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(54) **REFRIGERATOR**

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RÉFRIGÉRATEUR

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Description

TECHNICAL FIELD

[0001] The present invention is related to a fridge, which belongs to the field of electric home appliances.

BACKGROUND

[0002] To meet different temperature and humidity requirements, a refrigerating compartment of an existing fridge is provided with a separate dry article compartment whose temperature and humidity are usually different from those of the refrigerating compartment. Therefore, the dry article compartment should be independent and have good sealing performance.

[0003] Usually a sealed compartment structure needs air doors at the air inlet and the return air port to control air flow, so that good sealing and ventilation performance of the sealed compartment structure can be realized. However, the cost of a double air door structure is relatively high. JP H07 180951 A and US 2010/162747 A1 disclose a refrigerator according to the preamble of the present claim 1.

SUMMARY

[0004] The object of the present invention is to provide a dry article compartment having a single air door structure. When ventilation is not needed, the dry article compartment can have good sealing performance; and when ventilation is needed, the dry article compartment can have good ventilation performance.

[0005] To realize the above object, the present invention adopts the following technical solutions. There is provided a fridge, comprising: a fridge body, a refrigerating and circulating system and an air passage, wherein the fridge body comprises a refrigerating compartment and a dry article compartment, the dry article compartment comprises a barrel and a drawer drawably received in the barrel, and the barrel is provided with a dry article compartment air passage communicating with the air passage and an air door baffle mounted inside the dry article compartment air passage; the refrigerating and circulating system comprises a compressor, a condenser, a throttling member and an evaporator; the fridge further comprises a blower arranged inside the air passage, the blower is configured to blow cooled and dehumidified air to the refrigerating compartment and/or the dry article compartment, a joint between the barrel and the drawer is sealed by a sealing member so as to be isolated from external air, and the dry article compartment is not provided with an air discharging door.

[0006] According to the present invention, two side walls of the dry article compartment are respectively provided with rollers, two sides of the drawer are respectively provided with inclined slide rails for receiving the rollers, and the drawer is closed when sliding along the inclined

slide rails.

[0007] According to the present invention, a tail end of the inclined slide rail is provided with a clearance so that the drawer tightly presses the dry article compartment by means of the self weight of the drawer and of an article placed in the drawer.

[0008] According to the present invention, ventilation of the dry article compartment is carried out by an assembling clearance between the barrel and the drawer.

[0009] As an improvement of the present invention, the drawer is provided with a handle, the joint is an end face on the barrel close to the handle, and the sealing member is a sealing strip and is provided on the end face.

[0010] As a further improvement of the present invention, the sealing strip is a silica gel sealing strip.

[0011] As a yet further improvement of the present invention, the air passage is sealed.

[0012] As a yet further improvement of the present invention, the dry article compartment and the air door baffle form an independent system which does not communicate with the refrigerating compartment.

[0013] Compared with the prior arts, the dry article compartment of the fridge of the present invention employs a single door structure, can achieve good sealing performance when it does not need ventilation, and can achieve good ventilation performance when it needs ventilation.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014]

Fig. 1 is a schematic view of a fridge according to the present invention;

Fig. 2 is a schematic view of Fig. 1 seen from another view.

DETAILED DESCRIPTION

[0015] Referring to Figs. 1-2, the present invention discloses a fridge comprising a fridge body (not shown in the figures), a refrigerating and circulating system 1 and an air passage 2. The fridge body comprises a refrigerating compartment 6 and a dry article compartment 3, wherein the dry article compartment 3 comprises a barrel 31 and a drawer 32 drawably received in the barrel 31. The barrel 31 is provided with a dry article compartment air passage 33 communicating with the air passage 2 and an air door baffle 34 mounted inside the dry article compartment air passage 33. The refrigerating and circulating system 1 comprises a compressor 11, a condenser 12, a throttling member 13 and an evaporator 14. The fridge further comprises a blower 4 arranged inside the air passage 2. The blower 4 is configured to blow the air cooled and dehumidified by the evaporator 14 to the refrigerating compartment 6 and/or the dry article compartment 3. The dry article compartment 3 is substantially

sealed. A joint between the barrel 31 and the drawer 32 is sealed by a sealing member 5 so as to be isolated from external air. The dry article compartment 3 is not provided with an air discharging door.

