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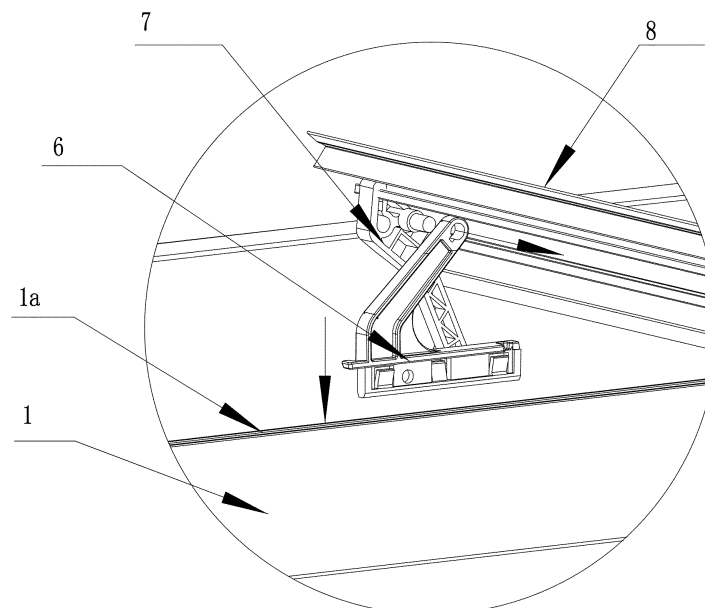
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(54) **LONG LOUVER CANOPY MOUNTING STRUCTURE FOR A LOUVER CANOPY**

(57) The utility model pertains to the field of outdoor supplies and specifically relates to a long louver canopy buckle structure for a louver tent. The long louver canopy buckle structure comprises a cross beam and louver boards fit and mounted on the cross beam by means of provided mounting components, the mounting components include louver board fixing seats and louver board rotating parts, one end of each louver board fixing seat

is snap-fit with the cross beam and the other end is fit with a louver board rotating part in an articulated manner, and the louver board rotating part is snap-fit with a louver board. In the present utility model, the louver board fixing seats are snap-fit and assembled with the cross beam, which simplifies the assembly method of the louver boards, and reduces labor costs and material costs.



[Figure No.] Fig. 1

Description

TECHNICAL FIELD

[0001] The present utility model pertains to the field of outdoor supplies and specifically relates to a long louver canopy buckle structure for a louver tent.

BACKGROUND ART

[0002] The louver boards of the tents with a louver canopy on the present market are fixed by the following few methods: In the first method, louver boards are assembled on a rotating part, and the rotating part is mounted on the inner side face of a ring beam of the tent by means of hinge pin screws; in the second method, a small tube is arranged on a louver board profile, one end of a hinge pin is fit and assembled with the small tube and the other end of the hinge pin is inserted into the inner side face of a ring beam of the tent, or a fixing part is mounted on the inner side face of the tent, and the hinge pin is fit and assembled with this fixing part in a rotatable manner; such assembly methods all require perforating the inner side face of the ring beam. As the tent canopy needs a certain number of louver boards, a certain number of holes need to be opened on the ring beam (the holes are at the same spacing) and rivet nuts matched with the hinge pin screws or fixing parts need to be assembled on the holes; such processes have the following few defects: 1. The required production precision is high. For example, if there are 30 holes and the error of the spacing between the holes is 0.1 mm, the accumulated error of the last hole will be 3 mm; 2. A rivet nut needs to be assembled on each hole, and the louver board rotating part or the fixing parts are assembled on the ring beam by means of hinge pin screws or screws. This process is tedious, resulting in a high labor cost; 3. After the product has been used for a long time, the hinge pin screws are at a risk of falling off after the louver boards have rotated many times, thereby affecting the normal use of the product.

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 long louver canopy buckle structure for a louver tent.

[0004] The long louver canopy buckle structure for a louver tent, wherein the long louver canopy buckle structure comprises a cross beam and louver boards fit and mounted on the cross beam by means of provided mounting components, the mounting components include louver board fixing seats and louver board rotating parts, one end of each louver board fixing seat is snap-fit with the cross beam and the other end is fit with a louver board rotating part in an articulated manner, and the louver board rotating part is fit and connected with a louver board.

[0005] The long louver canopy buckle structure for a louver tent, wherein one of the cross beam and the louver board fixing seats is provided with slots, and the other is provided with insertion portions used for insertion fit with the corresponding slots

[0006] The long louver canopy buckle structure for a louver tent, wherein a groove is arranged on one of the inner wall of each slot and the outer wall of each insertion portion, and a back tooth used for snap-fit with the groove is arranged on the other.

[0007] The long louver canopy buckle structure for a louver tent, wherein slots are arranged on the cross beam, and insertion portions used for insertion fit with the corresponding slots are arranged on the louver board fixing seats; grooves are arranged on the inner walls of the slots, and back teeth used for snap-fit with the grooves are arranged on the outer walls of the insertion portions.

[0008] The long louver canopy buckle structure for a louver tent, wherein the rotating parts are snap-fit with the louver boards, each louver board comprises a first buckle portion, and each louver board rotating part comprises a second buckle portion used for snap-fit with the first buckle portion of the corresponding louver board.

[0009] The long louver canopy buckle structure for a louver tent, wherein the first buckle portion comprises a buckle rib and a buckle insertion bar, and the second buckle portion comprises a buckle groove used for snap-fit with the buckle rib and a buckle slot used for insertion and snap-fit with the buckle insertion bar.

[0010] The long louver canopy buckle structure for a louver tent, wherein the front end of each louver board fixing seat is provided with a third buckle portion, the rear end is provided with a fourth buckle portion, and adjacent louver board fixing seats on the louver tent are snap-fit through the third buckle portions and the fourth buckle portions.

[0011] The long louver canopy buckle structure for a louver tent, wherein the third buckle portions are L-shaped bars, and the fourth buckle portions are L-shaped slots in a corresponding shape.

[0012] The long louver canopy buckle structure for a louver tent, wherein the cross beam is a ring beam.

[0013] The long louver canopy buckle structure for a louver tent, wherein the cross beam is a middle beam.

[0014] Compared with the prior art, the present utility model has the following beneficial effects: In the present utility model, the louver board fixing seats are snap-fit and assembled with the cross beam, which simplifies the assembly method of the louver boards, and reduces labor costs and material costs.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015]

Fig. 1 is a structural schematic view of Embodiment 1;

Fig. 2 is a structural schematic view 1 of the connection between a ring beam and a louver board fixing seat in Embodiment 1;

Fig. 3 is a structural schematic view 2 of the connection between the ring beam and the louver board fixing seat in Embodiment 1;

Fig. 4 is a structural schematic view of a louver board fixing seat in Embodiment 1;

Fig. 5 is a structural schematic view of a louver board rotating part in Embodiment 1;

Fig. 6 is a structural schematic view of a louver board in Embodiment 1;

Fig. 7 is a structural schematic view of a ring beam in Embodiment 1;

Fig. 8 is a structural schematic view of Embodiment 2;

Fig. 9 is a structural schematic view 1 of the connection between a middle beam and a louver board fixing seat in Embodiment 2;

Fig. 10 is a structural schematic view 2 of the connection between the middle beam and the louver board fixing seat in Embodiment 2;

Fig. 11 is a structural schematic view of a ring beam in Embodiment 2;

Fig. 12 is a use state diagram of the long louver canopy buckle structure for a louver tent;

Fig. 13 is an enlarged view of Area A in Fig. 12.

