

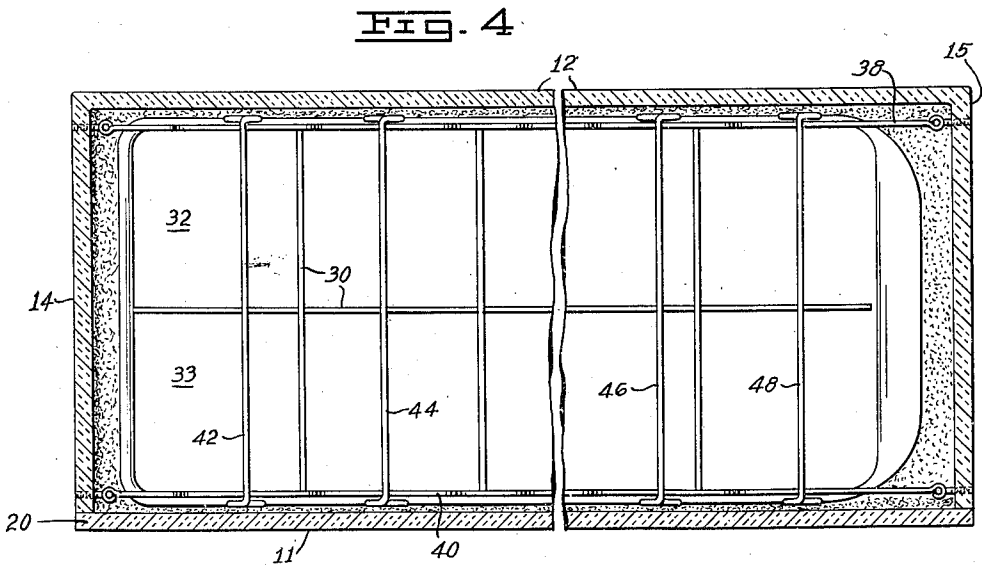
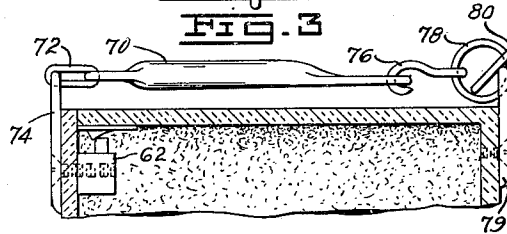
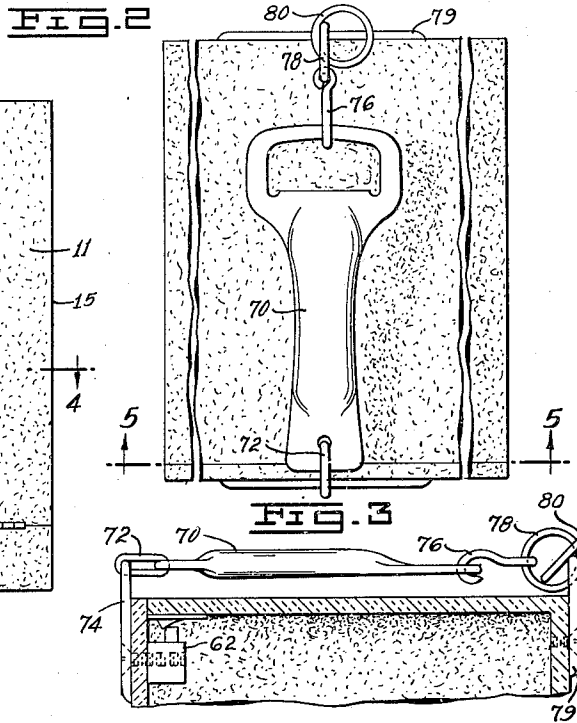
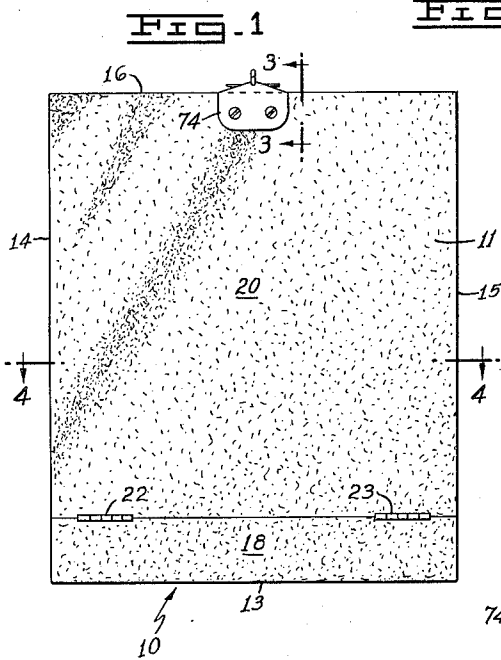
Dec. 13, 1949

