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G. F. BUTLER ET AL

1,777,714

REFRIGERATOR

Filed June 5, 1929

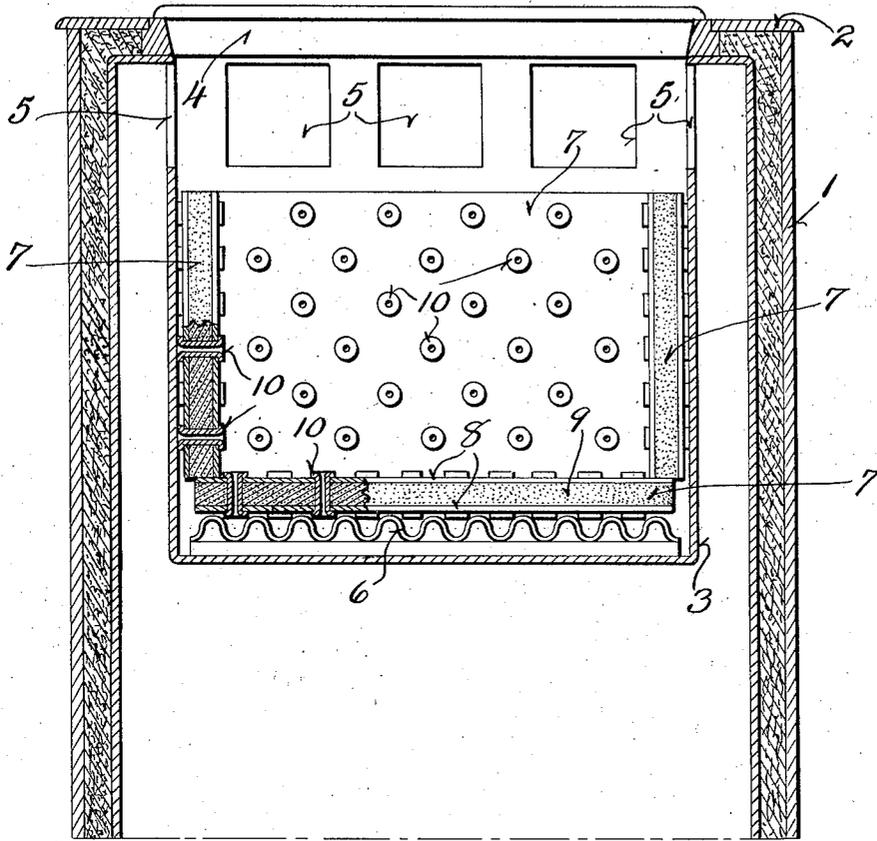


Fig. 1.

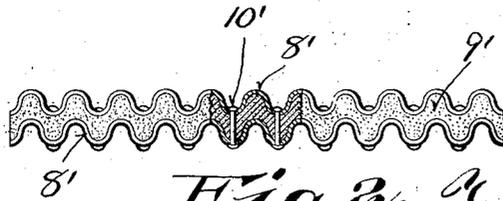


Fig. 2. Invention of

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REFRIGERATOR

Application filed June 5, 1929. Serial No. 368,581.

This invention relates to new and useful improvements in refrigerators and more particularly to a supporting plate or pad which is used for supporting the ice and also used as an insulation.

One of the objects of our invention is the provision of a plate or pad adapted to be placed in the ice receptacle of a refrigerator for supporting the ice and which is provided with a plurality of openings extending through the plate to provide for a thorough circulation of air around the ice and also provide an insulation plate which will prevent too rapid melting of the ice.

Another object of our invention is the provision of an insulation plate for refrigerators formed with transverse openings and which is adapted for use not only in supporting the ice within the ice chamber of a refrigerator, but is also adapted to be positioned at the sides and top of the ice if so desired, to provide proper insulation which will reduce to a minimum the melting of the ice.

