

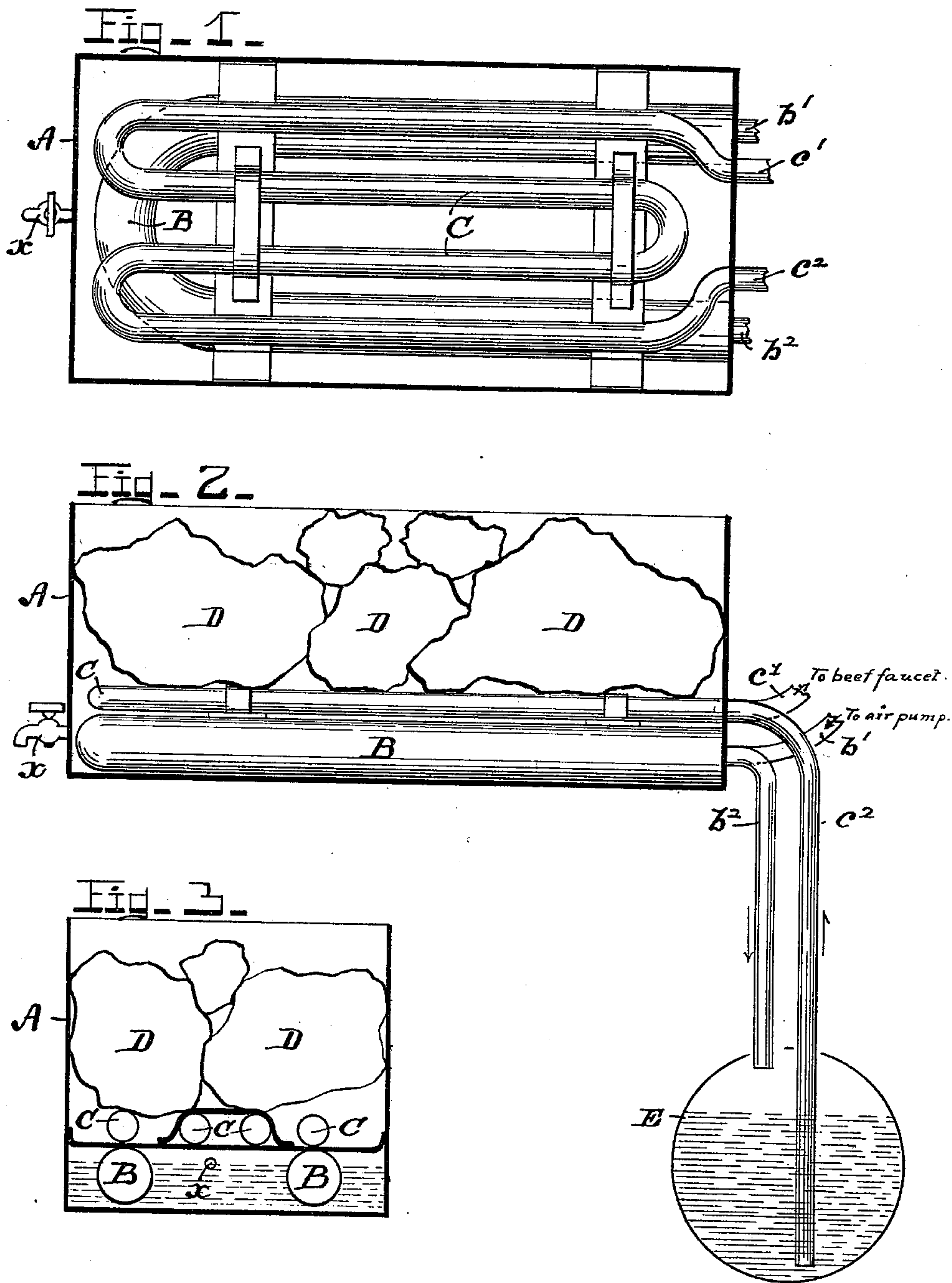
No. 619,808.

Patented Feb. 21, 1899.

O. ULRICHS.
REFRIGERATING DEVICE.

(Application filed Aug. 6, 1896.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

OTTO ULRICH, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO T. N. JAMIESON, TRUSTEE.

REFRIGERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 619,808, dated February 21, 1899.

Application filed August 6, 1896. Serial No. 601,849. (No model.)

To all whom it may concern:

Be it known that I, OTTO ULRICH, a citizen of the United States, residing at Chicago, Illinois, have invented new and useful Improvements in Refrigerating Devices, of which the following is a specification.

My invention relates to a novel construction in a refrigerating device, and has for its object to provide a refrigerating device of the kind in which the air employed to force liquid, such as beer, out of the barrel to the faucet is cooled prior to its admission to the barrel, in which an air-reservoir is provided which will hold a sufficient supply of cool air to keep the air-space in the liquid vessel constantly filled therewith independently of the quantity being drawn off in a specified time, and in which the coil through which the liquid passes on its way to the faucet serves as a grate to support the ice.

My invention consists in the features of construction and combinations of parts herein-after fully described and claimed.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the device; Fig. 2, a side elevation exhibiting the interior with blocks of ice and showing the air and liquid pipes connected with a cask, and Fig. 3 a cross-section.

Referring now to the drawings, A designates a box-shaped receptacle provided with two sets of pipe-coils, B an enlarged air-pipe or air-reservoir at the bottom intended to be immersed in the cold water from the melted ice, and C a smaller pipe arranged immediately over the air-pipe and forming a support for the ice-blocks D. The particular manner of coiling the pipes and the arrangement of them in the receptacle are not material; but a convenient construction is that shown, in which the receiving and discharge terminals b' b^2 of the air-cooling pipe and the similar terminals c' c^2 of the liquid-pipe are all carried out at the same end of the receptacle.

A overflow or drain cock x is provided to maintain the accumulation of water at a constant level and carry off the excess.

The mode of use is illustrated in Fig. 2 and is as follows: The terminal b^2 , for example,

is extended into the air-space of the cask E above its contained liquid, while the terminal c^2 is extended into the cask at the bottom of the liquid contents. The opposite terminals b' and c' are connected to the air-pump and the liquid-delivery faucet, respectively, (these not being shown in the drawings.) It will be apparent that air pumped into the cask to displace and discharge a portion of the liquid contents will become cooled in the coil B, so that gradually the air in the cask becomes cold and cools the entire liquid contents. The air-pipe b^2 is preferably made sufficiently large to permit a continuous circulation of air between the enlarged pipe or reservoir B and the cask, as it will be obvious that unless such circulation takes place the liquid in the cask will not be cooled to an appreciable extent, owing to the fact that the air first admitted would be quickly warmed by the warmer contents of the cask and additional cool air could not be introduced except by drawing off the liquid contents of the cask. The liquid displaced and forced out of the cask passes through the coil C on its way to the discharge-faucet and becomes thoroughly cold.

In practice it is found to give greatly better results than the ordinary method of procedure in preserving the quality and also in delivering the liquid in a colder condition, and all with a lessened consumption of ice.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. In a refrigerating device, the combination with an ice-box, of two pipes or passages mounted therein one above the other, of which one is an air-pipe connected at one end with a source of supply of air under pressure, and at its other end with a vessel containing liquid, and the other of which is a liquid-pipe and is connected at its ends with said vessel containing liquid and with a faucet, respectively, the lower of said pipes or passages being adapted to be immersed in water from melted ice, and the upper of said pipes or passages forming a grate upon which the ice is supported, substantially as described.

2. In a refrigerating device, the combination with an ice-box, of two pipes or passages mounted therein one above the other, of which one is an air-pipe connected at one end with

a source of supply of air under pressure, and
at its other end with a vessel containing liquid,
and the other of which is a liquid-pipe and is
connected at its ends with said vessel contain-
5 ing liquid and with a faucet, respectively, the
lower of said pipes or passages being adapted
to be immersed in water from melted ice, and
the upper of said pipes or passages forming a
grate upon which the ice is supported, and
10 a discharge-outlet adapted to maintain said

water from melted ice at a given height, sub-
stantially as described.

In testimony whereof I have hereunto set
my hand in the presence of two subscribing
witnesses.

OTTO ULRICH.

Witnesses:

L. M. HOSEA,

D. W. THRASHER.