G. A. BANTA.

Refrigerator.

No. 45,217. Patented Nov. 29, 1864.

Fig. 2.

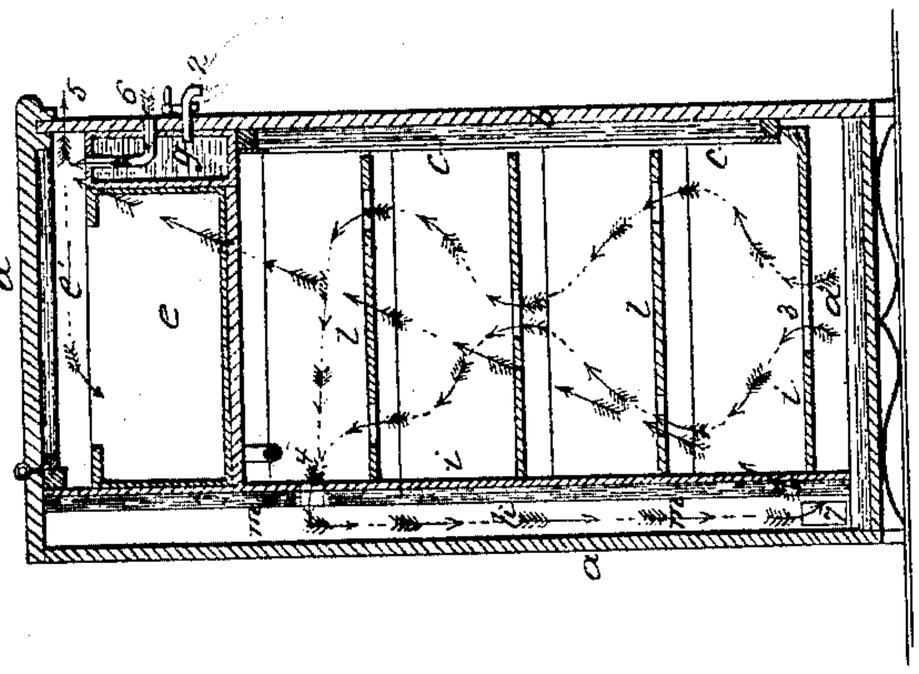


Fig. 1.

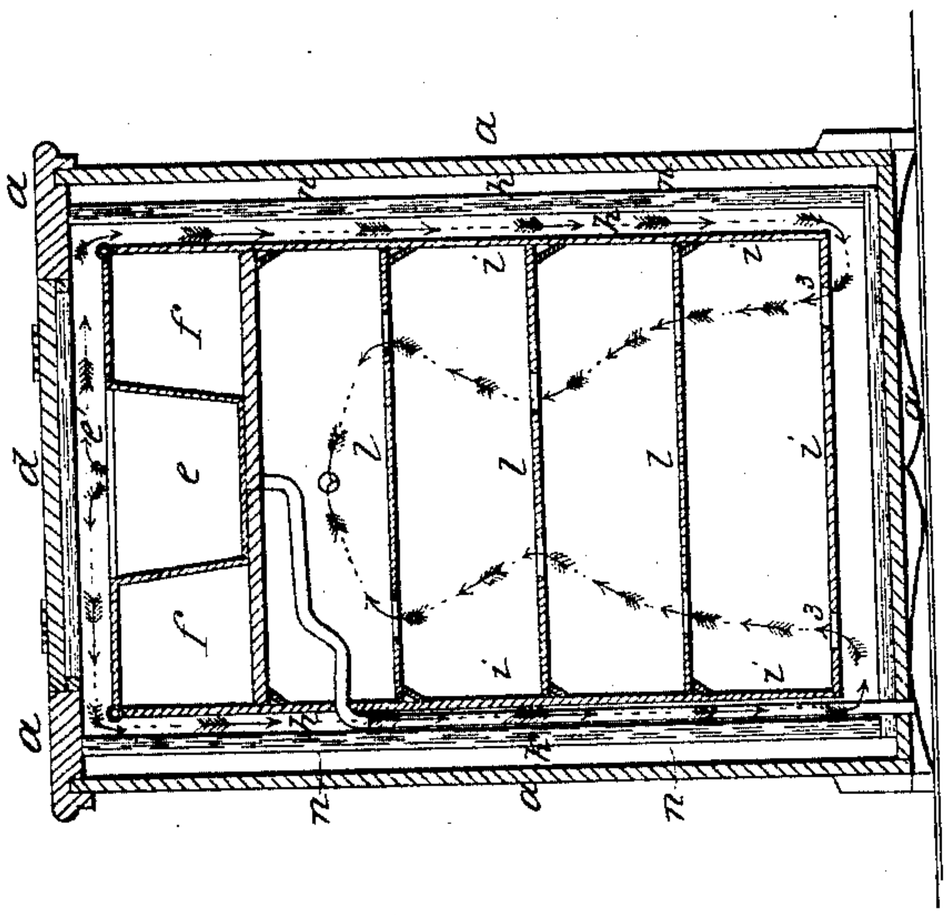
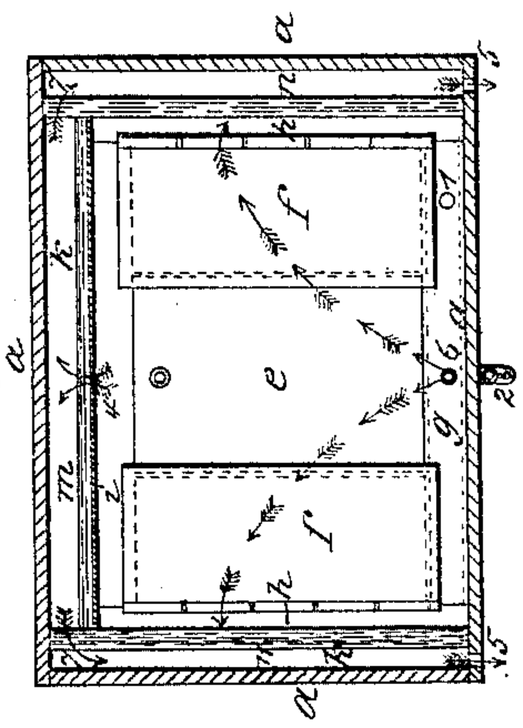


