May 21, 1940. F. P. KEIPER 2,201,585

ICE TRAY

Original Filed Jan. 7, 1938 2 Sheets-Sheet 1

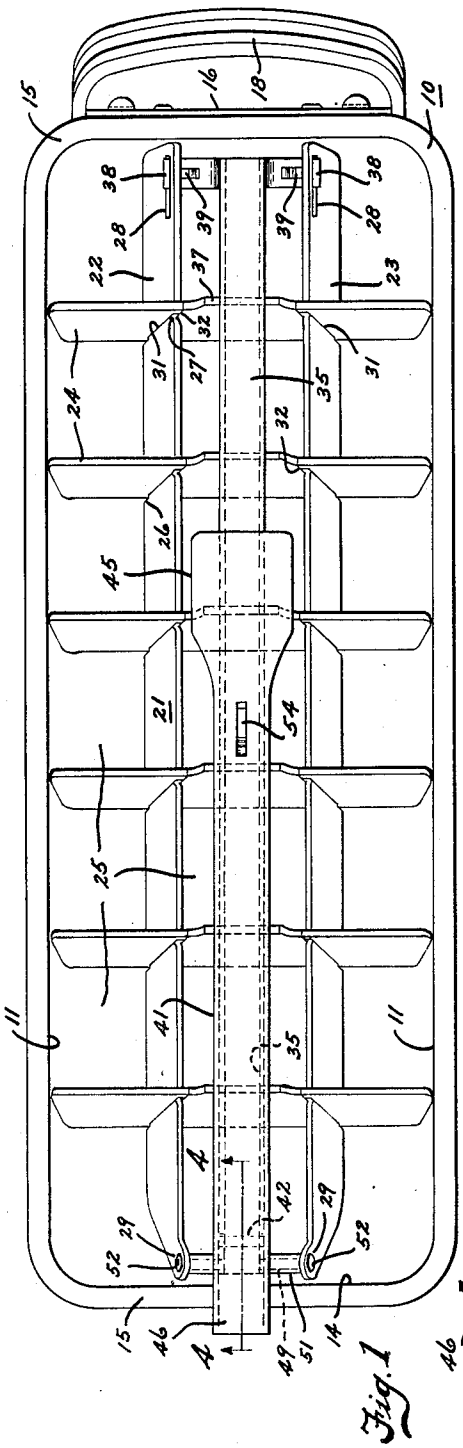


Fig. 1

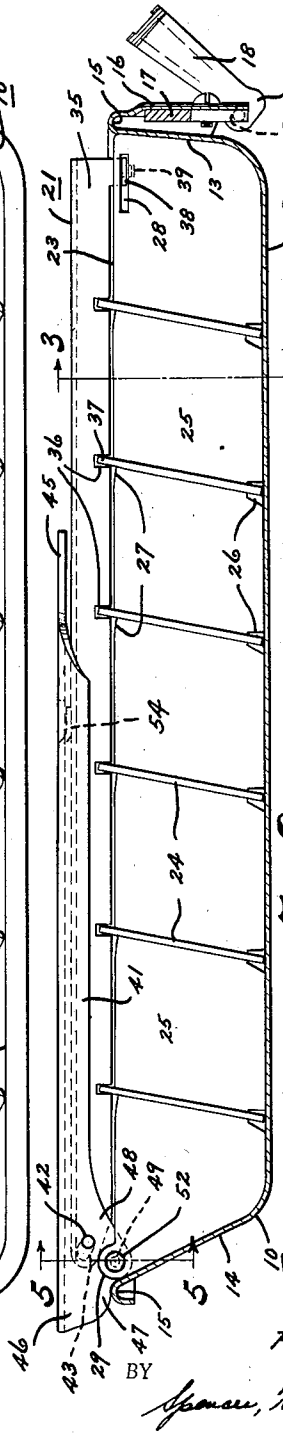


Fig. 2

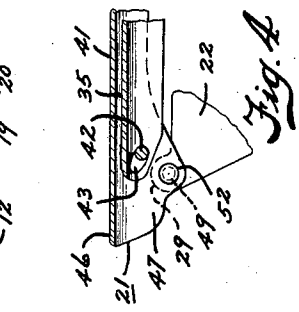


Fig. 4

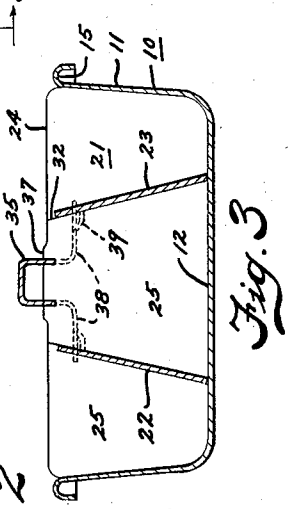


Fig. 3

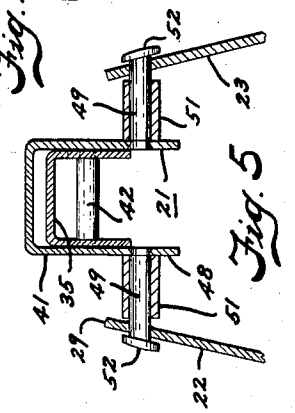


Fig. 5

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ICE TRAY

