

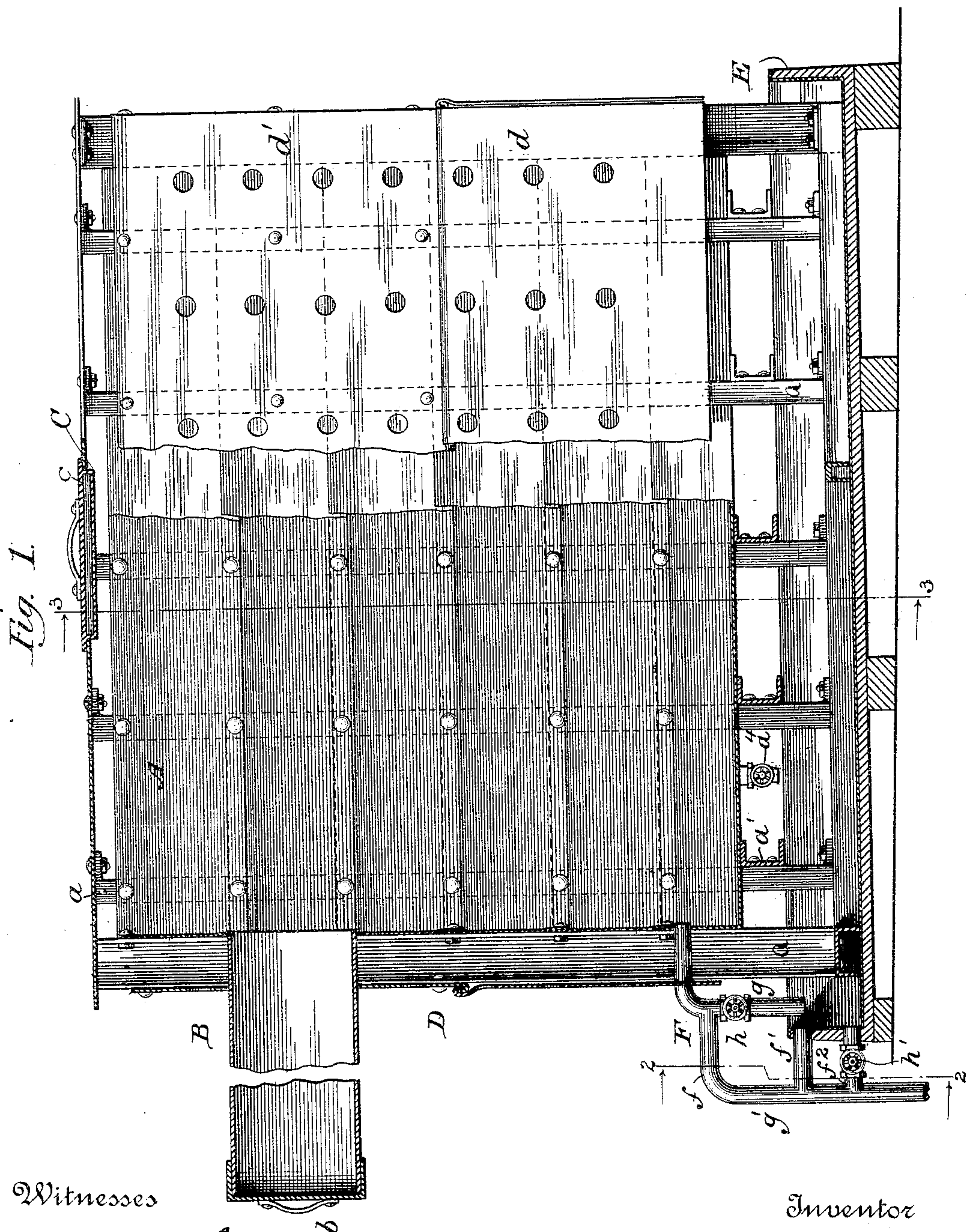
(No Model.)

2 Sheets—Sheet 1.

F. A. WALIN.
REFRIGERATING APPARATUS.

No. 407,045.

Patented July 16, 1889.



Witnesses

Wm A. Skunkle
Cornelia Skunkle

Inventor

Frank A. Walin

By his Attorney

W. H. Chadsey

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Fig. 3.

