

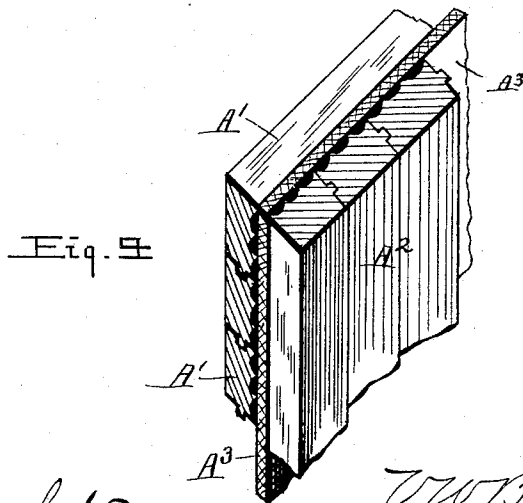
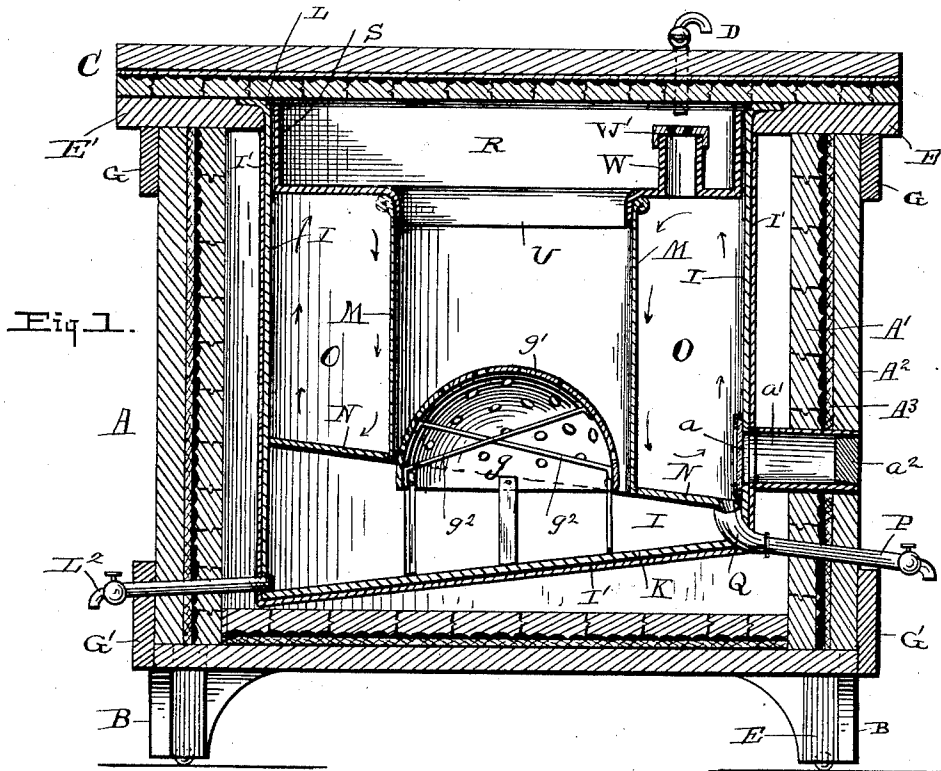
(No Model.)

V. W. BLANCHARD.
MILK CREAMER.

2 Sheets—Sheet 1.

No. 475,658.

Patented May 24, 1892.



