

(No Model.)

A. A. WOOD.

DRAIN FOR REFRIGERATOR CARS.

No. 430,599.

Patented June 17, 1890.

FIG. 1.

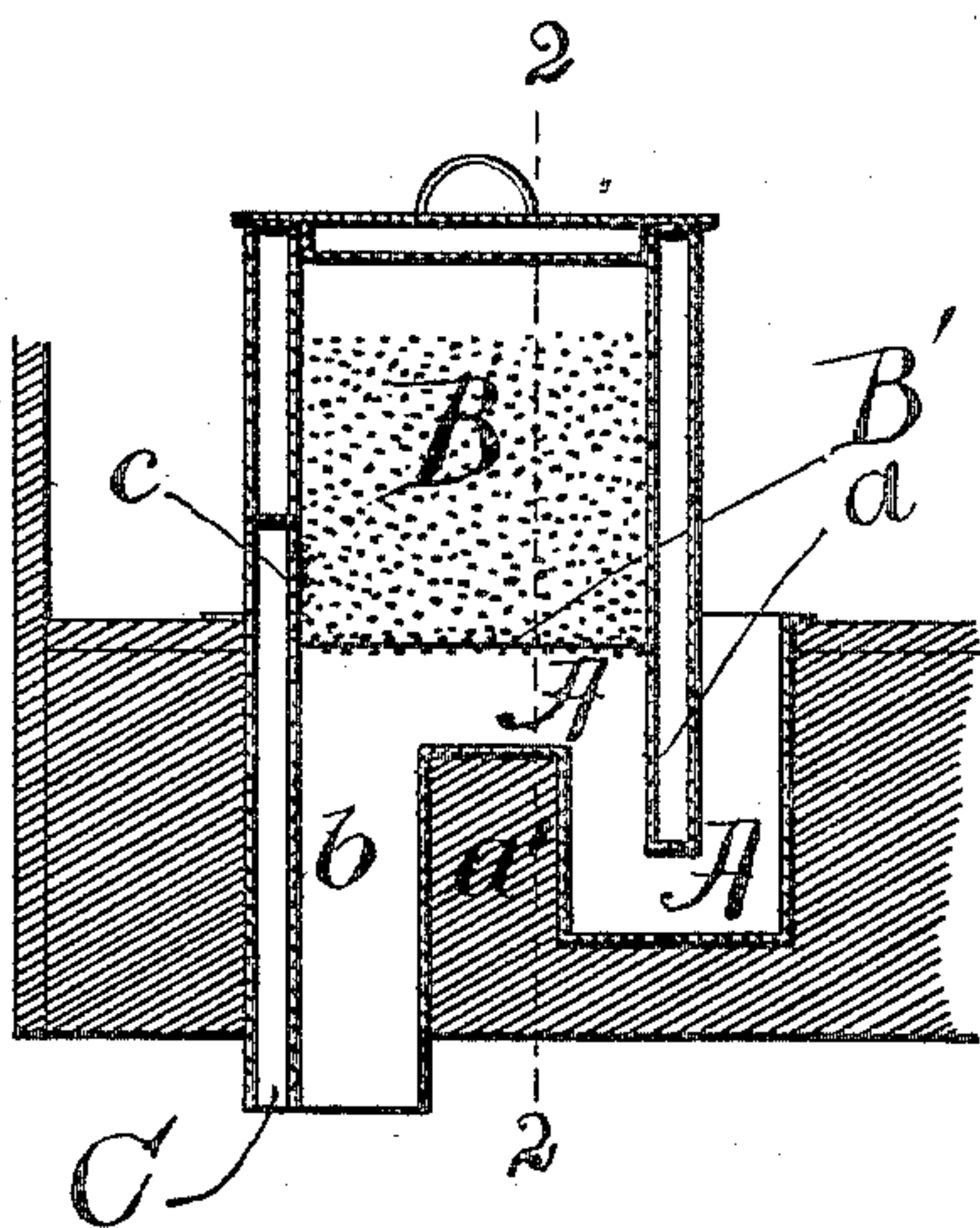


FIG. 2.

