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FREEZING DEVICE

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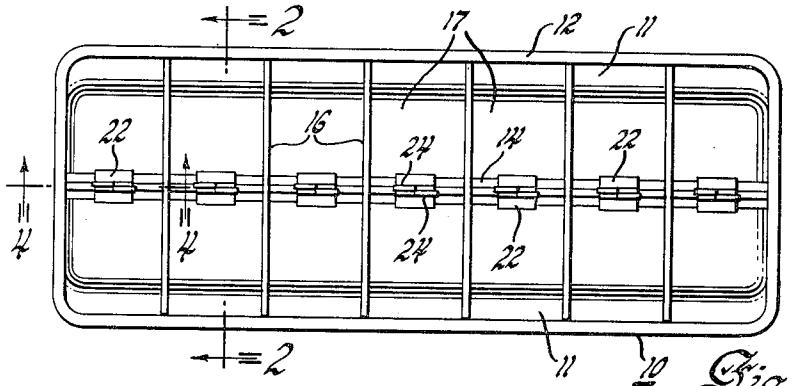


Fig. 1

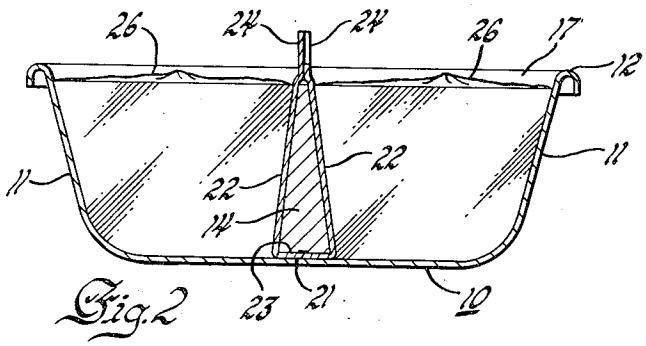


Fig. 2

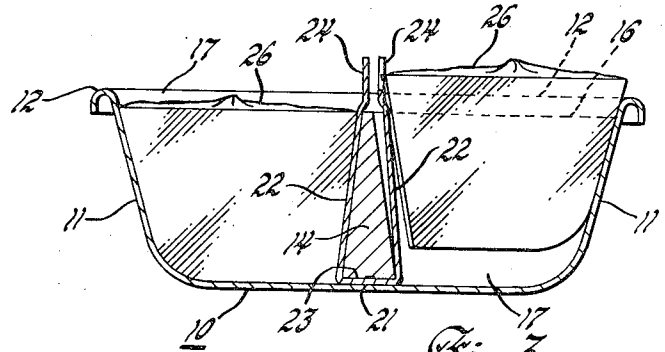


Fig. 3

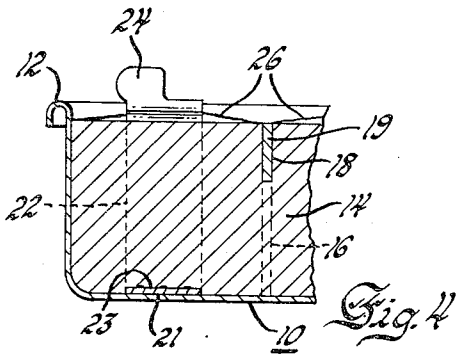


Fig. 4

INVENTOR.
Edmund F. Schweller
BY
R. R. Candor.
HIS ATTORNEY

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FREEZING DEVICE

Edmund F. Schweller, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

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2 Claims. (Cl. 62—108.5)

This invention relates to freezing devices and particularly to such devices including a tray and a grid therein ordinarily employed in household refrigerators for freezing small blocks of ice for home use.

An object of my invention is to provide an improved freezing device of the tray and grid type.

Another object of my invention is to provide a simple and inexpensive freezing device from which ice blocks or cubes may be harvested by applying a force thereto by the thumb digit of fingers of a person's hand.

A further object of my invention is to provide a freezing device from which single ice blocks may be selectively and/or successively harvested while leaving other ice blocks contained therein bonded to walls of the tray and grid of the device.