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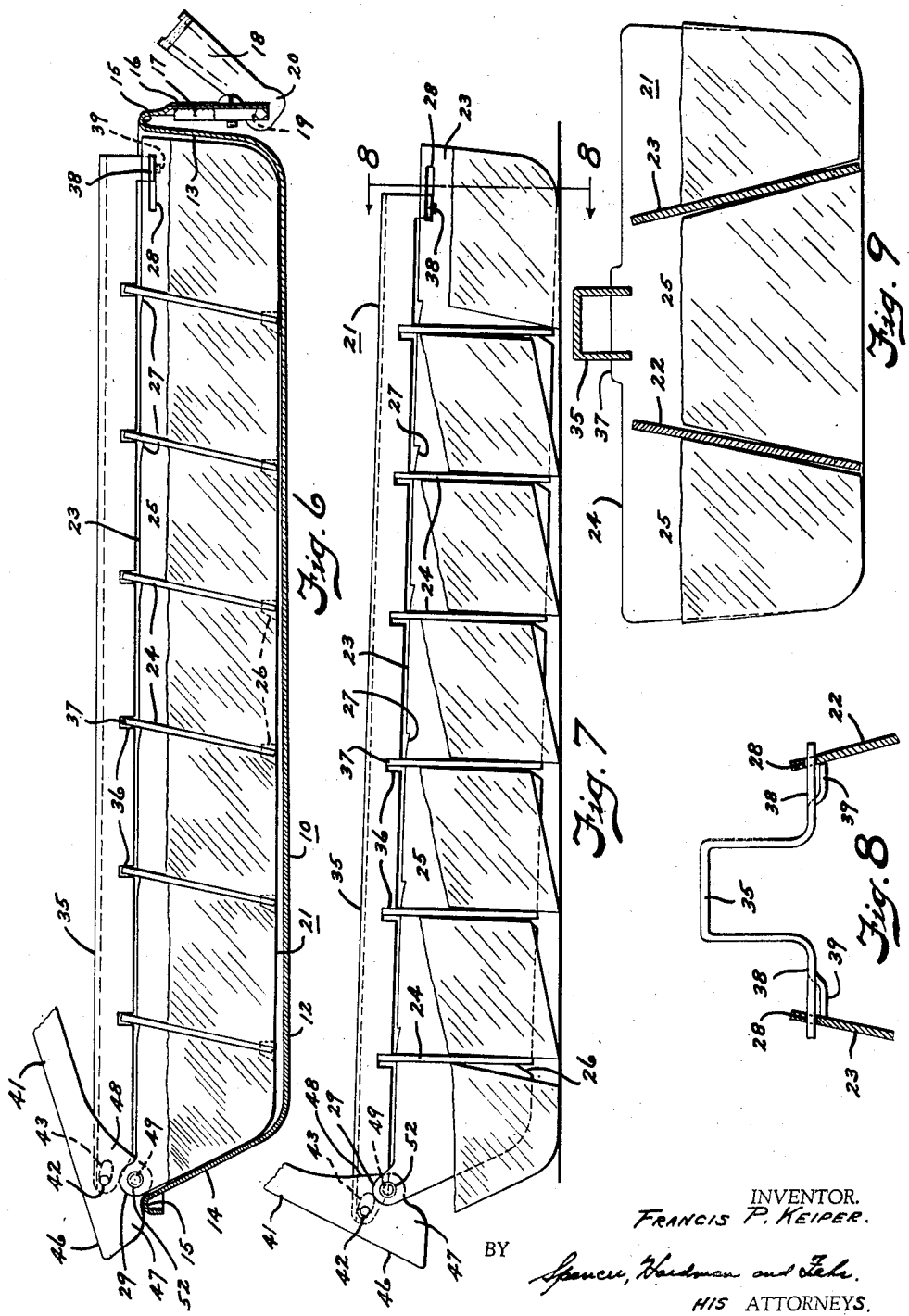


Fig. 6

Fig. 7

Fig. 8

Fig. 9

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UNITED STATES PATENT OFFICE

2,201,585

ICE TRAY

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15 Claims. (Cl. 62—108.5)

This invention relates to liquid freezing devices and particularly to ice trays and grids therefor employed in household refrigerators.

