

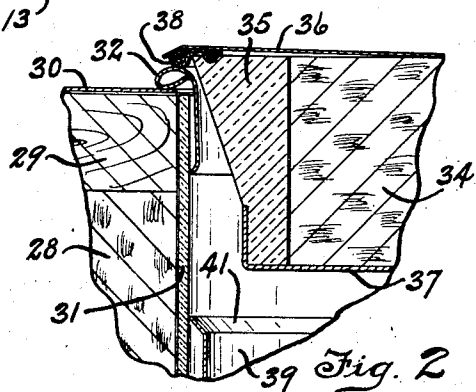
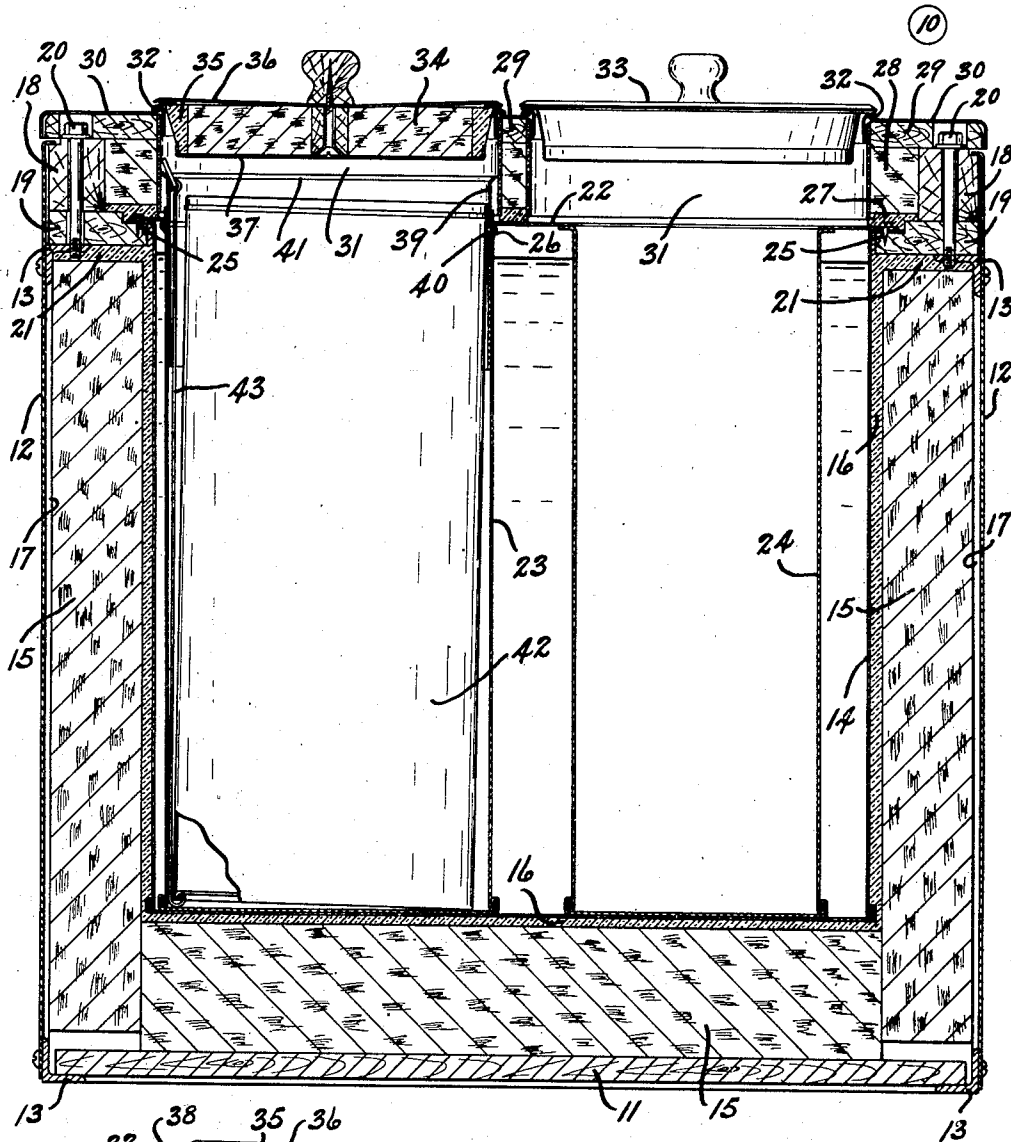
July 6, 1937.

