

(No Model.)

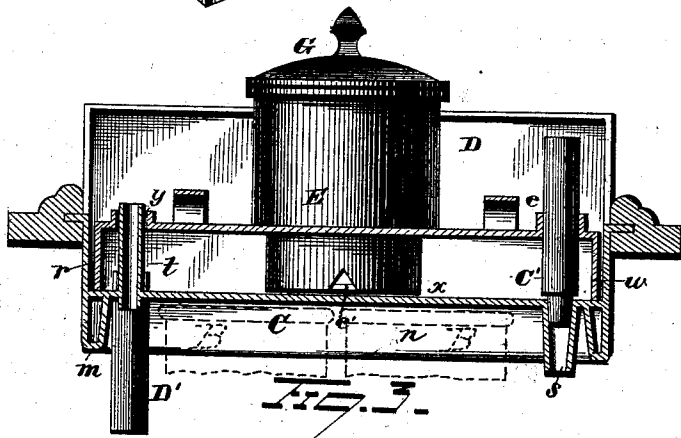
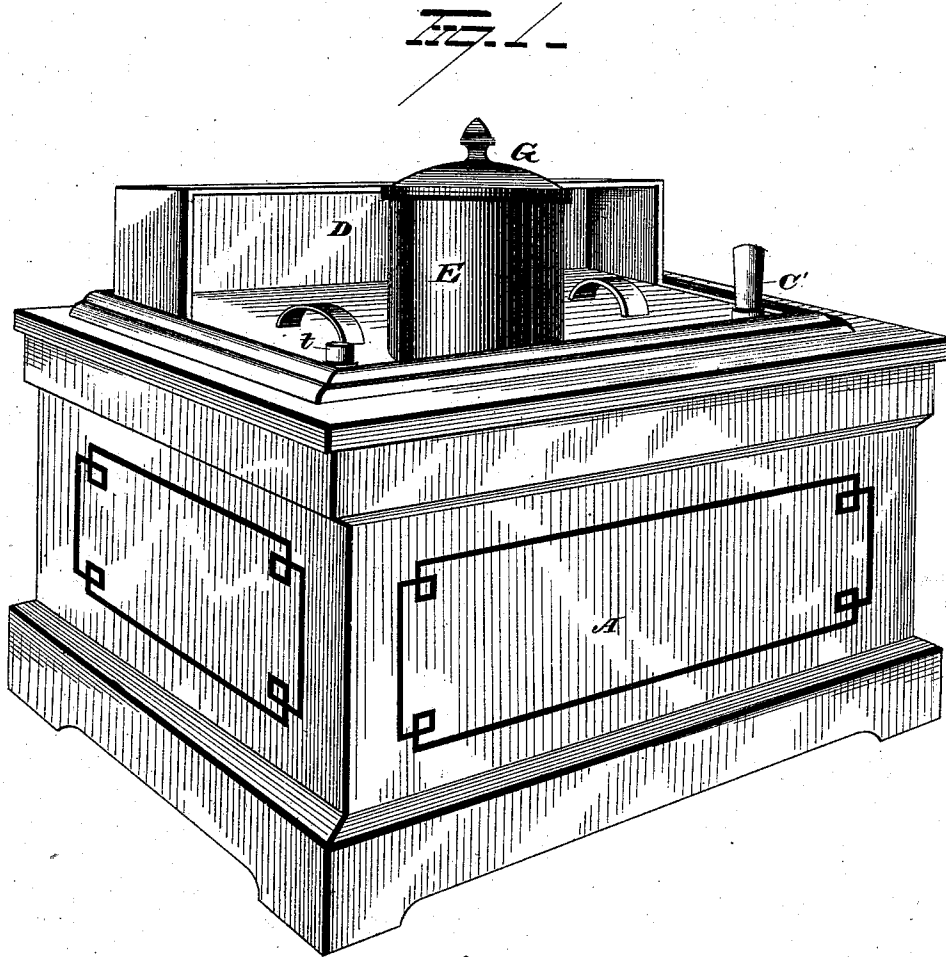
3 Sheets—Sheet 1.

