

(No Model.)

J. CASTELL.

ICE TANK FOR REFRIGERATORS, REFRIGERATOR BUILDINGS, &c.
No. 348,450.

Patented Aug. 31, 1886.

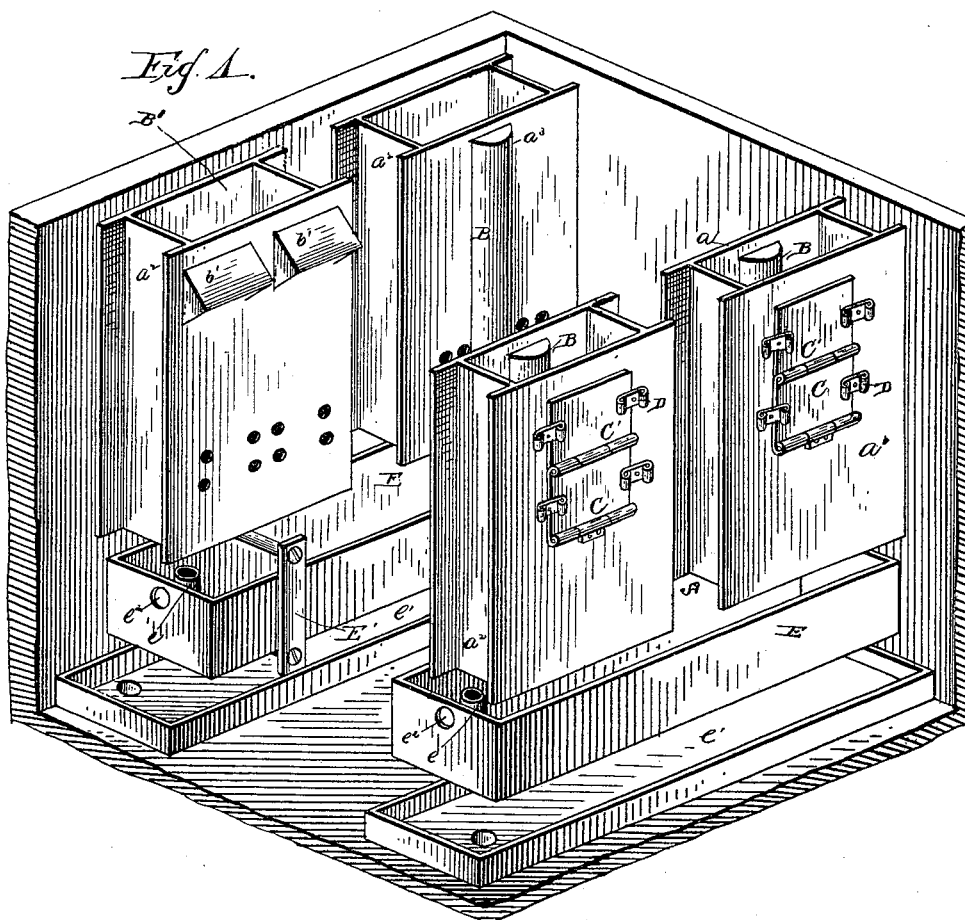
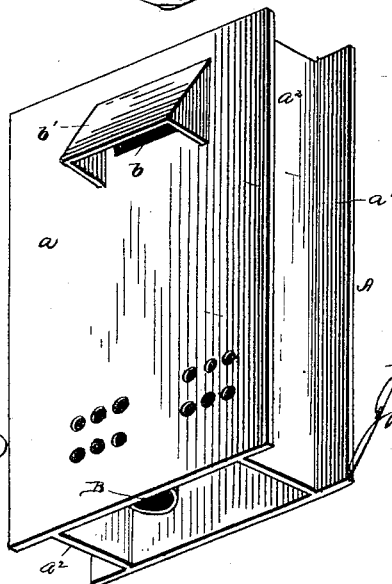


Fig. 2.



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UNITED STATES PATENT OFFICE.

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ICE-TANK FOR REFRIGERATORS, REFRIGERATOR-BUILDINGS, &c.

SPECIFICATION forming part of Letters Patent No. 348,450, dated August 31, 1886.

Application filed July 21, 1886. Serial No. 208,659. (No model.)

To all whom it may concern:

Be it known that I, JAMES CASTELL, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ice-Tanks, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention pertains to certain new and useful improvements in ice-tanks used in connection with refrigerators, refrigerating or cooling rooms, cars, &c., having for its object to provide means for the easy circulation of the air in close proximity to the ice contained in the tank, also to provide means for easy access thereto; and it consists in the detailed construction, combination, and arrangement of the parts, substantially as hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective showing my invention as applied to a large refrigerator or cooling-room, and Fig. 2 is a detail perspective view thereof.