[0016] The barrel 31 is substantially in the shape of a cuboid, and comprises a top wall 311, a bottom wall 312, two side walls and a rear wall 313. In the embodiment shown in the figures of the present invention, the dry article compartment air passage 33 passes through the rear wall 313, and the air door baffle 34 is mounted on the rear wall 313.

[0017] The drawer 32 is provided with a handle 321, the joint is an end face 314 on the barrel 31 close to the handle 321, and the sealing member 5 is a sealing strip and is provided on the end face 314. Preferably, the sealing strip is a silica gel sealing strip.

[0018] Two side walls of the dry article compartment 3 are respectively provided with rollers 315, two sides of the drawer 32 are respectively provided with inclined slide rails 322 for receiving the rollers 315, and the drawer 32 is closed when sliding along the inclined slide rails 322. When closed, the drawer 32 is sealed by the sealing member 5.

[0019] A tail end of the inclined slide rail 322 is provided with a clearance, so that the drawer 32 tightly presses the dry article compartment 3 by means of the self weight of the drawer 32 and of an article placed in the drawer 32, and air tightness between the dry article compartment 3 and external compartments is guaranteed by means of the sealing member 5.

[0020] As shown in Fig. 2, the air passage 2 is closed and is provided with a refrigerating compartment air passage 21 communicating with the refrigerating compartment 6 and connected in parallel with the dry article compartment 3. An air door baffle is not provided between a front end of the dry article compartment 3 and the blower 4. It should be noted that the "front end" mentioned in the previous content is defined by the air flow direction in the air passage 2. The closer the air is to the blower, the closer the air is to the front end.

[0021] The dry article compartment 3 and the air door baffle 34 form an independent system which does not communicate with the refrigerating compartment 6.

[0022] When in use, the ventilation manner of the fridge of the present invention is as below.

[0023] When the air door baffle 34 is opened, the cooled and dehumidified air passes through the blower 4 and is blown into the refrigerating compartment 3 and/or the dry article compartment 6. As dry air enters, the refrigerating compartment 3 maintains a positive pressure. The ventilation of the refrigerating compartment 3 is realized mainly through two ways. First, under a positive pressure, the ventilation is realized by means of the assembling clearance between the barrel 31 and the drawer 32. Second, as the drawer 32 is naturally closed and sealed under the action of the weight of the articles stored in the drawer, under a positive pressure, the ventilation is realized by means of the clearance between the drawer

32 and the refrigerating compartment 3.

[0024] Compared with the prior arts, the dry article compartment 3 of the fridge of the present invention only employs an air inlet door, without an air discharging door, reduces the cost, and achieves good ventilation performance while improving its sealing performance by means of a clearance.

[0025] It should be noted that the above embodiments are only intended to explain rather than limit the technical solutions of the present invention. Although the present invention has been described in detail with reference to the above embodiments of the present description, those skilled in the art shall understand that they may make modifications or equivalent substitutions to the present invention, and all the technical solutions and their improvements not departing from the scope of the present invention shall be included in the scope of the claims of the present invention.

Claims

1. A fridge, comprising a fridge body, a refrigerating and circulating system (1) and an air passage (2), wherein the fridge body comprises a refrigerating compartment (6) and a dry article compartment (3), the dry article compartment (3) comprises a barrel (31) and a drawer (32) drawably received in the barrel (31), and the barrel (31) is provided with a dry article compartment air passage (33) communicating with the air passage (2) and an air door baffle (34) mounted inside the dry article compartment air passage (33); the refrigerating and circulating system (1) comprises a compressor (11), a condenser (12), a throttling member (13) and an evaporator (14); and the fridge further comprises a blower (14) arranged inside the air passage (2), the blower (14) is configured to blow cooled and dehumidified air to the refrigerating compartment (6) and/or the dry article compartment (3), wherein a joint between the barrel (31) and the drawer (32) is sealed by a sealing member (5) so as to be isolated from external air, and the dry article compartment (3) is not provided with an air discharging door; the fridge being **characterized in that:**

two side walls of the dry article compartment (3) are respectively provided with rollers (315), two sides of the drawer (32) are respectively provided with inclined slide rails (322) for receiving the rollers (315), and the drawer (32) is closed when sliding along the inclined slide rails (322); wherein a tail end of the inclined slide rail (322) is provided with a clearance so that the drawer (32) tightly presses the dry article compartment (3) by means of the self weight of the drawer (32) and of an article placed in the drawer (32); wherein ventilation of the dry article compart-

ment (3) is carried out by an assembling clearance between the barrel (31) and the drawer (32).

