

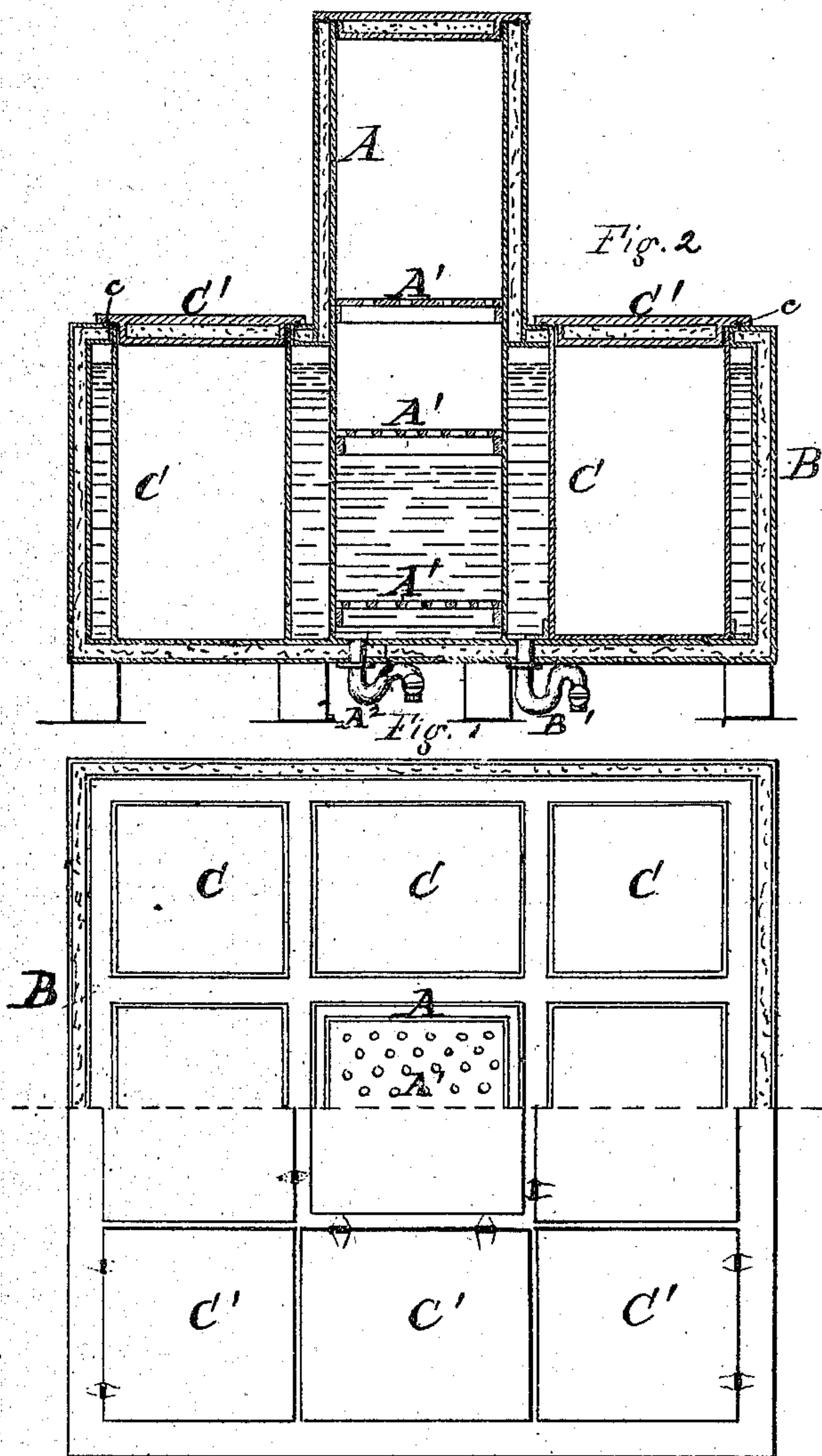
J. E. Somes,

2, Sheets, Sheet 1.

Refrigerator Building.

No. 100,683.

Patented Mar. 8. 1870.



Attest
A. E. J. E. E.
J. E. Somes

Inventor
J. E. Somes.

