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YOON et al.(10) **Pub. No.: US 2008/0006048 A1**(43) **Pub. Date: Jan. 10, 2008**(54) **ICE TRAY ASSEMBLY AND REFRIGERATOR**
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(57)

ABSTRACT

An ice tray assembly and a refrigerator having the same are disclosed. The ice tray assembly includes an outer case on which a water container is mounted, and an inner case detachably mounted in the outer case to include ice trays which are supplied with water from the water container. The ice tray assembly includes the inner case which is detachable therefrom, thereby facilitating washing. Further, the ice trays can be supplied with water at once without water leakage and ice cubes made in the ice trays can be separated from the ice trays at once.

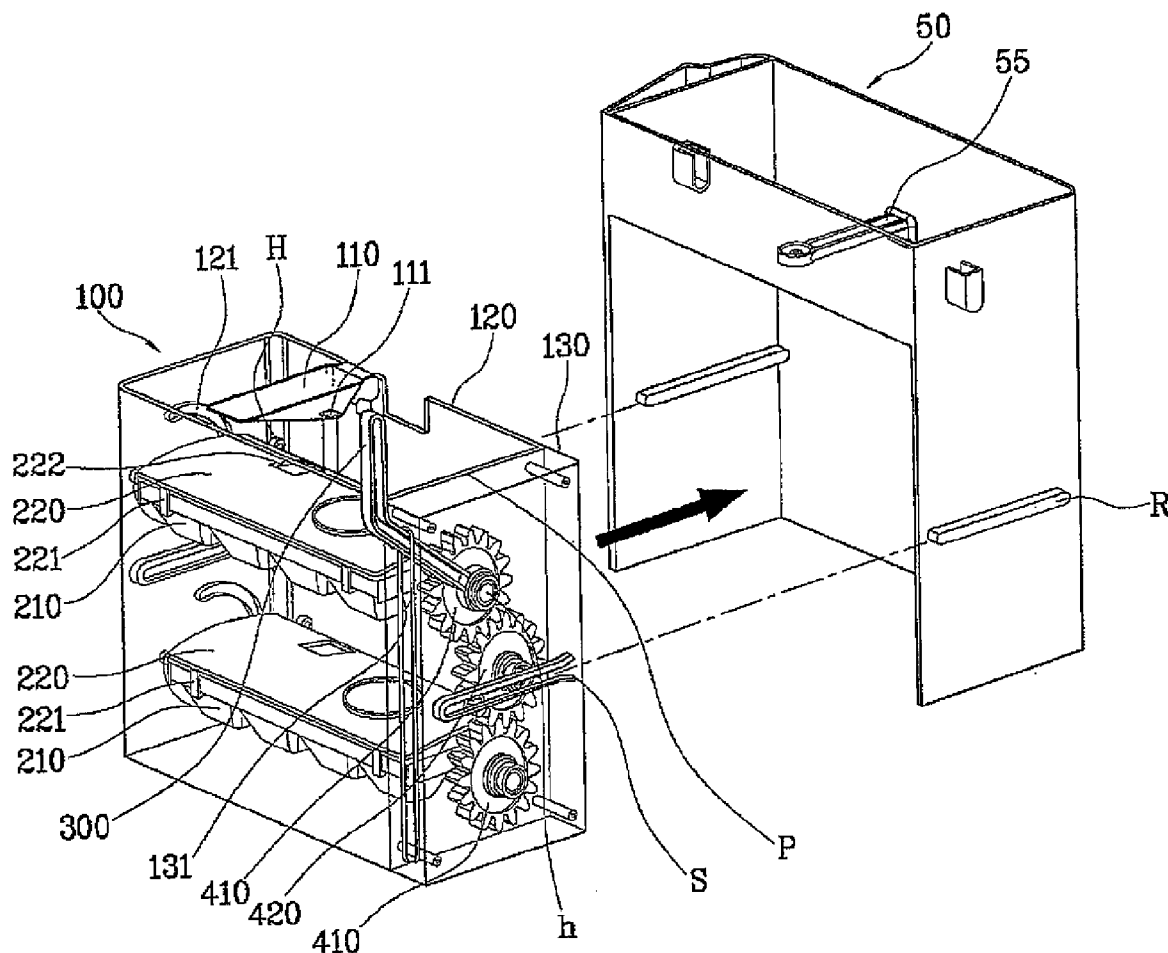


FIG. 1

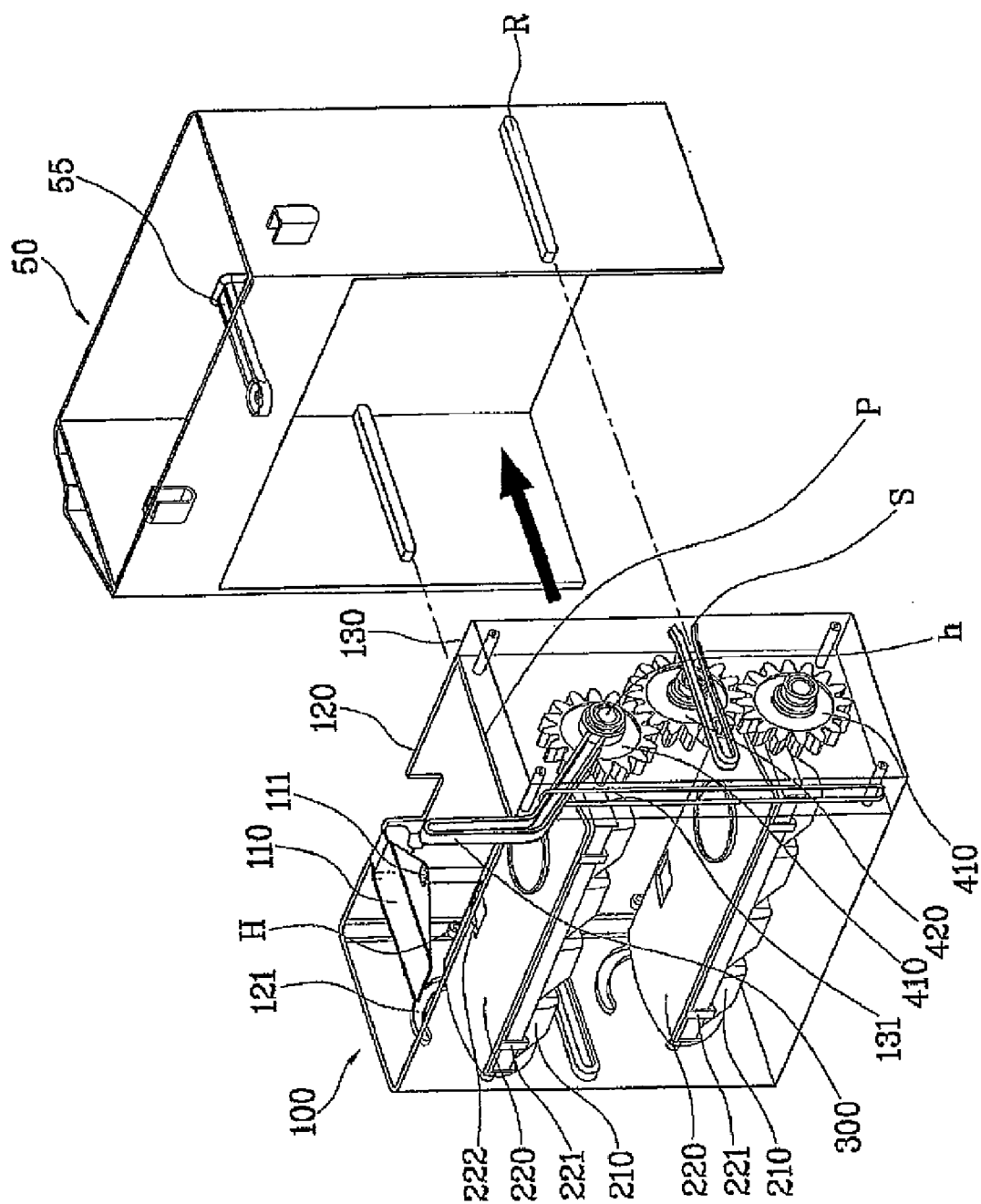


FIG. 2

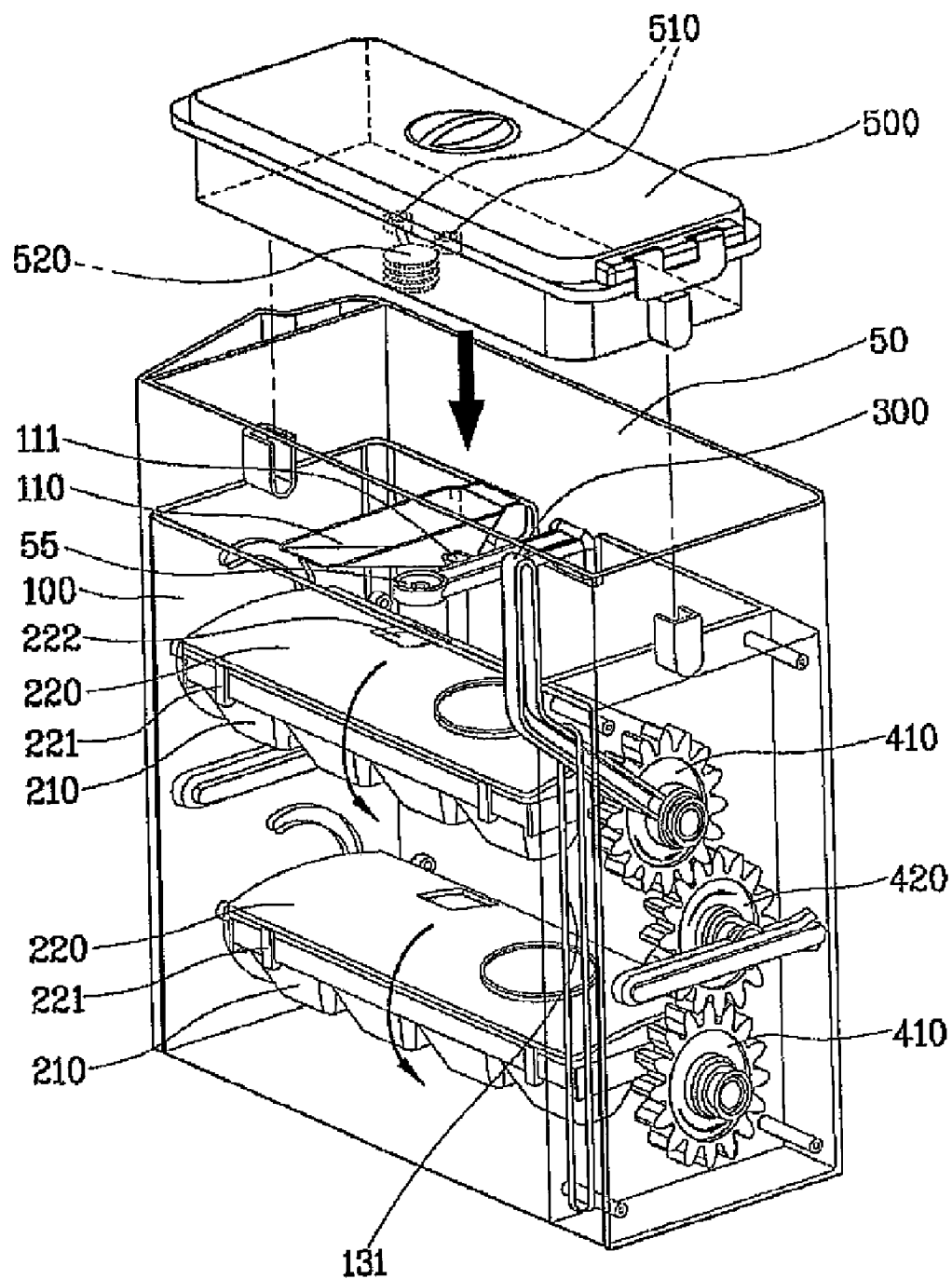
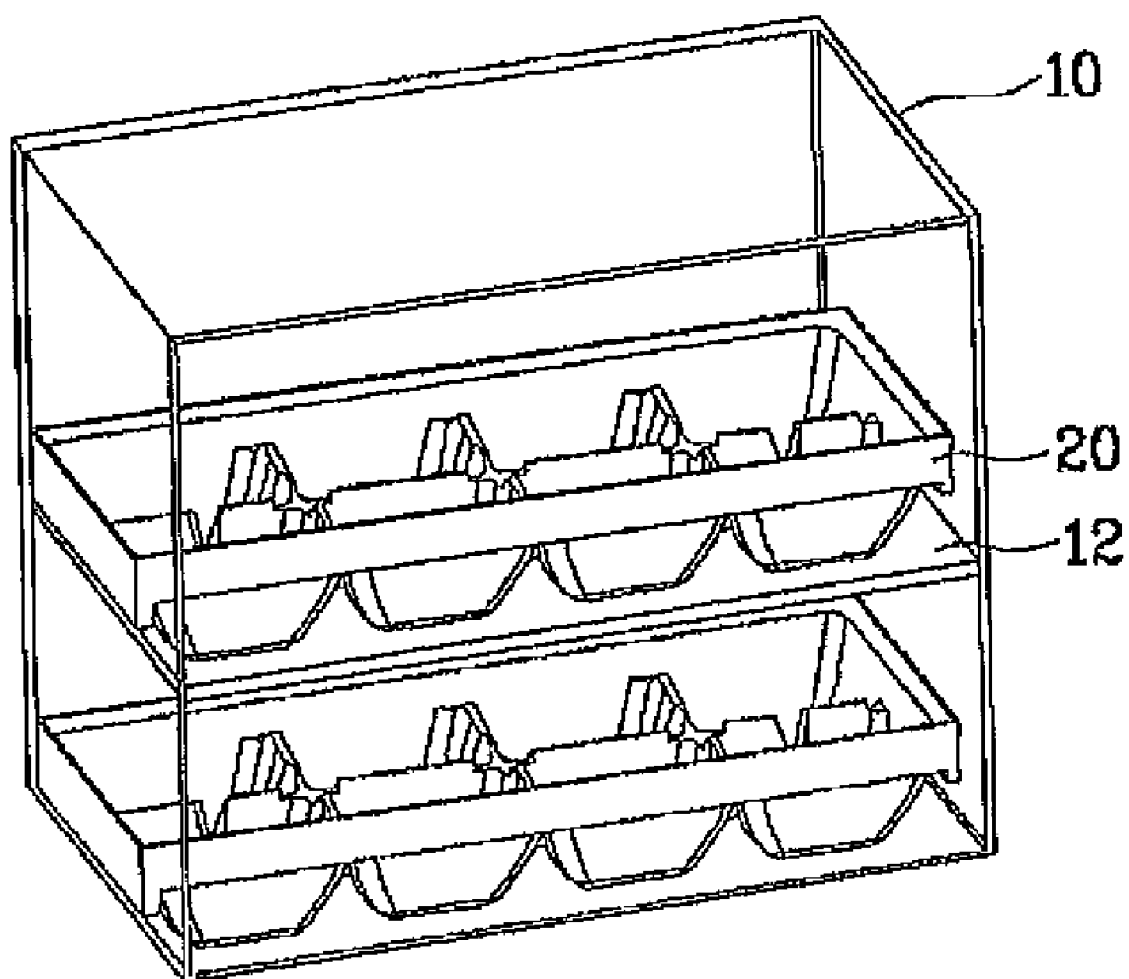