C. F. JULIN
REFRIGERATOR

2,491,114

Filed May 21, 1947

2 Sheets-Sheet 1



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FIG. 5

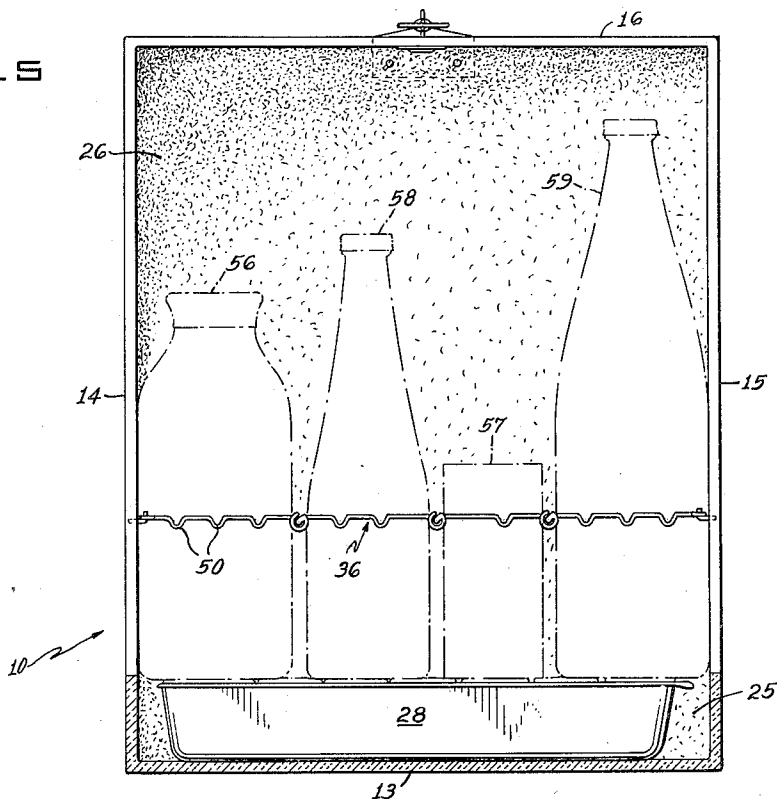


FIG. 6

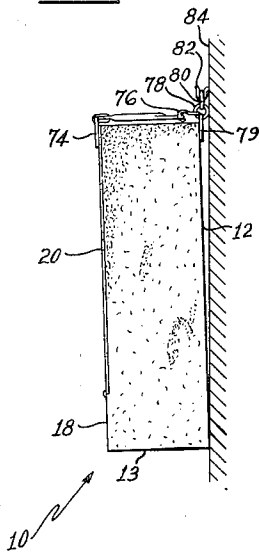
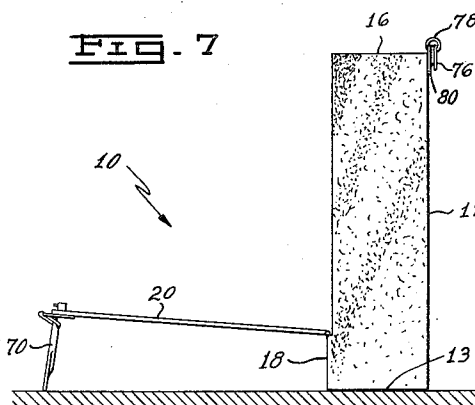


FIG. 7



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REFRIGERATOR

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6 Claims. (Cl. 62-31)

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This invention relates to refrigerators and has for its object an improved refrigerator of the portable type in which the desired chilling or cooling effect is obtained from ice confined therein.

