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ICE CUBE DISPENSING AND STORAGE DEVICE

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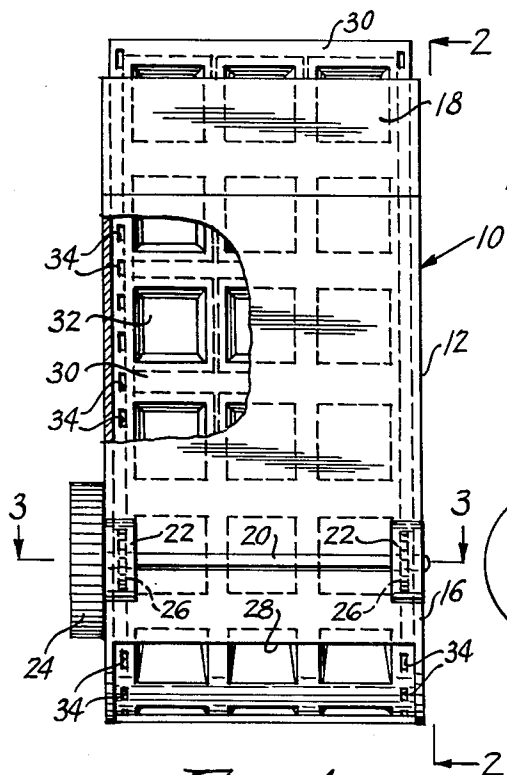


FIG. 1

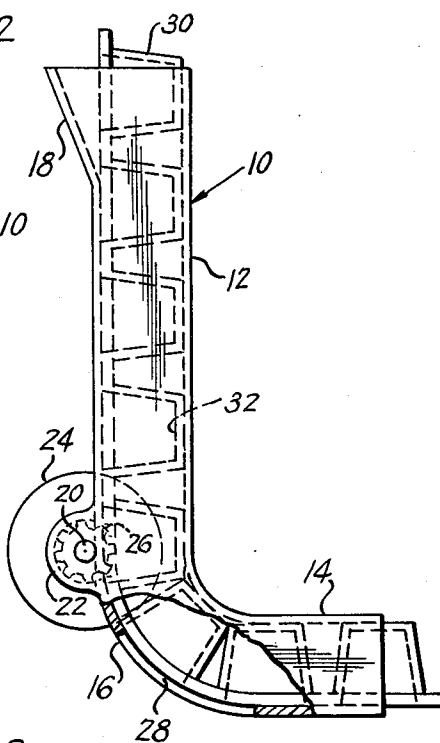


FIG. 2

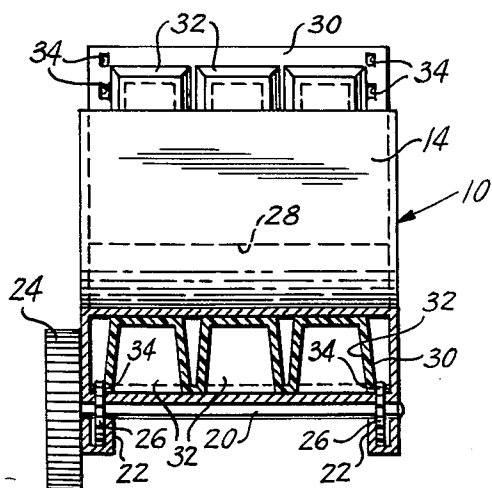


FIG. 3

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ICE CUBE DISPENSING AND STORAGE DEVICE

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2 Claims. (Cl. 221-64)

This invention relates to an ice cube dispenser and storage device, and it particularly relates to a device of this type which is adapted to dispense the ice cubes in selective amounts.

The usual method of obtaining ice cubes heretofore was to take a full tray of cubes from the freezing compartment of a refrigerator and, even when only one or a few cubes were desired, break the grip between the tray and the cubes resulting in elimination therefrom of all or at least most of the cubes. Then the tray had to be completely refilled with water and replaced in the freezing compartment to make a new quantity of cubes. When only one or a few cubes were desired, the remaining cubes which were necessarily forced from the tray in order to remove the desired few, were thrown away or otherwise wasted. It was therefore not only necessary to exert a large amount of effort to break the frozen grip of the tray on the cubes but, most of this effort went for naught since most of the cubes were ordinarily wasted.

It is one object of the present invention to overcome the above and other disadvantages of the prior type ice cube dispensing and storage means by providing a device which is capable of storing the ice cubes until needed and which can then be easily and simply manipulated to automatically eject the desired number of cubes directly into a glass or other container.

Another object of the present invention is to provide a dispensing and storage device for ice cubes which is simple in construction and easily installed in any standard refrigerator.

Other objects of the present invention are to provide an improved dispensing and storage device, of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly efficient in operation.

With the above and related objects in view, this invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing in which:

FIG. 1 is a front elevational view of a dispensing and storage device embodying the present invention;

FIG. 2 is a side view taken on line 2-2 of FIG. 1; and

FIG. 3 is a sectional view taken on line 3-3 of FIG. 1.