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2,086,503

REFRIGERATING APPARATUS

Filed Feb. 6, 1926



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UNITED STATES PATENT OFFICE

2,086,503

REFRIGERATING APPARATUS

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Application February 6, 1926, Serial No. 86,586

15 Claims. (Cl. 220—9)

This invention relates to a refrigerating system, and particularly to cooling cabinets for use in such a system.

The invention is shown as applied to a cooling cabinet adapted to receive ice-cream cans and brick ice cream.

One object of this invention is to provide a useful and efficient cooling cabinet in which the various parts cooperate to provide uniform cooling and better insulation than are obtained in the conventional cabinet.

In the present type of cooling cabinet for ice cream, difficulty has been experienced from the tendency of frost to collect at the top of the container which receives the cans, and around the cover for the can opening. Another object of this invention is to obviate this difficulty.

Another object is to prevent corrosion of the container at its upper end.

A further object is to prevent the conduction of heat from outside the cabinet to the top of the can, and the consequent softening of the ice cream.

Another object of this invention is to provide means for preventing damage to the container by the insertion and withdrawal of ice-cream cans.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawing, wherein a preferred form of the present invention is clearly shown.

This invention is an improvement over the cabinet described in my Patent No. 1,746,702, issued February 11, 1930.

In the drawing:

Fig. 1 is a vertical sectional view through an ice-cream cabinet, embodying the invention; and

Fig. 2 is an enlarged sectional view of part of Fig. 1, showing the details of the cover construction.

The ice-cream cabinet 10 includes a bottom 11 and outer walls 12, fastened to a frame composed of angle irons 13. The bottom is generally made of wood, while the side walls are of sheet metal. Inside the cabinet is placed a brine tank 14, insulated from the side walls 12, by material such as corkboard 15. The corkboard does not make direct contact with the tank 14, but is separated therefrom by a layer of hydrolene 16 serving as a seal against the passage of air from outside the cabinet to the brine tank. Angle irons 13 prevent the corkboard from abutting directly the outer walls 12, and thus an air space 17 is provided for supplying additional insulation.

The upper wall part of the cabinet consists of

cross-strips 18, 19, secured to the upper angle irons 13 as by bolts 20. Hydrolene 21 is placed between strips 19 and the upper ends of the corkboard 15.

The brine tank is closed by a cover or top plate 22 provided with holes adapted to coincide with the openings in containers 23, 24 which containers provide open food storage compartments. This cover rests on the turned-over walls of brine tank 14 and is fastened to the strips 19, as by screws 25. Container or receptacle 23, which is cylindrical and is adapted to receive cans of ice cream, has a bead 26 near its top, which top extends through the closed tank or cover 22, and brine tank cover 22 rests on this bead, thereby bracing the container. Container 24 is rectangular in shape and is adapted to receive brick ice cream. Its upper ends are turned over and fastened to the cover 22 by any suitable means, such as solder.

The top of the cabinet includes a layer of hydrolene 27, placed directly on the brine-tank cover, and over the hydrolene is placed a layer of corkboard 28. The cover is finished by a board 29 placed on top of the corkboard, the board 29 being covered with a suitable rust-resisting sheet metal facing 30.

The top wall of the cabinet is apertured or cut away over the containers 23 and 24 to provide openings for access to the containers and the food storage compartments formed thereby. Inside each of these openings is placed or inserted a suitable hard, non-metallic, non-conducting sleeve or tubular member 31, preferably made of fibre. Each of the openings and its corresponding sleeve lining is considerably larger in diameter than the container to which it opens.

