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(54) **A cooling device**

Kühlvorrichtung

Dispositif de refroidissement

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- **IMIR, Can**
35520 Izmir (TR)
- **ERDEM, Fatih Sultan**
35540 IZMIR (TR)

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(74) Representative: **Cayli, Hülya**
Paragon Consultancy Inc.
Koza Sokak No: 63/2
GOP
06540 Ankara (TR)

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(73) Proprietor: **Vestel Beyaz Eşya Sanayi ve Ticaret A.S.**
45030 Manisa (TR)

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(72) Inventors:

- **TURAN, Halil**
45030 Manisa (TR)

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Description**Technical Field**

[0001] The invention relates to placing display/control panels in the cooling devices used for storing foodstuff.

Prior Art

[0002] As known, body and door sections of the cooling devices, which are used for storing foodstuff, are surrounded by thermal insulation materials. Thanks to these insulation materials, which are filled in the spaces remaining between the sheet metal materials in the device body or device door, heat exchange between the food storage chamber of the device and the external environment is minimized. However, using the insulation material makes it difficult to place some parts on the device body or device door. For example, many new generation refrigerator doors are provided with a display/control panel, and these panels are placed in a space formed inside the heat insulation material. These display/control panels, which are used by the user for adjusting operation of the device or acquiring information about the operation condition of the device, can sometimes fail, and are able to engage and disengage for repair, change, etc. Various studies have been made in the art for ensuring that operations become more practical.

[0003] For instance, a published patent application no EP2184571 discloses a display/control panel placed in a door of the refrigerator. It is seen that the panel is placed in a space provided inside the insulated section in the refrigerator. The panel is placed from the side part of the door, and simultaneously, a door handle in the shape of a slot is placed in the placement space. However, partial spaces are provided around the handle and panel; and since these two parts are side by side, the heat insulation material is not able to be used in a wide volume. Due to little insulation material, the amount of the heat loss in this area is more than the other sections.

[0004] US 4404813 discloses a cooling device according the preamble of claim 1.

Brief Description of the Invention

[0005] The cooling device of the invention is a device according to claim 1.

Objectives of the Invention

[0006] An aim of the invention is to form a display and/or control panel for cooling devices used for storing foodstuff.

[0007] Other aim of the invention is to ensure that said panel is able to engage to and disengage from the internal section of the device. Thus; aesthetic view of the device is not disrupted by ensuring that the connection elements remain inside.

[0008] The other aim of the invention is to ensure that said panel is able to engage and disengage easily.

[0009] Another aim of the invention is to minimize heat loss from the surrounding area of the panel by ensuring that the surrounding area of the panel is heat insulated.

[0010] A further aim of the invention is to form a cooling device having a panel, production and assembly of which are easy and cost-effective.

Description of the Drawings

[0011] An exemplary cooling device body and a panel engaged thereto are shown in the attached drawings wherein;

Figure 1 is a perspective view of the internal side of the body.

Figure 2 is an upper sectional view of the section in which the panel is engaged.

Figure 3 is an upper sectional view of the panel in an engaged state.

[0012] The parts in the figures are individually enumerated and the corresponding terms of reference numbers are as follows:

Cooling device body	(1)
Internal wall	(2)
External wall	(3)
Slot	(4)
Panel	(5)
Heat insulation part	(6)
Cover	(7)
Connection element	(8)
Cable	(9)
Rabbet	(10)
Front surface	(11)
Rear surface	(12)

Description of the Invention

[0013] The cooling device (not shown) of the invention, which is to be used for storing foodstuff, comprises at least one display and/or control panel thereon, and said panel is used by the user for adjusting operation of the device or acquiring information about the operation condition of the device. The panel is positioned on a heat insulated body of the cooling device. Figure 1 shows a part of the heat insulated body of the cooling device, and this part can be in the form of a movable door or a fixed wall. In other words, said body (1) can be any one of the openable and closable doors of a refrigerator, as well as can be used as one of the fixed walls surrounding the internal volume.

[0014] Figure 2 shows a sectional view of said body (1), and at least one slot (4) provided therein is formed

for the placing the panel (5) (shown in figure 3) of the invention. Access to the slot (4) is ensured from the internal wall (2) side of the body (1). In other words, for the engaged state of the panel (5), as shown in figure 3, the panel (5) is needed to be pushed inside the slot (4) from the internal wall (2) side. In this assembled state, the panel (5) leans on at least one rabbet (10) at the external wall (3) side of the body (1), and front surface (11) of the panel (5) can be seen therefrom (at the external wall (3) side). (Also, electricity is able to be carried to the panel (5) by the fixed cables (9) remaining inside the body (1).)

