(No Model.)

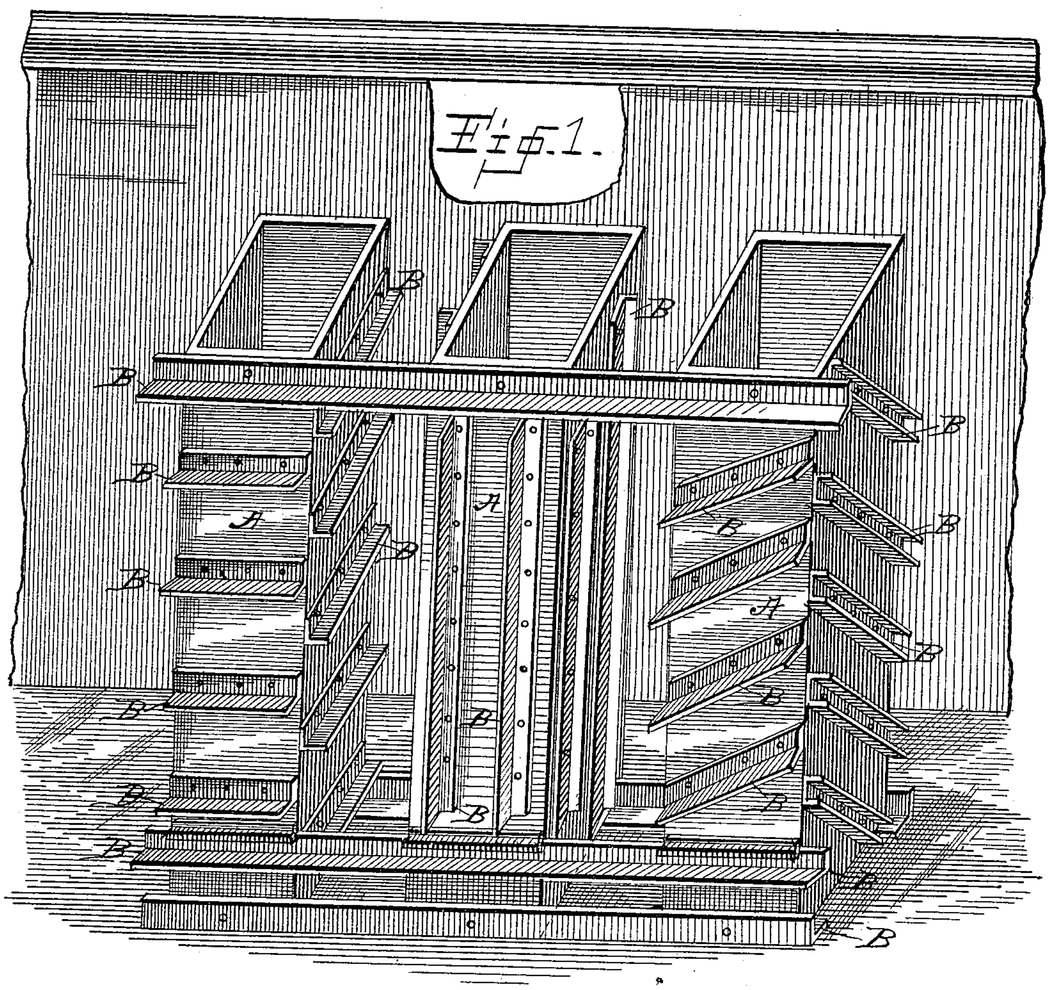
2 Sheets—Sheet 1.

W. A. H. BOGARDUS, 2d.

REFRIGERATOR TANK.

No. 346,529.

Patented Aug. 3, 1886.



Witnesses

W. Fred. Keller

P. W. Hale

Inventor

Washington A. H. Bogardus. 2nd

By his Attorney

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(No Model.) 2 Sheets—Sheet 2.

W. A. H. BOGARDUS, 2d.

REFRIGERATOR TANK.

No. 346,529. Patented Aug. 3, 1886.

Fig. 2.

Fig. 3.

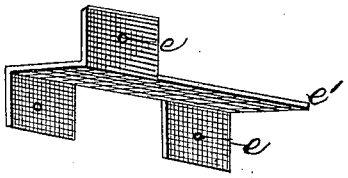


Fig. 4.

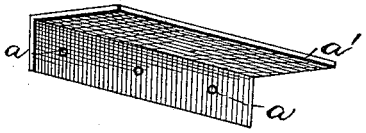


Fig. 7.

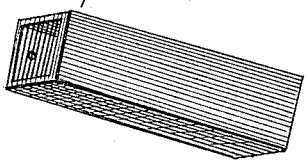


Fig. 6.

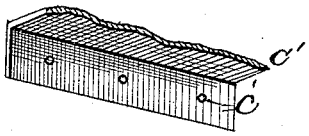


Fig. 5.

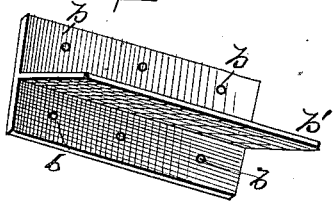


Fig. 8.

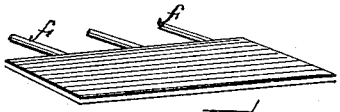


Fig. 9.

