April 28, 1936. C. O. BARR 2,038,990

SEALING DEVICE FOR REFRIGERATING APPARATUS

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Fig. 1.

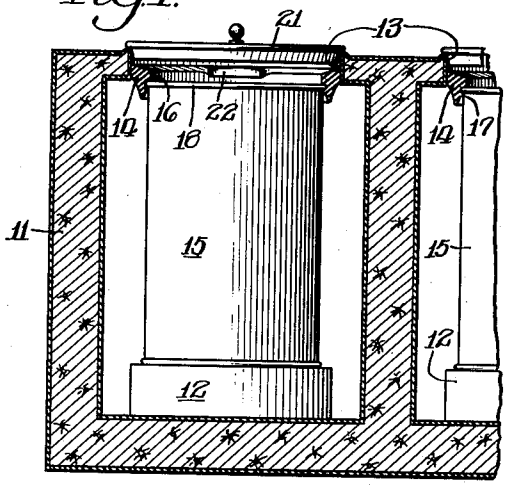


Fig. 2.

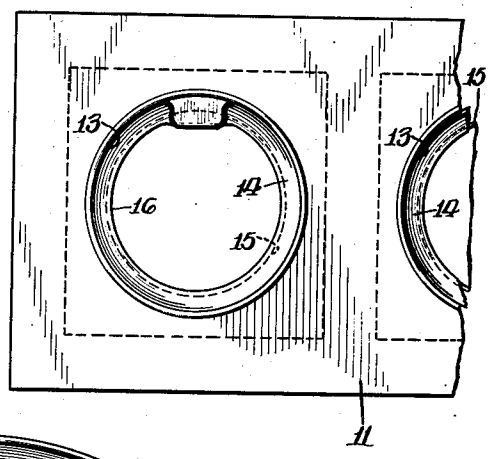


Fig. 3.

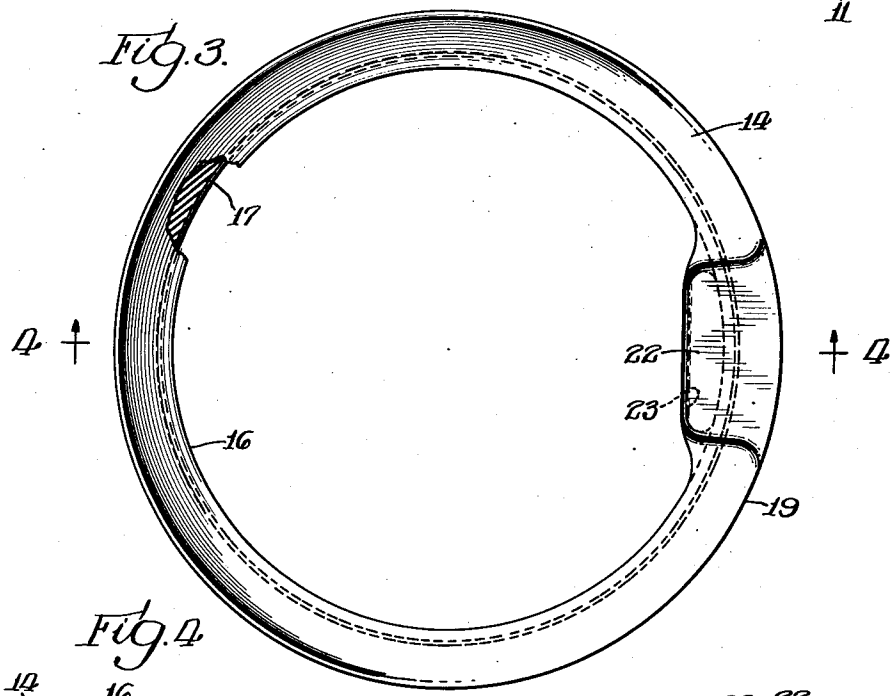
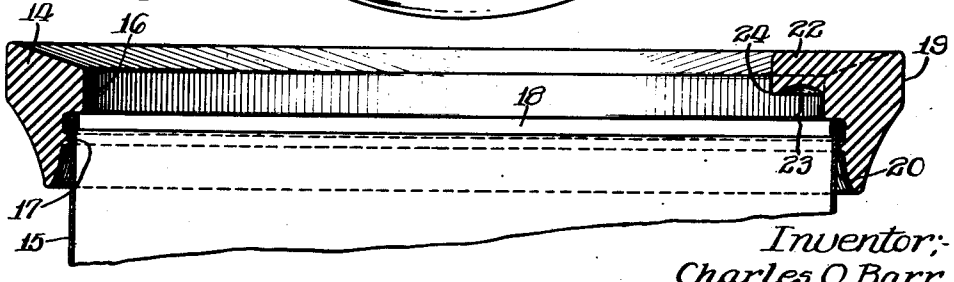


