

May 9, 1933.

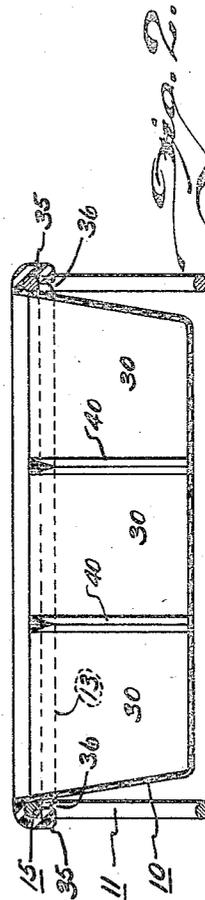
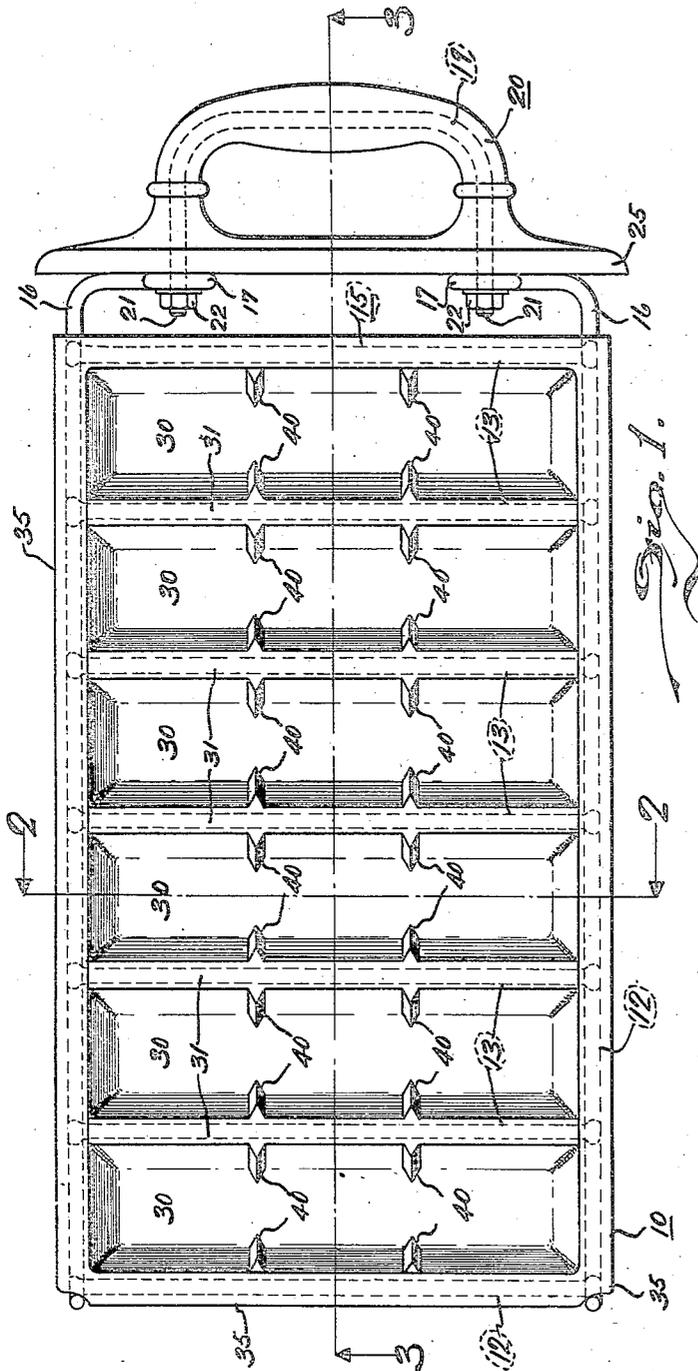
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1,907,503

