

(19)



(11)

EP 2 813 789 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
17.12.2014 Bulletin 2014/51

(51) Int Cl.:
F25D 25/02 (2006.01) F25D 23/08 (2006.01)

(21) Application number: **14162573.1**

(22) Date of filing: **31.03.2014**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

- **Bilgin, Necati**
45030 Manisa (TR)
- **Durmaz, Gürcan**
45030 Manisa (TR)
- **Atay, Ibrahim**
45030 Manisa (TR)

(30) Priority: **12.06.2013 TR 201307051**

(74) Representative: **Santonicola, Paolo**
Indesit Company S.p.A.
Industrial Property Management Team
Via Lamberto Corsi, 55
60044 Fabriano (AN) (IT)

(71) Applicant: **Indesit Company Beyaz Esya San.Ve Tic A.S.**
34349 Balmumcu-Besiktas-Istanbul (TR)

(72) Inventors:
• **Gediz Ilis, Gamze**
45030 Manisa (TR)

(54) **A crisper box embodiment for a fridge**

(57) The present invention relates to a crisper box embodiment used in household type fridges (100), comprising a crisper box (10), a shelf (20), at least one metal profile (21) which positioned at the edge of the lower surface of said shelf (20) and which comes into contact with a gasket (11) when the shelf (20) is closed onto the crisper

box(10), at least one gasket (11) positioned on top of at least one side wall (13) of said crisper box (10) and a magnet (12) positioned inside said gasket (11) capable of pulling the metal profile (21) towards itself when the shelf (20) is closed onto the crisper box (10).

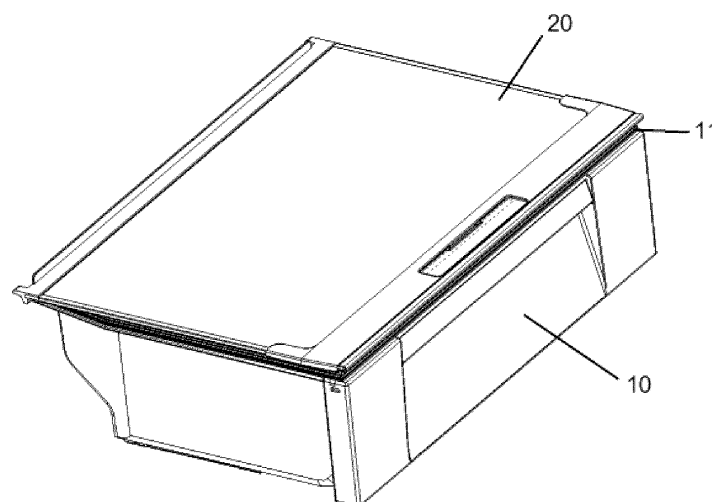


Figure 7

EP 2 813 789 A2

Description

Technical Field

[0001] The present invention relates to the production of a gasketed household type fridge crisper box to enable greater efficiency in food storage. This way, the level of humidity that is best suited for the foods contained in the crisper box can be controlled, making it possible to prevent the spread of moisture inside the fridge and extend the life of the foods contained in said crisper box.

Prior Art

[0002] In the prior art, there are currently no mechanisms that make it possible to control and maintain at a certain level of the moisture inside the vegetable compartment of a fridge.

[0003] The vegetable drawer is generally located in a certain region inside the fridge and comprises openings that keep it in contact with the interior of the fridge. This in turn prevents the vegetable compartment from maintaining a desired moisture level independent of the rest of the fridge.

[0004] A number of vegetable compartments are designed in the form of a vacuumed container. These containers function together with a vacuum pump with the air being suctioned out each time when the user opens and closes the vegetable compartment. However, vacuumed containers are costly and, furthermore, lead to greater power consumption as they have to be suctioned out each time the container is opened and closed.

[0005] Thus far, developments in this area have failed to implement a device that is not only cheap but also cost effective, but is also able to extend the life of foods by storing them at the desired temperature and humidity.

[0006] In conclusion, the disadvantages listed above, together with the shortcomings inherent in existing solutions, have made it necessary to provide an inventive technical solution.

The Object of the Invention

[0007] The present invention is based on the current situation and aims to resolve the problems referred to above.

[0008] It is vital for vegetables to be stored in the crisper box compartment of a household type fridge and to furthermore ensure that they remain fresh for an extended period of time. However, the moisture cannot be locked into the crisper box due to openings provided above the crisper boxes in the current art. As such, the object of the present invention is to reduce the loss of mass by maintaining the specific level of moisture required for stored foods in the crisper box, thereby preventing the foods from spoiling early.