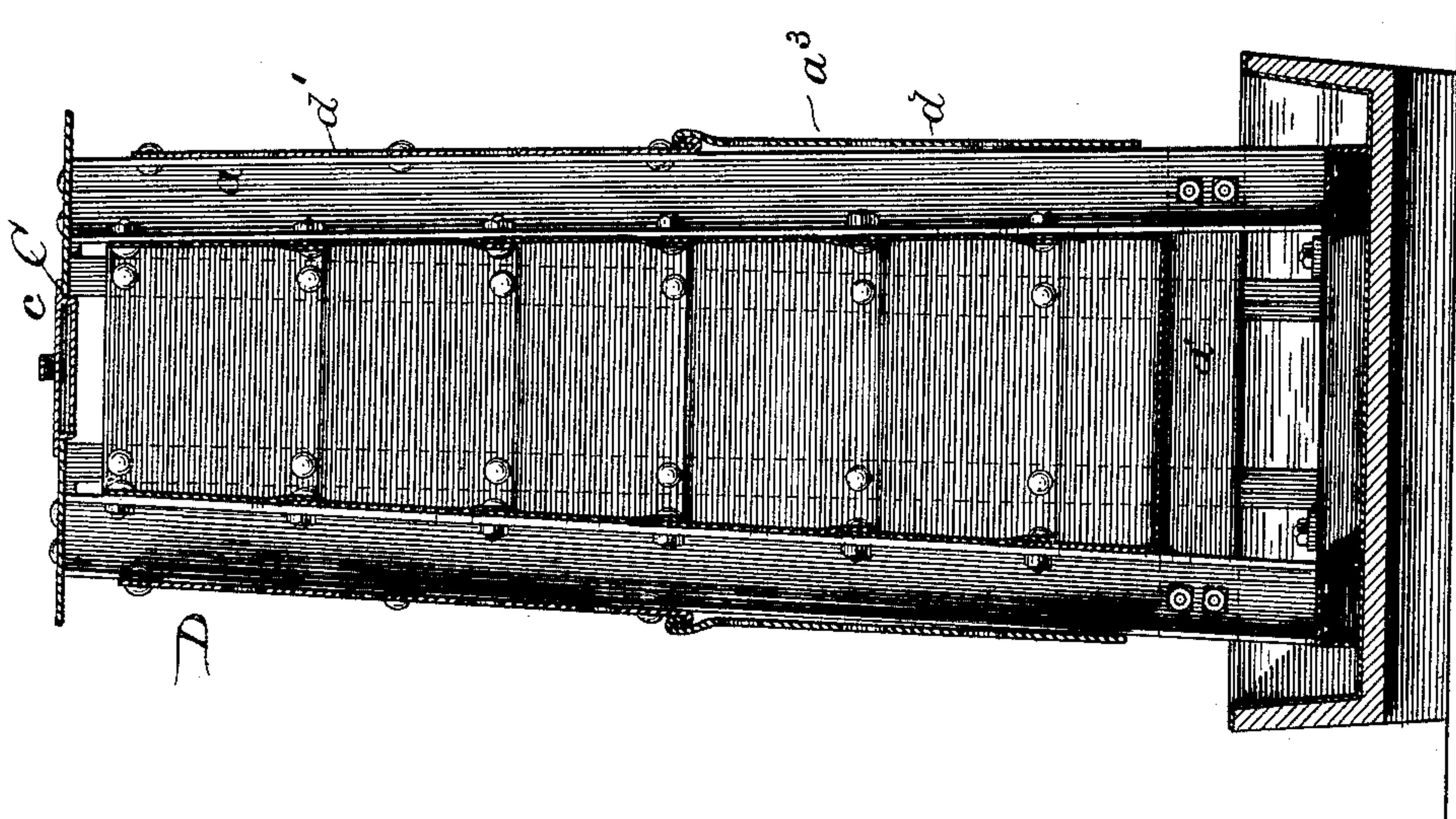
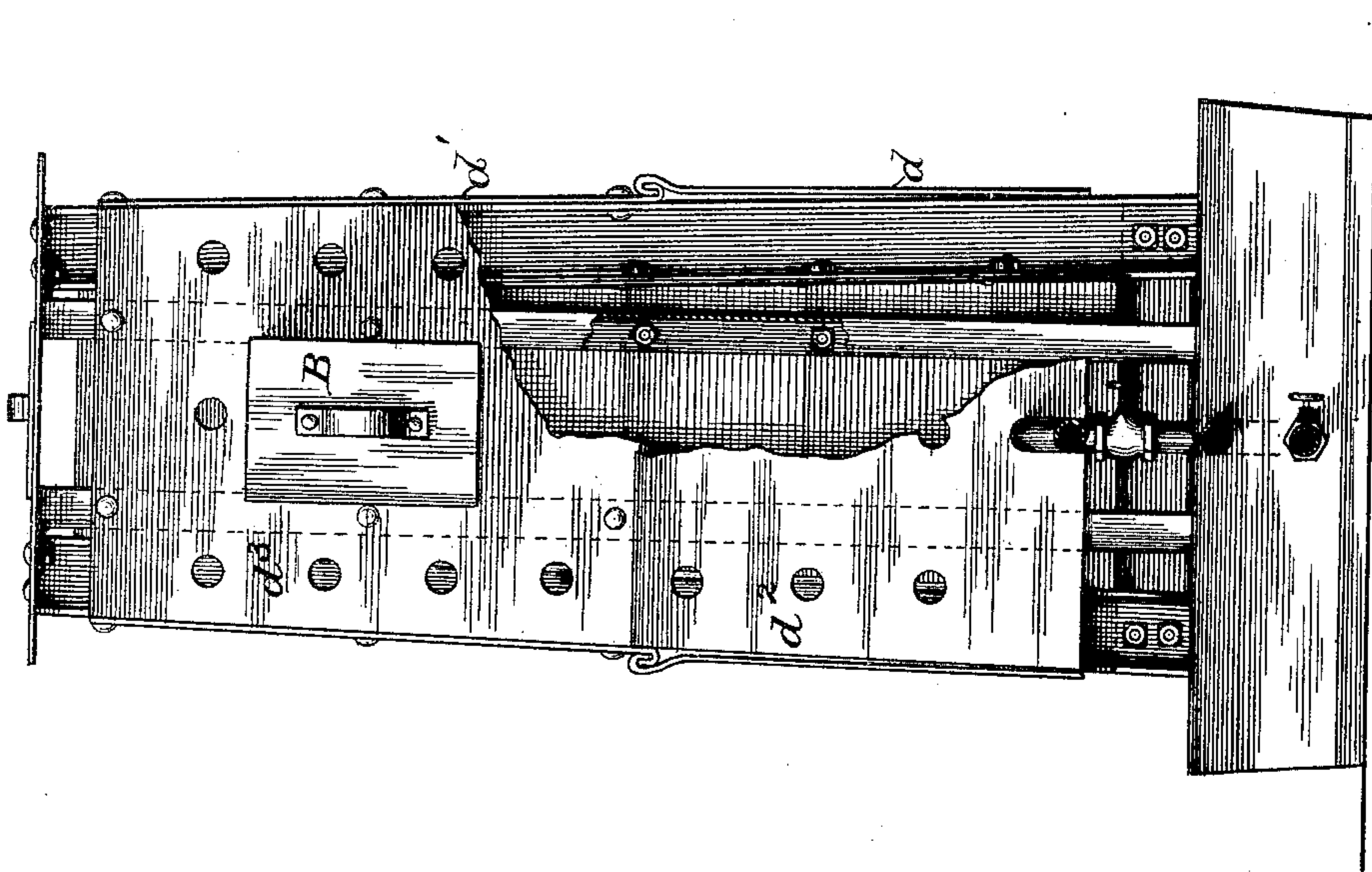