2. The fridge of claim 1, wherein the drawer (32) is provided with a handle (321), the joint is an end face (314) on the barrel (31) close to the handle (321), and the sealing member (5) is a sealing strip and is provided on the end face (314).
3. The fridge of claim 2, wherein the sealing strip is a silica gel sealing strip.
4. The fridge of claim 1, wherein the air passage (2) is sealed.
5. The fridge of claim 1, wherein the dry article compartment (3) and the air door baffle (34) form an independent system which does not communicate with the refrigerating compartment (6).

Patentansprüche

1. Kühlschrank mit einem Kühlschrankkörper, einem Kühl- und Umwälzsystem (1) und einem Luftdurchlass (2), wobei der Kühlschrankkörper ein Kühlfach (6) und ein Trockenartikelfach (3) aufweist, wobei das Trockenartikelfach (3) einen Aufnahmeraum (31) und eine in dem Aufnahmeraum (31) rausziehbar aufgenommene Schublade (32) aufweist, und wobei der Aufnahmeraum (31) mit einem Trockenartikelfach-Luftdurchlass (33) versehen ist, der mit dem Luftdurchlass (2) kommuniziert, und mit einer Luftklappenablenkplatte (34) versehen ist, die in dem Trockenartikelfach-Luftdurchlass (33) befestigt ist; wobei das Kühl- und Umwälzsystem (1) einen Kompressor (11), einen Kondensator (12), ein Drossелеlement (13) und einen Verdampfer (14) aufweist; und wobei der Kühlschrank ferner ein in dem Luftdurchlass (2) angeordnetes Gebläse (4) aufweist, das zum Einblasen von gekühlter und entfeuchteter Luft in das Kühlfach (6) und/oder das Trockenartikelfach (3) ausgebildet ist; wobei eine Verbindungsstelle zwischen dem Aufnahmeraum (31) und der Schublade (32) durch ein Dichtelement (5) abgedichtet ist, um von Außenluft isoliert zu sein, und das Trockenartikelfach (3) nicht mit einer Luftaustrittsklappe versehen ist; der Kühlschrank ist **dadurch gekennzeichnet, dass** zwei Seitenwände des Trockenartikelfachs (3) jeweils mit Rollen (315) versehen sind, zwei Seiten der Schublade (32) jeweils mit geneigten Laufschiene (322) zum Aufnehmen der Rollen (315) versehen sind und die Schublade (32) durch Schieben entlang der geneigten Laufschiene (322) geschlossen wird;

wobei ein Endstück der geneigten Laufschiene (322) mit einem Freiraum versehen ist, so dass die Schublade (32) das Trockenartikelfach (3) mittels des Eigengewichts der Schublade (32) und eines in der Schublade (32) platzierten Artikels fest drückt; wobei die Lüftung des Trockenartikelfachs (3) durch einen Montageabstand zwischen dem Aufnahmeraum (31) und der Schublade (32) durchgeführt wird.

2. Kühlschrank nach Anspruch 1, wobei die Schublade (32) mit einem Griff (321) versehen ist, die Verbindungsstelle eine Stirnseite (314) an dem Aufnahmeraum (31) in der Nähe des Griffs (321) ist und das Dichtelement (5) eine Dichtleiste ist und auf der Stirnseite (314) vorgesehen ist.
3. Kühlschrank nach Anspruch 2, bei dem die Dichtleiste eine Silikagel-Dichtleiste ist.
4. Kühlschrank nach Anspruch 1, bei dem der Luftdurchlass (2) abgedichtet ist.
5. Kühlschrank nach Anspruch 1, bei dem das Trockenartikelfach (3) und das Luftklappenablenkplatte (34) ein unabhängiges System bilden, das nicht mit dem Kühlfach (6) kommuniziert.