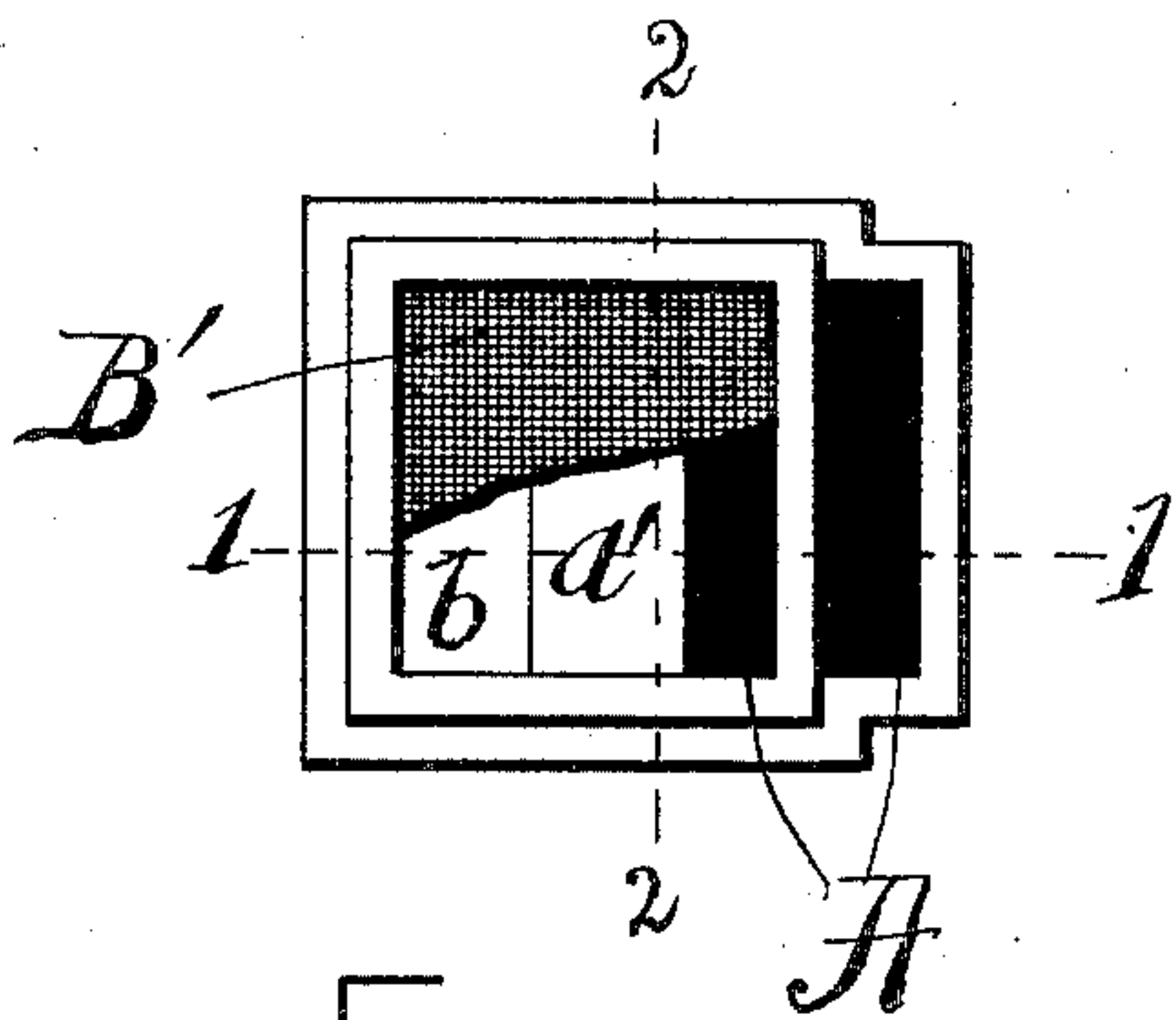
