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(54) REFRIGERATOR

(57) A refrigerator is disclosed, including a storage compartment (1), a shelf (2, 2') located in the storage compartment (1), and a track (41, 41', 42) for supporting the shelf (2, 2'). The track (41, 41', 42) includes a first track (41, 41') that extends along a front-rear direction or a left-right direction and a second track (42) that extends along a height direction. The shelf (2, 2') includes multiple elongated shelving bars (20) arranged in parallel, adjacent shelving bars (20) are rotatably connected, and the shelf (2, 2') is capable of sliding along the first track (41, 41') and the second track (42). Therefore, a user may adjust a shape and/or position of the shelf (2, 2') according to a need, thereby improving user experience in the refrigerator.

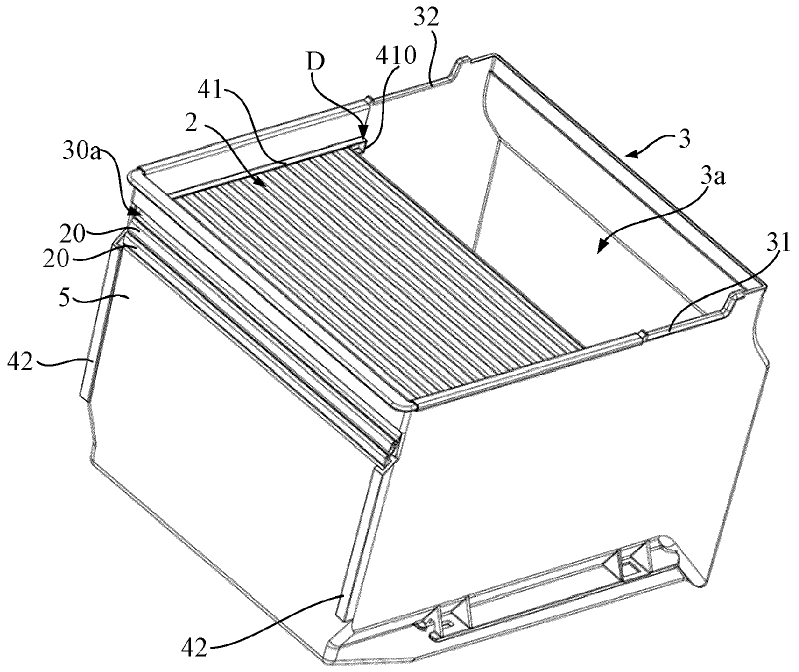

FIG. 2

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Description

BACKGROUND

Technical Field

[0001] The present invention relates to the technical field of refrigeration devices, and in particular, to a refrigerator.

Related Art

[0002] Currently, a refrigerator includes a storage compartment and a shelf located in the storage compartment. The shelf is a flat plate, and is usually placed horizontally in the storage compartment. Two sides of the shelf are supported on protruding bars on two side walls of the storage compartment. However, this type of shelf occupies relatively large space inside the storage compartment. Especially, relatively large space inside the storage compartment still needs to be occupied when the shelf is idle. Consequently, space utilization of the storage compartment decreases.

SUMMARY

[0003] An obj ective of the present invention is to provide a refrigerator having a shelf, to improve user experience.

[0004] To resolve the foregoing problem, the present invention provides a refrigerator. The refrigerator includes a storage compartment, a shelf located in the storage compartment, and a track for supporting the shelf. The track includes a first track that extends along a front-rear direction or a left-right direction and a second track that extends along a height direction. The shelf includes multiple elongated shelving bars arranged in parallel, adjacent shelving bars are rotatably connected, and the shelf is capable of sliding along the first track and the second track.

[0005] When the shelf needs to be used, the shelf may be at least partially supported on the first track. Because the first track extends along the front-rear direction or the left-right direction, the shelf may be at least partially in a shelving state (for example, a horizontal state) for supporting articles to be cooled. When the shelf does not need to be used, the shelf may be slid to the left or right or to the front or rear in the corresponding extending direction of the first track. The shelving bar of the shelf is capable of rotating at a corner between the first track and the second track, so as to slide from the first track to the second track and slide upward or downward along the second track in the corresponding extending direction of the second track. At least a part of the shelf may be switched from the shelving state to an idle state in which less available space of the storage compartment is occupied (for example, at least a part of the shelf may be in a vertical state). Therefore, when not in use, the shelf is in an idle state in which less available space of the storage compartment of the refrigerator is occupied, thereby improving space utilization of the storage compartment.

[0006] Therefore, a user may adjust a shape and/or position of the shelf according to a need, and the shelf is convenient to operate and is user-friendly. The refrigerator having the shelf in this technical solution can improve user experience.

[0007] Optionally, the refrigerator includes a cover plate located in the storage compartment, where the second track is at least partially covered by the cover plate. In this way, when the shelf is at least partially limited to the second track, the shelf may be covered by the cover plate, and therefore is rarely observed by the user, thereby improving an impression of the user on the storage compartment.

[0008] Such a cover plate may be formed by using a peripheral wall of the storage container, or may be independent of the storage container and formed by being installed along a wall of the storage compartment.

[0009] Optionally, the refrigerator includes a storage container located in the storage compartment, where the second track is at least partially covered by a side wall of the storage container. The second track and the shelf may be at least partially covered by a side wall of the storage container. In this way, the shelf can be avoided from exposure when the shelf is idle, and therefore product aesthetics can be enhanced.

