

Sept. 3, 1957

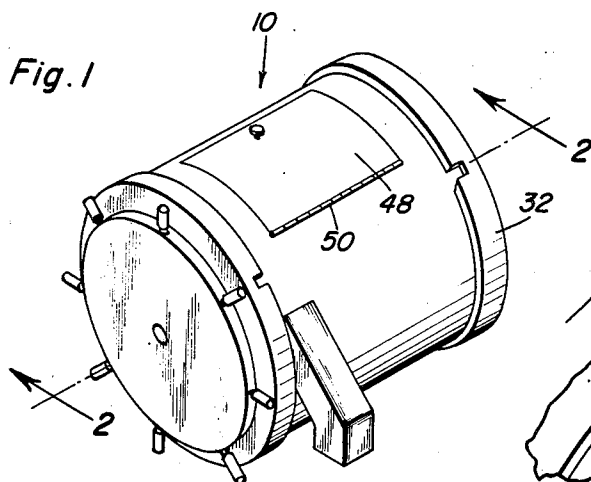
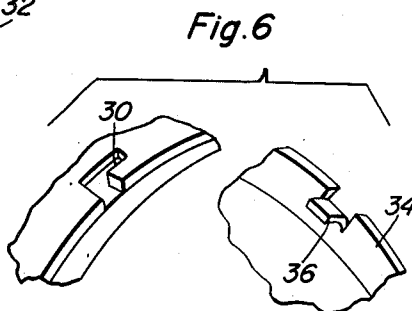
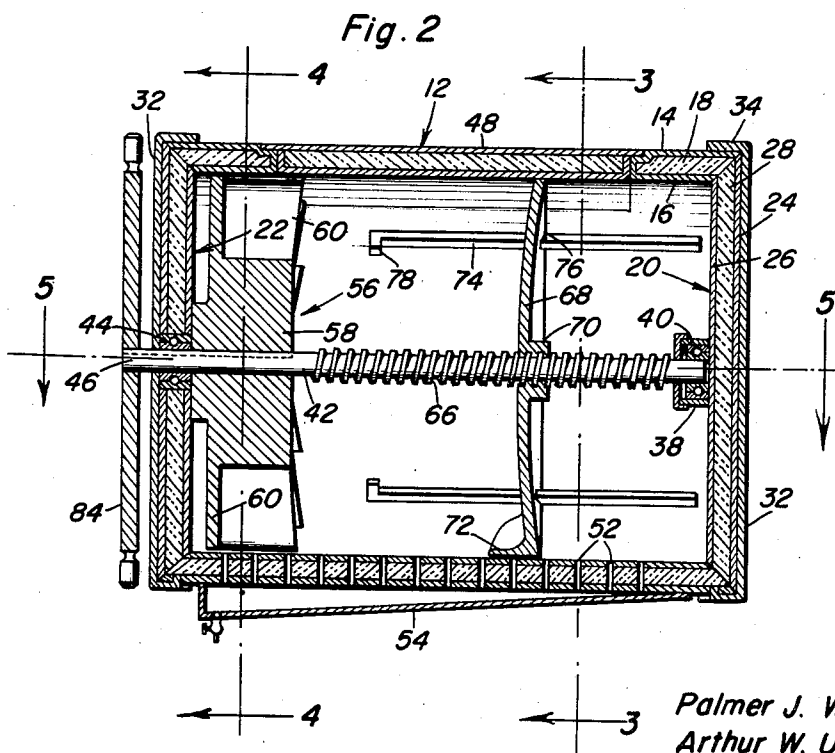
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2,804,996

