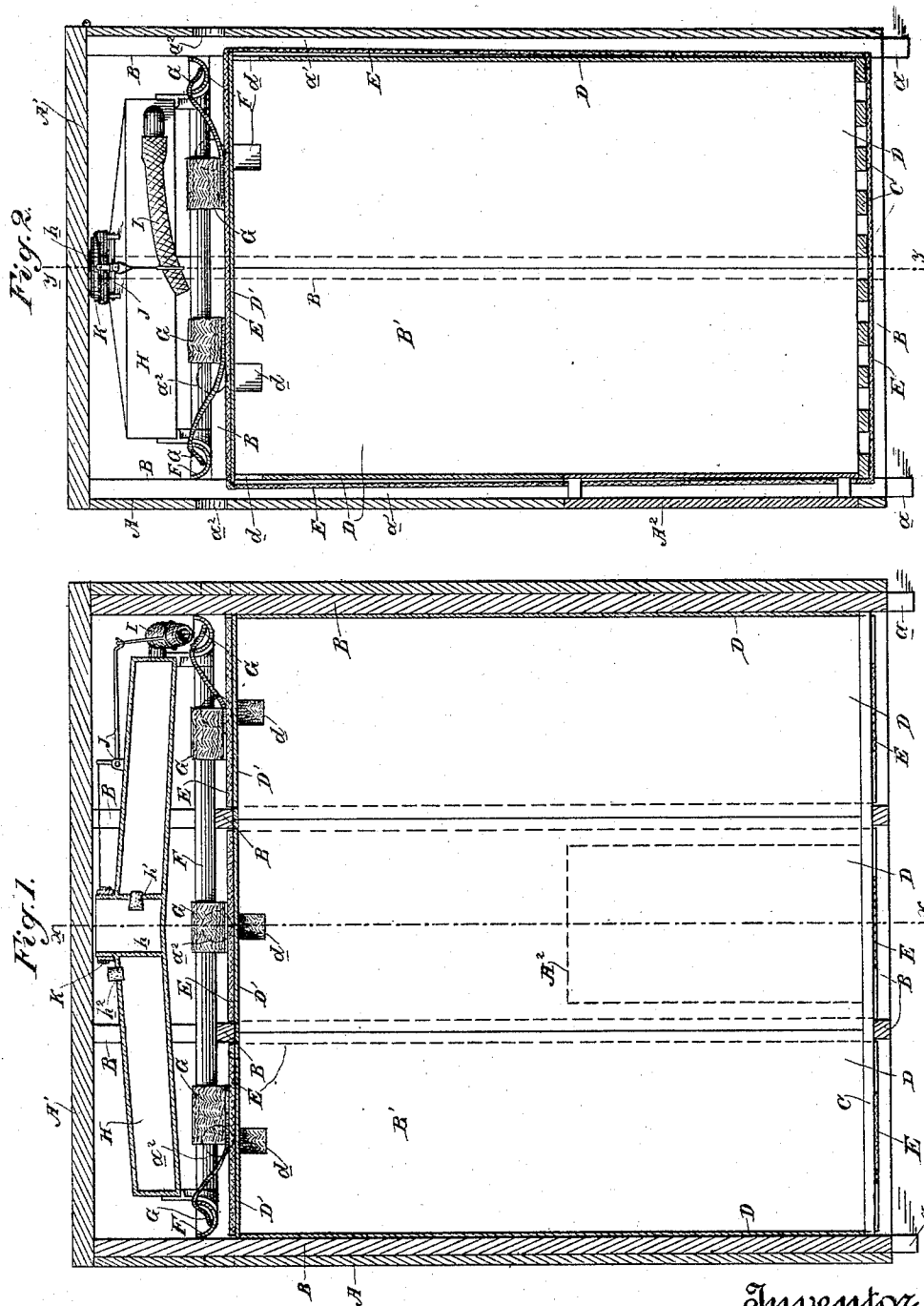


(No Model.)