I am aware of the fact that there has been placed on the market liquid freezing devices such as ice trays and grids wherein the grid is of a rigid metal wall unitary construction and divides the interior of the tray into a plurality of ice block compartments. The grid is removable from the tray and has certain walls thereof movable relative to other walls for breaking the bond between ice blocks and their compartment walls to release the ice blocks from the grid structure. These devices have been limited to a grid structure wherein only two longitudinal rows of ice block compartments are formed in an ice tray, thus reducing the number of ice blocks obtainable from a single tray and consequently necessitating the provision of a great number of trays in household refrigerator cabinets. I, therefore, contemplate provision of an ice tray grid for such freezing devices which is of a unitary substantially rigid metal wall construction and wherein horizontally spaced apart longitudinal walls cooperate with and are movable relative to movable transverse walls to divide the interior of a tray into three or more longitudinal rows of ice block compartments.

One of the objects of my invention is to provide an improved rigid movable grid wall structure adapted to be disposed in an ice tray for dividing the tray into three or more longitudinal rows of ice block compartments and a novel method of removing the grid from the tray and ice blocks from the grid structure without applying heat thereto.

Another object of my invention is to provide an ice tray with a removable single thickness rigid metal walled unitary grid structure which has spaced apart longitudinal walls dividing the tray into three or more longitudinal rows of ice block compartments and wherein the longitudinal grid walls are movable relative to one another and to other walls thereof for releasing ice blocks therefrom.

A further object of my invention is to provide an ice tray grid structure having spaced apart longitudinal walls cooperating with a plurality of transverse walls to divide a tray into three or more longitudinal rows of ice block compartments wherein the transverse walls are inclined or are normally disposed at an acute angle to form compartments of substantially parallelogram form in one direction of cross-section and wherein the longitudinal walls are also inclined or disposed at an acute angle to form compartments therebetween of substantially an isosceles trapezoid form in one direction of cross-section therethrough and in which structure these walls are movable relative to one another to change their normal inclination or to move them out of their normal angled position to enlarge the ice block compartments and release ice blocks therefrom.

A still further object of my invention is to provide a removable unitary grid structure having a plurality of spaced apart rigid longitudinal walls and a plurality of rigid walls extending transversely thereto for dividing a tray into three or more longitudinal rows of ice block compartments and wherein movement of the transverse walls causes movement of the longitudinal walls to break ice blocks loose from the walls and release the ice blocks from their compartments.

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 form of the present invention is clearly shown.

In the drawings:

Fig. 1 is a top plan view of a liquid freezing device comprising a tray and a grid positioned therein and constructed in accordance with the present invention;

Fig. 2 is a side view of the device shown in Fig. 1;

Fig. 3 is a transverse vertical sectional view of the device taken on the line 3—3 of Fig. 2;

Fig. 4 is a vertical sectional view of a portion of the device taken on the line 4—4 of Fig. 1;

Fig. 5 is an enlarged fragmentary sectional view taken on the line 5—5 of Fig. 2;

Fig. 6 is a view similar to Fig. 2 showing the grid structure and ice blocks bonded thereto elevated relative to the tray;

Fig. 7 is a view of the grid removed from the tray and disclosing walls thereof moved to release ice blocks from the grid;

Fig. 8 is an enlarged fragmentary sectional view taken on the line 8—8 of Fig. 7; and

Fig. 9 is an enlarged vertical transverse sectional view of the grid showing longitudinal walls thereof moved out of their normal position of inclination and which movement is illustrated by disclosing ice blocks in the compartments.

