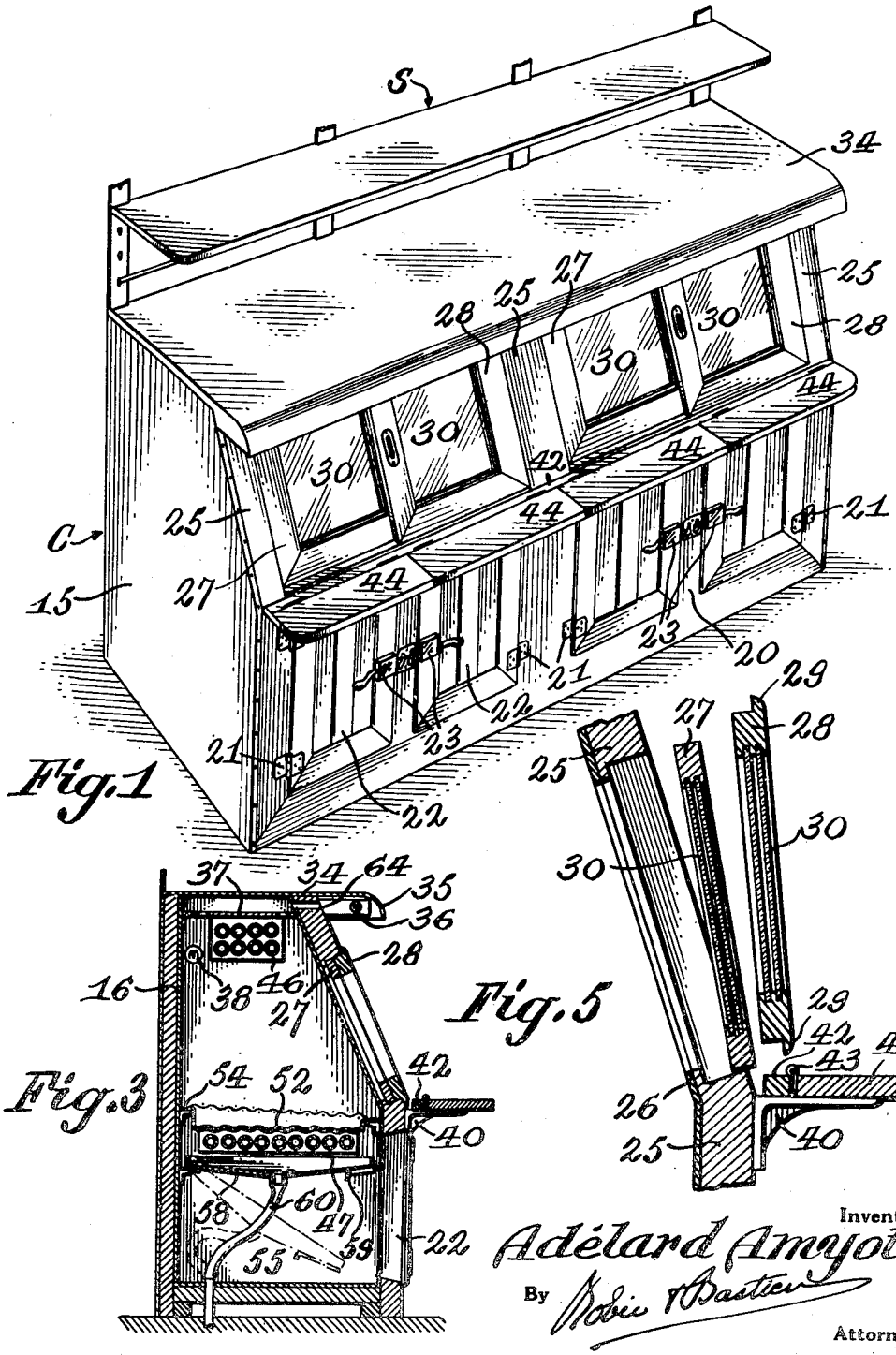
June 28, 1949. A. AMYOT 2,474,452

REFRIGERATOR

Filed Feb. 14, 1946 4 Sheets-Sheet 1



Inventor

Adélard Amyot

By Robic & Bastien

Attorneys

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REFRIGERATOR

