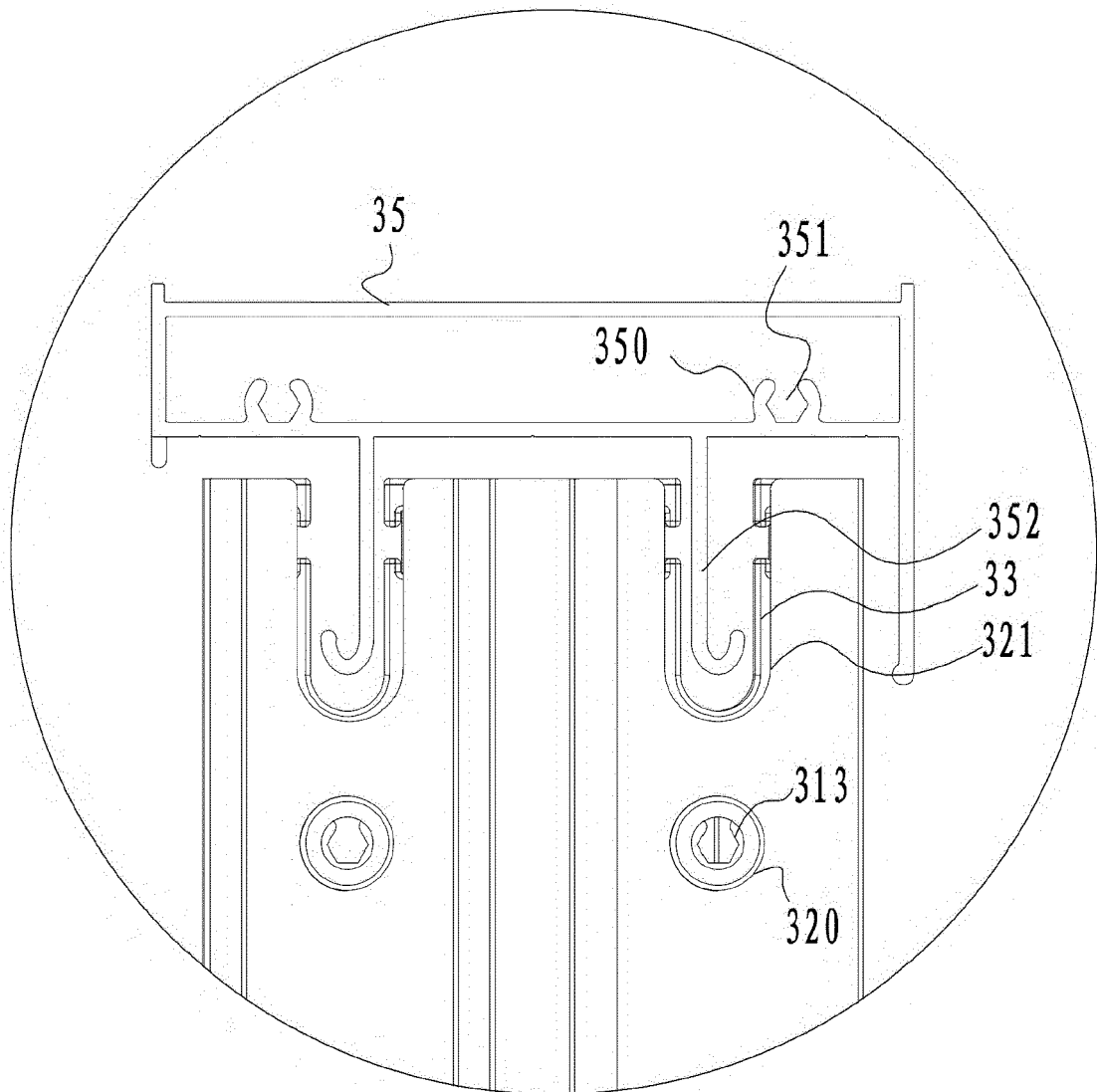
[Figure No.] Fig. 6



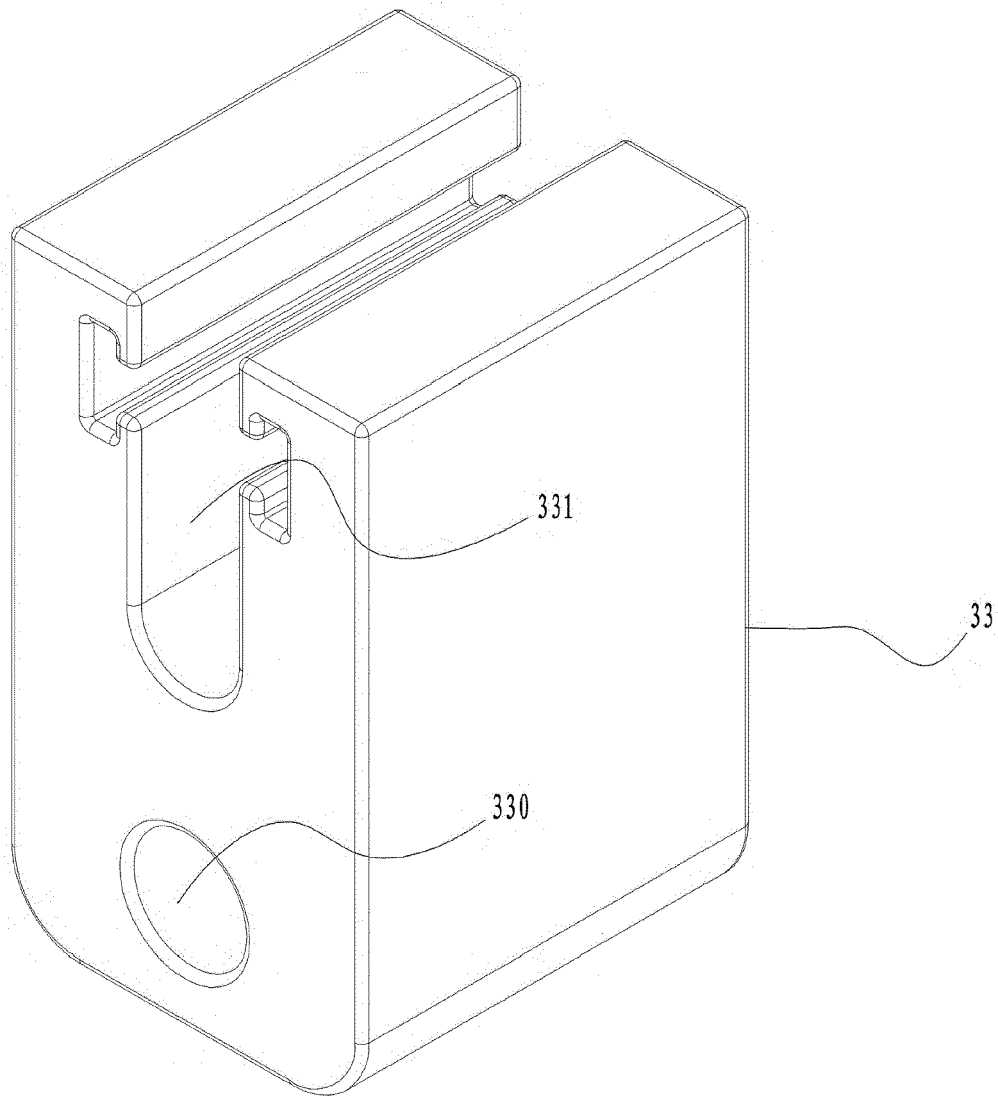
[Figure No.] Fig. 7



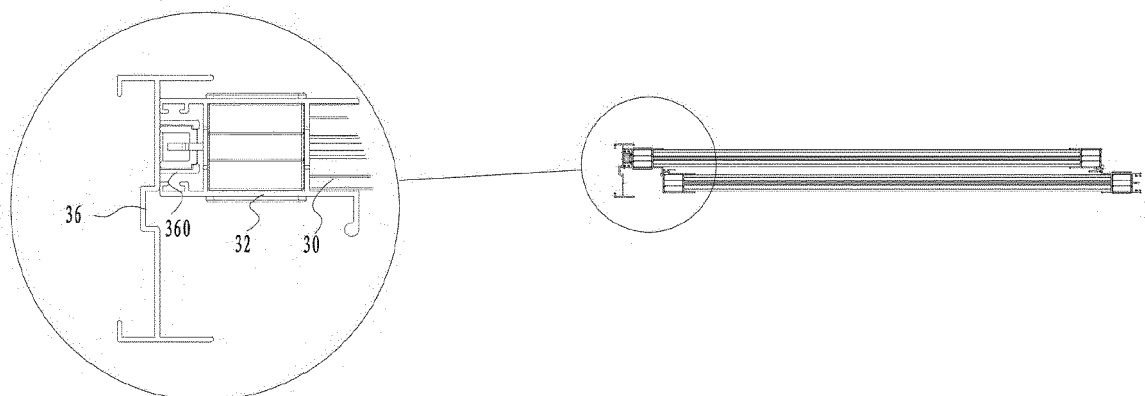
[Figure No.] Fig. 8



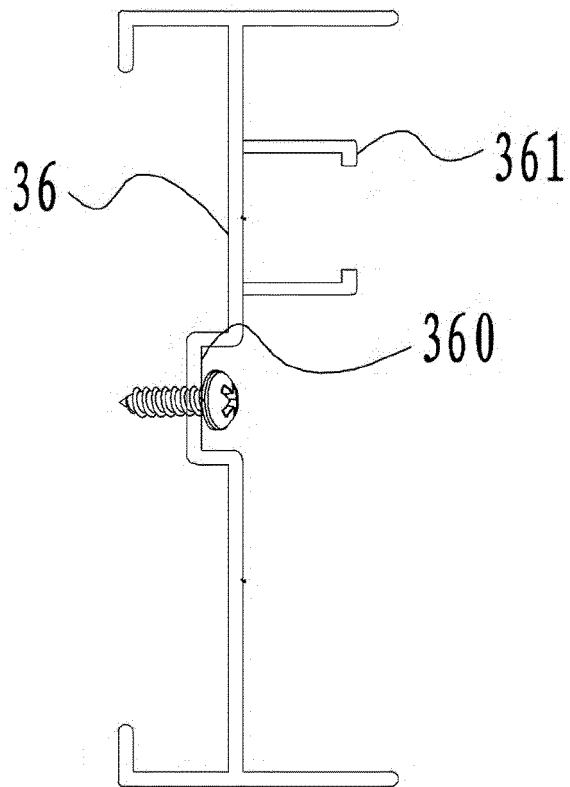
[Figure No.] Fig. 9



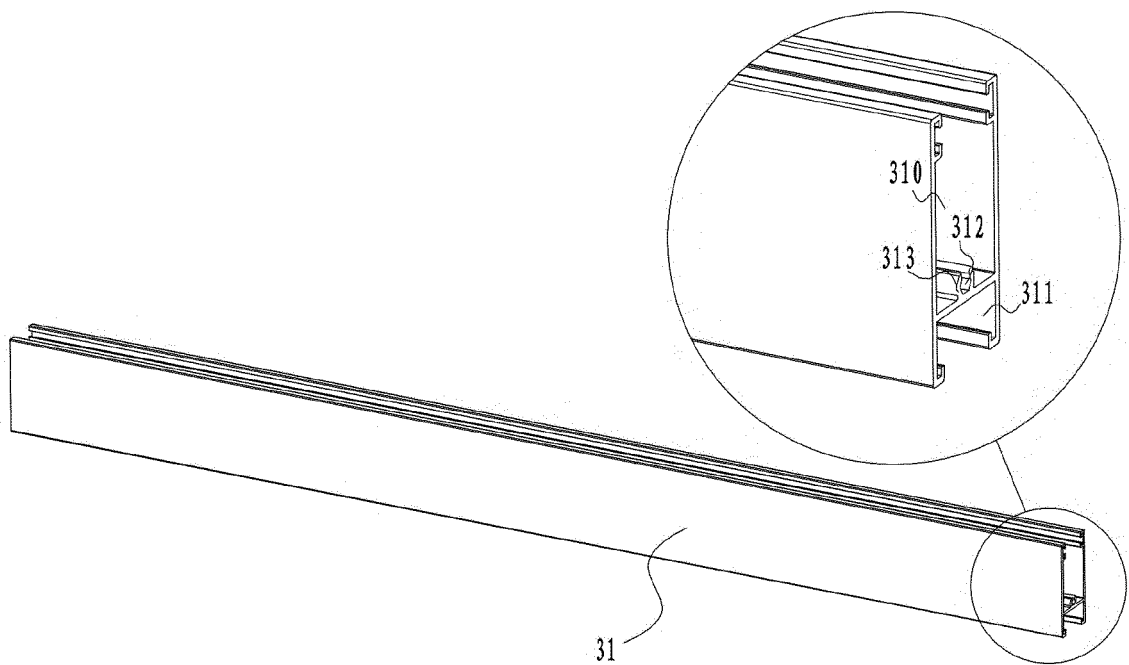
[Figure No.] Fig. 10



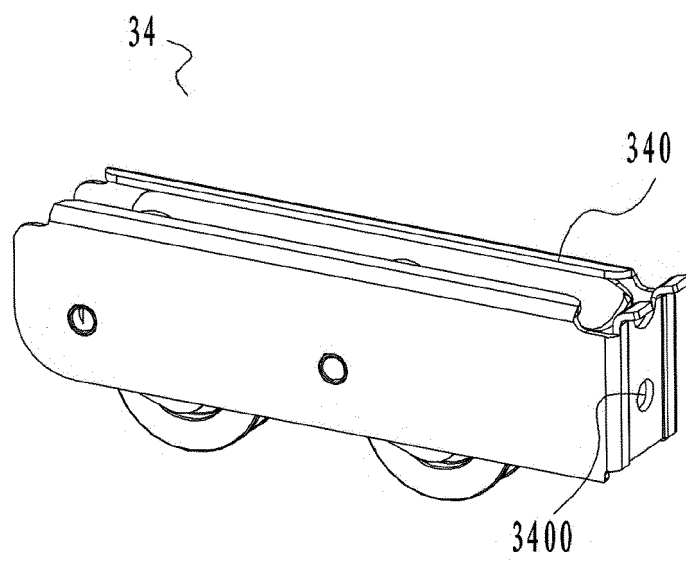
[Figure No.] Fig. 11



[Figure No.] Fig. 12



[Figure No.] Fig. 13