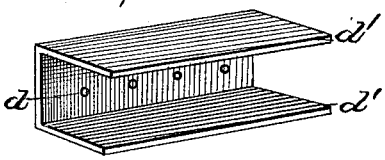
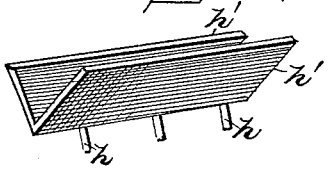


Fig. 10.



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UNITED STATES PATENT OFFICE.

WASHINGTON A. H. BOGARDUS, 2D, OF NEWARK, NEW JERSEY.

REFRIGERATOR-TANK.

SPECIFICATION forming part of Letters Patent No. 346,529, dated August 3, 1886.

Application filed June 7, 1886. Serial No. 204,347. (No model.)

To all whom it may concern:

Be it known that I, WASHINGTON A. H. BOGARDUS, 2d, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Refrigerator-Tanks; 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 certain new and useful improvements in refrigerator-tanks; and it consists in the various-shaped metallic devices and their attachment to said refrigerator-tanks whereby said tanks are strengthened and the conducting and cooling surface increased.

Heretofore refrigerator tanks have been constructed with comparatively plain surfaces, the warm air of the chamber or car coming in contact with said smooth sides or surfaces cooled and descended slowly, and the great body of warm air in the car or room in which said tanks were located was gradually reduced in temperature, and rarely reached and maintained that low degree of temperature desired, which with my invention is quickly secured and held.

The objects of my invention being to cool the air rapidly in a room or car in which refrigerator-tanks are placed, and, further, to maintain the desired temperature during the transit of said car, or to keep the desired temperature in a room or vessel to any required limit of time, and, further, to materially strengthen said tanks from breakage by undue expansion, or from vibration by sudden jar or jolt, I attain these objects by means of the peculiar construction and arrangement of the various parts of my invention, which will be more fully pointed out and described in the specification and claims, reference being had to the drawings accompanying this application, and forming part of the same, in which—

Figure 1 is a perspective view of my invention showing the tank with metal strips secured. Figs. 2, 3, 4, 5, 6, 7, 8, and 9 are detail plan views showing the different forms of construction of the attachments.

Similar letters refer to similar parts throughout the drawings.

Referring to the drawings, A represents a series of tanks of any suitable form and size, and constructed of material adapted to the purpose, into said tanks ice or other cooling material being placed for the purpose of reducing the temperature of the surrounding air. On the outer surface of said tanks A a series of projecting plates, B, are secured by means of screw-bolts, rivets, nails, lip-flange, and welt, or any other suitable means whereby said plates may be held rigidly to the outer face of said tanks, the purpose of attachment of said plates to the tanks being that their surfaces, projecting out from the sides of the tanks into the warm air surrounding said tanks, rapidly cools the air, which by contraction rapidly falls to the bottom of the floor of the car or room, whereby a current of air is produced, and the car or room rapidly filled with cool dry air of the temperature desired, which may be indefinitely sustained.

Figures of illustration on Sheet 2 show the different forms of attachments, Fig. 4 being a plate with perforations *a*, for attachment to the tank A, and provided with right-angle projection *a'*. Fig. 5 shows a plate with perforations *b*, for similar attachment, and a central rib projection, *b'*. Fig. 6 shows a plate with perforations *c*, and projecting plate *c'*, with a corrugated edge. Fig. 7 shows a plain plate adapted to be attached by any suitable means, and Fig. 8 being formed with projecting lugs *f*, and attached in similar form, Fig. 9 being a plate with perforations *d*, and two projecting flanges, *d'*, formed at right angles with their base, and Fig. 10 shows a V-shaped plate, *h*, with projections, *h'*, Fig. 2 being formed V-shaped, or with a sharp projecting edge, *g*, the base being secured to the tank by any suitable means, Fig. 3 showing lip-base with perforations *e*, and a central projecting rib, *e'*, all of said plates herein described being formed of metal, either by being rolled, hammered, stamped up, or cast, as the manner of construction not being essential, the forms and their use being the essential feature of my invention. In securing said plates to said tanks, in some cases they are secured vertically, and

in others horizontally and obliquely, as may best suit the purpose.

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

1. A tank attachment for cooling purposes, consisting of metal projecting plates secured to the outer surfaces of refrigerating-tanks, substantially as and for the purposes set forth.

2. A refrigerator-tank consisting of a tank with outward metal projections adapted to contact with the surrounding air, whereby the temperature of said air may be reduced, substantially as and for the purpose set forth.

3. The method of cooling air without adding moisture by attaching metallic projections to one or more refrigerator-tanks, substantially as and for the purpose set forth.

4. A system of cooling and drying air within an inclosure, consisting of a series of ice-tanks provided with metallic projections across their outer faces, said projections connecting said tanks, substantially as shown.

5. A refrigerator-tank provided with inclined metallic projections on its outer surface, whereby the cooled air, by contact with said projections, is rapidly deflected to the base of said tank, substantially as and for the purpose set forth.

6. Metallic plates for the outer surface of refrigerator-tanks, consisting of plates provided with projecting flanges or corrugations, with suitable means for attachment, substantially as set forth.

7. A refrigerator-tank having ice within and provided on its outer surface with inclined metallic projections secured by lip-flanges, substantially as set forth.

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

WASHINGTON A. H. BOGARDUS, 2D.

Witnesses:
PARKER H. SWEET, Jr.,
H. S. ROHRER.