

(19)



(11)

EP 2 193 318 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:

01.04.2015 Bulletin 2015/14

(51) Int Cl.:

F25D 17/06 ^(2006.01)

F25D 23/06 ^(2006.01)

(86) International application number:

PCT/EP2008/061158

(21) Application number: **08803226.3**

(22) Date of filing: **26.08.2008**

(87) International publication number:

WO 2009/027404 (05.03.2009 Gazette 2009/10)

(54) **A COOLING DEVICE**

KÜHLVORRICHTUNG

DISPOSITIF DE REFROIDISSEMENT

(84) Designated Contracting States:

**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT
RO SE SI SK TR**

(30) Priority: **31.08.2007 TR 200706036**

(43) Date of publication of application:

09.06.2010 Bulletin 2010/23

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Description

[0001] The present invention relates to a cooling device comprising an evaporator lid.

[0002] In cooling devices, the air cooled by the evaporator is directed into the cooling device inner volume by means of a fan disposed over the evaporator. The evaporator lid separates the cooling volume from the volume containing the evaporator and the fan. The evaporator lid is secured to the side walls of the cooling device by various methods so that the evaporator lid is not displaced.

[0003] The evaporator lids can be of various dimensions depending on the width of refrigerators and each evaporator lid has to be produced separately. Since the width of evaporator lids mounted between the side walls of cooling devices have to be in accordance with the standard widths, for example 54 cm, 60 cm or 70 cm, a separate evaporator lid has to be used for each cooling device with a different width and this results in the increase of production costs.

[0004] In the state of the art United States of America Patent No US5727859, the explanation is given for the evaporator cover being mounted by means of tongues to the rear wall of the refrigerator.

[0005] The aim of the present invention is the realization of a cooling device comprising an evaporator lid that can be mounted in bodies having different dimensions.

[0006] The cooling device realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises an evaporator lid having more than one panel that can slide on or in one another conforming to cooling devices of different widths. Thus, the width of the evaporator lid can be adjusted by moving the panels.

[0007] In an embodiment of the present invention, a telescopically configured evaporator lid is used that is formed of panels insertable into one another.

[0008] The evaporator lid comprises two side panels disposed on the sides thereof and a middle panel disposed on the middle part and bearing on the side panels. Moreover, recesses and protrusions are arranged on the side panels and/or the middle panel that partially lock the evaporator lid when adjusted to the desired width.

[0009] By means of the present invention, a mono evaporator lid can be used in cooling devices having different widths. This decreases inventory, molding and production costs.

[0010] The cooling device realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

Figure 1 - is the schematic side view of a cooling device.

Figure 2 - is the detailed view of the part of the evaporator lid seated on the side wall of the cooling device.

Figure 3 - is the schematic front view of the cooling

device.

Figure 4 - is the exploded view of an evaporator lid.

[0011] The elements illustrated in the figures are numbered as follows:

1. Cooling device
2. Body
3. Side wall
4. Evaporator
5. Fan
6. Evaporator lid
7. , 107. Panel
8. Protrusion
9. Recess
10. Slot
11. Nail

[0012] The cooling device (1) comprises a body (2), more than one side wall (3) restricting the cooling and/or freezing compartments, an evaporator (4) and at least one fan (5) activating the air cooled by the evaporator (4) (Figure 1).

[0013] The cooling device (1) of the present invention comprises an evaporator lid (6)

- that separates the evaporator (4) from the cooling and/or freezing compartment,
- having more than one panel (7, 107) that are fitted to one another from one of the sides thereof, movable with respect to one another,
- the width thereof can be adjusted by being moved the panels (7, 107) in accordance with bodies (2) having different distances (A) between the side walls (3) (Figure 2 and Figure 3).

[0014] In an embodiment of the present invention, the evaporator lid (6) is configured telescopically and the panels (7, 107) are moved by inserting one another.

[0015] In an embodiment of the present invention, the evaporator lid (6) comprises two side panels (7) fitted to the side walls (3) from their ends by adjusting the distance therebetween according to the width (A) between the side walls (3) and a middle panel (107) bearing on the side panels (7) whereon the side panels (7) slide. Thus, the total length of the evaporator lid (6) is adjusted according to the width (A) between the side walls (3) (Figure 4).

