June 25, 1935. N. C. HUCKESTEIN 2,006,046

SHUTTER TYPE PARTITION FOR REFRIGERATORS

Filed May 2, 1932

FIG. 1.

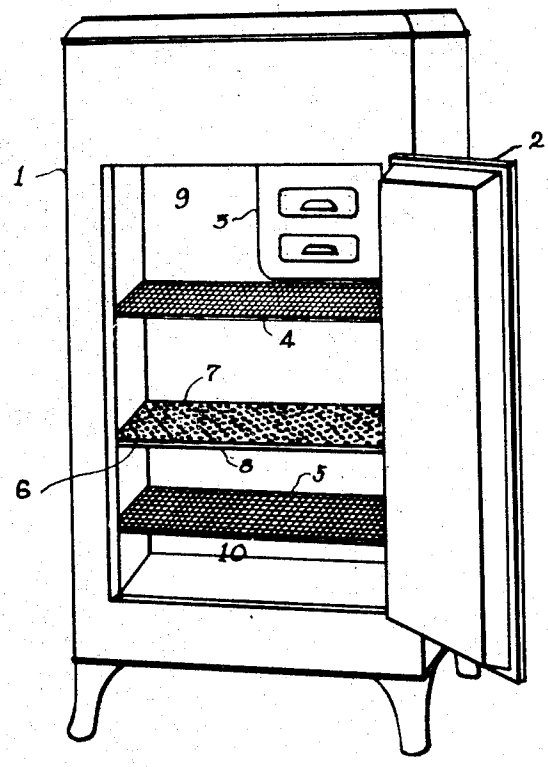


FIG. 2.

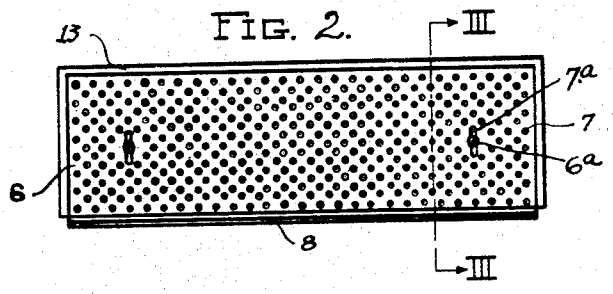


FIG. 3.

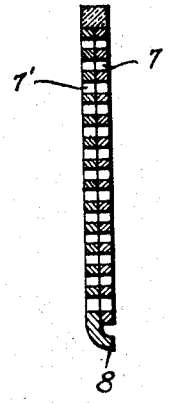


FIG. 4.

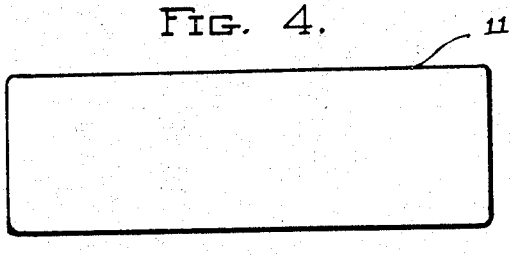


FIG. 5.



INVENTOR

Norman C. Huckestein

by William B. Jaspert.

Attorney.

Patented June 25, 1935 2,006,046

UNITED STATES PATENT OFFICE

2,006,046

SHUTTER TYPE PARTITION FOR REFRIGERATORS

Norman C. Huckestein, Pittsburgh, Pa.

Application May 2, 1932, Serial No. 608,588

1 Claim. (Cl. 62—47)

This invention relates to improvements in household refrigerators and it is among the objects thereof to provide means for dividing the refrigerator chamber in two or more compartments each of which may be maintained at different temperatures without regulation of the control of the freezing element.

The present invention is adapted for use in refrigerators of the conventional type which have already been constructed according to conventional practice and is more especially applicable to refrigerators of new construction in which special provision may be made for obtaining the maximum efficiency of temperature control.

In accordance with the present invention, one of the shelves for supporting food stuffs is of perforated construction and provided with a shutter or other means for closing the perforations whereby the cooling medium from the freezing unit which is contained in either the top or bottom chambers thus constituted, is primarily confined to the compartment in which the unit is located.

By so dividing a refrigerator chamber, one of the compartments may be employed more effectively for freezing food stuffs of the more perishable kinds such as meat, eggs, fish or the like, and for cooling beverages, while the other compartment although held at lower temperatures than atmospheric temperature on the outside of the refrigerator is at considerably higher temperature than the freezing compartment.