Referring to the drawings, for illustrating my invention, I have disclosed my improved liquid freezing device as including a metal ice tray 10 having side walls 11 (see Fig. 3), a bottom wall 12 and opposed end walls 13 and 14. The tray side walls 11 and the front wall 13 thereof con-

verge outwardly toward the top of the tray. The tray back wall 14 is converged outwardly toward the top of the tray a greater distance than other walls thereof for a purpose which will become apparent hereinafter. The walls 11, 13 and 14 of tray 10 have their upper portion rolled-over as at 15 to provide a rim which extends continuously around the top of the tray to increase its structural strength. A portion of the metal of tray 10 is extended downwardly from the rim 15, as at 16 (see Fig. 2), at the front of the tray and provides a mounting for a heavy metal piece 17 which has a handle 18 pivotally secured thereto as at 19. The handle 18 facilitates placing of the freezing device in or on a freezing support or shelf of an evaporator of a refrigerating system and a cam surface 20 formed thereon functions, upon actuating the handle, to break an ice bond between the tray and its support to permit removal of the freezing device and its frozen contents from the evaporator in the well-known manner.

The tray 10 has in combination therewith a unitary metal grid structure and this grid, generally represented by the reference character 21, is removably disposed within the tray. The grid 21 includes two single thickness substantially non-flexible horizontally spaced apart longitudinal metal walls 22 and 23 and a plurality of single thickness rigid metal walls 24 extending transversely thereto in spaced apart relation along the length thereof to divide the interior of tray 10 into three longitudinal rows of open top cells or compartments 25. Each longitudinal grid wall 22 and 23 has a plurality of spaced apart slots 26 extending upwardly from its bottom edge and a plurality of spaced apart notches 27 cut in its top edge. It will be noted that the notches 27 comprise a long curved wall surface which has a purpose to be understood from the description of operation of the device. The slots 26 and notches 27 are equally spaced relative to one another horizontally, but the notches 27 are disposed slightly to the right of the slots 26 as viewed in Fig. 2 of the drawings for a purpose which will become apparent hereinafter. Walls 22 and 23 are also each provided with an elongated opening 28 at one end thereof and a raised end portion 29 at the opposite end thereof for purposes to be presently described. Each transverse wall 24 of grid structure 21 is provided with a pair of elongated openings 31 extending upwardly therein and disposed at opposed angles to one another. The metal at the top of the openings 31 in walls 24 is slit as at 32 and the metal above the openings 31 is bent outwardly at an angle to walls 24 to permit insertion of the longitudinal grid walls 22 and 23 into the openings 31. After the longitudinal walls are placed in openings 31 of walls 24, these walls 24 are moved into registration with slots 26 and their corresponding notches 27 and the metal adjacent the slits 32 above openings 31 in walls 24 is then bent back into alignment with the walls 24 and the slits 32 are closed by welding or soldering to thereby slidably lock the walls 24 upon the longitudinal walls 22 and 23. The disposition of slots 27 slightly to the right of slots 26 as viewed in Fig. 2 locates the transverse walls 24 in an inclined position relative to the bottom 12 of tray 10 or disposes these walls 24 at an acute angle to provide the compartments 25 with a parallelogram form in cross-section taken on a vertical line parallel with the longitudinal extension of the grid. The openings 31 in walls 24 being disposed at opposed angles to one another, consequently, positions the longitudinal walls 22 and 23 at opposed angles to one another and at acute angles relative to the bottom wall 12 of tray 10. Therefore, the compartments 25 formed between the inclined longitudinal walls 22 and 23 are of an isosceles trapezoid form in vertical transverse cross-section (see Fig. 3). The normal angled disposition of walls 22 and 23 relative to one another provides the compartments 25 located adjacent side walls 11 of tray 10 with a substantially trapezoid form in vertical transverse cross-section. While the compartments 25 have the particular transverse form or contour described, it will be noted that, due to the normal angled position of walls 24, all of these compartments have the parallelogram form in longitudinal cross-section described. Consequently, ice blocks formed in the compartments 25 will also be of a contour corresponding to the shape of their respective compartments.