[0009] The present invention can be manufactured at low cost and is effective in reducing energy consumption.

[0010] The object of the invention is to reduce needless energy consumption and to enable a more efficient working principle based on greater efficiency with less energy via the gasket.

[0011] Another object of the present invention is to store foods for an extended period of time at the desired humidity and temperature by maintaining them in an environment with a fixed level of moisture.

[0012] As the invention keeps the moisture in a single gasketed container, this also reduces energy consumption by preventing frost from forming around the evaporator of the fridge.

[0013] By preventing moisture from seeping into the interior of the fridge, the invention also reduces to a minimum the spread of bacteria that can thrive in moist conditions.

[0014] The invention relates to a household type fridge comprising an evaporator, a condenser, a compressor, a freezer, a cooler, polyurethane insulation, a chiller, a crisper box and a shelf; characterized by comprising a shelf and a crisper box, which sealing are provided by pulling of metal components each other which connected to a gasket and said shelf, said gasket's inside is magnetized and said gasket-gasket connected on side of the crisper box.

[0015] In order that the objects cited above can be realized, a crisper box embodiment is provided comprising a crisper box, a shelf, at least one metal profile which is positioned on the edge of the bottom surface of said shelf and is contacting the gasket upon closure of the shelf onto the vegetable compartment and comes into contact with the gasket when the shelf is closed onto the crisper box, at least one gasket positioned on top of at least one side wall of said crisper box and a magnet positioned inside said gasket that pulls the metal profile towards itself when said shelf is closed onto the crisper box.

[0016] The structural and characteristic features of the present invention shall be better understood from the following drawings and the detailed description provided with references to said drawings. Thus, the assessment should be carried in view of said drawings and the detailed description as provided.

Drawings Detailing the Invention

[0017]

Figure 1 is a two dimensional sectional view depicting the position inside the fridge of the crisper box according to the invention;

Figure 2 is a perspective view depicting the position inside the fridge of the crisper box according to the invention;

Figure 3 is a top perspective view of the crisper box according to the invention;

Figure 4 is a representative view of the gasket containing a magnet;

Figure 5 is a two dimensional bottom view of the

glass shelf according to the invention;

Figure 6 is a bottom perspective view of the glass shelf according to the invention;

Figure 7 is a top perspective view of the crisper box according to the invention with the glass shelf positioned on top forming an enclosure;

Figure 8 is a two dimensional sectional view from the side of the fridge according to the prior art;

Figure 9 is a perspective view of the fridge according to the prior art;

Figure 10 is a top perspective view of the crisper box according to the prior art.

Description of Numeric References to Parts

[0018]

- 100. Fridge
- 1. Evaporator
- 2. Condenser
- 3. Compressor
- 4. Freezer
- 5. Cooler
- 6. Polyurethane insulation layer
- 7. Chiller
- 10. Crisper box
- 11. Gasket
- 12. Magnet
- 13. Side Wall
- 20. Shelf
- 21. Metal Profile

[0019] The drawings do not necessarily have to be scaled and details that are not required to clearly understand the present invention may have been omitted. Furthermore, elements that are largely similar or largely serve the same function have been referenced using the same number.

A Detailed Description of the Invention

[0020] The present description discloses preferred embodiments of the crisper box (10) of the household type fridge (100) according to the invention in order to better illustrate the subject matter.

[0021] The household type fridge (100) according to the invention comprises: an evaporator (1), a condenser (2), a compressor (3), a freezer (4), a cooler (5), polyurethane insulation layer (6), a chiller (7), a crisper box (10), and a shelf (11).

[0022] The evaporator (1), condenser (2), compressor (3), freezer (4), cooler (5), polyurethane insulation layer (6), chiller (7) included in the household type fridge (100) according to the invention are all elements that are known in the art. The evaporator (1) functions to create the cooling effect. The condenser (2) is responsible for releasing heat during the cooling cycle. The compressor (3) compresses the cooling fluid to the condenser pressure. The

freezer (23) comprises the -18°C food freezing section. The cooler (5) comprises the 5°C food cooling section. The polyurethane insulation layer (6) includes a layer of insulation thickness for ensuring proper insulation. The chiller (7) comprises the 0°C food chilling section.

[0023] The crisper box (10) and the shelf (11) provide the household type fridge (100) according to the present invention with an inventive step over the known art. The crisper box (10) comprises the 6-8°C section of the fridge (100) used for cooling food.

