Feb. 20, 1934. A. V. PHILLIPS 1,948,312

REFRIGERATED DISPLAY CASE

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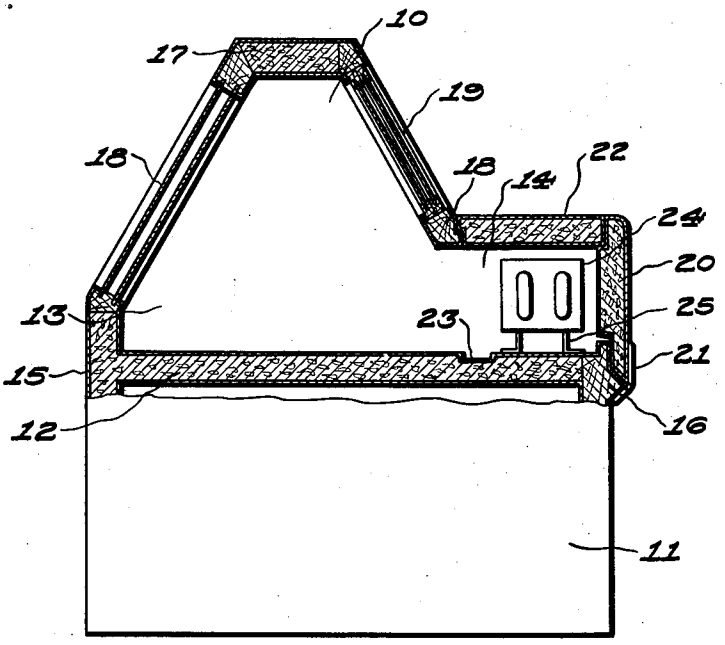


Fig. I

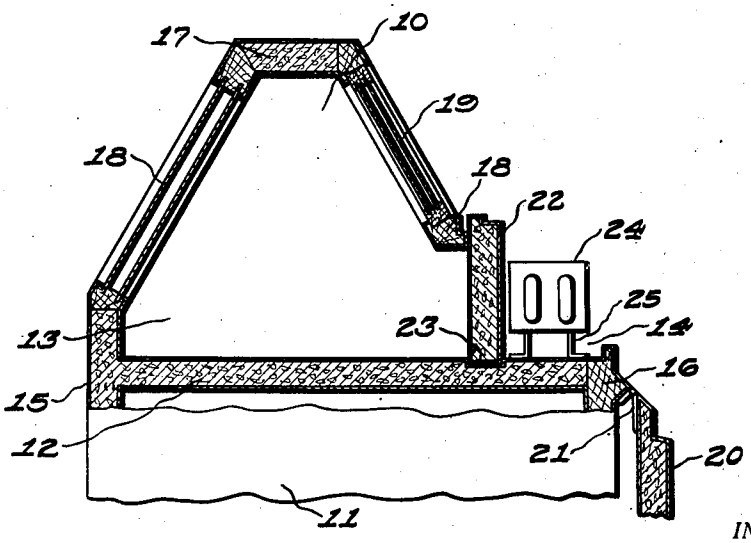


Fig. II

INVENTOR.
ARTHUR V. PHILLIPS

BY

ATTORNEY.

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REFRIGERATED DISPLAY CASE

Arthur V. Phillips, London, Ontario, Canada, assignor to Kelvinator Corporation, Detroit, Mich., a corporation of Michigan

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9 Claims. (Cl. 62—89.5)

This invention relates to mechanical refrigerating apparatus and more particularly to mechanically refrigerated display cases.

The object of this invention is to provide a mechanically refrigerated display case of such construction that a relatively low temperature may be maintained in the refrigerated compartment while defrosting the refrigerant evaporator.

Another object of the invention is to provide a mechanically refrigerated display case so constructed that the refrigerant evaporator may be exposed to outside air during the defrosting period to accelerate that operation.

Heretofore mechanically refrigerated display cases have been constructed in such a manner that the temperature maintained in the refrigerated compartment is relatively the same as the temperature in the refrigerating compartment. Consequently, during the time necessary for defrosting the refrigerant evaporator, food stuffs kept in the refrigerated compartment are subject to a higher temperature than is desirable. In refrigerated display cases used for the storage and display of food stuffs designed to be kept in a frozen condition, a relatively long period is necessary to complete the defrosting operation. It is therefore necessary to remove the food stuffs to other refrigerated containers in order to prevent their spoilage.

This invention provides for thermally isolating the refrigerated compartment during the defrosting operation and eliminating the necessity for removing the food stuffs contained therein. It further provides for the exposure of the refrigerant evaporator to the outside air during this period, and thereby accelerating this operation to such an extent that no considerable increase in temperature occurs in the refrigerated compartment.

In the drawing:

Figure 1 is an end view in elevation showing the refrigerated and refrigerating compartments in cross section.