ICE CUBE CONTAINER AND DISPENSER

Filed March 14, 1955

2 Sheets-Sheet 1



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Fig. 3

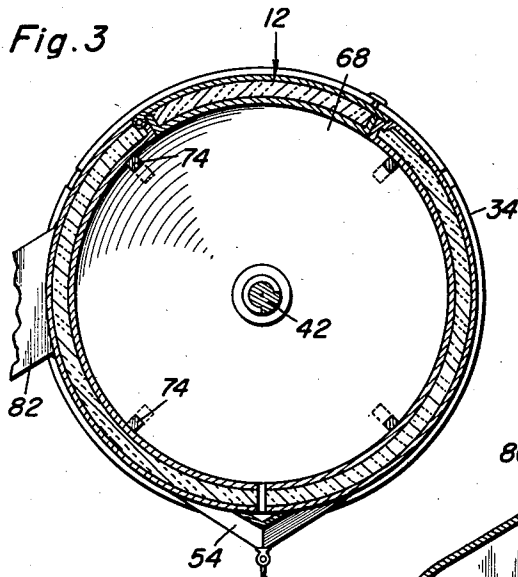
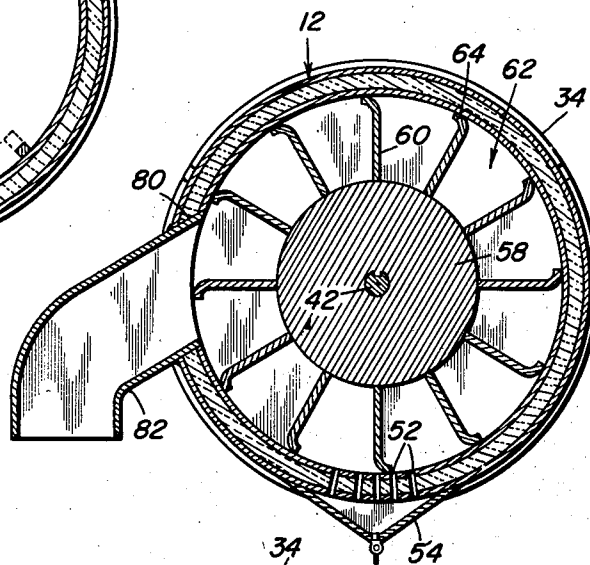
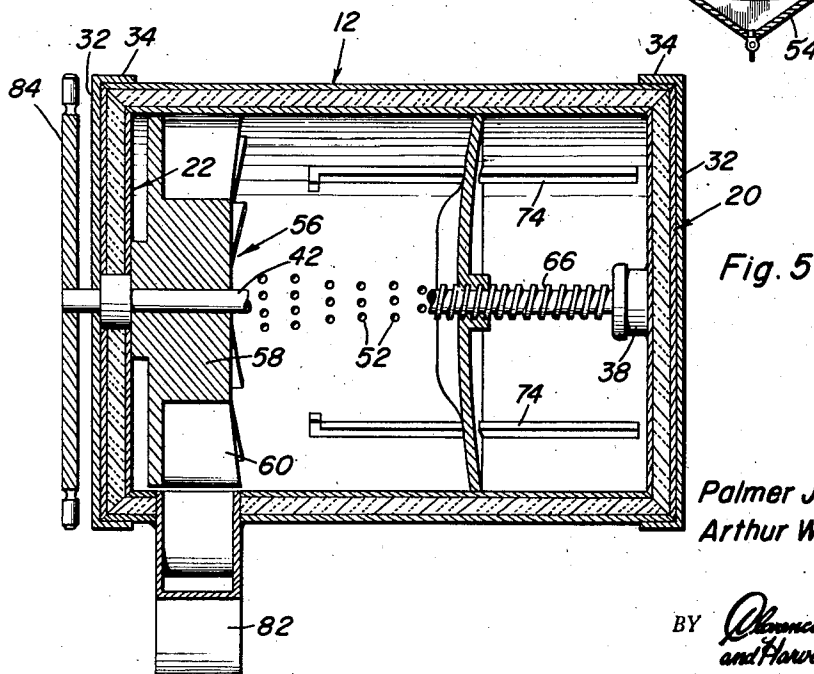


Fig. 4



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ICE CUBE CONTAINER AND DISPENSER

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Application March 14, 1955, Serial No. 494,130

6 Claims. (Cl. 222—108)

The present invention relates to an apparatus for holding and dispensing ice cubes in discrete quantities and in a sanitary manner therefrom.

The primary object of the invention is in the provision of a compact, inexpensive and efficient apparatus for retaining ice cubes therein in a cold condition while at the same time providing means for dispensing ice cubes therefrom in discrete quantities without the necessity of exposing the interior of the container to the atmosphere.