J. E. Simes,

2. Sheets. Sheet 2

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Fig. 3

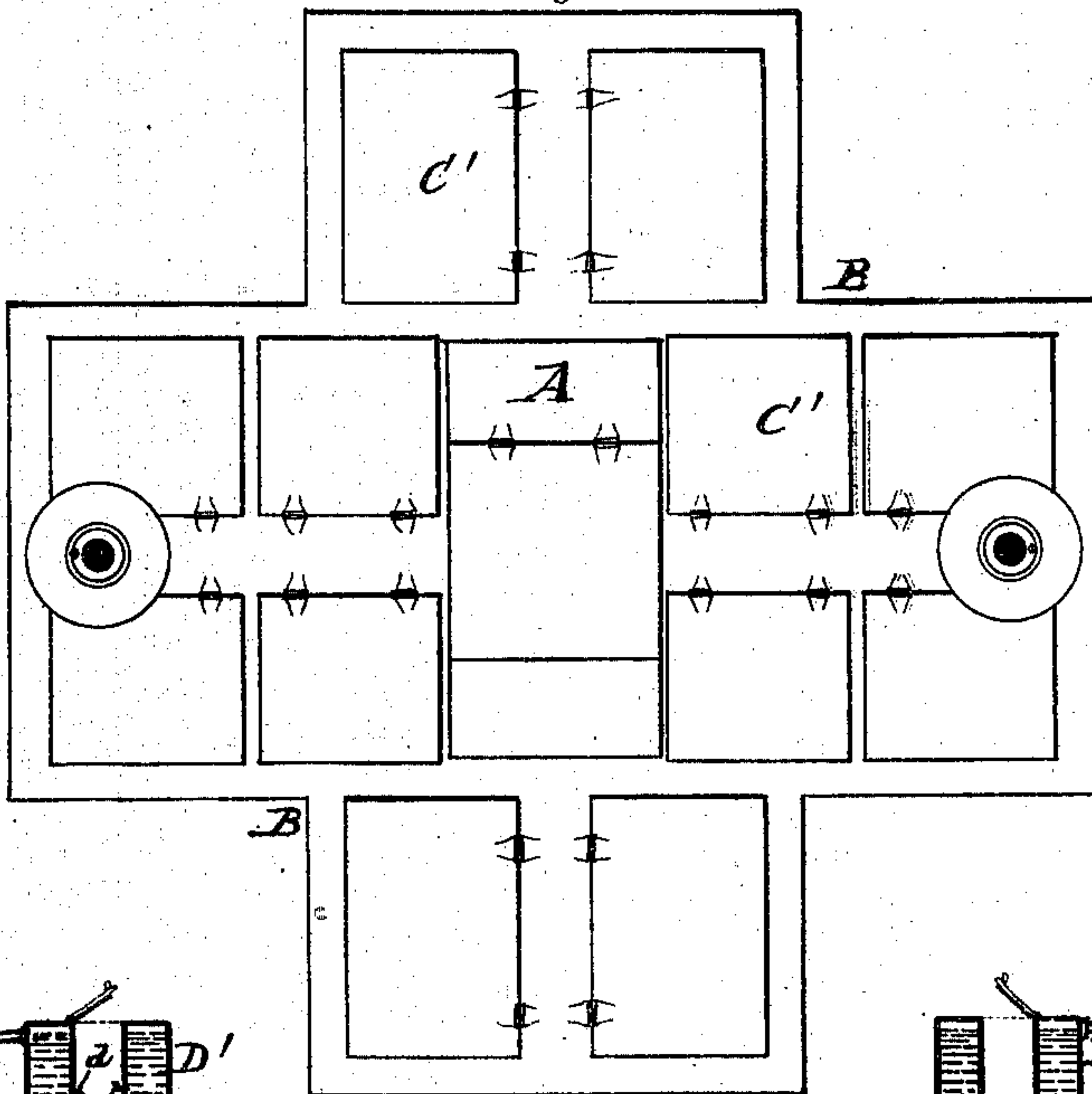
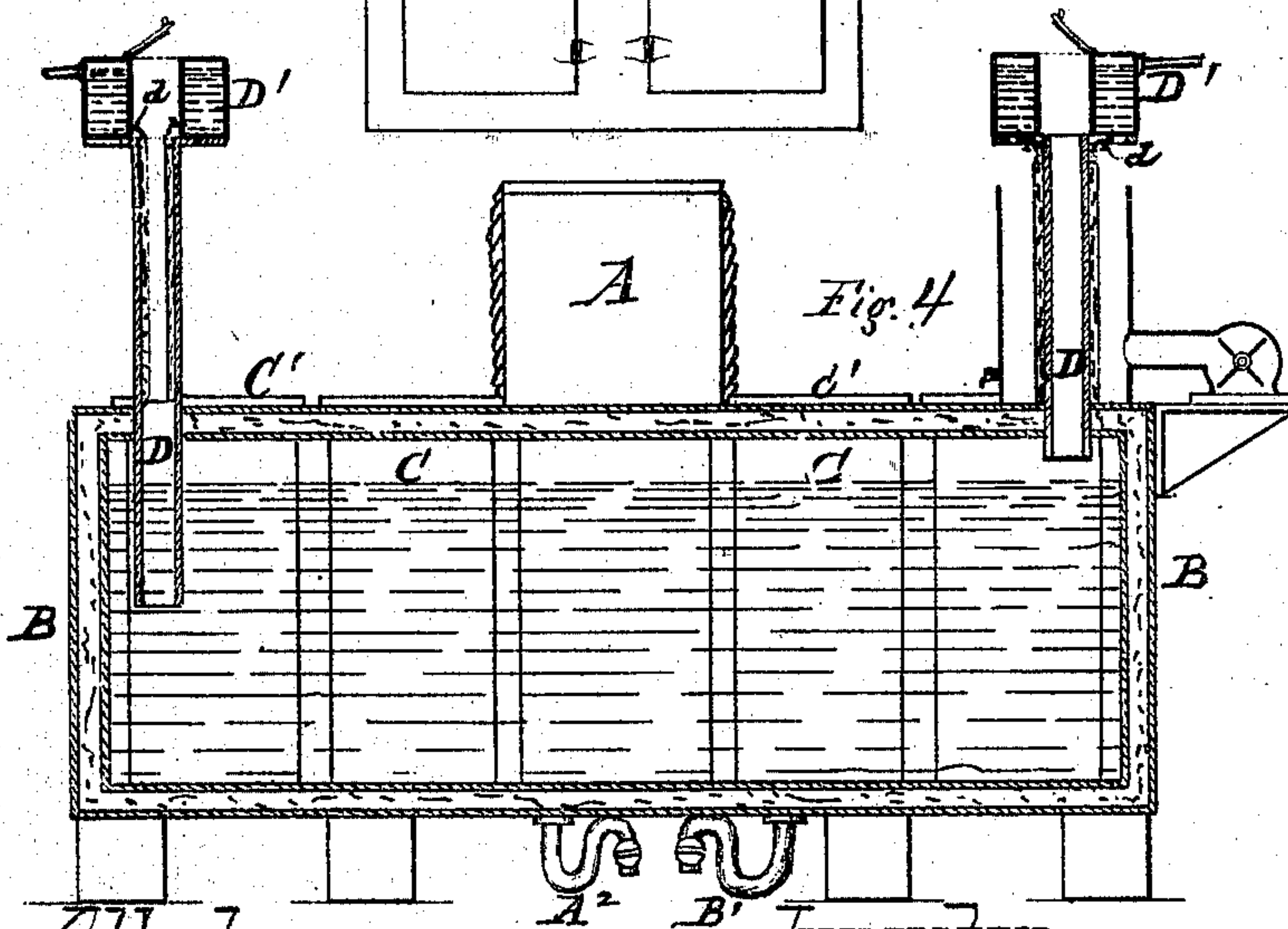


