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(54) **FOLDABLE HANGER AND HEATING DEVICE**

(57) Some embodiments of the present invention dispose a foldable hanger and a heating device. The foldable hanger includes: a hanger body (1); folding feet (2) movably connected to the hanger body (1) and having a supporting state after unfolding and a storing state after folding; a hanging and drying member movably connected to the hanger body (1) and having a hanging and drying state distant from the hanger body (1) and a resetting state close to the hanger body (1); and a linkage mechanism disposed between the folding feet (2) and the hanging and drying member. A change of a state of any one of the folding feet (2) and the hanging and drying member drives, through the linkage mechanism, a state of the other of the folding feet (2) and the hanging and drying member being to change. The supporting state corresponds to the hanging and drying state, and the stored state corresponds to the resetting state. Operation steps of the foldable hanger can be reduced, and it is easier and more convenient to fold and unfold the fold-

able hanger.

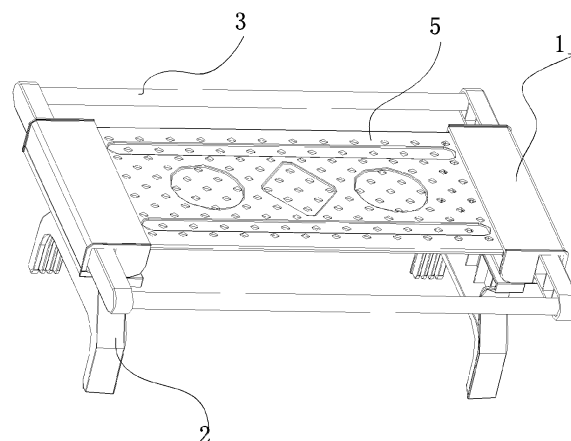


Fig. 3

Description

Technical Field

[0001] The invention relates to a technical field of hangers, and in particular to a foldable hanger and a heating device.

Background

[0002] Electric heaters have become household necessities in areas lacking of central heating. In order to make functions diversified, the electric heaters on market are usually equipped with a detachable clothes drying hanger, which solves a problem that it is difficult to dry clothes in wet and cold winter while heating. The clothes drying hanger is generally set as foldable to reduce packaging and transportation costs and facilitate accommodation. For example, a foldable hanger applied to an electric heater known to inventors includes a frame, supporting feet hinged at two ends of the frame and hanger rod rack at two sides of the frame. The hanger rod rack includes a hanging rod and a rotating arm supporting the hanging rod. One end of the rotating arm is hinged on the frame which is divided into left frame and right frame hinged with each other. A support has a left support and right support hinged with each other. The hinged structure needs to fold the left and right supports and the left and right frames respectively, so as to complete a storage of the foldable hanger, and an operation is also complex when unfolding. No matter in a packaging process or in a use process of users, each part needs to be folded or unfolded one by one, which increases disassembly and assembly steps and storage time.

Summary

[0003] Technical problems to be solved in the invention is to overcome defects of the foldable hanger known to inventors that there are too many folding and unfolding steps and operation is inconvenient, so as to provide a foldable hanger, the operation steps of which can be reduced, and folding and unfolding of which is easier and more convenient.

[0004] Some embodiments of the present invention provide a heating device with the foldable hanger.

[0005] The technical solutions of the invention are as follows.

[0006] Some embodiments of the present invention provide a foldable hanger, which includes: a hanger body; folding feet movably connected to the hanger body and having a supporting state after unfolding and a storing state after folding; a hanging and drying member movably connected to the hanger body and having a hanging and drying state distant from the hanger body and a resetting state close to the hanger body; and a linkage mechanism disposed between the folding feet and the hanging and drying member. A change of a state of any

one of the folding feet and the hanging and drying member drives, through the linkage mechanism, a state of the other of the folding feet and the hanging and drying member to change. The supporting state corresponds to the hanging and drying state, and the storing state corresponds to the resetting state.

[0007] In some embodiments, the folding feet are hinged on the hanger body; the hanging and drying member has a sliding part which is in sliding fit with a slide rail disposed on the hanger body; the linkage mechanism converts a reciprocating rotation of the folding feet to a reciprocating sliding of the hanging and drying member or converts a reciprocating sliding of the hanging and drying member to a reciprocating rotation of the folding feet.

[0008] In some embodiments, the linkage mechanism is an inclined wedge mechanism.

[0009] In some embodiments, the inclined wedge mechanism includes a linkage part disposed on the folding feet and a sliding block disposed on the hanger body; the sliding block is in bevel fit with the sliding part; a guide part cooperating with a guide structure disposed on the hanger body is also disposed on the sliding block; the linkage part pushes the sliding block to move along the guide structure, and the sliding block drives the sliding part to move along the slide rail, so that the hanging and drying member moves to the hanging and drying state; on the contrary, the hanging and drying member drives the folding feet to move through the sliding part, the sliding block and the linkage part.

[0010] In some embodiments, the guide structure is a through hole disposed at the bottom of the hanger body, the guide part is adapted to extend into the through hole, and the linkage part pushes the guide part to move along the through hole.

[0011] In some embodiments, the linkage part is a hinged end part of the folding feet.

[0012] In some embodiments, the inclined wedge mechanism further includes an elastic reset structure acting on the hanging and drying member and/or the folding feet; the elastic reset structure applies a first resetting force to move the hanging and drying member toward the resetting state; and/or, the elastic reset structure applies a second resetting force to move the folding feet toward the storing state.

[0013] In some embodiments, the linkage mechanism is a gear drive mechanism.

[0014] In some embodiments, the gear drive mechanism includes a gear disposed on a hinged end of the folding feet, a rack disposed on the sliding part, and a dual gear meshed with the gear and the rack respectively.

[0015] In some embodiments, the sliding part is a support rod in sliding fit with the slide rail.

[0016] In some embodiments, the hanging and drying member further includes a hanging and drying rod connected to a free end of the support rod.

[0017] In some embodiments, the hanger body is also provided with a fixed clothes drying board, and the hang-

ing and drying rod is on a side of the fixed clothes drying board.

[0018] In some embodiments, the sliding part is a sliding slot in sliding fit with the slide rail.

