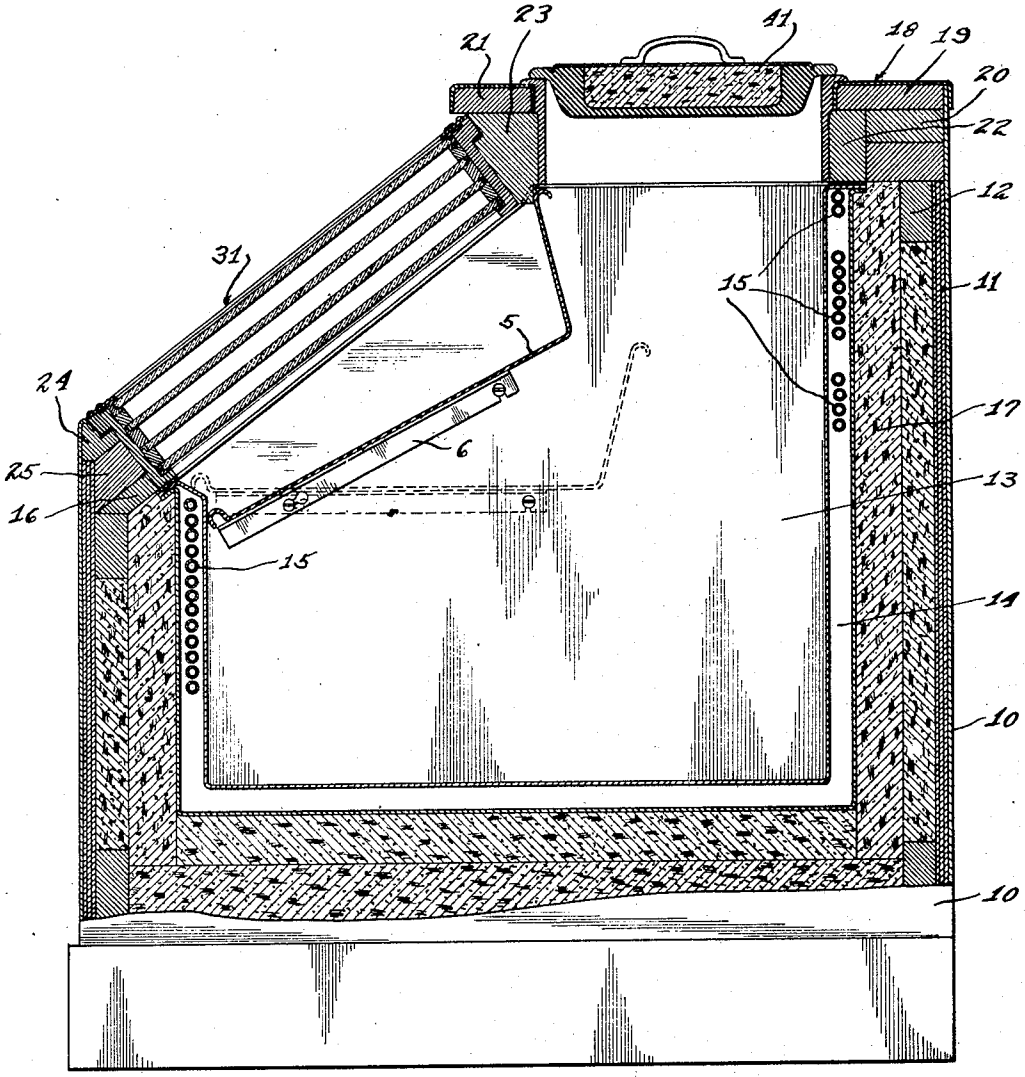
April 23, 1935. E. M. FRITZ 1,998,500

DISPLAY WINDOW

Original Filed May 9, 1932 2 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

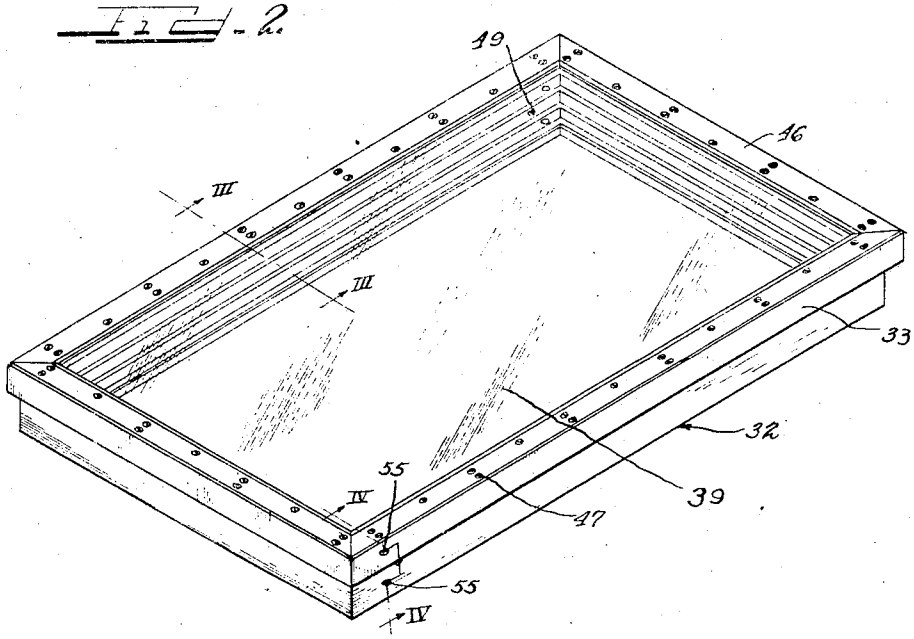


Fig. 3.