[0010] The side wall of the storage container may include a left wall, a right wall, and a rear wall, and the second track may be fixed to the left wall, the right wall, and/or the rear wall. Therefore, the second track may be at least partially covered by the corresponding left wall, right wall, and/or rear wall of the side wall of the storage container.

[0011] Optionally, the first track is located in the storage container, and the shelf is capable of partially sliding into the storage container or at least partially withdrawing from the storage container. The shelf may be at least partially located in the storage container during use, and therefore, a storage function of the storage container is enhanced.

[0012] Optionally, the second track is located at the rear of the storage container, and the shelf is capable of at least partially sliding to the rear of the storage container.

[0013] Optionally, the side wall is provided with a through hole for the shelf to pass through. Therefore, the shelf may pass through the through hole and continually slide on the first track and the second track. Because the adjacent shelving bars are rotatably connected, by setting a suitable size and shape of the through hole, the through hole may limit, to a certain degree, a trajectory along which the shelving bar rotates at the corner between the first track and the second track, thereby avoiding the shelving bar from bouncing up and maintaining moving stability of the shelf.

[0014] Optionally, the second track is fixed on the side wall of the storage container. In this way, when the shelf is idle, an idle part of the shelf may be fixed to the side wall of the storage container. Therefore, it is contemplated to integrate the shelf and the storage container into an installation module.

[0015] Optionally, the first track is close to an upper opening of the storage container. During use, the shelf may be close to the upper opening of the storage container, which may leave relatively large space below the shelf of the storage container. When the shelf is used, the storage container can also provide relatively large space to accommodate many articles.

[0016] Optionally, the first track and/or the second track are fixed on an inner wall of the storage compartment. In this way, when limited, the shelf may be parallel with and attach to the inner wall of the storage compartment, and the shelf may release space inside the storage compartment to save the space inside the storage compartment.

[0017] Optionally, a sum of lengths of the first track and the second track is approximately equal to twice a length of the shelf. Therefore, that at least most of the shelf is located in the first track during use, and is located in the second track when the shelf is idle is contemplated. The "equal" herein may include "nearly equal" or "completely equal".

[0018] Optionally, an end, which is away from the second track, of the first track is provided with a front stopping portion. The front stopping portion defines a maximum length of the shelf that may be pulled out, to avoid the shelf from detaching from the second track when the shelf is pulled out.

[0019] Optionally, an end, which is close to the second track, of the first track is provided with a rear stopping portion, where the rear stopping portion is provided with a through hole for the shelf to pass through; a part, which is located in the first track, of the shelf has a protruding end; and the protruding end partially overlaps with the rear stopping portion. Because the protruding end partially overlaps with the rear stopping portion, when sliding from the first track to the second track, the shelf may slide to the protruding end and abut against the rear stopping portion. In this way, the shelf cannot continue to move, to avoid the shelf from completely detaching from the first track and falling down.

[0020] Optionally, the refrigerator includes a rotating shaft disposed in one of adjacent two of the shelving bars and an accommodating hole provided on the other one of the adjacent two shelving bars, where the rotating shaft is accommodated in the accommodating hole and is capable of rotating in the accommodating hole.

[0021] Optionally, the shelving bar is provided with a connecting portion connected to the rotating shaft, and a hole wall of the accommodating hole is provided with an opening that extends along an axial direction.

[0022] Optionally, each shelving bar is provided with the rotating shaft and the accommodating hole. Therefore, a rotating shaft and an accommodating hole of one shelving bar may be respectively connected to an accommodating hole of a first adjacent shelving bar located on one side of the shelving bar and a rotating shaft of a second adjacent shelving bar located on the other side of the shelving bar. In this way, a rotatable connection may be established between the adjacent shelving bars. That the shelving bars all have a same structure and are easy to manufacture is contemplated.

[0023] Optionally, the shelving bar includes a shelving portion, and the rotating shaft and the accommodating hole are located between an upper surface and a lower surface of the shelving portion. In this way, regardless of whether the shelving portion is located on the first track and slides along the first track, or the shelving portion is located on the second track and slides along the second track, neither the rotating shaft nor the accommodating hole is higher or lower than the upper surface or the lower surface of the shelving portion, so that the shelf may smoothly slide and may be stably supported on the first track and the second track.

[0024] Optionally, at least multiple of the shelving bars have a same structure and are extrusion members. At least multiple of the shelving bars have a same structure, for example, have cross sections of a same shape. Therefore, the shelving bars may be manufactured by using one mould by using an extrusion technology. The extrusion technology is easy to operate and has low costs.

[0025] Optionally, the shelving bar is in a hollow structure. The shelving bar is lightweight and material-saving.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026]

FIG. 1 is a three-dimensional diagram of a refrigerator according to a specific embodiment of the present invention;

FIG. 2 is a three-dimensional diagram of a storage container in the refrigerator shown in FIG. 1;

FIG. 3 is a schematic diagram of a cooperating relationship between adjacent two shelving bars in a shelf in the refrigerator shown in FIG. 2;

FIG. 4 is a cross-sectional diagram of the storage container in the refrigerator shown in FIG. 1; and

FIG. 5 is a schematic diagram of a cooperating relationship when a shelf in the refrigerator shown in FIG. 1 slides on a first track slide from a front end of the shelf to a rear end of the first track.

DETAILED DESCRIPTION

[0027] To make the foregoing objectives, features, and

advantages of the present invention more obvious and more understandable, the following describes specific embodiments of the present invention in detail with reference to the accompanying drawings.

