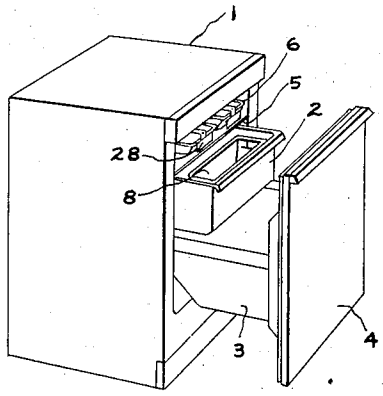
Aug. 18, 1959 A. W. CAREW 2,899,804

ICE EJECTING AND STORAGE MEANS

Filed Feb. 28, 1958

FIG. 1



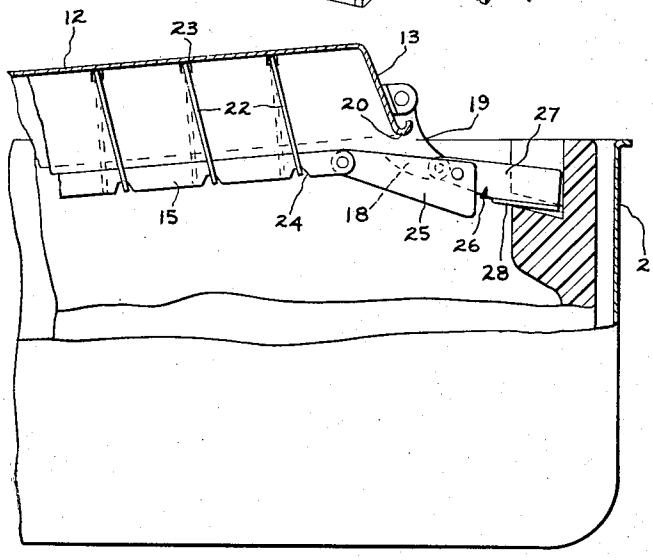


FIG. 3

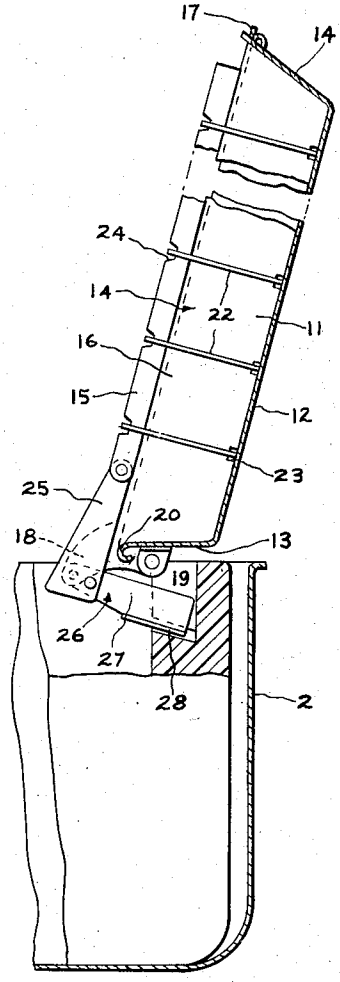


FIG. 2

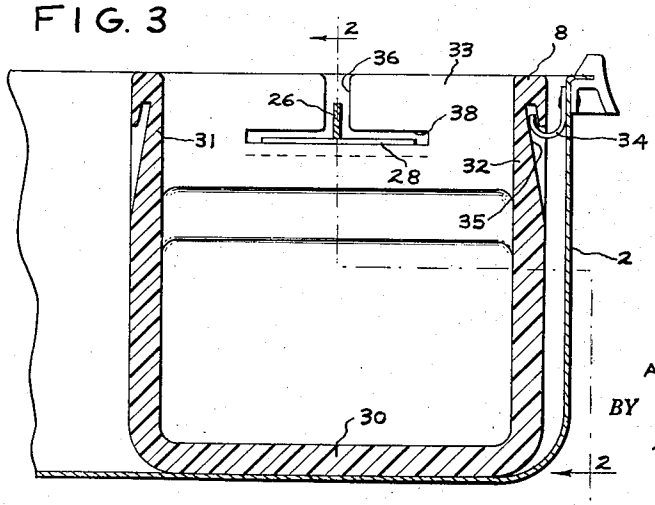


FIG. 4

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United States Patent Office 2,899,804 Patented Aug. 18, 1959

2,899,804

ICE EJECTING AND STORAGE MEANS

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Application February 28, 1958, Serial No. 718,300

2 Claims. (Cl. 62—344)

The present invention relates to ice ejecting and storage means and is more particularly concerned with an improved storage bucket arrangement for ejecting ice blocks from a freezing tray and storing the ejected blocks.

