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(54) Domestic refrigerator

(57) A domestic refrigerator comprises a structure (10a) and refrigerant circuit provided with a compressor (14) having a container (V) in the form of a dish for collecting defrosting water. The container (V) is in thermal contact with the compressor (14) and has at least one portion (24) made of flexible plastic material, for example silicone rubber, capable of adapting itself to the shape of the compressor (14).

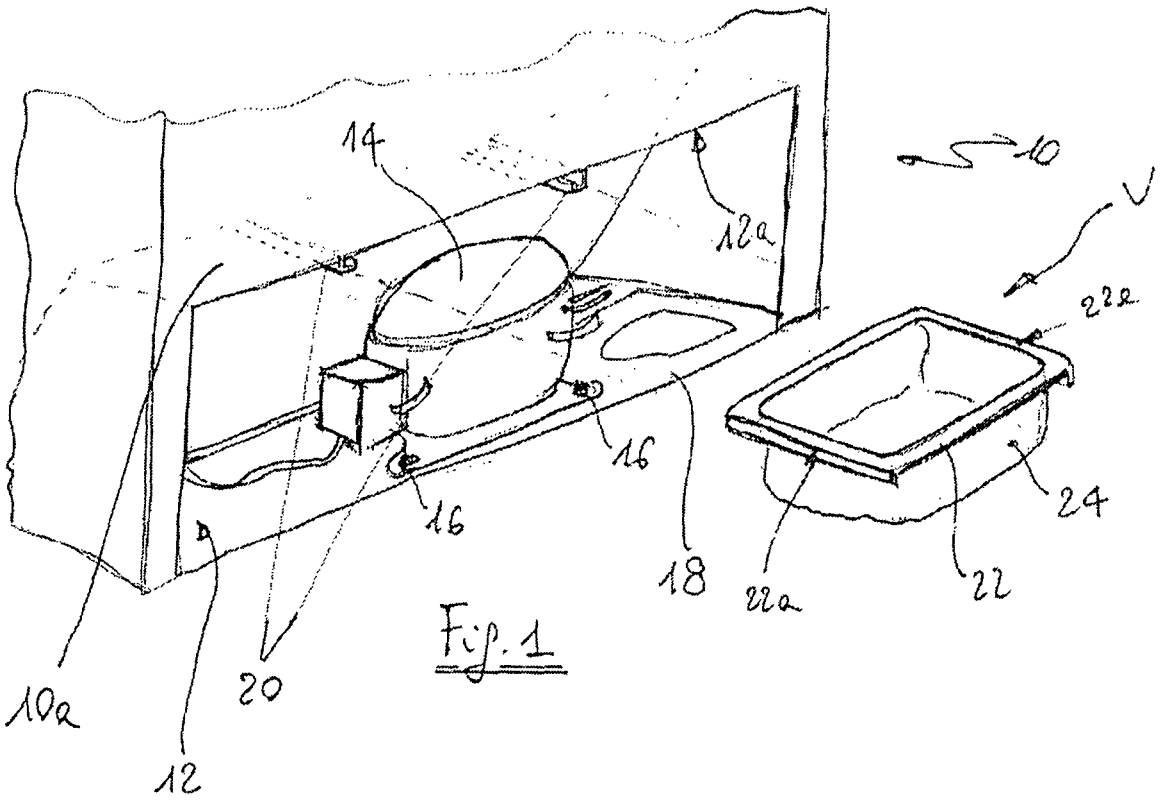

Fig. 1

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Description

[0001] The present invention relates to a domestic refrigerator of the type comprising a structure and a refrigerant circuit provided with a compressor having a container in the form of a dish for the collection and evaporation of defrosting water, said container being in thermal contact with the compressor.

[0002] A domestic refrigerator is taken to mean any household electrical appliance for preserving fresh and/or deep-frozen foods, for example refrigerators provided with a fridge compartment and a freezer compartment, chest or upright freezers etc..

[0003] It is well known that in such domestic refrigerators it is necessary to provide a system for collecting defrosting water, which is channelled out from the bay to a container of polymeric material placed on a compressor, said container commonly being known as a "dish" or "tray". The thermal contact between said container and the hot compressor ensures sufficient evaporation of the water to prevent overflowing.

[0004] Given the variety of models of compressor that can be installed in refrigerators, manufacturers of household electrical appliances have to hold stocks of different types of container, with a consequent increase in costs and complication of component management. Furthermore, such containers, which are usually produced by injection moulding of polymeric material, do not always ensure ideal thermal contact with the compressor.