D. N. CALKINS.

MILK COOLER.

No. 268,620.

Patented Dec. 5, 1882.



WITNESSES

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(No Model.)

3 Sheets—Sheet 3.

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FIG. 6.

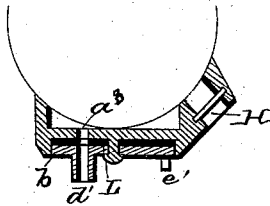


FIG. 5.

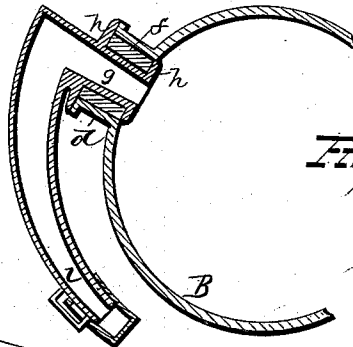
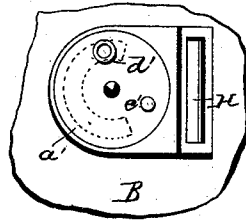


FIG. 7.

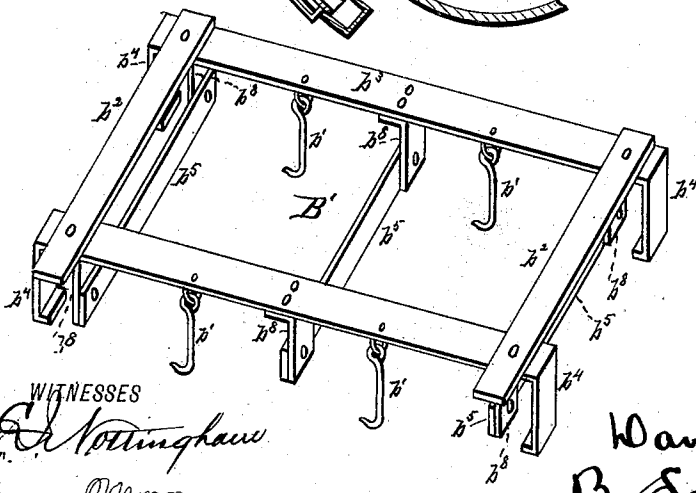


FIG. 8.

WITNESSES

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UNITED STATES PATENT OFFICE.

DAVID N. CALKINS, OF ROCHELLE, ILLINOIS.

MILK-COOLER.

SPECIFICATION forming part of Letters Patent No. 268,620, dated December 5, 1882.

Application filed March 29, 1882. (No model.)

To all whom it may concern:

Be it known that I, DAVID N. CALKINS, of Rochelle, in the county of Ogle and State of Illinois, have invented certain new and useful Improvements in Milk-Coolers; 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 of reference marked thereon, which form a part of this specification.

Figure 1 is a view in perspective of the milk-cooler. Fig. 2 is a vertical sectional view taken in a plane passing at right angles through the catch-basin of the cover. Fig. 3 is a detail vertical sectional view of the main cover and supplemental cover in a plane passing through the water-tube and ventilating-tube. Fig. 4 is a sectional view of the water-chamber, representing the milk-can in side elevation, the covers of the water-chamber being removed. Fig. 5 is a detail view in side elevation of the cream discharge and indicator. Fig. 6 is a detail view in horizontal transverse section of the cream discharge device. Fig. 7 is a detail sectional view of the connection of the milk-discharge spout with the milk-can. Fig. 8 is a perspective view of the rack which retains the cans in place.

