

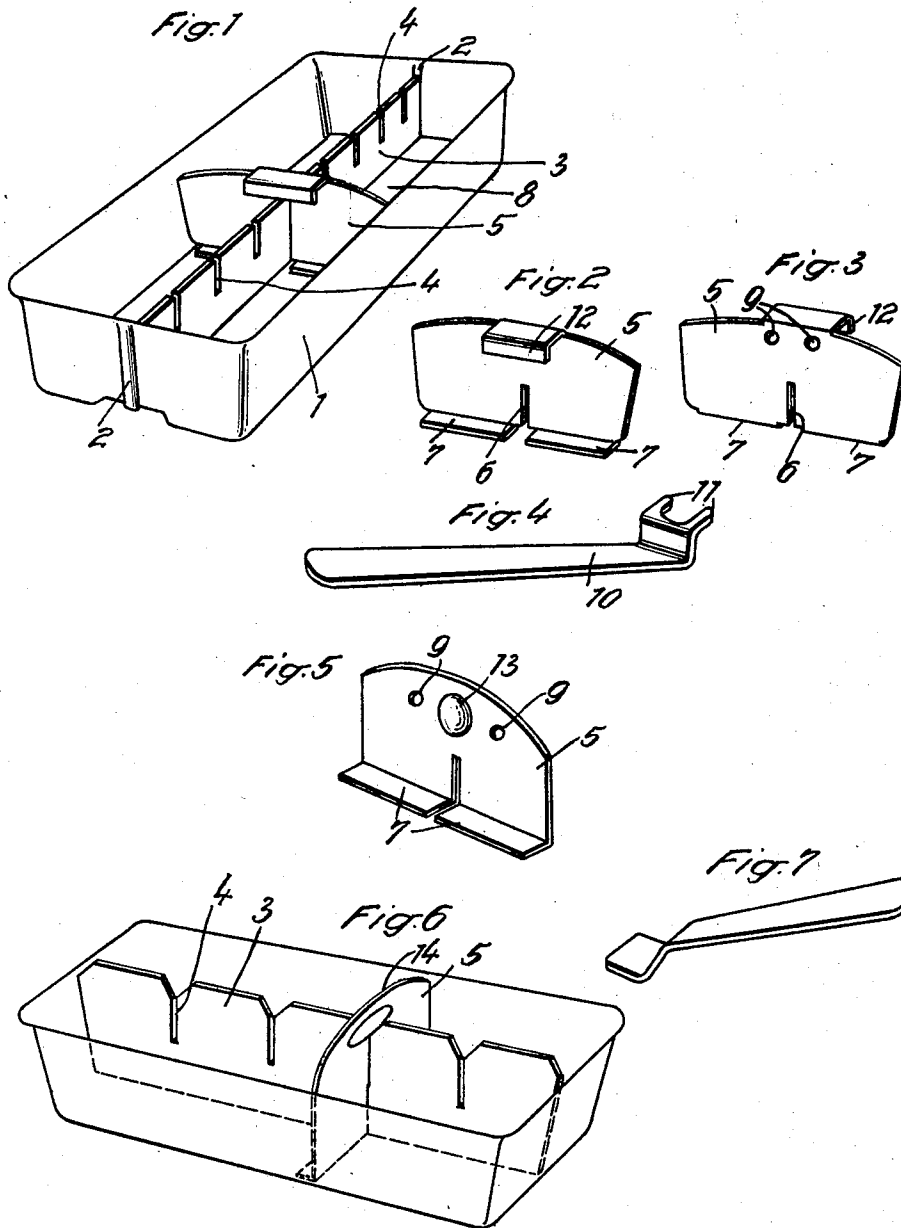
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ICE TRAY

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ICE TRAY

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The present invention relates to ice trays for household refrigerators and means for removing or breaking ice cubes therefrom.

