July 12, 1932. C. V. HILL 1,867,074

REFRIGERATOR DISPLAY CASE DOOR

Filed Sept. 23, 1929

Fig. 1.

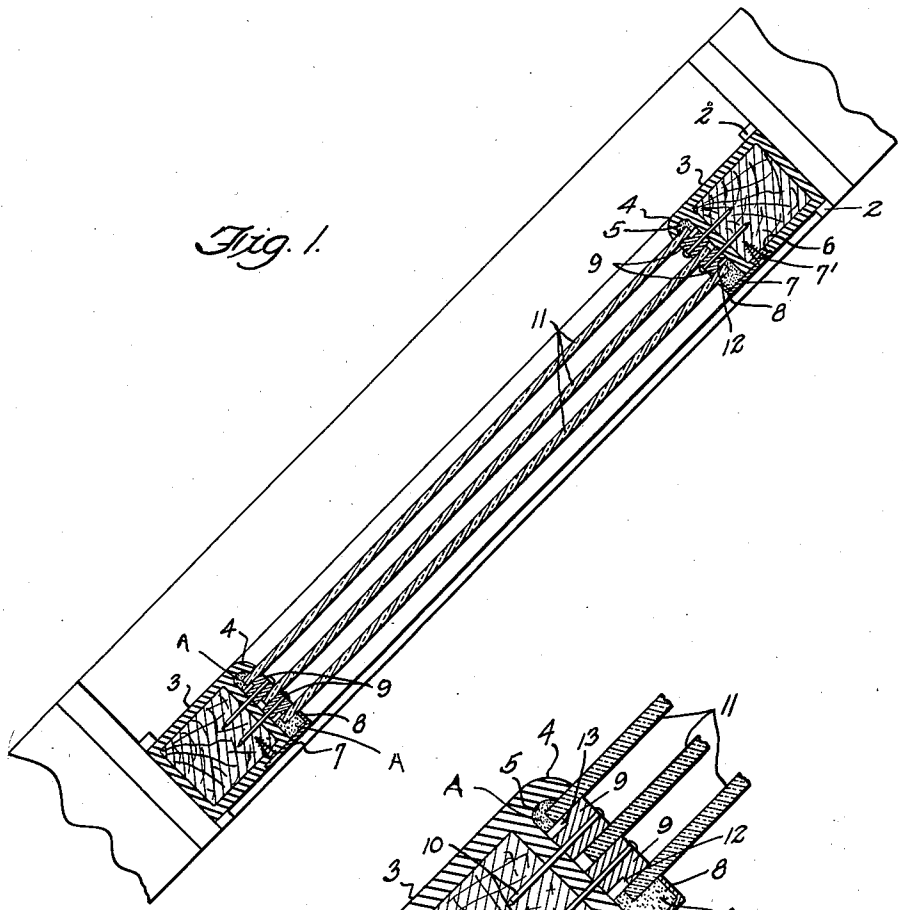


Fig. 2.

Inventor

Clement V Hill

By Lewis A. Clarkson

Attorney

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CLEMENT V. HILL, OF TRENTON, NEW JERSEY, ASSIGNOR TO C. V. HILL & CO., INC., OF TRENTON, NEW JERSEY, A CORPORATION OF NEW JERSEY

REFRIGERATOR DISPLAY CASE DOOR

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The doors of refrigerator display cases are subject to a lower temperature on their inner face than on their outer face. There is considerable moisture at times which tends to swell the door and put a tension on the door frame, which results in the outer pane of glass cracking and destroys its usefulness as an insulator.

The object of my invention is to provide means whereby the glass will be provided with an air cushion to compensate for any tension imposed on the door incident to the swelling of the stops, and thereby eliminate the liability of the cracking of the glass; and with this and other objects in view my invention consists of the parts and combination of parts hereinafter set forth.

In the drawing:

Figure 1 is a transverse sectional view through one of the doors of a display case.

Figure 2 is an enlarged detail sectional view.

The reference numeral 1 designates part of a display case which may be of the desired construction and provided with stops 2.

While I have shown the door frame 3 as being made of a molded rubber door with a wood core, it will be understood that my invention may be embodied in a door of any construction for refrigerator display cases.

In the drawing I have shown the door provided at one end with an extension or arm 4, which may have any configuration on its outer face. The inner face of this arm 4 is concaved to form a groove 5. The other side of the frame 3 is provided with a recess 6 in which a plate 7 is secured by any suitable devices, such as screws 7', said plate having at its outer free end an inturned flange 8. Between the arm 4 and plate 7 I secure to the end of the door stops, or parting strips 9 by means of nails 10, or in any other desired manner. These stops 9 are spaced apart to receive the glass 11 between them, while the outer faces of said stops 9 are each provided with a recess 12, 13, the recess 12 facing the metal plate 7 and the recess 13 facing the arm 4 and its groove 5.