A. McDOWELL. REFRIGERATOR.

No. 487,199.

Patented Nov. 29, 1892.



Witnesses,
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UNITED STATES PATENT OFFICE.

ALBERT McDOWELL, OF SELMA, CALIFORNIA, ASSIGNOR OF ONE-HALF TO
JOHN A. STROUD, OF SAME PLACE.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 487,199, dated November 29, 1892.

Application filed May 4, 1892. Serial No. 431,824. (No model.)

To all whom it may concern:

Be it known that I, ALBERT McDOWELL, a citizen of the United States, residing at Selma, Fresno county, State of California; have
5 invented an Improvement in Coolers, and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of coolers designed to contain water or perishable articles.
10

My invention consists in the novel construction of the outer casing and inner chamber of the cooler with encircling air-passages and saturated absorbent coverings, and the
15 novel construction and arrangement of the feeding device by which water is automatically supplied to the absorbent coverings, all of which I shall hereinafter fully describe, and specifically point out in the claims.

20 The object of my invention is to provide a simple and effective device for keeping water and other articles cool.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a vertical longitudinal section on line *y y* of Fig. 2. Fig. 2 is a vertical
25 transverse section on line *x x* of Fig. 1.

A is the outer casing, open at the bottom and provided with legs *a* and a cover A'.
30 Within this casing is the inner chamber, (represented by B'.) This may consist of a single vessel or can when designed to hold water; but for other purposes it is formed by means of the separated frames B and metal plates,
35 to be presently described.

The frames B consist each of four pieces—namely, a horizontal bottom bar, two vertical side bars, and a horizontal top bar, said bars being secured to the inner surface of the
40 outer casing A. Similar bars are placed on the ends of the casing also. Upon the bottom bars of the frames are laid the base-strips C, forming the floor of the inner chamber, said strips being separated from each other, forming a kind of grating. Secured to the inner
45 surfaces of the vertical bars of the encircling frames are the sheets or plates of metal D, preferably galvanized iron, and these are separated from the walls of the casing A, leaving air-spaces *a'* between them and said walls,
50 which said air-spaces are separated by the ver-

tical bars of the encircling frames. The metal plates D are cut out at their upper ends, leaving openings *d*, whereby the heated air from the interior finds escape. Secured to the under
55 surface of the top bars of the encircling frames are similar plates D', of galvanized iron, the ends of which project over the top of the vertical plates of galvanized iron.

E are strips of burlap or other suitable absorbent material in one or more layers or pieces wound completely around the encircling frames and their inclosing galvanized plates. These strips where they cross the bottom
60 are narrower than the width between the bottom bars of the encircling frames, whereby the air can readily rise on each side of them into the inner chamber.

A² is the door of the cooler.

Within the upper portion of the casing A
70 and suitably supported above the top bars of the encircling frames B is an endless gutter F. Within this gutter are laid the strips of absorbent material G, preferably formed of lamp-wick. One end of each piece G dips into
75 the gutter and the other lies on top of the burlap-covering E. Supported above and separated from this gutter is the water-feeder. This is a comparatively-shallow hollow vessel H, closed on all sides and air-tight. It is
80 fitted with a central supply-hopper *h*. A water-inlet *h'*, controlled by a removable plug or cork, opens into the water-feeder from the central hopper, and an air-exit *h²*, controlled by a
85 plug or cork, opens therefrom. Communicating from the outside with the feed-vessel is a hose-section I. When the feed-vessel is in place, the end of the hose rests in the gutter F. This end of the hose is raised by means
90 of the rock-shaft connection J with a turning drum K around the central hopper *h*.