[Figure No.] Fig. 14



EUROPEAN SEARCH REPORT

Application Number

EP 21 19 5961

5

10

15

20

25

30

35

40

45

50

55

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)
X	FR 2 669 674 A1 (HYDRO ALUMINIUM SYSTEMS SPA [IT]) 29 May 1992 (1992-05-29) * figures 1-8 *	1, 3-7	INV. E06B1/60 E05D15/06 E06B3/46 E06B3/96 E06B3/964
X	JP S54 18934 U (UNKNOWN) 7 February 1979 (1979-02-07) * figures *	1-5, 7	
X	JP S56 27267 U (UNKNOWN) 13 March 1981 (1981-03-13) * figures *	1, 3-7	
A	JP S50 61845 A (UNKNOWN) 27 May 1975 (1975-05-27) * figures *	4	
			TECHNICAL FIELDS SEARCHED (IPC)
			E06B E05G E05D
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 17 January 2022	Examiner Demeester, Jan
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 21 19 5961

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.

17-01-2022

10

15

20

25

30

35

40

45

50

55

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 2669674 A1	29-05-1992	ES 2049624 A2	16-04-1994
		FR 2669674 A1	29-05-1992
		GR 910100469 A	08-10-1992
		IT 1244159 B	08-07-1994
		PT 99584 A	31-12-1993
		TR 27158 A	10-11-1994
		YU 183991 A	03-10-1995
JP S5418934 U	07-02-1979	NONE	
JP S5627267 U	13-03-1981	NONE	
JP S5061845 A	27-05-1975	JP S5061845 A	27-05-1975
		JP S5326054 B2	31-07-1978