An operating bar member 35 extends longitudinally of the grid 21 above walls 24 and is in the present disclosure substantially of inverted U-shape in cross-section. The legs of the inverted U-shaped member 35 are provided with a plurality of spaced apart notches 36 which fit over and receive a raised central part 37 provided along the top edge of walls 24. The one end of bar member 35 has ears 38 extending downwardly and outwardly from the legs thereof. One of the ears 38 fits into the elongated opening 28 provided in one of the longitudinal walls 22 or 24 while the other ear 38 fits into the opening 28 provided in the other longitudinal wall. Each ear 38 has a portion 39 pressed downwardly therefrom (see Fig. 8) and the portions 39 form abutments for preventing bar member 35 from moving out of its longitudinal central position over the grid. The other end of member 35 fits beneath and within a lever 41 which is slightly larger in U-shaped cross-section than member 35. A pin 42 is secured to lever 41 and this pin extends through suitably elongated and aligned slots 43 provided in the legs of bar member 35. The lever 41 has a handle end 45 and a short end 46 provided with a cam surface 47 which is adapted to engage the rim 15 of tray 10 for a purpose to be hereinafter described. Legs 48 provided on lever 41 (see Fig. 5) each have a pin 49 secured thereto and which pins extend outwardly therefrom and pass through holes provided in the raised ears 29 formed on the longitudinal grid walls 22 and 23. A bushing 51 surrounds each pin 49 and is disposed between one of the legs 48 of lever 41 and a longitudinal wall of the grid. Each pin 49 has an enlarged head 52 formed thereon and these heads 52 together with bushings 51 maintain lever 41 as well as bar member 35 centrally located. The longitudinal grid walls 22 and 23 are loosely arranged between the heads 52 on pins 49 and the bushings 51 to permit a slight twisting or tilting movement of these walls in a manner to be more fully described hereinafter. A downwardly bent portion 54 is punched from lever 41 near its handle end 45 and this portion 54 engages the top surface of bar member 35 and spaces lever 41 therefrom to prevent bonding of these elements together. It will be noted that walls 22, 23 and 24 are movably secured together, lever 41 is permanently secured to grid walls 22 and 23 and that bar member 35 is secured at its one end to the legs 48 of lever 41 and at its opposite end to walls 22 and 23 to thereby form a unitary structure which is removable from tray 10 as a unit.

Assume that water has been frozen in tray 10 in the form of ice blocks in compartments 25, by the cooling effect produced by an evaporator of a refrigerating system, and the tray 10 has been removed from the evaporator and it is now desired to harvest ice blocks from the freezing device. The handle end 45 of lever 41 is, therefore, elevated to pivot the lever 41 and pins 49 secured thereto about the openings within the ears 29 of longitudinal walls 22 and 23. This pivoting of lever 41 causes the cam surface 47 on its short end 46 to engage the rim 15 on tray 10 and exert a force against the tray. This force applied to the rear end of tray 10 causes the unitary grid structure 21 together with ice blocks adhering or bonded thereto, to be elevated relative to the tray. This initial movement of lever 41 is illustrated in Fig. 6 of the drawings and it will be noted that pin 42 secured to lever 41 moves freely within the elongated slots 43 without applying force to bar member 35. After the bond between the ice blocks and tray 10 has been broken by elevation of the unitary grid structure 21 and the ice blocks relative to tray 10, the grid may be removed from the tray or raised above same. Thereafter, further movement of lever 41, in its single direction of motion, causes pin 42 to engage the upper end wall of slot 43 to thereby apply a lengthwise pulling force to bar member 35. Upon lengthwise movement of member 35, relative to walls of the grid, the end walls of slots 36 provided in member 35 engage and move the upper portion of transverse grid walls 24 lengthwise of walls 22 and 23 to tilt same out of their normal angled position. Walls 24 pivot within slots 26 about the bottom of the grid structure and about the lower corners of the ice blocks and move along the curved wall surface of notches 27 toward the lever end of the structure. Transverse walls 24 are thereby moved out of their normal acute angled position into a substantially vertical position to enlarge compartments 25 and break ice blocks loose from the walls thereof. In the ordinary grid construction wherein a single longitudinal vertically disposed wall is employed to divide the tray into only two longitudinal rows of ice block compartments tilting of the transverse grid walls in the manner described is usually sufficient to release ice blocks from the grid structure. However, since I have provided a grid structure which divides the tray into a third or longitudinal central row of ice block compartments, a slight movement of the longitudinal grid walls is necessary or preferred to enlarge the central row of compartments in another direction of cross-section therethrough other than the longitudinal enlargement thereof to insure that ice blocks will fall or be released from these central compartments. Therefore, the normal angled disposition of the longitudinal walls 22 and 23 affords a slight movement thereof when walls 24 are tilted relative thereto. Due to slots 31 in transverse walls 24 being disposed at opposed angles to one another and due to the moving of walls 24 out of their acute angled position into a substantially vertical position, the side walls of slots 31 engage and apply force to longitudinal walls 22 and 23 in a direction transverse of the longitudinal extension of the grid 21. This transverse force applied to longitudinal walls 22 and 23 simultaneously with the tilting movement of walls 24, caused by changing the normal position of slots 31 in walls 24 and the close sliding fit of walls 22 and 23 therein, changes the normal inclination or angled disposition of the longitudinal walls 22 and 23. This change of inclination or normal angled disposition of the longitudinal grid walls 22 and 23 is shown by disclosing ice blocks in the compartments 25 in Fig. 9 of the drawings. It is to be understood, however, that Fig. 9 is merely illustrative and that when walls 22, 23 and 24 are simultaneously moved in the manner described, ice blocks will be released from the compartments as illustrated in Fig. 7 of the drawings and will fall into a suitable receptacle or upon a table top. The twisting or slight movement of walls 22 and 23 to change their normal angled position, or inclination effected by and simultaneously with tilting of transverse walls 24 increases the length of the upper base of the trapezoid form or transverse outline contour of the central row of ice block compartments to enlarge same and cause ice blocks to fall therefrom. This movement of the longitudinal grid walls 22 and 23 insures freeing of ice blocks from these walls so that the ice blocks will not adhere thereto and remain positioned in the grid structure. Enlargement of all the ice compartments by changing the shape thereof from a parallelogram to substantially a rectangle in longitudinal cross-section through the grid structure and by changing the transverse cross-sectional shape of the central row of ice compartments does not alter the unitary character of the structure. Release of ice blocks from the compartments may be facilitated, if desired, by treating or coating walls of the compartments with a waxy or the like substance.