The invention will be more apparent from a consideration of the accompanying drawing constituting a part hereof in which like reference characters designate like parts and in which:

Figure 1 is a view in perspective of a domestic refrigerator with the door open and illustrating an embodiment of the present inventon;

Figure 2 a top plan view of a perforated shutter shelf embodied in the refrigerator of Figure 1;

Figure 3 a cross-sectional view of the shelf shown in Figure 2 taken along the line III—III thereof;

Figure 4 a longitudinal vertical sectional view of an insulating pad or liner which may be employed in accordance with this invention; and

Figure 5 a top plan view of the pad shown in Figure 4.

With reference to Figures 1 to 3 inclusive of the drawing, the structure therein illustrated comprises a refrigerator 1 having a door 2 and a freezing unit 3 provided in the upper right hand corner thereof, all of which is of well-known construction. The interior of the refrigerator chamber is provided with shelves 4 and 5 of the usual wire mesh type which are secured on the interior of the wall in any suitable manner and a shelf 6 constructed of sheet metal or the like is disposed between the shelves 4 and 5. The shelf 6 is provided with perforations 7 which may be of such number and diameter as to cause substantially no impediment to the circulation of the cooling medium in the refrigerator chamber or the perforations may be so few in number and of such constricted dimensions as to decidedly interfere with the circulation of the cooling medium from the freezing unit 3 to the bottom of the refrigerator chamber. In any event, provision may be made by a shutter 8 to close the perforations 7 when desired to completely divide the refrigerator chamber in an upper compartment 9 and a lower compartment 10. The shutter 8 is provided with slots 7a through which extend the heads 6a of screws or rivets secured to the shelf 6 to provide for relative sliding movement of shelf 6 and shutter 8.

By so dividing the refrigerator chamber into separate compartments, the compartment in which the freezing unit 3 is located will be kept at relatively low temperatures while the compartment below the partition member 6 will be at higher temperatures and the food stuffs may be stored in either compartment in accordance with the particular needs for their preservation and conditioning.

Although a single perforated partition member 6 has been shown in Figure 1 it will be evident that a plurality of such members may be employed to divide the refrigerator chamber in two or more compartments as desired.

The construction of the shelf 6 is more clearly shown in connection with Figures 2 and 3 of the drawing in which the shutter element 8 is shown as provided with perforations which, in one position, register with the perforation 7 of the shelf 6, and when the shutter is pulled out, the perforations 7 of the shelf 6 are completely closed. The edge of the shutter 8 is fully extended when the perforations are closed so that the door 2 when closed will abut the extended edge of the shutter to seal off the bottom compartment from the cooling medium. The shelf is in intimate contact with the walls of the chamber to prevent air passing around the edges except when the shutter is in the open position when, of course, the front edge of the shutter 8 is pushed in to open the perforations 7 resulting in a space between the door and shelf.

In Figures 4 and 5 of the drawing are illustrated flexible pads 11 which may be stuffed with an insulating material 12 such as felt or the like, the outer material of the pad being of a water resisting character.

The flexible pads 11 may be placed in refrigerators by simply disposing them over one of the wire screen shelves as shown in Figure 1 instead of employing the perforated metal or non-flexible type of shelf like the shelf 6 of Figure 1, such flexible pads being usable in refrigerators already in use.

If a more permanent type of partition is desirable or one with a shutter member 8, such a shelf may be employed if it is provided with a rubber or flexible flap 13 as shown in Figure 2, this flap intimately engaging the inner wall of the refrigerator to form an effective seal.

It is evident from the foregoing description of this invention that refrigerators for domestic use when embodying the perforated regulable shelves of this invention will permit of more desirable regulation of temperatures for food stuffs of different types, and such partition members when in use will also effect economy of the refrigerating medium and the use of power since the freezing compartment in which the freezing unit is installed will be more readily maintained at desirable freezing temperatures with less operation of the unit than if the entire refrigerator chamber is open for circulation of the cooling medium therein.

By means of the partitioning member with the regulation of circulation in a refrigerator chamber, the various compartments may be more effectively utilized to secure lower freezing temperatures on the one hand and higher temperatures for the storage of butter, vegetables, and substances which are not benefited by the freezing temperatures of the colder compartments.

Although one embodiment of the invention has been herein illustrated and described, it will be obvious to those skilled in the art that various modifications may be made in the details of construction without departing from the principles herein set forth.

I claim:

In a refrigerator, a food storage chamber, a partition dividing said chamber into upper and lower compartments, said partition consisting of a perforated shelf insulated from the walls of said chamber to make an air tight joint with said wall, a freezing unit in the upper compartment and a shutter for opening and closing the perforations of the partition, said shutter when closed providing circulation of the cooling medium in the upper compartment only and, when opened, providing circulation of the cooling medium in both compartments.

NORMAN C. HUCKESTEIN.