[0024] In a preferred embodiment of the crisper box embodiment according to the invention, a gasket (11) having a magnet (12) positioned inside it is fixed to the top surface of the side walls (13) of the crisper box (10). Fixed to the bottom surface of the shelf (20) comprising a glass material is a metal profile (21), preferably of a sheet iron material. The metal profiles (21) are positioned at the edges at the bottom surface of the shelf, such that when the shelf (20) is closed onto the crisper box (10), the metal profiles (21) come into contact with the gaskets (11) containing the magnets (12).

[0025] Attached onto the shelf (20) may be at least one metal profile (21) providing a sealing action, while at least one gasket (11), preferably made of plastic and containing a magnet (12), may be attached onto the crisper box (10). Preferably, however, there are gaskets (11) containing magnets (12) positioned on top of each of the 4 side walls (13) and a metal profile (21) attached to each of the 4 edges of the bottom surface of the shelf (20).

[0026] In the crisper box embodiment according to the present invention, the glass shelf (20) acts as a lid that encloses the crisper box (10). When the glass shelf (20) is closed onto the crisper box (10), the magnets (11) inside the gaskets (12) pull the metal profile (21) towards itself with significant force and thus eliminate any space between the glass shelf (20) and the crisper box (10). Thus, the shelf (20) completely covers the crisper box (10), allowing a complete gasketing action by providing a fully enclosed crisper box (10).

Claims

1. A crisper box system used in household type fridges (100), comprising a crisper box (10) and a shelf (20), **characterized in** comprising;

- at least one metal profile (21) which is positioned on the edge of the bottom surface of said shelf and which comes into contact with the gasket (11) when the shelf (20) is closed onto the crisper box (10),
- at least one gasket (11) positioned on at least one side wall (13) of said crisper box (10),
- magnet (12) positioned inside said gasket (11) that pulls the metal profile (21) towards itself when the shelf (20) is closed onto the crisper box (10).