From the foregoing, it will be seen that I have provided an improved freezing device by providing an ice tray grid structure which forms three or more longitudinal rows of ice blocks in a tray and by providing an effective method of removing all ice blocks from the structure. By providing movement of rigid longitudinal walls in a grid adapted to form three or more longitudinal rows of ice blocks in a tray, I am enabled to increase the ice block capacity of a freezing device and thereby reduce the number of such devices ordinarily required in a household refrigerating apparatus. My improved device is of low cost, strong and durable and is effective to remove ice blocks therefrom without shattering the blocks. By constructing the entire grid structure of metal, I retain the fast freezing characteristics of metal tray and grid combinations. In my present device, a single lever, operable in one direction of motion only, serves to remove the unitary grid with ice blocks bonded thereto from the tray and to move a plurality of longitudinal walls of the grid relative to and simultaneously with moving of transverse walls thereof.

While the form of embodiment of the 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. In combination, a tray having a unitary removable grid structure disposed therein, said grid structure comprising a plurality of spaced apart longitudinal walls and a plurality of walls extending transversely thereto in spaced apart relation along the length thereof dividing the interior of the tray into three or more rows of ice block compartments, said grid walls being movable relative to one another, certain of said

grid walls being normally inclined with respect to the bottom of the tray to provide said ice compartments with a parallelogram form in at least one direction of cross-section therethrough, means for elevating said unitary grid structure together with ice blocks adhering thereto relative to the tray, and means for moving said certain grid walls relative to other walls of the grid out of their normal inclined position, after the unitary structure has been elevated relative to the tray, to enlarge said compartments and break the bond between the compartment walls and ice blocks therein for releasing the ice blocks from said grid structure.

2. A unitary removable grid structure for disposition in a freezing tray comprising, a single thickness substantially non-flexible longitudinal wall and a plurality of walls extending transversely thereto in spaced apart relation along the length thereof to form a plurality of ice block compartments, said walls being movable relative to one another, said longitudinal wall being normally inclined with respect to the vertical, said transverse walls also being normally inclined with respect to the vertical, and means for moving said grid walls relative to one another in a direction toward the vertical to break an ice bond between the compartment walls and ice blocks therein.

3. A grid for disposition in a freezing tray comprising, a single thickness substantially nonflexible longitudinal wall and a plurality of walls extending transversely thereto in spaced apart relation along the length thereof to form a plurality of ice block compartments, said walls being movably connected together to provide a unitary structure, said longitudinal wall being normally inclined with respect to the vertical, said transverse walls also being normally inclined with respect to the vertical, means for applying force to said transverse walls to move same in a direction toward the vertical, and the connection of said grid walls being constructed and arranged to cause the movement of said transverse walls to move said longitudinal wall in a direction toward the vertical to break an ice bond between the compartment walls and ice blocks therein.

