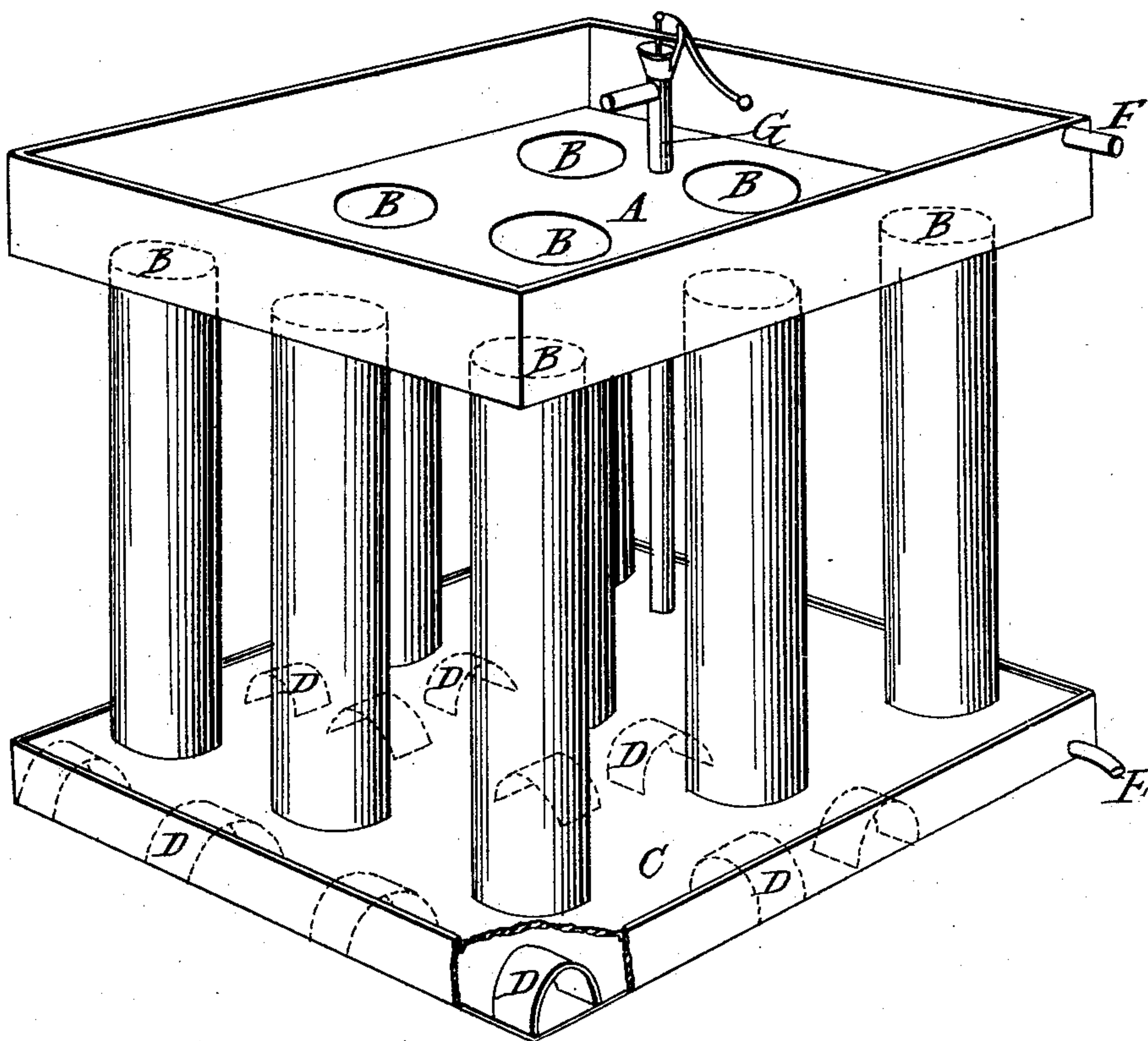


C. F. PIKE.  
Refrigerator.

No. 55,532.

Patented June 12, 1866.



Witnesses:

*Henry Martin*  
*Benj. Whipple*

Inventor:

*Charles F. Pike*

# UNITED STATES PATENT OFFICE.

CHARLES F. PIKE, OF PROVIDENCE, RHODE ISLAND.

## IMPROVED REFRIGERATOR FOR COOLING OIL, &c.

Specification forming part of Letters Patent No. 55,532, dated June 12, 1866.

