

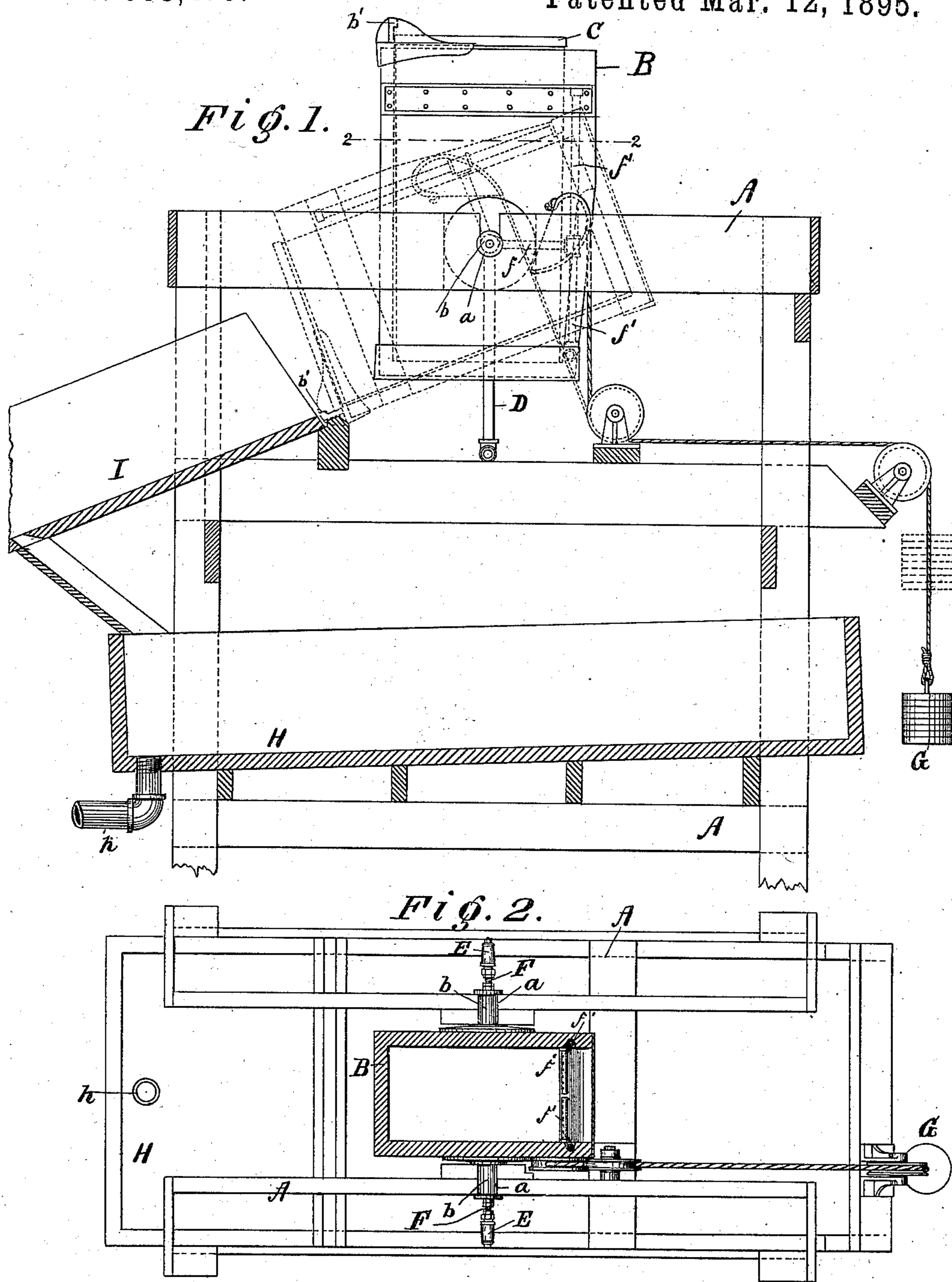
(No Model.)

2 Sheets—Sheet 1.

G. O. RINMAN.
ICE DISCHARGING APPARATUS.

No. 535,415.

Patented Mar. 12, 1895.



