

(No Model.)

P. T. ELDER.
REFRIGERATOR.

No. 547,113.

Patented Oct. 1, 1895.

Fig. 3.

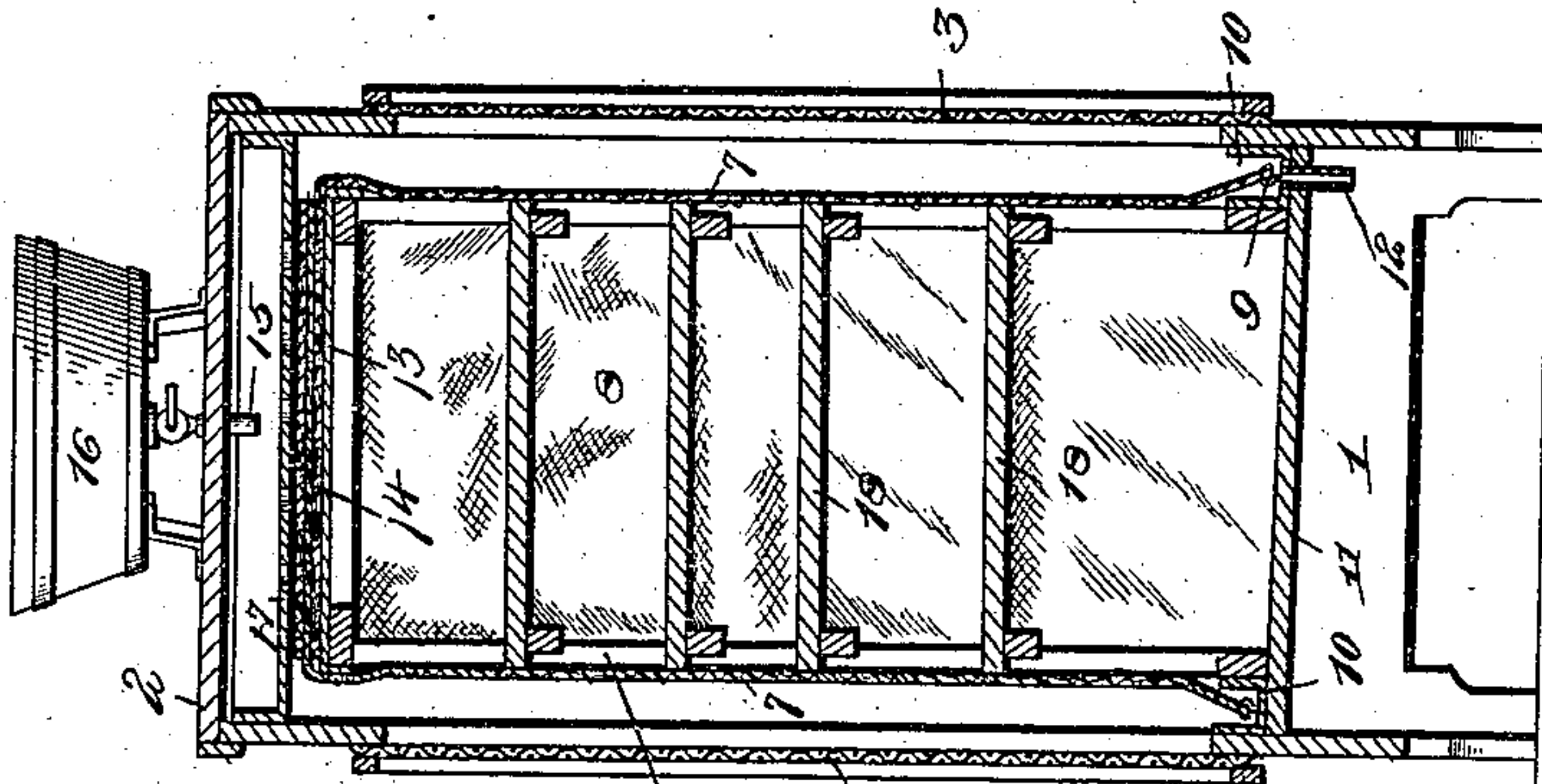


Fig. 2.