The ice trays of household refrigerators are usually provided with an insert for separating the tray into a number of cells so as to obtain a plurality of individual ice cubes. For loosening and removing the ice cubes from the tray it has been necessary prior to the invention either to heat the entire tray or to apply mechanical means for breaking off all the ice cubes in the tray practically at the same time. However, often only a smaller number of ice cubes than the entire content of the tray may be desired, and usually not more than two or four ice cubes are required at the same time.

It is therefore the principal object of the present invention to provide a very simple device for removing only a few ice cubes from the tray without affecting in any way the other cubes which are frozen onto the walls of the tray or its insert.

Another object of the invention is to divide an ice tray into a plurality of individual cells by providing the tray with longitudinal and transverse separating walls which may be easily disconnected from one another.

It is a further object of the invention to provide common means for loosening or removing the entire ice tray from the refrigerating apparatus as also for loosening or removing individual ice cubes from the tray.

A feature of the invention for attaining the above mentioned objects resides in the provision of an angular extension on the lower end of the removable separating walls, which rests on the upper surface of the bottom of the tray parallel thereto so as to underlie an ice cube formed in the respective cell. Therefore, if an upwardly directed force is exerted upon the walls of the insert, the ice cubes are torn off the bottom of the tray and lifted therefrom by the angular extensions on the walls of the insert.

Other features of the invention reside in the provision of grooves in the end walls of the ice tray and a longitudinally extending separating wall fitting into these grooves, spaced vertical slots in the upper end of the longitudinal wall, transverse separating walls provided with corresponding slots in their lower ends so as to fit into the slots of the longitudinal wall and means on the transverse walls for breaking loose the ice cubes from their enclosing walls.

Other objects, features and advantages of the present invention will appear from the follow-

ing detailed description and the drawing, in which—

Fig. 1 is a perspective view of one embodiment of the present invention,

Fig. 2 is a detailed view of a removable transverse separating wall shown in Fig. 1,

Fig. 3 is a rear view of the transverse wall shown in Fig. 2,

Fig. 4 shows the tool for lifting the transverse wall shown in Figs. 2 and 3,

Fig. 5 shows a modification of a transverse wall shown in Figs. 2 and 3,

Fig. 6 is a perspective view of another embodiment of the invention,

Fig. 7 shows the tool for lifting the transverse wall shown in Fig. 6.

As illustrated in Fig. 1, the ice tray 1 is provided with grooves 2 in its end walls which are adapted to receive a longitudinal wall 3 for dividing the ice tray in two parts. The upper portion of the longitudinal wall 3 is provided with slots 4 preferably extending substantially half the depth of the wall 3. Transverse walls 5 shown particularly in Figs. 2 and 3, are provided at their lower side with a slot 6 which also extends approximately half the depth of the wall 5. Angular extensions 7 on the lower ends of the transverse walls 5 are adapted to rest flatly on the bottom 8 of the tray 1 for improving the stability of the entire insert when in assembled condition as well as for breaking off or lifting the ice cubes from the tray. The upper ends of the transverse walls 5 are provided with suitable spaced holes 9, shown in Fig. 3.

For lifting the transverse walls 5 from the tray 1 and the longitudinal wall 3, a tool or lever 10 may be used which is provided with prongs 11 adapted to fit into the holes 9 of the walls 5. The transverse walls may be easily lifted by placing the lever 10 on the upper edge of the longitudinal wall 3, inserting the prongs 11 into the holes 9 and depressing the lever 10. The angular portions 7 of the walls 5 then grip two ice cubes and break the same from the bottom 8 of the tray.

An angular portion 12 on the upper end of the walls 5 above the holes 9 prevents insertion of the prongs 11 of the lever 10 from the wrong side. The shape of the lever 10 may be such that it can also be used for breaking off the ice tray 1 from its supporting surface of the refrigerator if frozen thereon.

The embodiment of the invention shown in Fig. 5 differs from that shown in Figs. 2 and 3 in that, in place of the angular portion 12, a pro-

jection 13 is pressed into the upper part of the wall 5 for preventing the insertion of the lever 10 from the wrong side.

