

June 2, 1942.

E. W. HAUGH

2,284,820

ICE CUBE RELEASE GRID

Filed March 17, 1941

Fig. 1.

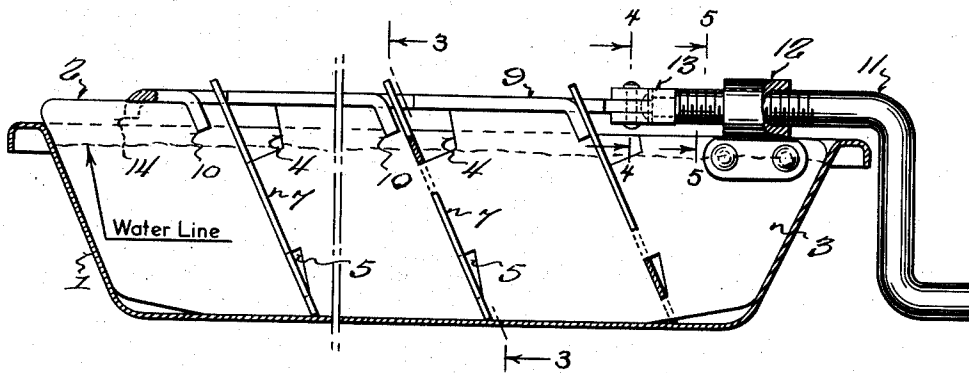


Fig. 2.

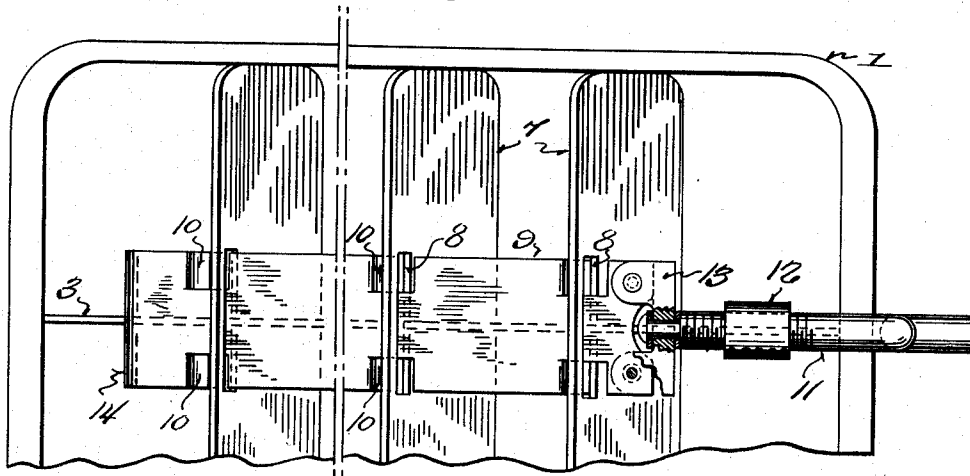


Fig. 4.

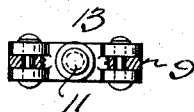


Fig. 5.

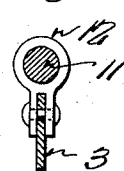
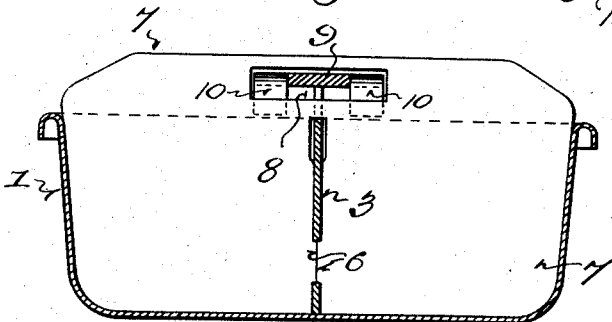


Fig. 3.



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UNITED STATES PATENT OFFICE

2,284,820

ICE CUBE RELEASE GRID

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Application March 17, 1941, Serial No. 383,776

1 Claim. (Cl. 62-108.5)

This invention pertains to ice tray grids and more particularly to a grid unit for successive release of pairs of ice cubes through manual actuation of a mechanism carried solely by the grid.

Mechanical grids of the foregoing type are old, but as far as is known they are either complicated in structure, or dependent upon cooperation with the tray to effect release of the ice cubes.

Due to the fact that the trade demands grids at small additional cost over plain rigid grids, complicated structures are prohibitive, and because conventional ice cube trays are formed from extremely light gauge metal, usually stamped aluminum, releasable grids depending upon cooperation with the trays are objectionable, in that the trays quickly become damaged or distorted through manipulation of the releasing mechanism.

