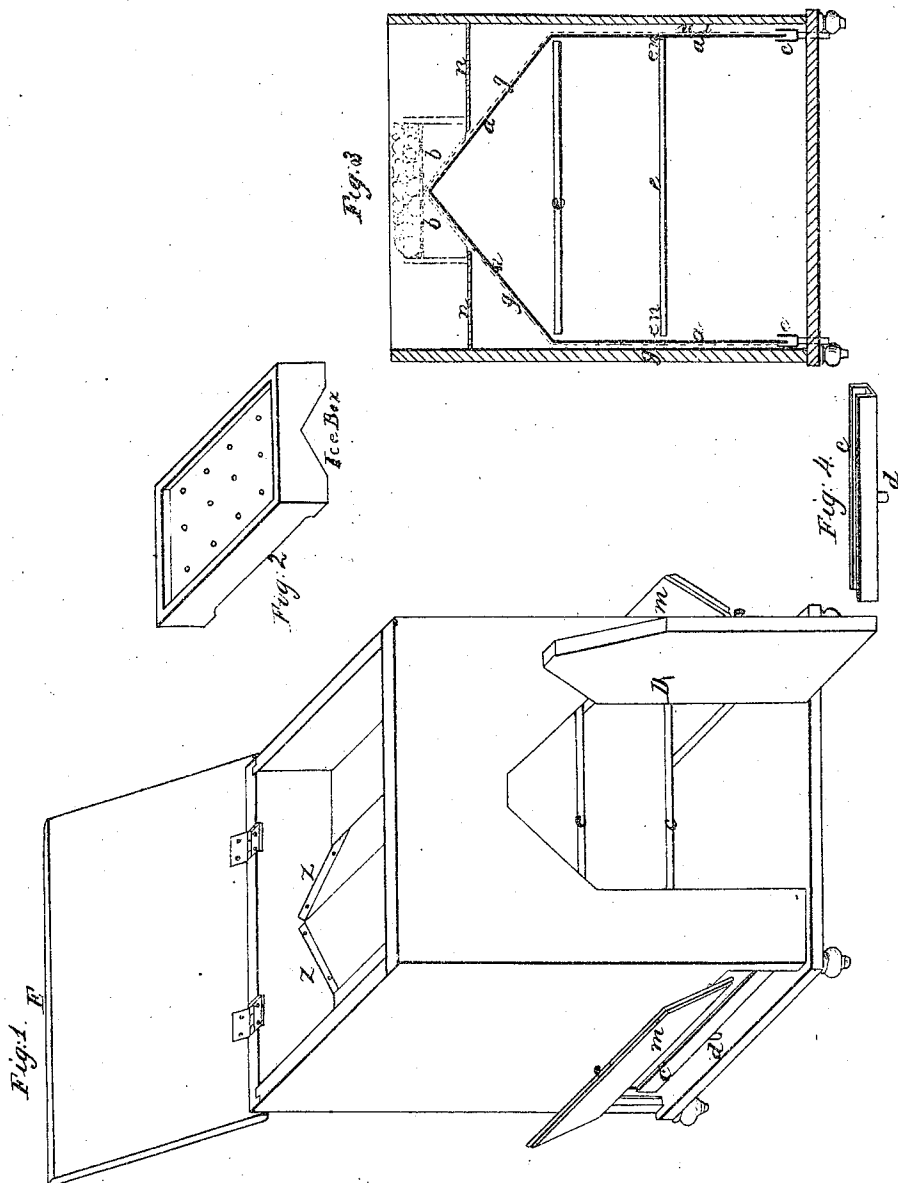


S. Hickok.
Refrigerator.

No 15,132.

Patented June 17, 1856.



Witnesses:

E. B. Forbush
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Inventor:

SAMUEL HICKOK.

UNITED STATES PATENT OFFICE.

SAML. HICKOK, OF BUFFALO, NEW YORK.

REFRIGERATOR.

Specification of Letters Patent No. 15,132, dated June 17, 1856.

To all whom it may concern:

Be it known that I, SAMUEL HICKOK, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and Improved Mode of Cooling and Drying the Atmosphere for the Preservation of Fruits, Meats, Provisions, &c.; and I do hereby declare that the following is an exact description thereof.

The nature of my invention consists in producing a surrounding strata of cold water, to cool the atmospheric air within the room, drawer, cupboard, chest or box to which it is applied, and thereby produce a cold dry atmosphere.

