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(54) Refrigerator with drawer

(57) The present invention relates to a refrigerator with a drawer. The refrigerator includes a storage compartment and a drawer (1) provided in the storage compartment, the drawer includes a front wall (5) and a decorative strip (7) connected to the front wall, and the decorative strip includes a decorative portion (71) provided on a front side of the front wall. According to the present invention, the decorative strip further includes a grip portion (72) extending into the drawer and provided on a back side of the front wall, and the thickness of at least one part of the grip portion is greater than the thickness of the decorative portion.

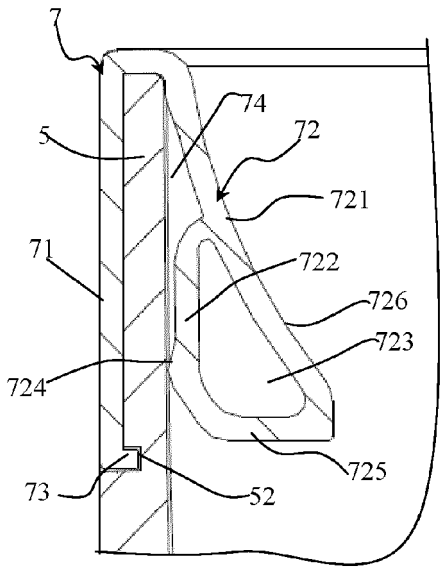

FIG. 3

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Description

BACKGROUND

Technical Field

[0001] The present invention relates to a refrigerator with a drawer, and more particularly to a refrigerator with a drawer which is suitable for storing articles.

Related Art

[0002] When a large gap is formed between a drawer and a storage device located above the drawer, a user can directly hold an upper end of a front wall of the drawer to push or pull the drawer.

[0003] WO2009/080483 discloses a refrigerator, which includes a storage compartment, a drawer-type container movably provided in the storage compartment, and a handle bar provided on the drawer-type container and connected to a front wall of the container in a forced cooperation manner through groove and spring connection. A user can push and pull the drawer from the front of the drawer.

[0004] WO2011/026747 also discloses a refrigerator with a drawer, a handle piece is connected on a front wall of the drawer, and a grip portion is provided above the drawer.

SUMMARY

[0005] An object of the present invention is directed to provide a refrigerator capable of improving user experience and enhancing the cost efficiency.

[0006] The object can be achieved through features described in the independent claim. The exemplary embodiments of the present invention are the subject matters of the drawings, the specification and the dependent claims.

[0007] An aspect of the present invention relates to a refrigerator. The refrigerator includes a storage compartment and a drawer provided in the storage compartment, the drawer includes a front wall and a decorative strip connected to the front wall, and the decorative strip includes a decorative portion provided on a front side of the front wall. The decorative strip includes a grip portion provided on a back side of the front wall and located inside the drawer, and the thickness of at least one part of the grip portion is greater than the thickness of a corresponding part of the decorative portion.

[0008] Since the grip portion with an increased thickness is provided on an inner side of the front wall of the drawer, user experience of holding the front wall of the drawer to push and pull the drawer can be greatly improved. Meanwhile, since the grip portion is directly provided on the decorative strip, the handle piece does not need to be additionally provided, and there is no need to provide a portion with an increased thickness and protruding inwardly or a protruding portion of other shapes on the front wall of the drawer, but instead the front wall can be remained as thin as other walls, which is advantageous for improving cost efficiency and fabrication of the drawer.

[0009] The decorative strip may extend along the entire width of the front wall or merely extend along a part of the width of the front wall.

[0010] The thickness of the grip portion and that of the decorative portion at a specific height indicate a distance between a front surface and a rear surface of the grip portion and a distance between a front surface and a rear surface of the decorative portion in a fore-and-aft direction at the height, respectively. For example, when the grip portion and/or decorative portion has only a single wall at a particular height, the thickness of the grip portion and/or decorative portion may be formed by the thickness of the wall of a corresponding portion. When the grip portion and/or decorative portion has, at a certain height, multiple walls overlapping in a fore-and-aft direction, the thickness of the grip portion and/or that of the decorative portion at least includes the thickness of the overlapping walls, and if the walls are spaced from each other in the fore-and-aft direction, the thickness of the grip portion and/or decorative portion should cover a gap(s) between the walls.

[0011] The thickness of the grip portion and that of the decorative portion may be substantially constant or variable. For example, the thickness of the decorative portion may be substantially constant in a longitudinal direction and/or a transverse direction, so that the front surface of the drawer is clean and neat, and the thickness of the grip portion may be variable in at least a part of the entire height or may also be constant.