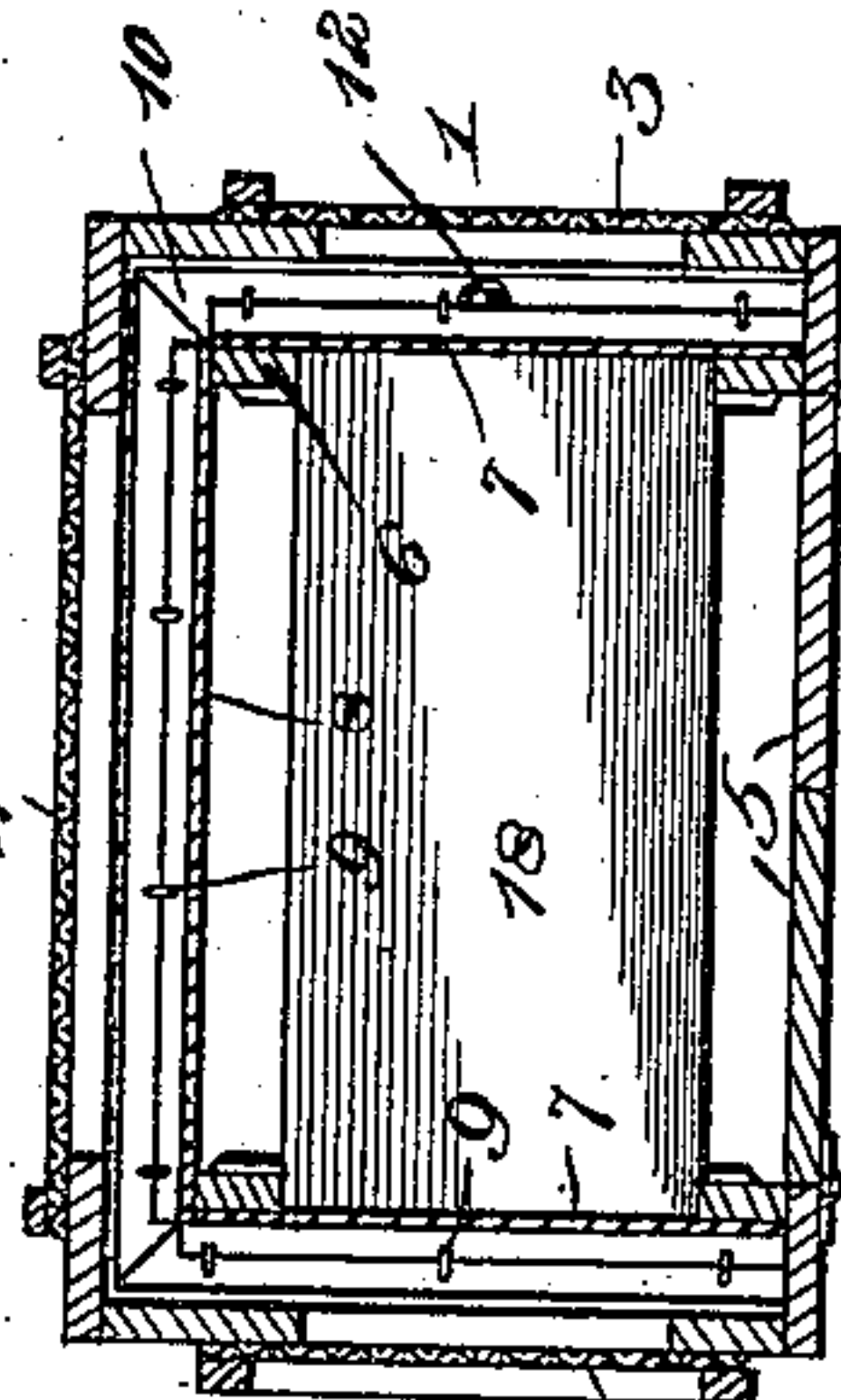
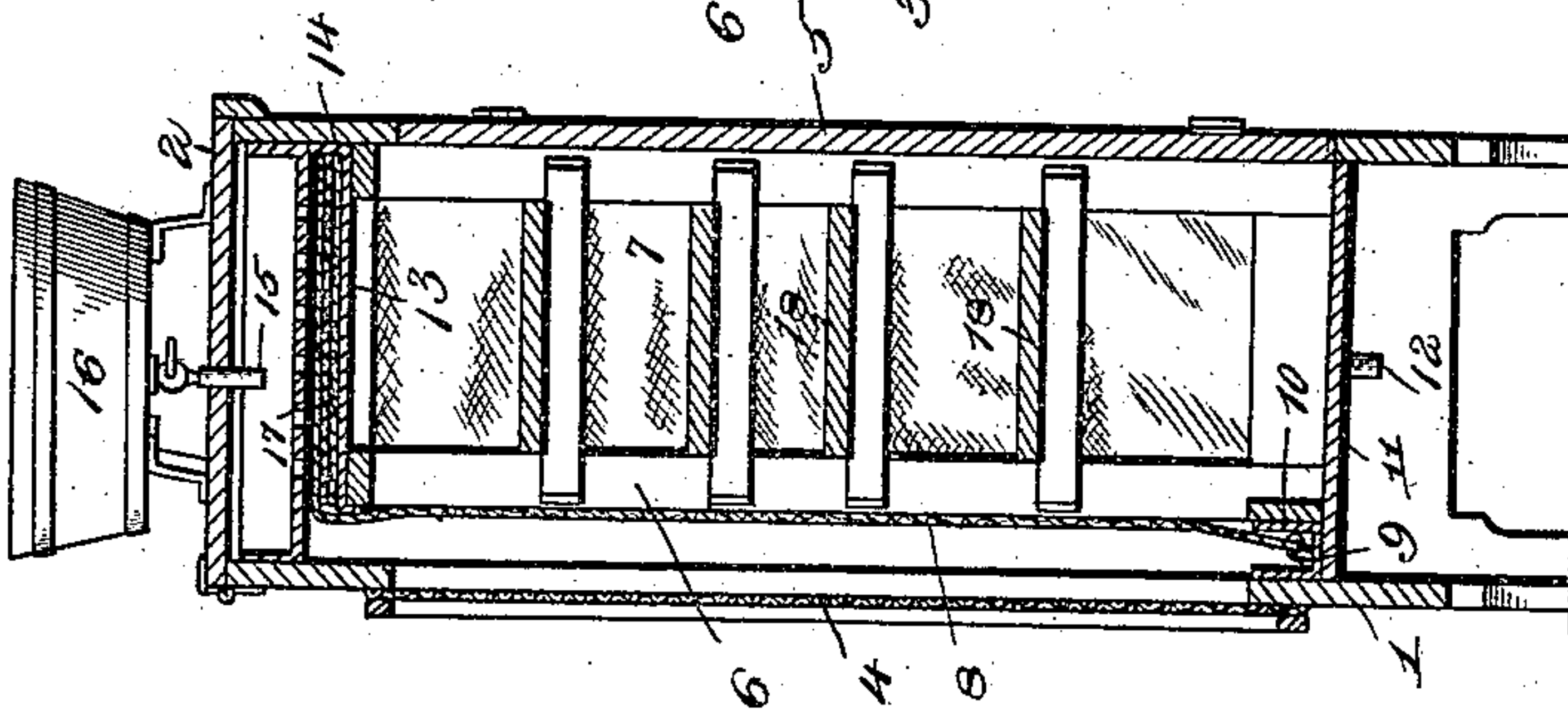
