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(54) AIR GUIDE MECHANISM FOR INDOOR UNIT OF AIR CONDITIONER AND AIR CONDITIONER

(57) The present disclosure provides an air guide mechanism for an indoor unit of an air conditioner and an air conditioner. The air guide mechanism includes a swing assembly, an air outlet and a flow guide plate. The swing assembly is provided in the air outlet and fixedly connected to a bottom of the air outlet, and the flow guide plate is provided above the swing assembly and fixedly connected to a top of the air outlet. In the present disclosure, the structures and positions of the swing assembly, the air outlet and the flow guide plate are more reasonable, such that air blown out of the air conditioner has broader coverage and the blown-out air is softer.

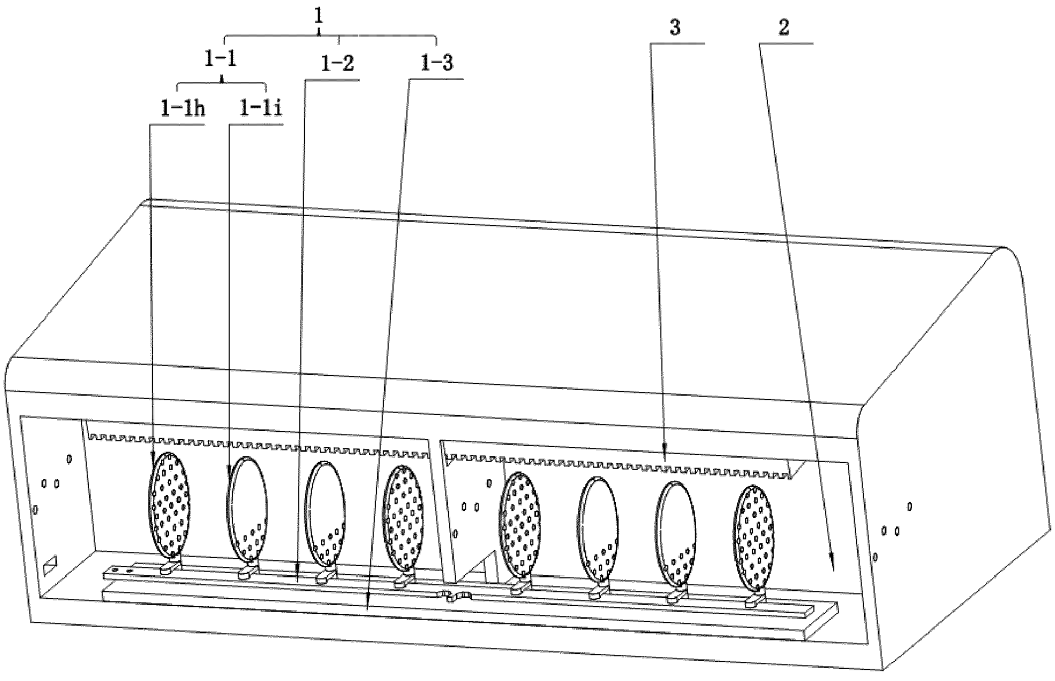

FIG. 1

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Description

FIELD

[0001] The present disclosure relates to a field of air conditioners, and more particularly to an air guide mechanism for an indoor unit of an conditioner indoor unit and an air conditioner.

BACKGROUND

[0002] The current air conditioners on the market are generally provided with a swing assembly, in order to reduce adverse influence of direct blowing on human health. The existing swing assemblies are mainly divided into two types, i.e. manual swing assembly and electrical swing assembly. The manual swing assembly has a low cost, and may be assembled with a plurality of separate manual swing units. Each manual swing unit can adjust airflow direction, and two adjacent manual swing units can be rotated towards two ends of the air outlet respectively to form a wide-angle airflow, such that the air blown out from the air conditioner has boarder coverage and is softer. The electrical swing assembly may also be divided into a plurality of electrical swing units connected together. The plurality of electrical swing units is rotated towards the left end or the right end of the air outlet driven by a drive device, but cannot form a wide-angle airflow. The parts of the manual swing assembly and the parts of the electrical swing assembly cannot be interchanged, which is adverse to the production management and the streamlined assembly. Moreover, different molds are needed, causing high costs. Additionally, condensation water will exist on the swing assembly and the air outlet and it is prone to absorb dust; when there is too much condensation water, there will be water drops dripping from the air outlet, affecting the user's favorability on the use of the air conditioner. Therefore, it is necessary to propose an air guide mechanism for an indoor unit of an air conditioner and an air conditioner, to solve at least a part of the problems existed in the related art.

SUMMARY

[0003] This section of the present disclosure introduces a series of simplified concepts, which will be further explained in the detailed description section. The section of the present disclosure is not intended to try to define the critical features and the essential features of the claimed technical solution, let alone to determine the protection scope of the claimed technical solution.

[0004] The present invention is directed to an air guide mechanism as defined in the independent claim 1, to an air conditioner according to independent claim 14, and the preferable features according to the present invention are defined in the dependent claims. Any embodiment in the present disclosure that does not fall within the scope of the present invention should be regarded as an example for understanding the present invention.

[0005] Compared to the related art, the present disclosure at least includes the following beneficial effects.

[0006] In the air guide mechanism for the indoor unit of the air conditioner and the air conditioner of the present disclosure, the structures and positions of the swing assembly, the air outlet and the flow guide plate are more reasonable, such that the air blown out of the air conditioner has broader coverage and the blown-out air is softer. Additionally, parts of the manual swing assembly and the electrical swing assembly can be interchanged, the production management and the streamlined assembly are facilitated, and the production cost is reduced. Moreover, the condensation water generated on the swing assembly and the air outlet is significantly reduced, improving the user's favorability on the use of the air conditioner.

[0007] The present disclosure relates to an air guide mechanism for an indoor unit of an air conditioner and an air conditioner. Additional advantages, objectives and features of the present disclosure will be given in part in the following descriptions, and be appreciated in part by a person skilled in the art from the research and practice of the present disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The accompanying drawings are used to provide further understanding of the present disclosure, and constitutes a part of the specification, and are intended to explain the present disclosure with the following specific implementations, but do not constitute a limitation to the present disclosure. In which:

FIG. 1 is a schematic view of a structure of the present disclosure.