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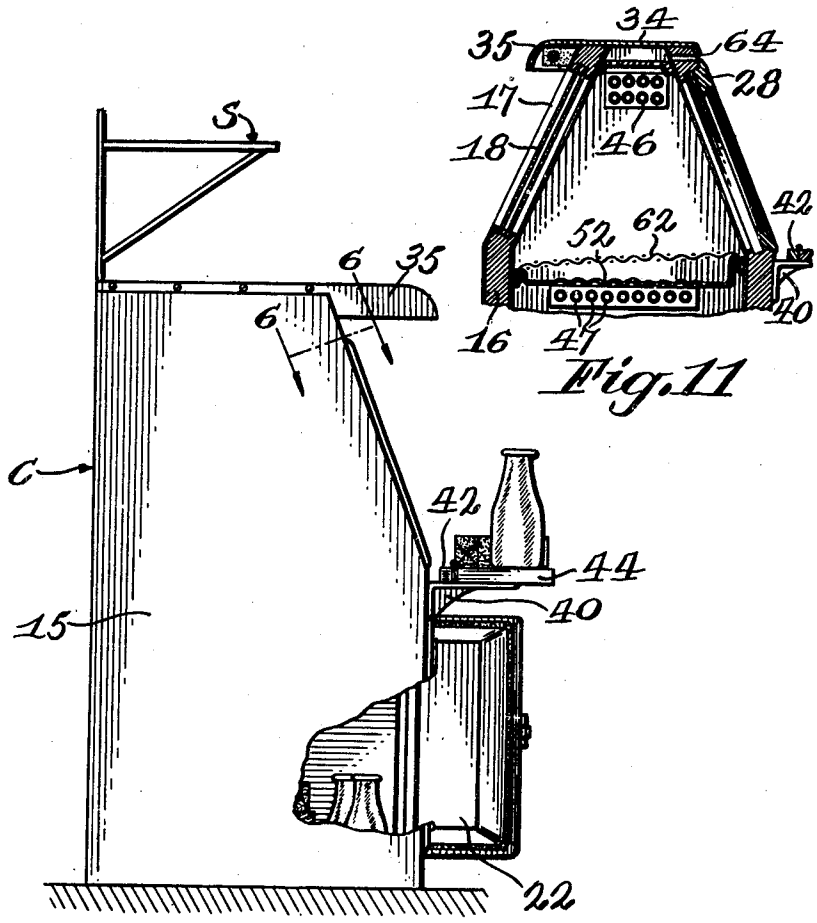


Fig. 11

Fig. 2

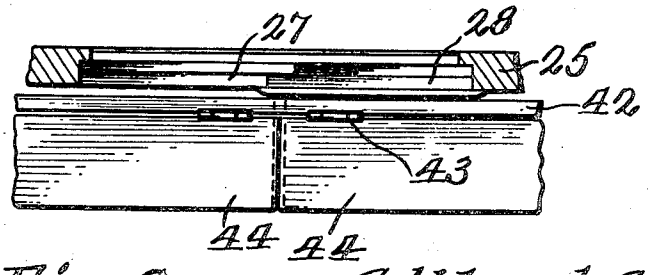


Fig. 6

Inventor

Adélard Amyot

By Robic & Bastien

Attorneys

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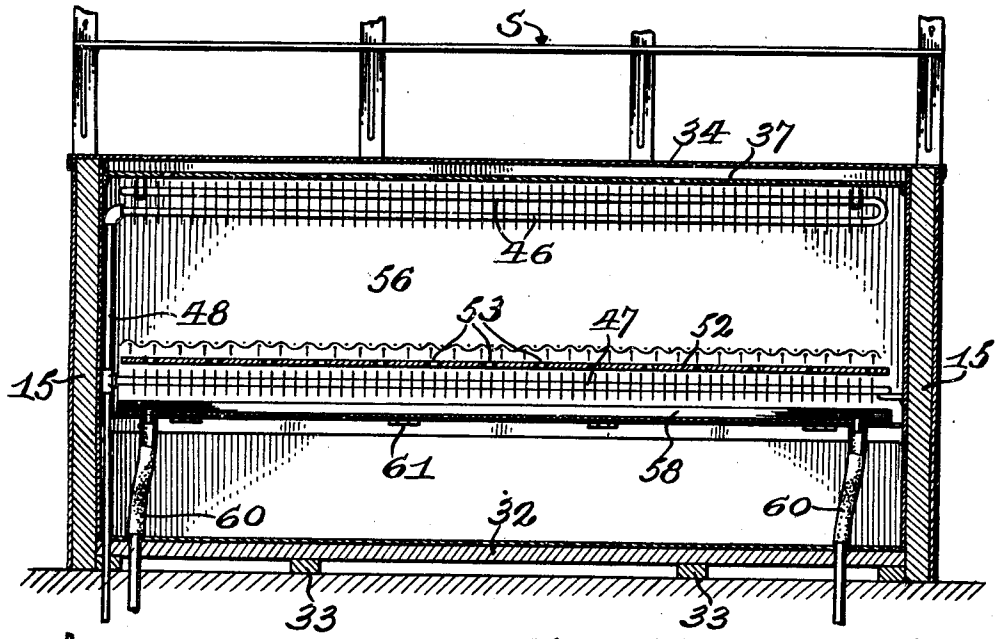


