Feb. 22, 1927. 1,618,476

R. A. RIEK

REFRIGERATOR DOOR

Filed Feb. 14, 1925

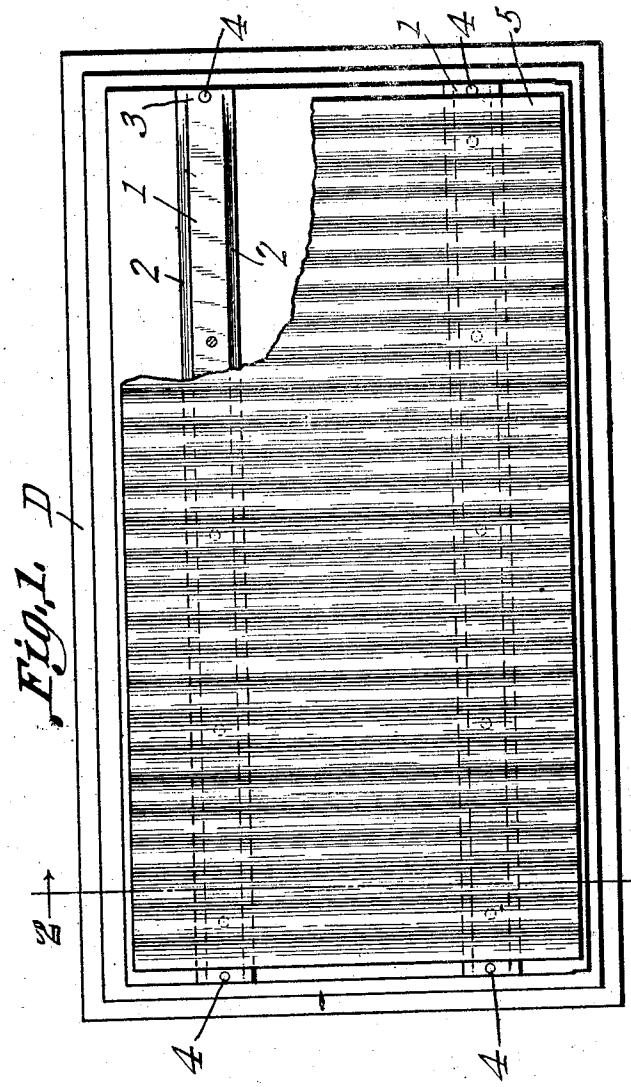


Fig. 1.

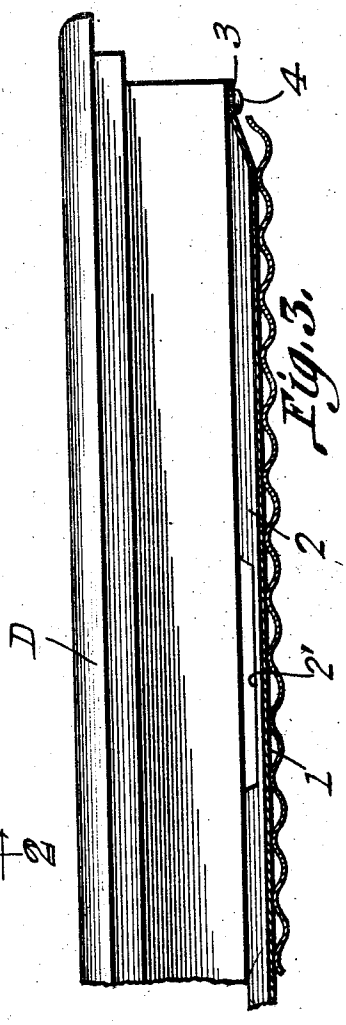


Fig. 3.

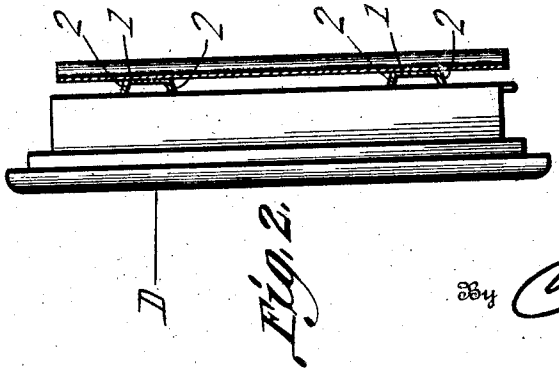


Fig. 2.