[0019] In some embodiments, the hanging and drying member further includes a movable clothes drying board, and the sliding slot is disposed on the movable clothes drying board.

[0020] Some embodiments of the present invention provide a heating device, which includes a heating body and the above foldable hanger, wherein the foldable hanger is detachably connected to the heating body.

[0021] In some embodiments, the heating device is an electric heater.

[0022] The technical solutions of the invention have the following advantages.

1. The foldable hanger provided by the invention includes the hanger body, and the folding feet and the hanging and drying member movably connected to the hanger body, and the linkage mechanism disposed between the folding feet and the hanging and drying member; the folding feet have the supporting state after unfolding and the storing state after folding; the hanging and drying member has the hanging and drying state distant from the hanger body and the resetting state close to the hanger body; the change of the state of any one of the folding feet and the hanging and drying member is change, through the linkage mechanism, a state of the other of the folding feet and the hanging and drying member to change; the supporting state corresponds to the hanging and drying state, and the storing state corresponds to the resetting state. Therefore, a setting of the linkage mechanism makes the hanging and drying member away from or close to the hanger body when the folding feet are unfolded or folded, or makes the hanging and drying member to drive the folding feet to unfold or fold when being away from or close to the hanger body, so that no matter in a process of packaging and transportation or in a use process of users, the hanger body is unfolded or folded in one step without separately operating the feet and the hanging and drying member, which reduces operation steps, saves operation time, improves a user experience by completing an operation at one time, and makes a packaging, installation and storage process easier and more convenient.

2. For the foldable hanger provided by some embodiments of the present invention, the folding feet are hinged on the hanger body, the hanging and drying member is in sliding fit with the slide rail on the hanger body through its sliding part, and the linkage mechanism converts a reciprocating rotation of the folding feet to a reciprocating sliding of the hanging and drying member; in such a manner, when the foldable hanger is packaged or stored, the hanging and drying member moves close to the hanger body while

the user folds the folding feet, so that the hanging and drying member also moves to the resetting state while the feet are folded to the storing state; when the foldable hanger is installed or used, the hanging and drying member moves away from the hanger body while the user unfolds the folding feet, so that the hanging and drying member also moves to the hanging and drying state while the folding feet are unfolded to the supporting state; or the linkage mechanism converts the reciprocating sliding of the hanging and drying member to the reciprocating rotation of the folding feet; in such a manner, when the foldable hanger is packaged or stored, the folding feet are folded while the user pushes the hanging and drying member to move close to the hanger body, so that the folding feet are folded to the storing state while the hanging and drying member moves to the resetting state; when the foldable hanger is installed or used, the folding feet are unfolded while the user pulls the hanging and drying member to move away from hanger body, so that the folding feet are unfolded to the supporting state while the hanging and drying member moves to the hanging and drying state.

3. For the foldable hanger provided by some embodiments of the present invention, the linkage mechanism is the inclined wedge mechanism; rotating movement of the folding feet and sliding movement of the hanging and drying member are converted through the inclined wedge mechanism, which has stable structure, uneasy damage and long service life.

4. For the foldable hanger provided by the invention, the inclined wedge mechanism includes the linkage part disposed on the folding feet and the sliding block disposed on the hanger body; the sliding block is in bevel fit with the sliding part; the guide part matching with the guide structure disposed on the hanger body is also disposed on the sliding block; the linkage part pushes the sliding block to move along the guide structure, and the sliding block drives the sliding part to move along the slide rail, so that the hanging and drying member moves to the hanging and drying state; the sliding block is in bevel fit with the sliding part, so that slide lift of the sliding block is converted to translation of the sliding part, or the translation of the sliding part is converted to a resetting of the sliding block.

5. For the foldable hanger provided by some embodiments of the invention, the inclined wedge mechanism further includes the elastic reset structure disposed on the hanging and drying member; the elastic reset structure applies a first resetting force to move the hanging and drying member toward the resetting state; when the folding feet rotate to the supporting state, its linkage part pushes against the sliding block, and the sliding part of the hanging and drying member overcomes the first resetting force to move to the hanging and drying state; when the folding feet

rotate to the storing state, its linkage part gradually moves away from the sliding block, and the hanging and drying member move to the resetting state under an action of the first resetting force;

or the inclined wedge mechanism further includes the elastic reset structure disposed on the folding feet; the elastic reset structure applies the second resetting force to move the folding feet toward the storing state; when the folding feet rotate to the supporting state, its linkage part pushes against the sliding block, and the sliding part of the hanging and drying member moves to the hanging and drying state; when the hanging and drying member moves to the resetting state, its sliding part pushes against the sliding block, and the folding feet rotate to the storing state under the action of the second resetting force;

or the inclined wedge mechanism further includes the elastic reset structure disposed on the hanging and drying member and the folding feet, and the elastic reset structure is helpful for them to move to the reset state or the storing state with less effort and ease.

6. For the foldable hanger provided by some embodiments of the invention, the linkage mechanism is the gear drive mechanism; the greater torque for gear transmission, the more smooth and stable the movement of the hanging and drying member and/or the folding feet.

7. For the foldable hanger provided by some embodiments of the present invention, the sliding part is the support rod in sliding fit with the slide rail, and the support rod slides reciprocally along the slide rail to make the hanging and drying member close to or far away from the hanger body; the hanging and drying member further includes the hanging and drying rod connected to the free end of the support rod; the reciprocating sliding of the support rod realizes an extension of the hanging and drying rod; there is also the fixed clothes drying board disposed on the hanger body, and the hanging and drying rod is on the side of the fixed clothes drying board, extending or retracting from it.

8. For the foldable hanger provided by some embodiments of the invention, the sliding part is the sliding slot in sliding fit with the slide rail; the sliding slot and the slide rail are cooperated to realize the extension or retraction of the hanging and drying member; the hanging and drying member further includes the movable clothes drying board, and the sliding slot is disposed on the movable clothes drying board; the movable clothes drying board extends or retracts relative to the hanger body through the sliding fit of its sliding slot and slide rail.