FIG. 3

Related Art



ICE TRAY ASSEMBLY AND REFRIGERATOR HAVING THE SAME

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of Korean Patent Application No. 10-2006-0059677, filed on Jun. 29, 2006, which is hereby incorporated by reference in its entirety as if fully set forth herein.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to an ice tray assembly and a refrigerator having the same, and more particularly to an ice tray assembly capable of being separated to be washed and being supplied with water at once, wherein ice made in ice trays can be easily separated from the ice trays, and a refrigerator having the same.

[0004] 2. Discussion of the Related Art

[0005] A refrigerator is an electric home appliance which freezes or cools food to store food in a fresh state for a long period of time. Generally, the refrigerator includes a freezing chamber and a cooling chamber. Further, the refrigerator includes an ice maker for making ice in the freezing chamber.

[0006] FIG. 3 shows a conventional ice tray assembly for a refrigerator. The conventional ice tray assembly for a refrigerator includes a case 10 disposed in the refrigerator and ice trays 20 disposed in the case 10 to contain water to be frozen into ice, for example, ice cubes.

[0007] Further, shelves 12 are provided in the case 10 to support the ice trays 20. The ice trays 20 are filled with water and then put on the shelves 12 in the case 10. The ice cubes are made in the ice trays 20 by cool air flowing in the refrigerator.

[0008] However, in the above-mentioned conventional ice tray assembly for a refrigerator, the case 10 for mounting the ice trays 20 thereon is disposed in the freezing chamber for freezing food. The case 10 occupies a large space in the freezing chamber, thereby reducing the available space of the freezing chamber. Further, it is difficult to separate the case 10 from the freezing chamber to wash the case 10.

[0009] Further, the ice trays 20 should be taken out of the case 10 in order to separate ice cubes from the ice trays 20. When the ice trays 20 are filled with water and then put on the case 10, water may flow over the ice trays 20 to be frozen between the case 10 and the ice trays 20. Accordingly, there is difficulty in separating the ice trays 20 from the case 10.

SUMMARY OF THE INVENTION

[0010] Accordingly, the present invention is directed to an ice tray assembly and a refrigerator having the same that substantially obviate one or more problems due to limitations and disadvantages of the related art.

[0011] An object of the present invention is to provide an ice tray assembly capable of being mounted on a refrigerator door to ensure a space of a freezing chamber and a refrigerator having the ice tray assembly.

[0012] Another object of the present invention is to provide an ice tray assembly including an inner case which is detachable therefrom to facilitate washing and a refrigerator having the ice tray assembly.

[0013] Yet another object of the present invention is to provide an ice tray assembly including the inner case which can be mounted or detached in a stable state and a refrigerator having the ice tray assembly.

[0014] Yet another object of the present invention is to provide an ice tray assembly wherein ice trays can be supplied with water at once without being separated from the inner case in addition that the inner case is detachable and a refrigerator having the ice tray assembly.

[0015] Yet another object of the present invention is to provide an ice tray assembly wherein ice cubes made in the ice trays can be separated from the ice trays at once without separation of the ice trays and a refrigerator having the ice tray assembly.

[0016] Yet another object of the present invention is to provide an ice tray assembly wherein even though the inner case is detachable, it is possible to prevent water leakage when the water container is mounted on the ice tray assembly and a refrigerator having the ice tray assembly.

[0017] Additional advantages, objects, and features of the invention will be set forth in part in the description which follows and in part will become apparent to those having ordinary skill in the art upon examination of the following or may be learned from practice of the invention. The objectives and other advantages of the invention may be realized and attained by the structure particularly pointed out in the written description and claims hereof as well as the appended drawings.

[0018] To achieve these objects and other advantages and in accordance with the purpose of the invention, as embodied and broadly described herein, an ice tray assembly includes an outer case on which a water container is mounted, and an inner case detachably mounted in the outer case to include ice trays which are supplied with water from the water container.

[0019] Preferably, insertion guide members are provided on the outer case and the inner case, respectively.

[0020] Preferably, the insertion guide members include a slot formed on one of the outer case and the inner case and a rib formed on the other of the cases.

[0021] Preferably, the ice tray assembly further includes a water supply member to supply water from the water container to the ice trays.

[0022] Preferably, the water supply member includes a water supply lever disposed on the outer case to open or close the water container.

