Nov. 14, 1939. A. E. DIETERICH 2,179,589

REFRIGERATOR WINDOW

Filed Jan. 9, 1939

Fig. 1.

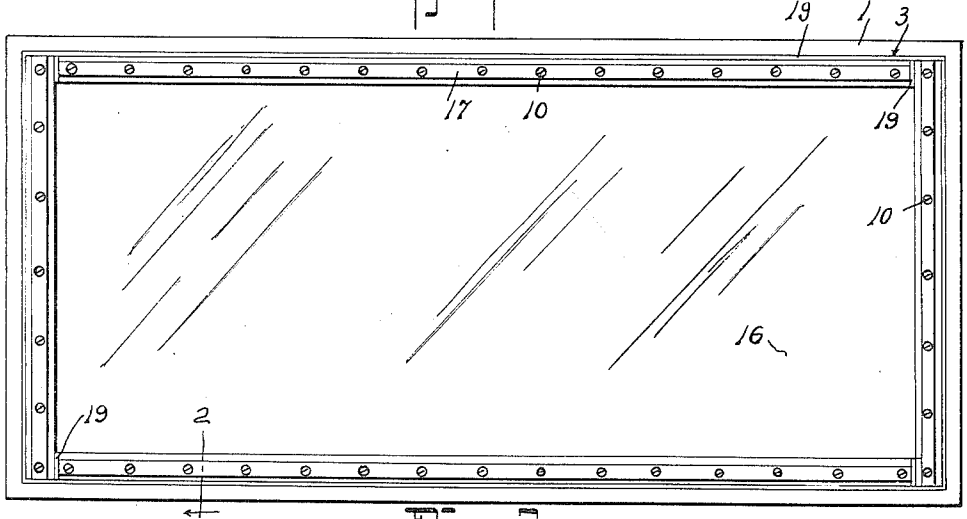
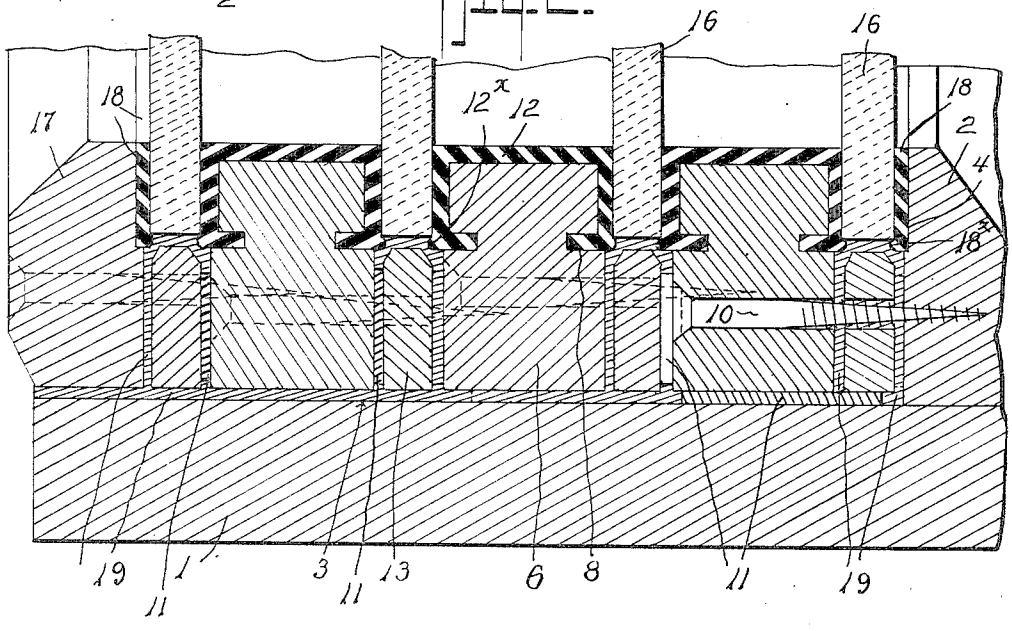


Fig. 2.



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REFRIGERATOR WINDOW

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Application January 9, 1939, Serial No. 250,050

2 Claims. (Cl. 20—56.5)

My invention relates to certain new and useful improvements in multiple-pane windows such as are used in refrigerators, and it particularly has for its object to improve the window disclosed in Letters Patent No. 2,113,613 to Daemicke, issued April 12, 1938.

In the patent referred to the spacer strips have flanges which lap the marginal edges of the glass panels, the faces of these flanges opposed to the panel edges being corrugated transversely and the sides which oppose the glass sides being undercut or beveled inwardly. This is an expensive structure, which my invention is designed to eliminate.

My invention, further, has for its object to provide spacer strips of less thickness than the distances between panels in order that when assembling the parts and the adjacent strips are screwed together all danger of the glass panels' edges being pressed against the wood parts of the strips, and "hanging" is avoided. Where the strips are designed to lap the panel edges, as in the Daemicke structure, carelessness in placing a panel in position may result in the glass resting against the edge of the base of the panel, instead of lying in the chamber of the panel. If this occurs, and the compression is applied to effect the seal, the glass panel will be subjected to unnecessary stresses which may crack and break the same.

