

J. C. Schooley.

Refrigerator.

31,039.

Patented Jan. 1, 1861.

Fig. 1.

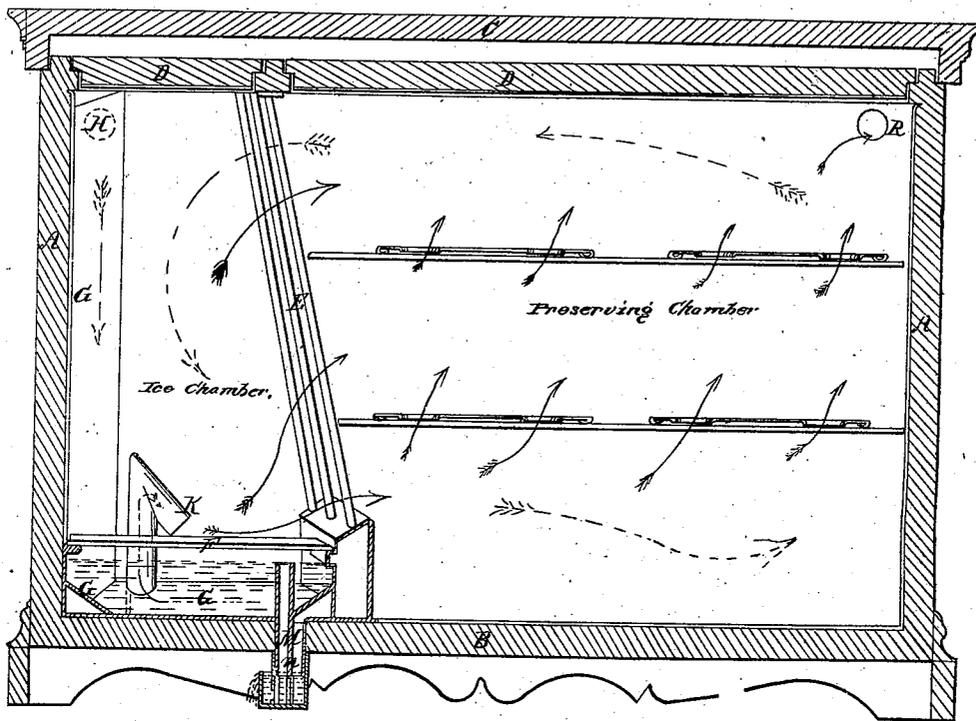
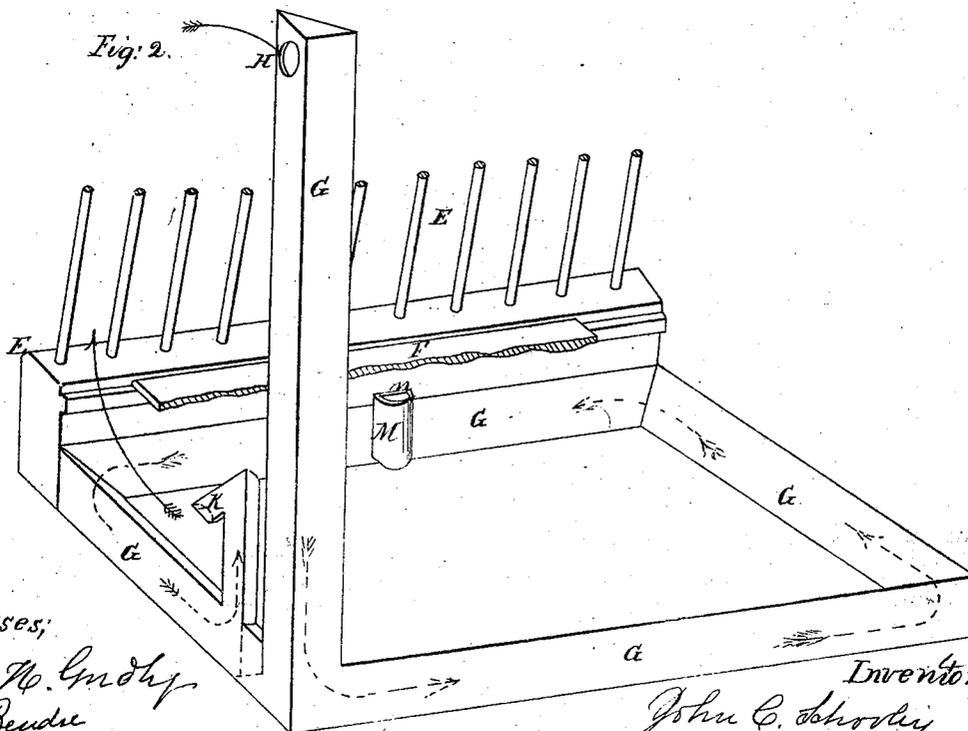


Fig. 2.