Fig. 4.



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Fig. 5.

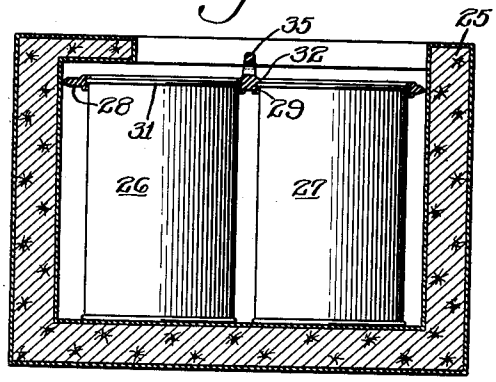


Fig. 6.

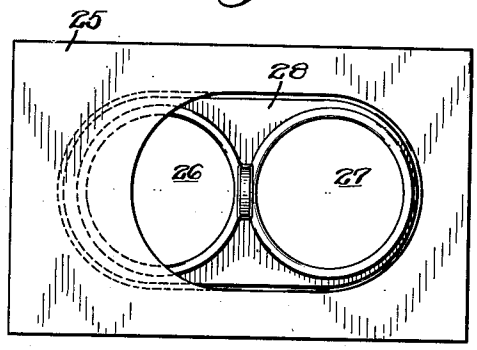


Fig. 7.

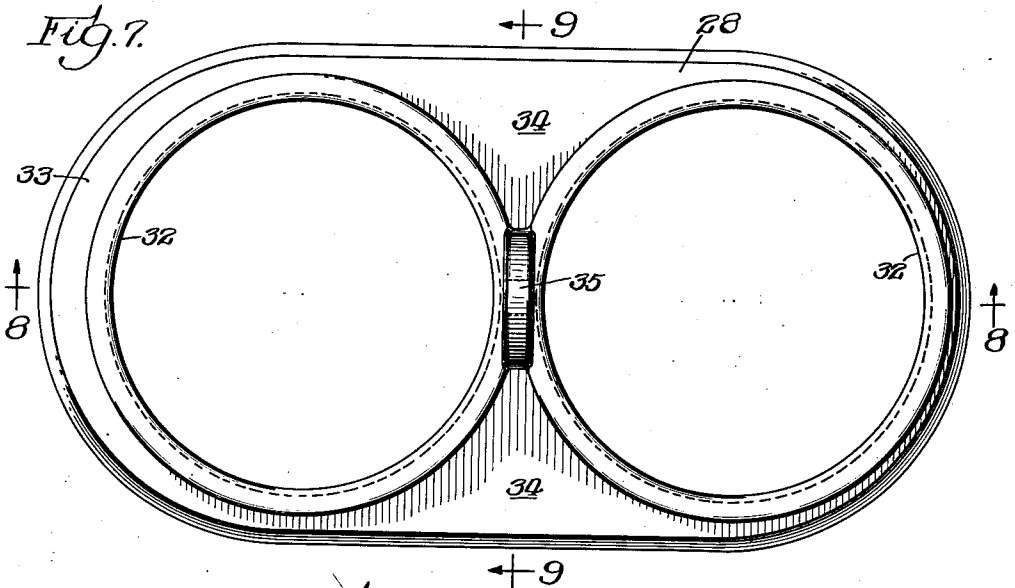


Fig. 8.

