

Dec. 9, 1941.

E. W. HAUGH

2,265,731

ICE TRAY GRID

Filed Feb. 20, 1939

Fig. 1.

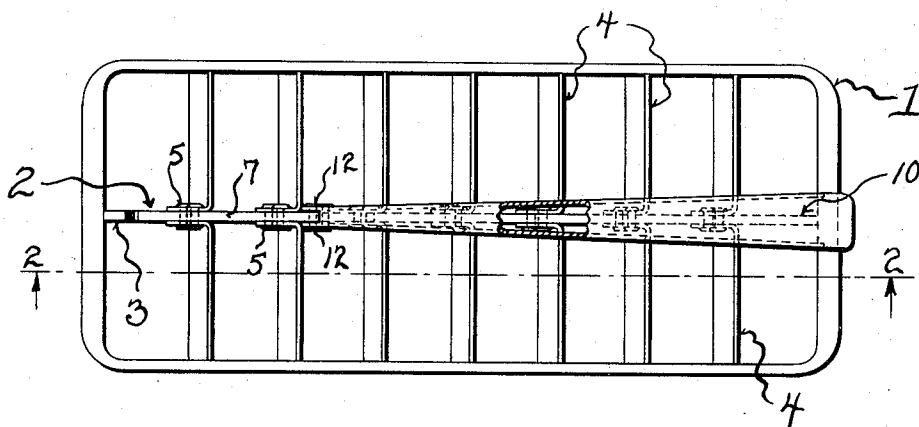


Fig. 2.

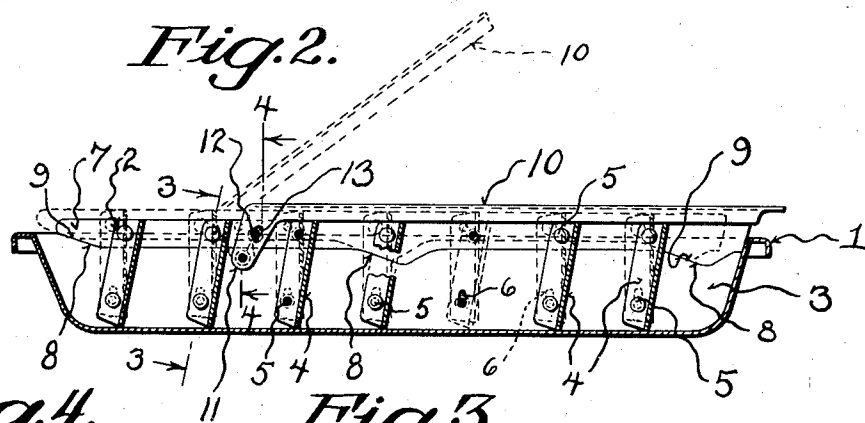


Fig. 4.

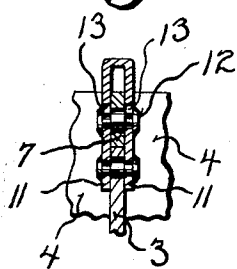


Fig. 3.

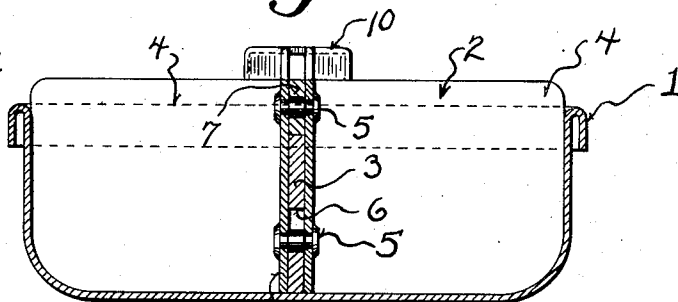
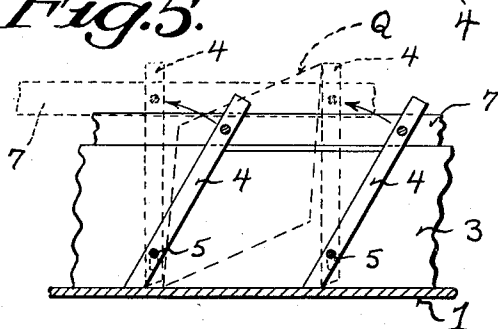


Fig. 5.



Inventor
E. W. Haugh

BY

[Signature]

Attorneys

UNITED STATES PATENT OFFICE

2,265,731

ICE TRAY GRID

Earl W. Haugh, Manitowoc, Wis., assignor to
Aluminum Goods Manufacturing Company,
Manitowoc, Wis.

Application February 20, 1939, Serial No. 257,320

2 Claims. (Cl. 62—108.5)

This invention pertains to ice cube grids for trays employed in household refrigerators, and has primarily for its object the provision of a grid capable of quickly releasing the frozen cubes from both the grid and tray upon the manipulation of a lever.

Incidental to the foregoing, a more specific object of the invention resides in the provision of a grid, in which the transverse fins or partitions are both pivotally and slidably connected to a longitudinal partition, for actuation by means of a manually operable lever.

Another object of the invention is the provision of a grid having its transverse fins pivotally and slidably connected to a longitudinal partition adjacent their lower edges, and pivotally connected to a longitudinal reciprocative bar adjacent their upper edges.