[0012] The thickness of the grip portion may be greater than the thickness of the decorative portion at a corresponding height in the entire height range of the grip portion. Alternatively, the thickness of the grip portion may be greater than the thickness of the decorative portion at the same height in merely a part of the height range (particularly the part often held by the user).

[0013] In a possible embodiment, at least a section of the grip portion may have a thickness that gradually increases from the top down. This is especially convenient for a user to place fingers on the grip portion and improves user experience.

[0014] In a possible embodiment, at least one cavity may exist between the rear surface of the grip portion and a rear surface of the front wall. This is advantageous for increasing a distance between the rear surface of the grip portion and the rear surface of the front wall. The cavity may be closed or may be open on at least one side.

[0015] In a possible embodiment, the at least one cavity may be provided within the grip portion. This is advantageous for significantly increasing the thickness of the grip portion, and by increasing the thickness of the grip portion through the cavity, a problem, that fabrication difficulty arises due to increase of the thickness of the wall

of the grip portion to increase the thickness of the grip portion, can be avoided.

[0016] In a possible embodiment, the at least one cavity may be formed between the rear surface of the front wall and the front surface of the grip portion.

[0017] In a possible embodiment, the rear surface of the grip portion may be an oblique surface which is inclined backward from the top down. Therefore, it is convenient for a user to place fingers on the grip portion, and the user experience is improved.

[0018] In a possible embodiment, the oblique surface may be a curved surface depressed toward the front wall. Therefore, the user experience may be further improved.

[0019] In a possible embodiment, the grip portion may include at least two walls, and the at least two walls are spaced from each other in a fore-and-aft direction. For example, the grip portion may include two or three walls that are spaced from each other in a fore-and-aft direction, and in addition to the thickness of the walls, the thickness of the grip portion may be further increased through a gap(s) between the walls.

[0020] In a possible embodiment, the at least two walls include a first wall obliquely extending along the entire height of the grip portion and a second wall connected to a lower surface of a middle area of the first wall and substantially extending downward vertically, and the second wall and a lower section of the first wall are spaced from each other.

[0021] In a possible embodiment, an acute angle is formed between the second wall and the lower section of the first wall.

[0022] In an alternative embodiment, the at least two walls may be parallel. For example, two walls may substantially extend in a vertical direction, upper ends and lower ends of the two walls may be connected by different horizontal walls respectively, and the grip portion may have a cross section in a substantially rectangular frame shape.

[0023] In a possible embodiment, the grip portion includes a bottom wall connecting the lower ends of the at least two walls, and the bottom wall and the at least two walls define a cavity with two open ends.

[0024] In a possible embodiment, the bottom wall is parallel with a horizontal plane, so that a user may place fingers on the bottom wall to push and pull the drawer.

[0025] In a possible embodiment, the decorative strip may be an extruded member.

[0026] The construction of the invention, however, together with additional objects and advantages thereof will be best understood from the following description of specific embodiments when read in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0027] The disclosure will become more fully understood from the detailed description given herein below for illustration only, and thus are not limitative of the disclosure, and wherein:

FIG. 1 is a schematic three-dimensional view of a drawer used in a refrigerator according to an exemplary embodiment of the present invention;

FIG. 2 is an exploded view of the drawer shown in FIG. 1; and

FIG. 3 is a cross-sectional view along the I-I direction in FIG. 1.

DETAILED DESCRIPTION

[0028] Referring to FIG. 1 and FIG. 2, a drawer 1 may be mounted in a refrigerator (not shown). The refrigerator has a storage compartment defined by a thermal insulating wall. The drawer 1 may be mounted in the storage compartment (not shown) in a manner that the drawer 1 can be pushed into and pulled out of the storage compartment.

[0029] The drawer 1 includes a box 10 having a bottom wall 2, a pair of side walls 3, a rear wall 4, and a front wall 5, and the walls 2~5 together define a storage space 6 where articles can be placed. The box 10 may be integrally formed by injection molding, and it is also possible that at least one wall, as an independently fabricated member, of the box is assembled to other components, to form the box.

[0030] The drawer 1 includes a decorative strip 7 connected to the front wall 5. The decorative strip 7 extends along an entire width of the front wall 5. The decorative strip 7 is an extruded strip made of materials including plastics. An outer surface of the decorative strip 7 may be in a color apparently different from that of the box 10, to highlight the decorative effect. A desired color of the decorative strip 7 may be obtained by means of co-extrusion or spraying.

[0031] The decorative strip 7 sits on an upper end of the front wall 5, and includes a decorative portion 71 positioned in front of a front side (also referred to as an "outer side") of the front wall 5 and a grip portion 72 positioned behind a back side (also referred to as an "inner side") of the front wall 5. The decorative strip 7 may have a constant cross section.