Revendications

1. Réfrigérateur, comprenant une carcasse de réfrigérateur, un système de réfrigération et de circulation (1) et un passage d'air (2), dans lequel la carcasse de réfrigérateur comprend un compartiment de réfrigération (6) et un compartiment d'article sec (3), le compartiment d'article sec (3) comprend un corps (31) et un tiroir (32) reçu avec faculté de traction dans le corps (31), et le corps (31) est pourvu d'un passage d'air de compartiment d'article sec (33) communiquant avec le passage d'air (2) et d'un déflecteur de porte d'aération (34) monté à l'intérieur du passage d'air de compartiment d'article sec (33); le système de réfrigération et de circulation (1) comprend un compresseur (11), un condenseur (12), un organe d'étranglement (13) et un évaporateur (14); et le réfrigérateur comprend en outre une soufflante (14) agencée à l'intérieur du passage d'air (2), la soufflante (4) est configurée pour souffler de l'air refroidi et déshumidifié vers le compartiment de réfrigération (6) et/ou le compartiment d'article sec (3), dans lequel un joint entre le corps (31) et le tiroir (32) est rendu étanche par un organe d'étanchéité (5) de façon à être isolé de l'air externe, et le compartiment d'article sec (3) n'est pas pourvu d'une porte d'évacuation d'air;

le réfrigérateur étant **caractérisé en ce que** :

- deux parois de côté du compartiment d'article sec (3) sont respectivement pourvues de rouleaux (315), deux côtés du tiroir (32) sont respectivement pourvus de rails coulissants inclinés (322) pour recevoir les rouleaux (315), et le tiroir (32) est fermé lorsqu'il coulisse le long des rails coulissants inclinés (322) ;
dans lequel une extrémité arrière du rail coulissant incliné (322) est pourvue d'un jeu de sorte que le tiroir (32) appuie fermement sur le compartiment d'article sec (3) au moyen du propre poids du tiroir (32) et d'un article placé dans le tiroir (32) ;
dans lequel une ventilation du compartiment d'article sec (3) est réalisée par un jeu dans l'assemblage entre le corps (31) et le tiroir (32).
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2. Réfrigérateur selon la revendication 1, dans lequel le tiroir (32) est pourvu d'une poignée (321), le joint est une face d'extrémité (314) sur le corps (31) près de la poignée (321), et l'organe d'étanchéité (5) est une bande d'étanchéité et est prévu sur la face d'extrémité (314).
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3. Réfrigérateur selon la revendication 2, dans lequel la bande d'étanchéité est une bande d'étanchéité en gel de silice.
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4. Réfrigérateur selon la revendication 1, dans lequel le passage d'air (2) est rendu étanche.
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5. Réfrigérateur selon la revendication 1, dans lequel le compartiment d'article sec (3) et le déflecteur de porte d'aération (34) forment un système indépendant qui ne communique pas avec le compartiment de réfrigération (6).
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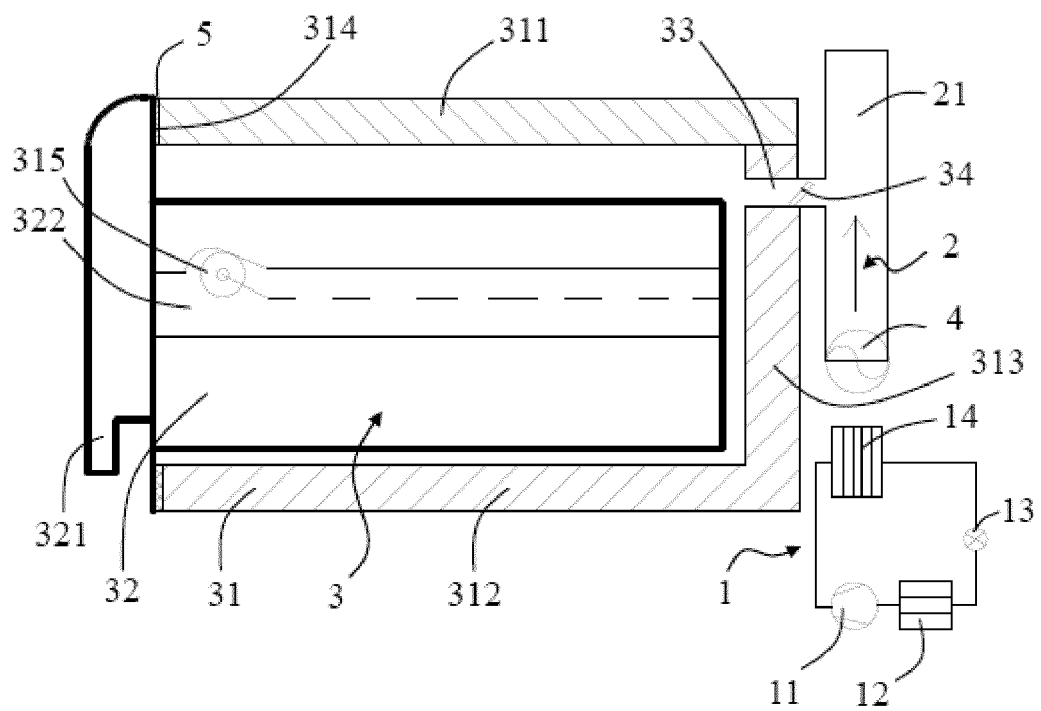