FIG. 2 is a schematic view of a flow guide plate of the present disclosure.

FIG. 3 is a schematic view of an air outlet of the present disclosure.

FIG. 4 is a top view of a first link of the present disclosure.

FIG. 5 is a schematic view of a swing unit of the present disclosure.

FIG. 6 is a schematic view of an assembly of a second link and a connecting member of the present disclosure.

FIG. 7 is a schematic view of a connecting member of the present disclosure.

DETAILED DESCRIPTION

[0009] The present disclosure is described in further detail below with reference to the drawings and the embodiments, to enable a person skilled in the art to implement according to the text of the specification.

[0010] It should be understood that the terms used herein, such as "have", "include" and "comprise" do not

exclude existence or addition of one or more other element or combination thereof.

[0011] As illustrated in FIGS. 1 to 7, the present disclosure provides an air guide mechanism for an indoor unit of an air conditioner, including: a swing assembly 1, an air outlet 2 and a flow guide plate 3. The swing assembly 1 is provided in the air outlet 2 and fixedly connected to a bottom of the air outlet 2, and the flow guide plate 3 is provided above the swing assembly 1 and fixedly connected to a top of the air outlet 2.

[0012] Working principle of the above-described technical solution is: the air outlet 2 is provided to a housing of the indoor unit of the air conditioner, the swing assembly 1 make the air blown out of the air outlet 2 have broader coverage, thus under the premise of constant amount of blown-out air, the blown-out air has broader coverage and a reduced speed, and is softer; moreover, the flow guide plate 3 can further reduce the speed of the air blown out of the air outlet 2, and the air blown out of the air outlet 2 become softer; from a practical perspective, the blown-out air has an increased angle, formation of a vertex of the blown-out air can be effectively avoided; additionally, the structures of the swing assembly 1, the air outlet 2 and the flow guide plate 3 are more reasonable, the overall temperature of the swing assembly 1 and the air outlet 2 is more uniform, such that generation of the condensation water on the swing assembly 1 and the air outlet 2 can be effectively reduced.

[0013] Beneficial effects of the above-described technical solution are: the structures and positions of the swing assembly 1, the air outlet 2 and the flow guide plate 3 are more reasonable, such that the air blown out of the air conditioner has broader coverage and the blown-out air is softer. Additionally, parts of the manual swing assembly and the electrical swing assembly can be interchanged, the production management and the streamline assembly are facilitated, and the production cost is reduced. Moreover, the condensation water generated on the swing assembly and the air outlet is significantly reduced, improving the user's favorability on the use of the air conditioner.

[0014] In one embodiment, the flow guide plate 3 includes a flow guide plate body 3-1, and a plurality of flow guide slots 3-1-1 is uniformity distributed at a bottom of the flow guide plate body 3-1.

[0015] Working principle of the above-described technical solution is: the speed of the air blown out of the air outlet 2 will be reduced after being guided by the flow guide slots 3-1-1, and the blown-out air becomes softer.

[0016] Beneficial effects of the above-described technical solution are: the air blown out of the air outlet 2 becomes softer after being guided by the flow guide plate 3-1.

[0017] In one embodiment, a periphery of a top face of the flow guide plate body 3-1 is provided with a first reinforcing rib 3-2 extending upward, a second reinforcing rib 3-3 is provided inside the first reinforcing rib 3-2, a bottom face of the second reinforcing rib 3-3 is fixedly connected to the top face of the flow guide plate body 3-1, and two ends of the second reinforcing rib 3-3 are fixedly connected to two opposite side walls of the first reinforcing rib 3-2, respectively.

[0018] Working principle of the above-described technical solution is: the first reinforcing rib 3-2, the second reinforcing rib 3-3 and the fixed connection of them can make the flow guide plate 3-1 have excellent strength under the condition of small thickness, and the flow guide plate body 3-1 is fixedly connected to the top of the air outlet 2 in a detachable connection way, such as snap-fit, threaded connection, etc.

[0019] Beneficial effects of the above-described technical solution are: the flow guide plate 3-1 may have a smaller thickness, thereby saving materials; the first reinforcing rib 3-2 and the second reinforcing rib 3-3 make the flow guide plate 3-1 less likely to bend and deform; additionally, the flow guide plate 3 is firmly secured to the top of the air outlet 2, and the disassembly and the assembly are convenient.

[0020] In one embodiment, two side walls of the air outlet 2 are provided with a plurality of connecting plates 2-1 therebetween, the plurality of connecting plates 2-1 is fixedly connected to the top and the bottom of the air outlet 2, and the connecting plate 2-1 has an upper end provided with a first aperture 2-1-1 and a lower end provided with a second aperture 2-1-2.

[0021] Working principle of the above-described technical solution is: the connecting plate 2-1 can enhance the strength of the air outlet 2, the flow guide plate 3 passes through the first aperture 2-1-1 and is fixedly connected to the top of the air outlet 2, the first link 1-2 or the second link 1-2h of the swing assembly 1 passes through the second aperture 2-1-2 and is fixedly connected to the drive device (not illustrated), and a first mounting plate 1-3 or a second mounting plate 1-3h of the swing assembly 1 passes through the second aperture 2-1-2 and is fixedly connected to the bottom of the air outlet 2.

[0022] Beneficial effects of the above-described technical solution are: the connecting plate 2-1 guarantees the sufficient strength of the air outlet 2, the first aperture 2-1-1 facilitates the firm fixation between the flow guide plate 3 and the top of the air outlet 2, and the second aperture 2-1-2 facilitates firm fixation of the swing assembly 1 with the drive device and the air outlet 2.

[0023] In one embodiment, a plurality of through holes 2-2 is provided in the two side walls of the air outlet 2 and between the first aperture 2-1-1 and the second aperture 2-1-2.