[0032] The decorative portion 71 is in the shape of a plate, and has substantially constant thickness. The decorative portion 71 is closely attached to an outer surface of the front wall 5. A recess 51 for accommodating the decorative portion 71 may be provided on the front side of the front wall 5, and the depth of the recess 51 may be substantially equal to the thickness of the wall of the decorative portion 71, so that the decorative portion 71 may be substantially aligned with the other parts of the front wall 5.

[0033] As shown in FIG. 3, the decorative strip 7 may include a fixation portion 73 connected to a lower end of the decorative portion 71. The fixation portion 73 pro-

trudes backward from an inner side of the lower end of the decorative portion 71, and correspondingly, the front wall 51 has a slot 52 corresponding to the fixing portion 73, and the fixing portion 73 is inserted in the slot 52. The fixation portion 73 extends along the entire width of the decorative portion 71. Correspondingly, the slot 52 also extends along the entire width of the front wall 5. The decorative portion 71 may be pre-deformed to be more firmly clamped on the front wall 5.

[0034] As shown in FIG. 2 and FIG. 3, the cross section of the decorative strip 7 has a substantially inclined V-shaped outer contour line. The thickness of at least one part of the grip portion 72 is greater than the thickness of a corresponding part of the decorative portion 71. In this embodiment, the grip portion 72 has a thickness that is, at least in some height range, greater than the thickness of a corresponding part of the decorative portion 71, that is, in this height range, the thickness of the grip portion 72 is greater than the thickness of a corresponding part of the decorative portion 71 at the same height.

[0035] In this embodiment, the grip portion 72 includes two walls that are spaced from each other in a fore-and-aft direction. The two walls include a first wall 721 continuously, smoothly, and obliquely extending along the entire height of the grip portion 72 and a second wall 722 connected to a lower surface of a middle area of the first wall 721 and extending downward substantially in a vertical direction, so that the thickness of the grip portion 72 gradually increases from top down. An angle between the second wall 722 and a lower section of the first wall 721 may be an acute angle.

[0036] A rear surface (that is, a surface away from the front wall 5) of the first wall 721 forms a rear surface of the grip portion 72, so that the rear surface of the grip portion 72 includes an oblique surface 726 inclined backward from top down. Preferably, the oblique surface includes a curved surface depressed toward the front wall 5.

[0037] The grip portion 72 includes a bottom wall 725 connecting lower ends of the first wall 721 and the second wall 722. The bottom wall 725 is parallel with a horizontal plane. The bottom wall 725, the first wall 721 and the second wall 722 define a first cavity 723 which extends in a transverse direction and has two open ends.

[0038] A second cavity 74 is formed between an upper section of the first wall 721 and a rear surface of the front wall 5. Therefore, multiple cavities 723 and 74 are provided between the rear surface of the grip portion 72 and the rear surface of the front wall 5, to increase the distance between the two surfaces.

[0039] The second wall 722 is close to the rear surface of the front wall 5. A protruding portion 724 is provided on one side of the second wall 722 facing the front wall 5, and the protruding portion 724 is pressed against the front wall 5, which prevents the decorative strip 7 from detaching from the box 10 when the user holds the decorative strip 7.

[0040] Various embodiments of single parts described with reference to FIG. 1 to FIG. 3 can be combined in any predetermined manner, to achieve the advantages of the present invention. Further, the present invention is not limited to the foregoing embodiments, and means other than the described means can be used in normal conditions as long as the means can achieve the same effect.

Claims

1. A refrigerator, comprising a storage compartment and a drawer (1) in the storage compartment, the drawer comprising a front wall (5) and a decorative strip (7) connected to the front wall, and the decorative strip comprising a decorative portion (71) provided on a front side of the front wall, **characterized in that** the decorative strip further comprises a grip portion (72) extending into the drawer and provided on a back side of the front wall, and the thickness of at least a part of the grip portion is greater than the thickness of the decorative portion.

2. The refrigerator according to claim 1, **characterized in that** the grip portion comprises at least a section having a thickness which gradually increases from the top down.

3. The refrigerator according to claim 1, **characterized in that** at least one cavity (723, 74) is located between a rear surface of the grip portion and a rear surface of the front wall.

4. The refrigerator according to claim 3, **characterized in that** the at least one cavity (723) is provided within the grip portion.

5. The refrigerator according to claim 3, **characterized in that** the at least one cavity (74) is formed between the rear surface of the front wall and a front surface of the grip portion.

6. The refrigerator according to any one of the preceding claims, **characterized in that** the rear surface of the grip portion comprises an oblique surface (726) which is inclined backward from the top down.

7. The refrigerator according to claim 6, **characterized in that** the oblique surface comprises a curved surface which is depressed toward the front wall.

