

A. C. CONNOR.
REFRIGERATOR.

APPLICATION FILED SEPT. 3, 1907.

985,323.

Patented Feb. 28, 1911.

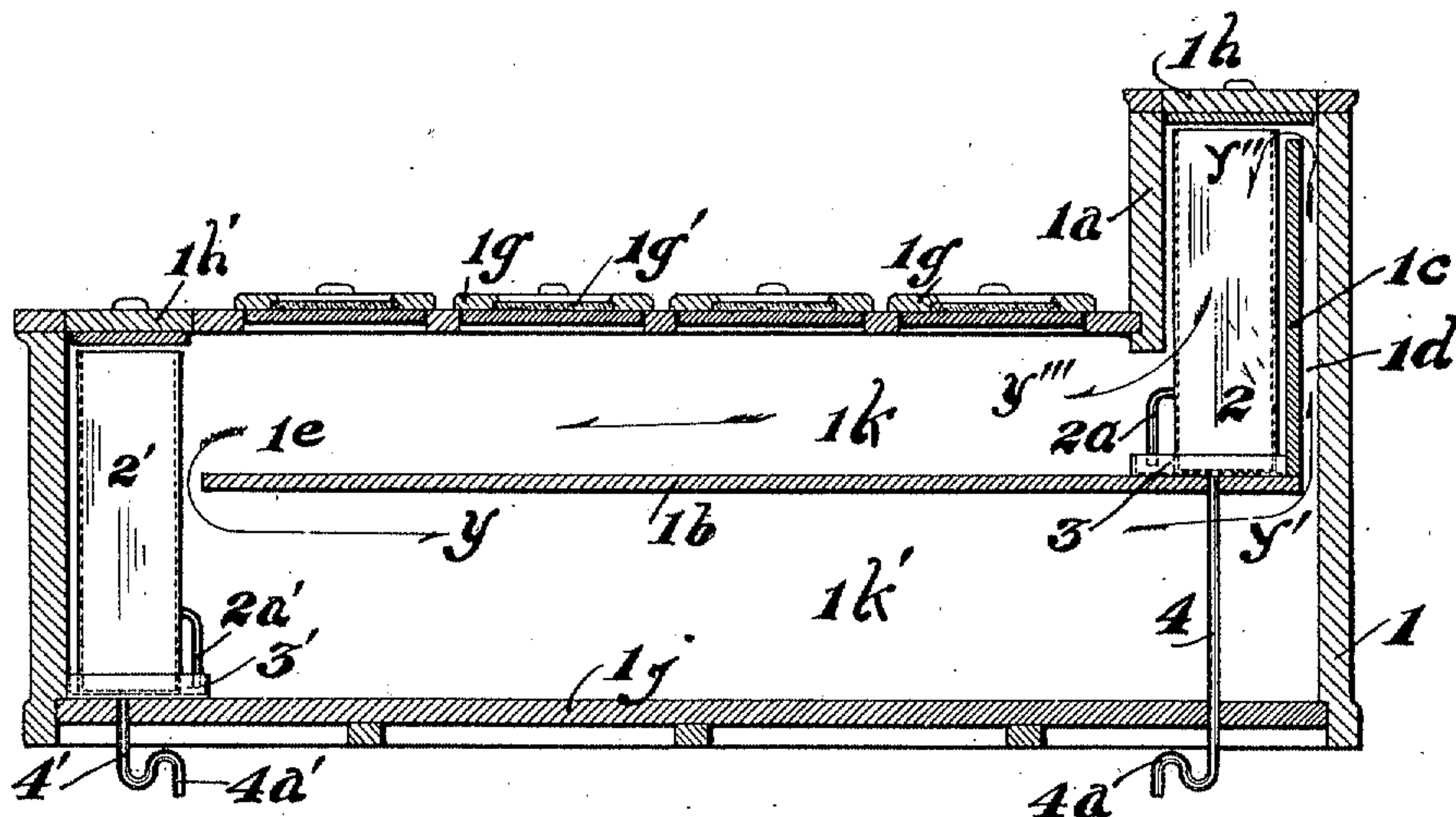


Fig. 2.