[0024] Working principle of the above-described technical solution is: the plurality of through holes 2-2, the first aperture 2-1-1, and the second aperture 2-1-2 can ensure a uniform temperature of the whole air outlet 2.

[0025] Beneficial effects of the above-described technical solution are: temperature difference is a requirement for generation of the condensation water, the overall temperature of the air outlet 2 is uniform, such that the condensation water is not easily generated at the air

outlet 2.

[0026] In one embodiment, a rectangular hole 2-3 is provided in a left side wall of the air outlet 2 and located below the through hole 2-2.

[0027] Working principle of the above-described technical solution is: the drive device can pass through the rectangular hole 2-3 and be fixedly connected to the swing assembly 1.

[0028] Beneficial effects of the above-described technical solution are: the firm fixation between the drive device and the swing assembly 1 is more convenient.

[0029] In one embodiment, the swing assembly 1 includes a plurality of swing blades 1-1, a first link 1-2, and a first mounting plate 1-3; the plurality of swing blades 1-1 is spaced apart in a length direction of the first mounting plate 1-3, parallel to each other, and all connected to the first link 1-2, the first link 1-2 is configured to drive the swing blades 1-1 to rotate about an axial direction, and the first mounting plate 1-3 is fixedly connected to the bottom of the air outlet 2.

[0030] Working principle of the above-described technical solution is: each swing blade 1-1 and the first mounting plate 1-3 are rotatably connected, the first link 1-2 is disposed horizontally and connected to the plurality of swing blades 1-1 and is able to drive the swing blades 1-1 to rotate, and an initial state of each of the swing blades 1-1 is that it is parallel to an extending direction of the air outlet; when the first link 1-2 performs a straight reciprocating motion along its length direction, the plurality of swing blades 1-1 can be synchronously rotated about its axial direction towards two opposite directions, and the maximum angle of rotation is 90 degrees; the motion of the first link 1-2 can be controlled manually or electrically; the first mounting plate 1-3 is fixedly connected to the bottom of the air outlet 2 in a detachable connection way, such as snap-fit, threaded connection, etc.

[0031] Beneficial effects of the above-described technical solution are: when the air comes from the air outlet 2, the swing blades 1-1 can change left and right directions of the airflow, and the air blown out through the swing blades 1-1 can maximize coverage of the entire house and can become soft to some extent, avoiding the direct blowing that makes a person feel uncomfortable; moreover, the swing assembly 1 is firmly secured to the bottom of the air outlet 2, and the assembly and disassembly thereof are convenient.

[0032] In one embodiment, the first link 1-2 is provided with at least a grip portion f1, and two ends of the grip portion f1 are each provided with a groove g.

[0033] Working principle of the above-described technical solution is: the grip portion f1 and the first link 1-2 are integrally formed, and the groove g corresponds to a finger head.

[0034] It could be understood that, the expression "a first element corresponds to a second element" used herein means that the first element is able to be fitted with the second element. For example, the groove g corresponds to a finger head, that is, the groove g is able to be fitted with the finger head.

[0035] Beneficial effects of the above-described technical solution are: the grip portion f1 can be easily pinched by two fingers, the first link 1-2 can be driven to perform reciprocating translation in the left-and-right direction, and the first link 1-2 drives the swing blade 1-1 to rotate, thereby achieving manual swing.

[0036] In one embodiment, an end of the first link 1-2 is provided with at least two round holes f2, and the round holes f2 are fixedly connected to a drive device.

[0037] Working principle of the above-described technical solution is: the drive device is firmly secured to the first link 1-2 through the round hole f2, and two or more round holes f2 can limit the rotation of the first link 1-2, thus the first link 1-2 only can perform the reciprocating translation in the left-and-right direction; two or more round holes f2 may be disposed horizontally, vertically or obliquely into a straight line, and may also be disposed in a triangle, quadrilateral, or polygon.

[0038] Beneficial effects of the above-described technical solution are: the drive device can efficiently drive the first link 1-2 to perform reciprocating translation in the left-and-right direction, and the first link 1-2 drives the swing blade 1-1 to rotate, without need for manual adjustment by the user; additionally, the power of the drive device is generally electricity, thereby achieving electrical swing.

[0039] In one embodiment, the swing assembly 1 is comprised of a plurality of swing units 1h, each swing unit 1h includes a plurality of swing blades 1-1, a second link 1-2h, and a second mounting plate 1-3h; the plurality of swing blades 1-1 is spaced apart in a length direction of the second mounting plate 1-3h, the plurality of swing blades 1-1 located in an identical swing unit 1h is parallel to each other, and the plurality of swing blades is all connected to the second link 1-2h, the second link 1-2h is configured to drive the swing blades 1-1 to rotate about an axial direction, and the second mounting plate 1-3h is fixedly connected to the bottom of the air outlet 2.

[0040] Working principle of the above-described technical solution is: the second mounting plate 1-3h is provided at the air outlet 2 of the air conditioner, and is fixedly connected to the air outlet 2 through the same fixing mechanism as the first mounting plate 1-3, and the fixing mechanism has a detachable structure; the swing blade 1-1 and the second mounting plate 1-3h are rotatably connected, the second link 1-2h is disposed horizontally and connected to the plurality of swing blades 1-1 and is able to drive the swing blades 1-1 to rotate, and an initial state of the swing blade 1-1 is that it is parallel to an extending direction of the air outlet; when the second link 1-2h performs a straight reciprocating motion along its length direction, the plurality of swing blades 1-1 can be synchronously rotated about its axial direction towards two opposite directions, and the maximum angle of rotation is 90 degrees; the second mounting plate 1-3h can be fixedly connected to the top of the air outlet 2 in a detachable connection way, such as snap-fit, threaded

connection, etc.

[0041] Beneficial effects of the above-described technical solution are: the swing unit 1h and the swing assembly 1 have the same effects except for different lengths, they both can blow out soft air which broadly covers the entire housing; additionally, the swing unit 1h is firmly secured to the bottom of the air outlet 2, and the disassembly and the assembly thereof are convenient.