[0028] Referring to FIG. 1 and FIG. 2, a refrigerator includes: a storage compartment 1, a shelf 2 and a shelf 2' that are located in the storage compartment 1, and tracks located in the storage container 3 in the storage compartment 1 that are used for supporting the shelf 2 and the shelf 2'. The tracks are classified into two groups with respect to the shelf 2 and the shelf 2'. With respect to the shelf 2, the track includes first tracks 41 located in the storage container 3 and second tracks 42 fixed to a rear wall 30 of the storage container 3. FIG. 1 shows only one first track 41, and the other first track is covered and cannot be seen. With respect to the shelf 2', the track includes first tracks 41' fixed to side walls of the storage compartment 1 and second tracks, and the second tracks are covered and cannot be seen in FIG. 1.

[0029] The following describes this technical solution separately with respect to the two shelves 2 and 2' and the corresponding tracks.

Embodiment 1

[0030] Referring to FIG. 1 and FIG. 2, with respect to the shelf 2, the track includes the first track 41 that extends along a front-rear direction A and the second track 42 that extends along a height direction B. With reference to FIG. 3, the shelf 2 includes multiple elongated shelving bars 20 arranged in parallel, adjacent shelving bars 20 are rotatably connected, and the shelf 2 is capable of sliding along the first track 41 and the second track 42. The front-rear direction A mentioned herein refers to a direction pointing from a rear wall 11 of the refrigerator to an opening 1a of the refrigerator, and the height direction B refers to a height direction of the refrigerator.

[0031] When the shelf 2 needs to be used, the shelf 2 may be at least partially supported on the first track 41. Because the first track 41 extends along the front-rear direction A, the shelf 2 may be at least partially in a shelving state (for example, a horizontal state) for supporting articles to be cooled. When the shelf 2 does not need to be used, the shelf 2 may be slid to the front or rear in the corresponding extending direction of the first track 41. The shelving bar 20 of the shelf 2 is capable of rotating at a corner between the first track 41 and the second track 42, so as to slide from the first track 41 to the second track 42 and slide upward or downward along the second track 42 in the corresponding extending direction of the second track 42. At least a part of the shelf 2 may be switched from the shelving state to an idle state in which less available space of the storage compartment 1 is occupied (for example, at least a part of the shelf 2 may be in a vertical state). Therefore, when not in use, the shelf 2 is in an idle state in which less available space of the storage compartment 1 of the refrigerator is occupied. In this case, space inside the storage compartment 1 can be saved, and space utilization of the storage compartment 1 can be improved.

[0032] Therefore, a user may adjust a shape and/or position of the shelf 2 according to a need, and the shelf 2 is convenient to operate and is user-friendly. The refrigerator having the shelf 2 in this technical solution can improve user experience.

[0033] The first track 41 is located in the storage container 3, and the shelf 2 is capable of partially sliding into the storage container 3 or at least partially withdrawing from the storage container 3. The shelf 2 may be at least partially located in the storage container 3 during use, and therefore, a storage function of the storage container 3 is enhanced.

[0034] The storage container 3 may be a drawer located in the storage compartment 1, and the shelf 2 may be used as a dumpling plate.

[0035] Referring to FIG. 1, FIG. 2, and FIG. 4, a side wall of the storage container 3 includes a rear wall 30, a left wall 31, and a right wall 32, and the first track 41 is fixed on each of the left wall 31 and the right wall 32 of the storage container 3. The first track 41 on the right wall 32 of the storage container 3 is covered and cannot be seen. For a structure of the first track 41 on the right wall 32, refer to the first track 41 on the left wall 31. Two ends of the shelf 2 are respectively limited to the two first tracks 41, and the first track 41 not only can guide the shelf 2 to slide, but also can avoid relative rotation from occurring between the adjacent shelving bars 20 when the shelf 2 is horizontally placed, thereby maintaining stability of the shelf 2.

[0036] In addition, the following design may be made: The first track provided in the storage container 3 may be fixed to the rear wall 30 and extend along a left-right direction C, and the second track is fixed to the left wall 31 and/or the right wall 32 of the storage container 3 and extends along the height direction. In this case, the shelf may be pushed to the left or right. The shelf slides along the first track on the rear wall 30, and by using the second track, the shelf may at least partially slide to and be limited to the left wall 31 and/or the right wall 32, or return to the storage container 3 from the left wall 31 and/or the right wall 32.

[0037] The first track 41 is close to an upper opening 3a of the storage container 3. During use, the shelf 2 may be close to the upper opening 3a of the storage container 3, which may leave relatively large space below the shelf 2 of the storage container 3. When the shelf 2 is used, the storage container 3 can also provide relatively large space to accommodate many articles.

[0038] The second track 42 may be fixed to the rear wall 30 of the storage container 3, and an idle part of the shelf 2 may be fixed to the rear wall 30 of the storage container 3. In addition, the second track may be fixed to the left wall 31 and/or the right wall 32 of the storage container, and an idle part of the shelf 2 may be fixed to the left wall 31 and/or the right wall 32 of the storage container 3. Therefore, the second track may be fixed to

a side wall of the storage container 3. In this way, when the shelf 2 is idle, an idle part of the shelf 2 may be fixed to the side wall of the storage container 3. Therefore, it is contemplated to integrate the shelf 2 and the storage container 3 into an installation module.

