Sept. 27, 1932. L. G. COPEMAN 1,879,602

FLEXIBLE SHARP FREEZING CONTAINER

Filed June 20, 1928

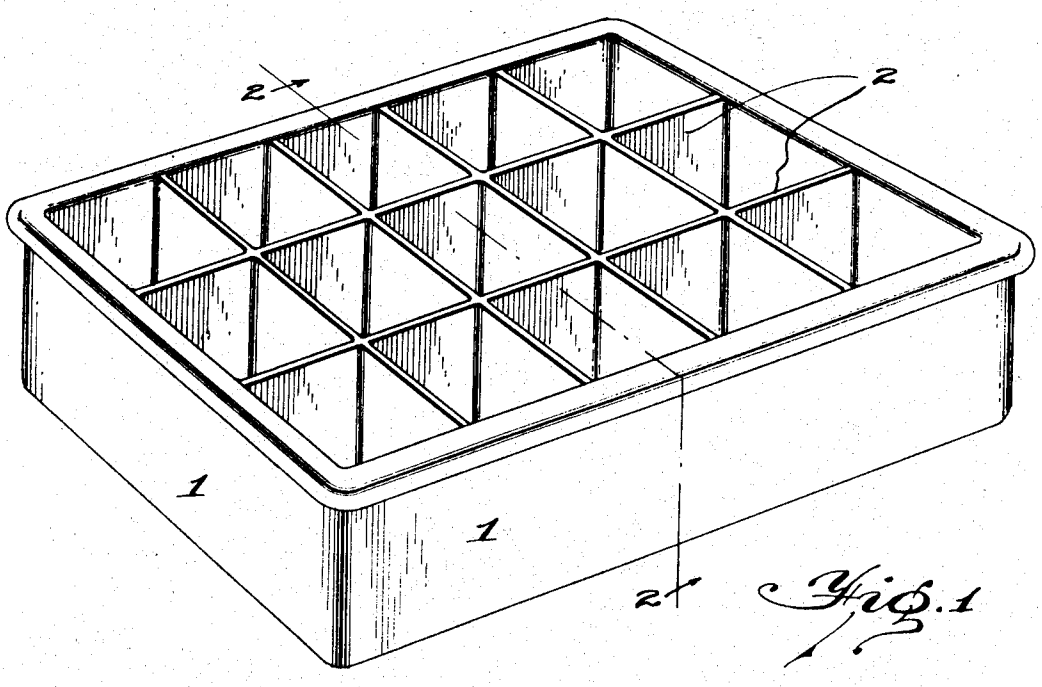


Fig. 1

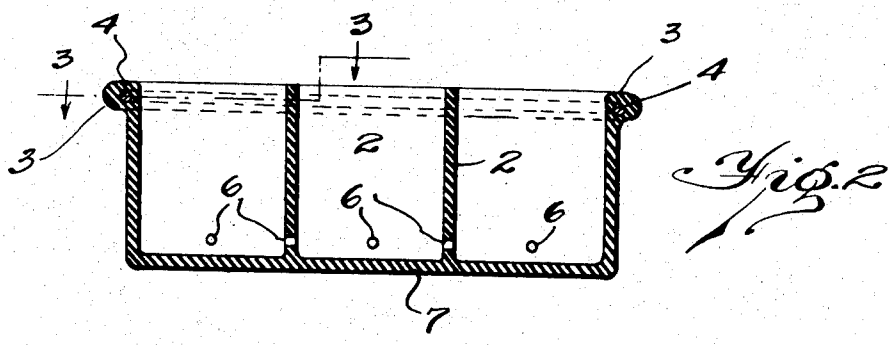


Fig. 2

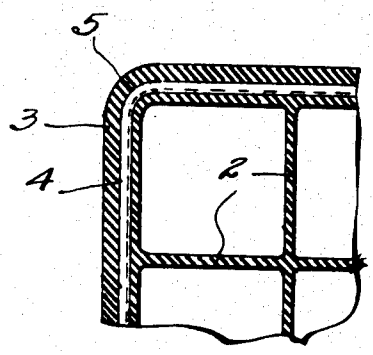


Fig. 3

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Patented Sept. 27, 1932 1,879,602

UNITED STATES PATENT OFFICE

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FLEXIBLE SHARP FREEZING CONTAINER

Application filed June 20, 1928. Serial No. 286,837.

This invention relates to a flexible sharp freezing container for mechanical refrigerating units and the like, and has to do particularly with ice cube trays formed of flexible material such as rubber.

I have found that an ice cube tray formed mainly of rubber, such as disclosed in my copending application #278,736, filed May 14, 1928, may be formed solely of rubber, of the desired thickness, and that the tray may be filled with water and will stand up in the sharp freezing chamber of itself. However, it is desirable to have the rubber or equivalent material as thin as possible, and the object of the present invention is to provide an ice cube tray, preferably formed of very thin rubber and so reinforced as to make the same operative as a single independent unit.