Fig. 4

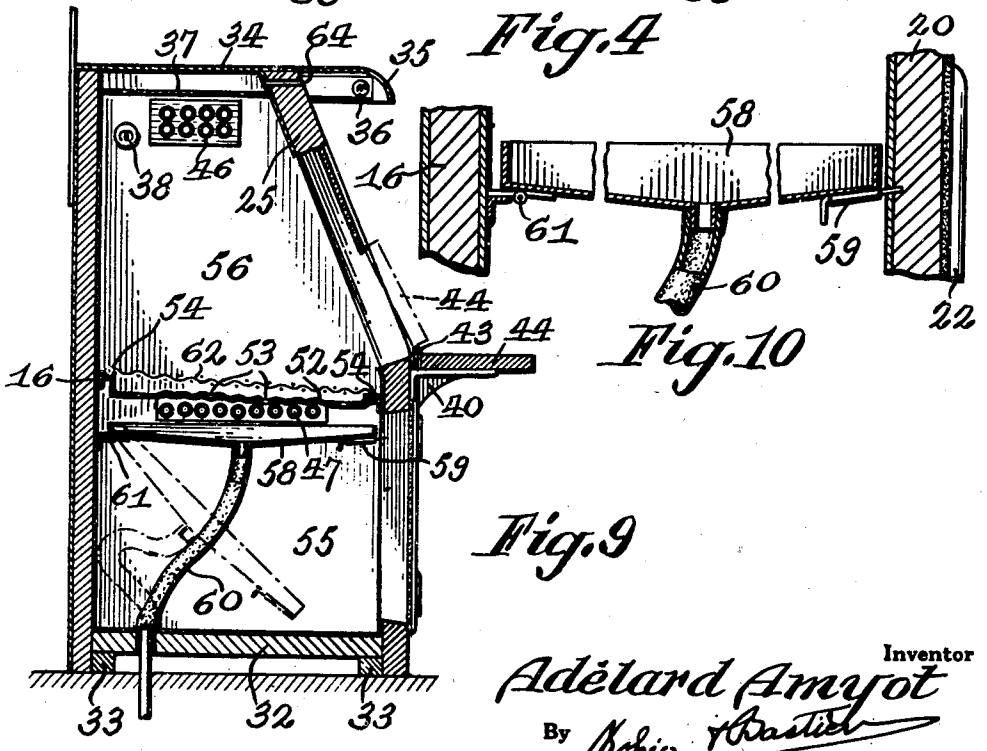


Fig. 9

Fig. 10

Inventor

Adélard Amyot

By Robic & Bastien

Attorneys

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REFRIGERATOR

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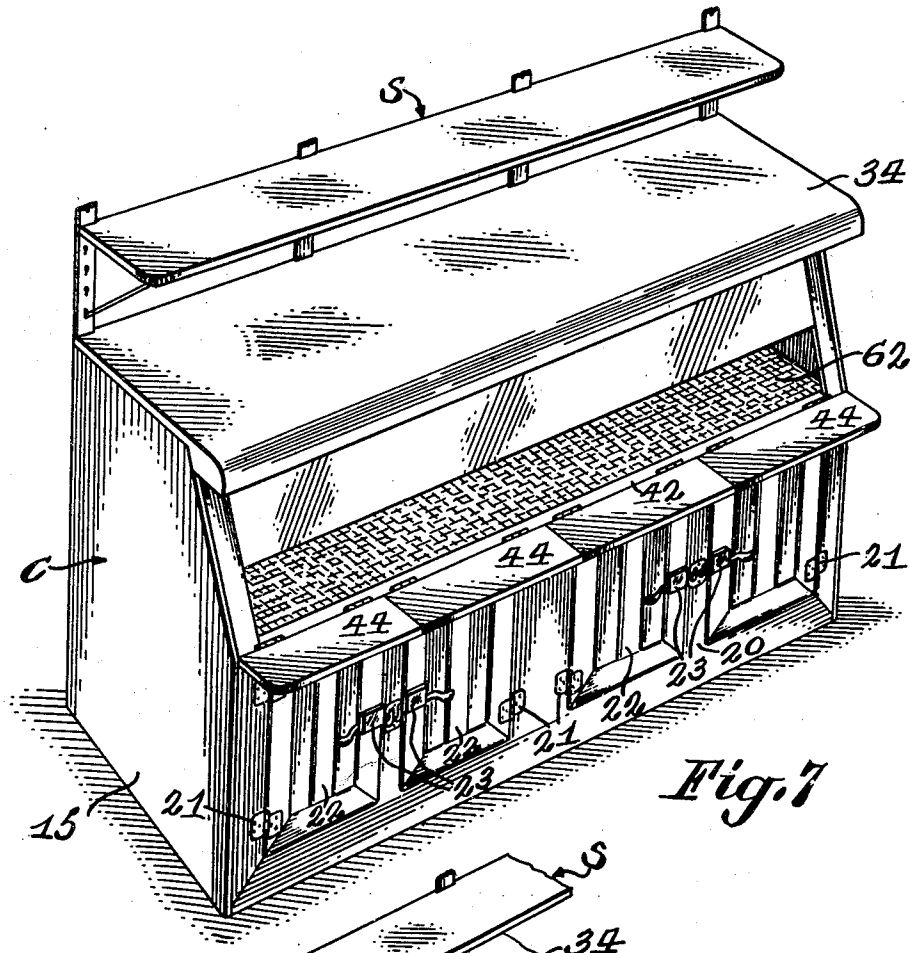


Fig. 7

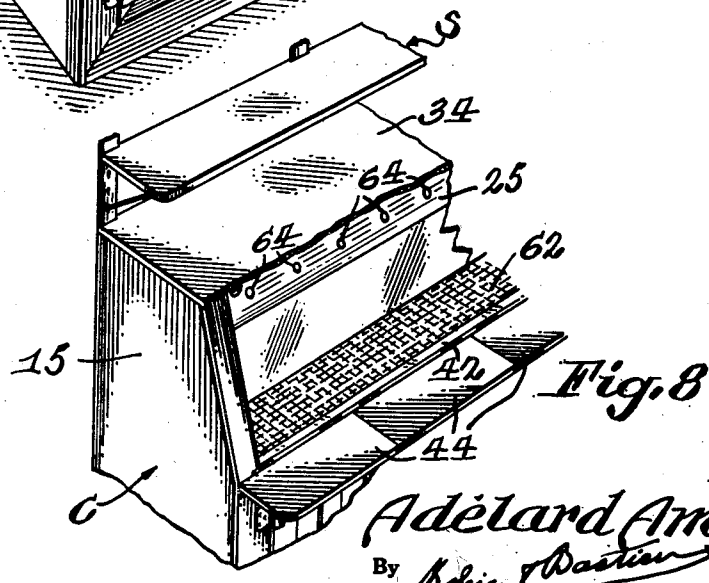


Fig. 8

Inventor
Adélard Amyot
By Robic & Bastien
Attorneys

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REFRIGERATOR

Adelard Amyot, Montreal, Quebec, Canada

Application February 14, 1946, Serial No. 647,483

3 Claims. (Cl. 62—89.5)

1

The present invention relates to improvements in refrigerators.

An object of the invention is to provide a refrigerator of generally improved construction.

Another object of the invention is to provide a refrigerator designed to retain perishable commodities in well-preserved condition for relatively long periods of time.

A further object of the invention is to provide a refrigerator constructed so that it may be readily kept in clean, sanitary condition.

Still another object of the invention is the provision of a refrigerator having a case structure designed so as to enable convenient access to the interior thereof and efficient closure.

A still further object of the invention is the provision of a refrigerator of the aforesaid character embodying a compact case structure having a display as well as a storage compartment.

