Aug. 25, 1931. H. D. GEYER ET AL 1,820,221

FREEZING TRAY

Filed May 31, 1930 2 Sheets-Sheet 1

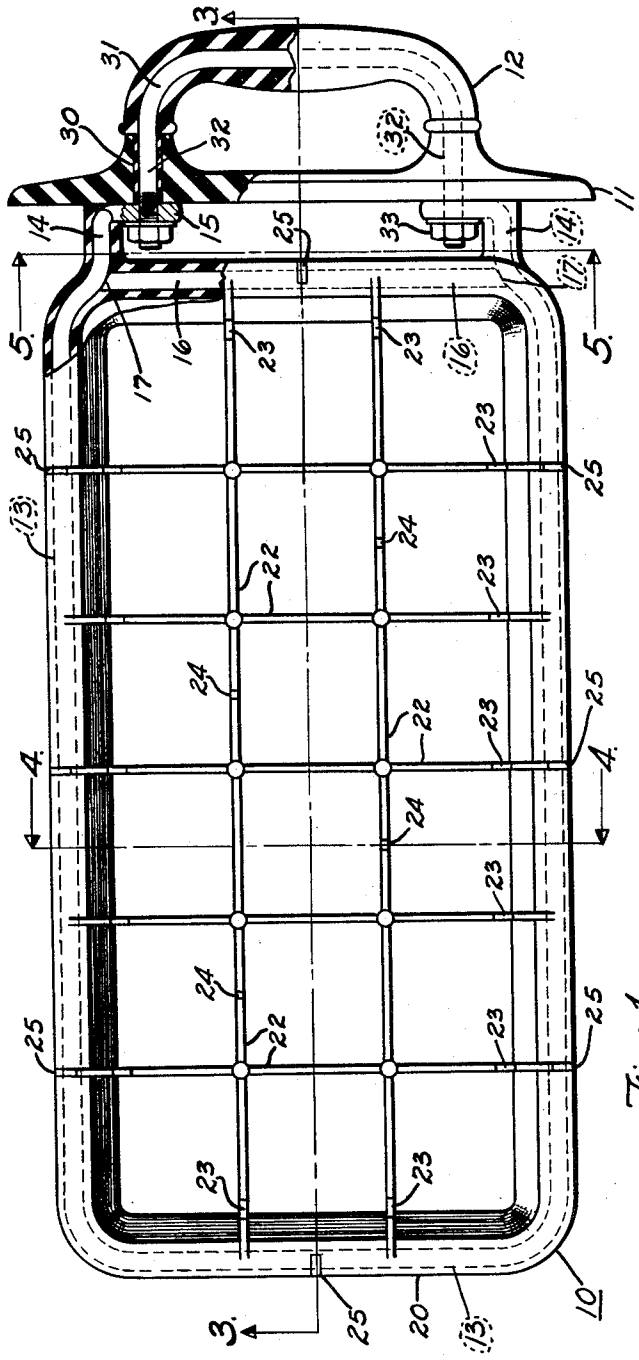


Fig. 1.

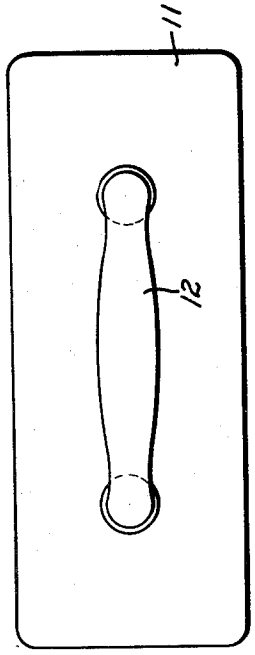


Fig. 2.

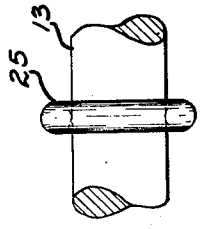


Fig. 7.

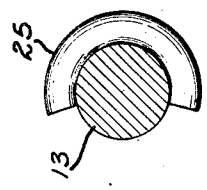


Fig. 6.