The operation is as follows: The air-vent *h²* of the feed-vessel H being opened and the water-inlet *h'* from the hopper *h* into the feed-vessel being also opened, water is poured into
95 said hopper and flows through the air-inlet therein into and fills the feed-vessel H. During this time of filling the end of the hose-section I is lifted higher than the vessel, so that no water can run out through it. When
100 the vessel is filled with water, the air-vent is closed by its plug and the water-inlet open-

ing is also closed, thus shutting off the entrance and escape of all air. The end of hose I is then dropped, so that its end rests in the gutter F beneath. The water will immediately
 5 flow through the hose and rise in the gutter until it covers the end of the hose, thereby cutting off the flow of water. The water in the gutter saturates the absorbent pieces G therein, and these, hanging over the edges of
 10 the gutter, carry the water from the gutter onto the surrounding burlap strips E, saturating them and keeping them constantly wet. This goes on until the level of the water in the gutter has been reduced below the end of
 15 the hose I, whereupon more water comes from the feed-vessel into the gutter. A constant supply is thus maintained. In some cases, as where the cooler is intended to remain in the open air, I make apertures a^2 in the upper
 20 portion of casing A to admit air, which thus circulates through the bottom, the side and end air-spaces of the casing passing over the saturated cloths or pieces of burlap, thus keeping the temperature reduced.

25 In cases where the cooler is intended to stand inside out of the current I intend to force air into its air-spaces, and in such cases I have no need of the air-apertures a^2 .

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

1. In a cooler, the combination of an outer casing, an inner chamber separated therefrom to form encircling air-spaces, absorbent coverings wrapped about the inner chamber and exposed to the air-spaces, a trough suspended above and exterior of the chamber, a feed-water vessel having an adjustable discharge-pipe leading to the trough, and the independent
 35 capillary conductors or pieces G, arranged around the trough, each having one end dipping into the trough and the other end carried downward into contact with the absorbent covering on the inner chamber, substantially as herein described.
 45

2. In a cooler, the combination of an outer casing, an inner chamber separated from said outer casing by encircling air-spaces, absorbent coverings wrapped about the inner chamber and exposed to the air-spaces, a trough
 50 for water in the upper portion of the cooler above and exterior to the inner chamber, independent absorbent pieces having one end resting within the water of the trough and

the other end on the exterior of the absorbent coverings of the inner chamber, an air-tight water-feed vessel above the trough, and an adjustable pipe leading from said vessel and entering the water-trough, whereby the flow of water to the trough is automatically
 55 cut off and effected as its level in the trough rises above and falls below the exit of the supply-pipe, substantially as herein described.

3. In a cooler, the combination of an outer casing, an inner chamber separated from said
 60 outer casing by encircling air-spaces, absorbent coverings wrapped about the inner chamber and exposed to the air-spaces, the trough for water about the top of the inner chamber, the absorbent pieces G, resting in the trough
 70 and on the absorbent coverings of the inner chamber, the air-tight water-feed vessel above the trough, the hose leading therefrom and having its outer end resting in the trough, and means for lifting and lowering the outer
 75 end of said hose, substantially as herein described.

4. In a cooler, the combination of the outer casing, the inner chamber separated therefrom and having its exterior covered with absorbent
 80 ent material, a water-supply trough above and independent of the inner chamber, and capillary conductors therefrom consisting of the independent pieces G, having one end dipping into the trough and the other end
 85 carried downward into contact with the absorbent covering, an air-tight water-feed vessel, and a hose therefrom to the trough, substantially as herein described.

5. A cooler consisting of an inner and outer
 90 chamber with intervening air-spaces, a covering of absorbent material upon the exterior of the inner chamber, an air-tight water-feed vessel in the upper portion of the outer chamber and above the inner chamber, a trough
 95 carried by the water-vessel and a hose from the water-vessel for delivering water to the trough, and capillary conductors having one end dipping into the trough and their opposite ends carried into contact with the exterior
 100 covering of the inner chamber, substantially as herein described.

In witness whereof I have hereunto set my hand.

ALBERT McDOWELL.

Witnesses:

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I. M. SIDES.