Witnesses
Jas. R. Mansfield.
Arthur E. Towell

Inventor
V. W. Blanchard
By his Attorney W. H. Alexander

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

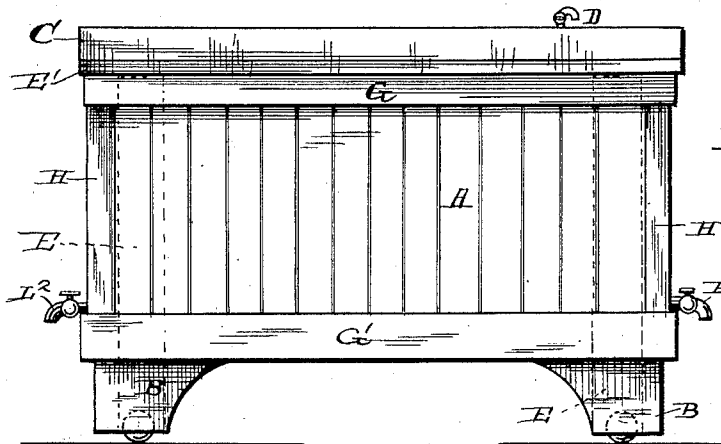
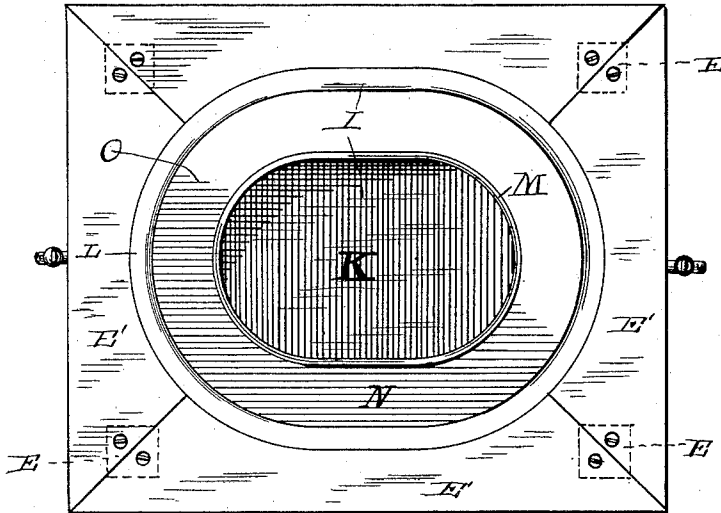


Fig. 3.

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UNITED STATES PATENT OFFICE

VIRGIL W. BLANCHARD, OF NEW YORK, N. Y.

MILK-CREAMER.

SPECIFICATION forming part of Letters Patent No. 475,658, dated May 24, 1892.

Application filed May 15, 1891. Serial No. 392,827. (No model.)

To all whom it may concern:

Be it known that I, VIRGIL W. BLANCHARD, of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Milk-Creamers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 represents an enlarged vertical section through my improved milk-cream-er, showing the interior arrangement of the ice-well or refrigerating apartment, the milk-compartment, and the construction of casing and of ice-deflecting rack. Fig. 2 represents a reduced top plan view of the creamer with the covers C and R and ice-rack removed. Fig. 3 is a side elevation of the creamer. Fig. 4 is a detail of the casing-walls.

This invention is an improvement in milk coolers and refrigerators; and its object is to expedite the raising of cream by directly applying ice to one side only of the milk-apartment; and it consists in the novel construction and combination of parts hereinafter described and claimed.

Referring to the drawings by letters, A represents the external wall of the creamer, having feet B, provided with casters.

C represents the cover, having a vent-tube D.

By reference to Figs. 1 and 4 it will be seen that the external wall of the creamer is formed of two layers of matched boards A' A², lying at right angles to each other, with interposed layer of non-conducting material A³, the boards being grooved or channeled on their inner faces next the layer A³. As economy in ice is of the greatest importance in creamers, it is evident that by the use of two matched and grooved layers of wood and interposed non-conducting material I am able to form in the wall of the casing two series of air-spaces formed by the grooves in the boards, and thereby cheaply form an almost perfect non-heat-conducting wall, resulting in practice in the greatest economy of ice. It will be observed that one set of boards A² is vertical. The other set A' is horizontal, so that they intersect each other.

E E represent strong corner-posts extending from the top of casing (indicated in Figs. 2 and 3) to the bottom of feet B. It will be observed that the finish-boards E' form a junction directly over the upper end of posts E E and are secured to the same by strong screws. By removing these screws the upper finish-boards are set free, after which the interior metallic can which they support may be removed therewith from its position within the refrigerating-walls by previously unscrewing the milk and water drainage faucets from their interior connections, as shown.

G G represent the upper, and G' G' the lower strengthening-bonds, and H H represent metallic corner-pieces, which I prefer to use on all large creamers to strengthen the corners thereof.

I represents a removable metallic can, preferably of an oval shape, provided with an inclined draining-bottom K and suspended in the interior of the refrigerating-case A by the broad top flange L, resting on the removable finish-boards E', as shown in Figs. 1 and 2. The bottom of can I is drained by faucet L², which is removable.

M represents a tube forming an ice well or receptacle centrally located in can I and firmly attached to an inclined annular false bottom N, which is in turn attached to can I, as shown, and the space above bottom N and between tube M and the vertical walls of can I forms a narrow milk-compartment O, extending continuously around the ice well or receptacle formed by the perpendicular tube M. Bottom N is inclined, so as to drain fluids to one side or end, and is preferably inclined oppositely to bottom K, so that it can be drained by a faucet P, passed through the wall of the casing opposite faucet L² and connected to a goose-neck tube Q, secured to bottom N at the lowest point thereof.