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

For ordinary family use I construct a cupboard, closet, chest or box of wood, in size, about four and a half feet in height, and about three feet wide, and about two feet deep. I then construct a frame of sheet zinc, with a Gothic or sloping roof which I put within the wooden closet, chest, cupboard or box. This zinc frame has flanges turned upon its edges for the purpose of fastening to the wooden closet or box and also for the purpose of conducting the water which drips through the cloth, into the tank or trough below as hereinafter described. Two sections of these flanges are represented at *z, z*, Fig. 1. This zinc frame just fills the depth of the wooden closet or box so as to fasten through the flanges to the wooden chest or box in front and rear. A space of one inch or more is left between the zinc frame and the ends of the wooden chest or box so as to give room to cover the zinc with cloth. A space of several inches must be left between the bottom of the zinc frame and the bottom of the chest or box, sufficient to make room for the tank or trough to receive the water as it drains from the cloth. The zinc frame must have a Gothic, or sloping roof, as represented at *a, a*, Fig. III, in order to conduct off the water which drains through the cloth with which it is covered, and also to conduct the moisture which is condensed on the inner surface. This roof could also be made conical shaped, but it would not be as convenient for ordinary use. The zinc frame is covered with one or more thicknesses of woolen flannel or other cloth. This cloth is fastened to the zinc near the bottom by

buttons on the zinc, or by perforating the zinc and cloth and tying with a thread. The cloth is represented on the zinc at *g, g*, Fig. III.

I construct a perforated ice box for holding a small quantity of ice. This ice box is made of wood or metal and is represented by Fig. II. It sets into the wooden closet or box over the apex of the zinc roof, resting upon two shelves, one in each end of the closet or box, and shown at *n, n*, Fig. III. This ice box is also shown at *b, b*, Fig. III, in its place and filled with ice. As the ice melts it drains through the perforated ice box, and the water drops upon the flannel or cloth covering the zinc, and the cloth becomes saturated with this cold ice water, thus forming a strata of cold water over the entire surface of the metallic frame, and the fruits and provisions within are kept cool and dry. The zinc or other metallic substance of which the frame may be constructed is kept very cold by means of the ice water and cloth, and any moisture which may be in the atmosphere within, is condensed upon the cold surface of the metal and runs down the metal into the trough or tank below, and thus the atmosphere within is kept dry as well as cold.

A tank or trough for receiving the water as it drains from the cloth or metal is made and placed at the bottom as represented at *c c*, Fig. III, and *c* Fig. IV. A pipe for conducting off the water from the tank may be added and is shown at *d*, Fig. IV. The cloth covering the zinc acts as a filter to purify the water, but in addition to this a filter may be added in a convenient form at the bottom of the zinc frame and cloth to receive the water before it passes into the tank and the water entirely purified before it passes into the tank, and from the tank or trough it may be drawn for family use or it may be conducted into the filter from the tank or trough and from it drawn for use.

Within the metallic frame I put shelves for holding such articles as may be placed thereon. Two of these shelves are shown at *e, e*, Fig. III. They are supported by pins, screws or nails, through the front and rear side of the wooden closet or box. A space is left between the ends of the shelves and the metallic frame to allow the condensed moisture within to pass down the metal without coming in contact with the shelves. This space is shown at *en en* Fig. III.

Fig. I is an isometrical drawing showing the arrangement of the wooden closet cupboard or box, into which the metallic frame is put. At D, is represented a door which opens into the interior of the metallic frame. At *m m* is represented a door or window which opens to the trough or tank, and also giving access to the lower part of the cloth and metallic frame, to keep the same in order. Through these doors or windows, the cloth can also be removed from the metallic frame and cleaned, or new cloth put on, and the trough or tank cleaned and kept in order.

Fig. III is a section showing the arrangement of the metallic frame within the wooden box chest or closet. The metallic frame which may be made of zinc, tin or sheet iron (zinc is preferred) is represented at *a a a a*. The woolen flannel or other cloth, covering the metallic frame is represented at *g g g*. The trough or tank for receiving the water as it drains from the cloth is represented at *c c*; the shelves at *e e*. A space of one inch or more must be left between the metallic frame and the wooden chest box or closet within which it is put, to allow sufficient room to put the cloth on to the metal, and to remove the same, as it will be expedient to change the cloth occasionally. The flanges on the metallic frame will prevent the water from running off

until it is conducted into the tank or trough for receiving it, so that no moisture can pass from the outside of the metallic frame to the interior thereof upon the shelves *n, n*, may be placed such articles as are required to be kept moist as well as cool as the atmosphere upon these shelves comes into immediate contact with the ice. A space between the metallic frame and the wooden box or chest is shown at *r r*, Fig. III.

I do not claim an inner and outer box, case or frame nor the combination of these. Neither do I claim filling the space between the inside frame and outside box or case, with any fibrous or pulverized bad conductor of heat. Neither do I claim making the inside frame convex or concave. But

I do claim—

Covering the inside box, case, or metallic frame with woolen, flannel or other cloth, in such a manner that the water as it drips from the melting ice, will drip on to, and saturate the cloth, and from the cloth will be conducted out of the case thereby producing a strata of cold water, held in the cloth, over the entire surface of the inner metallic frame, and surrounding the articles to be kept cool substantially as herein set forth.

SAML. HICKOK.

Witnesses:

ROBERT BACH,
C. H. COLEMAN.