D. BOYLE.

Ice-Machine.

No. 163,144. Patented May 11, 1875.

Fig. 1.

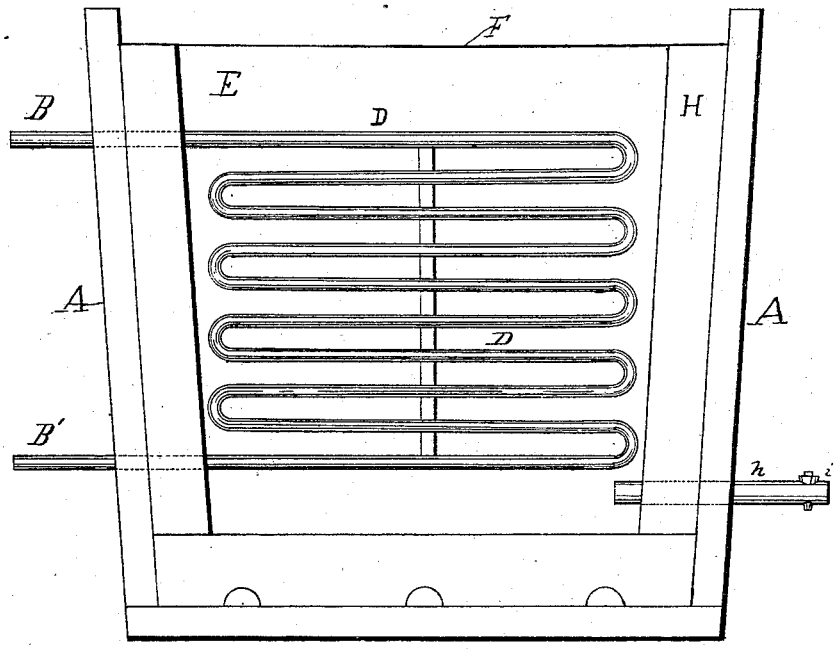
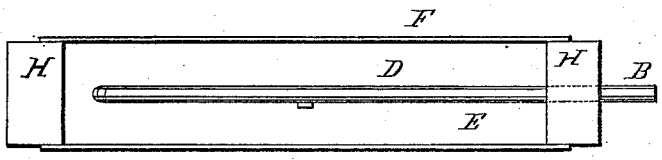


Fig. 2.



WITNESSES.
Chas. H. Fisher
Chas. C. Gill

INVENTOR.
David Boyle
by his Attys.
Cox & Cox

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

DAVID BOYLE, OF QUINCY, ILLINOIS.

IMPROVEMENT IN ICE-MACHINES.

Specification forming part of Letters Patent No. **163,144**, dated May 11, 1875; application filed April 14, 1875.

To all whom it may concern:

Be it known that I, DAVID BOYLE, of Quincy, Illinois, have invented certain new and useful Improvements in Ice-Machines, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to an improved ice-machine, and consists in the following feature: a hollow compartment wherein is provided an evaporator-coil, so that the uncongealable fluid is acted on by the coil, and the sides of the compartment chilled, forming the ice thereon. The object of the invention is to furnish a convenient device for manufacturing ice.

Figure 1 is a side elevation of a device embodying the elements of the invention, one end of the outer tank and one side of an inner compartment having been removed. Fig. 2 is a detached top view of one of the compartments.

A, in the accompanying drawings, is a freezing-tank, tapering inward on two of its sides, so that the ice is formed in the tank in wedge-shaped plates, which may easily be withdrawn. B are pipes, through which the chilling or heat-abstracting agent is fed, and are connected with an exhaust and compression pump, or other equivalent apparatus, (not shown;) also, with a distributer, (not shown,) placed in proper relation to the upper pipes B. The pipes B B′ are the termini of coils D, placed vertically, one in each of the compartments E, which are severally formed of the plates F of conducting material, secured in a water-tight manner to the frame H of non-conducting material, properly recessed on its exterior, to permit a circulation of the water, and forming three sides of the compartment, which thus constitutes an evaporator-tank.

At a proper place in the lower part of each compartment is placed a pipe, *h*, supplied with a cock, *i*, for withdrawing the uncongealable fluid, so that a thawing agent may be introduced into each compartment to thaw the ice off.

The operation is conducted by filling the tank A to about the level of the upper edges of the plates F, filling the compartments E with uncongealable fluid, then admitting the chilling agent to the coils D, in the usual manner. Care should be taken that the ice does not form entirely across the water-spaces between the compartments. The usual product is ice free from any bubble or other imperfection. To remove the ice, draw the uncongealable fluid from each of the compartments E by its pipe *h* and cock *i*, and introduce therein a thawing agent. The ice, being formed in wedge-shaped sheets or plates, widest at their upper ends, may easily be removed.

What I claim as my invention, and desire to secure by Letters Patent, is—

A hollow compartment composed of a non-conducting frame connected by freezing-plates, and containing an evaporator-coil, substantially as set forth.

In testimony that I claim the foregoing improvements in ice-machines, as above described, I have hereunto set my hand and seal.

DAVID BOYLE. [L. S.]

Witnesses:

THOS. T. WOODRUFF,

C. A. LEWIS.