9. The heating device provided by some embodiments of the invention includes the heating body and the foldable hanger detachably connected to the heating body; the foldable hanger is detachably

mounted on the heating body, which is convenient to dry clothes; during storage, the foldable hanger is folded and stored directly by one-step operation, which is easy and convenient.

Brief Description of the Drawings

[0023] In order to describe the technical solutions in specific implementation modes of the invention or the art known to inventors more clearly, the drawings required to be used for descriptions about the specific implementation modes or the art known to inventors are simply introduced below. It is apparent that the drawings described below are only some implementation modes of the invention. Those skilled in the art further obtain other drawings according to these drawings without creative work.

Fig. 1 illustrates a top view of a foldable hanger in a use state provided in embodiment 1 of the invention. Fig. 2 illustrates a front view of the fold hanger as shown in Fig. 1 in a use state.

Fig. 3 illustrates a three-dimensional view of the fold hanger as shown in Fig. 1 in a use state.

Fig. 4 illustrates an upward view of the fold hanger as shown in Fig. 1 in a storing state.

Fig. 5 illustrates a structure diagram of a cooperation between folding feet and a inclined wedge mechanism of the foldable hanger as shown in Fig. 1.

Fig. 6 illustrates a structure diagram (from another angle) of the cooperation between the folding feet and the inclined wedge mechanism as shown in Fig. 5.

Fig. 7 illustrates a three-dimensional view of a foldable hanger in a use state provided in another embodiment.

Fig. 8 illustrates a structure diagram of a cooperation between the folding feet and a gear drive mechanism of the foldable hanger provided in another embodiment.

Descriptions about the reference signs:

[0024] 1. hanger body; 2. folding feet; 3. hanging and drying rod; 4. support rod; 5. fixed clothes drying board; 6. sliding block; 7. guide part; 8. linkage part; 9. movable clothes drying board; 10. gear; 11. rack; 12. dual gear.

Detailed Description of the Embodiments

[0025] The technical solutions of the invention are described clearly and completely below in combination with the drawings. Apparently, the described embodiments are merely a part of the embodiments of the invention, not all of the embodiments. All other embodiments obtained by those skilled in the art based on the embodiments in the invention without creative work shall fall within a scope of protection of the invention.

[0026] In the descriptions of the invention, it is to be noted that orientation or position relationships indicated by terms "upper", "lower", "vertical", "horizontal" and the like are orientation or position relationships shown in the drawings, are adopted not to indicate or imply that indicated devices or members must be in specific orientations or structured and operated in specific orientations but only to conveniently describe the invention and simplify descriptions. In addition, the terms "first" and "second" are used for descriptive purposes only and are not to be construed as indicating or implying relative importance.

[0027] In the description of the invention, it is to be noted that unless otherwise definitely specified and limited, terms "mount" and "connect" should be broadly understood. For example, the terms refer to fixed connection and also refer to detachable connection or integrated connection. The terms refer to mechanical connection or electrical connection. The terms refer to direct mutual connection, also refer to indirect connection through a medium and refer to communication in two members. For those skilled in the art, specific meanings of these terms in the invention can be understood according to a specific condition.

[0028] In addition, the technical features involved in different implementation modes of the invention described below can be combined without conflicts.

Embodiment 1

[0029] As shown in Fig. 1 to Fig. 6, a foldable hanger provided by the embodiment includes a hanger body 1, and folding feet 2 and a hanging and drying member movably connected to the hanger body 1, and a linkage mechanism disposed between the folding feet 2 and the hanging and drying member; the folding feet 2 have a supporting state after unfolding and a storing state after folding; the hanging and drying member has a hanging and drying state distant from the hanger body 1 and a resetting state close to the hanger body 1; a change of a state of the folding feet 2 drives, through the linkage mechanism, a state of the hanging and drying member to change; the supporting state corresponds to the hanging and drying state, and the storing state corresponds to the resetting state. Therefore, a setting of the linkage mechanism can make the hanging and drying member away from or close to the hanger body 1 when the folding feet 2 are unfolded or folded, so that no matter in a process of packaging and transportation or in a use process of users, the hanger body can be unfolded or folded in one step without separately operating the feet and the hanging and drying member, which reduces operation steps, saves operation time, improves a user experience by completing an operation at one time, and makes a packaging, installation and storage process easier and more convenient.

[0030] In some embodiments, the hanger body 1 is rectangular, the folding feet 2 are hinged on the hanger body

1, and the hanging and drying member is in sliding fit with a slide rail on the hanger body 1 through its sliding part; the hanger body 1 is provided with the slide rail formed by a cavity, and the hanging and drying member includes the sliding part and a hanging and drying rod 3 disposed on the sliding part, the sliding part being a support rod 4 disposed in the cavity and capable of reciprocating sliding along the cavity, and the hanging and drying member being a hanging and drying state 3 connected to a free end of the support rod 4. In such a manner, when the foldable hanger is packaged or stored, the hanging and drying member slides close to the hanger body 1 while the user rotates and folds the folding feet 2, so that the hanging and drying member also moves to the resetting state while the feet are folded to the storing state; when the foldable hanger is installed or used, the hanging and drying member slides away from the hanger body 1 while the user rotates to unfold the folding feet 2, so that the hanging and drying member also moves to the hanging and drying state while the feet are unfolded to the supporting state.

[0031] There is a pair of folding feet 2 disposed at a bottom of the hanger body 1, so that they can be folded and stored under the hanger body 1. There are two cavities, which are disposed along a width direction of hanger body 1 respectively and located at two ends of hanger body 1. There are two pairs of support rods 4, each pair of support rods 4 extend into a same end of two cavities respectively, and there is a hanging and drying rod 3 connected between free ends of each pair of support rods 4. Two hanging and drying rods 3 are respectively located at two sides of the hanger body 1, and can extend away from the hanger body 1 or retract back towards the direction close to the hanger body 1.

[0032] An inner wall of the cavity is provided with a clamping slot. The clamping slot is in tabling fit with an elastic clamping pin on an outer wall of the support rod 4 to prevent the support rod 4 from falling out of the cavity.

[0033] The hanger body 1 is also disposed with a fixed clothes drying board 5, and two hanging and drying rods 3 are respectively located at two sides of the fixed clothes drying board 5. When the hanging and drying rod 3 is in the resetting state, it is disposed close to the two sides of the fixed clothes drying board 5. The fixed clothes drying board 5 is provided with a plurality of through holes.