Witnesses;
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UNITED STATES PATENT OFFICE.

JOHN C. SCHOOLEY, OF CINCINNATI, OHIO.

REFRIGERATOR.

Specification of Letters Patent No. 31,039, dated January 1, 1861.

To all whom it may concern:

Be it known that I, JOHN C. SCHOOLEY, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Refrigerators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical section of my improved refrigerator. Fig. 2 is a perspective view of the lower portion of the same.

Similar letters of reference in both figures indicate corresponding parts.

My invention relates to all kinds of refrigerators, ice-chests, or preserving rooms, ventilated and cooled by currents of air produced by ice or its equivalents, and more particularly to those described in patents severally granted to me March 13th 1855 June 16th 1857, and also one granted to me as assignee of F. Fairbanks August 12th 1856, and which are ventilated, cooled and dried either by the interchange and circulation of air from the exterior or interior, or both at will, and my present improvement relates, first, to an arrangement of an air passage leading from the exterior of the ice chamber of a refrigerator down the inside from the top, thence encircling or covering the bottom of the ice receptacle and discharging at a point above the mouth of the water escape tube in the bottom, which water escape tube is so arranged that the ice meltings will accumulate sufficiently to cover the air passage on the bottom before it is allowed to overflow and run out; thus a portion of the air passage will be submerged in the ice meltings at all times.

My second improvement, consists, in constructing a double water-escape tube, so arranged that the moisture produced by condensation in the air induction passage, and the melting of the ice in the ice receptacle will be carried off and fall into the same water cup below. Refrigerators whose air inlet is short and communicates directly with the whole body of ice are found to be defective because a greater portion of the inflowing air, seeking the shortest passage to the outlet will come in contact with the things to be preserved, without flowing over the ice, or receiving any cooling effects, excepting that which it receives by mingling with air which is only a few degrees colder

than itself. Hence the necessity for controlling and directing the movements of the inflowing air. Moreover the moisture and impurities of the air are deposited directly upon the ice itself, thus exposing its entire surface to the repeated and continued attacks of all of the warm inflowing air, causing it to melt away with great rapidity, so that its cooling effects are of short duration and very unequal in degree. This difficulty I entirely overcome, by causing the warm inflowing air to deposit its moisture within the air induction passage and run off below in a water trap instead of depositing upon the ice; by this means it is evident a great saving of ice and avoidance of humidity must ensue and the inflowing air, as it flows through that part of the induction passage which is submerged, must necessarily be reduced to a comparatively low temperature before it comes in contact with the ice, consequently this must aid in the economy of ice, and cause the temperature of the preserving chamber to be much colder.

In the accompanying drawings a refrigerator is represented in a chest form with the ice at the side. The insulating sides A, bottom B, lid C, and inner lids D, may be of any improved construction and material. The partition E, may be made as represented or may be of wood with the usual air passage near its bottom. The ice-floor F, rests on ledges above the ice meltings, to prevent the ice from laying in its meltings, and to prevent the submerged part of the air induction passage, from injury by heavy pieces of ice falling upon it. Letter G, is the air induction passage for the flow of air, H, inlet of same, K, outlet of same. M is a double water escape tube, with its partition N, showing the two passages, one leading from the ice chamber the other from the induction air passage. R, is the opening at the end of the preserving chamber for the inclosed air to escape.

When ice is placed in the ice chamber, on the ice floor F, the outside air will enter at H, pass down and through the induction passage G, and while in the submerged portion of induction passage G, it will become cooled and dried depositing its moisture within the passage, which moisture runs off through the double water escape tube M, the flowing air will then pass on to the ice in the ice chamber through the exit opening K, and after becoming still more cold and dry,

will pass into the preserving chamber and out at R.

Having thus fully described my improvements, what I claim, and desire to secure by Letters Patent, is:—

5 1. The application and arrangement of the air induction passage G, extending from the top of the exterior of the ice chamber down its inside underneath the ice meltings
10 and discharging at a point above them, substantially as and for the purposes set forth.

2. I claim the construction of the double

water escape tube M, so arranged as to carry off the meltings in the ice chamber and the moisture produced by condensation within the submerged air induction passage with one and the same water cup, substantially as, and for the purposes set forth.

In testimony of which invention, I hereunto set my hand.

JNO. C. SCHOOLEY.

Witnesses:

GEO. H. KNIGHT,

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