[0015] As shown in figure 3, a thermal insulation part (6) closing a rear surface (12) of the panel (5) is provided. The insulation part (6) is formed so as to fill the entire space of the slot (4) remaining from the panel (5). Thus, formation of heat loss from the surrounding area of the panel (5) is prevented. At the rear side of the insulation part (6), at least one cover (7) preventing the disengagement of the part (6) from slot (4) is located. The cover (7) is fixed to the internal wall (2), and therefore, disengagement of the insulation part (6) and the panel (5) are prevented. The cover (7) is able to be fixed to the internal wall (2) via various connection elements (8) (such as screw, etc.) (figure 1); therefore external aesthetic of the device is not disrupted. In the alternative embodiments of the invention, the cover (7) is able to be made so as to be integral with the insulation part (6). One of the important points apart from the thermal insulation is that the insulation part (6) ensures the panel (5) to be fixed with the help of the cover (7) by leaning on the rear surface (12) of the panel (5).

[0016] Thanks to the embodiment of the invention, easy disassembling of the panel (5) is ensured by disengaging only the cover (7) and the insulation part (6). Thus, also, easy and cost effective assembly of the panel (5) is ensured.

Claims

1. A cooling device, which has at least one display and/or control panel (5) on a heat insulated body (1) of the device in which foodstuff is stored, comprising:

a slot (4) in which said panel (5) is engaged from an internal wall (2) side of the body(1);
at least one insulation part (6); and
at least one cover (7) which is provided at the rear side of the insulation part (6), **characterized in that** said insulation part (6) is formed so as to fill the entire space reamaining between the panel (5) and the slot (4) and leans on the rear surface (12) of the panel (5) and said at least one cover (7) is fixed to the internal wall (2).

2. A cooling device according to claim 1 **characterized by** comprising at least one rabbet (10), on which a

front surface of the panel (5) inside the slot (4) leans, at an external wall side (3) of the body (1).

3. A cooling device according to claim 1 **characterized by** comprising connection elements (8) which engages the at least one cover (7) to the internal wall (2).
4. A cooling device according to claim 1 **characterized in that** the at least one cover (7) is integral with the insulation part (6).

Patentansprüche

1. Kühleinrichtung, welche zumindest eine Anzeigeeinrichtung und/oder eine flächige Bedieneinrichtung (5) als Panel oder Fläche auf einem wärmeisolierten Körper (1) der Einrichtung aufweist, in dem Nahrungsmittel aufbewahrt werden, umfassend:

- einen Schlitz oder Spalt (4), in dem die Bedienfläche (5) aufgenommen oder von ihr festgehalten ist, von einer inneren Wandseite (2) des Körpers (1);

- zumindest ein Isolationsabschnitt (6); und

- zumindest eine Abdeckung (7), welche an der Rückseite des Isolationsabschnitts (6) vorgesehen ist,

dadurch gekennzeichnet, dass der Isolationsabschnitt (6) so ausgebildet ist, dass er den gesamten Raum ausfüllt, der zwischen der Bedienfläche (5) und dem Schlitz oder Spalt (4) verbleibt und sich an die rückseitige Oberfläche (12) der Bedienfläche (5) anlegt und die zumindest eine Abdeckung (7) an der inneren Wand (2) befestigt ist.

2. Kühleinrichtung nach Anspruch 1, **gekennzeichnet durch** zumindest einen Vorsprung oder Falz (10), an der eine vorderseitige Oberfläche der Bedienfläche (5) innerhalb oder in dem Schlitz oder der Nut (4) liegt oder sich daran anlegt, auf einer externen Wandseite (3) des Körpers (1).

3. Kühleinrichtung nach Anspruch 1, **gekennzeichnet durch** Verbindungselemente (8), welche an der zumindest einen Abdeckung (7) angreifen zu der inneren Wand (2).

4. Kühleinrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die zumindest eine Abdeckung (7) einstückig oder integral mit dem Isolationsabschnitt (6) ausgebildet ist.

