

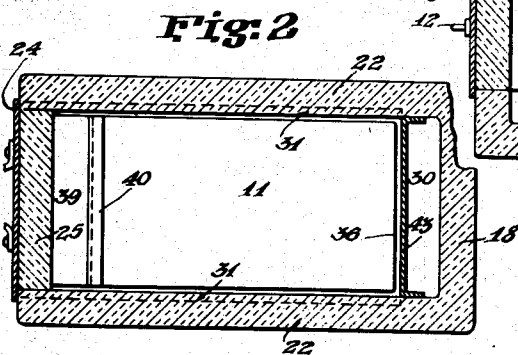
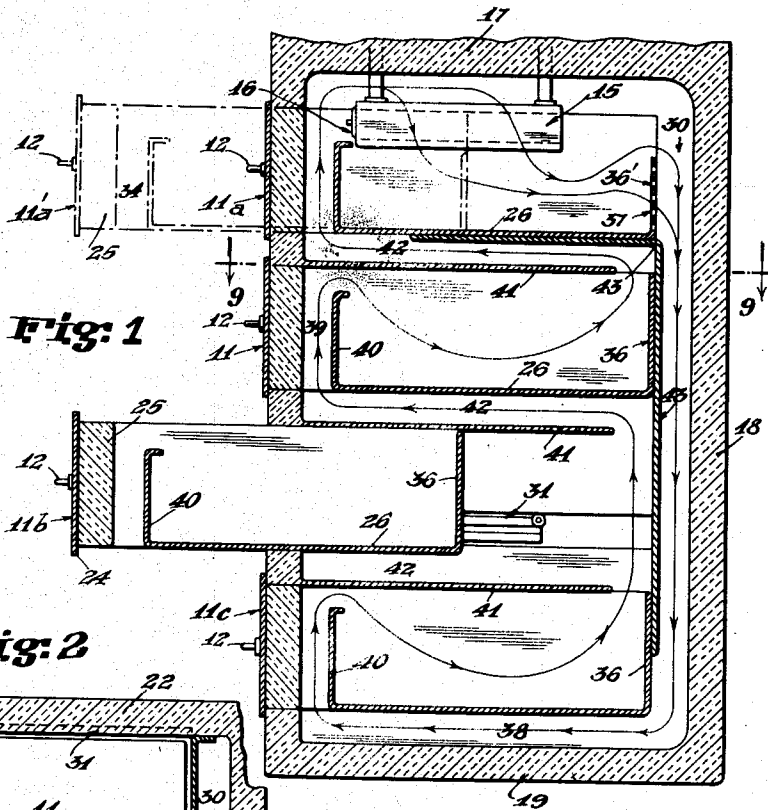
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REFRIGERATOR

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REFRIGERATOR

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This invention relates to refrigerators in general, and more particularly to a refrigerator construction useful in homes.

The conventional home refrigerator, whether cooled by ice or through gas or electricity, is designed with one large interior compartment having a variety of horizontal shelving and grating, and with a large vertical door. Swinging this door open and shut during use causes a mingling of the internal cold air with the external warmer air, causing a loss of refrigeration energy. Whenever food-stuff is placed into or taken from such refrigerators the door must be opened resulting in an efflux of cold air. Items placed in the rear of such a unit are not readily accessible.

Several improvements have been recently made to minimize these disadvantages. For example, an extra door is provided between the outside door and the interior chamber, having shelving thereon to store small frequently used food articles, so as to keep the interior insulated from the outside when handling them. Another improvement is to make the interior shelving slidable so that rapid accessibility to articles placed in the rear is had. However, in all cases, when one must get to an item in the interior of such refrigerators the cold air inside is mixed with outside warm air.

A refrigerator according to my invention comprises a plurality of slidable individual compartments or drawers wherein items are arranged and are readily accessible, communicating to a common interior cooling system. This refrigerator is particularly adaptable for home use, and is arranged somewhat similarly to a filing cabinet. The compartments may be of various size or internal structure, but are essentially horizontally disposed units. Thus, only one section of the refrigerator is operated at one time instead of communicating to the whole interior the external atmosphere. A further important advantage is that the cold air, which is heavier than the external warm air tends to remain contained in the drawer compartment, and very little influx of external warm air takes place.

Other systems of individual slidable compartment refrigerators have been devised, but they are unnecessarily bulky, and are only suitable for large commercial units, having ample refrigeration means. These systems are not adaptable for relatively small refrigerators for private home use, since their construction, particularly of the compartments, is relatively expensive, and the internal circulation circuit is not efficient for a small central cooling unit.

A compartment or drawer construction which

may be readily molded into any desired form or shape forms the basis of a cheap, efficient home refrigerator according to my invention. I provide a novel internal circulation system to use to best advantage a central cooling means.

Accordingly, an object of my invention is to provide a refrigerator having novel independent storage compartments.

Another object of my invention is to provide a refrigerator having novel independent storage compartments that are slidably mounted.

Still another object of my invention is to provide a refrigerator having novel independent storage compartments that are of molded construction.