[0016] In an embodiment of the present invention, the evaporator lid (6) comprises one or more protrusions (8) disposed on the side panels (7) and/or the middle panel (107), preferably having a resilient structure, that maintains partial locking when adjusted to the required length by moving the side panels (7) on the middle panel (107) preventing the side panels (7) to move on the middle panel (107) in an unwanted manner and one or more recesses (9) whereon the protrusions (8) are seated. The protrusions (8) and the recesses (9) are formed along the edges of the side panel (7) and the middle panel (107).

[0017] In an embodiment of the present invention, the body (2) comprises at least two slots (10) disposed reciprocally on the side walls (3) wherein the evaporator lid (6) is seated, preventing the movement of the evaporator lid (6) in the horizontal and vertical directions. In an embodiment of the present invention, the evaporator lid (6) comprises more than one nail (11) arranged on the sides of the side panels (7). While the evaporator lid (6) is secured into the body (2), the nails (11) are fitted into the slot (10) (Figure 4).

[0018] The evaporator lid (6) used in the cooling device (1) of the present invention, can be utilized commonly in different products wherein the distance (A) between the body (2) side walls (3) is variable. The evaporator lid (6) is mounted into the body (2) by fitting the nails (11) at the sides of the side panels (7) into the slots (10) on the side walls (3). The width of the evaporator lid (6) is adjusted with the assistance of the recesses (9) and protrusions (8) depending on the width (A) of the body (2) wherein it will be mounted. While adjusting the width of the evaporator lid (6), the middle panel (107) is moved by sliding inside the side panels (7). When the evaporator lid (6) is brought to the intended width, the recesses (9) are seated in the protrusions (8) and the total length of the evaporator lid (6) is adjusted by partially locking the middle panel (107) inside the side panels (7). Thus, the evaporator lid (6) attained the final length is secured in the body (2).

[0019] The evaporator lid (6) of the present invention can also be mounted to bodies (2) having small width (A) differences from each other by adjusting accordingly. In accordance with the width differences between the side walls (3) of the cooling devices (1) manufactured by serial production due to variability of the polyurethane thickness, the evaporator lid (6) can be easily adjusted to the suitable width and secured to the side walls (3) when for example the width of the side walls (3) is 699 or 701 mm instead of the required 700 mm.

[0020] By means of the present invention, the evaporator lid (6) can be mounted in the cooling device (1) body (2), being suitable to the mutually different body widths (A) of cooling devices (1) and betterment in costs like molding, inventory etc. is maintained by producing a monotype evaporator lid (6).

Claims

1. A cooling device (1) that comprises a body (2), more than one side wall (3) restricting the cooling and/or freezing compartments, an evaporator (4), at least one fan (5) for activating the air cooled by the evaporator (4) **and** an evaporator lid (6) that separates the evaporator (4) from the cooling and/or freezing compartment, **characterized by** said evaporator lid (6) having more than one panel (7, 107) that are fitted to one another from one of the sides thereof, movable with respect to one another, wherein the width thereof can be adjusted by moving the panels (7, 107) in

accordance with bodies (2) having different distances (A) between the side walls (3).

2. A cooling device (1) as defined in Claim 1, **characterized by** an evaporator lid (6) that is configured telescopically, having panels (7, 107) that are moved by inserting into one another.
3. A cooling device (1) as defined in Claim 1 or 2, **characterized by** an evaporator lid (6) comprising two side panels (7) fitted to the side walls (3) from their ends and a middle panel (107) bearing on the side panels (7) whereon the side panels (7) slide.
4. A cooling device (1) as defined in any one of the above claims, **characterized by** one or more protrusions (8) disposed on the side panels (7) and/or the middle panel (107), preferably of resilient configuration, that maintains partial locking when adjusted to the required length by moving the side panels (7) on the middle panel (107) and prevents the panels (7 and 107) from moving in an unwanted manner and one or more recesses (9) whereon the protrusions (8) are seated.
5. A cooling device (1) as defined in any one of the above claims, **characterized by** a body (2) comprising more than one slot (10) disposed oppositely on the side walls (3) wherein the evaporator lid (6) is seated, preventing the movement of the evaporator lid (6) in the horizontal and vertical directions and an evaporator lid (6) that comprises more than one nail (11) for securing thereof to the body (2) by being seated in the slot (10).

