

Dec. 22, 1936.

U. ZIVANOV

2,065,006

AREA REDUCER FOR STORAGE CHAMBERS

Filed July 8, 1933

2 Sheets-Sheet 1

Fig. 1.

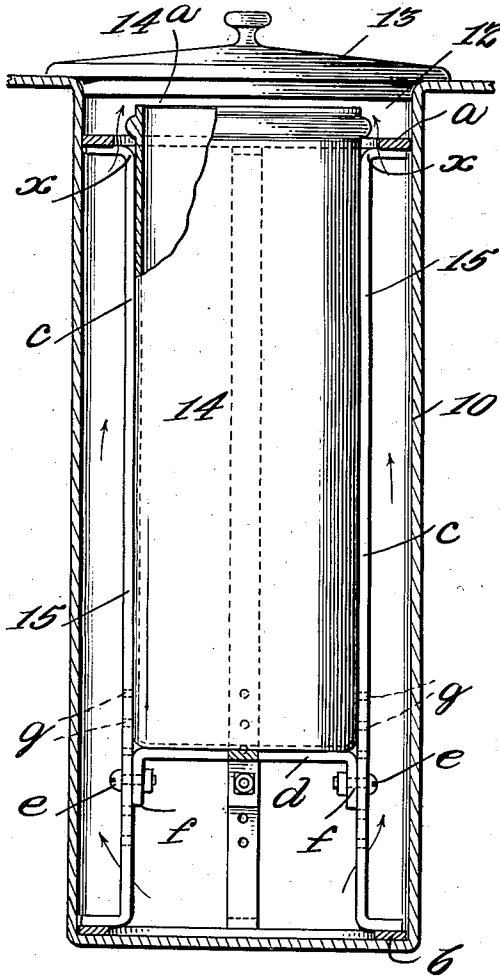


Fig. 2.

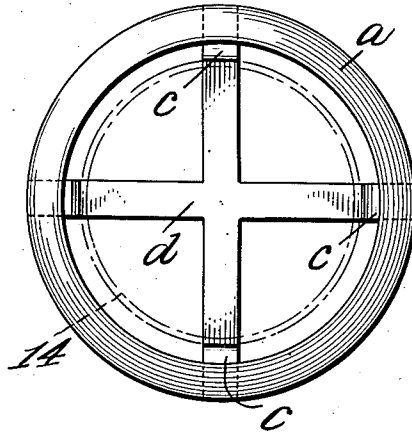


Fig. 3.

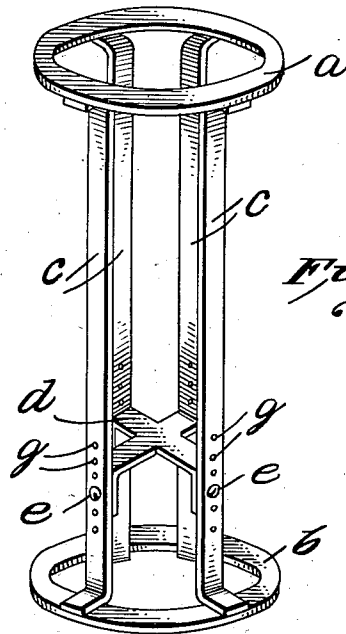
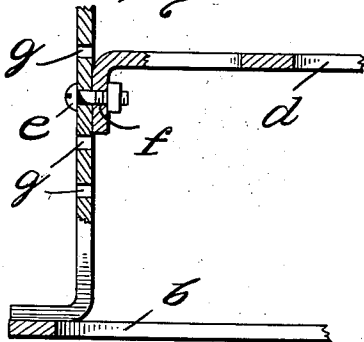


Fig. 4.



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Fig. 5.