In the drawing:

Fig. 1 is a perspective view of an ice cube tray constructed in accordance with the present invention.

Fig. 2 is a section taken on line 2—2 of Fig. 1, and illustrating the manner of forming the reinforcing bead around the top of the outer walls of the tray.

Fig. 3 is a view taken on line 3—3 of Fig. 2.

The ice cube tray embodying the present invention may be of the general type having the external walls 1 and partitions 2 all formed of rubber and molded as an integral unit. This is the preferred construction but it will be understood that the partitions 2 may be completely separate from the outer tray if desired.

In order to reinforce such a tray if made of fairly thin rubber, I have provided a bead 3 extending around the upper edge of the outer walls of the tray, and this bead 3 is preferably reinforced by a suitable wire 4 which while preferably slightly flexible, at the same time materially reinforces the upper edge of the tray.

If desired, each corner 5 of the rectangle formed by the wire 4 may be provided with downwardly extending legs or wires, the depth of the tray, whereby to reinforce the same at the corners. But this construction is not necessary, as in most all practical cases, the rectangular wire reinforcing member 4 should be sufficient to reinforce or steady the tray.

Each partition 2 is preferably provided with a suitable aperture 6 adjacent the bottom thereof whereby to permit water to flow from one chamber to the other and thus equalize the level of the water in the tray when the same is being filled. These apertures are preferably very small and thus do not materially affect the removal of the ice cubes from the tray.

With this construction the tray may be supported in the sharp freezing chamber either by means of the upper ledge formed by the bead 3 or by the bottom 7 of the tray in the usual manner.

In operation, the tray may be filled with water, and being reinforced by the members 3 and 4, it may be easily carried to the refrigerator and placed in the sharp freezing unit. The wire 4, together with the bead 3, will also reinforce the tray when positioned in the sharp freezing unit. When the water has become frozen the tray may be removed and the same given a slight longitudinal twisting movement. This will be permitted due to the flexibility of the member 4 and will help loosen the ice cubes, although it will be understood that rubber on the ice tray has an affinity for water or the ice. This twisting movement, however, will not only loosen the cubes but will break the small projections of ice extending through the apertures 6, and merely by pressing on the bottom of each individual ice cube chamber any one or more of the ice cubes may be readily ejected as desired.

What I claim is:

1. A sharp freezing container of the type adapted to be utilized in connection with mechanical refrigerating systems, comprising a container having walls formed of relatively thin flexible rubber, the upper edge of the outer walls of the container terminating in a relatively large continuous bead for reinforcing and maintaining the shape of the thin flexible walls, whereby the container may be readily manipulated as an individual unit when filled with liquid.

2. A sharp freezing container for use with automatic refrigerating systems, comprising

a tray formed of relatively thin, flexible material, a plurality of partitions formed integral therewith to form independent ice cube chambers, a plurality of small openings formed in said partitions to permit equalizing of the liquid during filling, and reinforcing means extending around the upper edge of the tray.

3. A sharp freezing container for use with automatic refrigerating systems, comprising a tray formed of relatively thin, flexible material, a plurality of partitions formed integral therewith to form independent ice cube chambers, a plurality of small openings formed in said partitions to permit equalizing of the liquid during filling, and reinforcing means in the form of a wire extending around the upper, outer edge of the tray.

4. A sharp freezing container for automatic refrigerating systems, comprising a tray formed of relatively thin flexible material, a plurality of partitions positioned within the tray for defining the ice cube chambers, and a relatively large bead and adjacent separate reinforcing means extending around the upper edge of the outer wall of said tray for reinforcing the same.

5. A sharp freezing container for automatic refrigerating systems, comprising a tray formed of relatively thin rubber, a plurality of partitions positioned within the tray having surfaces also formed of rubber and having a plurality of openings formed in the walls thereof for permitting equalization of the water during filling.

6. A freezing tray adapted to be inserted within a freezing chamber, comprising a molded flexible container of relatively thin rubber having a stiffening frame extending around the upper edge thereof whereby the bottom of said container may be flexed relative to said stiffening frame to permit easy removal of the frozen contents.

7. A freezing tray adapted to be inserted within a freezing chamber, comprising a molded rubber container, a metal stiffening frame extending around the upper portion of said container, a plurality of partitions within the container having surfaces formed of rubber, the portions of the container and partitions below said metal frame being of relatively thin rubber whereby the bottom of said container may be flexed relative to said metal frame to permit easy removal of the frozen contents.

8. A sharp freezing container for use with automatic refrigerating systems, comprising a tray formed of relatively thin, flexible material, a plurality of partitions formed integral therewith to form independent ice cube chambers, and a plurality of openings formed in said partitions to permit equalizing of the liquid during filling.

In testimony whereof I affix my signature.

LLOYD G. COPEMAN.