Referring particularly to the openings over containers 23 and 24, the sleeve 31 extends down from the top of the cabinet to just below the upper edge of the container or receptacle 23 and may extend below the upper edge of container or can 42 (see Fig. 1). A spring ring or facing 32 (Fig. 2) fits around the upper end of sleeve 31 and is bent over the top sheet metal facing 30, thus protecting and providing a sheet metal facing for the cabinet at the opening and at the same time tending to hold the sleeve 31 in place. This ring also supports a cover or closure device 33 for the cabinet opening. In case of injury to the ring, it may readily be removed and replaced.

The cover or door 33 comprises a cylindrical section of corkboard 34, around whose circumference is placed a hard-rubber insulating ring 35. The top and bottom of the cover are finished

with circular, rust-proof metal sheets or facings 36 and 37, respectively. It is thus apparent that the rubber ring 35 around the door 33 is held between the spaced edge portions of the sheet metal facings 36 and 37 and provides an interruption therebetween. Around the upper edge of the cover, and between the hard-rubber ring 35 and the top sheet metal facing 36, is carried or placed an insulating member or soft-rubber gasket 38 (Fig. 2). When the cover is in place, the gasket rests on spring ring 32, forming a seal against the admission of warm air to the ice-cream container.

Container 23 is provided with an additional metallic sleeve 39 which extends both above and below the upper end of the container. The sleeve 39 is slidable in the container 23 and is provided with a bead 40 which engages the bead 26 on container 23, and thereby tends to hold the sleeve in place. Sleeve 39 extends into sleeve 31 and is bent outwardly at its upper end as at 41, to provide a flange which contacts the non-metallic insulating sleeve 31 above the lower edge thereof and thereby prevents any ice cream from lodging between sleeves 31 and 39. The sleeve 39 extends down into the food storage compartment formed by container 23 so as to have its lower edge disposed below the top edge of container 23.

The sleeve 39 prevents the ice-cream can or container 42 from injuring the upper end of container 23, which is the portion of the container most often injured by the insertion and withdrawal of such cans. It will be seen from the above that in the event of injury to the sleeve 31, ring 32 or sleeve 39, any of them may be removed since they are removable or insertable through the opening in the top wall 30. This is apparent, particularly from Fig. 2, where the opening in the top 30 is larger than the sleeves 31 and 39 and the inserted part of ring 32.

A hooked rod 43 is provided to assist in moving the cans in and out of the container.

It will be apparent that a very useful and efficient cabinet has been provided. The non-metallic, non-conducting fibre sleeve 31 prevents the passage of cold in one direction and thus the formation of frost about the cabinet openings and covers 33. On the other hand, the metallic sleeve 39 extends far enough above the top of the can to conduct cold thereto and thus prevent the softening of the ice cream at that place. This sleeve also serves, as was mentioned before, to prevent injury to the container during the insertion and withdrawal of cans. It further serves to prevent corrosion about the container opening.

It is apparent that in the event of any damage to the sleeve 39 it may be easily removed and replaced, whereas in former cabinets it has been necessary to replace the entire container.

While the form of embodiment of the invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

What is claimed is as follows:

1. Refrigerating apparatus including a refrigerating chamber, a top wall for the chamber having an opening therein, a lining member extending thru the opening and below the top wall, a container within the chamber registering with the opening, and a sleeve attached to the container and terminating within and in contact with the lining member.

2. Refrigerating apparatus including a refrigerating chamber, a top wall for the chamber hav-

ing an opening therein, a lining member extending thru the opening and below the top wall, a container within the chamber registering with the opening, and a sleeve attached to the container and terminating within the lining member, said sleeve having an outwardly flaring mouth engaging the lining member.

3. Refrigerating apparatus including a refrigerating chamber, a top wall for the chamber having an opening therein, a lining member extending thru the opening and below the top wall, a container within the chamber registering with the opening, and a sleeve attached to the container, said sleeve extending within and below the top of the container, and in contact with the lining member above the top of the container.