Fig. 2.



Witnesses

Wm A. Shinkle
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UNITED STATES PATENT OFFICE.

FRANK A. WALIN, OF CHICAGO, ILLINOIS.

REFRIGERATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 407,045, dated July 16, 1889.

Application filed April 12, 1888. Serial No. 270,405. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. WALIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Refrigerating Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in refrigerating apparatus in which ice is used to cool the surrounding atmosphere in an adjacent inclosure, in which latter may be placed articles of food, as meats, vegetables, &c., for preservation, so far as that may be attained by a reduced temperature of the degree commonly found suitable for the purpose, according to the nature of the article sought to be temporarily preserved. The apparatus may also serve to cool the air of apartments for rendering the temperature thereof less oppressive to their occupants in the heated terms or seasons of the year than in warm climates would ordinarily prevail; and the objects of my invention are, first, to provide an apparatus that shall be of simple construction and readily operated; second, that shall be inexpensive comparatively, and, third, that shall be durable. I attain these objects by the mechanism illustrated in the drawings, in which—

Figure 1 is a side elevation, partly sectional; Fig. 2, an end elevation, partly sectional; and Fig. 3, a vertical cross-section taken on the line 3 3 of Fig. 1.

Similar letters refer to similar parts throughout the several views.

A is the inner chamber or ice-box, and is formed of sheets of galvanized iron, preferably, or of other similar material of strong and durable qualities, such as is commonly used for similar purposes, the sheets being bolted together or riveted in any suitable manner, the receptacle being supported underneath on cross-pieces or bars, and braced on its sides by vertical supports bolted or riveted thereto, said cross-pieces and vertical supports being preferably formed of angle-iron, the whole being securely fastened together and provided

with a base adapted to stand within a basin and sustain the chamber therein in an upright position.

The chamber is provided with a chute B at one of its ends near the top, the chute being of such a length as may be found desirable for extending through an opening that may be provided therefor in one of the walls of the room or inclosure in which the cooling apparatus is placed.