Preferably I make the water-chamber A of wood and line its interior with tin or galvanized iron. Within the chamber are placed milk-cans B, of height adapted to extend above the overflow-opening a^7 of the chamber, said cans resting within the rack B', which latter is secured and held to the bottom of the chamber A by the hooks b' . This rack B' is composed of the end pieces, b^2 , and side pieces, b^3 , secured together, as shown, and the latter provided with depending legs or standards b^4 , adapted to rest on the bottom of the water-chamber A and afford bearing for the rack. This rack is adapted to fit snugly within the chamber A, and the side and end pieces of the same are separated sufficiently from the respective sides and ends of the chamber A to prevent the cans B, which are secured between the said side and end pieces of the rack B' from approaching too near the sides and ends of the chamber A, which would interfere with

the closing of the chamber A. The side pieces, b^3 , are also provided on opposite sides, at suitable distances apart, with the depending standards b^2 , to which the cross-bars b^5 are secured. The space between the two bars b^5 is wide enough to admit the cans being introduced therein and long enough for two or three cans abreast, as the case may be. Each can is provided at its lower end with one or two projecting tongues, b^6 , which latter are adapted to rest under the cross-pieces b^5 and hold the can in position. When it is desired to place the cans in position in the cabinet they are turned so as to bring both projecting tongues inside or between two cross-bars b^5 and lowered to the bottom of the chamber. After they rest on the bottom of the chamber A they are turned so as to bring the tongues b^6 under the cross-bars b^5 , which hold them down firmly in position, whether they are filled or not. The rack B' is secured to the bottom of the chamber A by the hooks b' and the eyes b^7 . If desired, the cans can be secured in position slightly above the bottom of the chamber A, and thereby enable a free circulation of water under as well as around the cans.

A rubber gasket, f , fits in the sleeve d , and through the gasket the milk-discharge tube g passes. Disks h , secured to the opposite ends of the tube, fit against the inner and outer ends of the gasket and connect the several parts together. This tube has free rotary movement in the gasket, and its outer end is provided with a spout, l .

The main cover U is provided with a rim, m , which may be formed hollow or not, as preferred, and depends into the interior of the water-chamber. This rim, dipping into the water, forms a water-seal, and an air-chamber, n , is thus formed about the upper portion of the cans. The sides of the main cover are provided with an upwardly-extending rim, r , which forms a water-pan on the top of said cover. A tube, s , extends from the surface of this cover down within the water-chamber to a point below the water-line. The water resulting from the melting of the ice passes through this tube and into the water-chamber.

C' is a rubber cork or stopper, having a metallic or wooden handle secured thereto, which latter, when the cork is in position in the tube

s, extends up through the opening e' in the supplemental cover E and is within easy reach of an attendant.

By means of this improvement the water can be retained in the water-chamber x and allowed to flow downward into the chamber A at suitable intervals without necessitating the removal of the supplemental cover E to accomplish the same end. The cover is further provided at one end with a ventilating-tube, t , whose lower extremity communicates with air-chamber n at a point slightly below the top of the milk-cans, as indicated by the dotted lines in Fig. 3, so as to be automatically closed when the water rises sufficiently to submerge the lower end thereof. By this means the water is prevented from rising above this point (the cover being air-tight) and flowing over into the milk-cans. The upper extremity of the tube t extends above the water-rim of the supplemental cover. The rear side of the main cover is provided with a catch-basin, D, which extends across the cover and is adapted to catch the water which may be on the cover as the latter is swung back on its hinges.

The supplemental cover E is formed with a depending flange, w , about its sides. This flange rests upon the main cover and forms a water-space, x , between the two covers. The ventilating-tube passes through a hole, y , formed in the supplemental cover.

The double-walled upright cylinder F is formed at the central portion of the supplemental cover and extends through the same, and is provided with a bottom, which rests slightly above the top of the main cover. The top of the cylinder is provided with a hollow removable cover or lid, G. The ice is placed in this cylinder and rests on the bottom thereof, which keeps the water in the water-space x cold, and thereby maintains the milk at a cool temperature. The water from the ice is allowed to escape from the cylinder F through the perforations e' into the water-space x .

