MULTIPLE COMPARTMENT REFRIGERATOR

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3 Claims. (Cl. 62—2)

This invention relates to refrigerators.
It is an object of the present invention to provide a refrigerator with compartments for frozen foods, ice, and the usual large compartment for vegetables and bottled goods wherein there are separate door openings for each of the compartments so that each time one of the compartments is opened, the other compartments will be left unaffected and kept to their original temperature and wherein the cooling coils are located in the frozen food chamber which is sealed from the large compartment through metal resting upon insulating material so that the large compartment is cooled not directly from air from the freezer compartment but by the air engaging with the metal partition between the freezer compartment and the large compartment and wherein there is automatic thermal control means for regulating the opening in the insulating material for access of the air to the metal partition.

Other objects of the present invention are to provide a multi-compartment refrigerator wherein each of the compartments are sealed from one another and wherein the cooling for the large compartment is effected through contact of the air within the large compartment with the metal partition between it and the low temperature compartments and a control mechanism for regulating the temperature of the large compartment and the flow of air over the metal partition, which is of simple construction, inexpensive to manufacture and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a front elevational view of a refrigerator embodying the features of the present invention and having three door openings.

Fig. 2 is a cross-sectional view, in elevation, taken through the refrigerator and showing the temperature control device.

Fig. 3 is a side elevational view of the refrigerator with portions broken away and shown in section, to show the interior of the refrigerator.

Referring now to the figures, 10 represents a casing formed of insulating material and provided with a metal lining 11. The interior of the refrigerator is divided into three compartments 12, 13, and 14. A metal partition 15 extends transversely across the interior of the refrigerator and divides the top and bottom of the refrigerator. A metal partition 16 extending vertically divides the top of the refrigerator.

Separate doors 17, 18 and 19 are used to close the several respective compartments 12, 13 and 14. Each compartment is thus separate from one another and no cooling air passes between them.

The compartment 13 is for frozen foods and contains the cooling coils 21. These coils will bring the compartment 13 to a freezing temperature. Beneath, the cooling coils is a removable partition 22 which cuts off the air circulating along the coils and thus minimizes the frosting of the coils 21. This partition 22 can be removed for defrosting.

The ice cube compartment 14 will be cooled from the partition 16. The partition 16 lies between the compartments 13 and 14 and the compartment 14 should be kept to substantially the same temperature as the storage freezer compartment 13.

Beneath the partition 15 is a plate 24 of insulating material having an opening 25 therein so that the only direct contact which the air within the compartment 12 has with the metal partition 15 is through the opening 25. The area of the opening is small and the air which is admitted to it is controlled by a closure including insulating cover members 26 and 27 which are pivoted at 28 and operated by a plunger 29 of a solenoid 31. Accordingly, the air within the compartment 12 is cooled from the freezer partition 16 without the air having to enter the freezer.

A thermostat 33 is disposed in the compartment 12 and is in circuit communication with the solenoid 31 whereby as the temperature rises above the predetermined desired temperature of the compartment 12, a circuit is established and the insulating covers 26 and 27 are dropped from the opening 25 and allow the air to circulate from the compartment into the opening 25 and engage with the cold partition wall 18. When the solenoid 31 breaks the circuit, a spring 34 on the plunger 29 will return the covers 26 and 27 to the closed position.

While various changes may be made in the details of the construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

I claim:

1. In a multiple compartment refrigerator, the combination which comprises a substantially hollow rectangular-shaped refrigerator housing having an insulated wall, a horizontally disposed insulating partition having a heat transmitting section therein positioned in said housing and spaced from the upper end thereof providing a
cool chamber in the lower part of the refrigerator, a vertically disposed partition extended from the upper end of the housing, spaced from one side of the housing and positioned over the intermediate part of the heat transmitting section of the horizontally disposed partition, thereby providing a current freezing chamber and a storage freezing chamber above the said horizontally disposed partition, a refrigerator coil in the upper part of said storage freezing chamber, a removable panel positioned below said coil, means regulating the quantity of air contacting the said heat transmitting section of the said horizontally disposed partition by the temperature of the cool chamber in the lower part of the refrigerator, and independently operated doors in the front of the housing for each of said chambers.

2. In a multiple compartment refrigerator, the combination which comprises a substantially hollow rectangular shaped refrigerator housing having an insulated wall, a horizontally disposed insulating partition having a heat exchanging section therein positioned in said housing and spaced from the upper end thereof providing a cool chamber in the lower part of the refrigerator, a vertically disposed partition extended from the said horizontally disposed partition through the upper end of the housing, spaced from one side of the housing and positioned over the intermediate part of the said heat exchanging section of the horizontally disposed partition thereby providing a current freezing chamber and a storage freezing chamber above the said horizontally disposed partition, a baffle in the lower cool chamber of the housing positioned to coat with the said heat exchanging section of the horizontally disposed partition, and a thermostat in the said lower cooling chamber positioned to actuate the said baffle to adjust the quantity of air contacting the said heat exchanging section of the horizontally disposed partition.

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