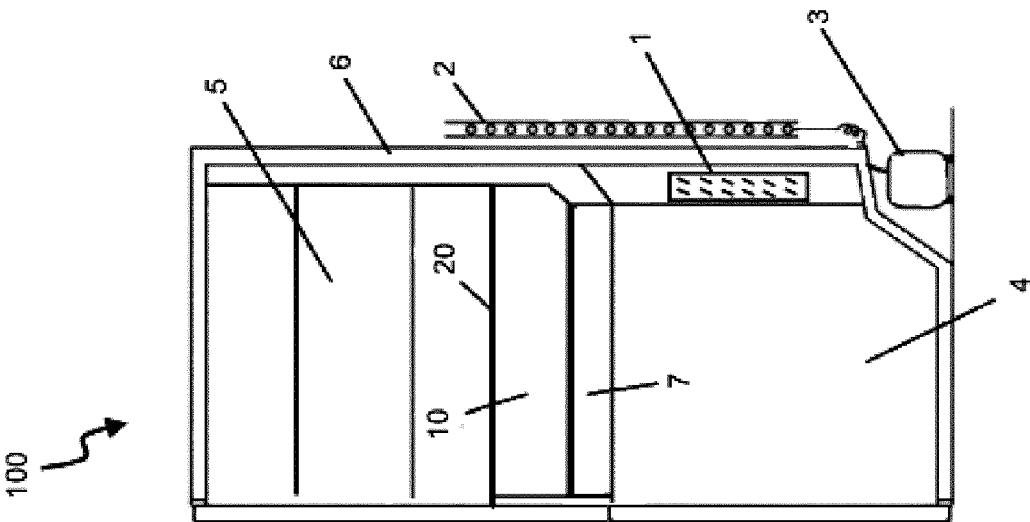


Figure 1

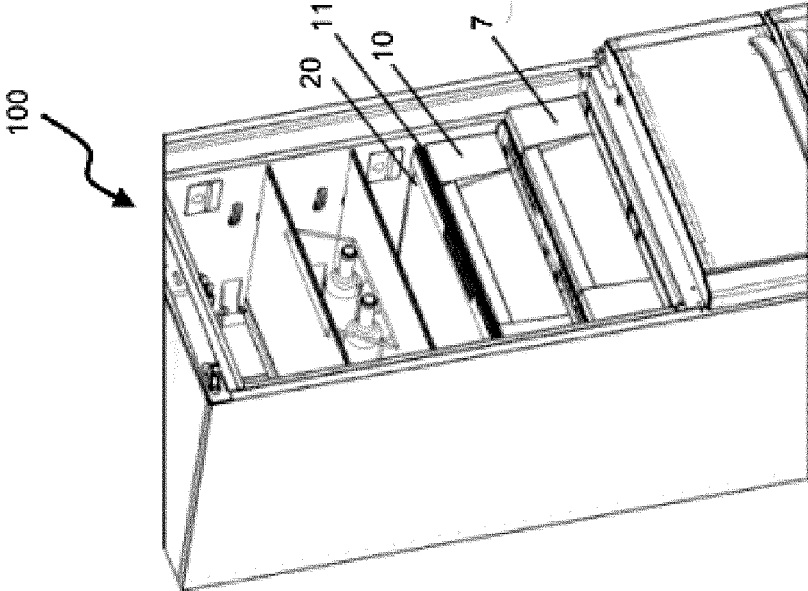


Figure 2

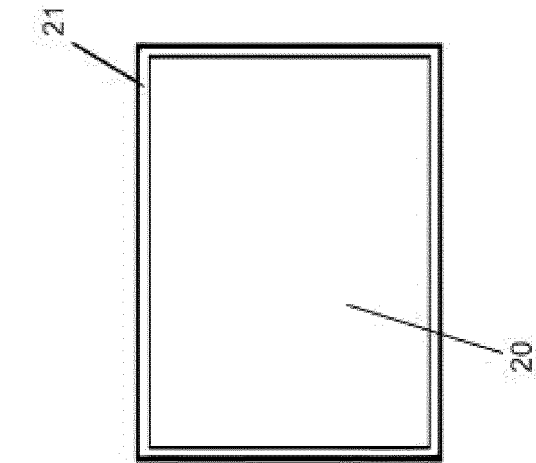


Figure 5

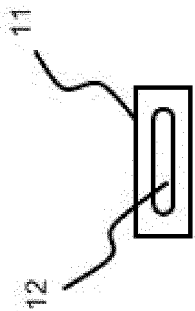


Figure 4

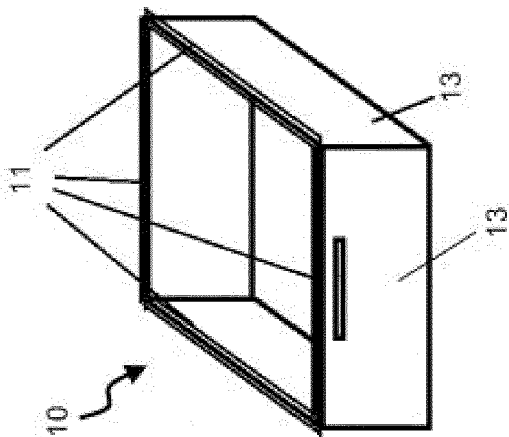
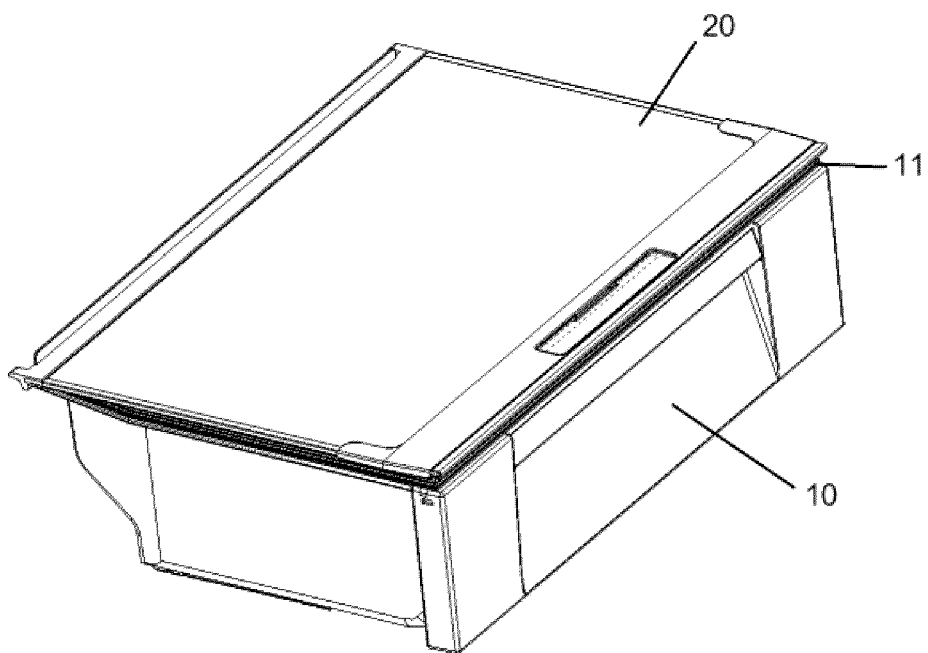
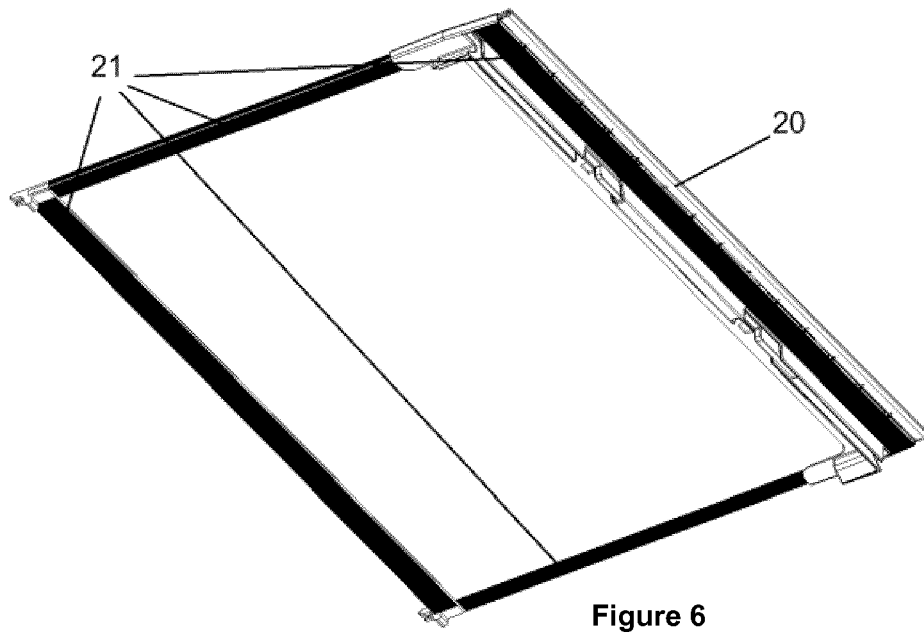