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FREEZING TRAY

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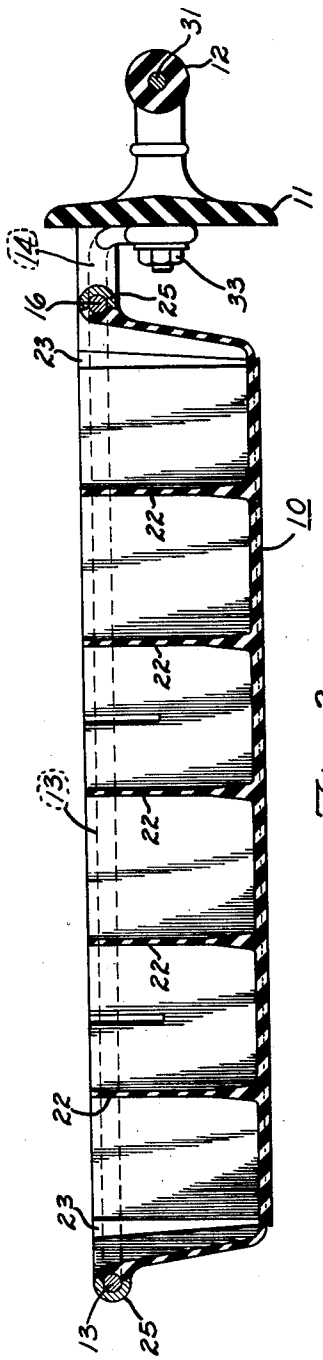


Fig. 3.

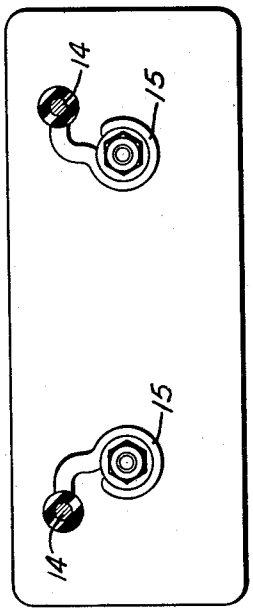


Fig. 5.

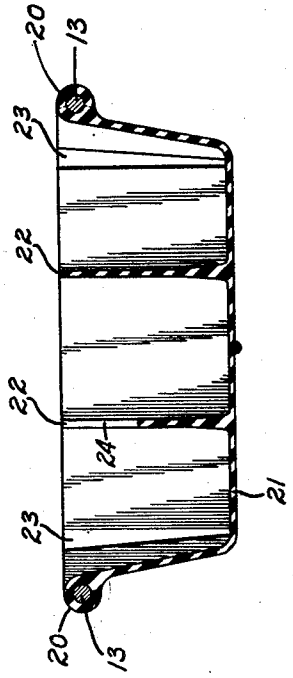


Fig. 4.

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UNITED STATES PATENT OFFICE

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FREEZING TRAY

Application filed May 31, 1930. Serial No. 457,742.

This invention relates to ice freezing trays, especially such as are adapted to be inserted by hand within the freezing compartment of a domestic refrigerator.

An object of this invention is to provide various improvements in the freezing tray disclosed in Serial Number 451,708, filed by Harvey D. Geyer on May 12, 1930. In said prior application, the handle and the closure front for the freezing tray are molded integrally. This necessitates, in a practical way, that the dividing line of the vulcanizing mold come at the center line of the handle and hence there will of necessity be a small flash extending across the central part of the outer face of the closure front. Such a flash is unsightly and difficult and expensive to remove. Now by this present invention the closure front for the container is separately molded, which method permits that the dividing line of the vulcanizing mold come at the peripheral edges of the closure front, as will be readily understood by those skilled in the art. Such a flash as may occur may then be easily removed by sanding without in any way marring the front surface of the closure front. Also by this invention the handle may be molded from hard rubber or made from any other suitable material entirely independently of the molded flexible rubber closure front. Also the container itself may be made from any suitable material in any suitable manner entirely independently of the flexible rubber closure front. In other words, the advantages of the flexible rubber closure front (for sealing the freezing compartment into which the tray is inserted as a drawer) may be obtained with any desired container structure, such for instance as a metal container and a metal handle therefor.

Another feature of this invention is the simple and very efficient means for properly locating the stiffening wire frame for the container within the vulcanizing mold cavity so that the somewhat flexible lengths thereof will not be distorted or forced out of position by any unequal pressure of the rubber thereupon during vulcanization.

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

In the drawings:

Fig. 1 is a plan view of a flexible rubber ice cube freezing tray which is adapted to be inserted as a sliding drawer into a freezing compartment of a domestic refrigerator. Certain parts are broken away to better show the construction.

Fig. 2 is a front view from the handle end.

Fig. 3 is a vertical section taken on line 3—3 of Fig. 1.

Fig. 4 is a transverse sectional view taken on line 4—4 of Fig. 1.

Fig. 5 is a section taken on line 5—5 of Fig. 1.

Figs. 6 and 7 are detail views showing the clips for locating the metal insert in the vulcanizing mold.

Similar reference characters refer to similar parts throughout the several views.