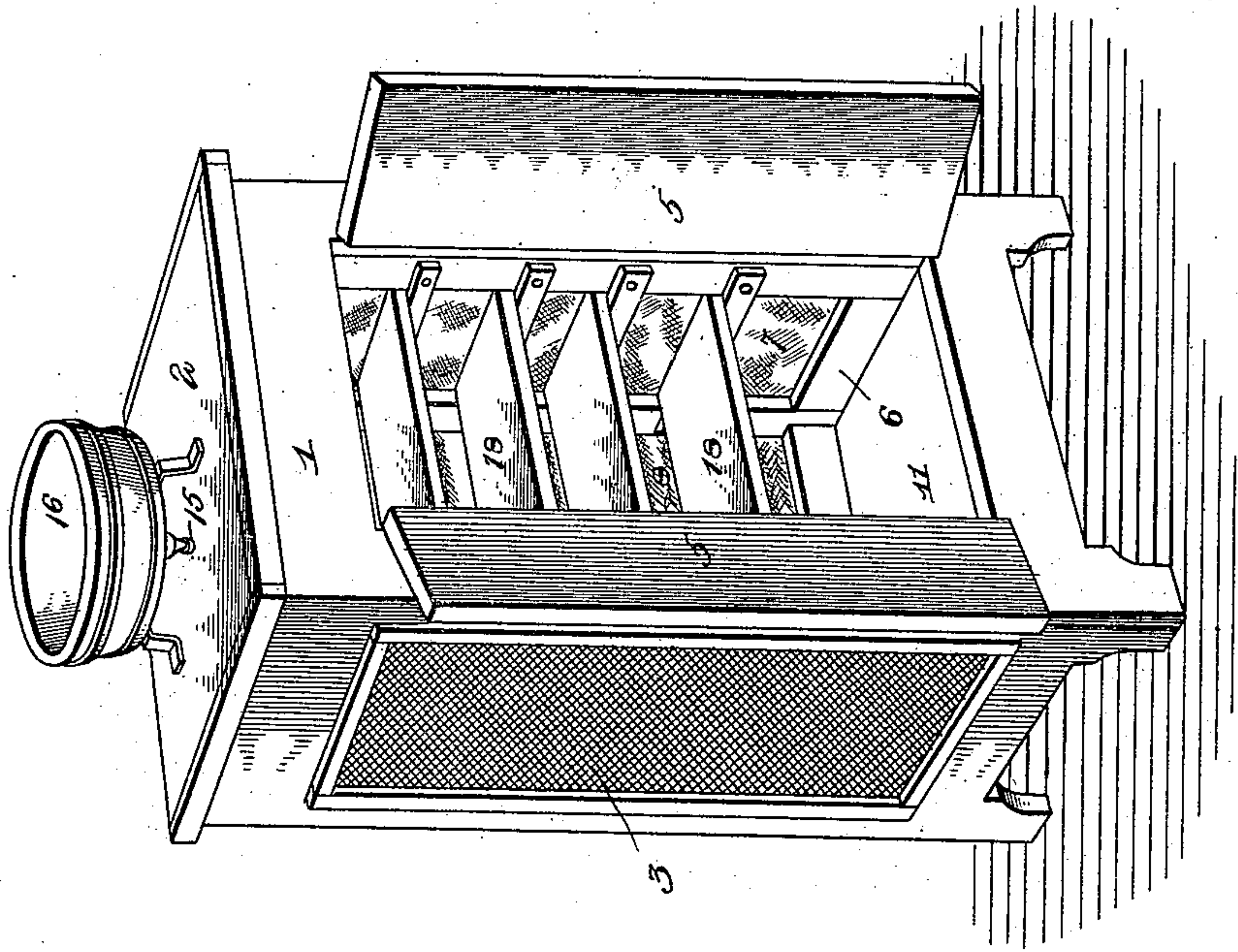