A most important object of the invention is in the provision of an ice cube container and dispenser comprising an elongated, insulated, cylindrical drum having a shaft extending axially therethrough with a dispensing device on the shaft and a feed plate movable in response to rotation of the shaft for feeding ice cubes to the dispensing device from which, in turn, they are dispensed from the container; thus, it is an object of the invention to provide an ice cube container and dispenser wherein the ice cubes are fed to the dispensing apparatus of the device and the dispensing apparatus actuated by virtue of the rotation of a single shaft.

It is a further object of the invention to provide an ice cube container and dispenser of the foregoing character wherein the same is provided with removable end plates for ready access to the interior thereof for cleaning and repair.

A still further object of the invention is in the provision of an ice cube holding drum having drain orifices throughout the length of the bottom thereof for removing as it is formed melted liquid from the interior of the drum and conducting such melted liquid to a reservoir exteriorly of the drum whereby the reservoir may serve as a portion of the body of the insulation of the drum without exposing the drain ports to the atmosphere.

These, together with other objects and advantages which will become subsequently apparent, reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the ice cube container and dispenser constituting the invention;

Figure 2 is a longitudinal cross-sectional view through the container taken substantially along the plane of section line 2—2 of Figure 1;

Figure 3 is a transverse cross-sectional view through the container taken substantially along the plane of section line 3—3 of Figure 2;

Figure 4 is a transverse cross-sectional view through another portion of the container taken substantially along the plane of section line 4—4 of Figure 2;

Figure 5 is a horizontal cross-sectional view through the container taken substantially along the plane of section line 5—5 of Figure 2; and

Figure 6 is an exploded, detail view of the connection of the end plates to the drum.

Referring to the drawings in detail, the ice cube container and dispenser constituting the present invention is

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designated in its entirety by the numeral 10. The same consists essentially of an elongated, cylindrical drum 12. The side wall of the drum is composed of outer and inner spaced, metal sleeves or the like 14 and 16 separated from one another by a layer of insulation 18.

The ends 20 and 22 of the drum are similarly formed of outer and inner plates 24 and 26, respectively, separated by a layer of insulating material 28.

The end edges of the outer wall of the side wall 12 of the drum are provided with bayonet slots 30 therein.

Removable end plates 32 have annular flanges 34 forming the rim thereof, the flanges having inturned lugs 36 struck inwardly therefrom at spaced points therealong for releasable locking engagement with the bayonet slots 30.

Upon release of the removable end plates 32 from the ends of the drum 12, the end walls 20 and 22 of the drum may simply be removed therefrom.

On the inner surface thereof, end wall 20 has axially mounted a bearing housing 38 containing bearing 40 in which is journaled one end of an elongated shaft 42.

Mounted axially within the end wall 22 is a bearing 44 through which the other end portion of the shaft 42 is rotatably journaled, the free end 46 of the shaft extending beyond the end wall 22 of the drum.

A top loading door 48 is hinged attached by means of a hinge 50 to the top of the drum 12 intermediate the ends thereof whereby the drum may be loaded with ice cubes.

The bottom of the drum is provided with a plurality of drain orifices or apertures 52 extending therealong for draining melted liquid from the drum.

Mounted on the bottom of the drum and extending longitudinally therealong sloping downwardly from the end 20 of the drum toward the end 22 thereof is a drain reservoir 54 for trapping liquid passing through the drain orifices 52 whereby such liquid may serve as an additional insulating barrier for the drum to retain the internal temperature thereof sufficiently cold to prevent any excess melting of the ice cubes within the drum.

By virtue of the proper drainage of the liquid from the drum, there is little, if any, tendency for the ice cubes disposed within the drum to adhere to one another and they remain substantially free for movement with respect to one another.

Within the drum 12 and keyed to the end portion of the shaft 42 adjacent the end 22 of the drum is a dispensing wheel 56. The dispensing wheel comprises an enlarged hub 58 in the backing disk 59, the circumferential edge of which terminates immediately adjacent, although not touching, preferably, the inner wall surface of the drum side wall. Projecting radially outwardly from the cylindrical wall of the hub 58 at circumferentially spaced intervals therearound are longitudinally extending blades 60, the rearward edges of which are joined to the disk portion 59 of the wheel and the forward edges of which are disposed in opposed facing relation with end 20 of the drum. As will be noted from an examination of Figure 2 particularly, the wall of the wheel 56 facing the end 20 of the drum and including the forward edges of the blades 60 form a generally concave pattern.