[0023] Preferably, the water supply member includes a water supply part which supplies water falling down from the water container to any one of the ice trays.

[0024] Preferably, the ice trays are arranged vertically and connected to each other by an interlocking device to rotate at the same time.

[0025] Preferably, the interlocking device includes tray gears coupled to the ice trays, and a connecting gear to operate the tray gears together.

[0026] Preferably, the inner case includes a lever opening to guide a lever connected to one of the tray gears and the connecting gear while the lever is inserted into the lever opening.

[0027] Preferably, the ice trays are arranged in an oblique line from an upper side to a lower side.

[0028] Preferably, the inner case includes an ice making part in which the ice trays are installed, and an operating part in which the interlocking device is installed.

[0029] Preferably, the ice making part and the operating part are separated by a partition.

[0030] Preferably, a groove is formed on the inner case to limit a rotation angle of the ice trays.

[0031] In another aspect of the present invention, a refrigerator includes an ice tray assembly which includes an outer case installed on a rear surface of a door to be provided with a water container, and an inner case detachably mounted in the outer case to include ice trays which are supplied with water from the water container.

[0032] Preferably, the refrigerator further includes insertion guide members including a slot formed on one of the outer case and the inner case and a rib formed on the other of the cases.

[0033] Preferably, the refrigerator further includes a water supply member to supply water from the water container to the ice trays.

[0034] Preferably, the water supply member includes a water supply lever protruded from an upper inner surface of the outer case to open or close the water container.

[0035] Preferably, the water supply member includes a funnel-shaped water supply part which supplies water falling down from the water container to any one of the ice trays.

[0036] Preferably, the ice trays are arranged vertically and connected to each other by an interlocking device to rotate at the same time.

[0037] Preferably, the interlocking device includes tray gears coupled to the ice trays, and a connecting gear to operate the tray gears together.

[0038] Preferably, the inner case includes a lever opening to guide a lever connected to one of the tray gears and the connecting gear while the lever is inserted into the lever opening.

[0039] Preferably, the ice trays are arranged in an oblique line from an upper side to a lower side.

[0040] Preferably, the inner case includes an ice making part in which the ice trays are installed, and an operating part in which the interlocking device is installed.

[0041] Preferably, the ice making part and the operating part are separated by a partition.

[0042] Preferably, a groove is formed on the inner case to limit a rotation angle of the ice trays.

[0043] In yet another aspect of the present invention, a refrigerator includes an outer case installed on a rear surface of a door to be provided with a water container, an inner case detachably mounted in the outer case to include ice trays

which are supplied with water from the water container, and a water supply member to supply water from the water container to the ice trays.

[0044] Preferably, the water supply member includes a water supply lever disposed on the outer case to open or close the water container.

[0045] Preferably, the water supply member includes a water supply part which supplies water falling down from the water container to any one of the ice trays.

[0046] By the above-mentioned configuration according to present invention, the ice tray assembly includes the inner case which is detachable therefrom, thereby facilitating washing. Further, the ice trays can be supplied with water at once and ice cubes made in the ice trays can be separated from the ice trays at once without separation of the ice trays. Further, it is possible to prevent water leakage when the water container is mounted on the ice tray assembly.

[0047] It is to be understood that both the foregoing general description and the following detailed description of the present invention are exemplary and explanatory and are intended to provide further explanation of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0048] The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a part of this application, illustrate embodiments of the invention and together with the description serve to explain the principle of the invention. In the drawings:

[0049] FIGS. 1 and 2 show exploded perspective views of an ice tray assembly and a part of a refrigerator having the ice tray assembly according to the present invention; and

[0050] FIG. 3 shows a conventional ice tray assembly for a refrigerator.

DETAILED DESCRIPTION OF THE INVENTION

[0051] Reference will now be made in detail to the preferred embodiments of the present invention, examples of which are illustrated in the accompanying drawings. Wherever possible, the same reference numbers will be used throughout the drawings to refer to the same or like parts.

[0052] FIGS. 1 and 2 show exploded perspective views of an ice tray assembly and a part of a refrigerator having the ice tray assembly according to the present invention. The ice tray assembly includes an outer case 50, an inner case 100, ice trays 210, a lever 300, tray gears 410, a connecting gear 420 and a water container 500.

[0053] In this embodiment, the inner case 100 is detachably inserted in the outer case 50. The inner case 100 is formed in a vertically elongated parallelepiped shape such that the ice trays 210 are arranged vertically.

[0054] The outer case 50 has one surface corresponding to an inner surface of a refrigerator door such that the outer case 50 can be mounted on the refrigerator door. Accordingly, the ice tray assembly can be mounted on the refrigerator door to minimize a mounting space in the refrigerator.

Further, the other surface of the outer case 50 is removed such that the inner case 100 can be inserted into or detached from the outer case 50.

[0055] Further, a rib R serving as an insertion guide member is provided on the outer case 50. The rib R is formed on an inner surface of the outer case 50 to be protruded and extended in an insertion direction of the inner case 100. Further, it is preferable to form ribs R at opposite sides of an inner surface of the outer case 50, respectively, such that the inner case 100 can be stably inserted into or detached from the outer case 50.