R, Fig. 1, represents a cover to the milk-apartment O, preferably formed of metal, having an upstanding outer flange S and inner descending flange U.

W represents the upstanding pouring-tube, attached to the cover, and W' a perforated vent-cap fitted on the said tube.

a is a window in can I for ascertaining the cream-line in the milk-apartment O, and a' is a sight-tube closed by door a². A wide air-

space is left entirely around the suspended removable can I.

I' represents one or more layers of fibrous material—as felt or other non-heat-conducting material—that is firmly glued or secured to the outer surface of can I.

g represents a removable ice-rack having a perforated sheet-metal conical or semi-spherical top g' and cross-stays g^2 , and which is of such size as to fill the bottom of the ice-well.

In operating or using the device the ice-rack is first put in place, as indicated in Fig. 1, the cover R placed over the milk-compartment, and ice then introduced into the well until it is filled and a layer of ice put on the cover. After the apparatus has been thoroughly chilled by the ice the drain-faucets are closed, the perforated cap W' removed, and the fresh new milk introduced by a strainer-funnel (not shown) through tube W into the milk-compartment. The contact of the warm milk with the cold wall of the well will produce a rapid circulation of the milk in the direction indicated by the arrows, which causes the entire volume of cream in the milk to rise to its surface in a very short time, (about two hours,) while the noxious vapors and gases in the milk are set free, and, rising through tube W, escape into the ice-well, and either pass out of the casing through vent-tube D or will be condensed upon the ice in said well. By reason of the non-conducting covering on the outer wall of can I the radiation or transmission of heat or cold through the outer wall is largely prevented, so that the milk is unequally refrigerated and the currents automatically established, as indicated. This desirable result is increased by making the outer wall of can I of a poor conducting metal, as tinned iron, and by making tube M of an excellent conductor, like tinned copper, and thereby the cream-raising process is expedited and ice economized. The ice-rack causes the ice in the well to deflect and press against the tube M constantly.

From the foregoing it will be seen that the metallic portion of my improved creamer is formed of a simple can having an inclined bottom and an internal upstanding tube supported in the vessel upon a false inclined bottom, so that the entire bottom surface of the milk-apartment overhangs a cold refrigerating-chamber. Its entire upper surface may be covered with ice, and its central portion constitutes an ice-well.

After the cream has risen to the top of the milk the milk can be drawn off by faucet P, the descent of cream being observed through the sight-tube, so that it can be withdrawn separated from the milk. After the cream is withdrawn fresh warm milk should be intro-

duced in the compartment in the manner described without removing cover R. The ice should be replenished about once in twenty-four hours, as may be found necessary, and the drain-faucet opened occasionally to withdraw water from can I, so as to keep the air and ice dry in the casing.

The non-conducting packing or covering on the outer wall of can I is not absolutely essential. By making the milk-compartment in the annular form shown, so that ice occupies its center, a narrow column of milk contacts with the cold tube; but by reason of the length or circumference of the milk-compartment a large quantity of milk can be contained in a very small apparatus.

As repairs are frequently necessary to the metallic portion of all creamers, the advantage of having the entirely-metallic portion easily removable from the casing is obvious, and by suspending the metallic portions so that they do not contact with the walls of the casing conduction of heat into walls of casing or through them is obviated.

Having thus described my invention, I claim—

1. The milk-creamers described and shown, consisting of an outer casing, a can suspended therein, an annular false bottom for the can, secured thereto above the bottom thereof, whereby a lower chamber is formed, a central vertical tube open at both ends and secured to and supported by the said bottom, forming an ice-well, an ice-rack at the bottom of the well having a convex upper surface, a depressed cover for the annular space between the well and the can, said cover having a turned-down flange leading into the well, and a pouring-in tube and a suitable cover for the casing, substantially as and for the purpose set forth.

2. The milk-creamers described and shown, consisting, essentially, of an outer casing having a can suspended therein provided with an inclined false annular bottom secured in the can, an open-ended tube or ice-well in the can attached to and supported on said false bottom, an ice-rack in the well, a depressed cover for the annular space between the well and the can, said cover having a turned-down flange leading to the ice-well, and a suitable cover for the casing, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

VIRGIL W. BLANCHARD.

Witnesses:

JAMES M. SLADE,
ROLLA E. ALLEN.