DETAILED DESCRIPTION

[0016] The present utility model will be further illustrated with reference to accompanying drawings.

Embodiment 1

[0017] Fig. 1 to Fig. 7, Fig. 12 and Fig. 13 show a long louver canopy buckle structure for a louver tent, comprising a cross beam and louver boards 8 fit and mounted on the cross beam by means of provided mounting components. The mounting components include louver board fixing seats 6 and louver board rotating parts 7. One end of each louver board fixing seat 6 is snap-fit with the cross beam and the other end is fit with a louver board rotating part 7 in an articulated manner, and the louver board rotating part 7 is snap-fit with a louver board 8. Here, the cross beam is a ring beam 1, which serves as a main body of the canopy frame of the louver tent.

[0018] As a structural optimization of this embodiment: One of the cross beam 1 and the louver board fixing seats 6 is provided with slots, and the other is provided with insertion portions 6a used for insertion fit with the corresponding slots. In actual implementation, slots are arranged on the ring beam 1, the slots are ring beam slots 1a, and insertion portions 6a are arranged on the louver board fixing seats 6.

[0019] In the foregoing structure, a groove is arranged on one of the inner wall of each slot and the outer wall of each insertion portion 6a, and a back tooth 6aa used for snap-fit with the groove is arranged on the other. In actual implementation, back teeth 6aa are arranged on the two outer side walls of the insertion portions 6a, and ring beam grooves 1aa are arranged on the two inner side walls of the ring beam slots 1a.

[0020] As a structural optimization of this embodiment: Each louver board 8 comprises a first buckle portion, and each louver board rotating part 7 comprises a second buckle portion used for snap-fit with the first buckle portion of the corresponding louver board 8.

[0021] In the foregoing structure, the first buckle portion comprises a buckle rib 8a and a buckle insertion bar 8b arranged on the two sides of the louver board 8, and the second buckle portion comprises a buckle groove 7b used for snap-fit with the buckle rib 8a and a buckle slot 7d used for insertion and snap-fit with the buckle insertion bar 8b. The buckle groove 7b and the buckle slot 7d are arranged on the two sides of the louver board rotating part 7, and the buckle slot 7d has certain resilience and can clamp the buckle insertion bar 8b through interference fit.

[0022] As a structural optimization of this embodiment: The front end of each louver board fixing seat 6 is provided with a third buckle portion 6c, and the rear end is provided with a fourth buckle portion 6d. In the louver tent applied in this embodiment, adjacent louver board fixing seats 6 are snap-fit through the third buckle portions 6c and the fourth buckle portions 6d. In actual implementation, the third buckle portions 6c are L-shaped bars, and the fourth buckle portions 6d are L-shaped slots in a corresponding shape. In the louver tent applied in this embodiment, adjacent louver board fixing seats 6 are snap-fit through the L-shaped bars and the L-shaped slots. This structure can make the mounting of the louver board fixing seats 6 even firmer.

[0023] In the foregoing structure, a drainage channel 1b is arranged on the ring beam 1, and a second through hole 1ba for allowing the transmission rod to pass through and a second notch 1bb for allowing the lower end of the rotating part to be exposed are arranged on the drainage channel 1b.

[0024] Further, the louver board fixing seats 6 are further provided with rotation support portions 6b, and the louver board rotating parts 7 comprise second articulating portion parts 7a used for articulating the rotation support portions 6b and second articulating portions 7c used for articulating the two.

[0025] During work, the driving mechanism of the louver tent drives the rotating shaft to rotate, the rotating shaft drives the transmission rod to rotate, the transmission rod drives the louver transmission mechanism to rotate, the louver transmission mechanism drives the linkage bars to move, the linkage bars drive the louver board rotating parts to rotate with the louver board fixing seats as fulcrums, and the louver board rotating parts drive the louver boards to flip to achieve the opening and closure of the louver boards.

[0026] Features of this embodiment: The louver board fixing seats are fixed on the ring beam in a buckle manner, and meanwhile, the louver boards are also mounted on the louver board rotating parts in a buckle manner. This buckle structure can make the assembly of the long louver canopy buckle structure for a louver tent more convenient. During transportation, the mounting components and louver boards can be disassembled. After the customer receives them, the customer can assemble them easily without assistance.

[0027] Further description of the foregoing features: It is set that the louver board fixing seats are snap-fit and assembled with the ring beam, which simplifies the assembly method of the louver boards, and reduces labor costs and material costs.

Embodiment 2

[0028] Fig. 8 to Fig. 12 show a long louver canopy buckle structure for a louver tent, comprising a cross beam and louver boards 8 fit and mounted on the cross beam by means of provided mounting components. The mounting components include louver board fixing seats 6 and louver board rotating parts 7. One end of each louver board fixing seat 6 is snap-fit with the cross beam and the other end is fit with a louver board rotating part 7 in an articulated manner, and the louver board rotating part 7 is snap-fit with a louver board 8. Here, the cross beam is a middle beam 2, and the middle beam 2 is fixed within the foregoing ring beam 1 and used for mounting a driving mechanism.

[0029] As a structural optimization of this embodiment: One of the middle beam 2 and the louver board fixing seats 6 is provided with slots, and the other is provided with insertion portions 6a used for insertion and snap-fit with the corresponding slots. In actual implementation, slots are arranged on the middle beam 2, the slots are middle beam slots 2b, and insertion portions 6a are arranged on the louver board fixing seats 6.

[0030] In the foregoing structure, a groove is arranged on one of the inner wall of each slot and the outer wall of each insertion portion 6a, and a back tooth 6aa used for snap-fit with the groove is arranged on the other. In actual implementation, back teeth 6aa are arranged on the two outer side walls of the insertion portions 6a, and middle beam grooves 2ba are arranged on the two inner side walls of the middle beam slots 2b.

[0031] As a structural optimization of this embodiment:

Each louver board 8 comprises a first buckle portion, and each louver board rotating part 7 comprises a second buckle portion used for snap-fit with the first buckle portion of the corresponding louver board 8.

[0032] In the foregoing structure, the first buckle portion comprises a buckle rib 8a and a buckle insertion bar 8b arranged on the two sides of the louver board 8, and the second buckle portion comprises a buckle groove 7b used for snap-fit with the buckle rib 8a and a buckle slot 7d used for insertion and snap-fit with the buckle insertion bar 8b. The buckle groove 7b and the buckle slot 7d are arranged on the two sides of the louver board rotating part 7, and the buckle slot 7d has certain resilience and can clamp the buckle insertion bar 8b through interference fit.

[0033] As a structural optimization of this embodiment: The front end of each louver board fixing seat 6 is provided with a third buckle portion 6c, and the rear end is provided with a fourth buckle portion 6d. In the louver tent used in this embodiment, adjacent louver board fixing seats 6 are snap-fit through the third buckle portions 6c and the fourth buckle portions 6d. In actual implementation, the third buckle portions 6c are L-shaped bars, and the fourth buckle portions 6d are L-shaped slots in a corresponding shape. In the louver tent used in this embodiment, adjacent louver board fixing seats 6 are snap-fit through the L-shaped bars and the L-shaped slots. This structure can make the mounting of the louver board fixing seats 6 even firmer.

