

John Cravenstine Refrigerating Apps.

117408

FIG. 1.

PATENTED JUL 25 1871

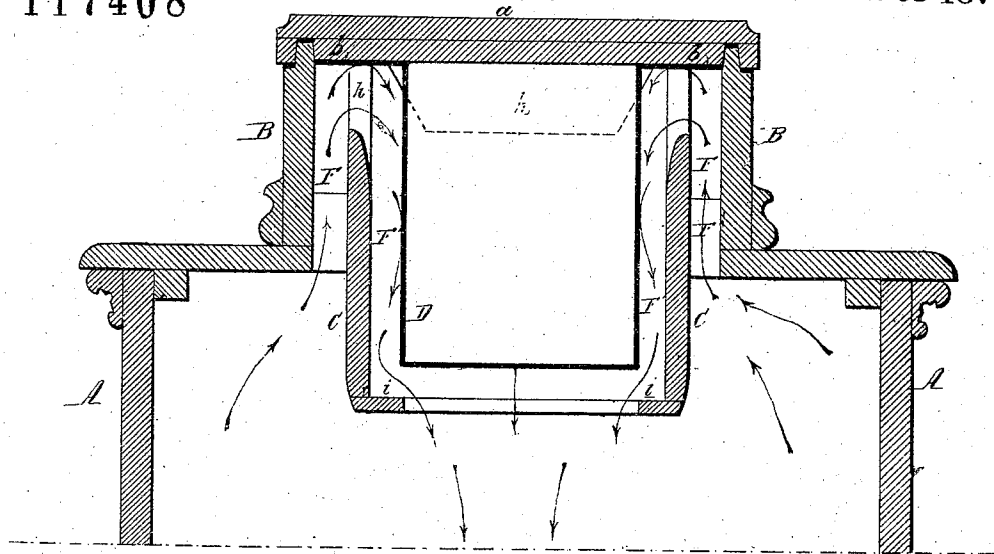


FIG. 2.

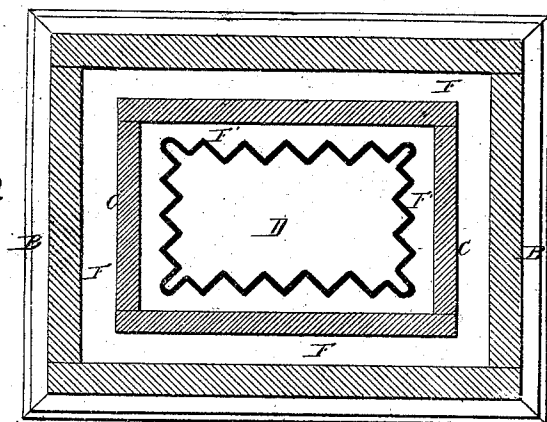
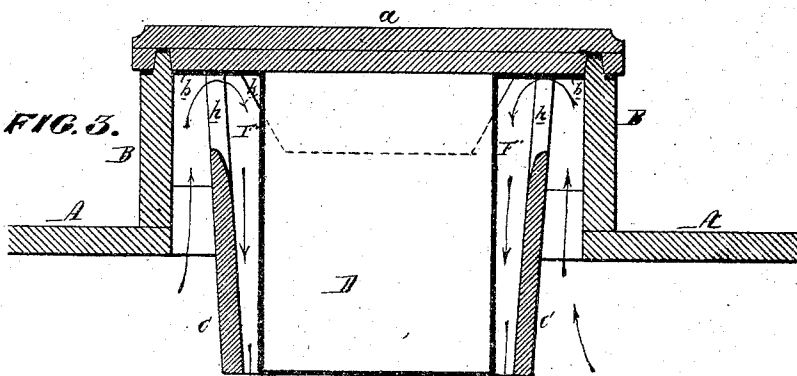


FIG. 3.



WITNESSES {
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UNITED STATES PATENT OFFICE.

JOHN GRAVENSTINE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN REFRIGERATING APPARATUS.

Specification forming part of Letters Patent No. 117,408, dated July 25, 1871.

To all whom it may concern:

Be it known that I, JOHN GRAVENSTINE, of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented Improvements in Refrigerating Apparatus, of which the following is a specification:

My invention consists of certain refrigerating apparatus too fully explained hereafter to need preliminary description, the said apparatus to be applied to refrigerators or other closed vessels for preserving animal and vegetable substances, and having for its object the circulation of air and gases within the vessel without admitting external air to the same, a further object of my invention being the attainment of economy as regards the consumption of ice.

Figure 1 is a vertical section of my improved refrigerating apparatus; Fig. 2, a sectional plan on the line 1 2, Fig. 1; Fig. 3, a vertical section illustrating a modification of my invention.

It may be remarked in the outset that my refrigerating apparatus may be applied with the best results either to corpse-preserving caskets, to refrigerators, or to any closed vessel within which it is desired to maintain animal or vegetable matter in a cool condition.

In the accompanying drawing, A represents a case forming a portion of a corpse-preserving casket or of a refrigerating-chest, and within this case are suspended the tight ice-box D, and outside the latter a casing, C, which I prefer to make of non-conducting material. In the present instance the ice-box and casing are suspended from and secured to a hollow projection, B, forming a part of the chest or casket, the said projection B being provided with a detachable cover, *a*, having such packing as to render the joint air-tight. Between the intermediate casing C and the said projection B intervenes a space, F, having a direct communication with the interior of the casket or chest, and between the said intermediate casing C and the tight ice-box D intervenes a space, F', which also communicates with the interior of the casket or chest in the manner shown in Fig. 1 and in the modification, Fig. 3. These two spaces F and F' communicate with each other through any desired number of openings *h* in the intermediate casing C, at or near the upper end of the same, as shown in the drawing. The air or gases in the space F', being in immediate contact with the ice-box,

become cool and descend through the aperture in the bottom of the said casing C, will ascend through the space F, pass through the openings *h*, and, becoming cooled by contact with the ice-box, will descend through the space F'. Hence a circulation in the direction of the arrows will be constantly maintained within the casket or chest, the said circulation decreasing in rapidity as the temperature within the casket or chest A approaches equalization.

It should be understood that the casing A is air-tight and free from the ventilating apertures common to other refrigerating apparatus.

It may be remarked that the existence of this circulation under the circumstances described has been fully proved by actual tests.

Another important feature of my invention is that of maintaining the ice-box free from apertures through which the ice-water can escape. Heretofore the ice-boxes of refrigerating apparatus have been provided with appliances for draining off the water. I have found, however, that when ice and salt are used as refrigerating mediums more effective and more economical results can be obtained by the continued presence of ice-water than by adopting the usual practice of draining the water off while the ice remains; hence the advantage of the absence of all draining appliances with which other ice-boxes are furnished.

The modification shown in Fig. 3 will be readily understood without explanation. It will be seen that instead of being a projection the casing may form a continuation of the sides of the structure.

I do not desire to confine myself to the specific arrangement of parts herein described.

I claim—

1. A refrigerating apparatus, consisting of an ice-box, D, casings C and B, and passages F and F', all arranged substantially as set forth.

2. An ice-box, D, closed so as to retain the drippings in contact with the ice, arranged within a casket or chest, and having air-passages extending round the same, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

Witnesses: JOHN GRAVENSTINE.

WM. A. STEEL,
JOHN K. RUPERTUS.