The present invention has primarily for its purpose to overcome the foregoing objections by the provision of an exceedingly simple and inexpensive grid unit provided with a manually operable mechanism for progressively shifting the transverse fins to release the ice cubes independently of cooperation with the tray.

Incidental to the foregoing, a more specific object of the invention is to provide a grid having a longitudinal partition and spaced transverse fins shiftably carried by the partition, in combination with a plate slidable longitudinally upon the upper edge of said partition, and provided with depending fingers for progressively engaging and shifting said fins as the plate is actuated by means of a threaded crank carried by the longitudinal partition.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the novel combination, construction and arrangement of parts, substantially as hereinafter described, and more particularly defined by the appended claim, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claim.

In the accompanying drawing is illustrated one complete example of the physical embodiment of the present invention constructed according to the best method so far devised for the practical application of the principles thereof.

In the drawing:

Figure 1 is a longitudinal sectional view through a conventional ice tray equipped with a grid incorporating the present invention, the

grid being shown in side elevation, with parts broken away and in section to illustrate structural details.

Figure 2 is a fragmentary plan view of the tray and grid.

Figure 3 is a vertical transverse sectional view taken on the line 3-3 of Figure 1; and

Figures 4 and 5 are detailed sections taken on the lines 4 and 5 respectively of Figure 1.

Referring now more particularly to the accompanying drawing, the numeral 1 designates a conventional ice cube tray for reception of a grid 2 comprising the present invention.

The grid 2 consists of a longitudinal partition 3 provided in its upper edge with a plurality of spaced notches 4. Adjacent its lower edge the partition 3 has formed therein divergent slots 5 for reception of abutted tongues 6 provided on the transverse fins 7, which straddle the longitudinal partition, thus serving to shiftably connect the transverse fins on the partition.

The upper ends of the transverse partition 7 are provided with aligned openings 8 through which a plate 9, slidably supported upon the upper edge of the partition 2, extends. Adjacent each fin the shiftable plate 9 is provided with depending fingers sheared from the longitudinal edges of the plate, and as will be noted in Figure 1, the fingers 10 are progressively spaced from the transverse fins, whereby the plates are engaged in sequence to release a pair of cubes at a time, rather than simultaneous release of all the cubes, thus reducing to a minimum the effort and strain required in releasing the frozen cubes from the grid and tray.

For longitudinally shifting the plate 9, a crank 11 is threaded into a bracket 12, riveted or otherwise secured to a partition 3 adjacent its forward end, with the handle of the crank extending beyond the end of the tray. The inner end of the crank 11 is journaled in a clevis 13 attached to the forward end of the plate 9.

Obviously forward shifting of the plate 9, through rotation of the crank 11, will cause the fingers 10 to progressively shift the transverse fins 7 within the slots 5 and notches 4, thus breaking the bond between the frozen cubes, and the grid and tray.

While the threaded crank is shown as attached to the forward end of the plate 9, it will be understood that the same may be mounted upon the rear end of the partition 3 to force the plate 9 forward without departing from the invention.

As will be noted in Figure 1, the rear end of

the plate 9 terminates in a depending notched lip 14, which straddles the upper edge of the longitudinal partition 3, and in cooperation with the connection between the forward end of the plate and the threaded crank 11, the plate is guided against transverse or lateral movement. Also the plate 9 is further confined upon the top edge of the longitudinal partition by the openings 8 in the transverse fins 7.

From the foregoing explanation considered in connection with the accompanying drawing, it will be apparent that an exceedingly simple and inexpensive mechanical grid has been provided for positively releasing pairs of frozen cubes in sequence through progressive shifting of the transverse fins.

It will be also appreciated that through the provision of substantial contact between the depending fingers 10 and the transverse fins, distortion or mutilation of the upper edges of the fins is avoided.

In manufacture the plate 9 is assembled through the openings 8 in the transverse fins

7, after which the sheared fingers 10 are depressed or bent downwardly, thus providing a permanent assembly of the two.

I claim:

5 A grid for ice cube trays comprising, a longitudinal partition provided with spaced notches in its upper edge, transverse fins shiftably carried by said partition and having their upper ends located in said notches, said ends being provided with aligned openings adjacent their upper ends, a flat plate extending through said openings and supported upon the top edge of said partition, said plate being provided with pairs of depending fingers formed upon its longitudinal edges and straddling said partition for progressively engaging said fins, a notched depending lip formed on the rear end of said plate for straddling the upper edge of said partition to guide said plate thereon, and a threaded crank carried by said partition and rotatably connecting with the forward end of said plate for longitudinally shifting the same.

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