[0034] In the foregoing structure, a first through hole 2a for allowing the transmission rod or the rotating shaft to pass through and a first notch 2c for allowing the bottom of the driving mechanism to be exposed are arranged on the middle beam 2.

[0035] Further, the louver board fixing seats 6 are further provided with rotation support portions 6b, and the louver board rotating parts 7 comprise second articulating portion parts 7a used for articulating the rotation support portions 6b, and second articulating portions 7c used for articulating the two.

[0036] During work, the driving mechanism of the louver tent drives the rotating shaft to rotate, the rotating shaft drives the transmission rod to rotate, the transmission rod drives the louver transmission mechanism to rotate, the louver transmission mechanism drives the linkage bars to move, the linkage bars drive the louver board rotating parts to rotate with the louver board fixing seats as fulcrums, and the louver board rotating parts drive the louver boards to flip to achieve the opening and closure of the louver boards.

[0037] This embodiment has the following features: The louver board fixing seats are fixed on the middle beam in a buckle manner, and meanwhile, the louver boards are also mounted on the louver board rotating parts in a buckle manner. This buckle structure can make the assembly of the long louver canopy buckle structure for a louver tent more convenient. During transportation, the mounting components and louver boards can be dis-

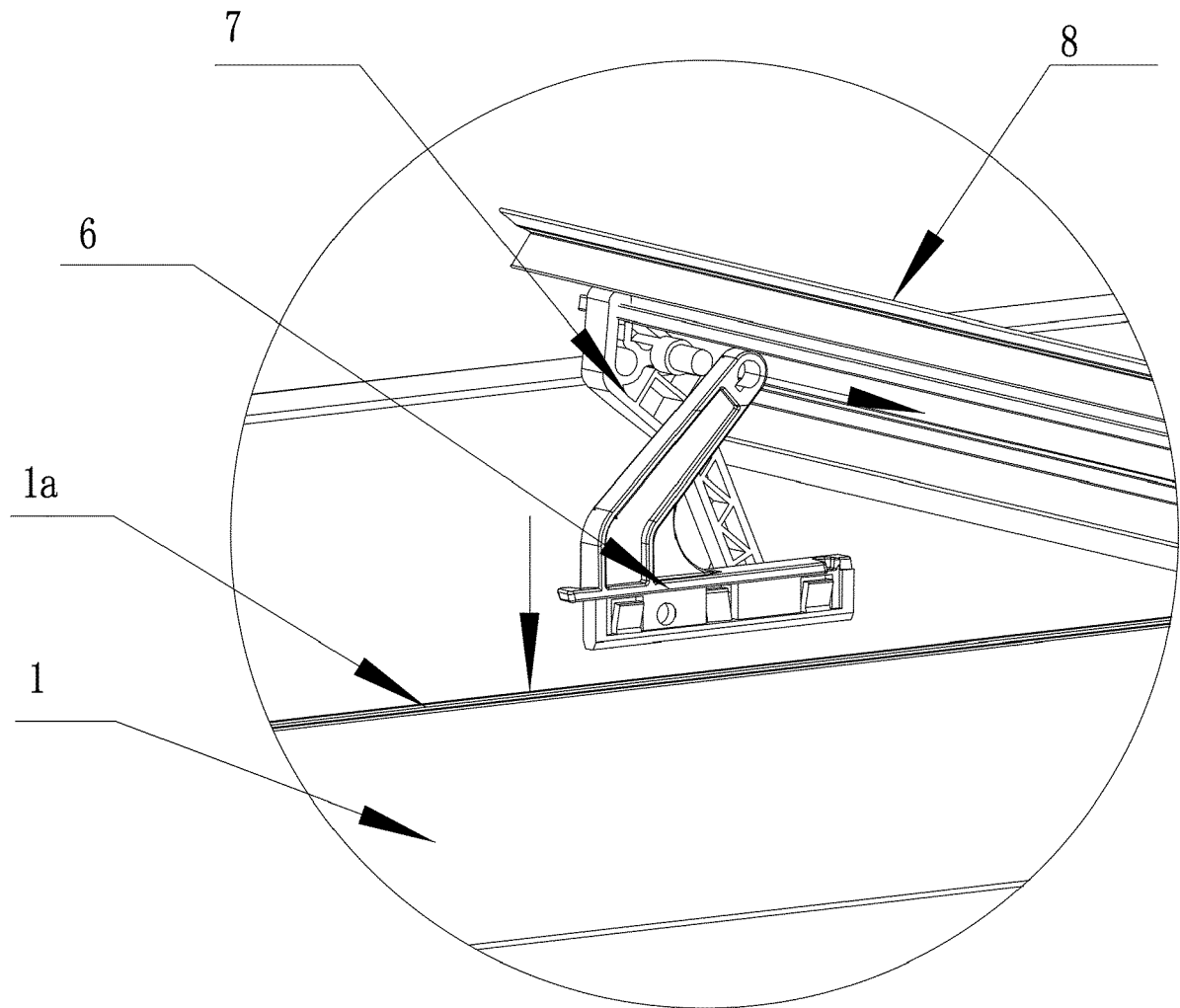
assembled. After the customer receives them, the customer can assemble them easily without assistance.

[0038] Further description of the foregoing features: It is set that the louver board fixing seats are snap-fit and assembled with the middle beam, which simplifies the assembly method of the louver boards, and reduces labor costs and material costs.

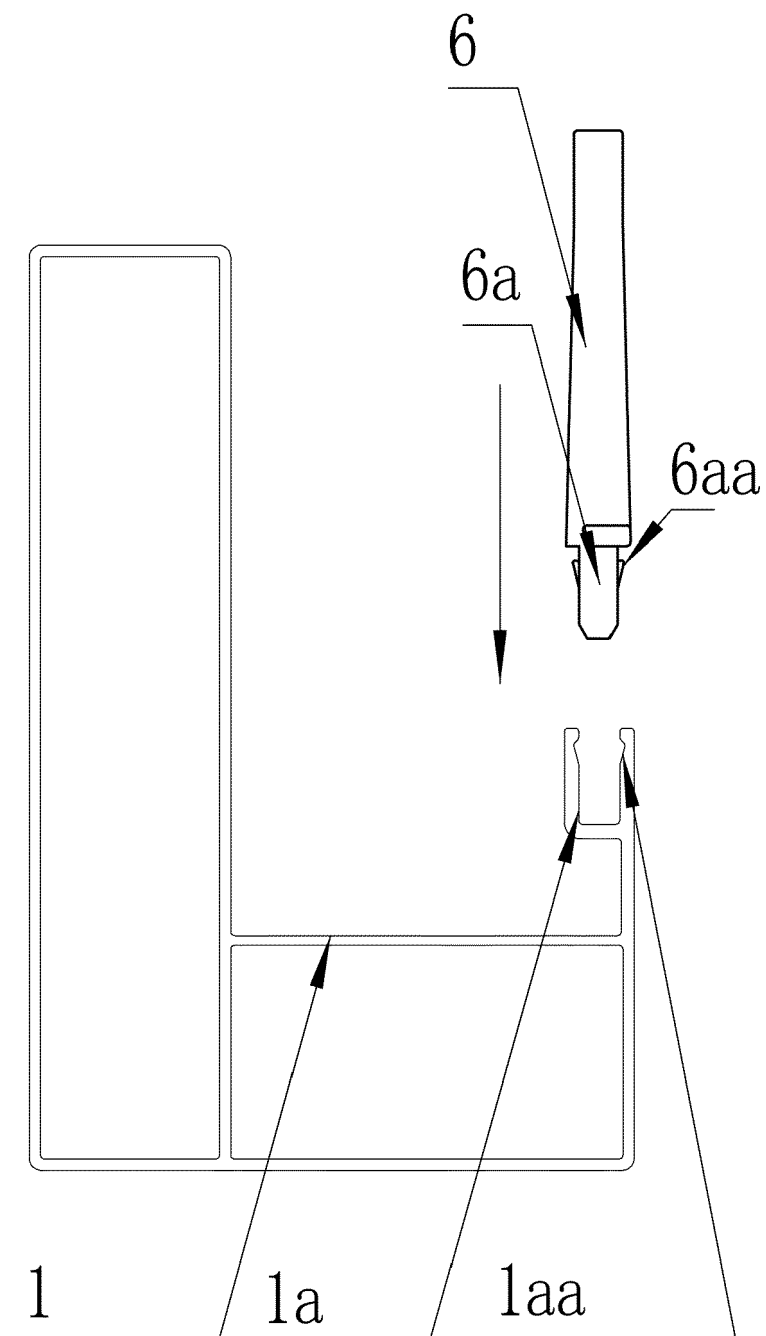
[0039] Lastly it should be noted that the foregoing embodiments are intended to describe and not to limit the technical solutions of the present utility model. Although the present utility model has been illustrated by referring to the foregoing embodiments, those of ordinary skills in the art should 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