[0042] In one embodiment, the second link 1-2h is provided with at least a grip portion f1, and two ends of the grip portion f1 are each provided with a groove g.

[0043] Working principle of the above-described technical solution is: the grip portion f1 and the second link 1-2h are integrally formed, the groove g corresponds to the finger head, and the two adjacent second links 1-2h can be adjusted; leftward translation of the left second link 1-2h drives the swing blade 1-1 on the left swing unit 1h to rotate clockwise, rightward translation of the right second link 1-2h drives the swing blade 1-1 on the right swing unit 1h to rotate counterclockwise, and the air blown out from the air outlet 2 passes through the two adjacent swing units 1h and forms a splayed and wide-angle airflow.

[0044] Beneficial effects of the above-described technical solution are: by adjusting the two adjacent swing units 1h manually, the blown-out air have much broader coverage, under the premise of constant amount of blown-out air, the blown-out air has broader coverage and a reduced speed; moreover, with the splayed and wide-angle structure, the air will be converged, integrated and blown out, and the blown-out air is softer; from a practical perspective, the blown-out air has an increased angle, formation of a vertex of the blown-out air can be effectively avoided, such that generation of the condensation water on the swing assembly 1 and the air outlet 2 can be reduced.

[0045] In one embodiment, two ends of the second link 1-2h are each provided with at least two round holes f2, two adjacent second links 1-2h are provided with a connecting member 4 therebetween, and a lower surface of the connecting member 4 is provided with a protrusion 4-1 corresponding to the round hole f2.

[0046] Working principle of the above-described technical solution is: two or more round holes f2 can limit the rotation of the second link 1-2h, the second link 1-2h only can perform reciprocating translation in the left-and-right direction; two or more round holes f2 may be disposed horizontally, vertically and obliquely into a straight line, and may also be disposed in a triangle, quadrilateral, or polygon; the two adjacent second links 1-2h are fixedly connected by the protrusion 4-1 on the connecting member 4, and the plurality of swing units is divided into two groups; the left swing unit is fixedly connected by the connecting member 4, and is fixedly connected to the left drive device via the round holes f2 at the left end, the right swing unit is fixedly connected by the connecting member 4, and is fixedly connected to the right drive device via the round holes f2 at the right end, the left drive device drives the left swing blade 1-1 to rotate clockwise, the right drive device drives the right swing blade 1-1 to rotate counterclockwise, and the air blown out from the air outlet 2 passes through the left and right groups of swing units 1h and forms a splayed and wide-angle airflow; moreover, the same parts as the manual swing are employed; additionally, the left drive device and the right drive device can cooperate to drive the swing blade 1-1 to rotate clockwise or counterclockwise, therefore, the swing assembly 1 is suitable for a situation where an air blowing direction needs to be changed.

[0047] Beneficial effects of the above-described technical solution are: by adjusting the left and right groups of swing units 1h with the two drive devices, the blown-out air have much broader coverage, under the premise of constant amount of blown-out air, the blown-out air has broader coverage and a reduced speed; moreover, with the splayed and wide-angle structure, the air will be converged, integrated and blown out, and the blown-out air is softer; from a practical perspective, the blown-out air has an increased angle, formation of a vertex of the blown-out air can be effectively avoided, such that generation of the condensation water on the swing assembly 1 and the air outlet 2 can be reduced; the same parts as the manual swing are employed, thus the parts can be interchanged, the production management and the streamlined assembly are facilitated, and the production cost is reduced; additionally, the left drive device and the right drive device can cooperate to drive the swing blade 1-1 to rotate clockwise and counterclockwise, to enable the swing assembly 1 to have wider practicality.

[0048] In one embodiment, the plurality of swing blades 1-1 includes at least two first swing blades 1-1i having a lower end provided with a plurality of vent holes, and two second swing blades 1-1h provided with uniformity distributed vent holes, and the first swing blades 1-1i are provided between the two second swing blades 1-1h.

[0049] Working principle of the above-described technical solution is: the vent holes in the lower end of the first swing blade 1-1i and the vent holes uniformity distributed in the second swing blade 1-1h ensure that the air still can be blown out after rotation of the swing blade 1-1, and two sides of the swing blade 1-1 will have more uniform temperature; moreover, the air blown out from the vent holes in the middle and the upper end of the second swing blade 1-1h and the air blown out from the vent holes in the middle and the upper end of the first swing blade 1-1i will converge and flow to the space of the housing, or the like.

[0050] Beneficial effects of the above-described technical solution are: the temperature difference is a requirement to generate the condensation water, the two sides of the swing blade 1-1 have more uniform temperature, such that the temperature of the entire swing assembly 1 is uniform, the condensation water is not easily generated on the swing assembly 1; moreover, the air blown from the second swing blade 1-1h and the air blown from the first swing blade 1-1i will converge and integrate to

form an airflow which is much softer and has more uniform temperature.

[0051] An air conditioner is characterized by including an above-described an air guide mechanism for an indoor unit of an air conditioner.

[0052] Working principle of the above-described technical solution is: the air conditioner is provided with an air guide mechanism for an indoor unit of an air conditioner, by adjusting the angle of the swing unit 1h to form a splayed and wide-angle airflow, the air blown out from the air conditioner has broader coverage; under the premise of constant amount of blown-out air, the blown-out air has broader coverage and a reduced speed, and is softer; moreover, with the splayed and wide-angle structure, the air will be converged, integrated and blown out, and the blown-out air is softer; furthermore, the speed of the air blown out from the air conditioner is further reduced after being guided by the flow guide slot 3-1-1; from a practical perspective, the blown-out air has an increased angle, formation of a vertex of the blown-out air can be effectively avoided, such that generation of the condensation water on the swing assembly 1 and the air outlet 2 can be reduced; besides, the swing blade is provided with the vent hole, and the air outlet 2 is provided with the through hole 2-2, the first aperture 2-1-1 and the second aperture 2-1-2, such that the overall temperature of the swing assembly 1 and the air outlet 2 is uniform, the condensation water is not easy to generate, and the user's favorability on the use of the air conditioner can be improved; additionally, the electrical swing employs the same parts as the manual swing, the parts can be interchanged, thus the production management and the streamlined assembly are facilitated, and the production cost is reduced.