[0034] In some embodiments, as shown in Fig. 5 to Fig. 6, the linkage mechanism is a inclined wedge mechanism, and the inclined wedge mechanism includes a linkage part 8 disposed on the folding feet 2 and a sliding block 6 disposed on the hanger body 1. An end portion of one end of the support rod 4 extended into the cavity is a bevel and the sliding block 6 has a bevel cooperated with the bevel, so that the sliding block 6 and the end portion of the support rod 4 form a bevel fit. The sliding block 6 is also provided with a guide part 7 cooperating with a guide structure disposed on hanger body 1; in some embodiments, the guide structure is a through hole disposed on a bottom surface of hanger body 1, and an

axial direction of the through hole is perpendicular to a sliding direction of support rod 4; the guide part 7 is a guide block disposed together with the sliding block 6, and the guide block, a contour of which adapts to a contour of the through hole, extends out of the through hole. When the linkage part 8 of the folding feet 2 pushes the guide block to move along the through hole toward a direction away from the bottom surface of the hanger body 1, the sliding block 6 pushes against the end portion of the support rod 4 through the bevel, so that the support rod 4 slides out of the cavity, and the hanging and drying rod 3 extends out to the hanging and drying state.

[0035] The linkage part 8 is an end portion of a hinged end of the folding feet 2. When the folding feet 2 are fully unfolded, its end face pushes against the guide part 7 to drive the support rod 4 to slide.

[0036] The inclined wedge mechanism further includes an elastic reset structure disposed on the hanging and drying member. The elastic reset structure is an elastic compression spring disposed between the cavity and the support rod 4. When the support rod 4 moves toward a direction extending out of the cavity, the elastic compression spring compresses; and when the folding feet 2 fold to the storing state, its hinged end gradually eliminates a push against a guide hole, and the support rod 4 retracts into the cavity under a first resetting force of the elastic compression spring. The elastic reset structure is helpful for the hanging and drying rod 3 to move to the resetting state with less effort and ease.

[0037] In some embodiments, a first radial lug boss extending outward is disposed on the support rod 4, an opening of the cavity is provided with a second radial lug boss extending inwards to prevent the support rod 4 from falling out, and the elastic compression spring is disposed between the first radial lug boss and the second radial lug boss.

[0038] Some embodiments of the present embodiment also provides a heating device, which includes a heating body and the foldable hanger detachably connected to the heating body. The foldable hanger is detachably mounted on the heating body, which is convenient to dry clothes; during storage, the foldable hanger is folded and stored directly by one-step operation, which is easy and convenient.

[0039] In some embodiments, the heating device is an electric heater, the heating body is radiating fins, the folding feet 2 of the foldable hanger are clamped above the radiating fins, the hanger body is above the radiating fins, and the hanging and drying member is at two sides of the radiating fins.

[0040] As an alternative implementation mode of embodiment 1, as shown in Fig. 7 and Fig. 8, the hanging and drying member is a pair of movable clothes drying boards (9) and the hanging and drying rod (3) disposed on the outside of each movable clothes drying board (9); the movable clothes drying board (9) is in sliding fit with the slide rail on the hanger body (1) through its sliding part; the sliding part is sliding slots disposed at two ends

of the movable clothes drying board (9), and the slide way is a plurality of convex block located at two ends of the hanger body (1) in a length direction; the pair of movable clothes drying boards (9) can close to or move away from each other through a sliding of the sliding slot along the convex block. The linkage mechanism is a gear drive mechanism. The gear drive mechanism includes a gear (10) disposed on the hinged end of the folding feet (2), a rack (11) disposed on the side wall of sliding part, and a dual gear (12) meshed with the gear (10) and the rack (11). The gear (10) on the folding feet (2) is meshed with a small gear (10) of the dual gear (12), and a big gear (10) of the dual gear (12) is meshed with the rack (11) on a side wall of the sliding part. The folding feet (2) rotate or the sliding part slides, so that the gear (10) or the rack (11) is driven to drive the dual gear (12) to rotate, thus realizing a sliding of the sliding part or a rotation of the folding feet (2), at this point, a rotation plane of the folding feet (2) is parallel to a sliding direction of the movable clothes drying board (9).

[0041] As an alternative implementation mode of embodiment 1, as shown in Fig. 8, the linkage mechanism is a gear (10) transmission mechanism. The gear transmission mechanism includes the gear (10) disposed on the hinged end of the folding feet (2), the rack (11) disposed on the side wall of the support rod (4), and the dual gear (12) meshed with the gear (10) and the rack (11) respectively. The gear (10) on the folding feet (2) is meshed with the small gear (10) of the dual gear (12), and the big gear (10) of the dual gear (12) is meshed with the rack (11) on the side wall of the sliding part. The folding feet (2) rotate or the sliding part slides, so that the gear (10) or the rack (11) is driven to drive the dual gear (12) to rotate, thus realizing the sliding of the sliding part or the rotation of the folding feet (2), at this point, the rotation plane of the folding feet (2) is parallel to the sliding direction of the support rod (4).

[0042] As an alternative implementation mode of embodiment 1, the support rod is provided with a groove extending axially, and the elastic compression spring is disposed in the groove. One end of the elastic compression spring is abutted against an inner end of the groove, and the other end of the elastic compression spring is abutted against the second radial lug boss extending inward, which is disposed at the opening of the cavity to prevent the support rod from falling out.

[0043] As an alternative implementation mode of embodiment 1, the elastic reset structure is disposed between the folding feet and the hanger body. The elastic reset structure is the elastic compression spring which applies the second resetting force to move the folding feet toward the storing state. When the folding feet rotate to the supporting state, its linkage part pushes against the sliding block, and the sliding part of the hanging and drying member moves to the hanging and drying state; when the hanging and drying member is pushed to move to the resetting state, its sliding part pushes against the sliding block, and the folding feet rotates to the storing

state under an action of the second resetting force.