[0039] The refrigerator includes a cover plate 5 located in the storage compartment 1, and the second track 42 is at least partially covered by the cover plate 5. The cover plate 5 is disposed opposite to the rear wall 30 of the storage container 3, and the two second tracks 42 are respectively disposed on the left and right sides. The shelf 2 may at least partially return between the cover plate 5 and the rear wall 30 of the storage container 3. In this way, when the shelf 2 is at least partially limited to the second track 42, the shelf 2 may be covered by the cover plate 5 and avoided from swinging, thereby maintaining moving stability of the shelf 2. In addition, when the shelf 2 is at least partially limited to the second track 42, the shelf 2 may be covered by the cover plate 5, and therefore is rarely observed by the user, thereby improving an impression of the user on the storage compartment 1.

[0040] The cover plate 5 may be formed by using the rear wall 30 of the storage container 3. In addition, the second track may be fixed to the left wall 31 and/or the right wall 32 of the storage container 3. Therefore, the cover plate may be disposed on the corresponding left wall 31 or right wall 32 to cover the second track. Therefore, the second track may be fixed to a side wall of the storage container 3a, and may be at least partially covered by the cover plate disposed in the storage compartment 1.

[0041] In addition to disposing the cover plate 5 to cover the second track 42 and a shelf part supported on the second track 42, the cover plate may not be disposed when the second track 42 is installed on the rear wall 30 of the storage container 3. In this way, when the shelf 2 at least partially returns to the rear of the storage container 3, the second track and the shelf 2 may be at least partially covered by the rear wall 30. In this way, the shelf 2 can be avoided from exposure when the shelf 2 is idle, and therefore product aesthetics can be enhanced. In addition, when the shelf slides to the rear of the storage container 3, the shelf 2 is at least partially sandwiched between the storage container 3 and the rear wall 11 of the storage compartment 1, and cannot swing arbitrarily, thereby enhancing stability of the shelf 2. Therefore, the second track 42 may be located at the rear of the storage container 3, and the shelf 2 may at least partially slide to the rear of the storage container 3.

[0042] In an optional solution, the second track may be fixed to the left wall 31 or the right wall 32 of the storage container 3. Therefore, the second track may be covered by the corresponding left wall 31 or right wall 32 from exposure to the storage container 3. Therefore, the second track may be covered by a side wall of the storage container, thereby improving product aesthetics.

[0043] The rear wall 30 of the storage container 3 is provided with a through hole 30a for the shelf 2 to pass through. Therefore, the shelf 2 may pass through the through hole 30a and continually slide on the first track 41 and the second track 42 Because the adjacent shelving bars 20 are rotatably connected, by setting a suitable size and shape of the through hole 30a, the through hole 30a may limit, to a certain degree, a trajectory along which the shelving bar 20 rotates at the corner between the first track 41 and the second track 42, thereby avoiding the shelving bar 20 from bouncing up and maintaining moving stability of the shelf 2.

[0044] In addition, the second track may be disposed on the left wall 31 and/or the right wall 32 of the storage container 3, and the correspondingly left wall 31 and/or right wall 32 may be provided with the through hole for the shelf to pass through. The shelf passes through the through hole and slides to the storage container 3 or at least partially withdraws from the storage container 3.

[0045] A sum of lengths of the first track 41 and the second track 42 is approximately equal to twice a length of the shelf 2. The "equal" herein includes "nearly equal" or "completely equal". In this way, that at least most of the shelf 2 is located in the first track 41 during use, and is located in the second track 42 when the shelf 2 is idle is contemplated.

[0046] Referring to FIG. 2 and FIG. 4, the first track 41 has an end D away from the second track 42 and the other end E close to the second track 42. The end D, which is away from the second track 42, of the first track 41 is provided with a front stopping portion 410, and the front stopping portion 410 defines a maximum length of the shelf 2 that may be pulled out, to avoid the shelf 2 from detaching from the second track 42 when the shelf 2 is pulled out.

[0047] With reference to FIG. 5, the end E, which is close to the second track 42, of the first track 41 is provided with a rear stopping portion 411. The rear stopping portion 411 is provided with a through hole 411a for the shelf 2 to pass through; a part, which is located in the first track 41, of the shelf 2 has a protruding end 21; and the protruding end 21 partially overlaps with the rear stopping portion 411. Because the protruding end 21 partially overlaps with the rear stopping portion 411, when withdrawing backward, the shelf 2 may withdraw to the protruding end 21 and abut against the rear stopping portion 411. In this way, the shelf 2 cannot continue to move, to avoid the shelf 2 from detaching from the first track 41 and falling down to the rear wall 30 of the storage container 3.

[0048] A shelving bar 20 at a front end of the shelf 2 may be designed as a handle for pulling and pushing the shelf 2. The protruding end 21 of the shelf 2 may be disposed on the shelving bar 20 at the front end of the shelf 2.

[0049] Referring to FIG. 3 and FIG. 5, the refrigerator includes a rotating shaft 22 disposed in one of adjacent two of the shelving bars 20 and an accommodating hole 23 provided on the other one of the adjacent two shelving bars 20. The rotating shaft 22 is accommodated in the accommodating hole 23 and is capable of rotating in the

accommodating hole 23. Therefore, the adjacent shelving bars 20 may be rotatably connected.

[0050] The shelving bar 20 is provided with a connecting portion connected to the rotating shaft 22, and a hole wall of the accommodating hole 23 is provided with an opening 23a that extends along an axial direction. The connecting portion 24 passes through the opening 23a. The opening 23a may limit the rotating shaft 22 to the accommodating hole 23 to avoid the rotating shaft 22 from rotating out of the accommodating hole 23, and in addition, the opening 23a also defines a maximum angle at which the adjacent shelving bars 20 can rotate relative to each other.

