July 28, 1925. 1,547,709

R. WINFREE

CAN FOR FREEZING ICE

Filed April 18, 1922

FIG. 2.

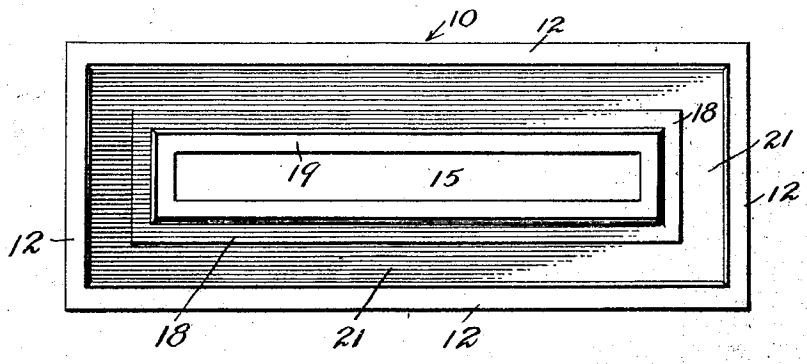
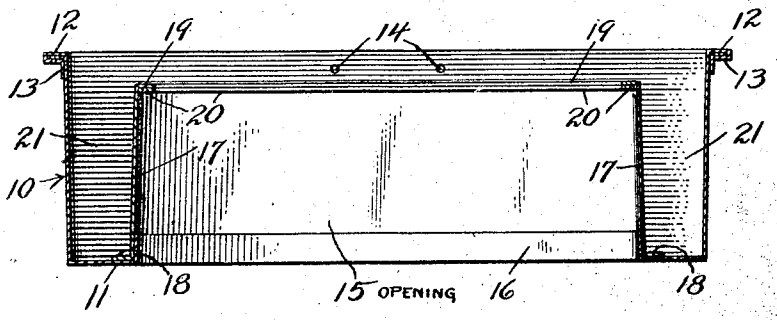


FIG. 1.



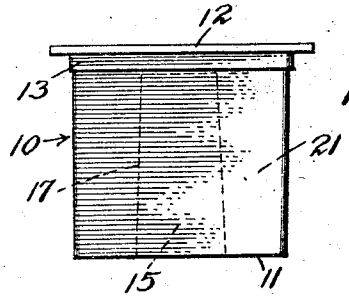


FIG. 3.

Inventor:
Reuben Winfree

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UNITED STATES PATENT OFFICE.

REUBEN WINFREE, OF SALISBURY, MISSOURI.

CAN FOR FREEZING ICE.

Application filed April 18, 1922. Serial No. 555,430.

To all whom it may concern:

Be it known that I, REUBEN WINFREE, a citizen of the United States, and a resident of Salisbury, in the county of Chariton and State of Missouri, have invented certain new and useful Improvements in Cans for Freezing Ice, of which the following is a specification.

This invention relates to cans for freezing ice in such a manner that blocks of ice can be formed by natural temperature, or by freezing mixtures in a vat, in less time and at less expense than is possible with the conventional cans in common use.

An object of the invention is to produce an ice can having a central opening therethrough so that a greater superficial area is presented to the refrigerant.

Another object is to produce an ice can comprising a container having an opening in the bottom of the same and a wall surrounding such opening and extending upwardly into the container.

Another object is to provide a can for freezing ice, comprising a container having an opening in the bottom and a wall surrounding such opening and extending upwardly into the container, said wall inclined inwardly.

Another object is to provide a can for freezing ice comprising a container having an opening in its bottom having a wall surrounding such opening and extending upwardly into the container, and having an outer surrounding wall extending upwardly from the bottom and inclined outwardly providing a can having its upper end larger than its lower end.

Other objects and advantages will appear as the description of the construction and arrangement of parts proceeds and as shown in the drawings forming a part hereof, the novel characteristics of the invention being set forth in the appended claims.

In the drawing:

Figure 1 is a vertical longitudinal section of the can;

Figure 2 is a top plan view of the same;

Figure 3 is an end view.

In carrying my invention into effect I provide a container 10 of suitable size and shape, such shape being generally rectangular and elongated, the same being preferably larger at the top than at the bottom in order to facilitate the removal of the ice block.