[0044] As an alternative implementation mode of embodiment 1, the guide structure is a guide bar disposed on the hanger body and perpendicular to the slide rail. The sliding block has a guide groove matching with the guide bar. The sliding block is disposed in the hanger body, and reciprocating moves along the guide bar to push the sliding part to reciprocating slide.

[0045] As an alternative implementation mode of embodiment 1, the linkage part is a protrusion on the folding feet. When the folding feet are unfolded, the protrusion pushes against the guide block.

[0046] As an alternative implementation mode of embodiment 1, the heating device is water heater.

[0047] It is apparent that the abovementioned embodiments are only examples for clear description and not intended to limit the implementation modes. Those of ordinary skill in the art further make variations or modifications of other different forms on a basis of the above descriptions. It is unnecessary and impossible to exhaust all of the implementation modes herein. Apparent variations or modifications derived therefrom also fall within a scope of protection of the invention.

Claims

1. A foldable hanger, comprising:

a hanger body (1);
folding feet (2) movably connected to the hanger body (1) and having a supporting state after unfolding and a storing state after folding;
a hanging and drying member movably connected to the hanger body (1) and having a hanging and drying state distant from the hanger body (1) and a resetting state close to the hanger body (1); and
a linkage mechanism disposed between the folding feet (2) and the hanging and drying member; a change of a state of any one of the folding feet (2) and the hanging and drying member drives, through the linkage mechanism, a state of the other of the folding feet (2) and the hanging and drying member to change; wherein the supporting state corresponds to the hanging and drying state, and the storing state corresponds to the resetting state.

2. The foldable hanger as claimed in claim 1, wherein the folding feet (2) are hinged on the hanger body (1); the hanging and drying member has a sliding part which is in sliding fit with a slide rail disposed on the hanger body (1); the linkage mechanism converts a reciprocating rotation of the folding feet (2) to a reciprocating sliding of the hanging and drying member or converts a reciprocating sliding of the hanging and drying member to a reciprocating rota-

tion of the folding feet (2).

3. The foldable hanger as claimed in claim 2, wherein the linkage mechanism is an inclined wedge mechanism.

4. The foldable hanger as claimed in claim 3, wherein the inclined wedge mechanism comprises a linkage part (8) disposed on the folding feet (2) and a sliding block (6) disposed on the hanger body (1); the sliding block (6) is in bevel fit with the sliding part; a guide part (7) cooperating with a guide structure disposed on the hanger body (1) is disposed on the sliding block (6); the linkage part (8) pushes the sliding block (6) to move along the guide structure, and the sliding block (6) drives the sliding part to move along the slide rail, so that the hanging and drying member moves to the hanging and drying state; on the contrary, the hanging and drying member drives the folding feet (2) to move through the sliding part, the sliding block (6) and the linkage part (8).

5. The foldable hanger as claimed in claim 4, wherein the guide structure is a through hole disposed at a bottom of the hanger body (1), the guide part (7) is adapted to extend into the through hole, and the linkage part (8) pushes the guide part (7) to move along the through hole.

6. The foldable hanger as claimed in claim 4, wherein the linkage part (8) is a hinged end part of the folding feet (2).

7. The foldable hanger as claimed in claim 4, wherein the inclined wedge mechanism further comprises an elastic reset structure acting on the hanging and drying member and/or the folding feet (2); the elastic reset structure applies a first resetting force to move the hanging and drying member toward the resetting state; and/or, the elastic reset structure applies a second resetting force to move the folding feet (2) toward the storing state.

8. The foldable hanger as claimed in claim 2, wherein the linkage mechanism is a gear transmission mechanism.

9. The foldable hanger as claimed in claim 8, wherein the gear transmission mechanism comprises a gear (10) disposed on a hinged end of the folding feet (2), a rack (11) disposed on the sliding part, and a dual gear (12) meshed with the gear (10) and the rack (11) respectively.

10. The foldable hanger as claimed in any one of claims 2 to 9, wherein the sliding part is a support rod (4) in sliding fit with the slide rail.

11. The foldable hanger as claimed in claim 10, wherein the hanging and drying member further comprises a hanging and drying rod (3) connected to a free end of the support rod (4).

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12. The foldable hanger as claimed in claim 11, wherein the hanger body (1) is also provided with a fixed clothes drying board (5), and the hanging and drying rod (3) is on a side of the fixed clothes drying board (5).

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13. The foldable hanger as claimed in any one of claims 2 to 9, wherein the sliding part is a sliding slot in sliding fit with the slide rail.

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14. The foldable hanger as claimed in claim 13, wherein the hanging and drying member further comprises a movable clothes drying board (9), and the sliding slot is disposed on the movable clothes drying board (9).

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15. A heating device, comprising a heating body and the foldable hanger as claimed in any one of claims 1 to 14, wherein the foldable hanger is detachably connected to the heating body.

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16. The heating device as claimed in claim 15, wherein the heating device is an electric heater.