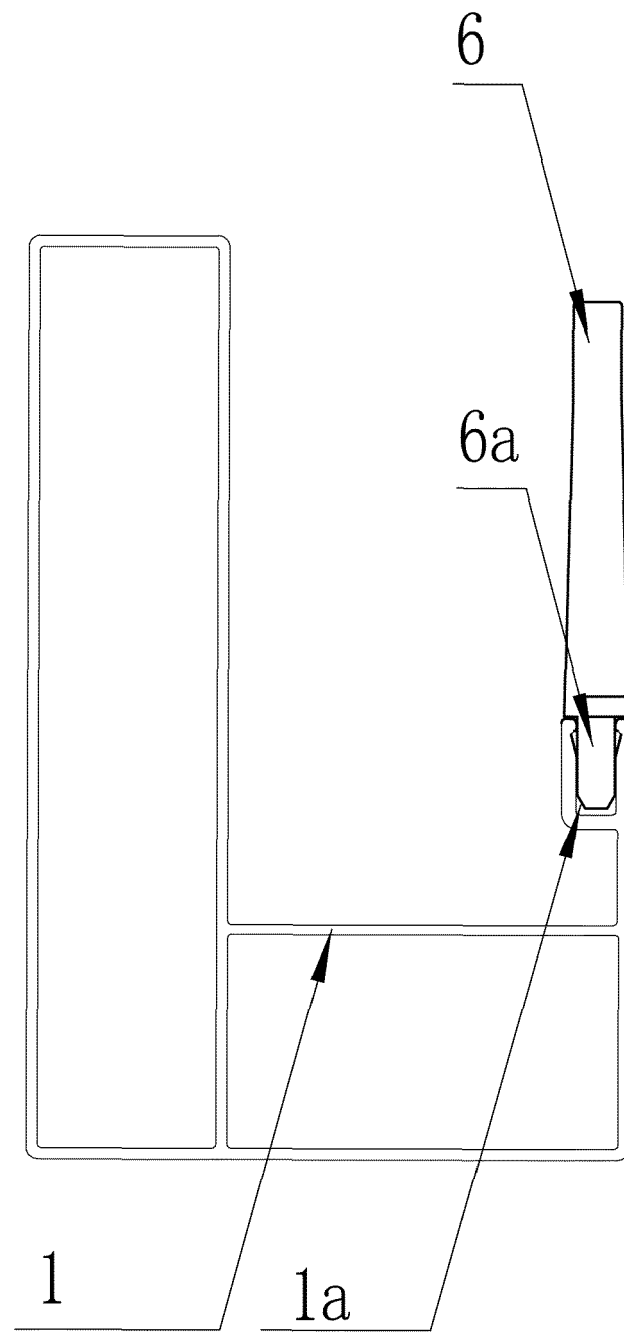
1. A long louver canopy buckle structure for a louver tent, wherein the long louver canopy buckle structure comprises a cross beam and louver boards (8) fit and mounted on the cross beam by means of provided mounting components, the mounting components include louver board fixing seats (6) and louver board rotating parts (7), one end of each louver board fixing seat (6) is snap-fit with the cross beam and the other end is fit with a louver board rotating part (7) in an articulated manner, and the louver board rotating part (7) is fit and connected with a louver board (8).
2. The long louver canopy buckle structure for a louver tent according to claim 1, wherein one of the cross beam and the louver board fixing seats (6) is provided with slots, and the other is provided with insertion portions (6a) used for insertion fit with the corresponding slots.
3. The long louver canopy buckle structure for a louver tent according to claim 2, wherein a groove is arranged on one of the inner wall of each slot and the outer wall of each insertion portion (6a), and a back tooth (6aa) used for snap-fit with the groove is arranged on the other.
4. The long louver canopy buckle structure for a louver tent according to claim 3, wherein slots are arranged on the cross beam, and insertion portions (6a) used for insertion fit with the corresponding slots are arranged on the louver board fixing seats (6); grooves are arranged on the inner walls of the slots, and back teeth (6aa) used for snap-fit with the grooves are arranged on the outer walls of the insertion portions (6a).
5. The long louver canopy buckle structure for a louver tent according to claim 1, wherein the louver board rotating parts (7) are snap-fit with the louver boards (8), each louver board (8) comprises a first buckle portion, and each louver board rotating part (7) comprises a second buckle portion used for snap-fit with the first buckle portion of the corresponding louver board (8).
6. The long louver canopy buckle structure for a louver tent according to claim 5, wherein the first buckle portion comprises a buckle rib (8a) and a buckle insertion bar (8b), and the second buckle portion comprises a buckle groove (7b) used for snap-fit with the buckle rib (8a) and a buckle slot (7d) used for insertion and snap-fit with the buckle insertion bar (8b).
7. The long louver canopy buckle structure for a louver tent according to any of claims 1 to 6, wherein the front end of each louver board fixing seat (6) is provided with a third buckle portion (6c), the rear end is provided with a fourth buckle portion (6d), and adjacent louver board fixing seats (6) on the louver tent are snap-fit through the third buckle portions (6c) and the fourth buckle portions (6d).
8. The long louver canopy buckle structure for a louver tent according to claim 7, wherein the third buckle portions (6c) are L-shaped bars, and the fourth buckle portions (6d) are L-shaped slots in a corresponding shape.
9. The long louver canopy buckle structure for a louver tent according to any of claims 1 to 6, wherein the cross beam is a ring beam (1).
10. The long louver canopy buckle structure for a louver tent according to any of claims 1 to 6, wherein the cross beam is a middle beam (2).