The can has a bottom 11 and the top is turned over and outwardly to form a flange 12, and a band 13 is put around the can immediately beneath flange 12 and riveted or otherwise suitably secured, to give it strength; lifting holes 14 are punched through the opposite sides and the band, said holes being about six (6) inches from the longitudinal center of the can. An elongated rectangular opening 15 is made in the bottom 11 and the edges turned upward to form an upright flange 16 over which is placed the inner wall 17 of the inner can having a bottom horizontal flange 18 resting on the bottom 11 and surrounding said opening. The wall 17 is riveted and soldered down to the bottom of the can 10 and the flange 16 is riveted and soldered to the inside of wall 17 to make a perfectly tight joint.

The top of the inner can formed by the walls 17 is slightly smaller than at the bottom and is turned inwardly to form a horizontal flange 19 to the underside of which is riveted and soldered the band or frame 20 to reinforce and strengthen same.

By the construction and arrangement of the parts as hereinbefore set forth, an annular chamber 21 of elongated rectangular shape is provided which is larger at its upper end than at its bottom so that it flares upwardly to facilitate ready removal of the ice block, and the upper ends of both the inner and outer walls are flanged and reinforced.

By providing the inwardlly projecting flange 19 on the inner can walls 17, splashing or running over of the brine or other refrigerant when such is used, is prevented, and the ice block protected from such refrigerant. These flanges also provide a means to receive hooks or tongs for lifting the can or transporting the same. In the absence of hooks or tongs, a bar may be inserted in the opening 15, and turned to engage under flanges 19 to lift the can. The lifting function can also be carried out with the flange 12 on container 10.

In the practical use of the device, the space 21 of the can is filled with water up to about level of the flanges 19, and then set in position to be frozen either by natural air or set into a tank of brine or other

refrigerant, the depth of such refrigerant being such that its upper surface is just below the reinforced flanges 19.

The usual manner of freezing blocks of ice is in large cans without a core and the time required to freeze ice is equal to the square of the thickness to be frozen. That is, it takes four times as long to freeze two inch ice as it does to freeze one inch, hence with the ordinary type of can in which the ice begins to freeze at the bottom and freezes two or three inches before there is any sign of freezing at the top it will take much greater time to freeze the upper half of the block than it does the lower half, the trouble being to freeze the center of the block.

By my construction this trouble is removed as the center of my can is an open space filled with brine which is the refrigerant and a greater superficial area of water is presented for action of the refrigerant.

From the above it will be plain that by the use of my improved can, ice can be frozen in much less time and at less expense.

Having thus described my invention what I claim is:

1. A can for freezing ice in blocks, comprising a rectangular container having outwardly inclined outer walls and a rectangular opening in its bottom, an upwardly extending flange surrounding said opening, an inner wall surrounding said flange and rigidly secured thereto to form a tight joint, said inner wall being inclined inwardly and extending upwardly into the container, the upper end of said inner wall being provided with an inwardly projecting annular flange whereby to provide a lifting means, and defining a rectangular opening through the can.

2. A can for freezing ice in blocks comprising a rectangular container having outwardly flaring outer walls and an opening in its bottom, the upper end of said wall provided with a reinforced outwardly extending horizontal annular flange, a reinforcing band surrounding said wall immediately below said flange, said band provided with hoisting openings, and a rectangular inner wall surrounding such opening in the bottom, inclined inwardlly and extending upwardly into said container, said inner and outer walls defining an annular freezing chamber larger at the top than at the bottom.

3. A can for freezing ice in blocks comprising a rectangular container having outwardly inclined outer walls and a rectangular opening in its bottom, an upright flange surrounding said opening, a rectangular inner wall surrounding said upright flange and having a horizontal flange at its lower end seated on the bottom of the container and rigidly secured thereto to form a tight joint between the bottom and the flange, said inner wall inclined inwardlly and extending upwardly into the container and defining a rectangular refrigerant chamber open at its top and bottom.

In testimony whereof I have hereunto set my hand this 1 day of December 1921 in the presence of two subscribing witnesses.

REUBEN WINFREE.

Witnesses:
S. F. TRAMMEL,
CHARLES SHIRE.