4. Refrigerating cabinet including a metal framework, a wooden top and framework supported by said metal framework, a brine tank within said metal framework extending to said wooden framework, a metal top for said brine tank, openings in said metal top, sleeves in said brine tank extending to said openings, openings in said wooden top in alignment with openings in said metal tank top, container guiding members extending throughout from said sleeves to the top of said openings including removable metal flanged rings resting on top of said cabinet and extending into the openings in said wooden top.

5. Refrigerating cabinet including a metal framework, a wooden top and framework supported by said metal framework, a brine tank within said metal framework extending to said wooden framework, a metal top for said brine tank, openings in said metal top, sleeves in said brine tank extending to said openings, openings in said wooden top in alignment with openings in said metal tank top, container guiding members of impervious material extending throughout from said sleeves to the top of said openings including removable metal flanged rings resting on top of said cabinet and extending into the openings in said wooden top.

6. Refrigerating cabinet including a metal framework, a wooden top and framework supported by said metal framework, a brine tank within said metal framework extending to said wooden framework, a metal top for said brine tank, openings in said metal top, sleeves in said brine tank extending to said openings, openings in said wooden top in alignment with openings in said metal tank top, a metal cover for said wooden top having openings in alignment with the openings in said wooden top, container guiding members extending throughout from said sleeves to the top of said openings including removable metal flanged rings resting on top of said cabinet and extending into the openings in said wooden top.

7. Refrigerating cabinet including a metal framework, a wooden top and framework supported by said metal framework, a brine tank within said metal framework extending to said wooden framework, a metal top for said brine tank, openings in said metal top, sleeves in said brine tank extending to said openings, openings in said wooden top in alignment with openings in said metal tank top, a metal cover for said wooden top having openings in alignment with the openings in said wooden top, container guiding members of impervious material extending throughout from said sleeves to the top of said openings including removable metal flanged rings resting on top of said cabinet and extending into the openings in said wooden top.

8. In a closure device having relatively movable parts, sheet material facings for said parts, and insulating means carried by the facing of one of said parts and adapted to form a sealing contact with the facing of the other of said parts.

9. In a closure device having relatively movable parts, sheet material facings for said parts, and an insulating member secured to the facing on one of said parts and engageable with a sealing contact with the facing of the other of said parts.

10. In a closure device having relatively movable parts, sheet material facings for said parts, the facing on one of said parts having an interruption, an insulating means in said interruption and adapted to engage with a sealing contact with the facing of the other of said parts.

11. A sealing device for doors, comprising sheet material facings for the adjacent faces of the door frame and the door, a yieldable insulating element secured to a facing and located to form a sealing contact with the other facing when the door is brought into closed condition.

12. A refrigerator wall construction having an inner metal wall member, an outer wall member spaced therefrom, and another wall member of a non-metallic non-hygroscopic material having low heat conductivity and extending between the inner and outer wall members to form a closure for the space between said wall members.

13. A refrigerator wall construction having an inner metal wall member, an outer metal wall member spaced therefrom, and another wall

member of a non-metallic non-hygroscopic material having low heat conductivity and extending between the inner and outer metal wall members to form a closure for the space between said wall members.

14. A cover or door for closing an access opening leading to the storage compartment of a refrigerator cabinet comprising, an inner metal facing member, an outer facing member spaced therefrom to provide an insulating chamber therebetween, insulation in the chamber between said facing members, and another member of a non-metallic non-hygroscopic material having low heat conductivity and extending between the inner and outer facing members about the peripheries thereof to form a closure for the insulation in the chamber between said facing members.

15. A refrigerator wall structure comprising, an inner metal wall member, an outer metal wall member spaced from the inner wall member and forming a chamber therebetween, said inner and outer wall members having their edges spaced apart, and another wall extending between the inner and outer metal wall members and forming a closure for the space between the edges thereof, said another wall comprising a member of low heat conductivity having a substantially non-hygroscopic rubber surface over at least the exposed portions thereof.

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