FREEZING TRAY

Filed May 29, 1930

2 Sheets-Sheet 1



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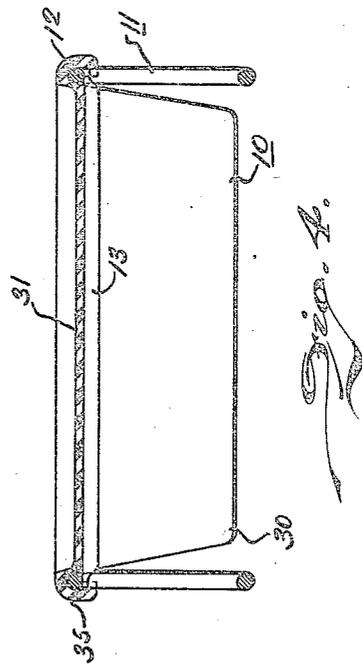
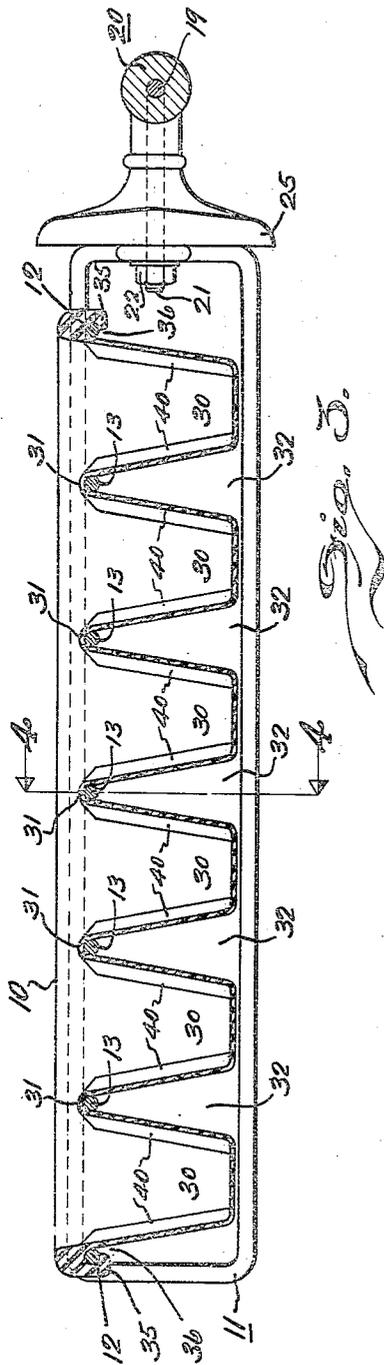
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UNITED STATES PATENT OFFICE

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FREEZING TRAY

Application filed May 29, 1930. Serial No. 457,078.

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.

5 An object of this invention is to provide various improvements over the disclosure in application Serial Number 451,708, filed by Harvey D. Geyer on May 12, 1930, and assigned to the assignees of this application.

10 A feature of this invention is the spaced ice pockets and the intervening cold air passages whereby more rapid freezing of the ice is obtained.

15 Another feature is the elongated ice pockets having pairs of opposed inwardly projecting flexible flanges on the side walls of said pockets which form grooves in the elongated ice bars and thus facilitate their breakage into short lengths if such is desired.

20 Another feature is the rapid freezing and also easy ejection of the frozen ice bars due to the very thin and flexible walls of the flexible rubber container which thinness is permitted by the use of the wire grid with its supporting cross members.

25 Another feature is the economy of manufacture due to the flexible rubber container being molded without metal inserts or stiffening frame which requires to be molded in situ within the rubber. The metal carriage or support may be economically made from metal wire and is adapted to snugly receive and retain in proper position the very flexible rubber container and facilitate its handling.

30 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:

35 Fig. 1 is a plan view of a flexible rubber freezing container which is adapted to be

inserted as a sliding drawer within the freezing compartment of a domestic refrigerator.

Fig. 2 is a transverse section on line 2—2 of Fig. 1.

Fig. 3 is a longitudinal section on line 3—3 of Fig. 1.

Fig. 4 is a transverse section on line 4—4 of Fig. 3.

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

40 The flexible rubber container is designated as a whole by numeral 10, and the metal carriage or support by 11. The metal carriage 11 is preferably made from steel wire of suitable size, and has a peripheral wire 45 frame 12 and a series of cross bars 13 which preferably are electrically welded to the under side of the peripheral wire 12 thus forming a grid 15, as clearly shown. The two sides of carriage 11 are shown as made by 50 bending a piece of wire in rectangular form to form a closed loop and projecting the ends of said rectangles out in front of the grid frame 15, as shown at 16, and forming eyes 17 therein for facilitating the attachment of 55 the handle 20 thereto. Handle 20 may be separately molded from rubber or other suitable material with a U-shaped metal insert 19 therein having projecting shanks 21 which are adapted to pass through eyes 17 60 and be rigidly clamped thereto by threaded nuts 22. Also there is preferably provided a flexible rubber closure front 25 for the opening in the freezing compartment into which the freezing drawer is inserted. This 65 closure front 25 is shown as a separate molded piece from handle 20 and is clamped to the metal carriage 11 by the projecting shanks 21 which extend through suitable 70 apertures therein. Of course, it is to be understood that any other suitable form of handle and closure front may be provided, or both may be omitted entirely.