Still another object envisages a refrigerator of the character described which is especially adaptable to modern practice of so-called "self-service."

Other objects and advantages of the invention will become apparent as the description progresses.

In the accompanying drawings forming a part of this specification and in which like reference characters are employed to designate corresponding parts throughout the same:

Figure 1 is a front perspective view of the refrigerator in fully closed arrangement,

Figure 2 is an end elevational view of the same, partly broken away to illustrate interior construction,

Figure 3 is a transverse sectional view through the refrigerator,

Figure 4 is a vertical longitudinal section through the same,

Figure 5 is a vertical section through the door portion of the upper compartment showing their removable nature,

Figure 6 is a partial detail view taken on line 6—6 of Fig. 2,

Figure 7 is a slightly modified version of the refrigerator of Fig. 1, for self-service purposes,

Figure 8 is a partial view of the same showing details of construction,

Figure 9 is a view similar to Fig. 3 but showing said modified version,

Figure 10 is a fragmentary transverse section showing the drip-pan supporting structure, and

Figure 11 is yet another modified form of the upper compartment of the refrigerator, seen in transverse sectional view.

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Referring to the drawings, wherein for the purpose of illustration is shown a preferred embodiment of the invention, "C" designates the refrigerator case in its entirety, the case preferably being in the form of a rectangular elongated structure. At each end of the case is provided a vertical wall 15, which may be formed of wood covered with sheet metal or any preferred insulating construction. At the top portion, the front side edge of the end walls 15 are inclined toward the top as shown to advantage at Figure 2. The rear, or back, edge of said walls are straight since the refrigerator is intended to be used against a wall. The back wall 16 carries a shelf S adjustably supported onto vertical standards secured to said wall, for display purposes.

At the front of the case is provided a bottom vertical frame section 20 provided with a plurality of rectangular door openings and to which are connected, through the medium of hinges 21, a plurality of horizontally swinging doors 22 which may be fastened in tightly closed position by suitable latches or fasteners 23. The upper section of the front wall is in the form of a frame structure 25 providing a pair of elongated door openings. The inner edge of this frame structure, particularly the top and bottom rails, is rabbeted to form relatively narrow inwardly protruding guide strips 26. These strips serve to support a pair of inner door members 27 having straight exterior edges and disposed to fit within the grooves of the inclined frame. These doors co-operate with complementary outer doors 28 to provide closures for the frame openings, the edges of the doors 28 being rabbeted to form exterior guide strips 29 designed to project so as to extend over the outer edge portions of the frame, as shown to advantage at Figures 3, 6 and 7. The complementary doors 27 and 28 preferably embody rectangular shaped wooden frames within which are fitted spaced panes of glass 30 and are constructed so that the inner doors, resting on the frame strips 26, will slidably fit within the grooved edge of the frame, between the strips 26 and the exterior doors 28, so that the complementary doors may be slidably actuated one over the other and are readily removable in any position by merely lifting the same from the frame structure, having in mind that these doors retain their position on the inclined frame by gravity.

The bottom 32 of the case is preferably supported on frame bars 33 so that it will assume a position above the floor. The top of the case, indicated at 34, is relatively narrow, in accordance with the inclined upper side structure, and

is preferably constructed so as to provide a forward protruding curved hood **35** containing lighting means, as for instance electric lamp **36**, disposed exteriorly of an adapted, together with the inside lamp **38**, to illuminate the interior of the case. Immediately below the top member **34** is provided a perforated interior top plate **37**.

To the bottom section **20** of the front wall are connected a plurality of angular brackets **40** disposed at longitudinally spaced positions at the juncture of the top and bottom sections. The vertical leg of each bracket **40** is secured by screws or other fastening means to the wall structure, while the opposite leg is disposed to project laterally thereof, as illustrated at Figures 3—5—9. On the inner portions of the set of brackets **40** is secured an elongated strip **42** extending approximately the full length of the case and having connected thereto, through the medium of hinges **43**, a plurality of shelf sections **44**. These shelves are disposed so that they may be swung to upward, out of the way positions, or to outward horizontal laterally projecting positions, as shown to advantage at Figure 9.