[0056] The water container 500 is mounted on the outer case 50 to supply water to the ice trays 210. A water supply lever 55 is provided on the outer case 50 to open or close a valve 520 disposed on the bottom surface of the water container 500.

[0057] The water supply lever 55 is extended to be protruded from an upper inner surface of the outer case 50. Accordingly, when the inner case 100 is inserted into the outer case 50 and the water container 500 is loaded on the outer case 50, the valve 520 disposed on the bottom surface of the water container 500 is pressed by the water supply lever 55 such that water stored in the water container 500 is supplied into each of the ice trays 210.

[0058] The inner case 100 is inserted in the outer case 50 to be detachable from the outer case 50. Preferably, the inner case 100 is formed in a vertically elongated parallelepiped shape such that the ice trays 210 are arranged vertically.

[0059] Preferably, the bottom surface of the inner case 100 is removed such that ice, for example, ice cubes falling down from the ice trays 210 can pass by. Further, at least one side surface of the inner case 100 is made of a transparent material such that a state of ice cubes made in the ice trays 210 can be checked from outside the inner case 100.

[0060] Specifically, the inner case 100 includes a water supply part 110, an ice making part 120 and an operating part 130. The ice making part 120 and the operating part 130 are arranged side by side in the inner case 100. The inner case 100 includes a partition P which defines the ice making part 120 and the operating part 130.

[0061] Further, the inner case 100 includes holes h to receive the tray gears 410 and the connecting gear 420. The holes h are formed on the partition P defining the ice making part 120 and the operating part 130.

[0062] The water supply part 110 is provided in the inner case 100 to supply water falling down from the water container 500 to any one of the ice trays 210. The water supply part 110 is formed as a funnel to collect water from the water container 500 and supply the collected water to one of the ice trays 210 disposed at a lower portion of the inner case 100.

[0063] Further, an opening 111 formed on the bottom of the water supply part 110 is positioned above one of the ice trays 210 disposed at the lower portion of the inner case 100 such that water falling down from the opening 111 is supplied to one of the ice trays 210 disposed at the lower portion of the inner case 100.

[0064] A lever opening 131 is formed at the operating part 130 to be elongated vertically such that the lever 300 is operated through the lever opening 131.

[0065] The inner case 100 is provided with a slot S serving as an insertion guide member. That is, in the embodiment of the present invention, the rib R and the slot S are provided as the insertion guide member. The slot S is formed on an outer surface of the operating part 130 in an insertion direction of the inner case 100. Thus, the rib R formed on the outer case 50 is inserted into the slot S.

[0066] Accordingly, the inner case 100 can be stably combined with or detached from the outer case 50. Further, grooves 121 are formed on the inner case 100 to limit the rotation angle of the ice trays 210. The grooves 121 are formed in an arc shape on one surface of the ice making part 120 to guide protrusions (not shown) respectively formed at one side of the ice trays 210, the protrusions being inserted into the grooves 121.

[0067] The ice trays 210 for containing water to be frozen into ice cubes are respectively provided with covers 220 for hygiene to prevent water or ice cubes contained in the ice trays 210 from being separated out of the ice trays 210. A water supply opening 222 is formed on each cover 220 such that water is supplied into each ice tray 210 from above the ice trays 210.

[0068] Further, the covers 220 are respectively provided with hooks 221, which are released from a fixing state when ice cubes are taken out of the ice trays 210. Accordingly, water or ice cubes contained in the ice trays 210 can be prevented from being separated out of the ice trays 210 due to impact generated when the refrigerator door is opened or closed after water is supplied into the ice trays 210.

[0069] Further, it is preferable to provide rods (not shown) on the inner case 100 to release the hooks 221 from a fixing state such that the covers 220 open the ice trays 210 when the ice trays 210 are rotated and the ice cubes are separated.

[0070] In this case, the covers 220 are respectively connected to the ice trays 210 by hinges H to open or close the top surfaces of the ice trays 210. Preferably, if the ice trays 210 rotate clockwise to open the covers 220, the covers 220 are hinge-connected to the ice trays 210 on the left with respect to longitudinal axes of the ice trays 210. On the other hand, if the ice trays 210 rotate counterclockwise to open the covers 220, the covers 220 are hinge-connected to the ice trays 210 on the right with respect to the longitudinal axes of the ice trays 210.

[0071] In this embodiment, since the ice trays 210 rotate counterclockwise, the covers 220 are hinge-connected to the ice trays 210 on the right with respect to the longitudinal axes of the ice trays 210. Accordingly, the covers 220 are opened when the ice trays 210 rotate, whereby ice cubes separated from the ice trays 210 fall down.

[0072] Further, as describe above, the rotation angle of the ice trays 210 can be limited by the protrusions (not shown) inserted into the grooves 121 which are formed on the inner case 100 to limit the rotation angle of the ice trays 210.