75 The molded rubber container 10 is molded from a high grade flexible rubber into the 80 85 90

shape clearly illustrated. A series of elongated ice pockets 30 are provided, these being spaced apart except where they are united at their upper contiguous edges 31 which overlie the cross wires 13 of the metal grid 15 when said rubber container is inserted within its carriage 11. The spacing of the pockets 30 provides intervening cold air flues 32 (see Fig. 3) through which cold air may circulate freely and thus obtain rapid heat transfer from the water contents to the cooling air within the freezing compartment. Preferably, though not necessarily, the walls of ice pockets 30 are somewhat inclined (as shown) to provide larger air flues, to facilitate the upward flexing of the bottoms of said ice pockets for ejecting the frozen ice bars, and to greatly facilitate the molding of the rubber container during its manufacture.

Container 10 has a peripheral soft rubber flange or lip 35 having a groove 36 therein within which the peripheral wire 12 of the metal grid 15 is adapted to fit snugly in interlocked relation therewith, whereby the periphery of container 10 is quite securely retained upon the peripheral wire. By this means the edges of container 10 are held in place and supported against deflection when said container is filled with water. Obviously, when desired, the rubber container 10 may be removed from the metal carriage 11 simply by unsnapping the soft rubber lips 35 from around the peripheral wire 12, and it may be replaced by reversing the above steps.

The elongated ice pockets 30 are shown as having pairs of opposed inwardly projecting flanges 40 molded integrally with the side walls of said pockets. These flanges will form opposed grooves in the frozen ice bars whereby they may be easily broken into shorter lengths if so desired, however, the full length ice bars may be removed without breaking. In the form illustrated, the full length bars are of suitable size and length to be inserted in a drinking glass; but if for any reason smaller blocks of ice are desired, the long bars may be easily snapped apart by hand. Due to their shape and incline it is obvious that the flanges 40 will easily pull from their grooves in the ice when the bottoms of the pockets 30 are pressed upwardly for ejecting the ice bars.

Since the rubber container 10 is supported at spaced lines throughout its area by the grid 15 the walls of pockets 30 may be made very thin in order to obtain more rapid freezing without material distortion thereof due to the weight of water.

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. An ice freezing tray adapted to be inserted by hand in a freezing compartment of a domestic refrigerator, comprising: a molded flexible non-metallic container having a series of relatively long ice pockets in spaced relation except where said pockets are joined at their upper portions whereby to provide circulating air passages between said pockets, and a metal carriage for said container having cross members underlying said joined upper portions of said pockets to support same at these points.

2. An ice freezing tray adapted to be inserted by hand in a freezing compartment of a domestic refrigerator, comprising: a one-piece molded rubber flexible container having a plurality of elongated ice pockets, in spaced relation except where said pockets are united at their contiguous upper portions whereby to provide cold air passages between said pockets, a substantially rigid grid frame for carrying said flexible container, said frame having a cross member underlying and supporting said united portion of two adjacent pockets.

3. An ice freezing tray adapted to be inserted by hand in a freezing compartment of a domestic refrigerator, comprising, a one-piece molded rubber flexible container having a plurality of elongated ice pockets, in spaced relation except where said pockets are united at their contiguous upper portions whereby to provide cold air passages between said pockets, said elongated pockets having inwardly extending flexible rubber ribs integrally molded with the side walls thereof, whereby to form breakage grooves in the frozen elongated ice bars.

4. An ice freezing container comprising: a molded flexible rubber tray having a series of ice pockets in spaced relation except where said pockets are joined together at their upper portions whereby to provide circulating air passages between said pockets, and a metal frame for said tray having cross members underlying said jointed upper portions of said pockets to support said rubber tray at these points when it is filled with water.

In testimony whereof I hereto affix my signature.

RALPH H. CHILTON.