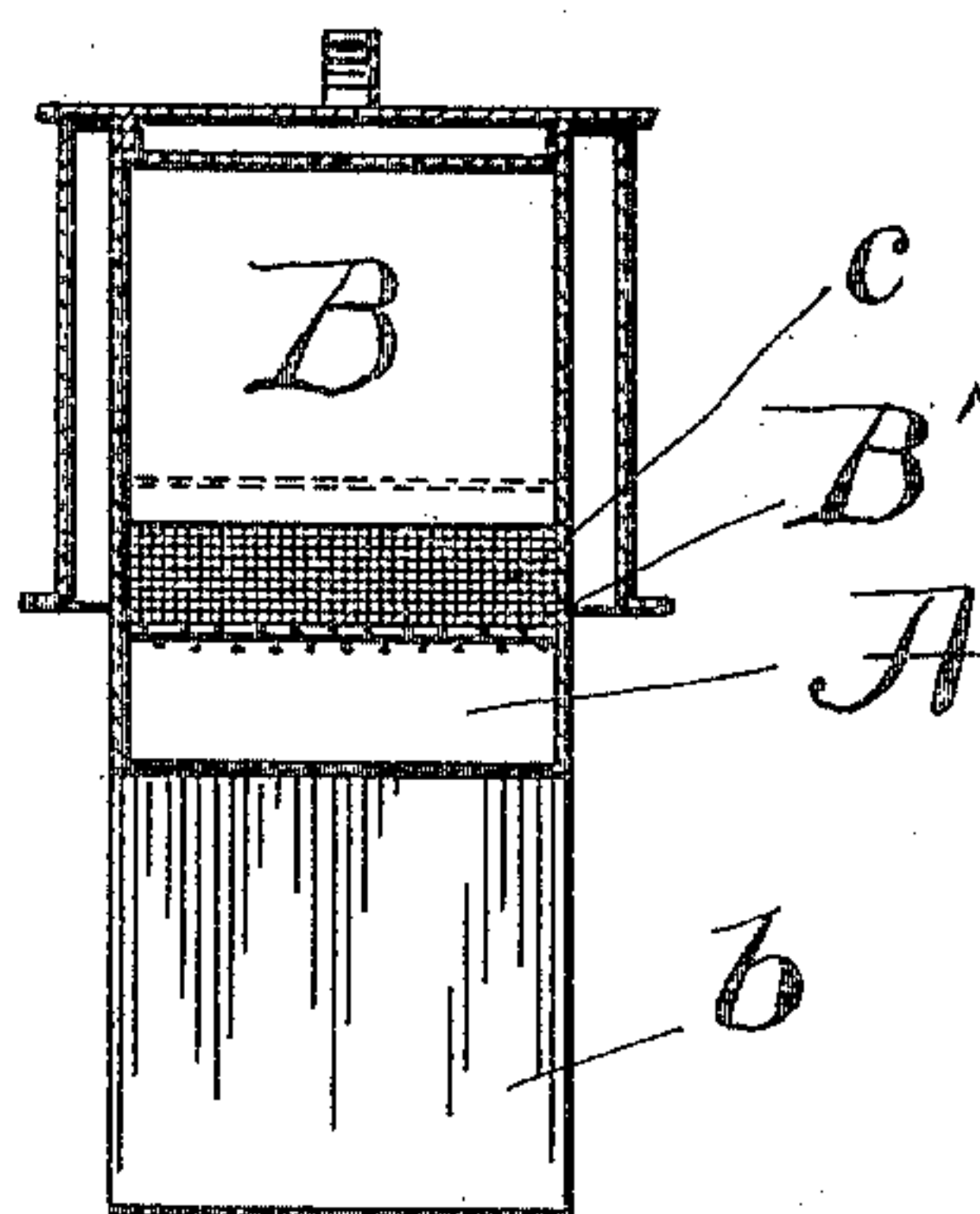