Within the upper portion of the case C is supported a cooling coil **46** preferably arranged so that the component sections extend approximately the full length of the case and are disposed in two superposed horizontal rows of four each, as shown at Figure 3. A second cooling coil **47** is arranged in the intermediate portion of the case, approximately midway between the top and bottom, and is composed of pipe sections extending approximately the full length of the interior of the case and arranged in a horizontal row which may consist of approximately nine sections. These cooling coils **46** and **47** connect with a supply pipe **48** and with a return pipe (not shown) these pipes extending vertically adjacent one end wall for connection with a refrigerating machine exteriorly of the case.

Above the cooling coil **47** is supported a horizontal partition **52** formed of sheet metal or the like and provided with a plurality of relatively small apertures **53**. This partition extends lengthwise in the case and is supported by longitudinally extending strips **54** secured in the case and divides the interior chamber into a bottom storage compartment **55** and an upper display compartment **56**.

Disposed immediately below the coil **47**, so as to catch the drippings therefrom, is an elongated drip-pan **58** hinged at **61** to the rear wall **16** and supported horizontally in position by means of a plurality of bolts, or the like, **59** engaging the front frame **20**. As shown to advantage at Figures 3, 4—9 the pan is connected by a rubber hose **60** to a drain so that the pan **58** may be readily inclined toward the bottom **32** for frequent convenient cleaning to retain the same in sanitary condition.

Just above the sheet partition **52** is mounted an open-mesh partition **62**, formed of wire or the like, arranged in an approximately horizontal position extending across and the full length of the case to form a support for the commodities in the upper display compartment **56**, yet permitting efficient circulation of air therethrough.

As will be noted from Figures 3, 8, 9 and 11, ventilating ducts **64** are formed at spaced intervals through the top rail of the frame section **25**, affording communication between the upper zone, divided from the display compartment by the perforated partition **37**, and the exterior so

that efficient air circulation and ventilation is provided in the case.

The form of the invention shown in Figs. 7—8—9 embodies most of the elements described above, to the exception of the sliding doors **27—28** which are replaced by a glass pane **65** extending completely across the upper part of the compartment **56** for approximately one half the height thereof. Thus, a space is left below the lower edge of said glass pane, free of obstructions, through which the goods displayed on the partition **62** are readily available. This form of the invention is especially desirable in those so-called "self-service" stores, where the customer is expected to select and pick his own merchandise himself from conspicuous and strategically disposed counters. The constantly open spece below the glass plate is adapted to be closed, at night, by swinging upwardly the shelves **43**, as shown in Fig. 9.

The other modified form of Fig. 11 is similar to that of Fig. 3, with the difference that the back wall **16** embodies a display panel at the top and now forms the front of the case. This panel is inclined and is supported in a frame section **17** embodying double panes of glass **18**.

This construction provides a refrigerator case of compact, highly efficient design, affording a maximum storage and display space as well as convenient accessibility to these compartments. The removable doors in the upper rear wall section enable convenient insertion or removal of relatively large commodities and also enable convenient cleaning. The cooling coils are disposed to preserve the contents with utmost efficiency.

It is to be understood that the forms of my invention herein shown and described are to be taken as preferred examples of the same, and that various changes as to the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A refrigerator comprising a case having a cooling coil disposed intermediate the top and bottom, a partition immediately above the cooling coil dividing the interior of the case to form upper and lower compartments, a drip pan normally supported immediately below the coil and conveniently inclinable to a downward position for convenient cleaning thereof, an open mesh partition disposed above the first mentioned partion, hinged shelf sections mounted at the front of the case movable to upward out-of-the way positions and downward horizontal supporting positions, an inclined upper front wall frame, a glass plate supported longitudinally across the said frame in the upper half thereof, the hinged shelf sections being adapted to close the space below the glass plate when moved upwardly.

2. A refrigerator comprising a case having cooling coils therein and at least one inclined upper wall frame, a glass plate supported across the upper portion of said frame, and shelf sections hingedly secured to the case below the inclined frame thereof, said shelf sections movable to downward horizontal supporting positions and to upward positions across the lower portion of said frame.

3. In a refrigerator, a case having inclined upper front and rear wall sections, the said front inclined section having glass panes covering the upper portion thereof, shelves hingedly secured to the case below said section, said shelves movable to downward horizontal supporting positions

and to upward positions covering the lower portion of said section, the rear wall having rabbeted edges about door forming openings, a pair of complementary doors slidably mounted in the rabbeted frame so that one door is slidable below the other, the said doors being held in position by gravity and being removable in any position.

ADELARD AMYOT.

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