[0073] The ice trays 210 are arranged vertically such that the ice trays 210 rotate in the inner case 100. For rotation of the ice trays 210, preferably, the longitudinal axis of each ice tray 210 is connected to a hole (not shown) formed on one surface of the ice making part 120 and each tray gear 410 inserted into a hole h formed on the partition P defining the ice making part 120 and the operating part 130.

[0074] Preferably, the ice trays 210 are arranged in an oblique line from an upper side to a lower side such that interference between the ice trays 210 does not occur when the ice trays 210 rotate to separate ice cubes from the ice trays 210. In this embodiment, the ice trays 210 are arranged in an oblique line from an upper left side to a lower right side when they are seen from the front of the inner case 100.

[0075] The lever 300 is connected to the ice trays 210 to rotate the ice trays 210. Specifically, one end of the lever 300 is connected to any one of the ice trays 210 and the other end of the lever 300 is protruded outside from the inner case 100 through the lever opening 131 formed at the operating part. The lever 300 rotates around the longitudinal axis of any one of the ice trays 210.

[0076] In this embodiment, in order to allow sufficient space for rotation of the lever 300, it is preferable that the lever 300 is connected to the ice tray 210 disposed at the upper side of the inner case 100 in which the lever 300 rotates, and the lever 300 rotates counterclockwise,

[0077] The tray gears 410 are respectively connected to the ice trays 210 such that the tray gears 410 engage with each other. It is preferable that the tray gears 410 are respectively connected to the longitudinal axes of the ice trays 210 such that the tray gears 410 rotate in the same way as the rotation of the ice trays 210.

[0078] In this case, preferably, the tray gears 410 respectively connected to the ice trays 210 have the same gear ratio to maintain the same rotation angle.

[0079] The connecting gear 420 is connected to each of the tray gears 410 such that the ice trays 210 rotate in the same direction as the rotation of the lever 300. Preferably, the connecting gear 420 is connected between the tray gears 410 respectively connected to the ice trays 210 such that the ice trays 210 rotate in the same direction as the rotation of the lever 300.

[0080] In this case, preferably, the connecting gear 420 has the same gear ratio such that the tray gears 410 respectively connected to the ice trays 210 maintain the same rotation angle.

[0081] Meanwhile, in another embodiment of the present invention, the lever 300 may be connected to the tray gears 410 or the connecting gear 420 without being directly connected to the ice trays 210.

[0082] The water supply members include the water supply lever 55 provided on the outer case 50 and the water supply part 110 provided on the inner case 100.

[0083] The water container 500 includes discharge ports 510 for supplying water and the valve 520 for opening or closing the discharge ports 510, which are provided on the bottom surface of the water container 500. The discharge ports 510 are provided corresponding to the number of the ice trays 210 to supply water to the ice trays 210, respectively. The discharge ports 510 are opened or closed by the valve 520.

[0084] The valve 520 is positioned above the water supply lever 55 to be opened or closed by the water supply lever 55. The discharge ports 510 are positioned above the water supply openings 222 respectively provided on the covers 220 of the ice trays 210. Accordingly, in addition that the inner case 100 can be detached from the outer case 50, water can be supplied into each of the ice trays 210.

[0085] Hereinafter, the operation of the ice tray assembly and the refrigerator having the ice tray assembly according to the present invention will be described in detail.

[0086] First, the inner case 100 is inserted into the outer case 50 using the rib R and the slot S serving as an insertion guide member. The water container 500 is filled with water and mounted on the outer case 50. Then, the water supply lever 55 actuates the valve 520 provided on the bottom surface of the water container 500 to supply water from the discharge ports 510 to the ice trays 210, respectively.

[0087] In this case, water falling down from any one of the discharge ports 510 is directly supplied to one of the ice trays 210 disposed at the upper side of the inner case 100. Water falling down from the other of the discharge ports 510 is collected in the water supply part 110 to be supplied to one of the ice trays 210 disposed at the lower side of the inner case 100.

[0088] The water supply lever 55 is formed not on the inner case 100 but on the outer case 50. Accordingly, although the inner case 100 is not accurately mounted on the outer case 50 when the inner case 100 is inserted into the outer case 50, it is possible to prevent water leakage by mounting the water container 500 on the outer case 50.

[0089] After water is frozen into ice cubes in the ice trays 210, the lever 300 is rotated counterclockwise in the inner case 100 such that the ice trays 210 and the tray gears 410 connected to the lever 300 are rotated in the same direction.

[0090] As the tray gears 410 rotate counterclockwise, the connecting gear 420 coupled to the tray gears 410 rotates in a direction opposite to a rotation direction of the tray gears 410, namely, rotates clockwise.

[0091] Further, as the connecting gear 420 rotates, the tray gear 410 connected to the ice tray 210 which is not connected to the lever 300 rotates in a direction opposite to a rotation direction of the connecting gear 420, namely, rotates counterclockwise. The ice tray 210 which is not connected to the lever 300 rotates in the same direction as the other ice tray 210 connected to the lever 300.