Although portable refrigerators of various forms of construction have been proposed, there is need for one that can be easily handled; that may be readily loaded with ice; that is adjustable to permit storing of food or drink in containers of various sizes; and that keeps the containers from shifting position when the refrigerator is subjected to the usual handling, for example during an automobile trip, at a picnic, etc.

Investigation confirms my discovery that a portable refrigerator with such and other advantages may be readily and economically manufactured. It may be made in various sizes.

In accordance with the invention, the portable refrigerator comprises a cabinet, the interior of which is divided into a lower chamber for ice and an upper chamber for the storage of food, the two chambers being in open communication with one another. A door is provided in the front of the cabinet above the lower chamber to provide access to both chambers. A retaining rack is located in the upper chamber a convenient distance above the lower chamber, the rack being provided with fixed back and front supports extending laterally from side to side of the cabinet and with a plurality of movable cross members extending from back to front of the cabinet, the cross members and back and front supports being securable to each other at spaced intervals to form spaces of predetermined sizes.

These and other features of the invention will be better understood by referring to the accompanying drawings, taken in conjunction with the following description, in which—

Fig. 1 is a front elevation of a portable refrigerator illustrative of a practice of the invention;

Fig. 2 is an enlarged plan view in part of the top of the refrigerator showing a combination carrying device, etc.;

Fig. 3 is a section on the line 3-3 of Fig. 1;

Fig. 4 is a section on the line 4-4 of Fig. 1;

Fig. 5 is a section on the line 5-5 of Fig. 2;

Fig. 6 is an end elevation of the refrigerator showing it mounted on the side of a wall; and

Fig. 7 is an end elevation of the same refrigerator showing it raised on the ground, for example with its door open and in position to be used as a tray.

The portable refrigerator shown comprises a cabinet 10, generally rectangular in shape, formed

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of a front 11, a back 12, a bottom 13, sides 14 and 15, and a top 16. The cabinet may be made of any suitable material, such as a plastic, metal, wood, insulating boards, etc. As shown, the front is divided into a bottom panel section 18 extending transversely across the cabinet, and a door 20 secured thereto by means of a pair of hinges 22, 23.

The interior of the cabinet is divided into a lower chamber 25 for ice or ice in a container, and an upper chamber 26 for the storage of food. The two chambers are in open communication with one another. As shown more particularly in Fig. 5, the lower chamber is, in effect, defined by bottom panel section 18 at the front, as well as by bottom 13, and by the lower portions of back 12 and sides 14 and 15. As shown in Figs. 4 and 5, the lower chamber is sufficiently large to receive a conventional ice tray 28, enough space being provided at the sides to permit easy grasping of the tray. The tray is shown fitted with a conventional spacer 30 to form separate ice cubes, 32, 33, etc.

A retaining rack 36 (see Figs. 4 and 5) is provided in the upper chamber a convenient distance above the lower chamber. The rack consists of a fixed back support 38 and a fixed front support 40 extending laterally across the cabinet, the supports being suitably secured to the sides of the cabinet. A plurality of movable cross members 42, 44, 46, 48, etc., extend from back to front of the cabinet. The fixed supports and cross members are advantageously made of wire rods. The cross members and back and front members are securable to each other at spaced intervals to form spaces of predetermined size. To this end in the construction shown, the fixed back and front supports are provided with recesses 50 at regularly spaced intervals, in which the cross members are adapted to be inserted, preferably with a snug fit, so as not readily to be displaced in use. So that the movable cross members may not slide out of position their ends are preferably turned over as shown, so that they occupy the spaces adjacent the back and front of the cabinet.