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Patented Feb. 22, 1927. 1,618,476

UNITED STATES PATENT OFFICE.

RUDOLPH A. RIEK, OF RHINELANDER, WISCONSIN.

REFRIGERATOR DOOR.

Application filed February 14, 1925. Serial No. 9,233.

This invention relates to a refrigerator door and more particularly to means whereby ice contained within the refrigerator can be prevented from coming into contact with the door structure. It is a well known fact that in refrigerators, more particularly of the rear icer and side icer types, the ice works against the door and, because of constant contact therewith, causes moisture to condense within and upon the outer surface of the door. This soon results in deterioration and, consequently, the structure soon warps and is otherwise rendered inefficient.

It is an object of the present invention to provide the door with a shield which can be applied thereto readily, this shield being so constructed that air spaces are left between the ice and the door structure so that moisture will not condense within the door and the door will be kept dry and sound indefinitely.

A further object is to provide a device of this character which allows the condensed moisture to drain downwardly without coming into contact with the door.

A still further object is to provide a shield of this character which can be applied readily to the door of the refrigerator.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangements of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings—

Figure 1 is an elevation of a refrigerator door showing the shield attached thereto, a portion of the shield being broken away.

Fig. 2 is a section on line 2—2, Fig. 1.

Fig. 3 is an enlarged plan view of a portion of the door, the shield being shown in section.

Referring to the figures by characters of reference 1 designates superposed channeled spacing strips formed preferably of galvanized sheet metal, the flanges 2 of each strip diverging toward their free edges. The ends of the channeled spacing strips are flattened, as shown at 3 and are adapted to be fastened by means of rivets 4 or other suitable means to the inner surface of the refrigerator door such as shown generally at D. These strips are adapted to extend approximately throughout the width of the inner surface of the door and attached to the superposed strips is a corrugated shield plate 5 preferably formed of galvanized sheet metal. This plate extends approximately throughout the height of the inner surface of the door and may be attached to the strips 1 by spot welding or in any other manner desired. The corrugations of the plate are preferably extended vertically so that any moisture condenser upon this plate will be free to drain downwardly within the corrugations and between the plate and the strips 1. When the strips 1 are attached to the door the flanges 2 thereof contact with said door along their edges. Consequently any moisture that might be deposited upon the top flanges of the strip will drain toward the plate 5 and away from the door D.

In refrigerator constructions the ice tray on which the cake of ice is deposited is usually inclined at such an angle that the ice will gravitate away from the front door of the refrigerator so as to reduce sweating of the door to the minimum. As a result of this arrangement the ice normally bears against the back wall or one side wall of the ice chamber. Consequently where a door is provided at the back or side the cake of ice would, ordinarily, rest against the door and cause it to sweat. As has already been pointed out, this would result in rapid deterioration of the door. To prevent this the present shield has been provided and it will be obvious that when the cake of ice gravitates toward the icer door, it will be held spaced from the door, ample air space being left between the plate 5 and the door to prevent condensation upon the door and consequently to preserve the door much longer than would otherwise be possible.

As shown at 2′ the flanges 2 can be cut away at one or more points to facilitate air circulation along the surface of the door.

What is claimed is:—

1. The combination with the door of the ice chamber of a refrigerator, of means for preventing condensation of moisture upon the outer surface of the door through contact of ice with the door, said means including a shield plate having vertical corrugations for contact with ice in the cham-

ber, and spaced horizontal channeled strips secured to opposite end portions of the door and to one surface of the corrugated plate for holding said plate spaced at all points from the surface of the door, said corrugations constituting means for draining condensed moisture accumulating on that surface of the plate nearest the door.

2. The combination with the door of the ice chamber of a refrigerator, of means for preventing condensation of moisture upon the outer surface of the door through contact of ice with the door, said means including a shield plate having vertical corrugations for contact with ice in the chamber, and spaced horizontal channeled strips secured to opposite end portions of the door and to one surface of the corrugated plate for holding said plate spaced at all points from the surface of the door, said corrugations constituting means for draining condensed moisture accumulating on that surface of the plate nearest the door, the spacing strips having their upper faces inclined downwardly toward the corrugated plate for deflecting condensed moisture from the spacing strips to the corrugated plate.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

RUDOLPH A. RIEK.