[0092] When the ice trays 210 rotate in the same direction, the covers 220 are opened by the rods (not shown) capable of opening the hooks 221 and ice cubes are separated from the ice trays 210. In this case, since the ice trays 210 are arranged in an oblique line from an upper side to a lower side, the ice trays 210 move without interference and ice cubes uniformly fall down from the ice trays 210.

[0093] The ice tray assembly having the above-described configuration and the refrigerator having the ice tray assembly have the following effects.

[0094] First, the ice tray assembly can be mounted on the refrigerator door to ensure a space of the freezing chamber. Further, the ice tray assembly includes the inner case which is detachable therefrom, thereby facilitating washing.

[0095] Second, the inner case can be detached stably. Further, even though the inner case is detachable, it is possible to prevent water leakage when the water container is mounted on the ice tray assembly.

[0096] Third, in addition that the inner case is detachable, the ice trays can be supplied with water at once without being separated from the inner case.

[0097] Fourth, ice cubes made in the ice trays can be separated from the ice trays at once without separation of the ice trays.

[0098] It will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the spirit or scope of the inventions. Thus, it is intended that the present invention covers the modifications and variations of this invention provided they come within the scope of the appended claims and their equivalents.

What is claimed is:

1. An ice tray assembly comprising:

an outer case on which a water container is mounted; and
an inner case detachably mounted in the outer case to include ice trays which are supplied with water from the water container.

2. The ice tray assembly according to claim 1, wherein insertion guide members are provided on the outer case and the inner case, respectively.

3. The ice tray assembly according to claim 2, wherein the insertion guide members include a slot formed on one of the outer case and the inner case and a rib formed on the other of the cases.

4. The ice tray assembly according to claim 1, further comprising a water supply member to supply water from the water container to the ice trays.

5. The ice tray assembly according to claim 4, wherein the water supply member includes a water supply lever disposed on the outer case to open or close the water container.

6. The ice tray assembly according to claim 4, wherein the water supply member includes a water supply part which supplies water falling down from the water container to any one of the ice trays.

7. The ice tray assembly according to claim 1, wherein the ice trays are arranged vertically and connected to each other by an interlocking device to rotate at the same time.

8. The ice tray assembly according to claim 7, wherein the interlocking device includes:

tray gears coupled to the ice trays; and

a connecting gear to operate the tray gears together.

9. The ice tray assembly according to claim 8, wherein the inner case includes a lever opening to guide a lever connected to one of the tray gears and the connecting gear while the lever is inserted into the lever opening.

10. The ice tray assembly according to claim 1, wherein the ice trays are arranged in an oblique line from an upper side to a lower side.

11. The ice tray assembly according to claim 1, wherein the inner case includes:

an ice making part in which the ice trays are installed; and

an operating part in which the interlocking device is installed.

12. The ice tray assembly according to claim 11, wherein the ice making part and the operating part are separated by a partition.

13. The ice tray assembly according to claim 1, wherein a groove is formed on the inner case to limit a rotation angle of the ice trays.

14. A refrigerator comprising an ice tray assembly which includes:

an outer case installed on a rear surface of a door to be provided with a water container; and

an inner case detachably mounted in the outer case to include ice trays which are supplied with water from the water container.

15. The refrigerator according to claim 14, further comprising insertion guide members including a slot formed on one of the outer case and the inner case and a rib formed on the other of the cases.

16. The refrigerator according to claim 14, further comprising a water supply member to supply water from the water container to the ice trays.

17. The refrigerator according to claim 14, wherein the water supply member includes a water supply lever protruded from an upper inner surface of the outer case to open or close the water container.

18. The refrigerator according to claim 16, wherein the water supply member includes a funnel-shaped water supply part which supplies water falling down from the water container to any one of the ice trays.

19. The refrigerator according to claim 14, wherein the ice trays are arranged vertically and connected to each other by an interlocking device to rotate at the same time.

20. The refrigerator according to claim 19, wherein the interlocking device includes:

tray gears coupled to the ice trays; and

a connecting gear to operate the tray gears together.

21. The refrigerator according to claim 20, wherein the inner case includes a lever opening to guide a lever connected to one of the tray gears and the connecting gear while the lever is inserted into the lever opening.

22. The refrigerator according to claim 14, wherein the ice trays are arranged in an oblique line from an upper side to a lower side.

23. The refrigerator according to claim 14, wherein the inner case includes:

an ice making part in which the ice trays are installed; and

an operating part in which the interlocking device is installed.

24. The refrigerator according to claim 23, wherein the ice making part and the operating part are separated by a partition.

25. The refrigerator according to claim 14, wherein a groove is formed on the inner case to limit a rotation angle of the ice trays.

26. A refrigerator comprising an ice tray assembly which includes:

an outer case installed on a rear surface of a door to be provided with a water container;

an inner case detachably mounted in the outer case to include ice trays which are supplied with water from the water container; and

a water supply member to supply water from the water container to the ice trays.

27. The refrigerator according to claim 26, wherein the water supply member includes a water supply lever disposed on the outer case to open or close the water container.

28. The refrigerator according to claim 27, wherein the water supply member includes a water supply part which supplies water falling down from the water container to any one of the ice trays.