4. A removable unitary grid structure for disposition in a freezing tray comprising, a plurality of horizontally spaced apart longitudinal walls and a plurality of walls connected thereto and extending transversely thereof in spaced apart relation along their length to form three or more longitudinal rows of ice block compartments, at least one of said longitudinal walls being normally inclined with respect to the vertical and movable relative to said transverse walls, said transverse walls also being normally inclined with respect to the vertical and movable relative to said longitudinal walls, and means for moving said movable grid walls relative to one another in a direction toward the vertical to break an ice bond between the compartment walls and ice blocks therein.

5. A removable unitary grid structure for disposition in a freezing tray comprising, a plurality of horizontally spaced apart longitudinal walls and a plurality of walls connected thereto and extending transversely thereof in spaced apart relation along their length to form three or more longitudinal rows of ice block compartments, at least one of said longitudinal walls being normally inclined with respect to the vertical and movable relative to said transverse walls, said transverse walls also being normally inclined with respect to the vertical and movable relative to said longitudinal walls, means for applying force to said transverse walls to move same in a direction toward the vertical, and the connection of said one longitudinal grid wall with said transverse walls being constructed and arranged to cause the movement of said transverse walls to move said one longitudinal wall in a direction toward the vertical to break an ice bond between the compartment walls and ice blocks therein.

6. A unitary removable grid structure for disposition in a freezing tray comprising, a single thickness substantially non-flexible longitudinal wall and a single thickness substantially non-flexible wall connected therewith and extending transversely through the plane thereof to form a plurality of ice block compartments, said grid walls each being normally inclined with respect to the vertical and movable relative to one another, means for applying force to one of said grid walls to move same relative to the other grid wall in a direction toward the vertical, and the connection of said grid walls being such that said movement of said one wall causes movement of said other grid wall in a direction toward the vertical to break an ice bond between the compartment walls and ice blocks therein.

7. The combination of a tray and a unitary removable grid structure disposed therein, said grid structure comprising a single thickness substantially non-flexible longitudinal wall and a plurality of single thickness substantially non-flexible walls extending transversely thereto in spaced apart relation along the length thereof dividing the tray into a plurality of ice block compartments, said grid walls being movable relative to one another, said longitudinal grid wall being normally inclined with respect to the bottom of the tray, means for elevating said unitary grid structure together with ice blocks adhering thereto relative to the tray, and means for causing relative movement between the longitudinal grid wall and the transverse grid walls to change the position of inclination of said longitudinal wall after the unitary structure has been elevated relative to the tray for breaking the bond between the compartment walls and ice blocks therein to release the ice blocks from said compartments.

8. The combination of a tray and a unitary removable grid structure disposed therein, said grid structure comprising a plurality of spaced apart single thickness substantially non-flexible longitudinal walls and a plurality of single thickness substantially non-flexible walls extending transversely thereto in spaced apart relation along the length thereof dividing the interior of the tray into three or more rows of ice block compartments, said grid walls being movable relative to one another, said longitudinal grid walls being normally inclined with respect to the bottom of the tray to provide ice compartments between said longitudinal walls of greater width at their lower portion than at their upper portion in at least one direction of cross-section therethrough, means for elevating said unitary grid structure together with ice blocks adhering thereto relative to the tray, and means for causing relative movement between the longitudinal grid walls and the transverse grid walls to change the position of inclination of said longitudinal walls after the unitary structure has been elevated relative to the tray for breaking the bond between the compartment walls and ice blocks therein to release the ice blocks from said compartments.

9. The combination of a tray and a unitary removable grid structure disposed therein, said grid structure comprising a plurality of spaced apart single thickness substantially non-flexible longitudinal walls and a plurality of single thickness substantially non-flexible walls extending transversely thereto in spaced apart relation along the length thereof dividing the interior of the tray into three or more rows of ice block compartments, said grid walls being movable relative to one another, said longitudinal grid walls being normally inclined with respect to the bottom of the tray to provide ice compartments between said longitudinal walls of greater width at their lower portion than at their upper portion in at least one direction of cross-section therethrough, and means movable in a single direction of motion for elevating said unitary grid structure together with ice blocks adhering thereto relative to the tray and for also causing relative movement between the longitudinal grid walls and the transverse grid walls to change the position of inclination of said longitudinal walls after the unitary structure has been elevated relative to the tray for breaking the bond between the compartment walls and ice blocks therein to release the ice blocks from said compartments.