Patentansprüche

1. Kühlvorrichtung (1), die einen Gehäusekörper (2), mehrere Seitenwände (3), die die Kühl- und/oder Gefrierfächer beschränken, einen Verdampfer (4), wenigstens ein Gebläse (5) zum Aktivieren der vom Verdampfer (4) gekühlten Luft und einen Verdampferdeckel (6) umfasst, der den Verdampfer (4) vom Kühl- und/oder Gefrierfach trennt, **dadurch gekennzeichnet, dass** der Verdampferdeckel (6) mehrere Platten (7, 107) aufweist, die von einer ihrer Seiten aneinander gefügt sind und in Bezug aufeinander beweglich sind, wobei ihre Breite durch Bewegen der Platten (7, 107) gemäß Gehäusekörpern (2) mit unterschiedlichen Abständen (A) zwischen den Seitenwänden (3) angepasst werden kann.
2. Kühlvorrichtung (1) nach Anspruch 1, **gekennzeichnet durch** einen Verdampferdeckel (6), der teleskopisch konfiguriert ist und Platten (7, 107) aufweist, die durch Einschieben ineinander bewegt werden.

3. Kühlvorrichtung (1) nach Anspruch 1 oder 2, **gekennzeichnet durch** einen Verdampferdeckel (6), der zwei Seitenplatten (7), die von ihren Enden an die Seitenwände (3) gefügt sind, und eine mittlere Platte (107) umfasst, die an den Seitenplatten (7) anliegt und auf der die Seitenplatten (7) gleiten. 5
4. Kühlvorrichtung (1) nach einem der vorangehenden Ansprüche, **gekennzeichnet durch** einen oder mehrere Vorsprünge (8), die an den Seitenplatten (7) und/oder der mittleren Platte (107) angebracht sind und vorzugsweise elastisch konfiguriert sind und eine Teilverriegelung aufrechterhalten, wenn sie auf die benötigte Länge angepasst werden, indem sich die Seitenplatten (7) auf der mittleren Platte (107) bewegen, und verhindern, dass sich die Platten (7 und 107) in einer unerwünschten Weise bewegen, und **durch** eine oder mehrere Vertiefungen (9), in denen die Vorsprünge (8) sitzen. 10 15
5. Kühlvorrichtung (1) nach einem der vorangehenden Ansprüche, **gekennzeichnet durch** einen Gehäusekörper (2), der mehrere Schlitz (10), die gegenüber an den Seitenwänden (3) angeordnet sind und in denen der Verdampferdeckel (6) sitzt, was die Bewegung des Verdampferdeckels (6) in horizontaler und vertikaler Richtung verhindert, und einen Verdampferdeckel (6) umfasst, der mehrere Nägel (11) zum Sichern desselben am Gehäusekörper (2) durch Sitzen in den Schlitz (10) umfasst. 20 25 30
4. Un dispositif de refroidissement (1) selon l'une quelconque des revendications précédentes, **caractérisé par** une ou plusieurs protubérances (8) préférentiellement élastiques, qui sont disposées sur les panneaux latéraux (7) et/ou sur le panneau central (107), qui maintiennent un verrouillage partiel après avoir ajustées à la longueur désirée par le déplacement des panneaux latéraux (7) sur le panneau central (107) et qui empêchent les panneaux (7 et 107) de se déplacer de manière indésirable et **par** un ou plusieurs évidements (9) sur lesquels les protubérances (8) sont placées.
5. Un dispositif de refroidissement (1) selon l'une quelconque des revendications précédentes, **caractérisé par** un corps (2) comprenant plus d'une fente (10) disposée de manière opposée aux parois latérales (3) où le couvercle d'évaporateur (6) est placé, empêchant le mouvement du couvercle d'évaporateur (6) dans les sens horizontal et vertical et un couvercle d'évaporateur (6) qui comprend plus d'un clou (11) pour la fixation de celui-ci au corps (2) en étant placé dans la fente (10).