Fig. 4.

Fig. 1.



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Witnesses

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UNITED STATES PATENT OFFICE.

PHILIP T. ELDER, OF DE WITT COUNTY, TEXAS.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 547,113, dated October 1, 1895.

Application filed October 11, 1894. Serial No. 525,619. (No model.)

To all whom it may concern:

Be it known that I, PHILIP T. ELDER, a citizen of the United States, residing in the county of De Witt (Cheapside P. O.) and State of Texas, have invented a new and useful Refrigerator, of which the following is a specification.

My invention relates to improvements in refrigerators adapted to receive meat and dairy and farm products; and the object in view is to provide means for maintaining the interior thereof at a sufficiently low temperature to preserve such products by the use of a small quantity of ice or wholly by means of vaporization secured without the aid of ice.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a perspective view of a refrigerator constructed in accordance with my invention. Fig. 2 is a central vertical section of the same. Fig. 3 is a similar view taken at right angles to Fig. 2. Fig. 4 is a horizontal section.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a casing of preferably rectangular cross-sectional construction provided with a hinged top 2 and having foraminous sides 3 and 4, preferably formed of wire-gauze. The casing is provided at its front with hinged doors 5, and arranged within the casing is a supporting-frame 6, comprising vertical side standards connected by horizontal shelf-supporting strips, said frame being of less cross-sectional area than the casing, whereby its sides and back are spaced from the corresponding parts of the casing. This frame is covered at its sides and back with absorbent fabric, the sheets 7 and 8 of which extend from the top of the supporting-frame to the bottom of the casing, where they are secured by means of hooks 9 in a gutter 10, formed on the bottom of the casing, between the walls of the latter and the supporting-frame. The lower edges of the sheets of fabric are deflected or carried outwardly from the supporting-frame to engage with the hooks, which are