In assembling the glass in the frame I place the putty or compound in the groove 5 and pack it in solid, the glass is then placed in position against this putty or compound and pressed into position, the putty is then trimmed off flush with the inside face of the glass, the stop 9 is then secured in position with recess 13 serving as an air pocket which does not fill up with putty until the stops swells and presses the glass. When the expansion takes place, the putty or compound is forced into the recess 12. Otherwise the pressure would be very great and result in the breaking of the glass. The next glass is placed in position, the stop 9 secured to position against which the other outer glass is placed and the putty A applied over which the plate 7 is secured. The recess 12 functions the same as described in connection with the recess 13.

By my construction I am enabled to pack a large quantity of putty, or compound, at the edge portion protected from contact with the air, (it being so protected by the arm 4 and plate 7) which materially and efficiently prevents the putty from drying out and crumbling, so that there is always a cushion around the edges of the glass at all times, which permits the glass to give under the strain and stress to which it is subjected whenever the door is bound by swollen stops or slide strips against which the door moves in opening and closing whereby glass breakage is reduced to a minimum.

It will, of course, be understood that the construction described is provided for the four edges of the glass.

In the claims I will refer to the top, bottom and end members of the door as "stiles".

When the door is filled with two or three glasses, set in putty or compound, if the stops or door frames shrink or swell, even one-hundredth of an inch, the putty or compound is forced out between the glass and the stop, exerting a great pressure on the glass and causes the same to crack.

The recesses and reservoir 12, 13, 5, function as expansion chambers for the putty which are absolutely necessary in a hard rubber door, metal door, composition doors, and wooden doors having a hard rubber channel around the stiles to set the glass in.

What I claim is:

1. In a door, the combination with the stile, an undercut arm extending from the inner edge of the edge of the stile toward the center of the door providing an elongated putty reservoir, a stop on said stile having a recess facing and forming a part of said reservoir, said stop being spaced from said arm to provide for the insertion of a pane of glass therebetween, a plate secured to the opposite side of the stile having an inturned flange at its free end extending toward said arm, a stop secured to the stile adjacent to, but spaced from the first named stop and provided with a putty reservoir facing said plate.

2. In glass pane retaining means for doors or sashes, the combination with a door or sash frame having a stile, and a glass pane having an edge spaced from a surface of the stile, of holding members on the stile bearing against the opposite sides of the glass pane and provided in their opposed faces with recesses facing the opposite sides of the glass adjacent to and registering with the said space between the edge of the glass and surface of the stile, and a plastic sealing medium disposed in said space and in the recess of one of the holding members and adapted on expansion of the parts to spread through said space into the recess of the other holding member.

3. In glass pane retaining means for doors or sashes, a door or sash frame having a stile, a glass pane having an edge spaced from a surface of the stile, a holding member rigid with the frame and bearing against one side of the pane, a holding member formed separate from the frame and secured thereto and bearing against the opposite side of the pane, said members being provided in their opposed faces with recesses facing the opposite sides of the glass adjacent to and registering with said space between the edge of the glass and surface of the stile, and a plastic sealing medium disposed in said space and in the recess of one of the holding members and adapted on expansion of the parts to spread through said space into the recess of the other holding member.

4. In glass pane retaining means for doors or sashes, a door or sash frame having a stile, a glass pane having an edge spaced from a surface of the stile, and retaining members carried by the stile and bearing on opposite sides of the sash, said members having their opposed faces provided with recesses containing a plastic sealing compound disposed between said members and the sides of the pane, said recesses being arranged in alinement with said space to allow spreading of the plastic medium from one recess to the other through said space on expansion of the frame and retaining members.

5. In glass pane retaining means for doors or sashes, a door or sash frame having a stile comprising a molded body of rubber and a core of wood enclosed thereby, a glass pane having an edge spaced from a surface of the stile, a bearing member molded with the sash and bearing against one side of the pane, a stop member bearing against the opposite side of the sash and bearing against the pane, and a fastening passing through the molded body of the sash and securing the stop to the core, said bearing and stop members being provided in their opposing faces with recesses containing a plastic sealing medium disposed between the same and the sides of the pane and arranged in alinement with the aforesaid space for the spreading of the sealing medium from one recess to the other through said space on expansion of the frame and bearing and stop members.

In testimony whereof I affix my signature.

CLEMENT V. HILL.