[0053] Beneficial effects of the above-described technical solution are: in the present disclosure, the structures and positions of the swing assembly 1, the air outlet 2 and the flow guide plate 3 are more reasonable, such that air blown out of the air conditioner has broader coverage and the blown-out air is softer. Additionally, parts of the manual swing assembly and the electrical swing assembly can be interchanged, the production management and the streamline assembly are facilitated, and the production cost is reduced. Moreover, the condensation water generated on the swing assembly and the air outlet is significantly reduced, improving the user's favorability on the use of the air conditioner.

[0054] In the specification, it is to be understood that terms such as "central," "longitudinal," "lateral," "length," "width," "thickness," "upper," "lower," "front," "rear," "left," "right," "vertical," "horizontal," "top," "bottom," "inner," "outer," "clockwise," "counterclockwise," "axial," "radial" and "circumferential" should be construed to refer to the orientation as then described or as shown in the drawings under discussion. These relative terms are for convenience of description and do not require that the present disclosure be constructed or operated in a particular orientation.

[0055] In the present disclosure, unless specified or limited otherwise, the terms "mounted," "connected," "coupled," "fixed" and the like are used broadly, and may be, for example, fixed connections, detachable connections, or integral connections; may also be mechanical or electrical connections; may also be direct connections or indirect connections via intervening structures; may also be inner communications of two elements, unless limited otherwise. These having ordinary skills in the art should understand the specific meanings in the present disclosure according to specific situations.

[0056] Although implementations of the present disclosure are disclosed as above, but are not merely limited to applications listed in the specification and the embodiments, and they are absolutely applicable to various fields suitable for the present disclosure. For a person skilled in the art, additional modifications can be readily achieved, therefore, the present disclosure is not limited to the specified details and the drawings illustrated and described herein, without departing from the general concepts defined by the claims and their equivalent scope.

Claims

1. An air guide mechanism for an indoor unit of an air conditioner, comprising:

   an air outlet (2);
   a swing assembly (1) provided in the air outlet (2) and fixedly connected to a bottom of the air outlet (2), and
   a flow guide plate (3) provided above the swing assembly (1) and fixedly connected to a top of the air outlet (2).

2. The air guide mechanism according to claim 1, wherein the flow guide plate (3) comprises a flow guide plate body (3-1), and a plurality of flow guide slots (3-1-1) is uniformly distributed at a bottom of the flow guide plate body (3-1).

3. The air guide mechanism according to claim 2, wherein a periphery of a top face of the flow guide plate body (3-1) is provided with a first reinforcing rib (3-2) extending upward, a second reinforcing rib (3-3) is provided inside the first reinforcing rib (3-2), a bottom face of the second reinforcing rib (3-3) is fixedly connected to the top face of the flow guide plate body (3-1), and two ends of the second reinforcing rib (3-3) are fixedly connected to two opposite side walls of the first reinforcing rib (3-2), respectively.

4. The air guide mechanism according to any one of claims 1 to 3, wherein two side walls of the air outlet (2) are provided with a plurality of connecting plates (2-1) therebetween, the plurality of connecting plates

(2-1) is fixedly connected to the top and the bottom of the air outlet (2), and the connecting plate (2-1) has an upper end provided with a first aperture (2-1-1) and a lower end provided with a second aperture (2-1-2).

5. The air guide mechanism according to claim 4, wherein a plurality of through holes (2-2) is provided in the two side walls of the air outlet (2) and between the first aperture (2-1-1) and the second aperture (2-1-2).

6. The air guide mechanism according to claim 5, wherein a rectangular hole (2-3) is provided in a left side wall of the air outlet (2) and located below the through hole (2-2).

7. The air guide mechanism according to any one of claims 1 to 6, wherein the swing assembly (1) comprises a plurality of swing blades (1-1), a first link (1-2), and a first mounting plate (1-3); the plurality of swing blades (1-1) is spaced apart in a length direction of the first mounting plate (1-3), parallel to each other, and all connected to the first link (1-2), the first link is configured to drive the swing blades (1-1) to rotate about an axial direction, and the first mounting plate (1-3) is fixedly connected to the bottom of the air outlet (2).

8. The air guide mechanism according to claim 7, wherein the first link (1-2) is provided with at least a grip portion (f1), and two ends of the grip portion (f1) are each provided with a groove (g).

9. The air guide mechanism according to claim 7 or 8, wherein an end of the first link (1-2) is provided with at least two round holes (f2), and the round holes (f2) are fixedly connected to a drive device.

10. The air guide mechanism according to any one of claims 1 to 6, wherein the swing assembly (1) is comprised of a plurality of swing units (1h), each swing unit (1h) comprises a plurality of swing blades (1-1), a second link (1-2h), and a second mounting plate (1-3h); the plurality of swing blades (1-1) is spaced apart in a length direction of the second mounting plate (1-3h), the plurality of swing blades (1-1) located in an identical swing unit (1h) is parallel to each other, and the plurality of swing blades (1-1) are all connected to the second link (1-2h), the second link (1-2h) is configured to drive the swing blades (1-1) to rotate about an axial direction, and the second mounting plate (1-3h) is fixedly connected to the bottom of the air outlet (2).

11. The air guide mechanism according to claim 10, wherein the second link (1-2h) is provided with at least a grip portion (f1), and two ends of the grip portion (f1) are each provided with a groove (g).

12. The air guide mechanism according to claim 10 or 11, wherein two ends of the second link (1-2h) are each provided with at least two round holes (f2), two adjacent second links (1-2h) are provided with a connecting member (4) therebetween, and a lower surface of the connecting member (4) is provided with a protrusion (4-1) corresponding to the round hole (f2).