Fig. 4



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DANIEL E. SOMES, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 100,683, dated March 8, 1870.

IMPROVEMENT IN APPARATUS FOR COOLING AND PRESERVING.

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

To all whom it may concern.

Be it known that I, DANIEL E. SOMES, of Washington, in the county of Washington, and in the District of Columbia, have invented a new and useful improved Refrigerating and Preserving-Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings making part of this specification, in which—

Figure 1 is a plan view of the apparatus, the head of the ice-receptacle, and a portion of the top wall of the box in which the tanks are arranged being broken away to show the interior arrangement.

Figure 2 is a central vertical section of the same.

Figure 3 is a plan view of the apparatus, showing a different form of the preserving-box, and also pipes inserted in the said box at different points, communicating with its interior, and carrying, at their upper outer ends, reservoirs for water, which is made to trickle down upon some porous covering around the pipe to produce evaporation.

Figure 4 is a sectional elevation of the same.

The same letters are used in all the figures in the designation of identical parts.

My invention relates to an apparatus for cooling and preserving perishable articles, and my improvements consist in the construction, combination, and arrangement of various parts of the device, as will be more fully set forth in the following specification and claims.

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

In the annexed drawings—

A represents the ice-receptacle set into the surrounding preserving-box B. I have shown a portion of this receptacle as rising above the top of the box B, in which case the projecting part is constructed with double or multiple walls, the spaces between which may be filled with good non-conducting material.

The top of the ice-receptacle has a hinged head, closing a suitable opening through which to pass the ice or other cooling substance into the same. That portion of the receptacle within the box B has only a single wall, as shown.

Diaphragms or grates A¹ are arranged in the ice-receptacle at different heights, and so that they can be withdrawn out of the same, so that the cooling substances can be supported at various points.

A trap, A², serves to discharge the water from the receptacle at any time it is desirable to do so without permitting the air to enter.

The joints between the receptacle A and box B must be made water-tight, so that there is no communication between the two.

In the box B, which is constructed with double or multiple walls all around, are arranged a series of tanks or receivers, C, either set loosely into the same, through openings in the top wall of said box, or permanently built in it. In either case they are to be so arranged as to leave spaces between them and the walls of the box B and the receptacle A, and they must be constructed water-tight.

These tanks are to be closed on top by suitable doors C', the joint between which and said tanks is made air-tight by rubber-tubing c inserted between the two.

A trap, B', is used for drawing off the liquid ordinarily contained in the box B.

D represent pipes inserted in the box B at different points issuing into the same between the tanks. They extend a short distance into said box, so that their lower ends, which are open, are below the level of the water or brine contained therein.

Their upper ends, which may rise to any desired height above the top of the box, are also open, and upon this end a reservoir, D', of suitable size, is arranged, in which to store water or other liquid, cocks d being used to allow the liquid to trickle down from the reservoir upon a lining of tow, or other flexible material, wound around, interiorly or exteriorly, the pipe, whereby evaporation is produced in the pipes, and the air therein constantly cooled, the temperature of which is transmitted through the water or brine in the box B to the tanks or receivers C.

This apparatus may be operated in the following manner:

The preserving-box B is nearly filled with water or brine, which surrounds the ice-receptacle and the tanks or receivers, in which latter the articles to be cooled or preserved are placed. The ice receptacle is also partly filled with brine or water or not, as circumstances may require, and a sufficient quantity of ice or other cooling substances placed in the same to reduce the temperature.

I do not confine myself to the arrangement of the parts of the apparatus, nor to the number of evaporating-pipes or ice-receptacles. I also may use the ice-receptacle as an evaporating-pipe, covering its inner or outer sides with porous substance, and having a tank of water to wet the same, against which a stream of air is forced to produce evaporation, as shown in fig. 4, or jets of water or other liquid, or fine spray may be forced against it.

A pipe may be placed inside or outside of the preserving-chambers, communicating with all and terminating at a common opening to let out the accumulations of water, or for the admission of air, though for most purposes the chambers will be sufficiently dry, and will not need to be ventilated.

Having thus described my invention,

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

1. In combination with a refrigerator, one or more evaporating-pipes and blower, or equivalent, substantially as and for the purpose set forth.

2. An ice-receptacle, having a series of removable perforated diaphragms or grates, at intervals one above the other, for the purpose of separating the ice from the liquid, thereby securing a lower temperature and economy in the use of ice.

3. A refrigerator with preserving or refrigerating

chambers, surrounded by or partially submerged in brine or other liquid, which is cooled by ice, ice and salt, or other cold substance placed in an ice-receptacle, also partially submerged in the same body of liquid, and extending above the top of said chambers, said extension being covered with fibrous material, as and for the purpose set forth.

D. E. SOMES.

Witnesses:

B. EDW. J. EILS,

F. C. SOMES.