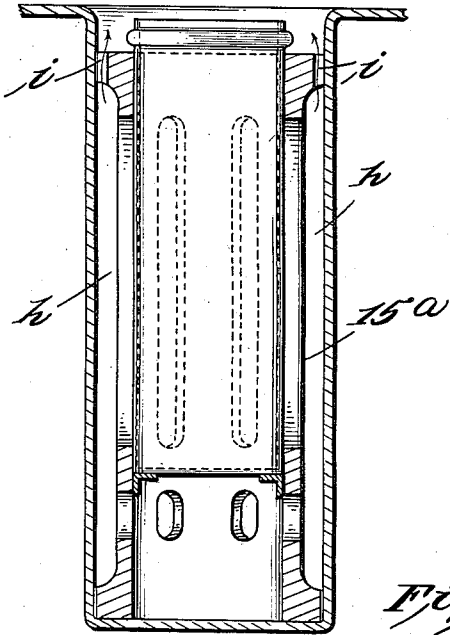


Fig. 7.

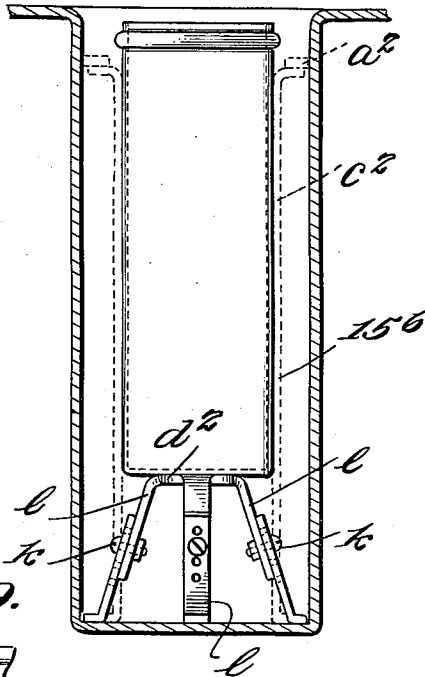


Fig. 9.

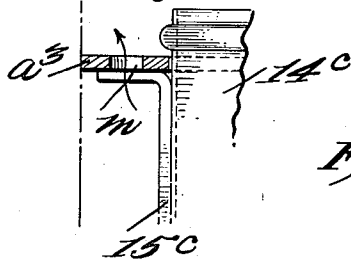


Fig. 6.

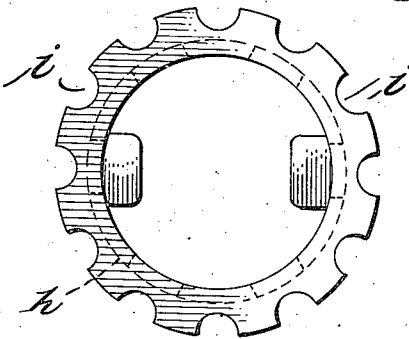
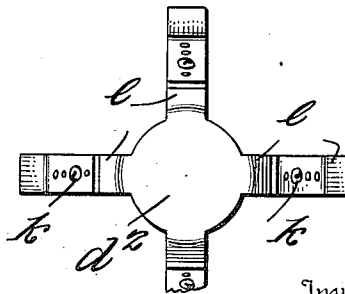


Fig. 8.



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# UNITED STATES PATENT OFFICE

2,065,006

## AREA REDUCER FOR STORAGE CHAMBERS

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Application July 8, 1933, Serial No. 679,564

7 Claims. (Cl. 220—1)

The present invention relates to means or devices for use in connection with chambers or receptacles normally designed to removably receive other containers or articles of substantially the same area or dimension as the interior dimensions of said chamber, said means or devices being removable or insertable in the chamber and having for their purpose to reduce the area of said chamber in such a manner that containers or articles of smaller size may be properly fitted, supported and maintained in said chamber.

More specifically, the present invention is particularly adapted for use in connection with the wells or storage chambers or compartments of ice cream cabinets, which latter are usually constructed to have a cooling medium surrounding said wells such as ice, brine or other refrigerating means. It is customary for these wells to be made of different standard sizes to receive, for instance, a five or ten gallon can of ice cream. The dimensions of the wells are such that the can rests directly upon the bottom of the well with its upper opened end spaced slightly from the upper end of the well and its sides spaced slightly from the sidewalls of the well, for the purpose of permitting convection circulation of the air within the well. Generally considered, the wells are designed to removably fit a certain standard sized can in order that the can will be properly positioned therein without permitting undue lateral play of the can between the walls of the well when the ice cream is scooped or otherwise dispensed from the open end of the well.