13. The air guide mechanism according to any one of claims 10 to 12, wherein the plurality of swing blades (1-1) comprises at least two first swing blades (1-1i) having a lower end provided with a vent hole, and two second swing blades (1-1h) provided with uniformity distributed vent holes, and the first swing blades (1-1i) are provided between the two second swing blades (1-1h).

14. An air conditioner, comprising:

an outdoor unit, and
an indoor unit comprising an air guide mechanism according to any one of claims 1 to 13, the indoor unit being in fluid communication with the outdoor unit such that refrigerant is able to circulate between the indoor unit and the outdoor unit.

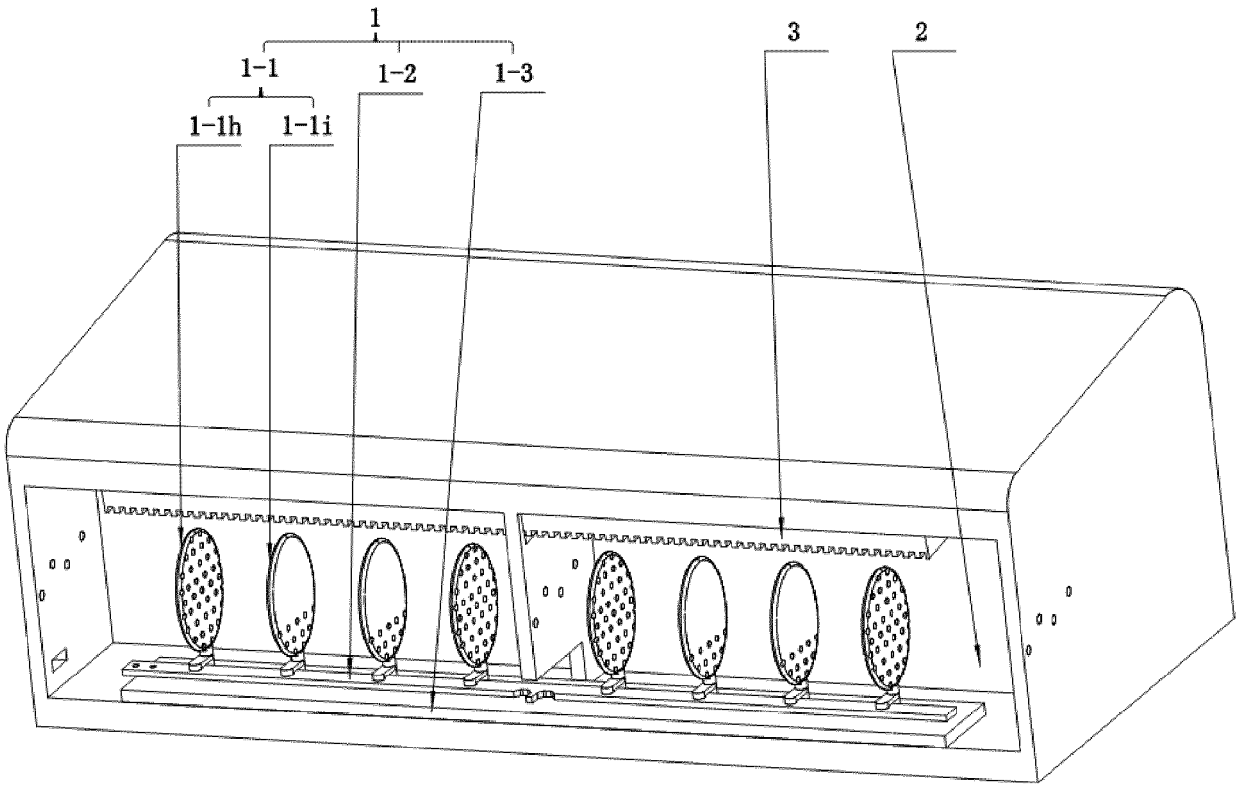

FIG. 1

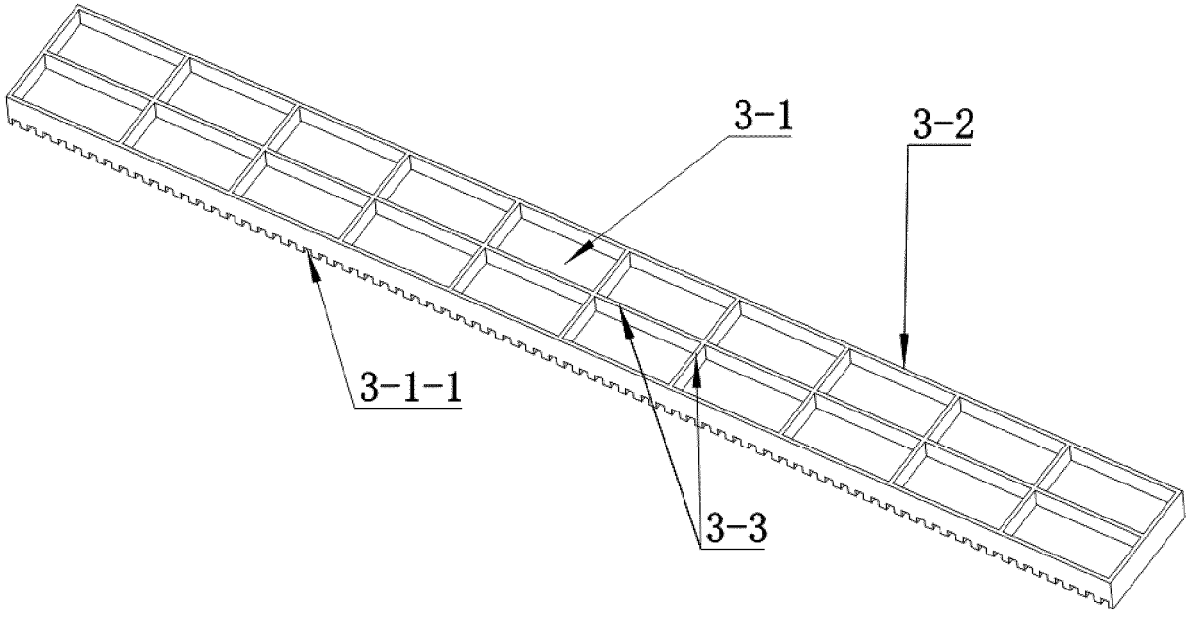

FIG. 2

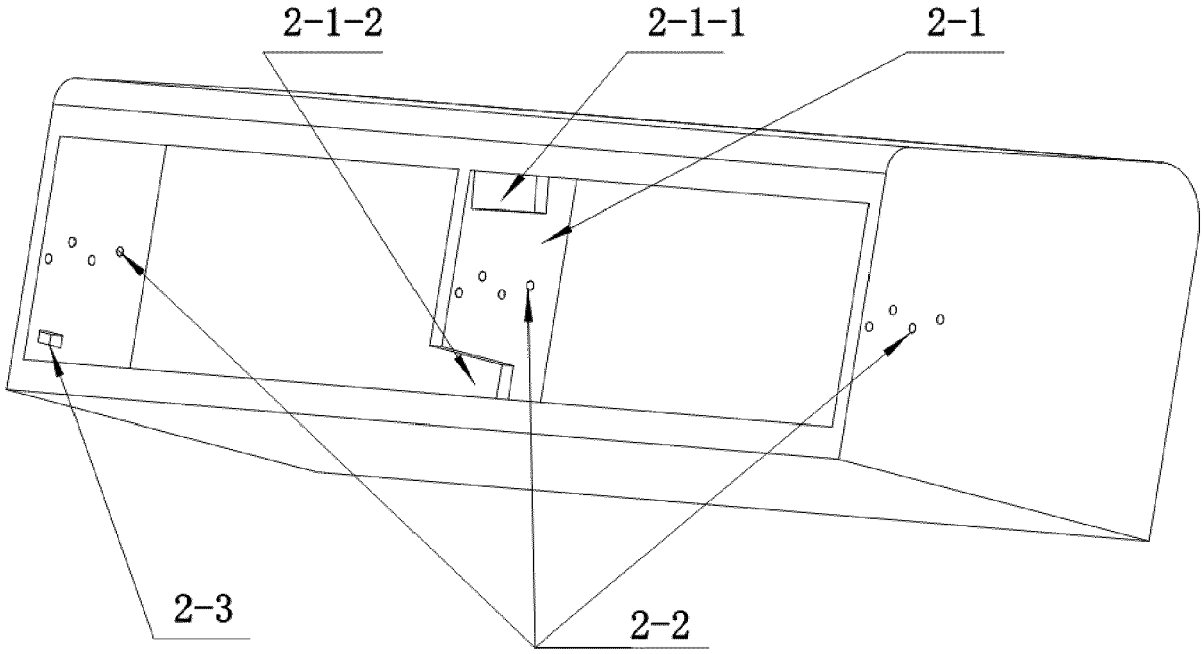

FIG. 3

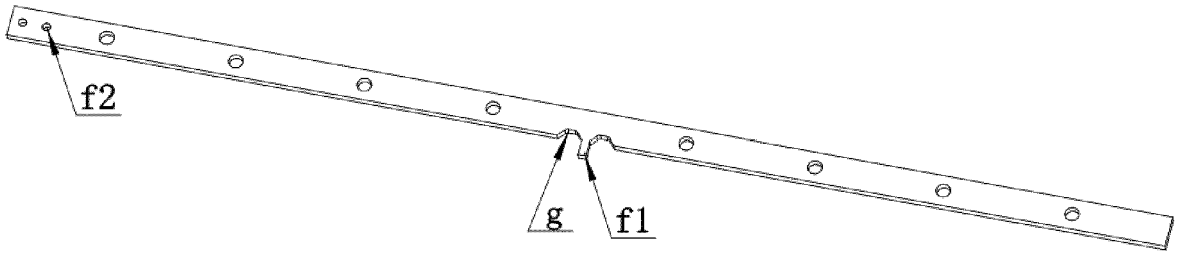

FIG. 4

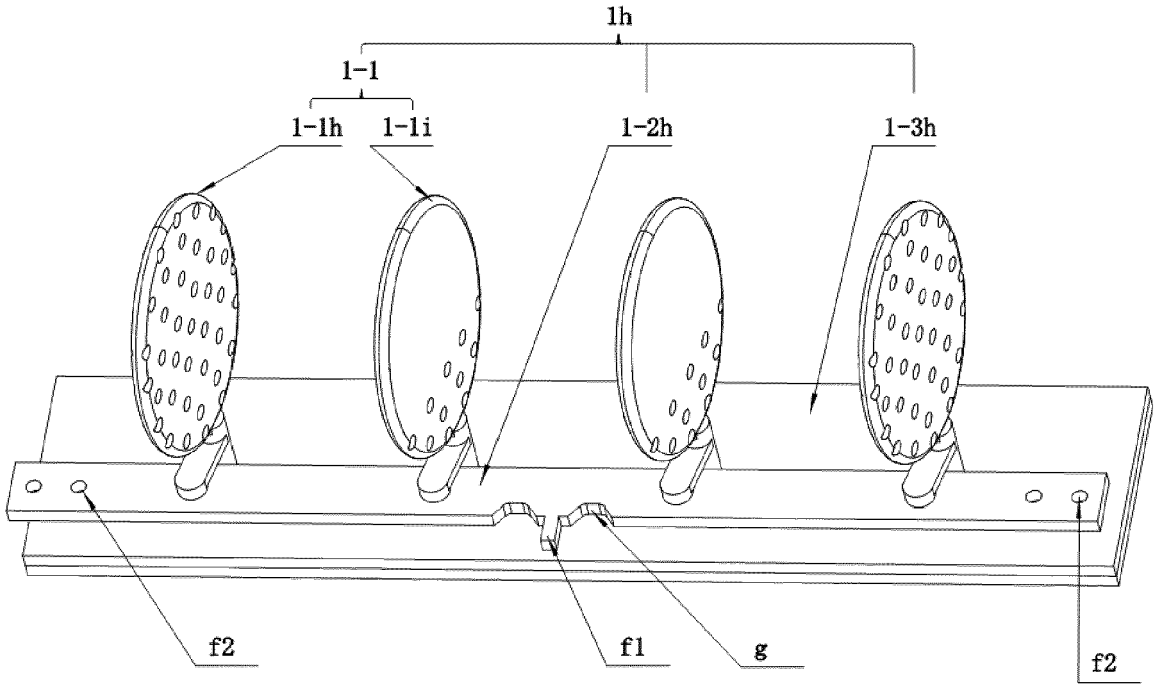

FIG. 5

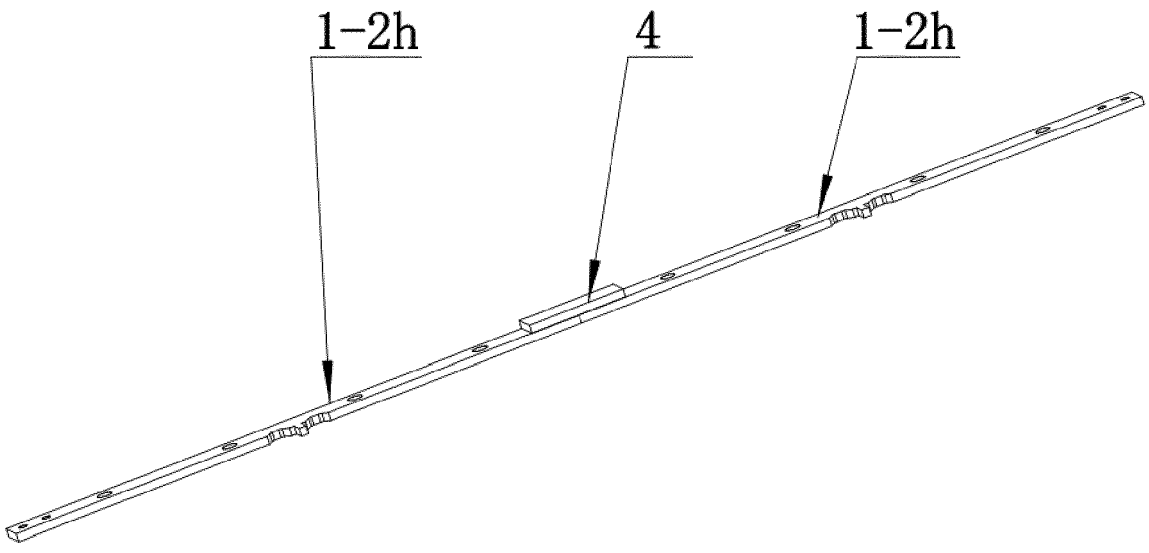

FIG. 6

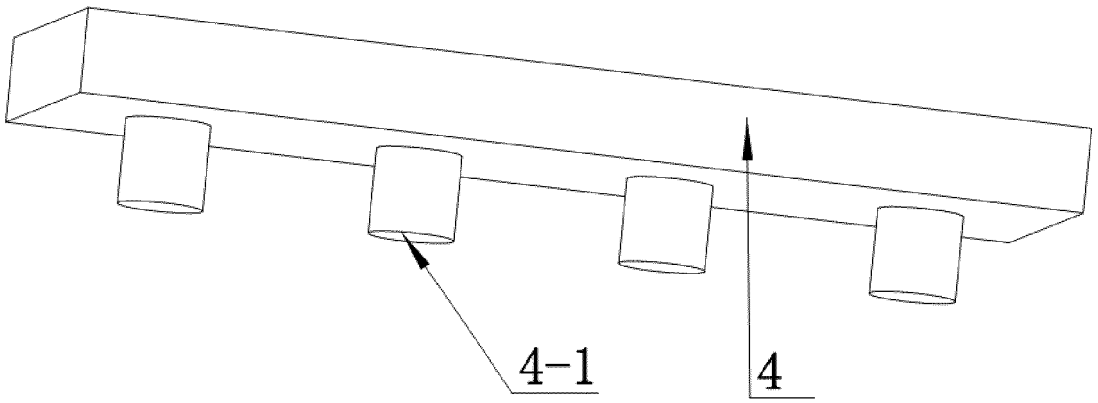

FIG. 7