A still further and more specific object of my invention is to provide a freezing device of the tray and grid type wherein a metal spring-like ice block ejecting member underlies and straddles a longitudinal wall of the grid intermediate each of a plurality of spaced apart transverse walls thereof and has finger tabs extending above the grid for operating the member to force a single ice block against an inclined wall of the tray whereby a portion of the ice block is elevated above the top of the grid and tray and may be readily harvested therefrom.

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 the present invention is clearly shown.

In the drawings:

Figure 1 is a top plan view of an ice tray and grid device having ice ejecting members of the present invention associated therewith;

Figure 2 is an enlarged vertical sectional view taken on the line 2—2 of Figure 1 showing an ice ejecting member straddling a wall of the grid of the freezing device;

Figure 3 is a view similar to Figure 2 showing a portion of an ice ejector moved to force an ice block upwardly relative to the tray and grid of the freezing device; and

Figure 4 is a vertical sectional view taken on the line 3—3 of Figure 1 showing walls of the grid of the device interlocked together and an ice ejecting member associated with one of the grid walls.

Referring to the drawings the freezing device of the present invention includes an elongated pan or tray generally designated at 10 made in one piece by stamping the same from a sheet of metal. The long upright side walls 11 of tray 10 are preferably inclined outwardly from their bottom to their top and an integrally rolled over continuous top rim 12 thereon increases the structural strength thereof and prevents deformation of same. A metal grid unit is removably disposed in tray 10 and divides the interior thereof into rows of compartments in which water is to be frozen into ice cubes or blocks. This grid includes a rigid longitudinal upright dividing wall 14 the sides of which are preferably, although not necessarily, tapered outwardly away from one another from the top to the bottom thereof. The grid also includes a plurality of longitudinally spaced apart rigid upright partitioning walls 16 interlocked with the long dividing wall 14 and extending transversely thereacross and across the interior of tray 10. The sides of transverse walls 16 are preferably flat and parallel. Longitudinal wall 14 and cross walls 16 provide a plurality of ice block freezing compartments 17 in tray 10 and wall 14 serves as a dividing or separating wall between the rows of compartments. Wall 14 is slotted or cut out as at 18 and receives a web portion 19 of a slotted or cut out part of wall 16 (see Figure 4). These walls 14 and 16 may be stacked or otherwise suitably secured together at their intersection as is conventional in the art to provide a unitary grid structure.

In accordance with the present invention I locate an ice block ejecting member on longitudinal grid wall 14 intermediate each of the transverse grid walls 16. Each ejecting member is in the form of a substantially U-shaped metal spring-like element which straddles longitudinal wall 14 and has a bight portion 21 between legs 22 thereof fitted in a recess 23 cut in the bottom of dividing wall 14. This bight portion 21 of the U-shaped spring members is spot welded or otherwise suitably secured to the recess 23 in the bottom of longitudinal wall 14 whereby the legs or other portions 22 of the ejecting members normally lie against or abut and embrace the tapered sides of wall 14 while the bight portion 21 underlies this wall. The end of the legs or other portions 22 of each ice block ejecting member projects a substantial distance above longitudinal grid wall 14 and are provided with finger engaging portions or tabs 24. By securing the bight portion 21 of the ejecting members to the bottom of longitudinal wall 14 the straddling arrangement of these members on wall 14 permits the leg portions 22 thereof to be pivotally moved about the junction of the legs 22 with the bight portion 21. It will be noted that the tabs 24 on the legs or portions 22 of the ice ejecting spring members are off-set laterally with respect to one another to render them accessible for engagement by the thumb digit of the fingers of one's hand for a purpose to be hereinafter described.