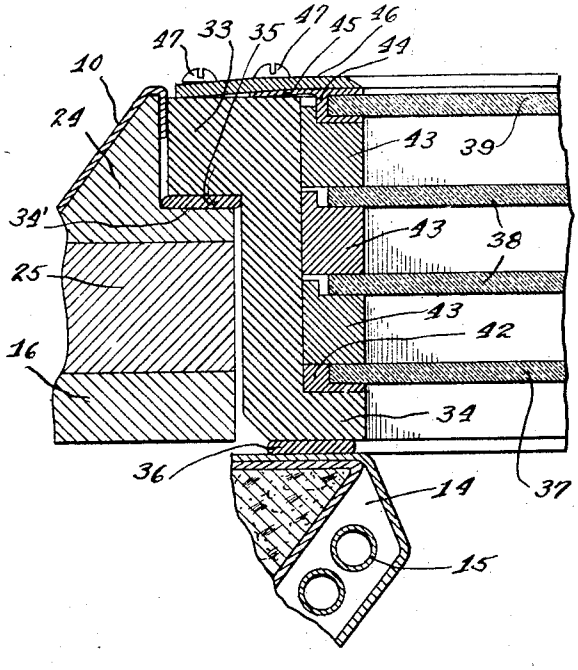
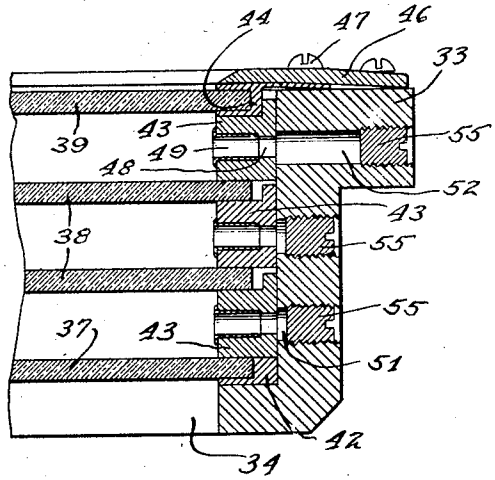


Fig. 4.



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Patented Apr. 23, 1935 1,998,500

UNITED STATES PATENT OFFICE

1,998,500

DISPLAY WINDOW

Edward M. Fritz, Grand Rapids, Mich., assignor to Grand Rapids Cabinet Company, Grand Rapids, Mich., a corporation of Michigan

Original application May 9, 1932, Serial No. 610,091. Divided and this application October 18, 1933, Serial No. 694,049

2 Claims. (Cl. 20—56.5)

This invention relates to a display window and will be described as incorporated in a window for a storage and display cabinet of the type adapted to be maintained at subzero temperature. The invention claimed in this application is a division of my pending application, U. S. Serial No. 610,091, filed May 9, 1932 for a "Storage and display cabinet".

An object of this invention is the provision of a display window for a cabinet to be maintained at low temperatures.

Another object is the provision of such a window which has a high insulating capacity and which will not be readily frosted over and prevent display of frozen foods and the like disposed therebeneath.

A further object is the provision of a display window comprising a plurality of sheets of transparent material disposed in parallel planes and in which provision is made for preventing the frosting over of the intermediate sheets of transparent material.

Other objects and advantages of this invention will become apparent from the following detailed description, with reference to the accompanying drawings.

On the drawings:

Figure 1 is a vertical sectional view of a storage and display cabinet incorporating my invention and showing portions in elevation.

Figure 2 is a perspective view of the display window as removed from the cabinet.

Figure 3 is an enlarged fragmentary section taken on the line III—III of Figure 2 and showing fragments of the cabinet associated therewith as when installed.

Figure 4 is an enlarged fragmentary section taken on the line IV—IV of Figure 2.