[0005] The aim of the present invention is provide a domestic refrigerator of the type specified at the beginning of the description, which does not exhibit the above-stated disadvantages and which is simple and economic to produce. According to the invention, said object is achieved by a refrigerator having the features stated in the appended claims.

[0006] Further advantages and features of a refrigerator according to the invention will emerge from the following detailed description, provided purely by way of nonlimiting example, with reference to the attached drawings, in which:

- Figure 1 is a perspective view of a portion of a refrigerator according to the invention, in which the defrosting water container is shown in a pre-assembly configuration; and

- Figure 2 is a similar view to Figure 1, in which the defrosting water container is illustrated in its configuration as installed in the refrigerator.

[0007] With reference to the drawings, the reference number 10 denotes overall a domestic refrigerator having a structure 10a constituted by a thermally insulated cabinet within which are accommodated one or more bays (not shown) closed by suitable access doors. Below the structure there is located, in a known manner, a compartment 12 for the installation of a compressor 14, fixed at 16 to a metal crosspiece 18 delimiting the bottom of said compartment 12. The compressor 14 is an integral part of the refrigeration circuit of the refrigerator, comprising a condenser and one or more evaporators. At the level of an upper wall 12a of the lower compartment 12, there are provided two guides 20 capable of co-operating with corresponding parallel edges 22a of a frame 22 that delimits the upper part of a dish V for collecting defrosting water. A flexible film 24 is joined, for example by comoulding or by adhesive bonding, to the frame 22 of the dish V, which film, once the dish V has been set in place on the compressor 14, adapts itself under the effect of gravity to the dome of the compressor. Such "adaptation" is facilitated by the weight of the defrosting water that is channelled to the dish V, in that the greater the volume of water in the dish V, the greater the area of contact between the flexible film 24 and the compressor 14.

[0008] In the example shown in the drawings, the dish V projects to the rear of the structure 10a by a depth Y such that evaporation of the water is promoted. Alternatively, the guides 20 can be spaced relative to the upper wall 12a of the compartment 12 so as to ensure sufficient evaporation of the water.

[0009] The material used to produce the flexible film 24 can be silicone rubber, PVC, polyethylene, polypropylene, polyester, polyamide or copolymers thereof. Materials other than those listed here can, of course, also be used. As an alternative to adhesive bonding or comoulding, the frame 22 can be produced integrally with the flexible film 24.

[0010] To fit the dish V to the refrigerator 10, it is sufficient to slide the frame 22 of the dish V into the appropriate guides 20. In this manner, the flexible film portion 24 of the dish V comes into contact with the compressor 14. Obviously, the flexible film 24 will be able to adapt itself to different types and shapes of compressor, with obvious advantages in the management of household electrical appliance components and spare parts.

Claims

1. Domestic refrigerator, of the type comprising a structure (10a) and a refrigerant circuit provided with a compressor (14) having a container in the form of a dish for collecting defrosting water, said container being in thermal contact with the compressor (14), **characterised in that** said container (V) has at least one portion (24) produced from flexible material capable of adapting itself to the shape of the compressor (14).

2. Refrigerator according to Claim 1, **characterised in that** said container is supported by the structure (10a) of the refrigerator (10).

3. Refrigerator according to Claim 2, **characterised in that** the container (V) has an edge portion (22, 22a)

in the form of a frame capable of sliding in corresponding guides (20) provided on the structure (10a) of the refrigerator (10) at the time of installation.