Figure 2 is a similar view showing the refrigerated compartment isolated from the refrigerating compartment and the refrigerant evaporator exposed to the air.

The display case 10 embodying this invention is provided with the usual base or storage compartment, not refrigerated, 11, separated from the refrigerated compartment 13 and refrigerating compartment 14 by a horizontal partition 12. The horizontal partition 12 is rigidly secured to vertical frame members 15 and 16. A transparent wall 18 is positioned between the front vertical frame member 15 and a top wall 17. The transparent wall 18 permits prospective purchasers to view the food stuffs displayed and stored in the refrigerated compartment 13. Positioned between the top wall 17 and a horizontally disposed frame member 18 is a transparent sliding door 19 providing access to the interior of the refrigerated compartment 13.

As shown in Figure 1, there is no partition or wall between the refrigerated compartment 13 and the refrigerating compartment 14. The two compartments have common side walls. The horizontal partition 12 forms a bottom wall for both compartments. A movable partition 20, secured to the vertical frame member 16 by hinges 21, provides a rear wall for the refrigerating compartment 14. A removable partition 22, positioned between the horizontal frame member 18 and the rear wall 20, forms a top wall for the refrigerating compartment. The removable partition 22 is also adapted to close the opening between the refrigerated compartment 13 and the refrigerating compartment 14 as indicated in Figure 2. A lateral slot 23 is provided on the upper surface of the horizontal partition 12 to receive one end of the removable partition 22 when in position as a closure for the refrigerated compartment 13.

A refrigerant evaporator 24 is disposed within the refrigerating compartment 14. The evaporator is supported on legs 25 secured to the horizontal partition 12. Suitable refrigerant conduits connect the evaporator to a refrigerant compressor condenser structure, not shown, which may be located in the base 11 or any other suitable place. The evaporator 24 may be exposed to the outside air to aid in defrosting it, or to make it available for repairs, by removing the wall 22 and swinging the wall 20, by means of the hinges 21, away from the evaporator.

What is claimed is,

1. A refrigerated display case comprising a compartment to be refrigerated, a refrigerating compartment in open communication therewith, said refrigerating compartment having a removable top wall and a hinged side wall, a refrigerant evaporator disposed in said refrigerating compartment, and means for thermally isolating the refrigerated compartment comprising closing the opening between it and the refrigerating compartment with the aforesaid removable top wall.

2. A refrigerated display case comprising a refrigerated compartment, a refrigerating compartment in open communication therewith, said refrigerating compartment having a removable wall

and a hinged wall adjacent thereto, a refrigerant evaporator disposed in the refrigerating compartment, means for exposing the evaporator to outside air comprising removing the removable wall and swinging the hinged wall away from the evaporator, and means for thermally isolating the refrigerated compartment comprising closing the opening between the two aforesaid compartments with the removable wall.

3. A refrigerated display case comprising a refrigerated compartment, a refrigerating compartment in open communication therewith, said refrigerating compartment having a removable wall and a hinged wall adjacent thereto, a refrigerant evaporator disposed in the refrigerating compartment, and means for exposing the evaporator to the air outside the refrigerator comprising removing the removable wall and swinging the hinged wall away from the evaporator.

4. A refrigerated display case comprising a refrigerated compartment and a refrigerating compartment in open communication therewith, said refrigerating compartment having a removable top wall, said removable wall being adapted to close the opening between the said compartments.

5. A refrigerated display case comprising a refrigerated compartment having an opening in one wall, a refrigerating compartment having an opening in one wall coinciding with the opening in the refrigerated compartment, said refrigerating compartment having a removable wall adapted to close the opening in the refrigerated compartment.

6. A refrigerating cabinet comprising an insulated walled refrigerating compartment, a refrigerant evaporator arranged for cooling said compartment, and one of the outer walls of said insulated compartment being movable and arranged for isolating said evaporator from the refrigerating compartment.

7. A refrigerating cabinet comprising a refrigerating compartment, an evaporator arranged for cooling said compartment, and movable means forming at least a portion of one wall of said cabinet arranged for closing the refrigerating compartment from the action of the evaporator and for admitting outside air to said evaporator.

8. A refrigerating cabinet comprising an insulated refrigerating compartment, a second compartment associated with said refrigerating compartment, a refrigerant evaporator in said second compartment, said cabinet having an opening provided between said compartments whereby the cooling effect of said evaporator is communicated to said refrigerating compartment, and one of the outer walls of said second compartment being movable and arranged for closing said opening and for admitting outside air to said evaporator.

9. A refrigerator cabinet having two insulated adjoining compartments and being provided with an opening therebetween, a refrigerant evaporator in one of said compartments, and movable means forming at least a portion of one of the outer walls of said cabinet arranged normally to cooperate with other portions of the cabinet walls to insulate the refrigerant evaporator from the outside air and to be moved to close said opening and to admit outside air to said evaporator when it is desired to defrost said evaporator.

ARTHUR V. PHILLIPS.