A still further object is the provision of a manually operable lever for actuating the reciprocative bar together with means for camming the bar upwardly upon its actuation to raise the transverse partitions simultaneously with their pivotal movement.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the novel method, construction, combination, and arrangement of parts, substantially as hereinafter described, and more particularly defined by the appended claims, 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 claims.

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

In the drawing:

Figure 1 is a plan view of a metal tray equipped with a grid constructed in accordance with one form of the present invention, parts being broken away and in section to more clearly show details of construction.

Figure 2 is a longitudinal section taken on the line 2—2 of Figure 1.

Figure 3 is an enlarged transverse section taken on the line 3—3 of Figure 2.

Figure 4 is a detailed section taken on the line 4—4 of Figure 2.

Figure 5 is an exaggerated diagrammatic view illustrating the manner in which the cubes are released from both the tray and grid.

Referring now more particularly to the accompanying drawing, the numeral 1 designates

a conventional refrigerator tray employed in the making of ice cubes in mechanical household refrigerators. The tray is equipped with a grid 2, comprising a longitudinal partition 3, having transverse fins 4 connected thereto, adjacent its lower edge, by rivets 5, passing through slots 6 formed in the longitudinal partition 3, to allow both pivotal and slidable movement of the fins relative to the longitudinal partition 3.

Superimposed upon the top of the partition 3 is a reciprocative bar 7, to which the flanges of the transverse fins 4 are pivotally connected, and, as best shown in Figure 2, the bar 7 is provided with spaced inclined surfaces 9 upon its lower edge, cooperating with corresponding surfaces 8, formed in the top edge of the partition 3 to cam or force the reciprocative bar upwardly upon longitudinal shifting of the same.

For the purpose of reciprocating the bar 7, a lever 10 is provided, having spaced ears 11 formed on one of its ends for straddling both the reciprocative bar 7 and the longitudinal partition 3, the lever being pivotally secured upon the partition, as best shown in Figure 2. In addition to its pivotal connection with the partition 3, the lever 10 is both pivotally and slidably connected to the reciprocative bar 7 by a pin 12, passing through slots 13, formed in the ears 11 of the lever.

From the foregoing explanation, considered in connection with the accompanying drawing, the structure comprising the present invention, will be apparent, and its operation will now be described.

Normally, the reciprocative bar 7 is seated upon the top of the longitudinal partition 3, with the lever 10 swung downwardly to straddle the bar and engage the transverse fins 4, as best shown in Figure 2, which causes the transverse fins to assume a slight angular position relative to a vertical line. The tray is then filled with water to any desired level.

After the cubes have been frozen, and it is desired to remove the same, the lever 10 is swung upwardly, as shown in dotted lines in Figure 2, causing the bar 7 to be shifted forwardly, and at the same time to be raised upon the cooperating inclined or cam surfaces 8 and 9, formed on the longitudinal partition 3, and the bar 7, respectively. Obviously, raising of the bar 7, during its reciprocative movement, causes the transverse fins 4 to be raised, and at the same time assume a substantially vertical position, as compared to their normal inclined position. This action of the fins causes them to tilt the cubes Q,

as shown in dotted lines in Figure 5. At the same time, the transverse fins, in assuming a vertical position, will strip themselves from adjacent surfaces of the cubes in the manner illustrated, thus releasing the cubes from the bottom of the tray, and from the longitudinal and transverse partitions, comprising the grid.

From the foregoing explanation, it will be seen that a comparatively simple and efficient grid has been devised for the quick release of ice cubes from both the grid and tray, and due to the leverage provided in the manually operable handle 10, very little force or effort is required upon the part of the operator, which is a distinct advantage over various types of conventional grids in which the cubes are released by means of a lever.

Attention is also directed to the advantage of the inclined or cam surfaces for raising the reciprocative bar 7, and, consequently, the transverse fins 4. Upon actuation of the bar through the lever 10, the inclined surfaces being slight require little or no effort upon the part of the operator in raising the bar, and due to the fact that the inclined surfaces are provided at spaced intervals throughout the length of the bar 7, strain upon the bar with resultant bending is reduced to a minimum.

I claim:

1. An ice cube grid comprising, a main longitudinal partition, a plurality of spaced transverse fins projecting laterally from the opposite

sides of the longitudinal partition, means pivotally and slidably connecting the fins adjacent their lower ends to the longitudinal partition adjacent its lower edge, whereby said fins can rock on said longitudinal partition and move upwardly thereon, a reciprocative bar pivotally connected to said fins adjacent their upper edges, manually operable means connected to said longitudinal partition and said reciprocative bar for imparting movement to the bar, and cooperating cam surfaces disposed between said bar and said longitudinal partition to raise said bar upon reciprocation of the same.

2. An ice cube grid comprising, a main longitudinal partition, a plurality of spaced transverse fins projecting laterally from the opposite sides of the longitudinal partition, means pivotally and slidably connecting the fins adjacent their lower ends to the longitudinal partition adjacent its lower edge, whereby said fins can rock on said longitudinal partition and move upwardly thereon, a reciprocative bar pivotally connected to said transverse fins adjacent their upper edges, said longitudinal partition and said reciprocative bar being provided with cooperating cam surfaces to relatively space the two upon reciprocation of said bar, and a lever pivotally connected to said longitudinal partition and both pivotally and slidably connected to said bar for reciprocating the bar.

EARL W. HAUGH.