C. Winship.

Air Cooler.

No. 44,683. Patented Oct. 11, 1864.

Fig. 1.

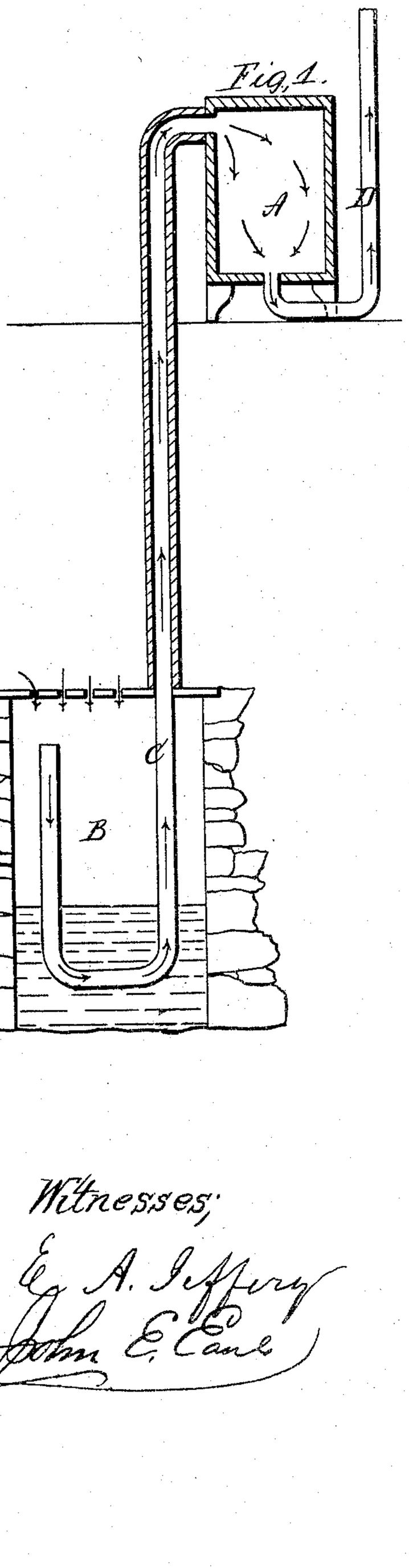


Fig. 2.

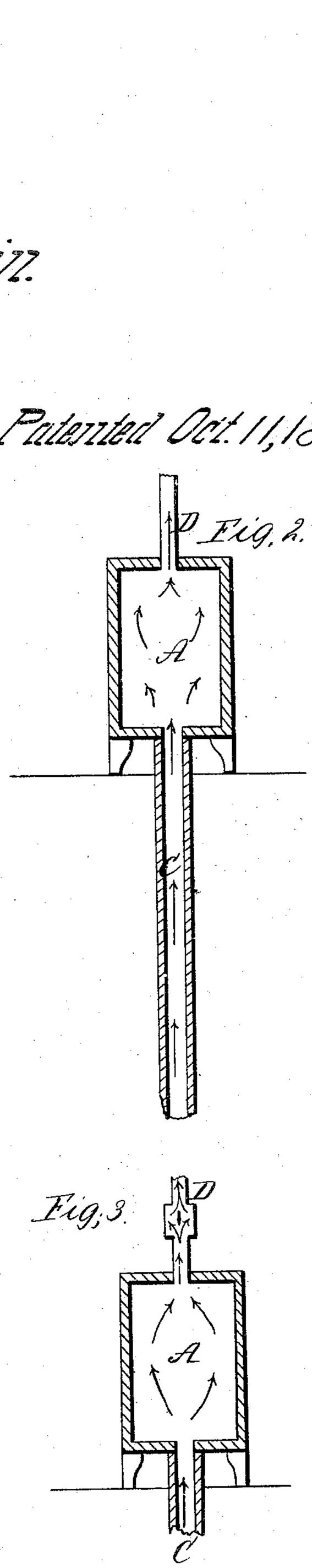
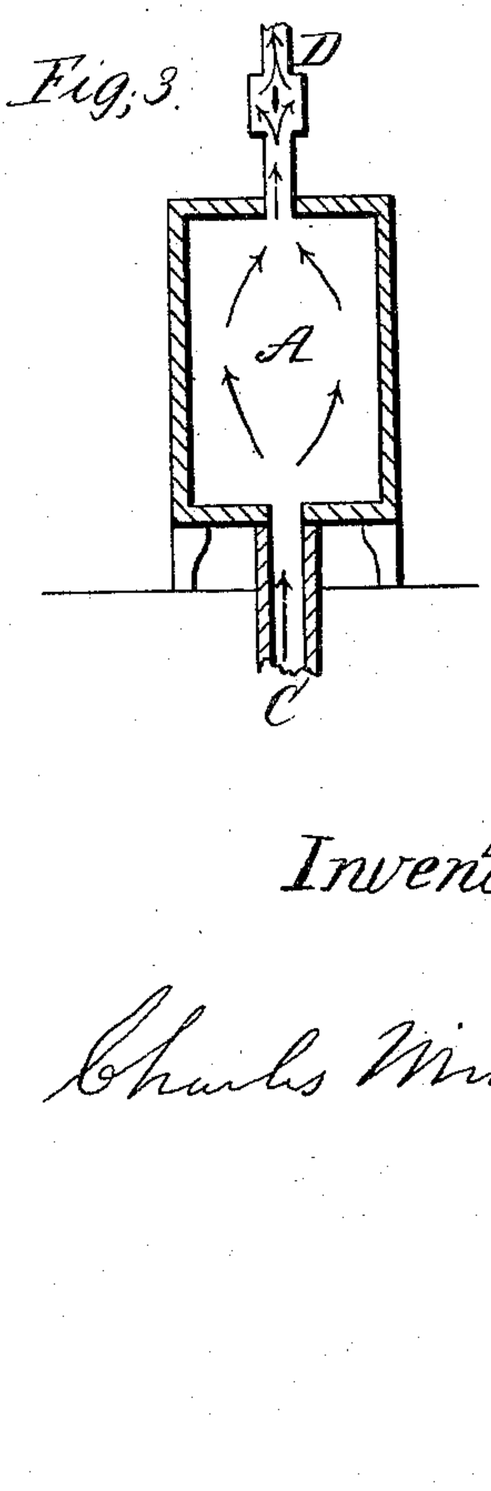