Revendications

1. Un dispositif de refroidissement (1) qui comprend un corps (2), plus d'une paroi latérale (3) qui limite les compartiments de refroidissement et/ou de congélation, un évaporateur (4), au moins un ventilateur (5) pour remuer l'air refroidi par l'évaporateur (4) et un couvercle d'évaporateur (6) qui sépare l'évaporateur (4) du/des compartiment(s) refroidissement et/ou de congélation, **caractérisé par** ledit couvercle d'évaporateur (6) présentant plus d'un panneau (7, 107) qui sont monté l'un à l'autre à partir de l'un des côtés de celui-ci, qui peut se déplacer l'un par rapport à l'autre, où la largeur de celui-ci peut être ajustée en déplaçant les panneaux (7, 107) en conformité avec les corps (2) avec des distances (A) différentes entre les parois latérales (3). 35 40 45 50
2. Un dispositif de refroidissement (1) selon la Revendication 1, **caractérisé par** un couvercle d'évaporateur (6) qui est télescopique, présentant des panneaux (7, 107) qui sont déplacés par l'insertion l'un dans l'autre. 55
3. Un dispositif de refroidissement (1) selon la Revendication 1 ou 2, **caractérisé par** un couvercle d'éva-

Figure 1

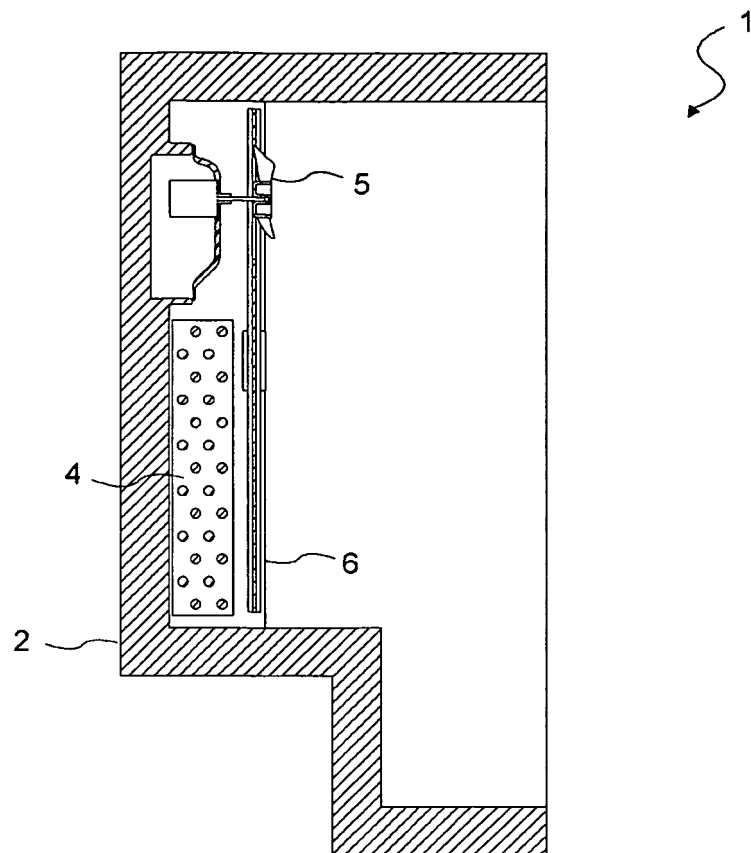


Figure 2

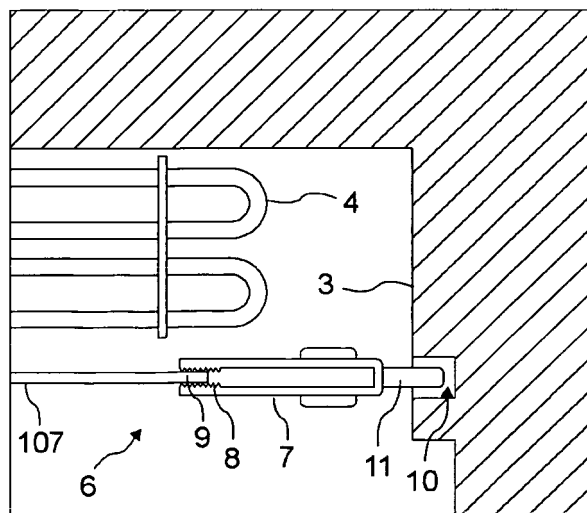


Figure 3

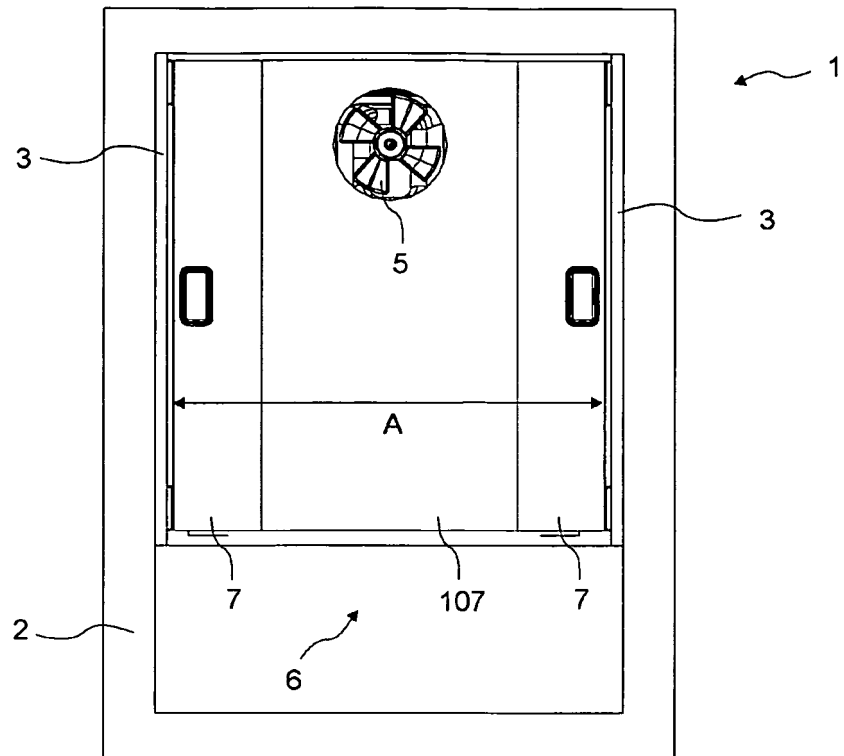
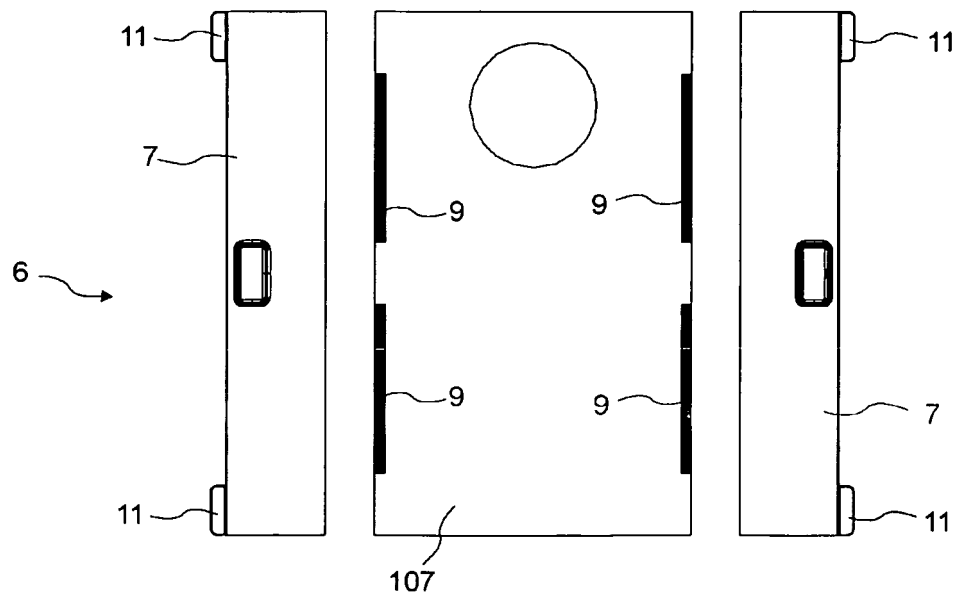


Figure 4



REFERENCES CITED IN THE DESCRIPTION

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