

A. B. Ely,

Refrigerator.

No. 102,382.

Patented Apr. 26. 1870.

Fig: 1.

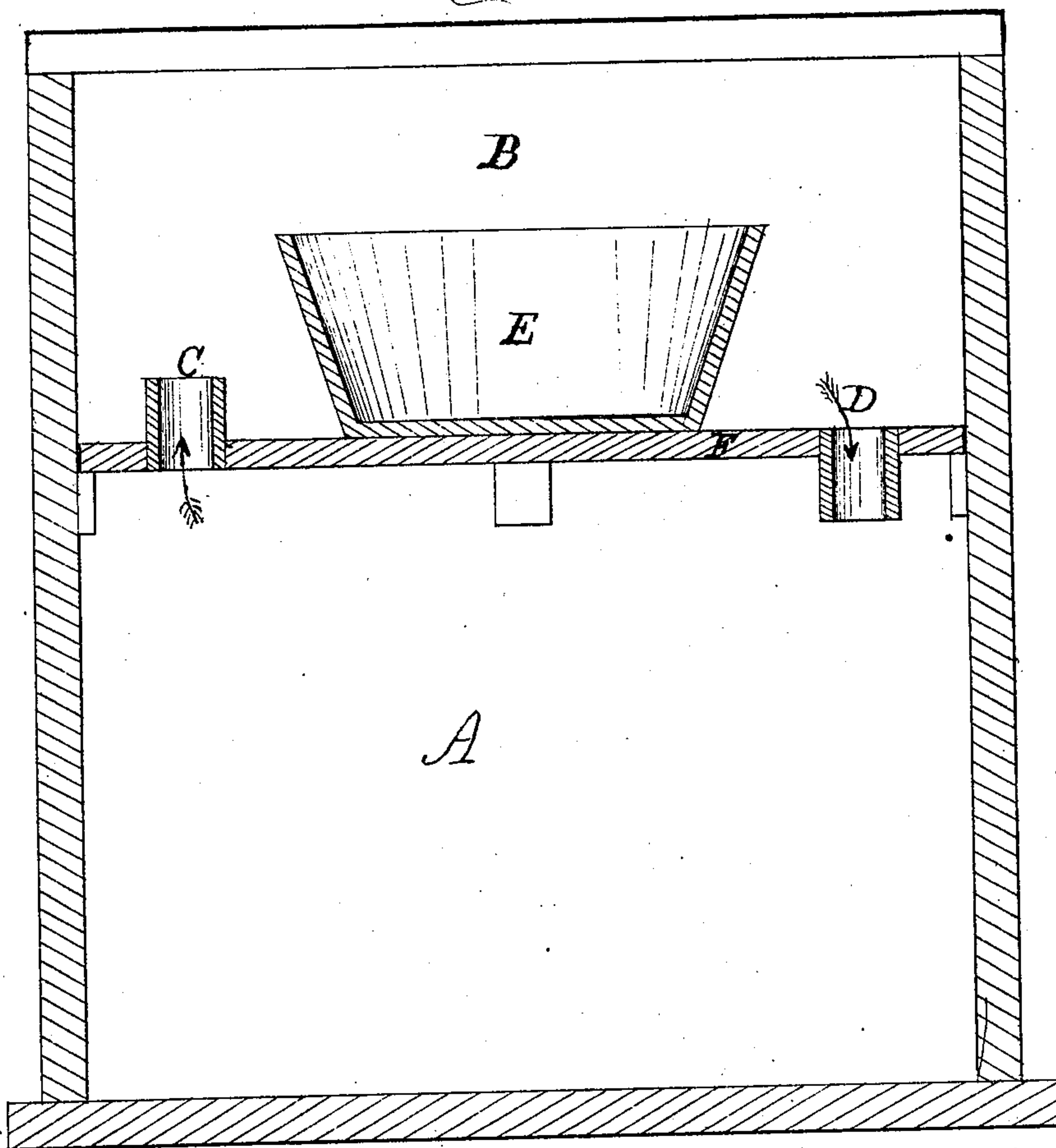
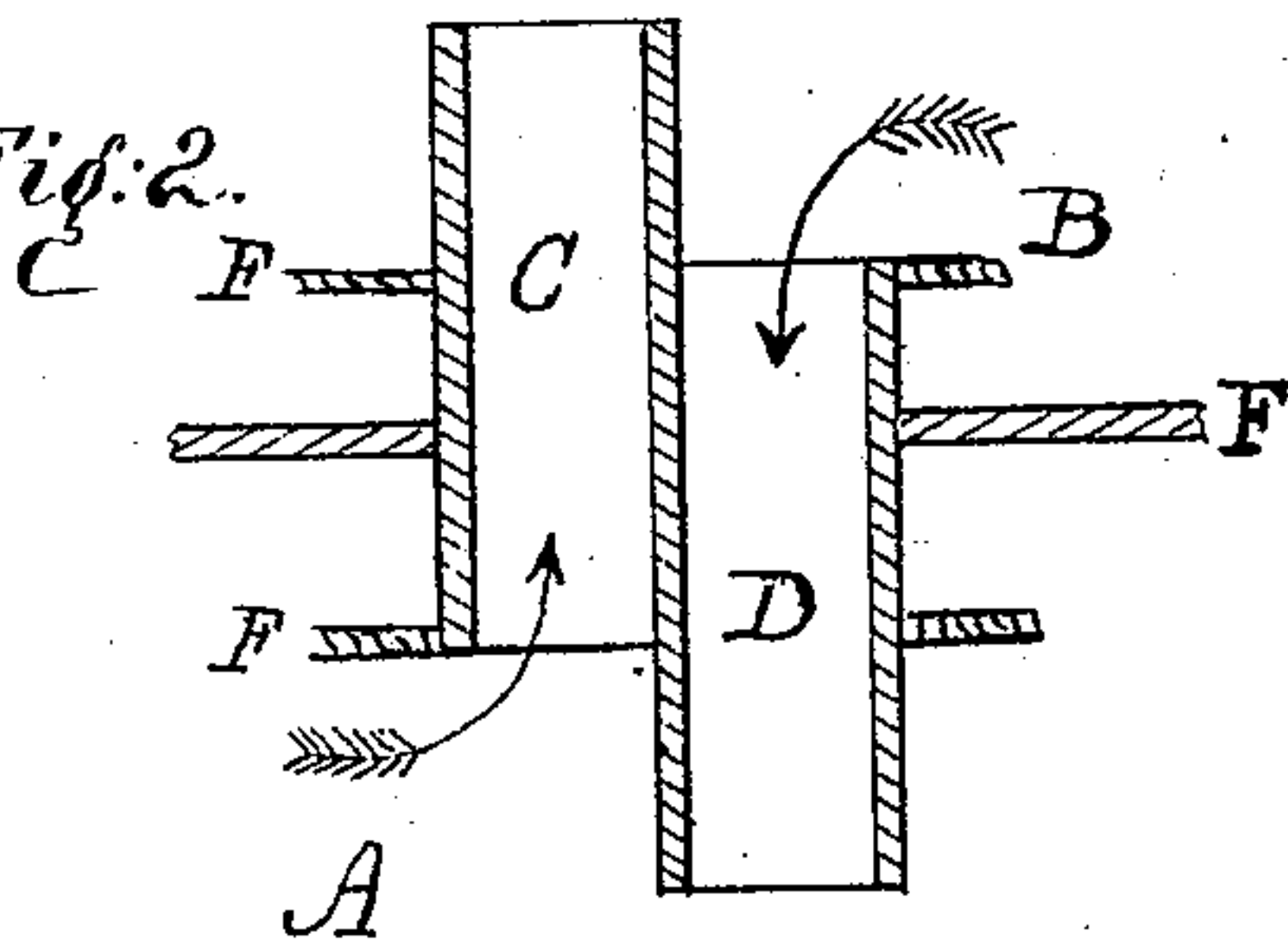