Other objects will in part be obvious and in part will be pointed out hereinafter.

To the attainment of the above objects and ends the invention still further resides in the novel details of construction, combination and arrangement of parts, all of which will be first fully described in the following detailed description and then be particularly pointed out in the appended claims, reference being had to the accompanying drawing, in which:

Fig. 1 is a front elevation of a window embodying my invention.

Fig. 2 is an enlarged cross section of the same on the line 2—2 of Fig. 1.

In the drawing, 1 represents the main frame having an abutment portion 2 leaving a channel 3 open at one side. The abutment portion 2 of the frame is preferably slightly chamfered at 4 to receive a suitable gasket 18, the gasket being of a thickness greater than the depth of the chamfer and extending beyond the marginal edge of the adjacent glass panel 16 so that when the glass panel is pressed home the edge will embed itself in the gasket, leaving a protuberance 18× around the marginal edge of the panel.

Each spacer comprises a solid body 6 of wood or other substantially non-compressible material of a cross-sectional width less than the space between two adjacent panels and that part of the strip which lies between the panels is covered with a rubber body 12 (or at least the sides of the strip are so covered). The cover extends beyond the margin of the panels and is secured to the body 6 by having portions set in grooves 8. In this way the marginal edges of the panels 16 will become embedded in the rubber when the adjacent spacers are put under pressure by the connecting screws 10. The cover 12 is of such thickness that the glass cannot be brought into contact with any part of the wood 6 and when the marginal edge is embedded in the rubber 12 there will be a protuberance or rib of rubber 12× formed over such edge the same as the rib 18×.

In order to conserve sealing wax and also to prevent the glass panels being shifted much out of register while assembling, I provide filler strips 13 between adjacent spacers and between the panels and the frame 1. These fillers are preferably of the same thickness as that of the panels and thus also act to guard against the spacers overlying in any part the perimeters of the panels.

Suitable shims 11 may be placed at intervals between the spacers and the fillers 13 and between the spacers, fillers and frame 1 so that when molten plastic (wax, etc.) is poured into the crevices it will flow into all spaces and effectively hermetically seal the window. The protuberances 12×—18× will prevent the wax from flowing between the rubber and the sides of the glass panels when the parts are properly assembled. Should the spacers not be screwed tight enough together to embed the marginal edges of the glass in the rubber, however, any space or crevice that may be present will be filled with the wax.

The edges of the filler strips 13 adjacent the panels 16 are beveled off to allow flow of plastic 19 to the spaces surrounding the perimeters of the panels.

The several spacers 6 and finish strips 17 are secured together and to the frame 1 by screws 10. Finish strips 17 having a chamfer and gasket 18 similar to the abutment 2 are provided to close the channel 3.

From the foregoing description, taken in connection with the accompanying drawing, it is thought that the invention and its advantages will be clear to those skilled in the art.

What I claim is:

1. A multi-paned window of the character described including a main frame having an abut-

ment providing thereby a channel along the inner perimeter of the frame and open at one side; a plurality of glass panels for said frame arranged with their perimeters extending into said channel; spacing strips intermediate the panels adapted to hold the panels in spaced relation, said strips extending beyond the perimeters of the panels into the channel; said strips comprising substantially rigid bodies; resilient sealing means between said bodies and the sides of said panels and extending into said channel a greater distance than the perimeters of the panels; said spacing strips being of less cross-sectional width than the distance between adjacent panels; and filler strips between adjacent spacer strips and between the perimeters of the panels and the main frame; a finish strip adjacent the last panel to close said channel; and a plastic filler for the spaces between the spacing and filling strips, and between the same and the perimeters of the panels and between the same and the main frame; and means for securing said spacer and finish strips in place, said filler strips having the corners of the face which lies opposite the perimeter of the panels bevelled off.

2. A multi-paned window of the character described including a main frame having an abutment providing thereby a channel along the inner perimeter of the frame and open at one side; a plurality of glass panels for said frame arranged with their perimeters extending into said channel; spacing strips intermediate the panels adapted to hold the panels in spaced relation; said strips extending beyond the perimeters of the panels into the channel; said strips comprising substantially rigid bodies; resilient sealing means between said bodies and the sides of said panels and extending into said channel a greater distance than the perimeters of the panels; said spacing strips being of less cross-sectional width than the distance between adjacent panels; and filler strips between adjacent spacer strips and between the perimeters of the panels and the main frame; a finish strip adjacent the last panel to close said channel; and a plastic filler for the spaces between the spacing and filling strips, and between the same and the perimeters of the panels and between the same and the main frame; and means for securing said spacer and finish strips in place, said resilient sealing means when the adjacent spacing means are squeezed toward one another serving to embed the peripheral edges of the panels and form beads or ribs over said edges, the corners of the filler strips which lie adjacent said beads being bevelled off.

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