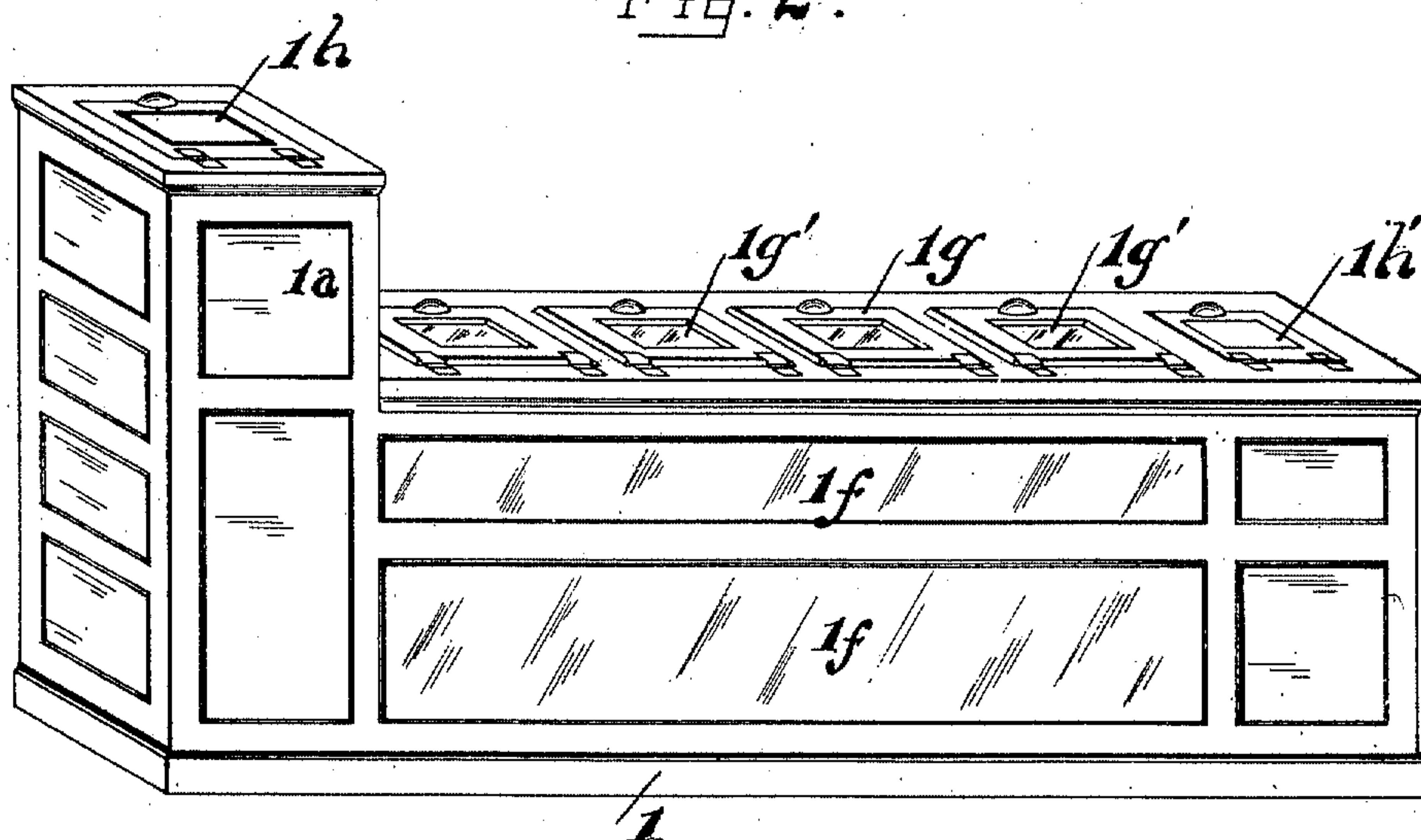


Fig. 1.