As shown on the drawings:

A cabinet incorporating my invention as herein illustrated comprises an exterior 10 of enameled metal. The covering 10 may be backed by plywood panels 11 suitably secured on skeleton frame 12. The refrigerating chamber 13 comprises a space within a double wall brine tank 14 containing refrigerating coils 15, preferably in the upper portion thereof to insure an even temperature distribution. The space between the panels 11 and the outside walls of the tank 14 is provided for insulating material 17 which is preferably formed of sheets of cork or the like tightly fitted and sealed in position. The bottom of the cabinet is similarly constructed to increase the efficiency of the cabinet. The top 18 of the cabinet includes a plurality of structural members 16, 19, 20, 21, 22, 23, 24, and 25 which may be of wood or other suitable conductive material. The top is provided with a plurality of openings for the accommodation of a display window 31 and a closure 41 for a dispensing opening. A display tray 5 designed for closing off a portion of the cabinet beneath the display window, is preferably adjustably supported on angle bars 6 forming brackets attached to the sides of the cabinet and adapted to be adjusted to the position shown in broken outline for the purpose of facilitating the re-arrangement of frozen foods and the like to be displayed.

As best illustrated in Figures 2, 3 and 4, the window 31 comprises a frame 32, preferably of single piece molded hard rubber including an outwardly extending top flange 33 and an inwardly extending bottom flange 34.

The flange 33 is adapted to rest on the structural member 24 to form a seal therewith by means of a soft rubber gasket 35 interposed between the flange 33 and the shoulder 34' on the member 24. The lower side of the inwardly extending flange 34, rests on the upper edge of the tank 14 and forms a seal therewith by the assistance of the interposed soft rubber gasket 36.

Within the frame 32 of the window are disposed a plurality of parallel panes of glass 37, 38, and 39 which are supported by a bottom flange 34 of the frame. The pane of glass 37 is preferably seated on a gasket 42 which is composed of soft rubber or the like. Between the panes of glass 38, and upon the uppermost glass 39 are disposed gaskets 43 which are composed of medium soft rubber and adapted to be readily compressed by pressure upon the upper glass pane 39. The upper glass 39 is preferably provided with a gasket 44 which embraces the margin of the pane 39 and is provided with an outwardly extending flange 45 which engages on the top of the flange 33 and is firmly held in place by a yieldable metal strip 46 preferably of glass which is secured to the top of the flange 33 by suitable screws 47.

In Figures 3 and 4, the window assembly is shown with the screws 47 slightly loosened from their normal position, permitting the gasket to yield upwardly, such that they are spaced slightly apart about the outer edges thereof. It will be understood, however, that when the screws 47 are securely set, the gaskets 42, 43 and 44 become somewhat compressed and form fluid tight seals between the marginal portions of the glass pane and the frame 32, to prevent the infiltration of air from within or from without the cabinet, into the spaces between the panes of glass which in-

filtration would carry moisture and permit frosting of the glass, rendering visibility through the glass very difficult.

Figure 4 is substantially the same in substance as Figure 3 except that it is taken at a different point on the frame as illustrated in Figure 2 and discloses the openings 48 through the gaskets 43. The openings 48 are preferably reinforced by ferrules 49 to prevent closing of the openings 48 when the gaskets 43 are compressed.

The frame 32 is provided with openings 51 and 52 which are in alinement with the openings 48 in the gaskets 43 for permitting dry air, carbon monoxide or the like to be forced inwardly through the openings 52, 51 and 48 and outwardly through similar openings on the other side of the frame for excluding all moisture laden air from the frame between the panes of glass such that when the window is placed in the opening of the cabinet, the only frosting possible will be on the top and bottom panes 39 and 37 respectively. After the moisture laden air has been fully removed from the spaces between the panes of glass, the openings 51 and 52 are sealed by means of suitable plugs 55 preferably of hard rubber having threaded engagement with the openings in the frame as shown in Figure 4.

From the foregoing specification, it will be appreciated by those skilled in the art that this invention is susceptible of various modifications without departing from the principle thereof, and I desire that the patent to be granted hereon shall not be restricted in any manner except as necessitated by the prior art.

I claim as my invention:

1. A window for an opening in a refrigerator cabinet comprising a single piece frame moulded as a unit from non-metallic material and including an inwardly extending bottom flange, a plurality of sheets of transparent material superposed in spaced relation and supported by said flange, yieldable sealing gaskets disposed between the adjacent sheets of transparent material, yieldable sealing means of flanged contour disposed outside the top and bottom sheets of transparent material, that outside the outermost sheet of transparent material extending over the upper edge of the frame, and pressure means for exerting downward force simultaneously on the several sealing gaskets, and on that portion of the top gasket extending over the edge of the frame.

2. A window for an opening in a refrigerator cabinet comprising a single piece frame moulded as a unit from non-metallic material and including an inwardly extending bottom flange, a plurality of sheets of transparent material superposed in spaced relation and supported by said flange, yieldable sealing gaskets disposed between the adjacent sheets of transparent material, said gaskets having horizontal openings therethrough, metal ferrules in said openings to prevent collapse thereof, and openings in said frame in alignment with the openings on said gaskets but independent of said ferrules to permit movement of the latter in response to sealing pressure, yieldable sealing means of flanged contour disposed outside the top and bottom sheets of transparent material, that outside the outermost sheet of transparent material extending over the upper edge of the frame, and pressure means for exerting downward force simultaneously on the several sealing gaskets, and on that portion of the top gasket extending over the edge of the frame.

EDWARD M. FRITZ.