Fig: 2.



Witnesses

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ALFRED B. ELY, OF NEWTON, MASSACHUSETTS.

Letters Patent No. 102,382, dated April 26, 1870.

IMPROVED REFRIGERATOR AND COOLING APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, ALFRED B. ELY, of Newton, Middlesex county, and State of Massachusetts, have invented an Improved Ventilating and Cooling Apparatus, of which the following, with the drawings, is a full description.

Figure 1 is a section of a refrigerator to which my invention may be adapted, showing the ice-pan and chamber, and the ventilating-pipes into and out of it.

Figure 2 is a section of the ventilating-pipes when in juxtaposition.

A is a room or chamber, of which F is the ceiling.

B is, in a refrigerator, a chamber over the room A.

C is a pipe, leading upward from the room A, and projecting into the chamber B.

D is a pipe leading downward from the chamber B, and projecting into the room A.

E is an ice-pan on the floor of chamber B.

For more perfect circulation, the lower end of C should be flush with the ceiling F of room A, and the upper end of D flush with the floor of chamber B, especially when used for cooling purposes; but the pipes may be arranged as in fig. 2, extending each way for ventilation, except that the upper orifice of C should extend above that of D, and the lower orifice of D should extend below that of C.

The object of this is apparent. D being extended below the surface of the ceiling or below C, the cold air will fall through D without any interruption from the upward pressure of the warm air toward the same orifice, and C being extended above the floor or above D, the warm air will rise through C, without any in-

terruption from the downward pressure of the cold air toward the same orifice.

In the case of the refrigerator, the air in B being cooled by the ice in E, will fall through D into A, and the warmer air in A will rise through C into B, and thus a substantially perfect equilibrium will be soon established, and the temperature of A will be equalized with that of B.

So, in ventilation, as long as the temperature above the room A is cooler than that in A, there will be a constant flow into A through D, and out of A through C, and the ease and perfection of this circulation and ventilation will be greatly enhanced by the construction and arrangement of the tubes or orifices C and D in relation to each other, and also in relation to the room A.

The number of pipes may be increased, and the cooling material differently placed, without changing the principle of the invention.

What I claim is—

1. The combination of pipes C and D, when constructed and arranged in relation to each other, and to room A, substantially as shown and described.

2. The combination of pipes C and D and a receptacle for cooling material, when constructed and arranged in relation to each other and to room A, substantially as described.

ALFRED B. ELY.

Witnesses:

J. P. JACOBS,

N. T. ELLSWORTH.