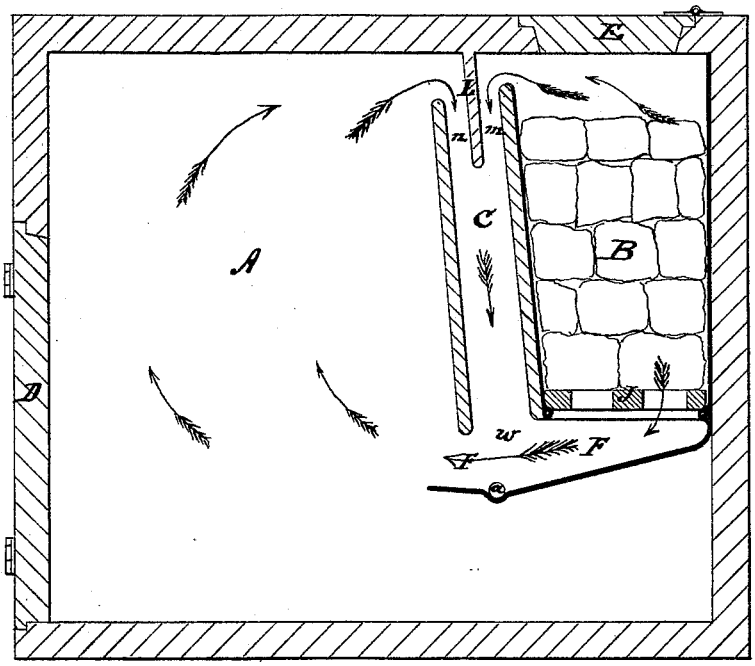
G. H. CRISFIELD.

REFRIGERATOR.

No. 186,200. Patented Jan. 16, 1877.



Witnesses.

William T. Munch.

J. B. Allen.

Inventor.

George H. Crisfield

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UNITED STATES PATENT OFFICE.

GEORGE H. CRISFIELD, OF YONKERS, NEW YORK.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. **186,200**, dated January 16, 1877; application filed March 25, 1876.

To all whom it may concern:

Be it known that I, GEORGE H. CRISFIELD, of Yonkers, Westchester county, State of New York, have invented a new and Improved Refrigerator, of which the following is a specification:

The nature of my invention consists in the arrangement of the ice-chamber in the back part of the refrigerator, separated from the chamber containing the articles to be cooled by a flue or passage, the upper part of which is divided by a suitable partition-plate in two parts, one of which communicates with the top of the refrigerator, and the other with the top of the ice-chamber. The bottom of this flue communicates with a passage from the bottom of the ice-chamber into the refrigerator. The cold air coming from the bottom of the ice-chamber, and passing into the refrigerator, draws the evaporated vapors from the surface of the ice, as well as the warmer air from the upper part of the refrigerator, down through the division-flue, where, being met by the cold current, they are condensed outside and apart from the ice, whereby a considerable saving of ice is effected.

The accompanying drawing represents a longitudinal section of a refrigerator embodying my invention.

A is the refrigerator, to which entrance is obtained through the door D. In the after part of this refrigerator the ice-chamber B is arranged, extending the whole width of the refrigerator, and divided from the same by the flue C. The ice is placed into this chamber B through an opening, E, made in the top of the box, and is supported upon a wooden grate, J. From the bottom of the ice-chamber B a flue or passage, F, is arranged into the refrigerating-chamber A.

The upper part of the flue C, which divides the ice-chamber from the refrigerator, is provided with a partition-plate, L, dividing this flue into two parts, *n* and *m*, the flue *m* being connected with the top of the ice-chamber B, and the flue *n* with the upper part of the refrigerating-chamber A.

At the lowest part of the flue F openings *a* are made, passing through one or both sides of the box, to carry off the condensed vapors or water. The cold air passes from the bottom of the ice-chamber, through the flue F, into the refrigerator A, causing a draft, whereby the evaporation from the top of the ice in the chamber B is drawn through the passage *m* and down the flue C. At the same time this cold air, passing from the ice-chamber into the refrigerator A, displaces the warmer air in the same, and which is drawn by the current off at the top through the passage *n*, and down the flue C, being, on account of the partition-plate L in the top of the flue C, prevented from passing into and upon the ice in the chamber B. The vapors from the ice-chamber B, and from the top of the refrigerator A, after passing down the flue C, meet the cold current coming from the bottom of ice-chamber at or near *w*, and are there condensed, and the condensed water is allowed to escape through the openings at *a*.

By this arrangement a condenser is formed entirely apart from the ice, which is therefore not subjected to different temperatures of air, in consequence of which a great saving of ice is obtained.

The above-described drawing off of the vapors from the top of the ice-chamber B, and from the top of the refrigerator A, and their condensation outside and apart from the ice by their meeting of the cold current in the flue F, creates a continued current through the refrigerator and these flues.

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

The flue C between the refrigerator A and ice-chamber B, provided with a partition-plate, L, dividing its upper part, one part, *m*, communicating with the top of the ice-chamber B, and the other part, *n*, with the top of the refrigerator A, in the manner and for the purpose substantially as described.

GEO. H. CRISFIELD.

Witnesses:

HENRY E. ROEDER,

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