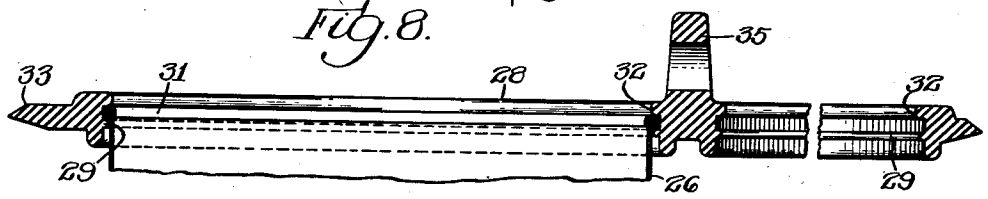
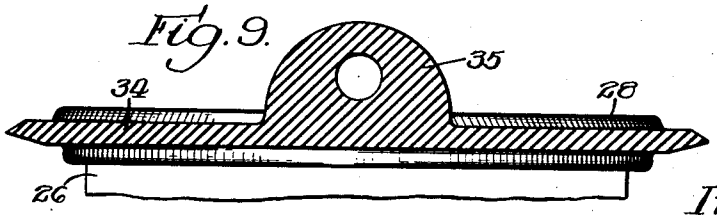


Fig. 9.



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SEALING DEVICE FOR REFRIGERATING APPARATUS

Charles O. Barr, Chicago, Ill., assignor to Sealzit Corporation, Chicago, Ill., a corporation of Illinois

Application June 30, 1934, Serial No. 733,211

6 Claims. (Cl. 220—14)

This invention relates to sealing devices for refrigerating apparatus, and more particularly to a device for holding ice cream cans or the like properly spaced from the walls of a refrigerating container in which they are disposed, the device being adapted to snugly fit the cans and also to contact the opposed walls of the surrounding containers to thereby seal the space between the cans and the container walls.

The sealing device prevents both the dropping of ice cream and other material or articles into the space within the container surrounding the can, and also prevents the circulation of atmospheric air into and out of said space, thereby minimizing the production of frost within this space and also increasing the refrigerative efficiency of the apparatus.

The use of paper cans instead of metal cans for the storage of ice cream is becoming increasingly popular for economical as well as other reasons, but one of the objections to these paper cans has been their tendency to crumple or collapse when the ice cream level within them becomes low so as to leave the upper portions of the walls unsupported.

One of the purposes of my present invention is to provide a sealing device which not only seals the surrounding chamber but also embraces and supports the upper end of the can so as to prevent its collapse in use in the container. With this end in view, my invention contemplates an internal bead on the sealing device adapted to engage beneath the bead or flange at the upper end of the paper can so that this end will be supported by the device, and in furtherance of this object the device itself is shaped to snugly engage the opposed wall, whether it be a side wall or the wall of the opening into the container, so as to hold the can not only against sidewise movements but against collapsing, and in addition to hold the can against turning movements which would be occasioned by the dipping of the ice cream from the interior of the can.

Other objects and advantages of this invention will be readily appreciated as the same become better understood by reference to the following description when considered in connection with the accompanying drawings.

Referring to the drawings:

Fig. 1 is a sectional view through a cabinet or container with an ice cream can therein showing the application of my improved sealing device thereto;

Fig. 2 is a plan view of the structure shown in Fig. 1;

Fig. 3 is an enlarged plan view of the sealing device itself, a portion being broken away to show the underlying parts;

Fig. 4 is a sectional view on the line 4—4 of Fig. 3;

Fig. 5 is a view similar to Fig. 1, showing a modified form of the sealing device adapted for cooperation with a plurality of cans;

Fig. 6 is a plan view of the construction shown in Fig. 1;

Fig. 7 is a plan view of the double can sealing device;

Fig. 8 is a sectional view on the line 8—8 of Fig. 7; and

Fig. 9 is a similar view on the line 9—9 of Fig. 7.