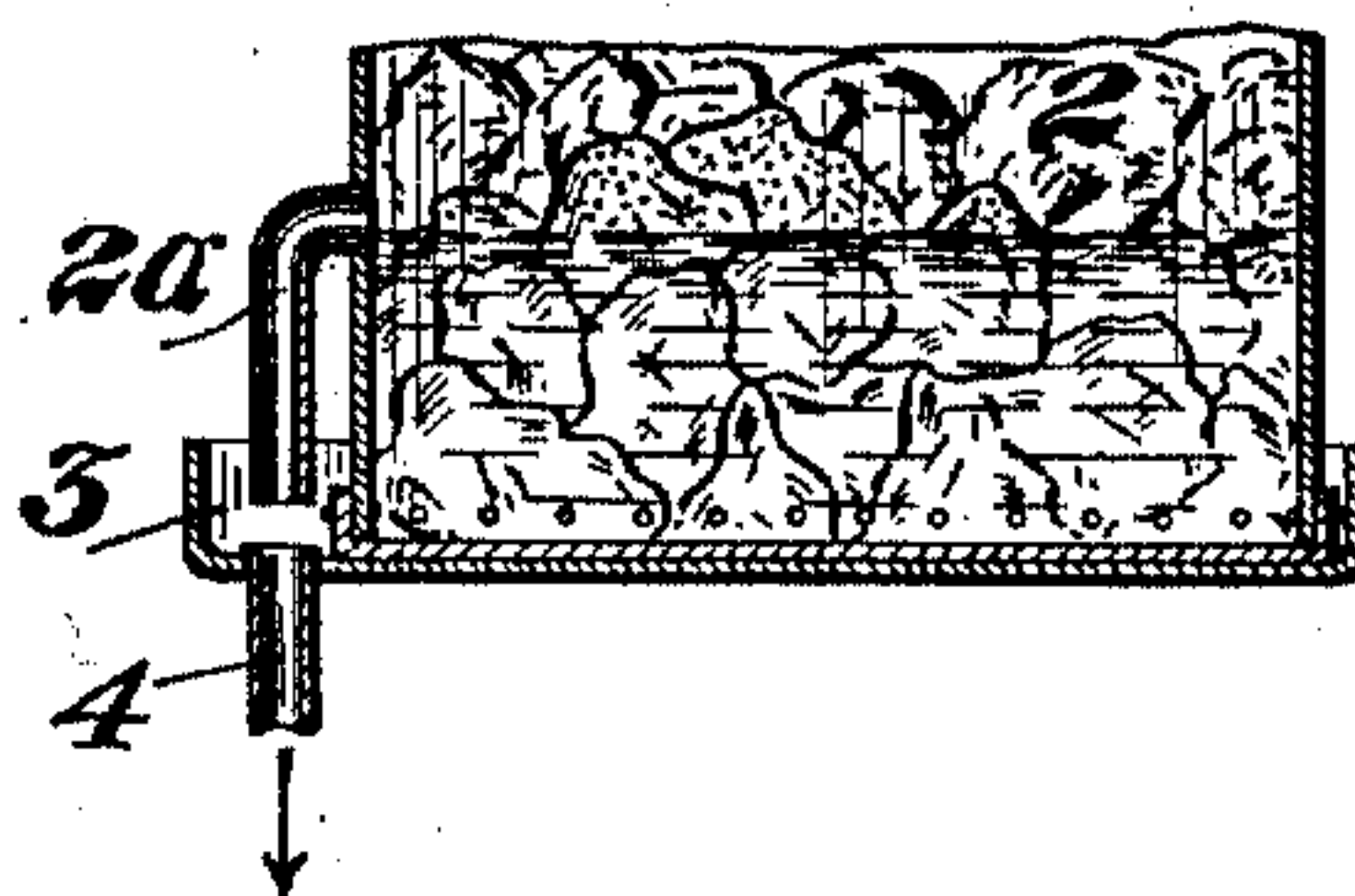


Fig. 3.

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UNITED STATES PATENT OFFICE.

ARTHUR C. CONNOR, OF SPRINGFIELD, ILLINOIS.

REFRIGERATOR.

985,323.

Specification of Letters Patent.

Patented Feb. 28, 1911.

Application filed September 3, 1907. Serial No. 391,083.

To all whom it may concern:

Be it known that I, ARTHUR C. CONNOR, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Refrigerator, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use my said invention.

This invention relates to refrigerators of that class known as counter refrigerators.

The purposes of this invention are to provide a refrigerator so constructed and arranged that its contents may be visible from the outside of the refrigerator; to provide ice-chambers of improved construction; and to provide means for disposing of the water produced by the melting ice.

With these ends in view my invention consists in the novel features of construction and combinations of parts shown in the annexed drawing to which reference is hereby made; and hereinafter particularly described and finally recited in the claims.

Referring to the drawing, in which similar reference numerals and characters designate like parts in the several views; Figure 1 is a perspective view of the complete refrigerator; Fig. 2 is a vertical longitudinal section through the cabinet of the refrigerator and shows the ice-boxes and connected parts, and Fig. 3 is an enlarged partial vertical section through one of the ice boxes.

