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A. R. PEACOCK

REFRIGERATOR DOOR

Filed Jan. 17, 1925

Fig. 1.

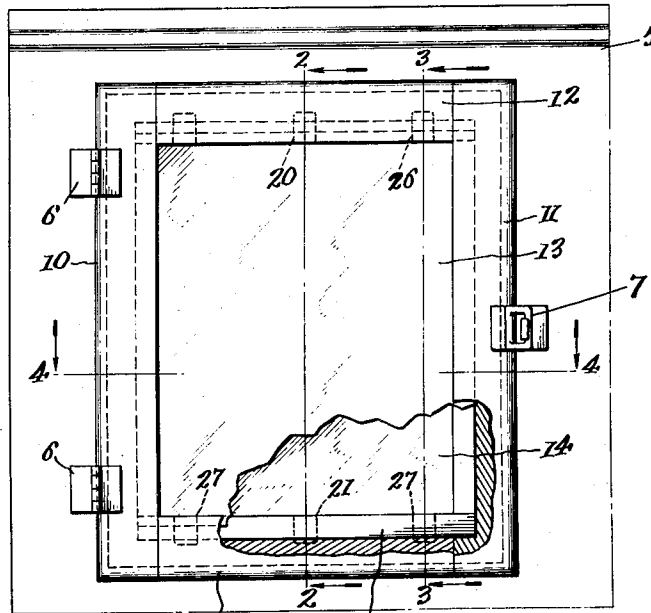


Fig. 2.

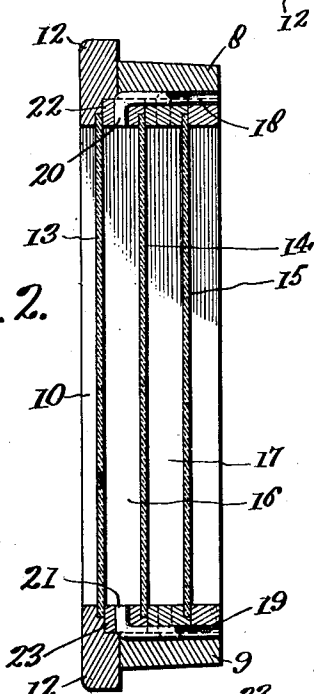


Fig. 3.

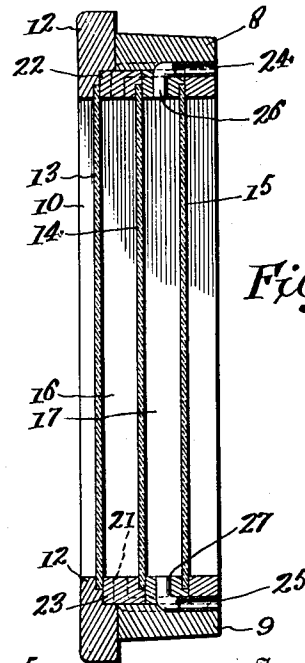
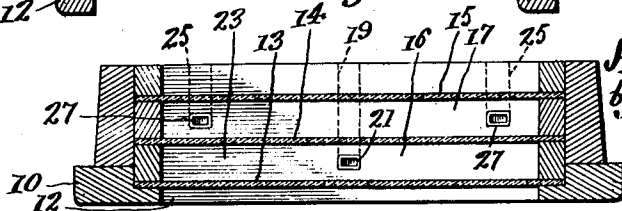


Fig. 4.



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UNITED STATES PATENT OFFICE.

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REFRIGERATOR DOOR.

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The present invention relates to improvements in refrigerator doors and has for an object to provide an improved glass door in which provision is made for avoiding condensation thereon or frosting of the glass.

While the invention is shown and described in connection with refrigerator doors it will be understood that it may be applied wherever glass is in use and it is desired to keep the same from sweating.

The invention has for its further object the compact and simple construction of a door involving the use of compartments between the glass panes wherein a gradual reduction in temperature is made from the exterior compartment to the interior compartment.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views,

Figure 1 is a fragmentary front view of a refrigerator showing a door, partly broken away and constructed according to the present invention.