Referring to the drawings more in detail and with particular reference first to Figs. 1 to 4, inclusive, illustrating the single can type of device, reference character 11 indicates generally a container or cabinet adapted to receive and contain ice cream cans from which the ice cream is dispensed at soda fountains or the like.

The depth of these containers in customarily considerably greater than the height of the cans, whether metal or paper, to be stored therein. Consequently with the form of the invention disclosed in these figures, I prefer when paper cans are used to support the can somewhat above the bottom of the container upon a block or pedestal 12 so that the top of the can is in proximity to the opening 13 through which the can is inserted into and removed from the container. If the chamber in the container is of the same diameter as the opening, as it sometimes is, the pedestal may be dispensed with.

The sealing device in this instance comprises an annular ring of flexible elastic material, such as rubber or the like, the ring being indicated generally by reference character 14 and being of a size to snugly embrace the upper portion of the can and to conform to irregularities of the can both as to size and circularity. The ring shaped body of the sealing device fits down over the upper end of the can 15, as shown in Figs. 1 and 4, and comprises an inwardly extending flange or shoulder 16 adapted to rest upon the upper edge of the can body and an inwardly projecting annular bead 17 adapted to embrace the body beneath the rim or bead 18 of the can.

It should be stated at this point that when paper cans are employed they are customarily provided for dispensing purposes at their upper ends with such a rim or bead 18 as disclosed and which is usually made of metal for purposes of rigidity and fixedly united to the upper margin

of the can body by curling or otherwise securing the parts together.

The bead 17 engaging beneath the rim or bead 18 supports the upper end of the can and prevents it from collapsing when the can contents have been partially or practically removed. In order to provide a substantial and rigid support for the upper end of the can, the sealing device is formed to provide at its perimeter an outside face 19 of substantial area which fits snugly within the opening 13 into the container, thereby affording a substantial support for the can. It will be observed that the sealing device fits well down into the opening 13 so as not to interfere with the usual cover with which the container is equipped.

The sealing device is provided at one or more points around the body with a handle or handles 22 preferably formed by molding the material into the shape shown in Figs. 3 and 4, which forms a radially inwardly directed handle disposed below the plane of the upper face of the sealing ring so that the fingers may be inserted beneath this handle for the purpose of lifting the device off the can. This handle is of substantial width and is undercut as indicated at 23 to provide not only a finger hold but to also form a relatively sharp straight edge 24 which at its inner margin is adapted to serve as a dipper scraper by which surplus ice cream can be removed from the dipper by simply drawing the open end of the dipper as it is removed from the can across this edge. Below the bead 17 the body of the sealing device is flared outwardly as indicated at 20 to facilitate the application of the device to the upper end of the can.

The sealing device just described is adapted for application to a single can. Present day cabinets, however, are usually constructed to provide not only single can compartments but also larger compartments which are adapted for the reception and storage of either brick ice cream or a plurality of ice cream cans as desired. A sealing device embodying my invention and adapted for this type of container compartment is illustrated in Figs. 5 to 9, inclusive, of the drawings. In Figs. 5 and 6 reference character 25 indicates the container and 26 and 27 a plurality of cans set side by side in the container. The sealing device in this instance, indicated generally by reference character 28, is shaped to provide a pair of openings, the surrounding walls of each of which are adapted to snugly embrace the upper ends of the cans as shown in Fig. 5.

Said surrounding walls in this instance are also provided with inwardly extending beads 29 adapted to engage beneath the can bead or rim 31, and with an overlying flange 32 adapted to rest upon the upper edges of the cans.

Instead of engaging the opening in the container through which the cans are inserted into and removed from the container, the sealing device in this instance is provided with a peripheral outwardly extending flange 33 adapted to engage the surrounding opposed walls of the container and thereby seal the space between the cans and the container. The flange 33 of the sealing device in this instance includes portions 34 of substantial area filling the space between the opposed curved portions of the walls surrounding the can receiving openings so that the entire space of the container around the cans is covered and sealed.