The cabinet 1 is a wooden structure lined in the usual manner with zinc or other suitable metal, and has an upwardly extending tower 1^a within which the ice-box 2 is housed. A horizontal partition 1^b divides the box into an upper provision chamber 1^k and a lower provision chamber 1^{k'}. A vertical partition 1^c transverse to the cabinet and on top of the horizontal partition 1^b extends upward within the tower and forms, with the end-wall of the cabinet an air flue 1^d. The partition 1^b does not extend the full length of the cabinet. There is a space 1^e between the end of the partition and the end wall of the cabinet. The area of the space 1^e between the lengthwise partition 1^b and the end of the cabinet is greater than the transverse area of the ice box 2' in order to facilitate the removal of the ice box and in order to afford a down-draft opening around the ice box through which air from the upper provision chamber 1^k may circ-

late into the lower provision chamber 1^{k'} as shown by the arrow Y.

The arrangement of the ice box 2 on a higher level than the ice box 2', and the vertical flue 1^d extending upward along the ice box 2 and the down-draft opening 1^e cause the air currents to traverse the entire length of the upper provision chamber 1^k and the entire length of the lower provision chamber 1^{k'}.

The cabinet 1 has glass panels 1^f, and doors 1^g provided with glass panels 1^{g'}. The tower 1^a has at its upper end a door 1^h through which the ice-box 2 may be charged and the cabinet has a similar door 1^{h'} through which the ice-box 2' may be charged. A sheet metal pan 3 rests upon the partition 1^b and supports the ice-box 2. A similar pan 3' rests upon the floor 1ⁱ of the cabinet and supports the box 2'. The boxes 2 and 2' are of galvanized iron and are provided with overflow pipes 2^a and 2^{a'}. Drain pipes 4 and 4' provided with traps 4^a and 4^{a'} are connected with the pans 3 and 3'. The water resulting from the melting of the ice in the boxes 2 and 2' flows out through the pipes 2^a and 2^{a'} into the pans 3 and 3' and is led away by the pipes 4 and 4'.

In use the boxes 2 and 2' will be filled with a refrigerating mixture of ice and salt thus producing extreme cold. The movement of the air currents through the cabinet and around the ice-boxes 2 and 2' are indicated by arrows Y, Y', Y'' and Y'''. It will be observed that the boxes 2 and 2' are on different levels and at opposite ends of the refrigerator. The warmer currents of air ascend through the flue 1^d into the tower as shown by the arrows Y' and Y'', and upon being cooled by contact with the cold surface of the tank 2; take the downward course indicated by the arrows Y''' and Y; and constant circulation is thus maintained within the refrigerator.

The glass panels of the cabinet permit inspection of the refrigerator without opening the doors.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. A refrigerator comprising an upper provision chamber and a lower provision chamber separated by a horizontal partition, and communicating with each other; cooling means on one level occupying space at one end of one provision chamber; and other

cooling means on another level and occupying space at the opposite end of both provision chambers.

2. A refrigerator comprising a cabinet
5 having an upper provision chamber and a lower provision chamber separated by a horizontal partition extending practically the entire length of the cabinet, said horizontal partition being shorter than the provision chambers to form a down-draft opening adapted to accommodate an ice box extending upwardly through said opening and occupying space in both provision chambers, also to form an up-draft opening adjacent
15 to an upper level ice box above the partition; an upper level ice box located above said horizontal partition at one end of the cabinet; and a lower level ice box at the opposite end of the cabinet and extending upwardly through the down draft opening adjacent
20 to one end of the horizontal partition and adapted to again cool air cooled in the first instance by said upper level ice box and traversing the length of said upper provision chamber.
25 chamber.

3. A refrigerator comprising a cabinet having a tower, a horizontal partition extending length-wise of the cabinet less than the full length thereof, and dividing the
30 cabinet into an upper provision chamber and a lower provision chamber, said horizontal partition being shorter than the provision chambers to leave at one end of said parti-

tion an up-draft opening, and to leave at the other end of said partition a down-draft
35 opening adapted to accommodate an ice box within the down-draft opening between said ice-box and said partition; an upper-level ice-box above said lengthwise partition and extending upward into the tower of the
40 cabinet; and a lower level ice-box situated within said down-draft opening and occupying space in said upper and lower provision chambers; said upper-level ice-box, upper provision chamber, lower-level ice-box, and
45 lower provision chamber being in such relation to each other that air cooled by said upper-level ice-box and traversing the length of said upper provision chamber and to some extent warmed therein will pass
50 downward through said down-draft opening and will be again cooled in contact with said lower-level ice-box, will traverse the length of said lower provision chamber and pass upward through said up-draft opening
55 to the upper space of said tower, to be again cooled by said upper-level ice-box, and so on continuously.

In witness whereof I have hereunto subscribed my name at Springfield Illinois this
60 29th day of August 1907.

ARTHUR C. CONNOR.

Witnesses:

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W. K. HALE.