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EUROPEAN SEARCH REPORT

Application Number
EP 20 20 2095

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 A	EP 3 614 058 A1 (LG ELECTRONICS INC [KR]) 26 February 2020 (2020-02-26) * the whole document *	1-4,14 5,6	INV. F24F1/0011 F24F13/14 F24F13/15
X	CN 208 887 066 U (QINGDAO HAIER AIR CONDITIONER ELECTRIC CO LTD) 21 May 2019 (2019-05-21) * figures 1,2 *	1	
X	CN 108 731 109 A (QINGDAO HAIER AIR CONDITIONER) 2 November 2018 (2018-11-02) * figure 3 *	1	
A	CN 209 326 030 U (GUANGDONG LIANSU TECH INDUSTRIAL CO LTD) 30 August 2019 (2019-08-30) * figures 1,2 *	1,4	
A	CN 207 081 082 U (QINGDAO HAIER AIR CONDITIONER) 9 March 2018 (2018-03-09) * figures 1,2 *	1,4	
			TECHNICAL FIELDS SEARCHED (IPC) F24F

~~The present search report has been drawn up for all claims~~

Place of search	Date of completion of the search	Examiner
Munich	10 March 2021	Blot, Pierre-Edouard

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
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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 03.82 (P04C01)

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European Patent Office
Office européen des brevets

Application Number
EP 20 20 2095

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

2-6(completely); 1, 14(partially)

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 20 20 2095

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 2-6(completely); 1, 14(partially)

an air guide mechanism which optimizes the flow guide plate in the air guide mechanism

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2. claims: 7-13(completely); 1, 14(partially)

an air guide mechanism with a swing assembly which is easier to build

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 20 20 2095

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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10-03-2021

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CN 207081082 U	09-03-2018	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82