FIG. 1

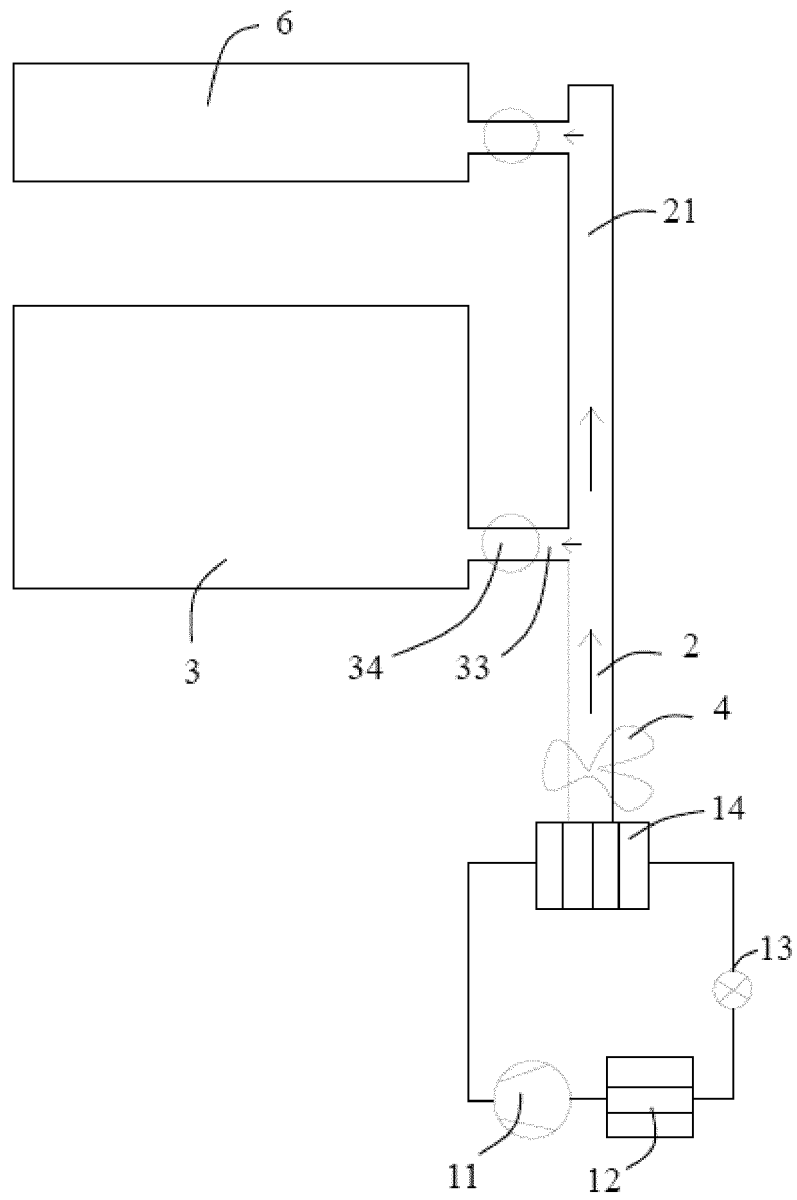


FIG. 2

REFERENCES CITED IN THE DESCRIPTION

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