Fig. 3.



Witnesses;

E. A. Seffery

John E. Earl

Inventor;

Charles Winship

UNITED STATES PATENT OFFICE.

CHARLES WINSHIP, OF NEW HAVEN, CONNECTICUT.

IMPROVED APPARATUS FOR PRESERVING PROVISIONS.

Specification forming part of Letters Patent No. **44,683**, dated October 11, 1864.

To all whom it may concern.

Be it known that I, CHARLES WINSHIP, of New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Apparatus for Preserving Provisions; and I do hereby declare the following to be a full, clear, and exact description of the same, when taken in connection with the accompanying drawings and the letters of reference marked thereon, and which said drawings constitute part of this specification, and represent, in—

Figures 1, 2, and 3, vertical sections of my apparatus.

Same letters indicate like parts.

Experience has demonstrated the fact that thorough ventilation is more essential to the proper preservation of provisions than extreme cold; that a temperature of from 50° to 60° Fahrenheit, with perfect circulation of air, is all that is required.

The object of my invention is to construct a chamber which shall be constantly supplied with fresh air of from 45° to 60°, so as to entirely dispense with the necessity of using ice for preserving provisions; and my invention consists in constructing a box, chest, or other chamber, to which air is conducted through a duct, a portion of which said duct is placed in a cold place—as a well, or in the earth—so that the air passing through the duct to the chamber will be cooled to nearly the temperature of the well or earth or whatever it passes through, creating a circulation by means of a second tube, which leads from the chamber to some naturally warm position, or heated by artificial means, which draws the air rapidly through the chamber, keeping the chamber filled with fresh, rapidly-circulating air.

In order that those skilled in the art may fully understand my invention, I will proceed to describe the same in connection with the accompanying drawings.

A represents a chest, box, or other chamber, standing upon the floor, or may be a room constructed in the house, its sides protected by some non-conducting substance in similar manner as common refrigerators.

B represents a common well, with openings through the covering, through which air may pass, as denoted by arrows; or the well may be open, or other means employed to supply fresh air to the well. I place an air-duct, C, in the said well, one end opening in the well, above the water, or may extend out through the cover, running down into the water, thence up, out, and to the chamber A. Through this said duct air is made to pass to the chamber. I inclose the said duct above the well with any non-conductor of heat. To create a current to draw the cool air into and keep up a constant rapid circulation, I attach a flue or tube, D, opening from the chamber A at the opposite end from which the cold air is admitted, (as see Figs. 1, 2, and 3)—that is, if the cold air is admitted at the top, as in Fig. 1, the outlet should be at the bottom, and vice versa, as in Figs. 2 and 3. From the said outlet a pipe or tube leads up to some point naturally warm, as the attic of a house, or into a warm flue in a chimney. This will create a draft through the chamber, the air entering the duct C passing down through the cold water, thence, cooled, up to and circulating through the chamber and away through the tube D. The air, never being confined in the chamber, but always cool and fresh, will preserve provisions better than ice can do, with any known mode of ventilating refrigerators. Should the draft be too great, as it is in some positions, I introduce dampers to cut off a part of the draft and for the purpose of regulating the same.

Artificial heat may be applied to the tube D by inserting a lamp or gas-burner therein, as denoted in red, Fig. 3. A very small flame, not over one-half foot per hour, will perfectly ventilate a comparatively large chamber. Water in the well is not positively required; neither is the well itself, as the duct may be buried in the earth, its mouth opening above, so as to admit air to pass down; but I prefer an ordinary well, the water serving as a good cooler. A drip should be attached near the lowest portion of the duct, to receive the natural condensation.

Thus I construct a provision-preserver far superior to ice-refrigerators, and without the expensive aid of ice.

I do not broadly claim ventilating a chamber by passing air through it, as this is done

in many refrigerators, but in such the cause of the circulation is the ice therein contained, and without which there would be no ventilation; but

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

Conducting cooled air to, and causing the same to circulate through, a chamber, substantially in the manner and for the purpose specified.

CHARLES WINSHIP.

Witnesses:
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JOHN E. EARLE.