A further object of my invention is to provide a refrigerator with novel independent slidable storage compartments, having a central cooling unit and a prearranged internal air circulation.

Still a further object of my invention is to provide a refrigerator having novel independent storage compartments that are slidably mounted, which is suitable for home use.

Another object of my invention is to provide a refrigerator with novel slidable molded storage compartments arranged with a circulation system within these compartments so as to make unnecessary a thermally insulated enclosing structure.

There are other objects of my invention which will become evident in the following description in connection with the drawing, in which:

Figure 1 is a partial sectional view of a refrigerator according to my invention.

Figure 2 is the section 2—2 through Figure 1. Referring now more specifically to the drawing, in Figure 1 I have shown a refrigerator which provides for the circulation of cooled air in such a manner that separate drawers may be opened without impeding the circulation and without diminishing the efficiency of the refrigerating unit. In a refrigerator with the top wall 17 and a rear wall 18 are disposed drawers 11a, 11b and 11c having handles 12 on the face 24 thereof. The front of the drawer is composed of insulation material 25 with a metal channel facing 34. At the top of the refrigerator is a cooling unit 15 having ice tray 16 therein.

The top drawer 11a has a rear wall 36' that is foreshortened to pass under the cooling unit 15 when opened to the position as shown dotted in Figure 1. This wall 36' may also have slots 37 to facilitate passage therethrough of the colder air which circulates past the cooling unit 15. This colder air passes around this rear wall 36' into

the rear channel 30 in the refrigerator, down across the channel 38 along the bottom of the structure and up through the front opening 39 of the bottom drawer 11c formed by the front and a baffle 40 of the compartment as shown. This baffle 40 does not extend the full height of the drawer so that the circulation continues around it into the drawer interior.

A baffle member 41 is placed between the respective compartments which does not extend the whole length of the drawer as shown. An opening remains over the rear of the drawer so that the circulation circuit continues on upwards. If a drawer is opened such as is 11b the circulation passes around it and continues through the channel 42 formed between the baffle 41 and drawer bottom 26, up through the front opening 39 of drawer 11, into the compartment, and out again as hereinbefore through the rear top, through another channel 42 and up to the cooling unit 15 to complete the circuit. A baffle wall 43 forms the channel 30 with the rear wall 18 of the refrigerator. The channels 30, 38 and 42 extend across the whole width of the interior. The openings 39 in the compartments 11 are as wide as the drawers, as Figure 2 illustrates.

This modification will have a uniform cooling effect between the respective compartments. The novel arrangement illustrated practically isolates a compartment when it is opened up. As seen in Figure 1, drawer 11b is open, and the rear wall 36, reaching up to the baffle member 41 substantially shuts off any of the possible internal circulation to the compartment. A compartment may thus remain opened for a long time without materially affecting the internal circulation or refrigeration efficiency. A roller and track assembly 31 may also be used for the drawers having a closing detent as hereinabove.

It is understood that my invention is not limited to the specific structures and designs as shown in the drawing, and that many modifications and variations in the shape and form as well as the arrangements differing from the illustrated embodiments are possible within the broader scope and spirit of my invention. For example, one refrigerator may have several sizes of drawers or compartments; a larger construction may be employed for commercial units, such as for hotel use; brine piping may be employed along the rear wall to communicate cold air directly to the individual compartments instead of

using a central cooling unit; the drawers may have holes in the bottom for air circulation there-through; other air circuit relations to cause continuous internal circulation may be designed; different compartment sliding mechanisms may be employed; and many other modifications, so that I do not intend to be limited in my application except as set forth in the appended claims.

I claim:

1. A refrigerator comprising in combination a casing comprising insulating material, a plurality of slidable drawers normally arranged in spaced apart parallel relation in said casing, a baffle wall spaced from the rear wall of said casing and positioned to form an abutment to be engaged by the rear walls of said drawers, and parallel baffle members extending inwardly from the front wall of the casing to define compartments for receiving said drawers.

2. A refrigerator comprising in combination a casing comprising insulating material, a plurality of slidable drawers normally arranged in spaced apart parallel relation in said casing, a baffle wall spaced from the rear wall of said casing and positioned to form an abutment to be engaged by the rear walls of said drawers, and parallel baffle members extending inwardly from the front wall of the casing to define compartments for receiving said drawers, said drawers being constructed and arranged to cooperate with the baffle wall and baffle members to form a circuit of connected passages for directing a temperature controlling medium along the rear and bottom walls of the casing and then successively through each drawer and along the associated baffle member into the next drawer in the series.

3. A refrigerator comprising in combination a casing comprising insulating material, a plurality of slidable drawers normally arranged in spaced apart relation in said casing, a baffle wall spaced from the wall of said casing, and parallel baffle members extending inwardly from the front wall of the casing to define compartments for receiving said drawers, said drawers being constructed and arranged to cooperate with the baffle wall and the baffle members to form a circuit of connected passages for directing a temperature controlling medium through the passage formed by the baffle wall and the wall of the casing and then successively through each drawer and along the associated baffle member into the next drawer in the series.

DUDLEY ROBERTS.