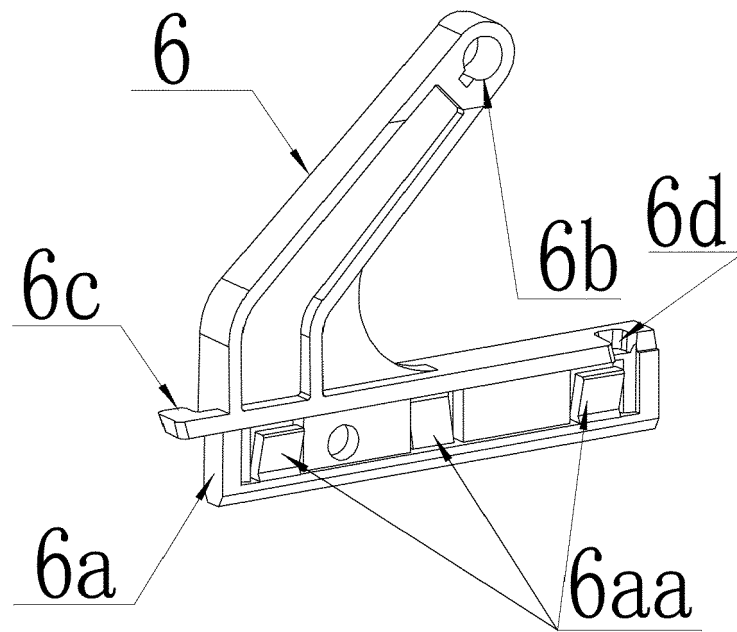
[Figure No.] Fig. 1



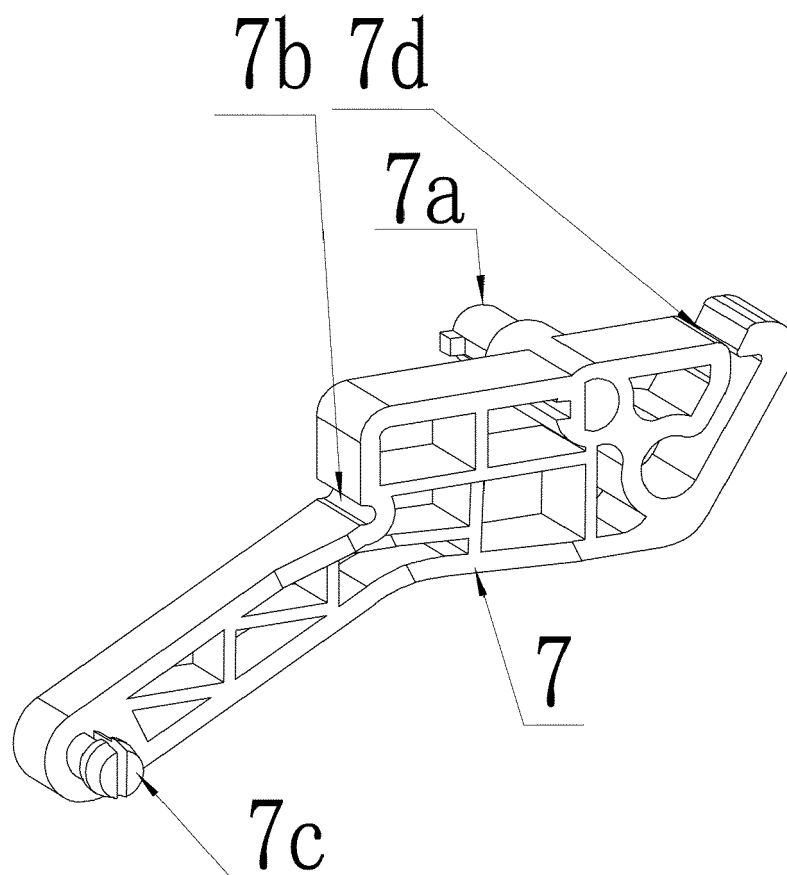
[Figure No.] Fig. 2



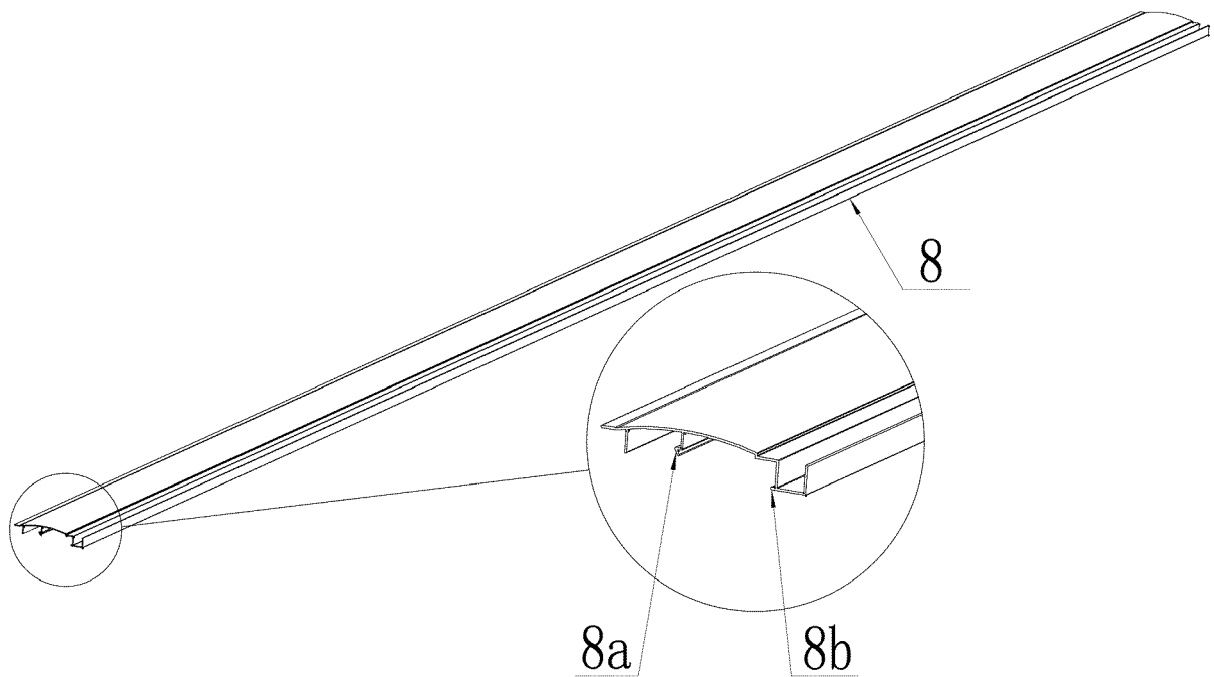
[Figure No.] Fig. 3



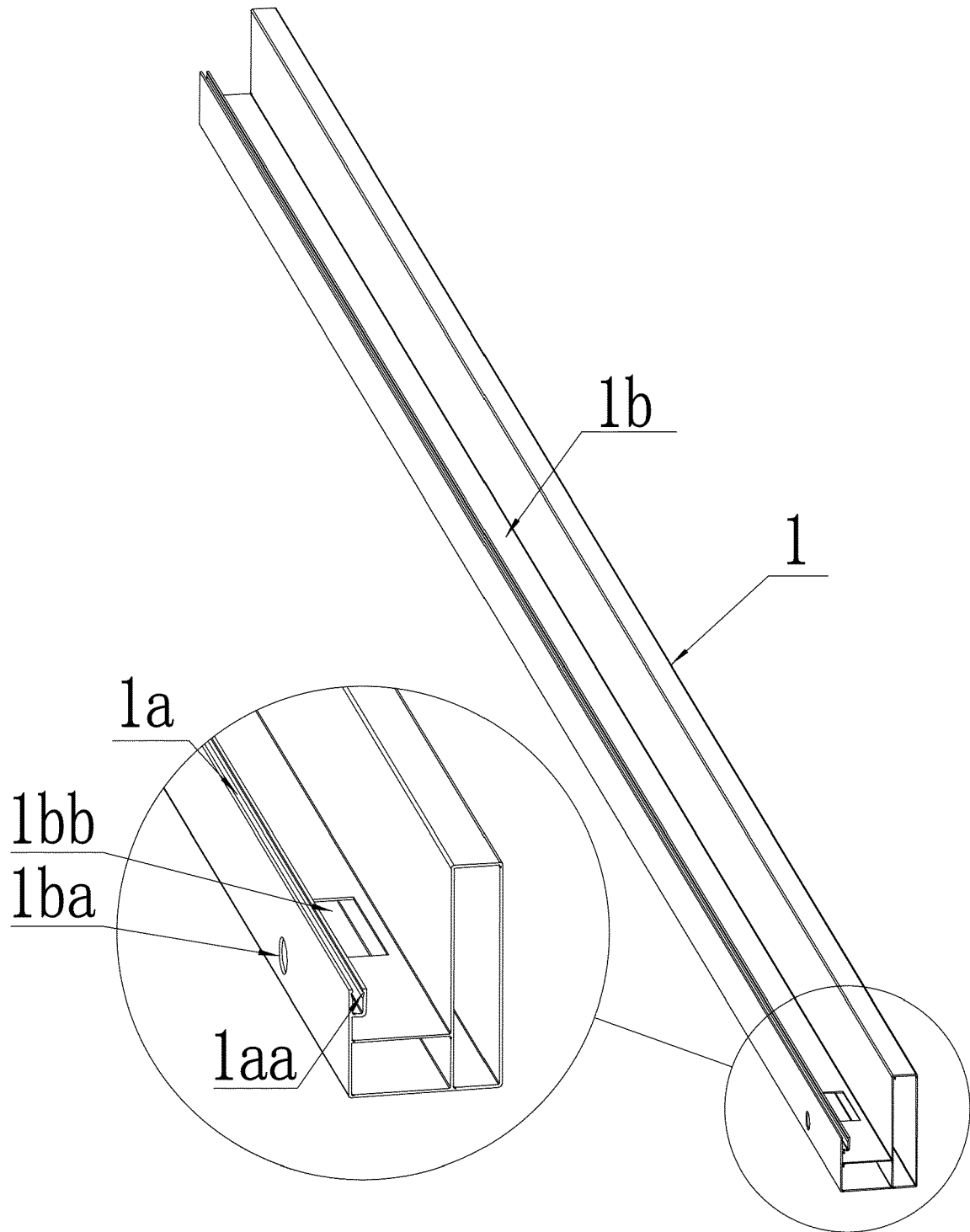
[Figure No.] Fig. 4



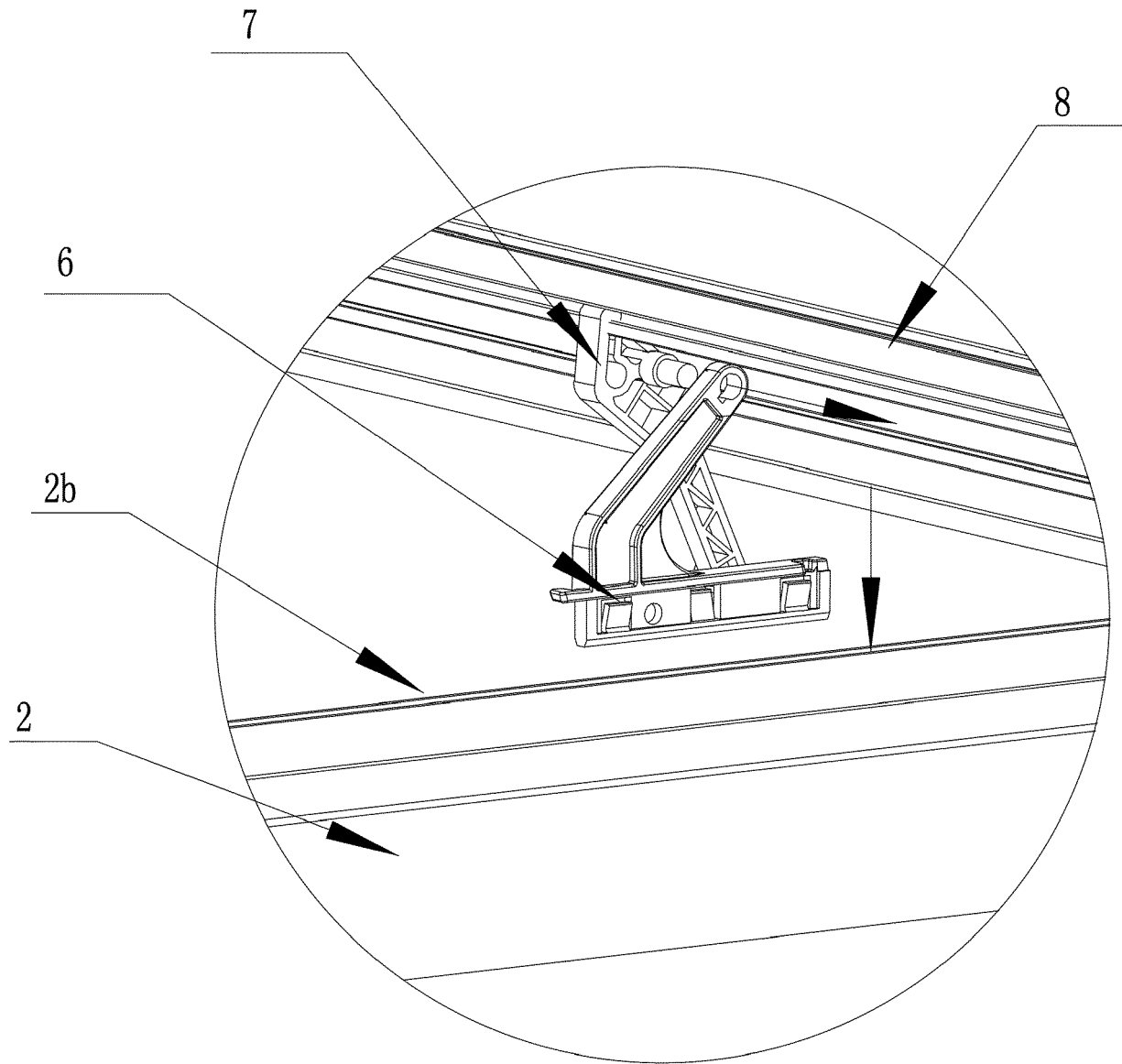
[Figure No.] Fig. 5



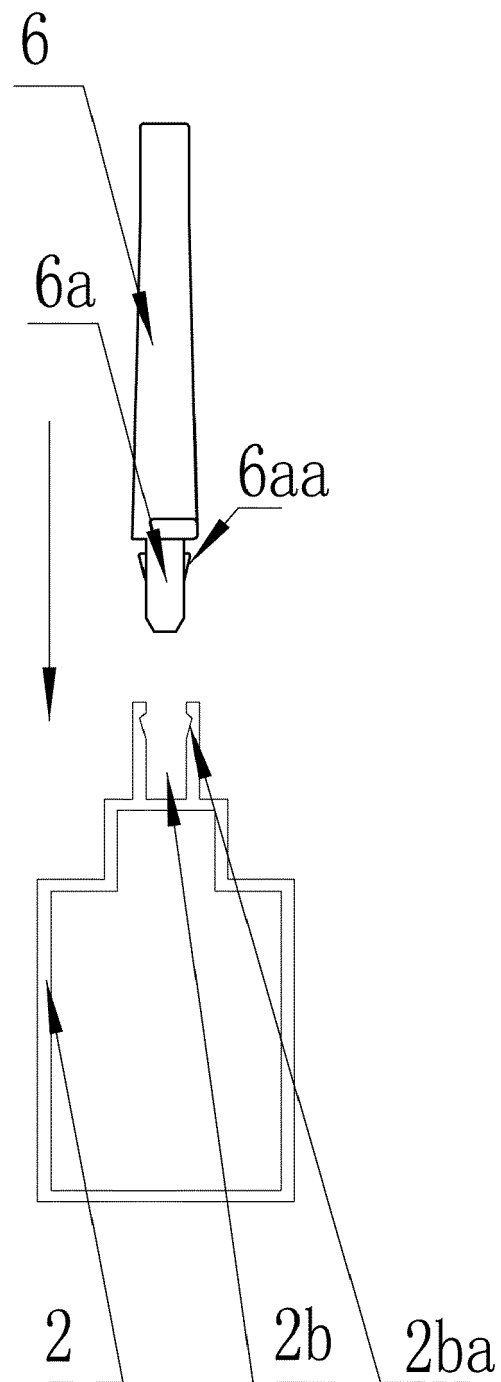