The spaces between the blades 60 constitute ice cube receiving pockets 62 and the top edge of each of the blades 60 is inwardly bent to overlie a pocket, as at 64, to retain ice cubes therein as the same are pressed toward the wheel.

The portion of the shaft 42 extending beyond the wheel toward the end 20 of the drum is threaded, as at 66, and a feed plate 68 has the hub 70 thereof threadedly received on the threaded portion 66 of the shaft 42. The face of the cylindrical plate 68 constituting the feed plate is convex to complement the concavity of the facing wall of the dispensing wheel 56.

The bottom edge portion of the feed plate 68 is formed with a rearwardly projecting lip 72 for scooping ice cubes from the bottom of the drum as the plate is moved toward the dispensing wheel 56.

The drum 12 is provided on the interior thereof at circumferentially spaced intervals therealong with longitudinally extending guides 74. The feed plate 68 is provided on its peripheral edge with notches 76 whereby the plate is slidably and non-rotatably mounted within the drum so that the same will move longitudinally within the drum upon rotation of the shaft 42. The rearward ends of the guides 74 disposed adjacent the forward end wall of the dispensing wheel 56 are turned radially inwardly toward the axis of the drum as at 78 to form the stops for the forward movement of the feed plate 68.

Adjacent the forward end and opening into the side of the side wall thereof, the drum is provided with a dispensing opening 80 having a dispensing spout 82 leading therefrom.

A ship's wheel 84 is keyed or otherwise secured fixedly to the end 46 of the shaft projecting beyond the forward end 22 of the drum. By rotating wheel 84, the shaft 42 is in turn rotated, which causes the feed plate 68 to move. Upon rotation of the wheel 84 in a clockwise direction, the feed plate 68 moves toward the dispensing wheel 56 so that ice cubes within the drum are forced into the pockets 62 formed between the blades 60.

As the wheel 56 rotates, ice cubes are dispensed from the opening 80 through the dispensing spout 82 into a suitable receptacle or the like. With this arrangement, the drum retains its capacity as a sealed unit for yet providing means for simply and quickly dispensing ice cubes in discrete amounts, the amounts being equal to the amount retained in each of the pockets 62 and being controlled by the amount of rotation of the shaft 42.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A dispensing apparatus for delivering ice cubes in unaltered form comprising an elongated, insulated cylindrical drum, a shaft extending axially through said drum, bearings rotatably journaling said shaft in the ends of said drum, a dispensing wheel disposed within said drum adjacent one end thereof, said dispensing wheel comprising a hub fixed on said shaft for rotation therewith, a plurality of circumferentially spaced, flat blades extending outward from said hub and forming with said hub a plurality of ice cube receiving pockets therebetween, each pocket being closed at its rear, said shaft having a threaded portion within said drum, a feed plate threadedly received on the threaded portion of said shaft, guide means including a rib and slot within said drum slidably and non-rotatably retaining said feed plate therewithin, said drum having a dispensing opening therein adjacent said dispensing wheel, at least one end of said shaft projecting beyond said drum, and means on said one end of said shaft for rotating said shaft.
2. The combination of claim 1, and said drum having drain orifices in the bottom thereof.
3. The combination of claim 2, and said drum having a door in the top thereof.
4. The combination of claim 3, and said drum having removable end plates thereon.
5. The combination of claim 4, and said drum having a spout leading from said dispensing opening.
6. The combination of claim 1, and the body of said drum comprising outer and inner walls spaced from one another with a layer of insulating material therebetween.

References Cited in the file of this patent

UNITED STATES PATENTS

679,879	Bronori	Aug. 6, 1901
950,959	Riggs	Mar. 1, 1910
1,700,218	Eisenstat	Jan. 29, 1929
1,760,404	Funk	May 27, 1930
2,176,823	Richardson	Oct. 17, 1939