FIG. 3.

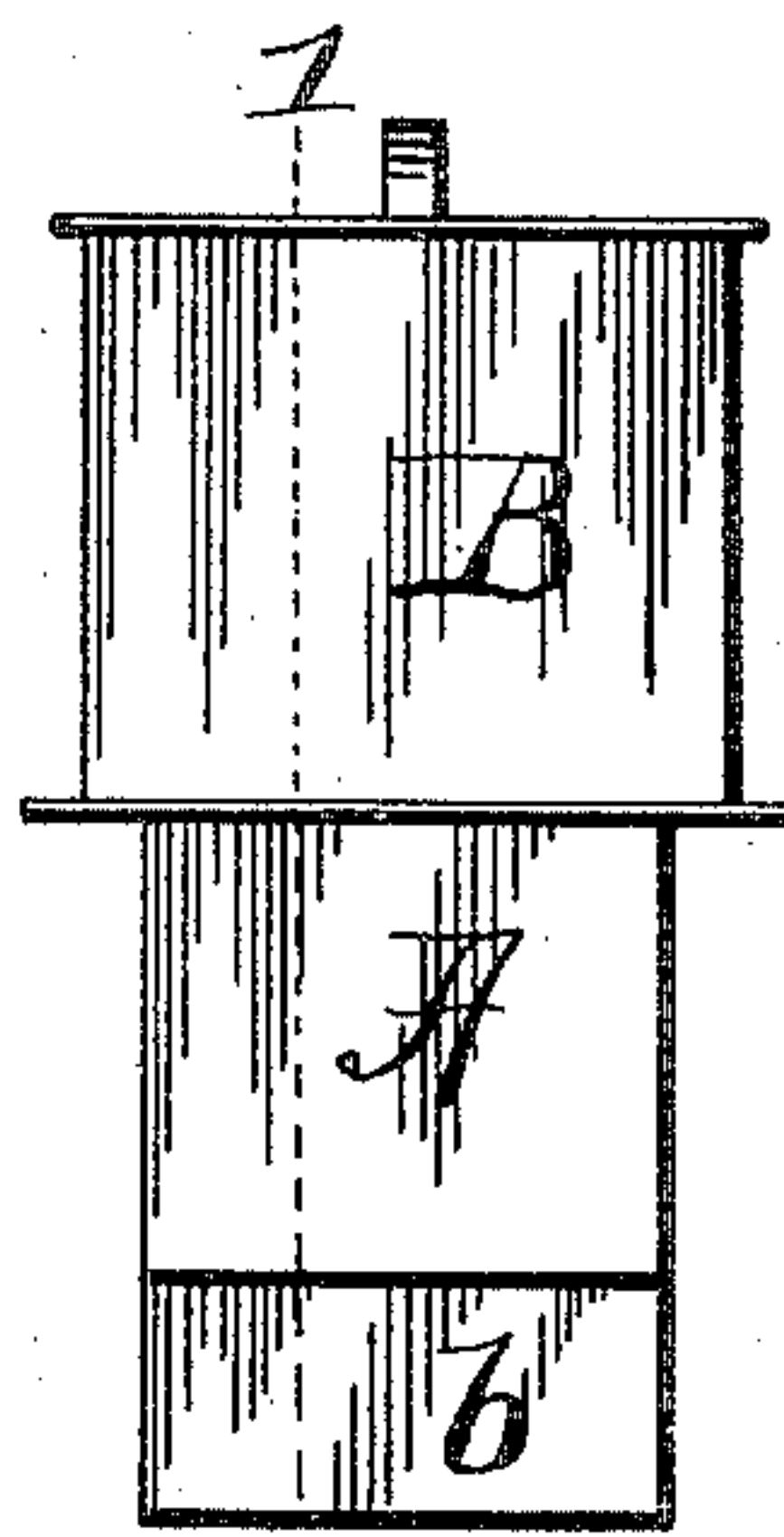


FIG. 4.

WITNESSES

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ALBERT A. WOOD, OF ATLANTA, GEORGIA, ASSIGNOR TO THE INTERSTATE VENTILATOR-REFRIGERATOR CAR COMPANY, OF SAME PLACE.

DRAIN FOR REFRIGERATOR-CARS.

SPECIFICATION forming part of Letters Patent No. 430,599, dated June 17, 1890.

Application filed January 24, 1890. Serial No. 338,010. (No model.)

To all whom it may concern:

Be it known that I, ALBERT A. WOOD, a citizen of the United States, and resident of Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Drains for Refrigerator-Cars; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form part of this specification.

The object of this invention is to prevent the stoppage by freezing of the drain-traps or drain-pipes of refrigerators, in which the refrigerating agent is ice, and the invention is especially designed for use on refrigerator-cars.