Fig. 3.



Witnesses:

Thos. G. Hawes

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AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

GEORGE A. BANTA, OF NEW YORK, N. Y.

IMPROVED REFRIGERATOR.

Specification forming part of Letters Patent No. 45,217, dated November 29, 1864; antedated November 16, 1864.

To all whom it may concern:

Be it known that I, GEORGE A. BANTA, of the city and State of New York, have invented, made, and applied to use, a certain new and useful Improvement in Refrigerators; and I I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a vertical section of my said refrigerator at a plane parallel with the front. Fig. 2 is a vertical section in a plane at right angles to Fig. 1, and Fig. 3 is a sectional plan at a little distance below the top of the refrigerator.

Similar marks of reference denote the same parts.

My invention relates to an arrangement of air-chambers between the inner and outer casings of the refrigerator, whereby a circulation of air is maintained through the refrigerator in a gradual manner without wasting the ice; and I make use of a lining of slate to the doors or other parts of the refrigerator, which is kept clean much easier than the zinc usually employed.

My invention may be made the size of an ordinary refrigerator or on a larger scale for an ice house or room.

In the drawings, *a* is the outer casing of the refrigerator, of any suitable size or shape. *b b* are the doors of the same, lined with slate at *c*, that is sustained in place by a surrounding wood frame and strips of metal around the edges. *d* is the door or flap over the ice-box *e*, which flap *d* is also lined with slate, *e'*, secured in a similar manner. The ice-box *e* is sustained by a platform beneath it, and on each side of said ice-box is a chamber, *f*, formed with a cover which may receive butter, milk, wine, or other articles requiring to be very cold. In front of the ice-box is a vessel, *g*, that forms a water-cooler, and can be supplied at 1 and drawn off at the faucet 2 as required. There is a space between the top of the ice-box *e* and top or flap *d* of the refrigerator, and this communicates with the chambers *h h* at the sides of the refrigerator between the inner casing, *i*, and partitions or divisions *k k*. Within the casing *i* shelves or gratings *l l* are provided for receiving articles to be kept cool. These shelves are to be perforated sufficiently for the free circulation of air. I provide openings 3 3 in the bottom of the inner casing or near the bottom of the sides of said casing, communicating with the chambers *h h*.

I make the back of my refrigerator double, forming an air-chamber, *m*, which communicates with the interior of the casing *i* by the opening 4, and at the bottom of this air-chamber *m* are openings communicating with the air-spaces *n* between the partition *k* and the outside *a* of the refrigerator, and 5 5 are openings through *a* near the upper part of the apparatus.

I prefer that the air be admitted to the space above the ice-box through a pipe that passes through the water-vessel *g*, as represented at 6.

The arrows in the drawings represent the direction in which the air circulates, and it will be seen that after passing over the ice and being cooled the air descends around the inner casing through the same and then passes out into the chambers nearest to the outside of the refrigerator, and thence escapes, so that the warmth of the external air has but little effect on the refrigerator in consequence of the circulating strata of air between the inner and outer casings.

It will be evident that the divisions and linings being of slate, as represented at *k k*, are preferable to any other material, because they are not affected by the atmosphere or by articles coming in contact with them, and, if desired, the whole of the casing *i* may be of slate, instead of metal.

The divisions *k*, being of slate and having an air-chamber on both sides, act much more effectually in preventing the transmission of heat to the refrigerator than is the case where the slate is in contact with the wooden case, or itself forms the refrigerator-case.

I do not claim a refrigerator with air-spaces at the sides or at the back, neither do I claim a slate lining to a refrigerator; but

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

1. The arrangement of the side chambers, *h* and *n*, and back chamber, *m*, with the openings 4, 7, and 5, as set forth, whereby the air, after passing over the ice, descends

through the chambers *h*, rises through the refrigerator, thence passes to the back chamber, *m*, and from that through the side chambers *n* and exit openings 5, as specified.

2. The divisions *k*, formed of slate with air-chambers between the wooden case and slate divisions, so that said slate has a circulation of air on both sides, as and for the purposes specified.

In witness whereof I have hereunto set my signature this 15th day of March, 1864.

GEORGE A. BANTA.

Witnesses:

CHAS. H. SMITH,

THOS. GEO. HAROLD.