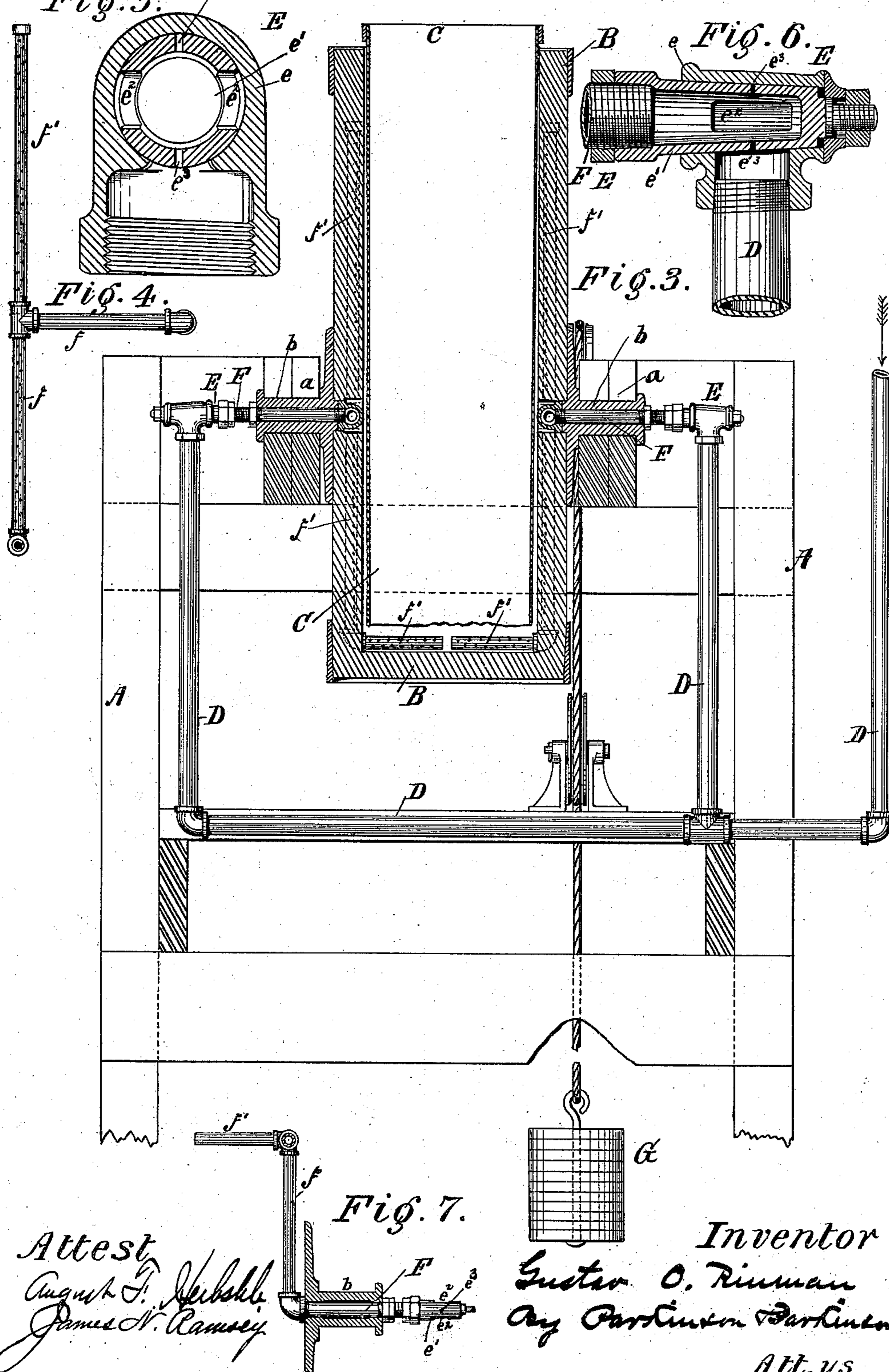
Attest
August F. Hubshel
James N. Ramsey

Inventor
Gustav O. Rinman
By Arthur W. Dickinson Att.ys.

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August J. Verbsky
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Inventor
Gustav O. Rinman
By Parkinson Parkinson
Att. y.s.

UNITED STATES PATENT OFFICE.

GUSTAV O. RINMAN, OF CINCINNATI, OHIO.

ICE-DISCHARGING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 535,415, dated March 12, 1895.

Application filed September 15, 1890. Serial No. 364,983. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV O. RINMAN, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain new and useful Improvement in Ice-Discharging Apparatus, of which the following is a specification.