The ice cube container is designated as a whole by 10, the closure front by 11, and the handle by 12. A substantially rigid wire reinforcing frame 13 is provided, preferably of about $\frac{3}{16}$ inch diameter steel wire. The front end of frame 13 is shaped as clearly shown in Figs. 1, 3 and 5 to form two outwardly projecting portions 14 which are bent at the ends thereof to form the eyes 15. A separate front cross piece 16 is preferably provided for the wire frame 13, which may be suitably butt welded at points 17 to the sides of frame 13.

The metal reinforcing frame 13 is properly located in the mold cavity of the vulcanizing die in such position that it is embedded in the upper peripheral bead 20 of the side and end walls of flexible rubber container 10. Container 10 has its walls, bottom 21 and partitions 22 molded to the desired shape and thicknesses, preferably approximately as shown, from a high grade flexible rubber so as to provide high strength and great flexibility to facilitate the upward flexing of the bottom 21 to remove the frozen ice cubes from the container. The stiffening frame 13 provides substantial rigidity and strength to the

upper periphery of the container 10 and hence facilitates the handling of thereof when filled with water or ice.

To facilitate the upward flexing of bottom 21 of container 10 to eject the frozen ice cubes the partitions 22 are provided with the deep slots 23 which in effect detach said partitions 22 from the side walls of container 10. These slots 23 may be easily formed during molding by providing a proper core therefor in the mold, as will be readily understood. Partitions 22 are also preferably provided with the slots 24 which extend only about half way their depth, for the purpose of interconnecting all the ice cube compartments so that when the ice tray is filled with water all compartments will fill to the same level.

In order to properly locate the wire frame 13 in the mold cavity a plurality of spring clips 25 are snapped upon the wire frame 13 at spaced intervals, as shown in Fig. 1. One form of these clips 25 is shown in detail in Figs. 6 and 7. Clips 25 are preferably made from a suitable spring wire, which may be brass plated with nickel for appearance sake, and are so dimensioned that they may be simply pressed or snapped upon wire 13 and will then be held fixed thereupon by their inherent resiliency. When frame 13 is set within the mold cavity the outer edges of the clips 25 contact with the cavity wall for the rubber bead 20, and thus frame 13 is very simply and positively located in the mold cavity at a large number of points so that it will not be forced out of proper position by the pressure of the rubber thereupon during vulcanization. Obviously, the clips 25 are permanently fixed in place by the vulcanized rubber, but since their exposed surfaces are quite small they will not detract from but rather improve the appearance of the molded rubber product.

The closure front 11 is separately molded from a suitable flexible rubber so that there will be no flash across the front face thereof, as described above, and has the holes 30 cored therein.

The handle 12 has a U-shaped metal insert 31 having two projecting threaded shanks 32. These shanks 32 project through holes 30 in the closure front 11 and the eyes 15 in the projecting ends of frame 13, and have suitable lock washers and nuts 33 applied thereupon to rigidly clamp said handle and closure front upon the container 10. The desired spacing of closure front 11 from the end of container 10 provides a very convenient space for applying the nuts 33. Handle 12 is preferably made from hard rubber molded upon the insert 31, since hard rubber provides a neater and cleaner handle than soft rubber. However, handle 12 may be of any suitable material or construction since it is separately made from the flexible closure front 12.

While the form of embodiment of the present 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. A freezing tray adapted to be inserted by hand within a freezing tray compartment, comprising: a molded non-metallic container having a stiffening metal inserted therein, said insert having a portion projecting outwardly in front of said container, and a separate flexible rubber closure front for said compartment secured to said outwardly projecting portion of said insert.

2. A freezing tray adapted to be inserted by hand within a freezing tray compartment, comprising: a molded non-metallic container having a stiffening metal insert therein, said insert having a portion projecting outwardly in front of said container, a handle for said container having a projecting metal shank fixed to said projecting portion of said insert, and a separate non-metallic closure front for said compartment fixed to said container in spaced relation therewith by said handle.

3. A molded rubber freezing container having a metal stiffening insert molded in situ therein, said metal insert having a series of spring clips snapped thereupon in spaced relation and extending to the outer surface of the molded rubber, whereby said insert is properly located in the mold cavity.

4. A molded rubber article having a metal insert molded in situ therein, said metal insert having a plurality of metal clips fixed thereupon in spaced relation and serving to enlarge the diameter of said insert at spaced points, whereby said insert may be properly located in the mold cavity.

5. A molded rubber article having a metal insert molded in situ therein, said metal insert having a plurality of metal clips held thereupon at spaced points by the inherent resiliency of said metal clips, said clips serving to abut the mold cavity walls and thereby properly locate said insert in said mold cavity.

In testimony whereof we hereto affix our signatures.

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HARVEY D. GEYER.