Since it is the custom for purveyors of ice cream to keep a variety of kinds and flavors for their patrons, it is also customary for these ice cream cabinets to be made with a plurality of wells to accommodate a plurality of kinds or flavors of ice cream. Such purveyors of ice cream very frequently find, after acquiring a cabinet of a particular size and at considerable cost, that, due to economic or trade conditions, they cannot dispose of such quantity of cream for which their cabinets are designed to contain before the ice cream falls and becomes non-salable, although they find it an imperative necessity to maintain a variety of ice creams. Consequently, a great waste and financial loss results. This condition could be largely remedied and a saving obtained, if the dispensers of ice cream could purchase, say instead of five gallon cans (which fit their cabinet), two or three gallons of each variety; but, such smaller containers of ice cream would not fit the wells of their cabinet, are too far down into the well and shift around in the well, when the ice

cream is being scooped therefrom, in a manner which is injurious to the well and generally inconvenient and undesirable in the dispensing of the cream.

It is therefore the object of the present invention to provide a reducing or adapting means which is insertable into the wells of ice cream cabinets and having an exterior dimension such as will normally fit a well of determined size, and which will have an interior dimension of a size which will receive an ice cream can or other article of smaller size so that the upper or opened end of the container will be adjacent the upper or opened end of the well and which will prevent the shifting or moving-around of said ice cream container in said well during the scooping or dispensing of the cream therefrom.

Another object of the invention is the provision of a reducing or adapting means of the above stated character, which will permit the free circulation of the cold air in the well and, when the top or upper end of the well is covered, permitting the cold air to circulate across and into the upper portion of the ice cream container to harden or preserve the hardness of its contents.

Another object of the invention is the provision of adapting or reducing means of the above stated character which are capable of adjustment so as to be useful with cans of various sizes.

With the above and other objects in view, some of which will be specifically defined and others obvious from the following description, the invention further resides in the sundry details of construction, combination and arrangement of parts hereinafter more fully described and pointed out in the appended claims.

In the drawings, which show the invention in several embodiments:

Figure 1 is a vertical sectional view through a well or chamber of an ice cream cabinet or the like, equipped with the present invention;

Figure 2 is a plan view of the adapting or reducing means shown in Figure 1, the ice cream can being indicated in dotted lines;

Figure 3 is a perspective view of the reducer or adapting means shown in Figure 1;

Figure 4 is a fragmentary detailed view of a lower portion of the adapter or reducer showing the adjustability of the bottom support or rest;

Figure 5 is a view similar to Figure 1, showing the cabinet well equipped with a modified form of reducer or adapter;

Figure 6 is a top plan view of the reducer or adapter shown in Figure 5;

Figure 7 is a view similar to Figure 5, showing

a still further modified form of reducer or adapter;

Figure 8 is a top plan view of the adjustable bottom support of the adapter shown in Figure 7;

5 Figure 9 is a fragmentary sectional view showing a still further modified form of the upper end of the reducer or adapter shown either in Figure 7 or Figure 1.

Referring particularly to Figures 1 to 4 of the drawings, 10 designates the well or chamber usually found in the standard type of ice cream cabinets or any like receptacle. This well 10 is usually surrounded by any cooling medium, and has a bottom 11 and opened upper end 12, and 15 which is fittedly applied a lid or cover 13 which is removed when it is desired to gain access to the contents of the ice cream can 14. This well 10, say for instance, is designed to receive and retain a five gallon can of ice cream. The can 14 shown in the drawings is, say, a three gallon can of ice cream, and is properly supported with its upper end 14a adjacent the open end 12 of the well 10, and also spaced from the sidewalls and bottom thereof by the reducing or adapting 20 device 15 of the present invention.