In carrying out my invention I employ an approximately oblong or rectangular tank or receptacle, A, preferably of galvanized iron, the same consisting of two parallel sides, $a a'$, the ends of which on either side are connected to bent or flanged portions of two opposite narrow pieces or strips, $a'' a''$, which latter are perforated, as are also the parallel sides $a a'$, the purpose of which is obvious. The tank or receptacle is provided at its lower end with cross pieces or slats, which permit the draining therethrough of the water consequent upon the melting of the ice. The points of connection between the parallel sides and the side pieces or strips are punctured or perforated at suitable points for connection by means of screws or nails with cleats provided in the frame-work of the refrigerator or cooling-room.

B is a tube or pipe, preferably of semicircular shape, secured to the inner surface of the inner parallel side piece, a , of the tank or receptacle, and extending from the lower end thereof to the extreme upper end, at which point it is closed by a small flanged cap or plate. These tubes or pipes B (one or more of which may be used) are made of a thin or porous material, and may be of wood or metal, and are perforated throughout their length on

the inner curved portion thereof. The tubes or pipes open near their upper ends into an opening or aperture, b , formed in the parallel side a , said opening or aperture being covered by a shield or plate, b' , the purpose of which will appear further on.

The object of the above-described tubes or pipes is to provide means for a more rapid circulation and current of air in the refrigerator or storage-room, and the air by means of said tubes or pipes is very easily and rapidly cooled, and by reason of the moisture freezing and forming on the inside of the tubes a drier atmosphere is obtained in the refrigerator or cooling-room. From the above it will be seen that inasmuch as the melting of the ice takes place at the lower end of the tank that end is the coldest. Thus the air in the refrigerator passes in under the shields or plates b' , and down through the tubes or pipes and out through their lower ends.

I do not restrict myself to the application of the tubes or pipes to the inner side of the parallel side a , as the same may with like advantage be applied to the outer surface of said parallel side, as shown at a^3 , Fig. 1, and in the event of the employment of this construction the shield or plate b' is dispensed with. I provide in the parallel side a' two or more doors, C C', the same being formed in sections, one hinged to the other. The lower door, C, is hinged by ordinary means in the outer surface of the parallel side a' , immediately below an opening formed in said side nearly the size of the two doors, and to the upper end of this door is likewise hinged or pivoted thereto the second door, C'. These doors are secured and retained in position by means of pivoted bow-shaped buttons D, or other suitable means. It is obvious that either one or both of the doors may be opened, according as to the quantity of the ice to be placed in the tank or receptacle. It will be understood, of course, that a similarly proportioned opening is made in the side of the dead-air wall of the refrigerator to permit access to the above-described doors.

I do not restrict myself to the employment of a single tube or pipe, as two or more of said tubes or pipes may be applied to a tank, as shown by tank B', Fig. 1.

The tanks or receptacles, when desired, can

be suspended from the ceiling of the cooling-room, or secured in any other similar manner.

On each side of the cooling-room or refrigerator, directly in under each series or row of
5 ice-tanks, I have arranged an oblong tank or trough, E, secured in position by any ordinary means, but in the present instance by metallic vertical strips E', through the upper and lower
10 ends of which are passed screws entering the sides of the refrigerator or cooling-room. The tank or trough has secured near one end an upwardly-projecting tube or pipe, e, extending
15 nearly on a line with the upper edges of the tank or trough and passing through an aperture formed in the bottom of the said tank. Immediately in under this tank or trough is
20 arranged an oblong pan, e', which at one end is provided with a discharge-pipe passing out through the lower portion of the cooling-room or refrigerator.

The tank or trough E is designed to receive and retain the salt and water consequent upon the melting of the ice in the tanks or receptacles A until sufficient water is obtained in
25 the tank or trough to cause the same to overflow through the tube or pipe e, or it may be through an opening, e'', made in the end of the tank or trough, and falls into the lower pan, e'. In thus collecting the water, the tendency is
30 to cause the same to be maintained in a semi-frozen condition, and hence slow to pass out through the discharge-pipe. By this arrangement it has been found that by placing warm meat in the cooling-room or refrigerator it
35 loses its moisture with its heat and becomes

dry and cold at the same time, and can be thus retained for a long period.

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

1. The herein-described ice tank or receptacle, comprising the parallel sides having openings or apertures therein, as described, the tube or pipe secured to one of said sides, and the sectioned doors, substantially as shown
40 and described.

2. The combination, with the tank or receptacle having in one side an opening or aperture, of the tubes or pipes of thin or porous material and having perforations formed
50 therein, substantially as shown and described.

3. The combination, with the tank or receptacle having a large opening or aperture in one side thereof, of the sectioned doors secured thereto, substantially as shown and described.
55

4. The tank or trough secured in under the ice-tanks and having a tube or pipe secured in one end and extending nearly to the upper edges thereof, substantially as shown, and for the purpose described.
60

5. The combination, with the tanks or receptacles, of the oblong tank or trough secured adjacent said tanks or receptacles, substantially as shown, and for the purpose stated.

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

JAMES CASTELL.

Witnesses:

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