D' is an overflow-tube, rigidly secured to the main cover near one end of the cooler. The upper end of this tube extends up slightly above the top of the cover, and the lower end terminates near the bottom of the chamber A. This overflow-tube prevents the water from rising in the space x and running over the top of the cooler should the plug or stopper C' be allowed to remain too long in the tube s .

The upper portion of the milk-can is provided with a plate, H, fitted over a vertical opening formed in its side. The plate may be of glass or other transparent substance, whereby the line of division between the cream and the milk cans can be seen. The side of the milk-can is further provided with a curved opening, a , formed in a vertical plane, and having its extremities practically in transverse line with the extremities of the transparent plate. A circular recess, b , is formed on the outer side of the milk-can, and within this recess is centrally pivoted a vertical disk, L. This disk has a

knob, e' , for rotating it, and is further provided with a discharge-spout, d' , located near the periphery of this disk. This spout and the curved opening a are both formed at the same distance from the pivoted center of the disk, so that as the latter is rotated its spout is always in line with said curved opening. By turning the disk its spout is correspondingly moved to different heights, and by adjusting the spout in horizontal line with the line of division between the milk and cream, as shown through the transparent plate, the cream can be drawn off from the milk.

When this improved cooler is used without the employment of ice the cork C' is kept in the tube s , and the water (which is forced onto the top of the supplemental cover by windmill, pump, or any other suitable means) allowed to flow on top of supplemental cover and fill the main cover up to the top of the overflow-tube. The water then flows through this overflow-tube down to near the bottom of the chamber A, and passes from the cabinet by a waste-pipe situated slightly below the level of the top of the cans. By this means a constant circulation is kept up, which answers all the necessary purposes.

In the foregoing specification I have described and in the drawings have shown several parts of a milk-cooler patented to me October 26, 1880; but I would have it understood that I do not limit the use of my improvement claimed herein to the peculiar construction of the can and other parts shown and described but not claimed, as I consider myself at liberty to use any other construction of parts that will answer the necessary purposes.

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

1. In a milk-cooler, the combination, with a water-chamber and milk-cans, of a cover having a depending rim which extends into the water-chamber, a ventilating-tube extending above the cover and below the top of the cans, and a tube which conducts the waste ice-water from the surface of the cover into the water-chamber.

2. In a milk-cooler, the combination, with the water-chamber and milk-cans, of a cover having an inwardly-extending rim, and provided with a pipe adapted to convey the waste ice-water from the surface of the cover, a rubber plug or stopper adapted to fit said opening, a ventilating-tube passing through said cover to a point below the top of the cans, and an overflow-pipe extending nearly to the bottom of the chamber, substantially as set forth.

3. In a milk-cooler, the combination, with a water-chamber and a cover provided with ventilating and waste-water tubes, of a supplemental cover provided with a central upright cylinder having an independent bottom on which the ice rests, and perforations for the escape of the ice-water into the main cover

when the parts are in position, substantially as set forth.

4. In a milk-cooler, the combination, with the water-chamber, of the rack removably secured to the bottom thereof, and provided with side pieces adapted to prevent the cans from being placed too near the sides and ends of the chamber, so as to interfere with the closing of the top, cross-bars, and cans having lugs adapted to engage said cross-bars, substantially as set forth.

5. The combination, with the water-chamber, of a rack removably secured therein, the said rack being composed of side and end pieces, depending hangers, standards, and cross-bars, and the milk-cans provided with projecting tongues adapted to engage the said cross-bars and hold the cans down in position, all of the above parts constructed and adapted to operate substantially as set forth.

6. The combination, with the main cover having a pipe secured thereto for carrying off the waste ice-water, and a supplemental cover having an opening therein which registers with the waste-pipe in the main cover, of a rubber plug or stopper having an elongated handle by which it can be passed through the supplemental cover and close the waste-pipe without removing either cover, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of March, 1882.

DAVID N. CALKINS.

Witnesses:

J. O. McCONOUGHY,
GEO. W. RING.