[0051] The shelving bar 20 includes a shelving portion 24, and the rotating shaft 22 and the accommodating hole 23 are located between an upper surface 25a and a lower surface 25b of the shelving portion 25. The upper surface 25a of the shelving portion 25 is a surface towards the top of the refrigerator during use of the shelf 2, and the lower surface 25b is a surface opposite to the upper surface 25a. Regardless of whether the shelf 2 is supported on the first track 41 and is ready for use, or is supported on the second track 42 and is idle, or is located at the corner between the first track 41 and the second track 42, the rotating shaft 22, the accommodating hole 23, and the connecting portion 24 of the shelving bar 20 are always located between the upper surface 25a and the lower surface 25b of the shelving portion 25, and are not higher or lower than the upper surface 25a and the lower surface 25b of the shelving portion 25, so that the shelf 2 may smoothly slide and may be stably supported on the first track 41 and the second track 42.

[0052] Each shelving bar 20 may be provided with the rotating shaft 22 and the accommodating hole 23. The rotating shaft 22 and the accommodating hole 23 may be respectively provided on two ends of the shelving bar 20, so as to be rotatably connected to the corresponding adjacent shelving bar 20. Therefore, a rotating shaft 22 and a accommodating hole 23 of one shelving bar 20 may be respectively connected to an accommodating hole 23 of a first adjacent shelving bar 20 located on one side of the shelving bar 20 and a rotating shaft 22 of a second adjacent shelving bar 20 located on the other side of the shelving bar 20. In this way, a rotatable connection may be established between the adjacent shelving bars 20. That the shelving bars 20 all have a same structure and are easy to manufacture is contemplated.

[0053] Therefore, at least multiple of the shelving bars have a same structure; each shelving bar 20 includes the rotating shaft 22, the accommodating portion 23, the connecting portion 24, and the shelving portion 25 that are integrally connected; and cross sections of the shelving bars 20 are in a same shape. Therefore, at least multiple of the shelving bars may be manufactured by using one mould by using an extrusion technology. By using the extrusion technology, one mould may be used to form shelving bars 20 with different lengths, thereby reducing production costs. The shelving bar 20 may be in a hollow structure. Therefore, a material can be saved, and production costs are reduced.

[0054] A material of the shelving bar 20 may be a PE material, which facilities extrusion. For the connecting portion 24, when the connecting portion 24 is relatively thin, the PE material enables the connecting portion 24 to be soft. Therefore, when the shelving bar 20 is wound, the connecting portion 24 may undergo rotational deformation, which facilitates rotation of the shelving bar 20.

[0055] The shelving bar 20 may be in a hollow structure. For example, at least the shelving portion 25 has a hollow cavity. Therefore, a material can be saved, and production costs are reduced.

Embodiment 2

[0056] Referring to FIG. 1, another shelf 2' of the storage container 3 is further disposed in the storage compartment 1. For a structure of the another shelf 2', refer to the shelf 2. The structure of the another shelf 2' may be derived from a structure of the shelf 2.

[0057] An inner wall of the storage compartment 1 includes a left wall 10, a rear wall 11, and a right wall 12. With respect to the shelf 2', the first track 41' is disposed on each of the left wall 10 and the right wall 12 of the storage compartment 1, and the another second track (the second track is covered and cannot be seen) is disposed on the rear wall 11 of the storage compartment 1. The another shelf 2' is capable of sliding along the first tracks 41' on the left wall 10 and the right wall 12 and the second track on the rear wall 11, and can slide from the first track 41' on the left wall 10 and the right wall 12 to the second track, until the another shelf 2' is at least partially limited to the rear wall 11 of the storage compartment 1 by using the second track, to avoid the another shelf 2' not in use from occupying space of the storage compartment 1, or can slide from the second track on the rear wall 11 to the first track 41', until the another shelf 2' is at least partially supported on the first track 41', so that articles can be placed on the another shelf 2'.

[0058] The first track 41' is disposed on the left wall 10 and the right wall 12 of the storage compartment 1 and extends along a front-rear direction A, and the second track is disposed on the rear wall 11 and extends along a height direction B. In addition, the following design may be made: The first track 41' may be disposed on the rear wall 11 of the storage compartment and extend along a left-right direction, and the second track may be disposed on the left wall 10 and/or the right wall 12 of the storage compartment and extend along the height direction B. When the corresponding shelf is idle, the shelf may be slid to the left or right, and the shelf may be at least partially limited to the left wall 10 and/or the right wall 12 by using the second track, to release space inside the storage compartment. When the corresponding shelf needs to be used, the shelf may at least partially slide from the second track to the first track 41', until the shelf is horizontally extended and supported on the first track 41'.

Therefore, the first track 41' and/or the second track may be fixed to the inner wall of the storage compartment 1.

[0059] The second track extends along the height direction of the refrigerator, and may extend upward from an end close to the first track. In this way, the shelf 2' may slide from the first track to the second track and continue to slide upward along the second track. Alternatively, the second track may extend downward from an end close to the first track. In this way, the shelf 2' may slide downward along the second track.

[0060] The second track may be fixed to the rear wall 11 of the storage compartment 1, and the refrigerator may include a cover plate disposed on the rear wall 11. When the shelf 2' is at least partially limited to the second track 2, the second track and the shelf 2' may be at least partially covered by the cover plate, and therefore is rarely observed by a user, thereby improving an impression of the user on the storage compartment 1 and improving product aesthetics. In addition, the shelf 2' may be covered by the cover plate, to avoid the shelf 2' from swinging.