Figure 2 is a section taken on the line 2—2 of Figure 1.

Figure 3 is a similar section taken on the line 3—3 in Figure 1, and

Figure 4 is a horizontal section taken on the line 4—4 also in Figure 1.

Referring more particularly to the drawings 5 designates generally a refrigerator or cabinet of any kind provided with a door hinged as indicated at 6 and provided with a latch or locking device shown at 7.

The door is composed of the top and bottom sills 8 and 9 and of the side sills 10 and 11; these sills having the usual flange 12 for concealing the joint made between the door and the refrigerator casing. The sills carry the three panes of glass 13, 14 and 15. An outer compartment 16 is provided between the intermediate pane 14 and the pane 13 at the outer side of the door; while an inner compartment 17 is confined between the panes 14 and 15. These panes are spaced apart an appropriate distance to provide for the circulation of a substantial body of air from the refrigerator. This circulation is permitted by the use of the pipes placed in the upper and lower sills

8 and 9. The central pipes 18 and 19 extend from the inner portions of the sills transversely across the sills until reaching a point opposite the outer compartment 16. Here the pipes are bent as indicated at 20 and 21 to extend through the strips 22 and 23 which secure and space the glass panes 13 and 14. The outer compartment 16 is thus placed directly in communication with the atmosphere of the refrigerator by means of the pipes 18 and 19. These pipes are two in number and of rather small cross section so as to admit a restricted circulation of the cold air of the refrigerator into the outer compartment 16.

As shown in Figure 3 smaller pipes 24 and 25 with right angled ends 26 and 27 are mounted in pairs at opposite end portions of the upper and lower sills for placing the atmosphere of the refrigerator in communication with the inner compartment 17. These smaller pipes 24 may be of the same cross section or a different cross section from that of the previously mentioned pipes, but they are preferably more numerous in order to convey to the inner compartment a more rapid circulation and a greater quantity of the cold air within the refrigerator.

In the use of the device a limited mass of the cold air confined within the refrigerator is permitted to enter the outer compartment 16 by way of the elongated pipes 18 and 19 and to circulate in this compartment whereby to cool to a degree the outer glass 13 and the outer side of the intermediate glass 14. This degree will not, however, exceed that necessary to create sweating of the glass. The air will be circulated by reason of having the pipes at the upper and lower portion of the refrigerator.

In the same way masses of air from the interior of the refrigerator will circulate by means of the pipes 24 and 25 to the inner compartment 17. In the embodiment of the invention shown in the drawings substantially twice the mass of air will be admitted to the inner compartment as compared with the outer compartment thus further stepping down the temperature of the intermediate glass 14 and of the inner glass 15.

By the construction described, a gradual reduction in temperature will take place from the outermost to the innermost pane and frosting and condensation will be avoided.

It is obvious that various changes and

modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims:—

What is claimed is:—

1. A refrigerator door comprising a door frame, a plurality of panes of glass mounted in said door in spaced relation with compartments therebetween, and means for permitting circulation of air from the interior of the refrigerator to said compartments.
- 15 2. A refrigerator door comprising a door frame, a plurality of panes of glass fixed in said door frame in spaced relation to provide a plurality of compartments therebetween, means carried by the door frame for
20 admitting a restricted mass of air from the

refrigerator atmosphere to the outer compartment, and means also carried by said door frame for admitting a greater quantity of air from the refrigerator atmosphere to the inner compartment whereby to gradually reduce the temperature on the surfaces of said glass panes. 25

3. A refrigerator door comprising a frame composed of upper and lower sills having long and short passages communicating with the refrigerator atmosphere and opening at spaced points through the opposed inner faces of the sills, an intermediate glass pane secured in the door frame between said spaced points, and inner and outer panes secured in the door frame and spaced from said intermediate panes to provide inner and outer compartments communicating respectively with said long and short passages. 30
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