The construction of the device 15, shown in Figures 1 to 4, is preferably a frame comprising a pair of spaced annular members *a* and *b* having an overall diameter of approximately that 30 of the interior diameter of the well 10 so that there will be a sliding fit therebetween. These spaced rings are connected by a plurality of elongated guide strips of stiff material *c*, either fibre, metal or the like, suitably spaced around the rings. 35 The interior diameter of the ring *a*, at least, is considerably greater than the diameters of the ice cream can 14 with which the device is designed to be used, so that there will be an air space between the inner edge of the ring *a* and the outer surface of the can, as indicated by the arrow Figure 1. The strips *c*, however, are preferably, but not necessarily, positioned with respect 40 to each other and the rings *a* and *b* as to have a sliding fit with the sidewalls of the can 14.

45 The lower end portion of the reducing device 15 is provided with a support *d* upon which the bottom of the ice cream can will rest. This support may be stationary or it may be vertically adjustable, in any manner. In this form of the invention the support is shown as attached to the strips *c* and adjustable along their lengths to accommodate cans of vary depths and hold them up adjacent the open end 12 of the well 10. For the purpose of the present disclosure, this adjustability of the support *d* consists in providing 55 a series of vertical spaced openings *g* in the strips *c* adjacent their lower end portions, through which bolts or other fastening members *e* extend and also engage in suitable openings *f* in the turned down end portions of the support *d*.

Should it become desirable to use this reducer 15 with, say, two gallon ice cream cans instead of a three gallon can, the strips *c* may be bent, at the point "X", to lie further inwardly of the rings *a* and *b*, and the rest *d* may be raised 65 correspondingly by adjusting the bolts *e* in the openings *g*. It is, of course, readily understood that the ring *b* may be omitted from the construction, but it is found that by providing it a more sturdy construction may be obtained and the lower ends of the strips *c* will not become so readily bent or distorted in ordinary usage. 70

Manifestly, the present device will serve as a reducer for the wells of ice cream cabinets and 75 the like, and will support ice cream cans of

smaller size than the wells are originally designed for, in proper position spaced from the side and bottom walls of the well and adjacent the top of the latter, while at the same time permitting free circulation of the convection air currents between the sidewalls of the well and the can, and further permitting this cold air to circulate over and into the top of the can for keeping the contents of the can at the top thereof cold or hardened. It is also obvious that when it is 10 desired to use the wells in connection with ice cream cans of the sizes for which they are originally designed, the reducer may be removed and again replaced as desired, thereby overcoming a disadvantage and inconvenience now existing and 15 supplying a needed want.

In Figure 5, a modified form of reducing device 15a has been shown which may be of a unitary structure formed of any suitable material, such as fibre, papier mâché, metal or the like, and may 20 be molded or cast. This device is of a general cylindrical shape adapted to fit a standard sized well of a storage cabinet, such as an ice cream cabinet, and has an interior chamber of a dimension to accommodate and removably receive a 25 smaller sized can of ice cream. It will also be observed that the reducer 15a of this form of the invention has its intermediate portion reduced, as at *h*, so as to form an air space between the sidewalls of the well and the container. This 30 intermediate portion is also slotted or cut away at portions around its circumference to permit the cold air in the air space *h* to contact with the sidewalls thereof. In this form of the invention, the upper end portion of the device 15a is 35 notched or cut away, as at *i*, so as to permit the circulation of the cold air over and into the upper end of the ice cream container 14a.

The form of the invention shown in Figures 7 and 8 is substantially identical with the form of 40 the invention shown in Figures 1 to 4, inclusive, except that the ice cream can support *d*<sup>2</sup> is made separately and independent from the side spacing frame consisting of the top ring *a*<sup>2</sup> and the side strips *c*<sup>2</sup>. This support consists of a flat supporting member having depending legs *l*, each of which are formed of two sections and vertically 45 adjustable by means of bolts *k*, which extend through a series of vertical openings in the adjacent ends of said leg sections. 50

In Figure 9, the reducing device 15c may be either of the form shown in Figures 1 to 4, inclusive, and Figures 7 and 8, but the top spacing ring *a*<sup>3</sup> thereof may be of substantially the same diameter as the exterior diameter of the ice cream can 14c, so as to permit a sliding fit therebetween; and, in which event, the spacing ring *a*<sup>3</sup> is provided with an annular series of openings *m* which permit the cold air from the lower well 60 portion 10 to circulate across and into the upper end of the ice cream can 14c.