[0061] The second track may be fixed to the left wall 10 and/or the right wall 12 of the storage compartment 1. In this case, the cover plate may be correspondingly independent of the storage container 3 and installed along the left wall 10 and/or the right wall 12 of the storage compartment 1.

[0062] Although the present invention is disclosed above, the present invention is not limited thereto. Any person skilled in the art can make various changes and modifications, without departing from the spirit and the protection scope of the present invention. Therefore, the protection scope of the present invention should depend on what is defined by the scope of claims.

[0063] In particular, the shelf may be jalousie-like or blind-like.

Claims

1. A refrigerator, comprising a storage compartment (1), a shelf (2, 2') located in the storage compartment (1), and a track (41, 41', 42) for supporting the shelf (2, 2'), wherein the track (41, 41', 42) comprises a first track (41, 41') that extends along a front-rear direction or a left-right direction and a second track (42) that extends along a height direction, **characterized in that**, the shelf (2, 2') comprises multiple elongated shelving bars (20) arranged in parallel, adjacent shelving bars (20) are rotatably connected, and the shelf (2, 2') is capable of sliding along the first track (41,41') and the second track (42).

2. The refrigerator according to claim 1, **characterized by** comprising a cover plate (5) located in the storage compartment (1), wherein the second track (42) is at least partially covered by the cover plate (5).

3. The refrigerator according to claim 1 or 2, **characterized by** comprising a storage container (3) located in the storage compartment (1), wherein the second track (42) is at least partially covered by a side wall (30, 31, 32) of the storage container (3).

4. The refrigerator according to claim 3, **characterized in that**, the first track (41) is located in the storage container (3), and the shelf (2) is capable of partially sliding into the storage container (3) or at least partially withdrawing from the storage container (3).

5. The refrigerator according to claim 4, **characterized in that**, the second track (42) is located at the rear of the storage container (3), and the shelf (2) is capable of at least partially sliding to the rear of the storage container (3).

6. The refrigerator according to claim 3, **characterized in that**, the side wall (30, 31, 32) is provided with a through hole (3a) for the shelf (2) to pass through.

7. The refrigerator according to claim 3, **characterized in that**, the second track (42) is fixed on the side wall (30, 31, 32) of the storage container (3).

8. The refrigerator according to claim 3, **characterized in that**, the first track (41) is close to an upper opening (3 a) of the storage container (3).

9. The refrigerator according to claim 1, **characterized in that**, the first track (41') and/or the second track is fixed on an inner wall (10, 11, 12) of the storage compartment (1).

10. The refrigerator according to claim 1, **characterized in that**, a sum of lengths of the first track (41, 41') and the second track (42) is approximately equal to twice a length of the shelf (2).

11. The refrigerator according to claim 1, **characterized in that**, an end, which is away from the second track (42), of the first track (41) is provided with a front stopping portion (410).

12. The refrigerator according to claim 1, **characterized in that**, an end, which is close to the second track (42), of the first track (41) is provided with a rear stopping portion (411), wherein the rear stopping portion (411) is provided with a through hole (411a) for the shelf (2) to pass through; a part, which is located in the first track (41), of the shelf (2) has a protruding end (21); and the protruding end (21) partially overlaps with the rear stopping portion (411).

13. The refrigerator according to claim 1, **characterized by** comprising a rotating shaft (22) disposed in one of adjacent two of the shelving bars (20) and an ac-

commodating hole (23) provided on the other one of the adjacent two shelving bars (20), wherein the rotating shaft (22) is accommodated in the accommodating hole (23) and is capable of rotating in the accommodating hole (23).

14. The refrigerator according to claim 13, **characterized in that**, the shelving bar (20) is provided with a connecting portion connected to the rotating shaft (22), and a hole wall of the accommodating hole (23) is provided with an opening (23a) that extends along an axial direction.

15. The refrigerator according to claim 13, **characterized in that**, each shelving bar (20) is provided with the rotating shaft (22) and the accommodating hole (23).

16. The refrigerator according to claim 13, **characterized in that**, the shelving bar (20) comprises a shelving portion (25), and the rotating shaft (22) and the accommodating hole (23) are located between an upper surface (25a) and a lower surface (25b) of the shelving portion (25).

17. The refrigerator according to claim 13, **characterized in that**, at least multiple of the shelving bars (20) have a same structure and are extrusion members.