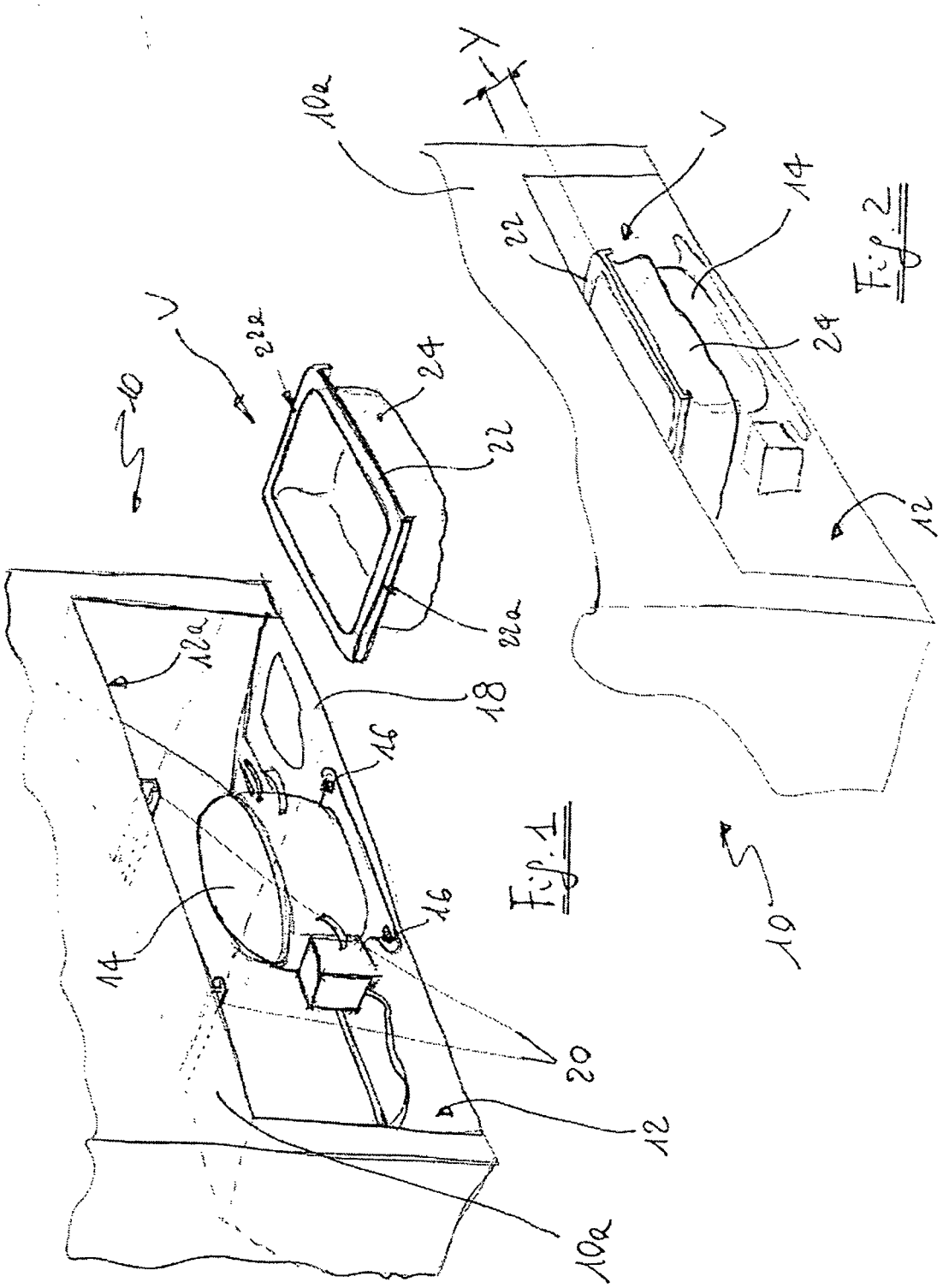
4. Refrigerator according to Claim 3, **characterised in that** said edge portion (22) is joined by comoulding or adhesive bonding to the flexible portion (24) of the container (V).

5. Refrigerator according to Claim 3 or 4, **characterised in that** said guides (20) are arranged at the level of a lower wall (12a) of the structure (10a) of the refrigerator (10).

6. Refrigerator according to Claim 5, **characterised in that** said container (V) is arranged substantially in contact with said lower wall (12a) of the structure (10a), and comprises a portion that projects beyond a rear wall of said structure (10a).

7. Refrigerator according to Claim 3, **characterised in that** said flexible portion (24) is formed integrally with the edge portion (22, 22a).

8. Refrigerator according to any one of the preceding claims, **characterised in that** said flexible portion (24) of the container (V) is constituted by a polymer selected from the group that consists of silicones, polyvinyl chlorides (PVCs), polyethylenes, polypropylenes, polyesters, polyamides or the copolymers thereof.


10
V
22a
24
22
22a
12a
18
16
14
16
20
12
10a
Fig. 1
10a
Y
V
22
14
24
12
10
Fig. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 05 10 6137

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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TECHNICAL FIELDS SEARCHED (IPC)

F25D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	14 November 2005	Zanotti, L

CATEGORY OF CITED DOCUMENTS

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