From the foregoing it will be observed that novel means have been provided for adapting old ice cream cabinets and other storage devices for use with other containers and articles of smaller 65 size, and for properly and conveniently holding them in position while permitting the proper circulation of air therearound; and that this novel means may be inserted and removed from the chamber or well at will, according to the desires 70 and requirements of the user.

In this specification and the annexed drawings, the invention is disclosed in the form in which it is considered to be the best, but the invention is not limited to such form because it is capable 75

of being embodied in other forms; and it is to be understood that in and by the claims following the description herein it is intended to cover the invention in whatever form it may be embodied within the scope thereof.

Having thus described the invention, what is claimed as new, is:

1. An adapter for supporting containers of smaller size in storage chambers normally adapted to receive containers of large size, said adapter comprising end members spaced from each other by side members, one of the end members having its outer dimension substantially equal to that of the interior of the storage chamber, said end member having an inner dimension substantially equal to that of the container, whereby the container when placed in said adapter may be supported in said storage chamber against substantial sidewise movement with respect thereto.

2. An adapter for supporting containers of smaller size in cylindrical storage chambers normally adapted to receive cylindrical containers of larger size, said adapter comprising annular end members spaced from each other by side members, one of the end members having its outer diameter substantially equal to that of the interior of the storage chamber, and said end member having an inner diameter substantially equal to that of the container, whereby the container when placed in said adapter may be supported in said storage chamber against substantial sidewise movement with respect thereto, and a support positioned on said side members intermediate the end members for supporting the base of the container.

3. An adapter for supporting containers of relatively small depth in storage chambers normally adapted to receive containers of a depth substantially equal to that of the storage chamber, said adapter comprising end members spaced from each other by side members, and a support positioned on said side members by adjustable attaching means intermediate the end members for supporting the base of the container, whereby the base support may be changed in position to accommodate containers of varying depth.

4. In combination, a cabinet having a well for receiving a container of standard size, and an adapter in said cabinet well for holding a container of less than standard size therein, said adapter comprising end members spaced from each other by side members, one of the end members having its outer dimension substantially equal to that of the interior of the storage chamber, said end member having an inner dimension

substantially equal to that of the container, whereby the container when placed in said adapter may be supported in said storage chamber against substantial sidewise movement with respect thereto.

5. In combination, a cabinet having a well for receiving a container of standard size, and an adapter in said cabinet well for holding a container of less than standard size therein, said adapter comprising end members spaced from each other by side members, and a support positioned on said side members by adjustable attaching means intermediate the end members for supporting the base of the container, whereby the base support may be changed in position to accommodate containers of varying depth, and whereby the container when placed in said adapter may be supported in said storage chamber against substantial sidewise movement with respect thereto.

6. In combination, a refrigerating ice cream cabinet having a well for receiving an ice cream container of standard size, and an adapter in said cabinet well for holding an ice cream container of less than standard size, said adapter including annular end members spaced from each other by side members, one of the end members having its outer dimension substantially equal to that of the interior of the cabinet well, and said end member having an inner diameter substantially equal to that of the smaller size container, whereby the container when placed in said adapter may be supported in said storage chamber against substantial sidewise movement with respect thereto, and a support for the base of the container positioned within said well above the floor thereof and intermediate the ends of the adapter, said support having legs of adjustable length for varying the position of the base support with respect to the floor of the well.

7. In combination, a refrigerating ice cream cabinet having a well for receiving an ice cream container of standard size, and an adapter in said cabinet well for holding an ice cream container of less than standard size, said adapter including an end member and legs on said end member for positioning the latter at substantially the mouth of the well, and a base support in said well for supporting the base of the container of less than standard size, said base support including adjustable supporting members for varying the height thereof to vary the position of the base support with respect to the floor of the well.