18. The refrigerator according to claim 1, **characterized in that**, the shelving bar (20) is in a hollow structure.

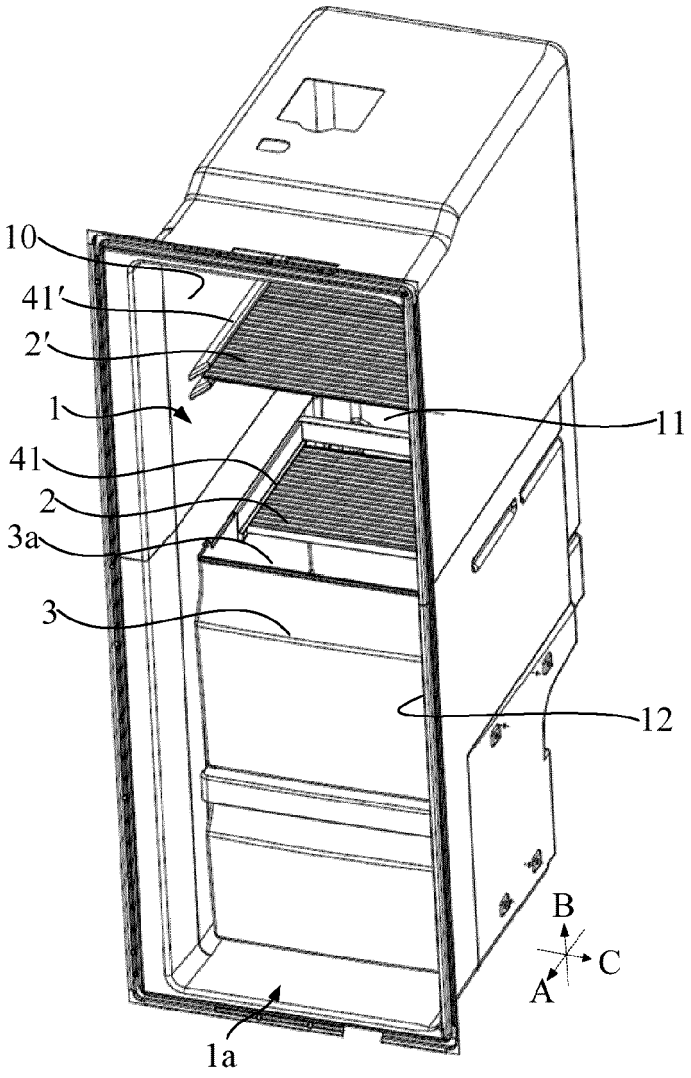

FIG. 1

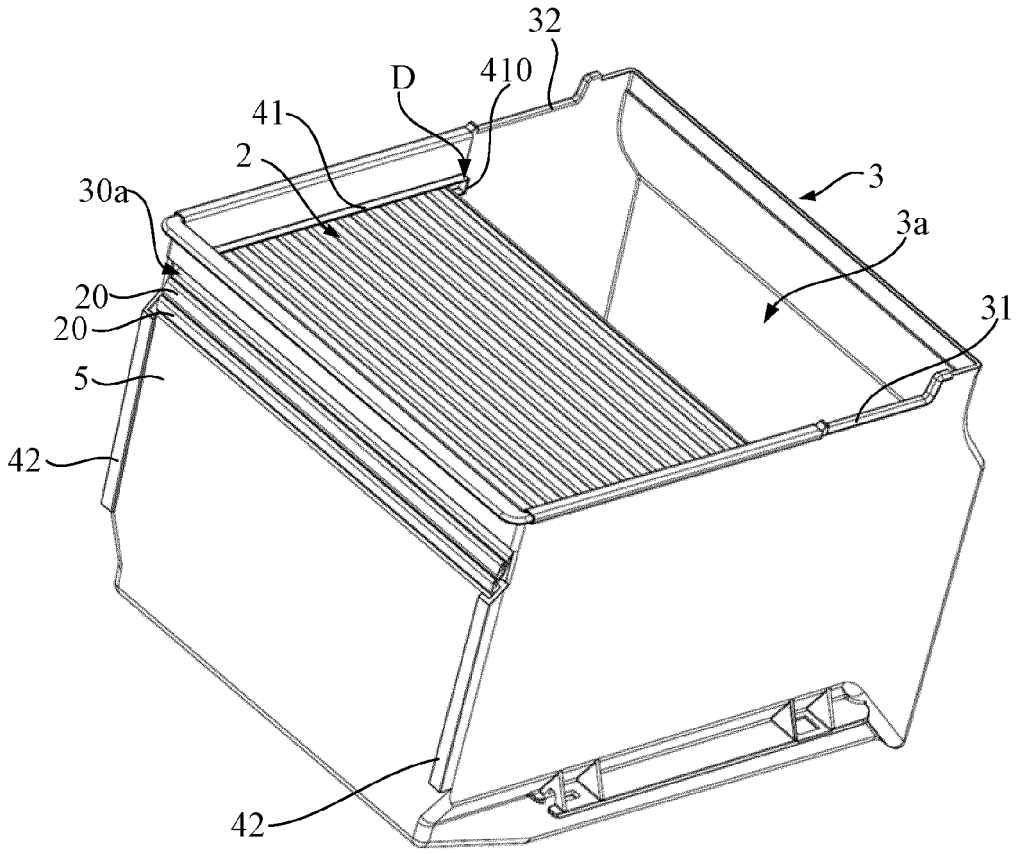

FIG. 2

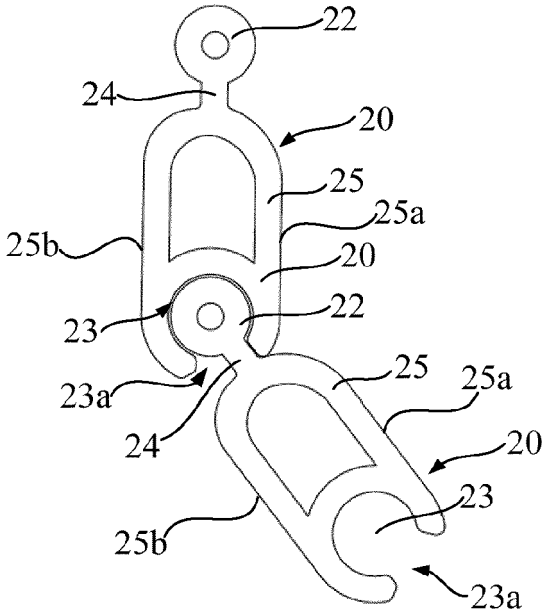
22
24
20
25
25a
25b
20
23
22
25
25a
23a
24
20
23
25b
23a