8. The refrigerator according to any one of claims 1 to 5, **characterized in that** the grip portion comprises at least two walls (721, 722), and the at least two walls have a distance there-between in a fore-and-aft direction.

9. The refrigerator according to claim 8, **characterized**

in that the at least two walls comprise a first wall (721) obliquely extending along the entire height of the grip portion and a second wall (722) connected to a lower surface of a middle area of the first wall and extending downward in a substantial vertical direction, and the second wall and a lower section of the first wall are spaced from each other.

10. The refrigerator according to claim 9, **characterized in that** an acute angle is formed between the lower section of the first wall and the second wall.

11. The refrigerator according to claim 8, **characterized in that** the at least two walls are parallel.

12. The refrigerator according to claim 8, **characterized in that** the grip portion comprises a bottom wall (725) connecting lower ends of the at least two walls, and the bottom wall and the at least two walls define a cavity (723) with two open ends.

13. The refrigerator according to claim 12, **characterized in that** the bottom wall is parallel with a horizontal plane.

14. The refrigerator according to any one of claims 1 to 5, **characterized in that** the decorative strip is an extruded member.

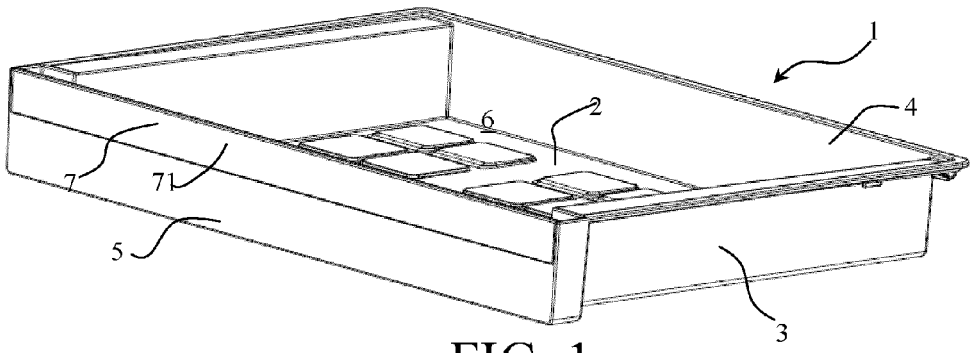

FIG. 1

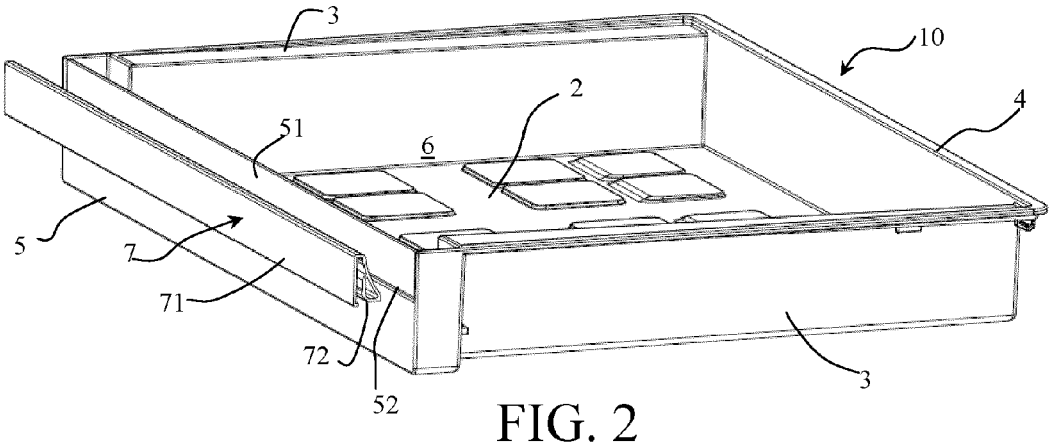

FIG. 2

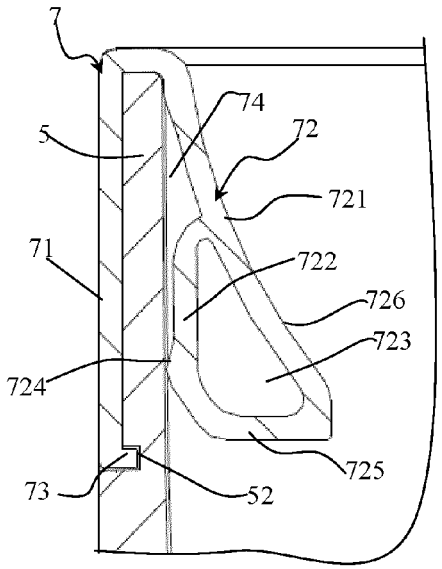

FIG. 3

REFERENCES CITED IN THE DESCRIPTION

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