As shown in Fig. 5, the movable members may be mounted on the fixed members in such a way as to provide a succession of rectangular spaces of predetermined sizes in which may be inserted, for example, a bottle of milk 56, a package of butter 57, a bottle of "soft drink" 58 and a bottle of beer 59. Each of these articles rests on the top of the ice tray in actual contact with the top thereof, the spacer and even the ice cubes. Each

article is kept in its place in the rack by the fixed supports and the movable members. In other words they cannot fall out of the cabinet when the door is opened. If desired, other articles, preferably of the kind that do not break readily, may be placed on the tops of those described. Since the lower chamber is enclosed on all sides, except its top, the coldest air tends to remain trapped in the chamber when the door is opened for short intervals.

A conventional automatic locking device 62, having a spring operated pin, is adapted to be brought into and out of engagement by closing the door and opening it, respectively.

As more particularly shown in Figs. 2, 3 and 6, the cabinet is also provided with a combination carrying device for carrying the cabinet and its contents. In the particular construction shown, the carrying device is in the form of a bottle opener 70 disposed laterally across the mid-section of the top of the cabinet. The base of the bottle opener is provided with a link 72, in turn secured to an anchor member 74 fixedly secured to the top of the door. The other end of the bottle opener is shown hooked to a hook 76, in turn secured to a link 78. The latter link is secured to an anchor member 79 fixedly secured to the back of the cabinet, as shown more especially in Figs. 2 and 6. Another link 80 is secured to link 74, the latter being adapted, for example, to be hung over a hook 82 secured to a wall 84 or other support.

When closed, the door should fit tightly to prevent egress of cold air and ingress of warm air. Any suitable construction to obtain this result may be employed. The walls of the lower chamber, at least, are preferably impervious to moisture.

The portable refrigerator may be used in various ways. While the lower chamber is particularly adapted to receive a tray of ice cubes, such as are to be found in most kitchen refrigerators, other containers for the ice may be employed. Ice itself, without a container, may be placed in the lower chamber. Instead of ordinary ice (H_2O), dry ice (CO_2) may be employed. With the cabinet standing on the ground, for example, bottle opener 70 may be separated from hook 76 and used to open one or more bottles; and door 20 may be opened forwardly and used as a tray by using the bottle opener as a prop.

It will be clear that the portable refrigerator specifically referred to is only by way of example and that the practice of the invention lends itself to a number of useful modifications.

I claim:

1. In a portable refrigerator, the improvement comprising a cabinet, the interior of the cabinet being divided into a lower zone for ice and an upper zone for the storage of food, the two zones being in open communication with one another,

the lower zone being defined by a bottom panel section at the front and the lower portions of the back and sides of the cabinet, a door in the front of the cabinet above the lower zone to provide access to both zones, and a retaining rack in the upper zone a convenient distance above the lower zone, said rack being provided with open spaces adapted to receive and retain articles of food and the like with the bottoms thereof extending to the lower zone for chilling.

2. A portable refrigerator according to claim 1, in which the lower zone is provided with an ice cube tray.

3. A portable refrigerator according to claim 1, in which the door is hinged at its lower end so that the door may be dropped forwardly of the cabinet and used as a tray.

4. A portable refrigerator according to claim 1, in which the door is hinged at its lower end so that the door may be dropped forwardly of the cabinet and used as a tray, and a bottle opener is linkedly secured to the upper end of the door so that it may be brought under and become a support for that end of the door when it is used as a tray.

5. A portable refrigerator according to claim 1, in which the door is hinged at its lower end so that the door may be dropped forwardly of the cabinet and used as a tray, and a hand grip extends across the top of the cabinet, the hand grip being disconnectible at one end and at the other being linkedly secured to the upper part of the door so that when the door is used as a tray the hand grip may be brought under and become a support for the tray.

6. A portable refrigerator according to claim 1, in which the rack is provided with fixed back and front supports secured to the side walls of the cabinet, the supports extending laterally from side to side of the cabinet to the rear of the door when closed, and with a plurality of movable cross members extending from back to front of the cabinet, the cross members and back and front supports being securable to each other at spaced intervals to form said spaces.

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