Figure 3



PRIOR ART!!!!

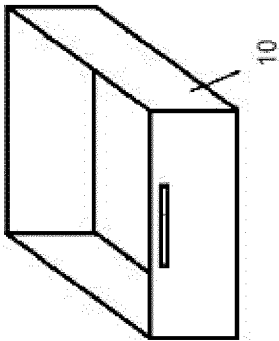


Figure 10

PRIOR ART!!!!

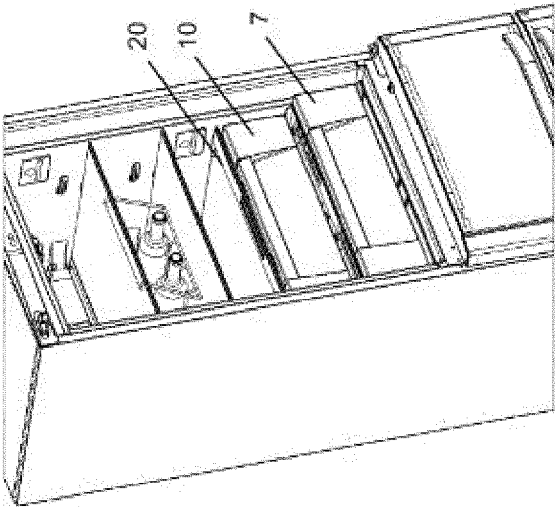


Figure 9

PRIOR ART!!!!

100

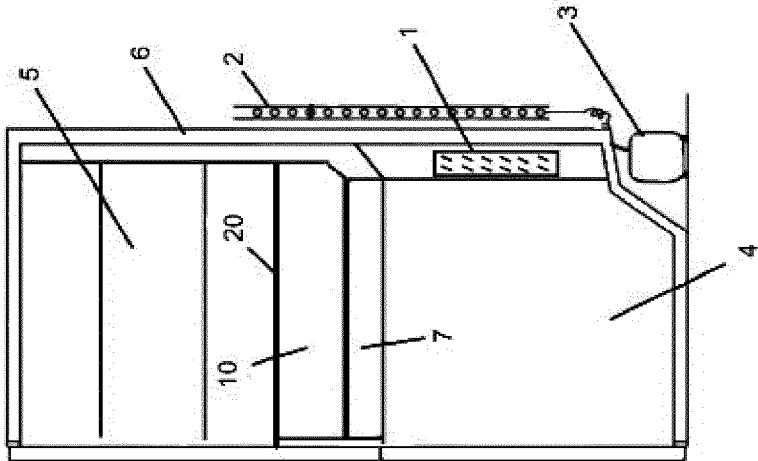


Figure 8