In this form of the invention an upstanding handle 35 located between the can receiving openings is preferably employed, although the flat dipper scraping type of handle illustrated in Figs. 1 to 4, inclusive, may be employed in lieu of the upstanding handle if preferred.

It should be apparent from the foregoing that my invention provides not only an effective seal between the container and the can or cans contained therein so as to prevent air circulation around the cans and also prevent spilling of ice cream or other material into the space around the cans, but it also holds the cans against turning when the ice cream is being dipped therefrom, supports and prevents collapsing of paper cans when such are employed, and furthermore provides a dipper scraper in a convenient location and also a handle by which the device may be removed from the can or cans when desired.

Various modifications in the structural details of the illustrated embodiment may obviously be resorted to without departing from the essence of the invention as defined in the following claims.

I claim:

1. A sealing device for refrigerating apparatus comprising a flexible elastic body adapted to fit the upper end of an ice cream can, the perimeter of said body being shaped to contact the opposed walls of a can container so as to seal the space between said container and said can, the body being provided with a handle for removal of the same from the can, said handle being disposed inwardly of the perimeter of the body below the plane of the upper surface of said body.

2. A sealing device for refrigerating apparatus comprising a flexible elastic body adapted to fit the upper end of an ice cream can, said body projecting upwardly above the can and being provided with an inwardly projecting portion disposed over the can and beneath the plane of the upper surface of the body, said projection being adapted to serve as a dipper scraper and as a handle for the removal of the device from the can.

3. A sealing device for refrigerating apparatus comprising a flexible elastic body adapted to fit the upper end of an ice cream can, said body being provided above the level of the can with an inward projection adapted to serve as a dipper scraper and a handle and being provided below the top of the can with an internal bead engageable beneath a circumferential bead on the can.

4. A device for sealing the space between an ice cream can and the surrounding surface of a refrigerating cabinet comprising an annular body formed of flexible elastic material provided with a relatively wide outside face portion of substantially uniform diameter throughout its width to afford a snug, frictional fit with said surrounding cabinet surface and an inside face portion grooved to afford an interlocking, snug engagement with a formation on the outer surface of the upper portion of a can, the body being solid between said face portions and of substantial radial thickness and the outside, relatively wide face portion and the inside face portion which snugly embraces the upper portion of a can being arranged in axially offset relation to each other so as to cause compression forces applied laterally against said outside face to be transmitted to a can in the region of the inside face portion which snugly embraces the can, whereby a can will be firmly supported and held against turning within the cabinet.

5. A device for sealing the space between an ice cream can and the surrounding surface of a refrigerating cabinet comprising an annular body

formed of flexible elastic material provided with a relatively wide outside face portion of substantially uniform diameter throughout its width to afford a snug, frictional fit with said surrounding cabinet surface and an inside face portion grooved to afford an interlocking, snug engagement with a part of a can to prevent relative movement axially therebetween, the body being of substantial radial thickness and the outside straight face portion and inside interlocking face portion being arranged relative to each other so as to cause compression forces applied laterally against said outside face portion to be transmitted to a can in the region of said interlocking engagement.

6. A device for sealing the space between an ice cream can and the surrounding surface of a refrigerating cabinet comprising an annular body formed of flexible elastic material provided with a relatively wide outside face portion of substantially uniform diameter throughout its width to afford a snug friction fit with said surrounding cabinet surface, and an inside face portion having an inwardly directed flange to engage the upper edge of a can and an inwardly directed bead spaced axially from said flange to snugly embrace a can beneath a peripheral bead formed on the latter, the flange and bead on the body and the upper edge and peripheral bead on a can being relatively proportioned and positioned to form an interlocking connection between said can and body to prevent relative axial movement therebetween, the outside face portion and the inside interlocking face portion being arranged relative to each other so as to cause compression forces applied laterally against said outside face to be transmitted to a can in the region of said interlocking engagement.

CHARLES O. BARR.