It consists of a salt-chamber in connection with the drain, and also of an auxiliary discharge-outlet. The construction and position of the salt-chamber, the auxiliary drain-pipe, and the preferred form of drain are shown in the accompanying drawings, and will be hereinafter fully described.

In the accompanying drawings, Figure 1 is a vertical section through the drain on the lines 1 1, Figs. 3 and 4, and also through the floor, to which it is attached. This figure shows the passage for water through the trap, the salt-chamber, and the auxiliary discharge-outlet. Fig. 2 is a vertical section on the lines 2 2, Figs. 1 and 3, more clearly showing the screen that covers the opening between the salt-chamber and the auxiliary discharge-outlet. Fig. 3 is a plan of the device with the cover of the salt-chamber removed, showing the screen in the bottom of the salt-chamber and other details. Fig. 4 is an outside view of the device from the same position as the interior is seen in Fig. 2.

The device is shown in Fig. 1 as inserted into and passing through the floor of the ice-chamber or some passage leading therefrom, and in all the figures as being constructed from sheet metal, preferably galvanized iron; and the salt-chamber is shown as having double walls to decrease the radiation into

the refrigerator of heat that might enter through the water-discharge opening.

In the figures, like reference-marks indicating corresponding parts in the several views, A is a trap having the dam *a* to prevent an inflowing current of air, and the discharge-opening *b* to permit the free discharge of the water flowing over the dam *a'*. The dam *a'* should be of considerable thickness to retard the radiation of heat to the water in the water-trap A and to limit the quantity of water that can be contained in the trap, for reasons that will be hereinafter explained.

The salt-chamber B is located over the water in the trap A, and is separated from the trap by a screen B', which screen should be so located as to permit the water to flow upwardly through it before it would be sufficiently high in the trap to flood the ice-chamber or the passage in which the trap is placed. The salt-chamber B should contain salt of such a degree of coarseness and the screen B' should be of such a mesh that the salt will be held in suspension until dissolved. The opening in the side of the salt-chamber that is covered by the screen *c*, which should be of about the same mesh as the screen B', should be so located as to height as to permit the raising of the water in the salt-chamber to a sufficient height to saturate it, and said opening should connect with the auxiliary opening C.

It is obvious that should the opening *b* be stopped by the freezing of the discharging water, the water in the trap will rise by accumulation into the salt-chamber B and be discharged in a saturated condition through the screen *c* and the auxiliary discharge-opening C; and that the water in the trap A and the discharge-opening *b* will be saturated by the salt and melt the ice in the discharge-opening *b*, after which the water in the trap will be drawn to the level of the dam *a'* and the dissolution of the salt will cease until the discharge-opening *b* shall be again closed. It will thus be seen that the dissolving of the salt will be intermittent and that its quantity will be lessened by dissolution only when the discharge-opening *b* shall be closed by ice, and that during such temporary closing of

said discharge-opening the water will be discharged in a saturated condition by the auxiliary opening C, the salt insuring its free discharge. Consequently the chambers may
 5 be filled by salt at convenient times and without reference to its immediate use, as its quantity will only be lessened by the emergency for which it is intended, and its dissolution will cease with the stoppage of that
 10 emergency.

The trouble that has been heretofore experienced in traps of this class is that the salt has been exposed to the action of the water, and consequently undergoing the process of
 15 dissolution all of the time until it shall have been exhausted and carried off by the waste water, thus leaving the trap in a condition that will render it liable to be frozen up at any time, which difficulty is entirely obviated by
 20 this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a refrigerator, a drain-trap for the

drip from the ice-box, in combination with a 25 salt-reservoir on a higher level than said trap, and so connected with it as to allow the drip to come in contact with the salt when the main outlet of the drip is obstructed, substantially
 30 as described.

2. In a refrigerator, a drain-trap having a salt-reservoir located above the bend in the trap and provided with a perforated bottom, substantially as described.

3. In a refrigerator, the drain-trap, the 35 salt-reservoir located above the same and having a perforated bottom, and the auxiliary exit-passage communicating with said reservoir above its bottom, substantially as
 40 described.

4. The drain-trap having the non-conducting dams between its bends, as described.

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

ALBERT A. WOOD.

Witnesses:

A. P. WOOD,

J. B. OBERDORFER.