*To all whom it may concern:*

Be it known that I, CHARLES F. PIKE, of the city and county of Providence, in the State of Rhode Island, have invented a new and Improved Mode of Refrigeration for the Cooling of Oil and other Substances, and for the curing and preserving of fish, meats, provisions, and other articles; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

The nature of my invention consists in having an ice receptacle or box at the top of the structure, connected by open tubes or pipes passing down from the bottom thereof into and through the provision-chamber or refrigerating-room, and opening into a water-tank at the bottom of the structure, filling the ice-box and pipe with ice, or with ice and salt, or other known refrigerating material, and then taking the cold water from the water-tank by means of a pump and throwing it up into the ice-receptacle, to pass over and through the ice in the ice-box and tubing or pipes to the water-tank again, thus obtaining the benefit of the cooling properties of the ice and ice-water by conduction for the purpose of refrigeration.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct an ice box or receptacle (represented in the accompanying drawing by the letter A) of any desired form and size. In the bottom of this ice-box are holes or openings for tubes or pipes, (represented in the accompanying drawing by the letters B B B B,) which have their upper ends inserted in these holes or openings in the ice-box and extend thence down through the provision-chamber or refrigerating-room into the water tank or receptacle C, and opening into the same, the lower ends of these tubes or pipes resting on the top of the water tank or receptacle. I then construct a water tank or receptacle, C. (Represented in the accompanying drawing by the letter C.) Inside the water-tank, and between the upper and lower floors thereof, I construct arches for the support of the top floor of the water-tank and tubes or pipes, and to sustain the weight of whatever may be placed in or over the provision-chamber or refrigerating-room. These arches are represented in the accompanying

drawing by letters D D D D D D D D D D, and are so constructed that while they support the superincumbent weight they allow a free flow of water through the entire water-tank. In the stead and place of these, any other known mode of support may be used.

A pipe, E, or cock of any known structure is inserted in the water-tank, by means of which the water in the tank can, whenever desired, be drawn off.

A discharge or overflow pipe, F, is inserted into the ice box or receptacle A, near the top thereof, to prevent any overflow of water arising from obstructions or otherwise.

A pump of any known form or structure (represented in the accompanying drawing by the letter G) is placed in the ice box or receptacle and with the pipes thereof passing down through the provision-chamber or refrigerating-room into the water-tank, for the purpose of pumping the cold water in the water-tank up into the ice box or receptacle. In the accompanying drawing the pump is placed in the ice-box, but its position may be inside or outside the ice-box, as may be required.

The ice box or receptacle, the water tank or receptacle, and the tubes or pipes connecting the two are made of copper or galvanized iron, or any other metal. The thinner they are consistent with the requisite strength the better.

The ice is placed in the ice-box A, and fills the tubes or pipes B B B B, &c., and as it melts the water passes into the water-tank C, and is thence taken by the pump and thrown into the ice-box, to pass again through and over the ice into the water-tank, and so on, the coldness of all the same being in the meanwhile conducted from the ice-box, tubes or pipes, and water-tank to the provision-chamber or refrigerating-room.

My invention is applicable to domestic refrigerators, markets, packing-houses, cars, and commercial purposes; and when constructed and used upon a large scale—as for markets, packing-houses, and the like—the structure or building will be an enlarged refrigerator.

The size and form of the structure, the number of tubes or pipes in proportion to the size of the provision-chamber or refrigerator-room, and the proportion of the parts may be varied according as space, degree of refrigeration, or other circumstances require.



When my invention is applied or used for a domestic or market refrigerator, or for the purpose of freezing or keeping fish, poultry, or other provisions, it should be inclosed in or made with side walls in the usual modes, using charcoal, sawdust, tan, or any known non-conductor, and having the provision-chamber or refrigerating-room fitted with shelves and hooks, as may be desired.

The nearer the door for access to the provision-chamber or refrigerating-room is to the top the better, as in this wise there will be less loss of cold air when opened than if placed lower.

Having thus fully described my invention, I would state that I do not claim the removable receiving and distributing pan, in combination with a series of tapering tubes or pipes; nor do I claim the open or ascending drain-pipe, as used in either of the patents granted to Enoch Piper, March 19, 1861, and August 5, 1862; nor do I claim the pipes, tubes, ice box or receptacle, or water tank or receptacle, when used separate; but

What I do claim, and desire to secure by Letters Patent, is—

1. The construction of parallel open-mouth pipes or tubes fastened to the ice box or receptacle A and water-tank C, in combination with the ice box or receptacle A, and also in combination with the water tank or receptacle C, substantially as herein described, and for the purposes hereinbefore set forth.

2. The application of the pump or pumps, as herein described, for the purposes of keeping up an artificial circulation by raising the water from the water-tank C and throwing it into the ice box or receptacle A, and the using of the water so raised and thrown into the ice box or receptacle A, substantially in the manner and for the purpose hereinbefore stated.

CHARLES F. PIKE.

In presence of—

HENRY MARTIN,  
BENJ. WHIPPLE.