The present freezing device is filled with water up to a level substantially equal to the height of the top of the grid within tray 10 and the device is then placed in or on a low temperature portion of a refrigerating system associated with a refrigerator cabinet for freezing the water therein into small ice blocks or cublets indicated by the reference numeral 26 in Figures 2, 3 and 4 of the drawings. After the water is completely frozen the device is removed from the refrigerator whereupon a single ice block 26 or as many of the ice blocks as may be desired can be readily and quickly harvested from the device. The freezing device is such that removal of a desired number of ice blocks 26 therefrom may be accomplished while leaving other blocks remaining therein bonded to walls of the grid and tray 10 so that the device may be replaced in or on the low temperature portion of the refrigerating system to permit future harvesting of these remaining ice blocks. In order to harvest an ice block 26 from the device either selected block on opposite sides of the dividing longitudinal wall 14 of a compartment 17 may have its upper portion elevated above the top of the grid and tray 10. To accomplish this force is manually applied by the thumb of a person's hand to one of the tabs 24, at the upper end of a leg 22 of an ice ejecting spring member, and this force pivotally moves the leg 22 laterally away from wall 14 to pry an ice block 26 against an inclined side wall 11 of tray 10. This prying or bearing action breaks the bond between the ice block 26 and walls of the grid and tray. After this bond is broken

further lateral movement of the leg **22** of an ice ejecting member causes the blocks of ice to slide upwardly along the inclined tray side wall **11** and consequently upward over the leg **22** of the ejector whereby to elevate the block of ice **26** relative to tray **10** and the grid therein. At least the top portion of the ice block **26** is raised above the top of tray **10** and grid walls **14** and **16**, as shown in Figure 3 of the drawings, whereupon it may be easily pulled out of or picked from the device by the fingers or by suitable ice tongs. If desired additional force may be applied to the loosened ice block **26** by the leg 22 of an ejector member and the ice block **26** will thereupon substantially "pop" out of the device. In this manner a single ice block **26** is removed from the device and upon repeated similar operations of the spring leg portion **22** of the ejecting members as many of the ice blocks as are desired may be harvested from the tray and grid of the present device. A decided advantage of this device is the fact that one or more of the ice blocks **26** can be harvested therefrom without disturbing other ice blocks therein since the force required to remove one ice block at a time is not of sufficient intensity to loosen other ice blocks remaining in other of the ice block freezing compartments **17**. This permits the device together wtih ice blocks **26** remaining therein to be replaced in or on the low temperature freezing portion of a refrigerating system associated with a refrigerator until they are required to be harvested and consequently no waste of the ice blocks is encountered. A further advantage derived from employing ice block ejecting members of spring metal material is that the legs **22** thereof will move back into their normal longitudinal grid wall abutting position automateically in response to releasing the thumb from the finger engaging tab **24**. This insures that portions of the ice ejecting members will be in proper place when the device is again filled with water to be frozen into ice blocks. In view of the foregoing it should be apparent that I have provided a simple, inexpensive freezing device that can be operated with ease by a housewife to harvest single ice blocks in succession therefrom.

While the embodiment of the present invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted.

What is claimed is as follows:

1. A freezing device comprising, an elongated tray, a grid within said tray, said grid including a plurality of of spaced apart transverse upright walls extending continuously across said tray and a single upright wall extending longitudinally of the tray through said transverse walls and immovably interlocked therewith relative thereto, said walls dividing the interior of said tray into rows of compartments in which water is to be frozen into separated ice blocks, at least the long side walls of said tray being inclined outwardly from the bottom to the top thereof, a plurality of separate and independent ice ejecting members associated with said immovable longitudinal grid walls, one of said ice ejecting members being disposed between each of said plurality of transverse grid walls and straddling said longitudinal wall, said ejecting members each having legs lying along and engaging the sides of said longitudinal grid wall and a bight portion intermediate said legs underlying said longitudinal grid wall, said bight portion of said ejecting members being secured to the bottom of said longitudinal grid wall whereby either leg of each of said ejecting members is pivotally movable independently of the other leg thereof relative to said immovable longitudinal grid wall, a portion of the legs of said ejecting members being extended upwardly beyond the top of said immovable longitudinal grid wall to provide finger engaging tabs thereabove offset relative to one another in a direction lengthwise of said device, and one of said tabs on an ejecting member being selectively engageable to apply force thereto and move a leg of said member away from said immovable longitudinal grid wall without moving the other leg thereof to pry a single ice block at a side of said longitudinal grid wall against an inclined wall of said tray to elevate the block relative to the tray while leaving all other ice blocks in the device bonded to walls of said grid and tray.

2. A freezing device as defined in claim 1, wherein the ice block ejecting members are formed of spring metal and the legs thereof return to their normal longitudinal grid wall engaging position automatically after being moved.

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