A further object of our invention is the provision of an insulation plate for refrigerators which includes spaced parallel metal plates, having arranged between them asbestos or other suitable filling material of a similar nature, said plates being connected by tubular rivets which will permit circulation of air through the plates and the metal walls will prevent rapid deterioration of the filling between them.

With the above and other objects in view the invention consists in the novel features of construction, the combination and arrangement of parts hereinafter more fully set forth, pointed out in the claims and shown in the accompanying drawings wherein:

Figure 1 is a transverse sectional view taken through the ice compartment of a refrigerator, illustrating the application of our improved plate.

Figure 2 is an elevation of one edge of a plate illustrating a modified form thereof, parts thereof being broken away and illustrated in cross section.

Referring more particularly to the drawing, it will be noted that we have shown, for the purpose of illustrating our invention

only, a portion of a refrigerator which includes the body 1 having a top portion 2 formed with an opening for receiving there through the ice for the chamber 3, chamber 3 forming the usual ice compartment for the refrigerator. The opening in the top wall 2 is normally closed by means of a removable cover 4.

The walls of the chamber 3 may be formed of any thickness, but are preferably of light weight as shown in the drawings and are provided adjacent their upper ends with suitable openings 5 to provide for the thorough circulation of the air through the ice compartment and the body of the refrigerator.

In the present instance, we have illustrated in the chamber 3 the usual corrugated supporting plate 6 and upon this plate 6 is positioned our improved insulating plate 7. The plate 7 constitutes as a whole the spaced metal side plates 8, having positioned between them the filler 9 preferably of asbestos. In order to retain the plates in their proper position relative to the filler, tubular rivets 10 are used for connecting the two side plates, said rivets having their ends upset onto the outer face of the plates 8, so as to securely retain the plates against spreading movement.

It will be noted that by placing one of the plates 7 upon the usual corrugated supporting plate, it will provide insulation for the ice and at the same time provide for thorough circulation of the air around the ice, so that the maximum benefit may be derived from the ice in the chamber 3. It will be noted that in Figure 1 the use of the plates as insulation along the side walls of the chamber has been disclosed; this aids in preventing the too rapid melting of the ice and if found desirable one of the plates may be placed on top of the ice so as to entirely enclose the same in an insulated chamber.

With the use of our improved plates as illustrated, it will be noted that by using the tubular rivets 10 as disclosed, a plurality of vent openings are formed which also provide for a thorough drainage of the drippings from the ice and reduce to a minimum the deteriora-

tion of the filling 9 and at the same time provide for a thorough circulation of air.

In the operation, assuming that ice is placed in the cavity formed by the various walls 7, air coming in contact therewith will become cold and will drop to the bottom, displacing the relatively warmer air, which will rise. This cold air will fill the chamber or element 3 to the opening 5 and spill over the sides. The air outside of the chamber 3 will thus be cooled by conduction and aid in cooling the air which is past through the openings 5.

In Figure 2 we have illustrated a slightly modified form of the invention wherein the plates 8' are illustrated in corrugated form with the asbestos filler 9' placed between the plates and secured by means of the rivets 10'. In this form of the invention it is unnecessary to use tubular rivets as the channels in the corrugated plate will provide for the drainage of the water and the circulation of the air.

In the showing of Figure 1, it will be apparent that any suitable type of drainage may be used for draining the water from the channel 3.

While we have shown and described the preferred embodiment of our invention, it will be apparent that slight changes may be made in the construction when putting the invention into practice without departing from the spirit of the same or the scope of the appended claims.

We claim:

1. A pad for refrigerators including spaced metal plates, a fibrous filler between said plates and tubular rivets passing through the plates and filler for retaining the plates against movement relative to each other.
2. A pad for refrigerators including spaced metal plates, a filler of asbestos between said plates, and tubular rivets passing through the plates and asbestos filler and having their ends upset onto the outer faces of the plates for holding said plates against movement relative to each other.

In testimony that we claim the foregoing we have hereunto set our hands at Racine, in the county of Racine and State of Wisconsin.

Mrs. ELIZABETH FROME.
GEORGE FRANCIS BUTLER.

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