[Figure No.] Fig. 6



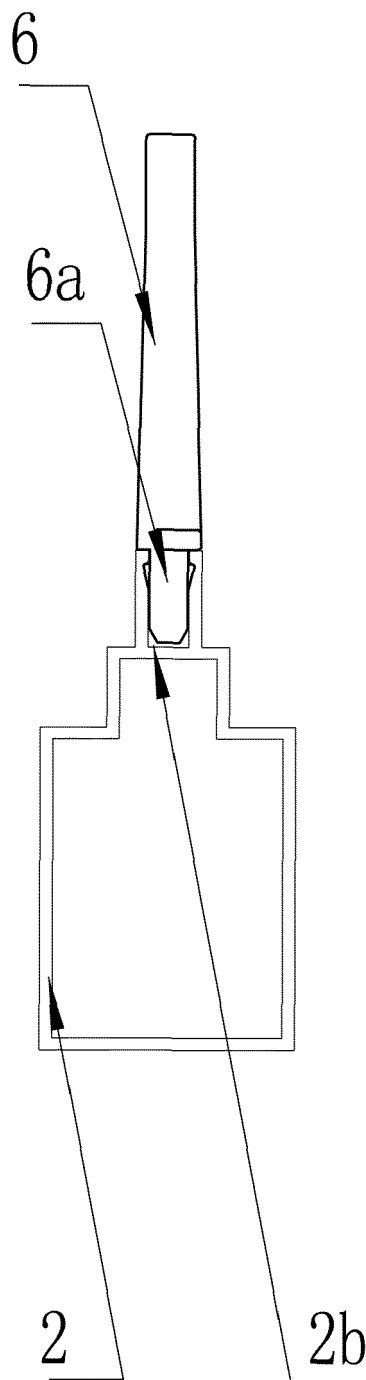
[Figure No.] Fig. 7



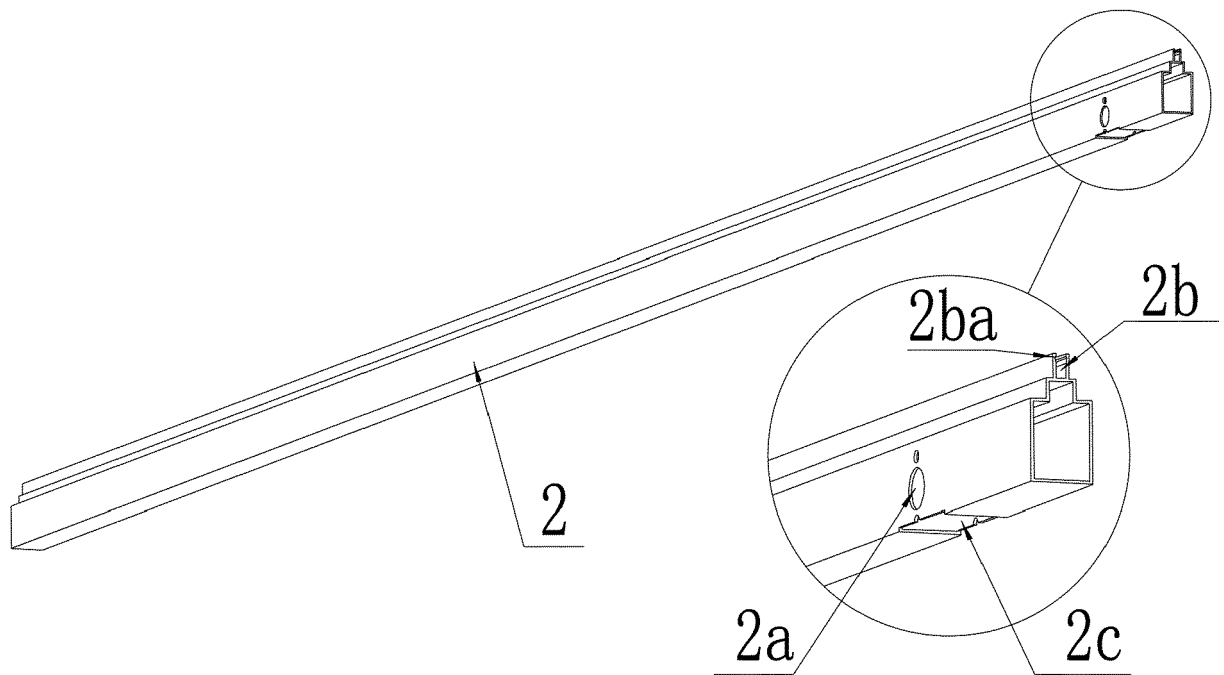
[Figure No.] Fig. 8



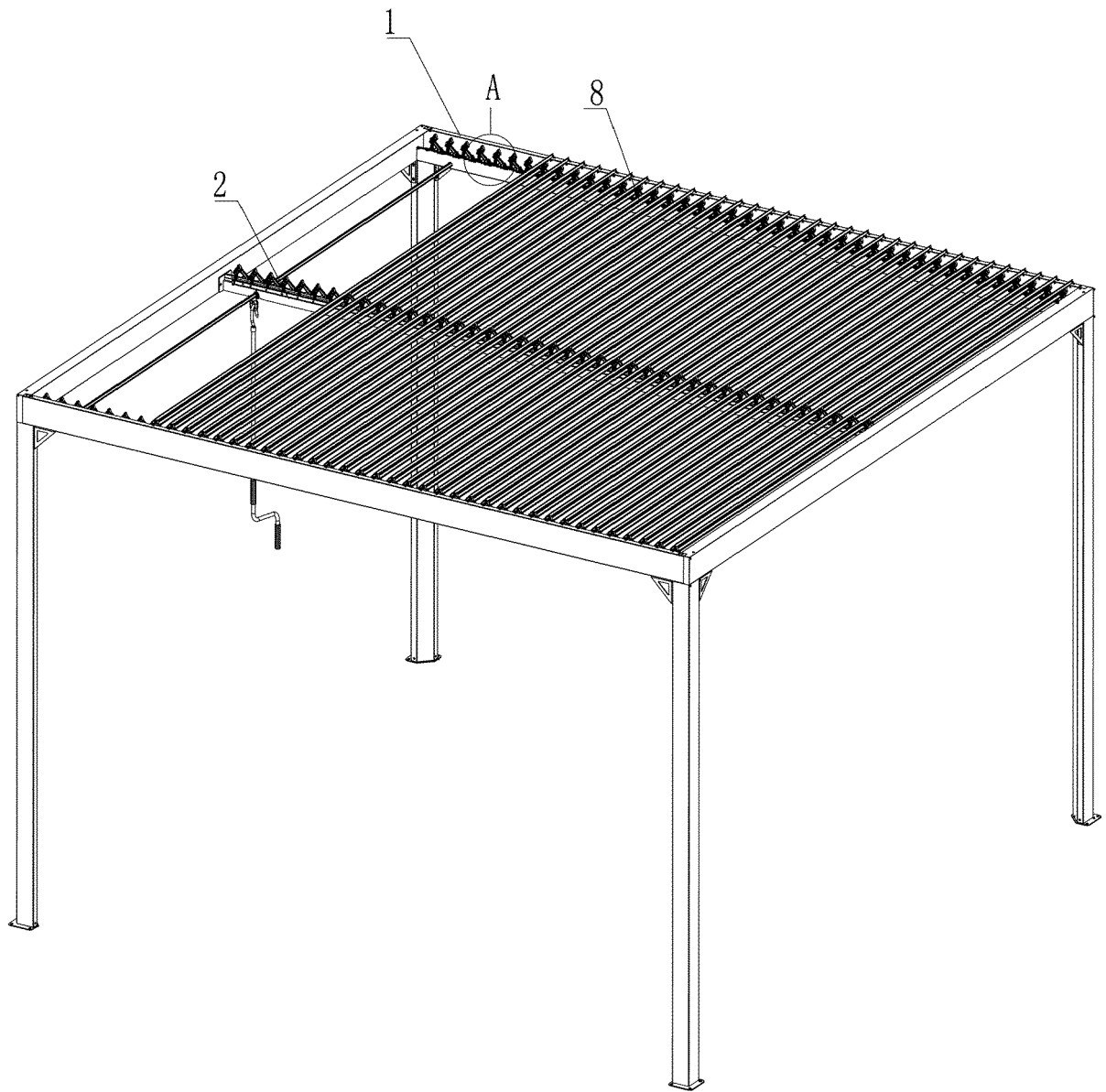
[Figure No.] Fig. 9



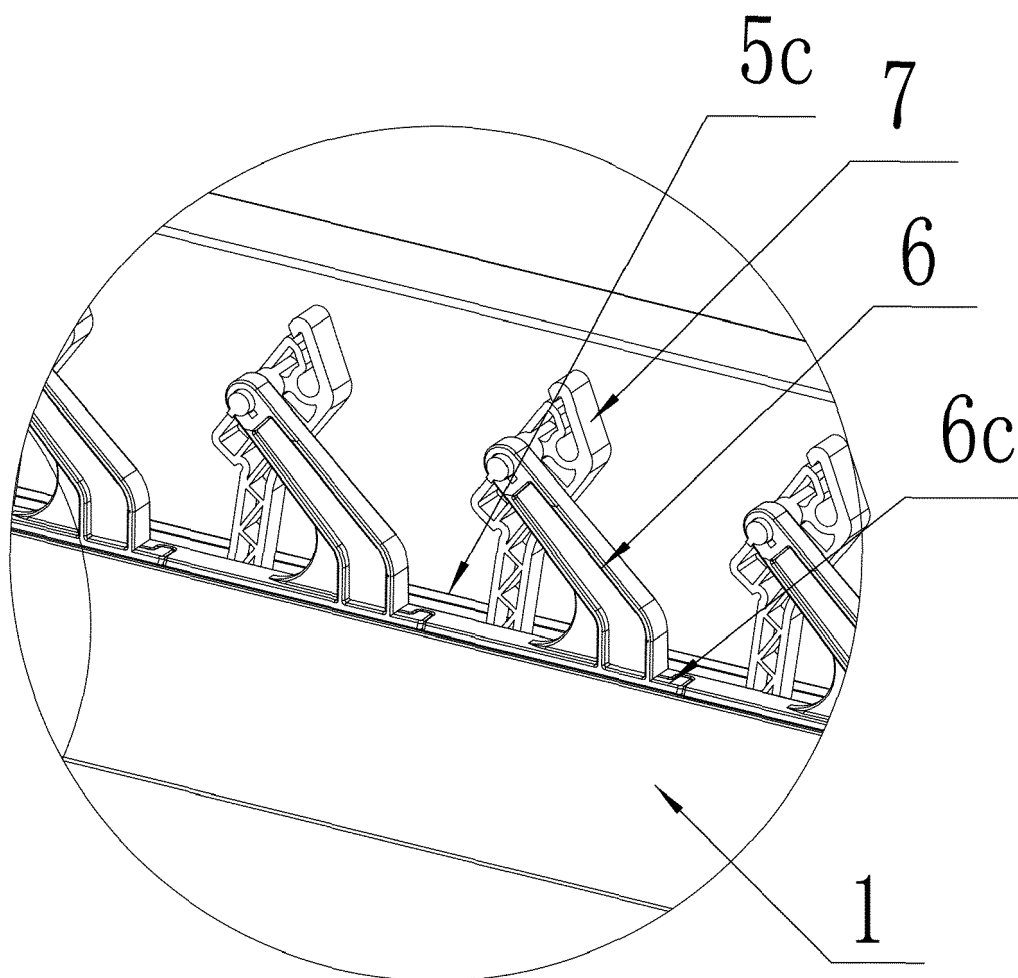
[Figure No.] Fig. 10



[Figure No.] Fig. 11



[Figure No.] Fig. 12



[Figure No.] Fig. 13



EUROPEAN SEARCH REPORT

Application Number
EP 21 17 8652

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	IT MI20 100 021 A1 (DIRELLO SALVATORE) 14 July 2011 (2011-07-14) * figures 1,2,5-13 * * paragraphs [0022] - [0026], [0028] - [0030], [0033] - [0037] *	1-10	INV. E04F10/10
A	US 3 982 355 A (PIERCEY ANTHONY C) 28 September 1976 (1976-09-28) * figures 2-6 * * column 1, line 24 - line 41 * * column 2, line 1 - line 56 *	2-4,7,8	TECHNICAL FIELDS SEARCHED (IPC) E04F A01G E04H E04B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 22 November 2021	Examiner Tänzler, Ansgar
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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