located approximately at the center of said gutter 10, whereby moisture passing down through the sheets is prevented from finding its way to the bottom of the casing within the frame. The bottom 11 of the casing slants from one front corner toward the diagonally-opposite rear corner to drain the moisture accumulating in the gutter 10 toward the outlet-pipe 12, located at the lowest point of the gutter.

The top of the frame is closed by a horizontal imperforate sheet-metal plate 13, upon which is arranged a folded and absorbent textile reservoir 14, preferably consisting of a folded blanket or sheet of fabric, adapted to accumulate moisture and communicate it to the side and rear sheets 7 and 8, which depend from the top of the frame. The vaporization of the moisture from the absorbent-reservoir reduces the temperature of the top or covering plate 18 in the same way that the vaporization from the surfaces of the side and rear sheets reduces the temperature of the contiguous air and contents of the frame.

Removably fitted in the top of the casing beneath the hinged cover 2 is a distributing pan or receptacle 17, adapted to receive a small quantity of ice or water introduced by means of a supply-pipe 15 through the top 2. If ice is placed in this distributing pan or receptacle, the temperature of the interior of the casing is reduced by the melting thereof, and the water which is the result of the melting operation passes into and is absorbed by the absorbent-reservoir and is distributed thereby to the sheets of absorbent fabric supported by the frame and still further reduces the temperature by vaporization. In this way the ice operates to lower the temperature of the interior of the casing and the contents thereof throughout its transition through the liquid to the vaporous state. Hence a small quantity of ice placed in the distributing pan or receptacle will have a double cooling effect upon the contents of the refrigerator by absorbing a double quantity of caloric.

If it is impossible or inconvenient to supply the distributing pan or receptacle with ice, water may be introduced thereinto and serve the purpose above described of the water resulting from the melting of the ice. The sup-

ply-pipe 15 is designed to introduce this water, the same being provided with a stop-cock to regulate the flow and being in communication with a tank 16 or other suitable source.

5 The absorbent-reservoir is coextensive with the imperforate covering-plate 13, and the bottom of the distributing pan or receptacle is perforated to allow the water to descend directly thereinto.

10 The interior of the frame is provided with shelves 18, arranged upon the shelf-supporting strips above mentioned; but other means of support may be substituted for the shelves, to suit the kind of articles arranged in the refrigerator.

15 From the above description it will be seen that the improved refrigerator is adapted to be supplied, for cooling purposes, with either ice or water, and depends mainly upon the vaporization of a liquid to reduce the temperature of the contents, but that a double effect may be produced by the use of ice, which absorbs the heat first in the course of melting and subsequently in the course of vaporization, whereby a small quantity of ice is adapted to perform the function of a much larger quantity where only the melting of the ice is utilized as a means of reducing the temperature. The distributing pan or receptacle
30 may be removed when necessary to rearrange or replace the absorbent reservoir or the sheets covering the sides and back of the frame.

35 Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit

or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

40 In a refrigerator, the combination of a casing having foraminous sides and a top cover or lid, a frame arranged within the casing and having open sides and back and closed at its top by a horizontal imperforate plate, a gutter arranged on the bottom of the casing around said frame and communicating with an outlet pipe, sheets of absorbent fabric arranged at the sides and back of the frame and extending from the top to the bottom thereof, the lower edges of said sheets being deflected or inclined outwardly from the frame toward the center of said gutter, an absorbent reservoir supported by the top plate of the frame and adapted to communicate moisture to the sheets at the sides and back of the frame, said absorbent reservoir being coextensive with the plate, a distributing pan or receptacle fitted in the top of the casing above said absorbent reservoir and having a perforated bottom to communicate moisture to the absorbent reservoir, said pan or receptacle being adapted to contain ice, and means for supplying said pan or receptacle with water, substantially as specified.

65 In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

PHILIP T. ELDER.

Witnesses:

O. L. CROUCH,
G. P. BOX.