Referring in greater detail to the drawing wherein similar reference characters refer to similar parts, there is shown a housing 10 comprising a vertical section 12 and a horizontal section 14 integrally connected by an elbow portion 16.

At the upper end of section 12 is provided an enlarged mouth 18 which merges with the open upper end of the section 12 itself (as best seen in FIG. 2).

On the section 12, just above the elbow portion 16 is provided a transverse shaft 20; this shaft 20 having its ends rotatably positioned in bearings 22 attached to section 12. The shaft 20 is provided at one end with a knurled or grooved turning knob 24, this knob being arranged outwardly of the adjacent bearing 22 (as best shown in FIG. 3). Also, spaced inwardly of the knob 24 at one end and of the endmost portion of the other end of the shaft 20 are a pair of sprockets 26. These sprockets 26 are arranged to fit into the hollow bearings

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22 (as shown in FIG. 3) and a portion of their peripheries extend through corresponding slots in the front wall of section 12.

In the elbow portion 16, at the front wall portion thereof (as best shown in FIG. 2) is provided an aperture 28 extending transversely across the width of the front wall of the elbow portion (as best shown in FIG. 1). This aperture or slot 28 serves as the dispensing aperture for the ice cubes.

The housing 10 and its associated parts is adapted to be connected to the freezer compartment of a refrigerator as by clips, spring clips, or any other desired connecting means. Furthermore, its curvature is such that it easily fits outside the curve of an ordinary freezer compartment.

The ice cube tray 30 adapted to coact with the housing 10 comprises a tray constructed of pliable material such as rubber, a polyethylene or the like in contrast to the housing 10 which is constructed of a relatively rigid material such as metal, hard rubber, hard plastic or the like.

The tray 30 is illustrated as comprising a plurality of cube compartments 32 arranged in three laterally-spaced rows; however, this is for illustrative purposes only since the number and position of the compartments 32 may be varied as desired. In any case, however, the dispensing slot 28 should coincide with the extent and positions of the cube compartments.

In addition to its cube compartments 32, the tray 30 is provided with a linear series of spaced slots or openings 34 along each longitudinal edge thereof outwardly of the compartments 32. These slots 34 are somewhat similar to the perforations on the edges of a strip of moving picture film and act in a similar manner. In other words, the sprocket teeth of sprockets 26 are adapted to successively engage within the slots 34 as the knob 24 is turned whereby the tray 30 is advanced downwardly with each rotation of the knob 24.

As the tray 30 is advanced through the elbow portion 16, the compartments 32 are successively bent or spread apart by the bending action of the elbow portion 16 resulting in an ejection of the ice cubes held therein. These ejected cubes then fall through the dispensing slot 28 into a glass or other receptacle.

The housing 10 is not used to originally make the ice cubes from the water; the cubes first being made by placing the liquid in the tray and placing the tray in the freezing compartment in the ordinary manner. However, once the cubes are made, the tray, with the cubes therein, may be inserted into the widened upper open end of the housing 10 and kept there until ice cubes are desired. At such time, the knob 24 is turned to release the number of cubes desired, after which the tray 30 with the remaining cubes therein remains in the new position within the housing 10 until the next dispensing movement. When all the cubes have been used up, the tray 30 is removed and a freshly loaded tray is inserted.

Although this invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

Having thus set forth and described the nature of this invention, what is claimed is:

1. An ice cube storage and dispensing assembly device arranged for use in a conventional refrigerator comprising in combination a separable, independent ice cube freezing and dispensing flexible tray, and an ice cube dispensing housing for said tray, said tray comprising a plurality of longitudinally spaced apart ice cube compartments each open at one end, a flexible connecting wall securing said compartments together solely at their open

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ends, a plurality of sprocket teeth receiving apertures extending longitudinally of said tray wall, said tray being rectangular both in elevation and in cross section and arranged for freezing ice cubes in a conventional refrigerator freezing compartment, said dispensing housing being hollow and rectangular in cross section and of a size to permit said tray to pass therethrough, said housing comprising two substantially straight sections at right angles to each other and a connecting curved elbow section connecting the adjacent ends of said straight sections together, the other end of one section of said housing having an enlarged mouth for inserting said tray therein, the other end of the other section being open to discharge said tray therefrom, an ice cube discharging aperture on the outside of the curve of said elbow section, sprocket tray advancing means in said housing cooperating with said sprocket teeth receiving apertures in said tray wall, means for operating said sprocket tray advancing means to advance said tray from one straight section of said housing through said curved elbow section toward and through the other straight section of said housing to thereby discharge ice cubes from said open compartments through said elbow dispensing aperture as said tray bends as it advances therethrough from one housing section to the other housing section.

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2. The device of claim 1, said sprocket teeth receiving apertures extending longitudinally along both longitudinal edges of said tray wall, said sprocket tray advancing means comprising a sprocket shaft journaled transversely through said housing, a control knob on said shaft exteriorly of said housing, and a pair of toothed sprockets positioned on said shaft to cooperate with said tray wall sprocket teeth receiving apertures.

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