Revendications

1. Dispositif de refroidissement, qui comporte au moins un panneau d'affichage et/ou de commande (5) sur un corps calorifugé (1) du dispositif dans lequel un aliment est stocké, 5
comprenant :
 - une fente (4) avec laquelle ledit panneau (5) entre en prise à partir d'un côté paroi interne (2) du corps (1) ; 10
 - au moins une partie isolation (6) ; et
 - au moins un couvercle (7) qui est prévu sur le côté arrière de la partie isolation (6), **caractérisé en ce que** ladite partie isolation (6) est formée afin de remplir l'espace entier restant entre le panneau (5) et la fente (4) et prend appui sur la surface arrière (12) du panneau (5) et ledit au moins un couvercle (7) est fixé à la paroi interne (2). 15
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2. Dispositif de refroidissement selon la revendication 1, **caractérisé en ce qu'il** comprend au moins une feuillure (10), sur laquelle une surface avant du panneau (5) à l'intérieur de la fente (4) prend appui, sur un côté paroi externe (3) du corps (1). 25
3. Dispositif de refroidissement selon la revendication 1, **caractérisé en ce qu'il** comprend des éléments de raccordement (8) qui mettent en prise l'au moins un couvercle (7) avec la paroi interne (2). 30
4. Dispositif de refroidissement selon la revendication 1, **caractérisé en ce que** l'au moins un couvercle (7) est intégré avec la partie isolation (6). 35

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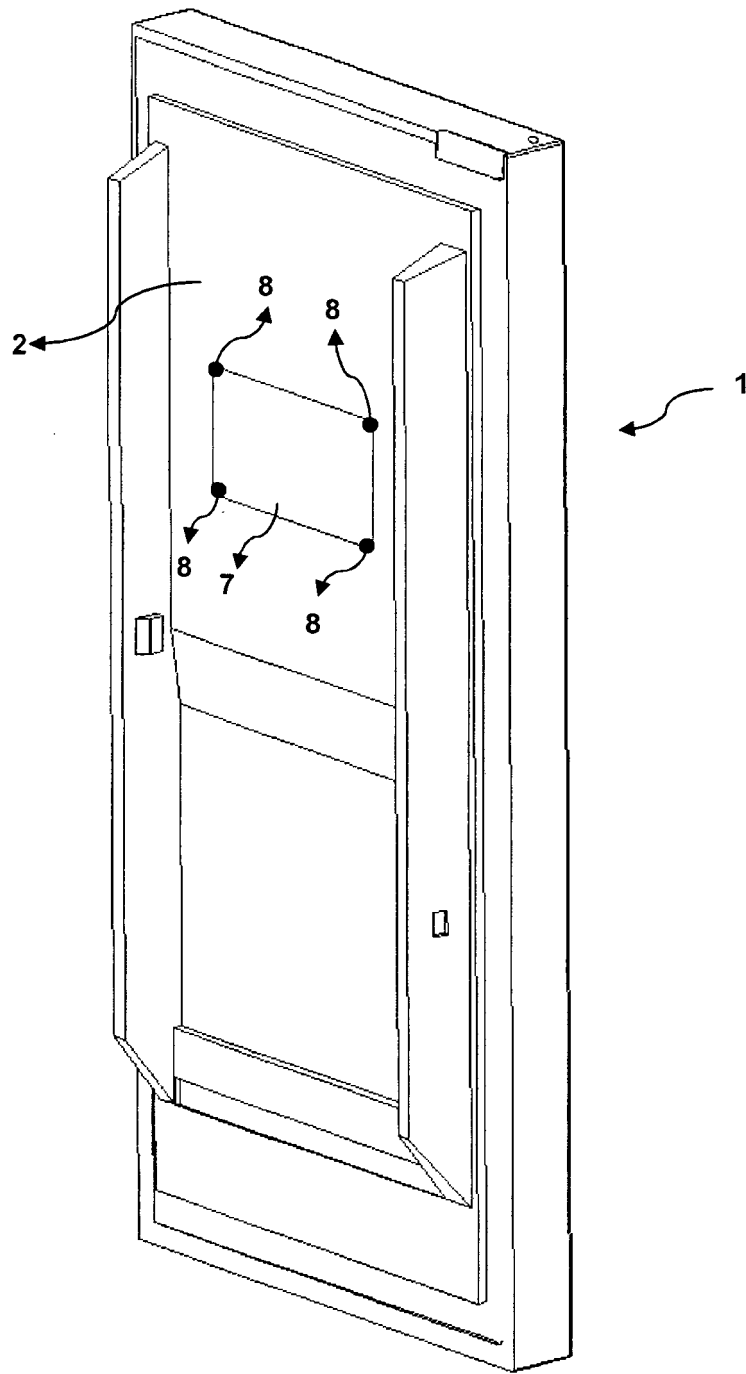


Figure - 1

REFERENCES CITED IN THE DESCRIPTION

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