FIG. 3

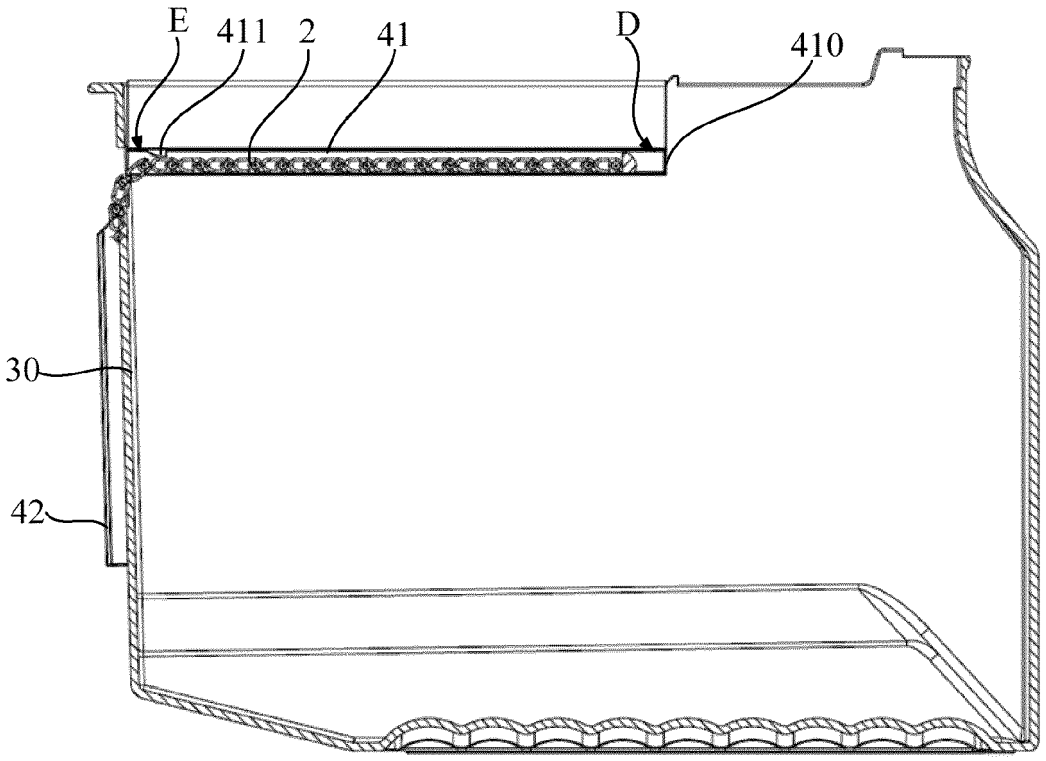
E
411
2
41
D
410
30
42

FIG. 4

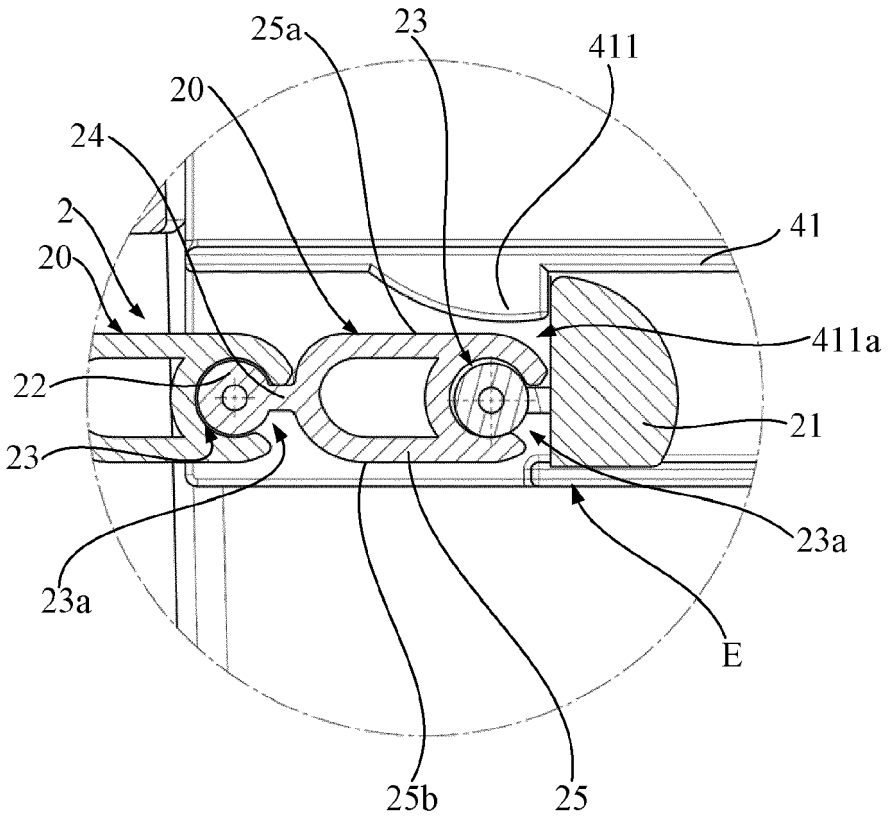

FIG. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 17 17 9958

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Place of search	Date of completion of the search	Examiner
The Hague	25 October 2017	Yousufi, Stefanie

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