10. The combination of a tray and a unitary removable grid structure disposed therein, said grid structure comprising a single thickness substantially non-flexible longitudinal wall and a plurality of single thickness substantially non-flexible walls connected thereto and extending transversely thereof in spaced apart relation along its length dividing the interior of the tray into a plurality of ice block compartments, said grid walls being movable relative to one another, said transverse grid walls being normally inclined with respect to the bottom of the tray to provide said ice compartments with a parallelogram form in at least one direction of cross-section therethrough, said longitudinal grid wall also being normally inclined with respect to the bottom of the tray, means for elevating said unitary grid structure together with ice blocks adhering thereto relative to the tray, means for causing relative movement between the longitudinal grid wall and the transverse grid walls, and the connection of said grid walls being such that said relative movement thereof causes movement of said transverse grid walls out of said inclined position thereof to enlarge said compartments and also causes movement of said longitudinal grid wall to change its position of inclination after the unitary structure has been elevated relative to the tray for breaking the bond between the compartment walls and ice blocks therein to thereby release ice blocks from said compartments.

11. The combination of a tray and a unitary removable grid structure disposed therein, said grid structure comprising a plurality of single thickness substantially non-flexible longitudinal walls and a plurality of single thickness substantially non-flexible walls connected thereto and extending transversely thereof in spaced apart relation along their length dividing the interior of the tray into three or more rows of ice block compartments, said grid walls being movable relative to one another, said transverse grid walls being normally inclined with respect to the bottom of the tray to provide said compartments with a parallelogram form in at least one direction of cross-section therethrough, said longitudinal grid walls also being normally inclined with respect to the bottom of the tray to provide ice compartments therebetween of greater width at their lower portion than at their upper portion in at least one direction of cross-section therethrough, means for elevating said unitary grid structure together with ice blocks adhering thereto relative to the tray, means for causing relative movement between the longitudinal grid walls and the transverse grid walls, and the connection of said grid walls being such that said relative movement thereof causes movement of said transverse grid walls out of said inclined position thereof to enlarge all of said compartments in one direction of cross-section therethrough and also causes movement of said longitudinal grid walls to change their position of inclination to enlarge the compartments therebetween in another direction of cross-section therethrough after the unitary structure has been elevated relative to the tray for breaking the bond between the compartment walls and ice blocks therein to thereby release ice blocks from said compartments.

12. A unitary removable grid structure for disposition in a freezing tray comprising, a single thickness substantially non-flexible longitudinal wall and a plurality of walls extending transversely thereto in spaced apart relation along the length thereof to form a plurality of ice block compartments, said walls being movable relative to one another, said longitudinal wall being normally inclined with respect to the vertical, and means for causing relative movement between said longitudinal grid wall and said transverse grid walls to move said longitudinal grid wall in a direction toward the vertical to break an ice bond between the compartment walls and ice blocks therein.

13. A removable unitary grid structure for disposition in a freezing tray comprising, a plurality of horizontally spaced apart longitudinal walls and a plurality of walls connected thereto and extending transversely thereof in spaced apart relation along their length to form three or more longitudinal rows of ice block compartments, said longitudinal walls being normally inclined with respect to the vertical, said grid walls being movable relative to one another, and means for causing relative movement between said longitudinal grid walls and said transverse grid walls to move said longitudinal grid walls in a direction toward the vertical to break an ice bond between the compartment walls and ice blocks therein.

14. A unitary removable grid structure for disposition in a freezing tray comprising, a substantially non-flexible partition and a substantially non-flexible partition extending through the plane of said first-named partition on both sides thereof to form walls of a plurality of ice block compartments, said grid partitions being movable relative to one another, means for applying force to one of said partitions, and the partitions being so related that force applied to said one partition is transmitted to the other partition in such manner as to cause movement of said other partition laterally with respect to the direction of application of force to said one partition to break bonds between ice blocks and their compartment walls.

15. A unitary removable grid structure for disposition in a freezing tray comprising, a plurality of horizontally spaced apart substantially non-flexible partitions and a substantially non-flexible partition extending transversely through the

planes of said plurality of partitions to form walls of a plurality of ice block compartments, said grid partitions being movable relative to one another, means for applying force to said transverse partition, and the partitions being so related that force applied to said transverse partition is transmitted to the plurality of partitions in such manner as to cause movement of said plurality of partitions in opposite directions relative to one another laterally with respect to the direction of application of force to said transverse partition to break bonds between ice blocks and their compartment walls.

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