The outer end of the chute B is provided with a cover *b*, which serves to close the end of the chute when not in use for filling ice into the ice-chamber.

In the top of the apparatus there may be an opening C, provided with a cover *c*, which may be used instead of the chute B for admitting ice into the ice-chamber in filling the same. In some cases both ice-filling openings may be provided.

a are the vertical supports, to which are bolted the plates of iron used in forming the sides of the ice-chamber.

a' are the cross-pieces beneath the ice-chamber A, the same being bolted fast to the upright supports *a*.

D is an outer enveloping and protecting frame formed of plates of perforated and, preferably, of galvanized iron. The lower halves *d* of the sides of the enveloping-frame D, and it may be of the ends also of the protecting-frame D, are so constructed that they may be readily moved, as by sliding, to give access to the ice-chamber A, and thus admit of an attendant's using any suitable device for scraping off the frost that gathers at times on the outer surfaces of the ice-chamber. These lower parts *d* may be vertically divided, so that one section may be caused to slide upon the other, the upper edge of the part or parts *d* being bent over or looped to engage a correspondingly-bent portion of the lower edge of the upper perforated section *d'*, as shown in Figs. 2 and 3.

d² are the lower halves of the ends of the protecting-frame D, and *d³* the stationary upper halves when the apparatus is constructed to provide increased facility of access to the sides of the ice-chamber A for cleaning off the frost. The perforations of the protecting or enveloping frame D allow the air that has

become cooled because of its proximity to the sides of the ice-chamber to pass out into the room to be cooled, other and warmer air supplying its place, and the said enveloping-
 5 frame, notwithstanding its perforations, serves to shield the ice-chamber and to prevent the frosts accumulated on the outer sides of the ice-chamber A from falling out into the room.

10 E is a basin receptacle for catching the water coming by melting from the ice, or from the condensation of vapor, as the "sweatings," on the sides of the ice-chamber A or the enveloping-frame D. This basin may be
 15 formed of any suitable materials, as of wood with a leaden inner casing, or the whole of it may be formed of galvanized iron, the ice-box and its envelope resting within the same.

The ice-chamber is contracted on its sides
 20 from its bottom to its top. This construction is for the purpose of facilitating the settling of the ice (as it is wasted in melting) upon the bottom of the ice-chamber and away from its sides. The settling of blocks of the ice as
 25 the melting proceeds is thus facilitated and undue strain on the side and end walls obviated, while the ice is massed or kept together in a body, and at all times resting upon the bottom of the ice-chamber instead
 30 of clinging to and dragging down upon its sides. A valve or plug a^4 may be provided in the bottom of the ice-chamber for draining off into the basin E any water that may have accumulated in said ice-chamber.

35 F is a system of pipes connecting with both the ice-chamber A and the basin E for service as overflow-pipes, and also for entirely draining out, when so desired, the water that may have accumulated in the basin E. This system consists of three horizontal pipes $f f' f^2$
 40 and two vertical pipes $g g'$. The vertical pipe g is provided with a stop-cock or valve h , and the horizontal pipe f^2 with a valve or stop-cock h' . When the valve h in the vertical
 45 pipe g is closed, the water gathering in

the ice-chamber A passes out through the horizontal pipe f into the vertical pipe g' , and thence down into a sewer or other drain. When the valve h is open, the water gathered
 50 in the ice-chamber passes down the vertical pipe g into the basin E, and thence out into the vertical pipe g' , either through the horizontal pipe f' or the horizontal pipe f^2 , according to whether the latter is closed or not. When the latter is closed, the former serves
 55 as an overflow-pipe for the basin E, and when the latter is open the water is drained out from said basin.

In using my apparatus the ice may be put into the ice-chamber either through the chute
 60 or the top opening in the casing. The water as the ice melts serves as a refrigerant in the basin, in which it may be allowed to flow, or it may be run off into a drain directly from the ice-chamber, if so desired, by arranging
 65 the valves in the pipes as heretofore indicated.

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

1. In a refrigerator, an ice-chamber and its
 70 supporting-bars, in combination with a perforated iron casing composed of the removable part d and a stationary part d' , the latter being riveted to the supporting-bars, substantially as and for the purpose hereinbe-
 75 fore set forth.

2. In a refrigerator, the ice-chamber having a closed bottom and supports resting in a basin, in combination with a pipe leading from the chamber and having two branches, one
 80 leading to the basin and having a cock, the other leading outside of said basin and having a cock-controlled connection with said basin, as and for the purpose described.

In testimony whereof I affix my signature in
 85 presence of two witnesses.

FRANK A. WALIN.

Witnesses:

FRANK O'NEIL,

WILLIAM H. CHADSEY.