Artificial ice is now commonly made in cans and considerable time and labor are expended and ice often wasted in getting it out of the cans.

The object of my invention is to provide means for automatically distributing water over the surface of the can and mechanism for automatically discharging the ice, and my invention consists in the apparatus herein-after described and claimed.

In the drawings: Figure 1 is a side view of the ice discharging apparatus, the frame being shown in section. Fig. 2 is a horizontal section on the line 2—2 of Fig. 1; Fig. 3, a vertical section through the tank and ice can showing the pipes in perspective. Fig. 4 is a side view of the branch and perforated pipes. Fig. 5 is a vertical cross-section through the stop-cock; Fig. 6, a vertical longitudinal section through the same; and Fig. 7 a top plan view showing the arrangement of pipes about the tank, the trunnion being shown in section.

A represents a frame having suitable bearings *a* for the trunnions *b* of a tank B adapted to receive an ice can C and so mounted and balanced that it will normally stand upright but that, when a filled ice can is placed within it, the center of gravity will be above the bearings and the can will tilt downward as indicated in dotted lines in Fig. 1.

D is a feed-pipe connecting through cocks E, consisting of casing *e* and plug *e'*, with pipes F taking through and adapted to rotate with the trunnions *b*. These pipes may serve as the trunnions or be integral therewith.

The pipes F are provided with branches *f* extending to those corners of the tank which are uppermost when the tank is tilted to discharge a cake of ice and connecting with perforated pipes *f'* extending along the upper side-corners and partly across the upper end-corner.

The tank is provided with a shoulder or flange *b'* adapted to engage with the ice can and prevent it from sliding out of the tank

when in its tilted position but so placed as not to prevent the ice from sliding out of the can.

G is a weight suitably connected with the tank and adapted to return it to its normal position.

H is a receptacle for the waste water and *h* the discharge pipe thereof.

I is a chute for the discharged ice.

The plugs *e'* of the cocks E being connected with the pipes F are rotated when the tank tilts and are so arranged that when the tank is in its upright position the valve-ports *e²* are closed. When the tank tilts the valve-ports open and permit the flow of water into the perforated pipes.

In addition to the regular ports *e²* the cocks are preferably provided with supplemental apertures *e³* which permit a small quantity of water to pass through the cock into the tank when the cocks are closed.

The operation is as follows: The tank being in its upright position, and the feed pipe connected with any suitable water supply, an ice can is placed in the tank, which immediately tilts forward into the position shown in dotted lines in Fig. 1, opening the valve-ports in its forward movement. The water which has escaped through the apertures *e³* will be in the bottom of the tank and the end of the can will at first be submerged therein. This water will flow out when the can is tilted, producing its effect chiefly upon the end and lower side of the can. As the tank tilts the water is discharged from the perforated pipes and flows over the upper and side and end surfaces of the can. The water is thus distributed with substantial uniformity over the entire surface of the can and the ice slides by gravity from the can the instant the melting effect of the warmer water has sufficiently decreased its adhesion to the interior of the can.

I claim as my invention—

1. The combination of the tilting tank B, the feed pipe D, the pipe F, the cock E connecting the feed pipe D with the pipe F, the pipe *f* projecting from the pipe F, and the pipe *f'* connecting with the pipe *f* and adapted to distribute the fluid for releasing the ice, substantially as and for the purpose specified.

2. The combination, in an ice discharging apparatus, of a tilting tank, distributing pipes

connected therewith, a feed pipe, and cocks provided with ports adapted to be opened and closed by the movement of the tank, and with supplemental apertures for permitting a small
5 quantity of water to pass through the cock into the tank when the main ports are closed, substantially as and for the purpose specified.

3. The combination of the tilting tank B adapted to receive an ice can and having the
10 ledge *b'* adapted to engage the ice can and retain it in the tank when tilted, the feed pipe D, the cock E, the pipe F, the cock being adapted to open and close communication

between the feed pipe and the pipe F, the pipe *f* extending from the pipe F across the
15 side of the tank, the perforated pipe *f'* extending along the upper portion of the tank when the same is tilted, and the weight G adapted to return the tank to its normal position after the ice has been discharged from
20 the tank, substantially as and for the purpose specified.

GUSTAV O. RINMAN.

Witnesses:

AUGUST F. HERBSLEB,
JAMES N. RAMSEY.