An object of the present invention is to provide an improved combination of a freezing tray of the type comprising a movable grid structure for loosening ice blocks formed in the tray and ice receiving and storage bucket including means for supporting the freezing tray above the ice bucket and actuating the ice releasing grid structure whereby ice blocks released from the tray are discharged into the bucket.

A further object of the invention is to provide an improved ice receiving and storage bucket for use in combination with a freezing tray of the type including a grid structure adapted upon pivoting of a lever arm connected to the tray dividers to loosen ice from the tray, the storage bucket including means for receiving the lever on the tray and supporting the tray above the ice bucket whereby pivotal movement of the tray actuates the ice release mechanism to discharge ice blocks into the bucket.

Further objects and advantages of the present invention will become apparent from the following description, reference being made to the accompanying drawing, and the features of novelty which characterize the invention will be pointed out with particularity in the claims annexed to and forming a part of the present description.

In the drawing:

Fig. 1 is a view of a household freezer with the storage drawers partially open to show the arrangement of the ice bucket and freezing trays within the freezing chamber;

Fig. 2 is a partial sectional view taken along line 2—2 of Fig. 4 and showing a portion of the ice bucket with the freezing tray supported thereon prior to ejection of the ice blocks therefrom;

Fig. 3 is a view similar to Fig. 2 with the tray in the position occupied thereby after ejection of the ice blocks; and

Fig. 4 is a sectional view of the ice bucket and a portion of the one storage drawer of the cabinet of Fig. 1.

Briefly described the present invention comprises an ice receiving and storage bucket for use in combination with the freezing tray of the type comprising an elongated tray, a grid structure including a plurality of transverse dividers, the structure being secured in the tray for limited movement relative thereto, and a lever arm for effecting pivotal movement of the dividers relative to the tray to release the ice blocks formed in the tray. The lever arm is pivotally secured to the grid structure in such a manner that pivotal movement of the arm relative to the tray and grid causes tilting movement of the dividers for loosening of the ice blocks. The receiving and storage bucket employed in combination with such a tray for ejecting and receiving the ice blocks from the tray and for storing these blocks comprises a T-shaped slot in one end wall of the bucket for removably

receiving the T-shaped lever handle on the tray in such a manner that the tray is supported above the end wall and facing the open top of the bucket whereby pressure applied to the bottom of the tray will cause it to pivot about the handle support downwardly towards the bucket thereby causing the T-shaped handle or lever to actuate the dividers and discharge the ice blocks into the bucket.

For a more detailed description of the invention, reference may be made to the drawing wherein the invention is illustrated for use in connection with a refrigerated cabinet 1 provided with a pair of storage drawers 2 and 3, the access opening to the cabinet being closed by the drawer front 4 connected to the lower drawer 3. It is to be understood that the cabinet is refrigerated by means of a suitable refrigerating apparatus including an evaporator structure positioned within the cabinet and comprising in part a freezing shelf 5 extending along the top of the cabinet. For the formation of ice blocks there is provided a plurality of trays 6 which are normally positioned on the freezing shelf 5, to be refrigerated thereby. Positioned in one of the storage drawers, for example the storage drawer 2, and removably supported therein is an ice receiving and storage bucket 8. The bucket 8, in accordance with the present invention, is designed for use with and in combination with the freezing trays 6 in such a manner that ice ejected from the freezing trays is automatically dropped into the bucket 8.

Each of the freezing trays or devices 6 are of the well-known type in which movement of the grid structure relative to the tray by means of a lever arm connected to the grid structure breaks the bond between the ice blocks and the tray and grid surfaces so that the blocks will drop from the tray when it is turned upside down. This type of freezing device includes an elongated tray portion 11 having a bottom wall 12 and a plurality of outwardly sloping side walls including end walls 13 and 14. The tray is divided into a plurality of pockets by a grid including a longitudinal divider 14 comprising relatively movable upper and lower sections 15 and 16. One end of the longitudinal divider portion 16 extends through an opening 17 at the end wall 14 of the tray for the purpose of anchoring this end of the grid structure in the tray. The opposite end of this portion 16 of the divider includes an upwardly extending portion 18 extending outwardly over the end wall 13 of the tray and having affixed thereto a downwardly extending arm 19 which engages the outer surface of the end wall 13 of the tray below the flange 20 for the purpose of anchoring this end of the grid structure in the tray. A plurality of transverse dividers 22 are loosely mounted on the longitudinal divider structure so that relative movement of portions 15 and 16 imparts a tilting movement of the dividers 22 relative to the tray. For this purpose the lower edge of the dividers are received in slots 23 of the portion 16 and their upper edges in slots 24 in portion 15. Thus the transverse dividers 22 may be tilted relative to the tray upon relative movement of the portions 15 and 16 of the longitudinal divider whereby the bond between the tray and grid surfaces and ice blocks formed in the sections or pockets defined by the tray and grid structure can be broken.

