May 26, 1942. K. A. MILLS 2,284,293

REFRIGERATOR

Filed Feb. 13, 1940

Fig. 1.

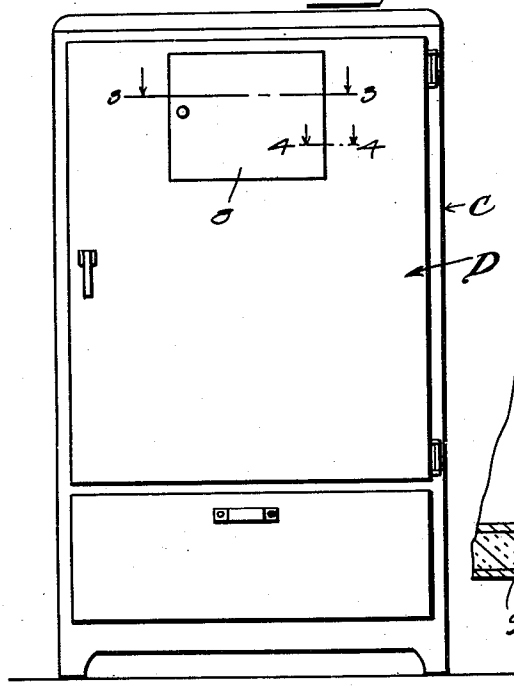


Fig. 3.

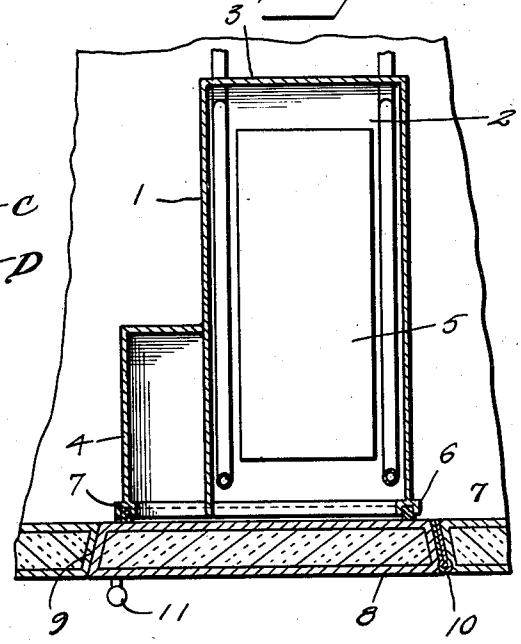


Fig. 2.

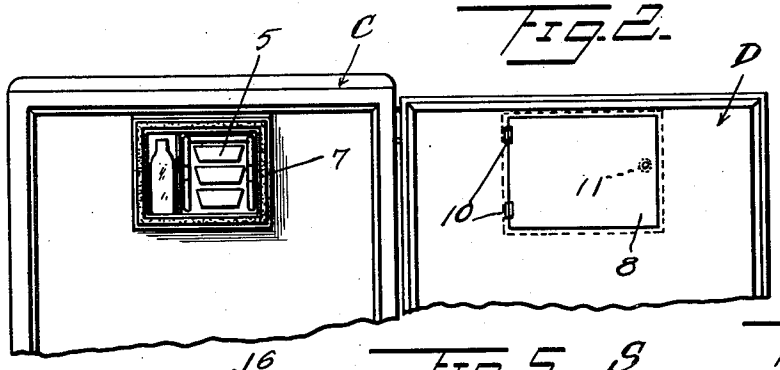


Fig. 5.

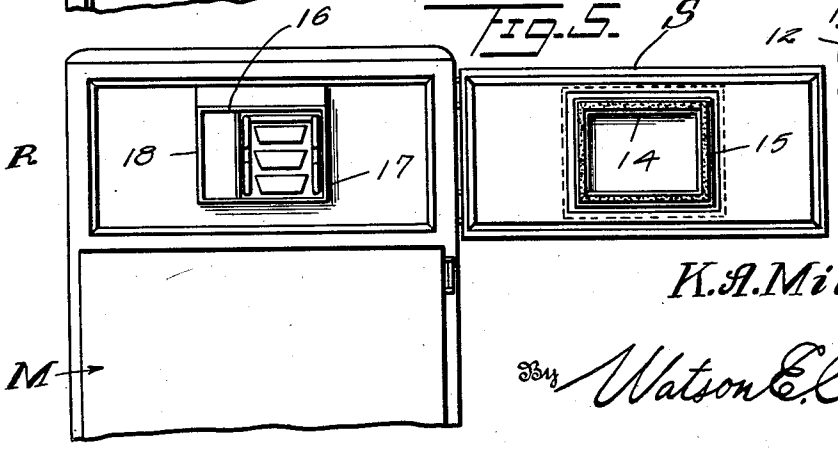
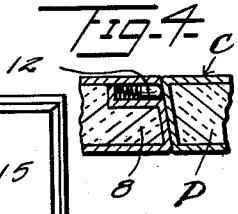


Fig. 4.



