

J. J. BATE.
REFRIGERATOR.

No. 184,748.

Patented Nov. 28, 1876.

Fig. 1.

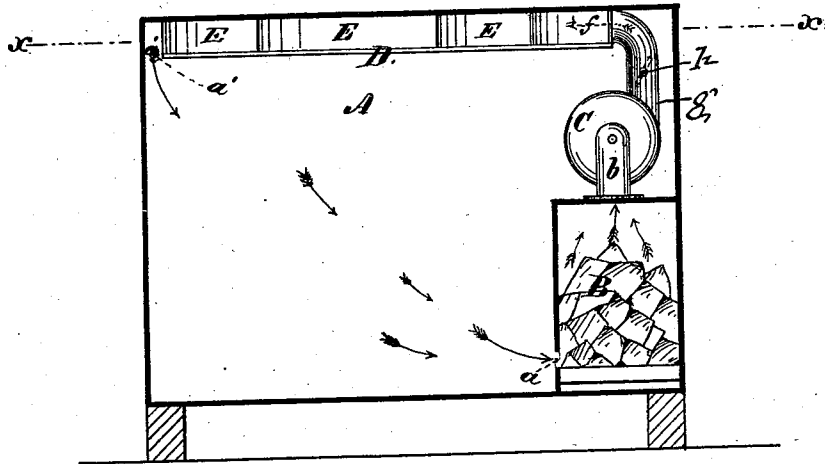
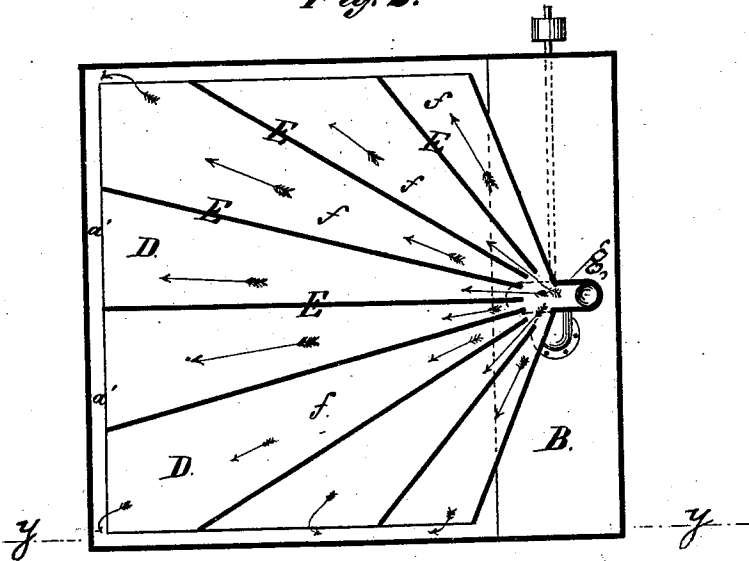


Fig. 2.



Witnesses:

Henry Eichling.
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Inventor:

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per James A. Whitney

Atty.

UNITED STATES PATENT OFFICE.

JOHN J. BATE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. 184,748, dated November 28, 1876; application filed July 29, 1876.

To all whom it may concern:

Be it known that I, JOHN J. BATE, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Refrigerators, of which the following is a specification:

This invention relates to a novel and improved construction of refrigerators, whereby provision is made for the distribution of the circulating refrigerated air, throughout the circumference of the chill-room; and also for the ready graduation of the velocity of the circulation, the invention comprising a novel combination of circumferential openings with a false ceiling provided to the chill-room, and in due relation with the fan-blower and ice-box; also, a novel combination of radial distributing-partitions with a false ceiling provided to the chill-room, and with the ice-box and fan-blower of the refrigerator; also, a novel combination of a valve intermediate between the ice-box and the radiating-partitions above the false ceiling aforesaid.

Figure 1 is a vertical sectional view of a refrigerator made according to my invention, taken in the line Y Y of Fig. 2. Fig. 2 is a horizontal sectional view of the same taken in the line X X of Fig. 1.

A is the chill-room or closed chamber of the refrigerator. B is the ice-box, provided with an opening, *a*, at or near its bottom, whereby the interior of the ice-box communicates with that of the chill-room. C is a fan-blower, rotated by the usual or any suitable means, and connected with the upper part of the ice-box by a pipe, *b*. D is a false ceiling, placed at any suitable distance—say, one, two, or more inches—below the true ceiling *c* of the chill-room. This false ceiling does not extend quite to the sides of the chill-room, thereby leaving an opening or openings, *a'*, around the circumference of said false ceiling. Within the space or chamber *f*, between the false ceiling D and the true ceiling *c*, are arranged partitions E, which radiate from the upper end of the pipe *g*, which extends upward from the shell or casing of the fan-blower C, connecting said fan-blower with the aforesaid space or chamber *f*.

In the pipe *g* is placed a valve, *h*, by which the flow of air, hereinafter set forth, through the said pipe may be checked as occasion may require.

In the operation of the invention the fan-

blower draws the air upward and inward through the opening *a*, and upward through the ice-box, through the pipes *b g*, to the chamber *f*, whence it is ejected between the partitions E, and out through the openings *a'* downward into the chill-room A, whence it passes again to the ice-box, and so on in continual circulation.

When desired, the direction in which the air circulates may be changed, the air being drawn upward into and through the space or chamber *f*, and thence downward through the ice-box, and out and back through the chill-room A to the openings *a'*. The degree of circulation, or rather the velocity with which the air is caused to circulate within the chamber A, may be regulated by turning the valve *h* to diminish the available diameter of the pipe, provision being thus made for determining the degree of circulation independent of the speed of rotation of the fan-blower.

It is, of course, sufficient to the purposes of my invention that the opening *a'*, be at the circumferential part of the false ceiling D, though not exactly at the outer circumference thereof; and, also, that a continuous system of small openings may be substituted for one continuous opening, these being mere modifications of my invention, and operating on identically the same principle as the same.

What I claim as my invention is—

1. The false ceiling D, having a circumferential opening, *a'*, in combination with the fan-blower and ice-box, all arranged in relation with each other and within the chill-room A, substantially as and for the purpose set forth.

2. The system of radiating partitions E in combination with the false ceiling D, the fan-blower C, and the ice-box B, all arranged in relation with each other and the chill-room A, substantially as and for the purpose herein set forth.

3. The valve *h* in the pipe in combination with the system of radiating partitions E, the false ceiling D, the fan-blower C, and ice-box B, all arranged in relation with each other and within the chill-room A, substantially as and for the purpose herein set forth.

JOHN J. BATE.

Witnesses:

H. WELLS,
EDWARD HOLLY.

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