For causing this tilting movement of the transverse dividers 22, the portion 15 of the longitudinal divider is connected by means of a link 25 to a lever arm 26 pivotally mounted on the upwardly extending arm 18 forming part of the lower portion 16 of the longitudinal divider. The T-shaped lever 26 includes an arm portion 27 which normally extends downwardly along and outside of the end wall 13 of the tray and for the purpose of the present invention a flat handle or cross portion 28. This end cross portion of the lever 26 provides means

for removing the tray from the storage shelf **5** and, in accordance with the present invention, means for cooperation with the ice bucket **8** for supporting the tray on the bucket and actuating the grid structure to release the ice blocks into the bucket **8**.

The ice bucket **8** forming part of the present invention is designed for supporting the freezing device **6** in such a position that actuation of the grid structure effects discharge of the ice blocks into the bucket. The bucket is of a generally elongated shape comparable to that of the freezing tray and comprises a bottom wall **30**, side walls **31** and **32**, and end walls, only one of which is shown as indicated by numeral **33**. The ice bucket is adapted to be removably supported in the upper drawer **2** by a hook **34** secured to the drawer and adapted to engage one of the slots **35** provided in the side walls **31** and **32** of the bucket.

End wall **33** is provided with a T-shaped slot **36** having substantially the same configuration as the actuating lever arm **26** of the freezing tray and so positioned that when the arm **26** is inserted into the slot **36**, the tray is supported above the bucket **8** in a substantially vertical position as shown in Fig. 2 with the top of the tray facing the bucket **8**.

With the tray in this position, the flat cross portion **28** of the lever **26** is so disposed within the narrow transverse portion **38** and is supported by the bucket that the tray can be moved from the position shown in Fig. 2 to the position shown in Fig. 3 without dislodging the lever arm **26** from the slot **36**. During this movement, relative pivoting of the lever **26** and the tray causes the section **15** of the longitudinal divider to move longitudinally with respect to the section **16** thereby causing a tilting action of the transverse dividers **22** to effect release of the ice blocks from the freezing tray. As the tray approaches the position of Fig. 3, these blocks drop into the bucket **8** in which they can be stored until used. Normally, the bucket containing the blocks will be stored in the drawer **2** from which it can be removed as required.

From the above description it will be seen that there has been provided a simple ice block harvesting arrangement comprising cooperating ice storage means in the form of a bucket **8** and freezing device in the form of a tray **6** and its associated grid and grid actuating structure. The arrangement permits harvesting of the ice from the tray into the ice bucket when the bucket is either stored within the drawer **2** or placed on a kitchen work surface.

While the present invention has been described in connection with the particular embodiment thereof, it is to be understood that it is not restricted thereto and it is intended by the appended claims to cover all such

modifications as come within the true spirit and scope of the invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In combination, a portable ice receiving and storage bucket and a freezing tray of the type comprising an elongated tray and a grid structure secured in said tray for limited movement relative thereto, said grid structure including a plurality of transverse dividers dividing said tray into a plurality of sections and arranged for tilting movement relative to said tray to loosen ice blocks frozen in said sections, means for tilting said inclined dividers relative to said tray, said tilting means including a T-shaped lever arm having a flat cross portion, said arm being pivotally secured to said grid and extending beyond one end of said tray and adapted upon pivotal movement relative to said tray to tilt said dividers for releasing said ice blocks; said ice bucket including an end wall having a T-shaped slot therein for receiving said lever arm and for supporting said tray by means of said portion in a substantially vertical position above said end wall of said bucket with the top of said tray facing said bucket whereby pivotal movement of said tray towards said bucket with said flat portion engaging said slot actuates said dividers to release and discharge ice blocks into said bucket.

2. A portable ice receiving and storage bucket for use in combination with a freezing tray of the type comprising an elongated tray, a grid structure secured in said tray for limited movement relative thereto and including a plurality of transverse dividers dividing said tray into a plurality of sections and arranged for tilting movement relative to said tray to loosen ice blocks frozen in said sections, means for tilting said inclined dividers relative to said tray including a T-shaped lever arm having a flat cross portion, said lever arm being pivotally secured to said grid and extending beyond one end of said tray and adapted upon pivotal movement relative to said tray to tilt said dividers for releasing said ice blocks; said ice bucket including an end wall having a T-shaped slot therein for receiving said T-shaped lever arm and for supporting said tray by means of said handle in a substantially vertical position above said end wall of said bucket with the top of said tray facing said bucket whereby pivotal movement of said tray towards said bucket with said lever arm engaging said slot actuates said dividers to release and discharge ice blocks into said bucket.

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