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UNITED STATES PATENT OFFICE

2,284,293

REFRIGERATOR

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Application February 13, 1940, Serial No. 318,772

1 Claim. (Cl. 62—89)

This invention relates to refrigerators and especially to that type of refrigerators including mechanical freezing units therein.

It is an object of the invention to provide a refrigerator of this type with means whereby access may be had to the freezing unit or its equivalent without opening the main door of the refrigerator and thus adding to protection of the food within the refrigerator by maintenance of more even temperature.

It is also an object of the invention to provide a refrigerator wherein is obtained an effective conservation of the low temperature therein and wherein the freezing unit includes a separate compartment to receive a water bottle or the like.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved refrigerator whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawing, wherein:

Figure 1 is a view in front elevation of a refrigerator constructed in accordance with an embodiment of my invention;

Figure 2 is a view in front elevation of the upper portion of the refrigerator as illustrated in Figure 1 with the main door in open position;

Figure 3 is an enlarged fragmentary sectional view taken substantially on the line 3—3 of Figure 1;

Figure 4 is a fragmentary sectional view taken substantially on the line 4—4 of Figure 1;

Figure 5 is an elevational view of the upper portion of a refrigerator constructed in accordance with another embodiment of my invention.

As particularly illustrated in Figures 1 to 4 inclusive, C denotes a conventional heat insulated cabinet closed by the usual insulated main door D of a swinging type. A cooling unit 1 of any desired type is supported in the upper portion of the food storage compartment of the cabinet C and which unit 1 provides a freezing chamber 2 open at its forward end but having its rear end 3 closed. The forward end of the unit 1 has a side wall thereof provided with the exteriorly arranged chamber 4 of desired dimensions and into which a water bottle or the like is adapted to be placed. The chamber 2, of course, is to have arranged therein in the usual manner the freezing trays 5.

The chamber 4 has its front face open and with said front face coplanar with the front open face of the chamber 2. The top and bottom and the outer side walls of the chambers 2 and 4 are formed to provide therealong a channel or groove member 6 in which is tightly engaged packing strips or gaskets 7. These gaskets 7 may comprise a unitary structure or may be in separate strips as preferred.

As is particularly illustrated in Figure 3, the outer open ends of the chambers 2 and 4 terminate in close proximity to the plane of the open face of the food compartment of the cabinet C so that the gasket 7 will have close contact with a supplemental door 8 when closed. This door 8, as herein disclosed, is associated with the properly positioned opening 9 provided in the door D and said supplemental door 8 is held to the door D by the invisible hinges 10 which allow the door 8 to swing outwardly into open position. The door 8 is held in closed position in any preferred manner, as indicated at 11. This holding means is preferably of a spring latch type generally used in connection with refrigerators. It has also been found of advantage to provide a spring means 12 of any desired type to facilitate the opening of the door 8 as is generally indicated in Figure 4.

This supplemental door 8 can also be referred to as an economy door as by the use of this door convenient access may be had to the trays 5 or a bottle or the like in the chamber 4 without opening the main door D. The opening of the door D, as is well known, would allow a lowering of the temperature within the food chamber. By the use of the supplemental or economy door 8 it will at once be apparent that the low temperature within the food chamber is conserved and wear on the mechanical refrigerating unit is materially reduced.

In the embodiment of the invention as illustrated in Figure 5, the main door M is associated with the lower portion of the food chamber of the refrigerating cabinet R while the upper portion of the food chamber of the cabinet R is closed by a supplemental door S. This door S at a desired position upon its inner face has applied thereto a channel structure 14 which holds the packing or gasket 15. This structure 14 is of such dimensions and configuration as

to allow the packing or gasket 15, when the door S is closed, to have close contact with the forward marginal portions 16 of the outer walls of the cooling unit 17 and the bottle compartment 18 associated therewith. It is believed to be obvious that the arrangement of the packing or gasket as illustrated in Figure 5 may be substituted for the arrangement as comprised in the first embodiment of my invention and vice versa.

From the foregoing description it is thought to be obvious that a refrigerator constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:

A refrigerator comprising a cabinet providing a food chamber having a door opening leading thereto, means for closing said opening including a supplemental door, a cooling unit supported within the food chamber and having one face open, said open face being closed when the supplemental door is closed, the edges of the cooling unit defining the open face thereof being formed to provide a continuous groove, and a gasket snugly fitted within such groove to provide a sealing medium for close contact with the supplemental door when closed.

KENNETH A. MILLS.