In another embodiment of the invention shown in Fig. 6, the upper end of the removable walls 5 is provided with depressions 14. A suitable lever, as shown in Fig. 7, may be inserted in the depression 14 and placed on the upper edge of the wall 3, whereupon the handle of the lever is depressed so as to lift or break the wall 5 together with two ice cubes on the angular portion 7 from the bottom of the tray. As shown in Figure 6, the upper end of the longitudinal wall 3 may be suitably shaped or portions thereof be cut out so as to provide fulcrums for the lever which are placed at such a high level relative to the depressions 14 that the lever when breaking off the ice cubes is unable to slip out of the depression 14.

Various other modifications may be made within the scope of the present invention and we do not wish to be limited to any particular embodiment thereof except as defined by the scope of the following claims.

We claim:

1. A device for producing ice cubes comprising a relatively rigid non-deformable container, a relatively rigid longitudinal partition and a plurality of transverse partitions in said container for dividing the interior thereof into individual cells, each said transverse partition being relatively rigid and non-deformable and having a straight central portion and being individually separable from the longitudinal partition and individually removable from the container while the other partitions remain therein, and each said transverse partition having an integrally formed lateral extension at its lower extremity which extends parallel to and normally rests on the bottom of the container, whereby when any transverse partition is raised from the container the ice cubes directly above the extension of such partition are raised also.

2. A container as claimed in claim 1, wherein each transverse partition is provided with an opening near its upper edge for the reception of a lifting lever.

3. A container as claimed in claim 1, wherein each transverse partition is provided with an opening near its upper edge for the reception of a lifting lever and is also provided with means for preventing the lever from being inserted in such opening from the wrong side.

4. The structure and combination defined in claim 1, wherein each transverse partition is provided near its upper end with an indentation for the insertion therein of a lifting lever for raising the partition individually from its position in said container.

5. The structure and combination defined in claim 1, wherein each transverse partition is provided near its upper end with an indentation for the insertion therein of a lifting lever for

raising the partition individually from its position in said container, and wherein said longitudinal partition is provided with a recess disposed at the upper edge thereof adjacent each transverse partition, said recess providing a fulcrum for said lever when it is inserted into the indentation of the transverse partition adjacent thereto in order to raise said partition.

6. In combination with a pan-like relatively rigid and relatively non-deformable receptacle which constitutes an ice cube tray for freezing engagement with a refrigerating apparatus, a grid for insertion into said tray, said grid comprising a relatively rigid relatively non-deformable member forming in said tray a longitudinal partition, a plurality of members each being relatively rigid and relatively non-deformable and having a straight central portion forming in said tray a perpendicularly and transversely straight individually removable partition and forming with said longitudinal partition a plurality of substantially straight-walled cells wherein the individual ice cubes are formed, an angular extension at the lower end of each transverse partition which is integral therewith and is disposed parallel to and normally rests on the bottom of said tray, and means formed at the upper end of each transverse partition for raising it individually upwardly without disturbing the remaining partitions in their cell-forming positions in said tray, whereby only the ice cubes formed directly above the extension of such partition are removed from the tray.

7. The combination and structure defined in claim 6, wherein provision formed at the upper end of each transverse partition for the application of one end of a lifting lever constitutes said last named means.

8. The combination and structure defined in claim 6, wherein provision formed at the upper end of each transverse partition for the application of one end of a lifting lever constitutes said last named means, said provision being in the nature of an opening.

9. The combination and structure defined in claim 6, wherein provision formed at the upper end of each transverse partition for the application of one end of a lifting lever constitutes said last named means, said provision being in the nature of an indentation.

10. The combination and structure defined in claim 6, wherein provision formed at the upper end of each transverse partition for the application of one end of a lifting lever constitutes said last named means, said provision being in the nature of a recess, together with means, also formed at the upper end of each transverse partition for preventing the lever from being inserted in such recess from the wrong side.

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