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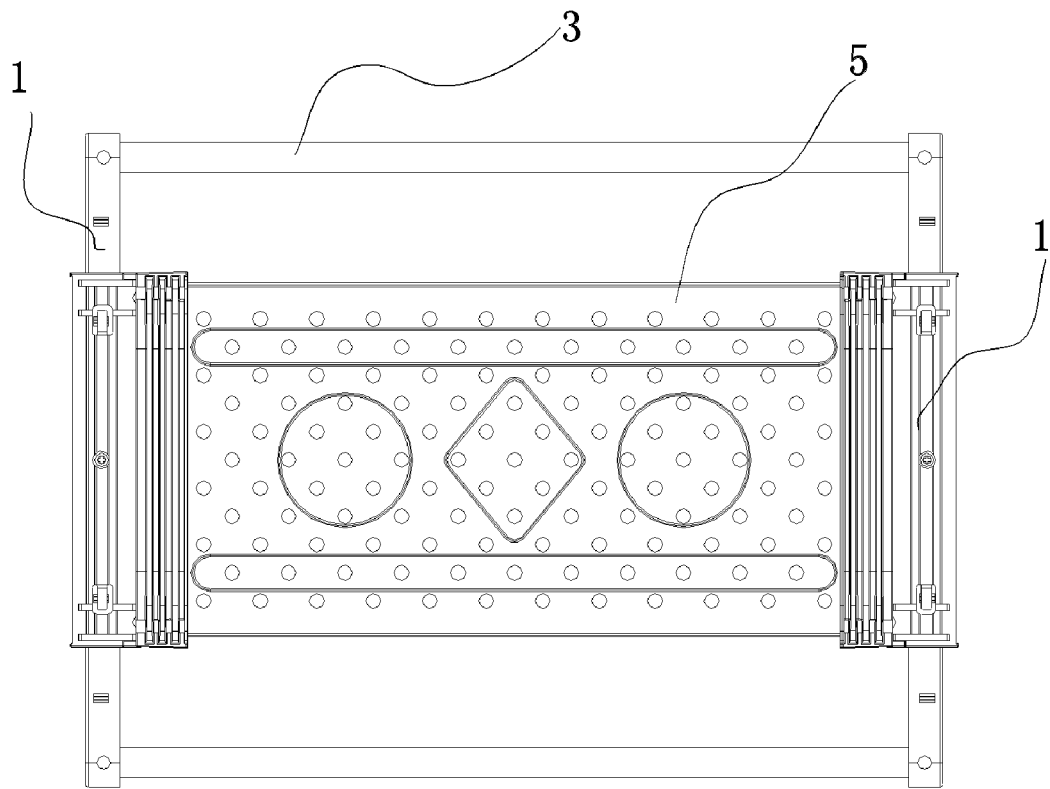


Fig. 1

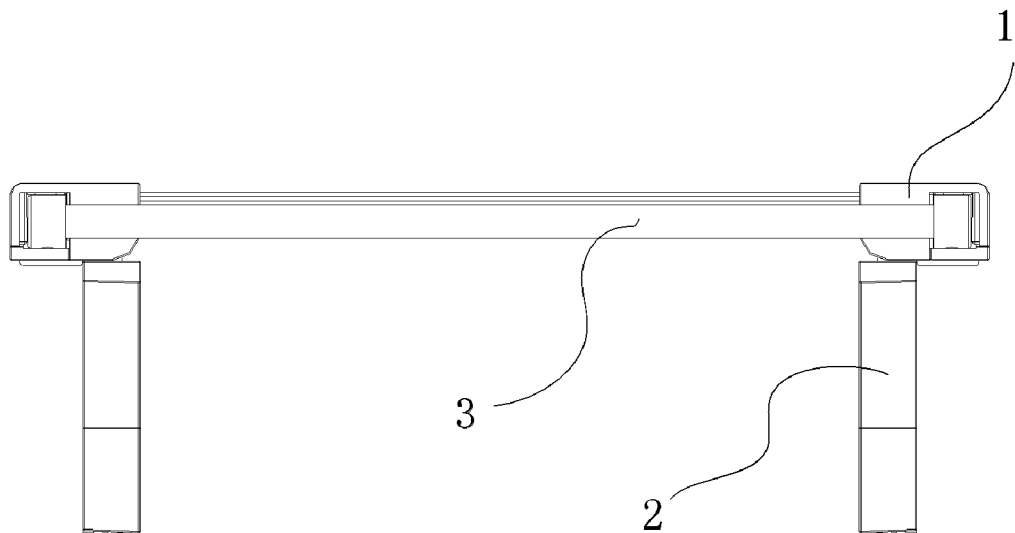


Fig. 2

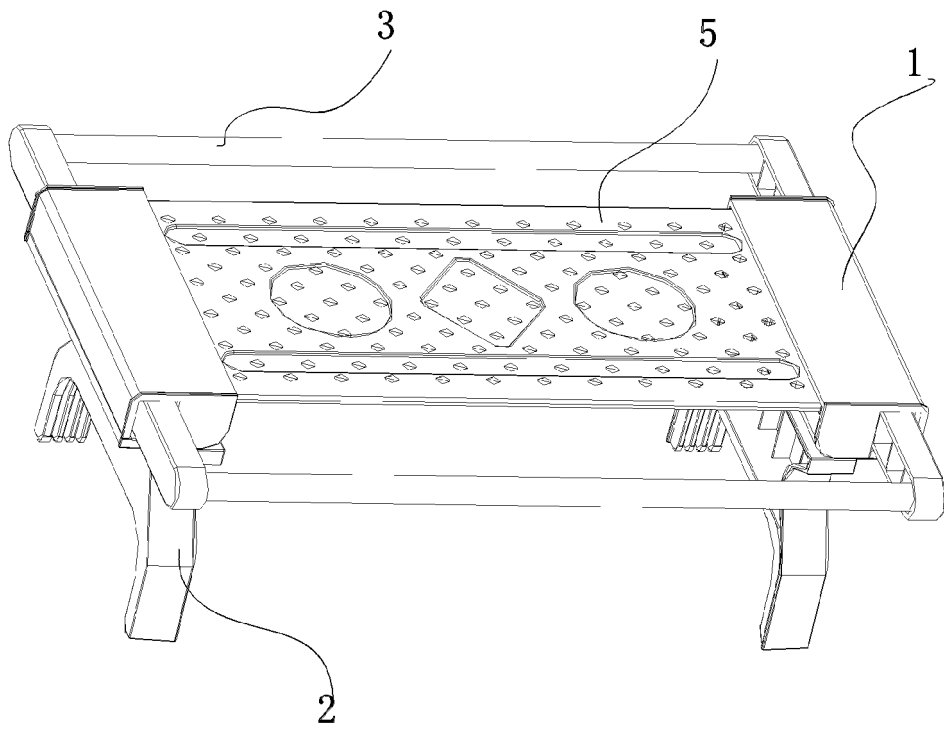


Fig. 3

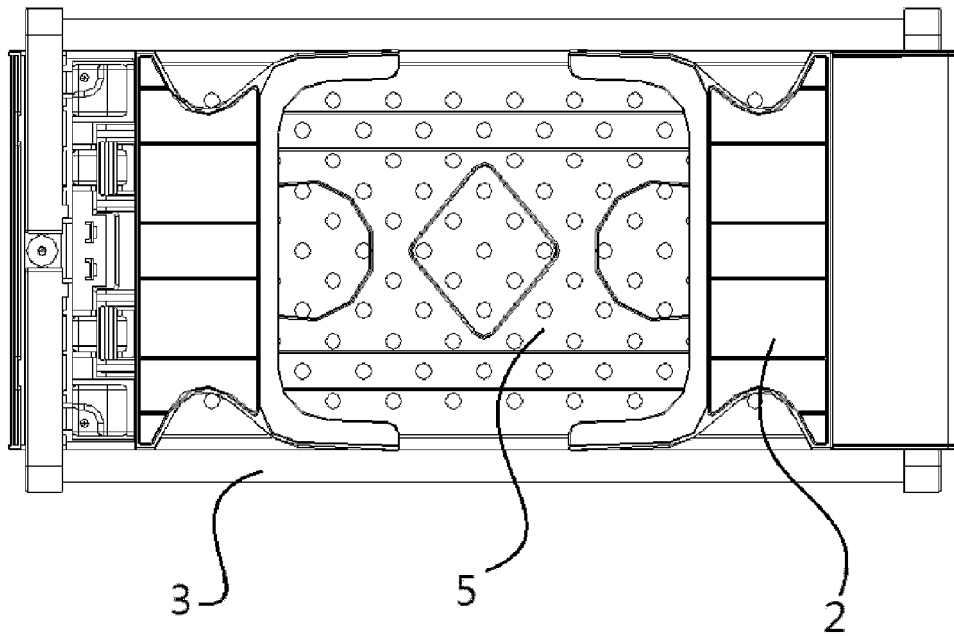


Fig. 4

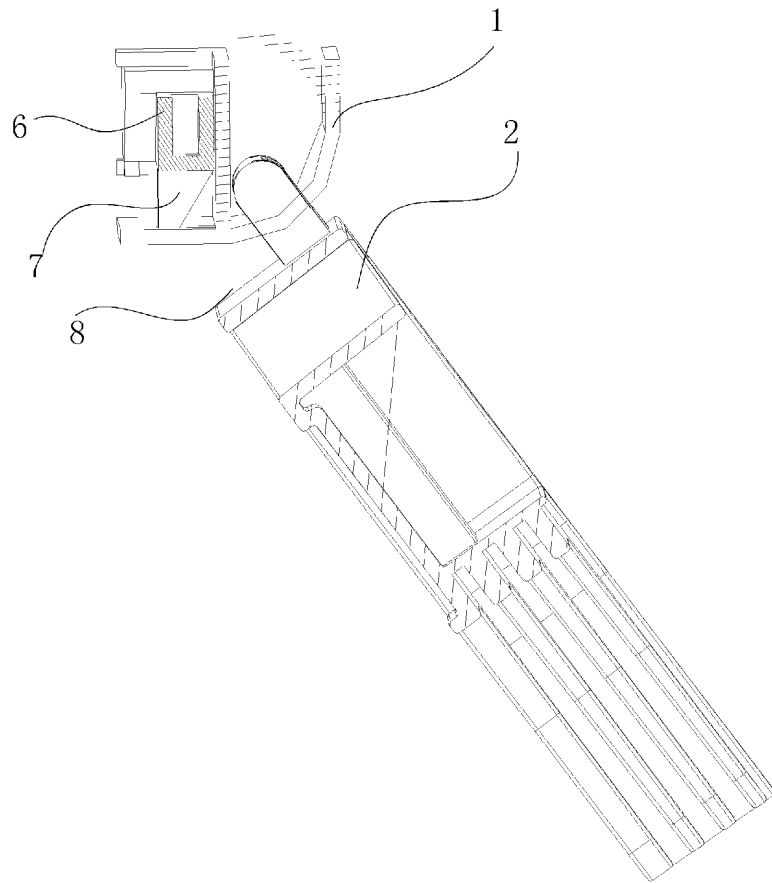


Fig. 5

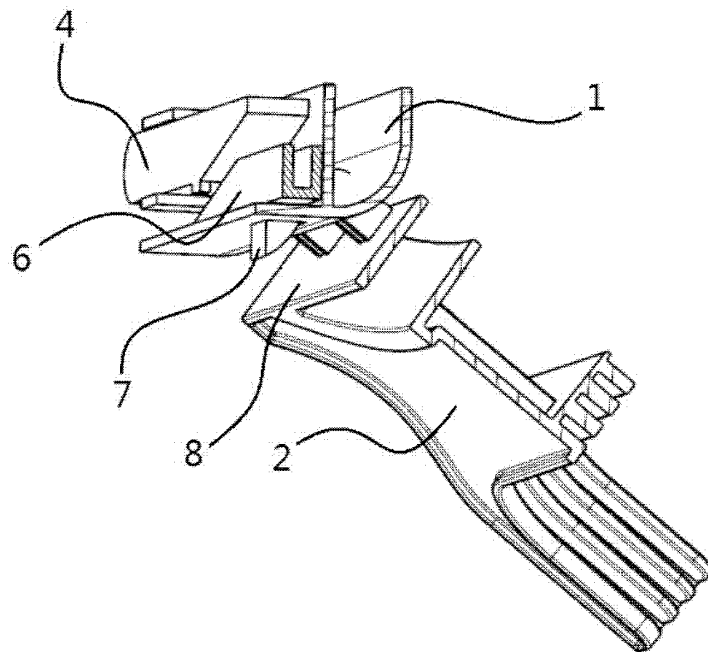


Fig. 6

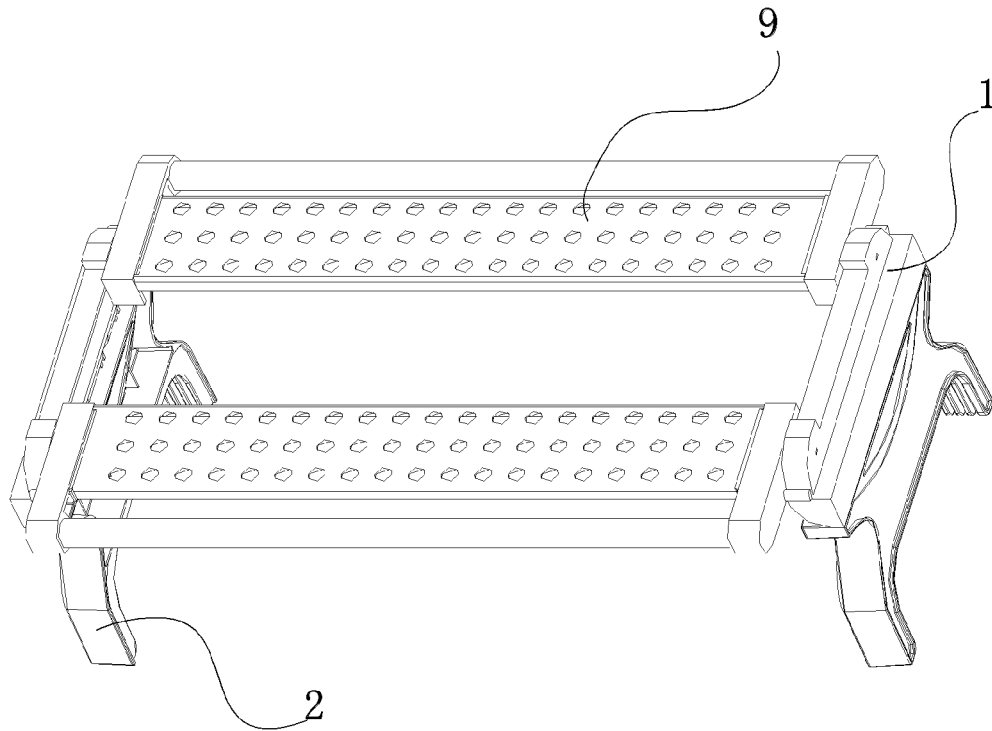


Fig. 7

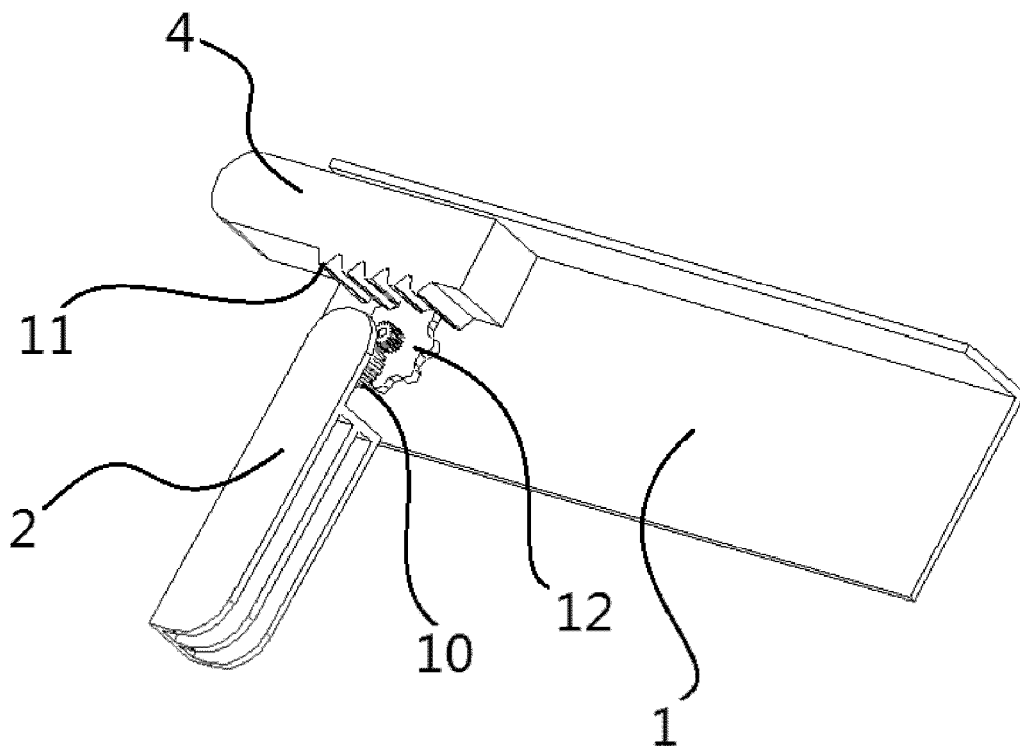


Fig. 8

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2018/113085

A. CLASSIFICATION OF SUBJECT MATTER

D06F 57/08(2006.01)i; D06F 57/12(2006.01)i; F24D 19/00(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

D06F:A47B:F24D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNABS; SIPOABS; DWPI; CNKI: 折叠, 收纳, 收起, 打开, 伸开, 伸展, 转动, 旋转, 滑动, 枢转, 折叠, 牵引, 联动, 带动, 滑动, 水平, 直线, 往复, 斜楔, 斜面, 脚, 腿, 支架, 电暖, 采暖, 取暖, 暖气, 散热器, 换热器, 齿轮, radiator, heater, warmer, fold???, rotat+, slid+, stretch+, slope, wedge

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	CN 205368812 U (NINGBO SINGFUN ELECTRIC APPLIANCE CO., LTD.) 06 July 2016 (2016-07-06) description, paragraphs [0029]-[0038], and figures 1-4 and 10	1-3, 8-16
Y	CN 107405768 A (AFFINITY TOOL WORKS, LLC.) 28 November 2017 (2017-11-28) claims 1, 2, 11, and 12, description, paragraph [0021], and figure 5	1-3, 8-16
PX	CN 108360225 A (GREE ELECTRIC APPLIANCES INC. OF ZHUHAI) 03 August 2018 (2018-08-03) claims 1-16	1-16
E	CN 208167340 U (GREE ELECTRIC APPLIANCES INC. OF ZHUHAI) 30 November 2018 (2018-11-30) claims 1-16	1-16
A	CN 106073192 A (陈云 (CHEN, YUN)) 09 November 2016 (2016-11-09) entire document	1-16
A	CN 203295851 U (GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI) 20 November 2013 (2013-11-20) entire document	1-16

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

25 January 2019

Date of mailing of the international search report

31 January 2019

Name and mailing address of the ISA/CN

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INTERNATIONAL SEARCH REPORT

International application No.

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

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Form PCT/ISA/210 (patent family annex) (January 2015)