

(No Model.)

G. S. FRAZEY.

MILK COOLER.

No. 313,309.

Patented Mar. 3, 1885.

Fig. 1.

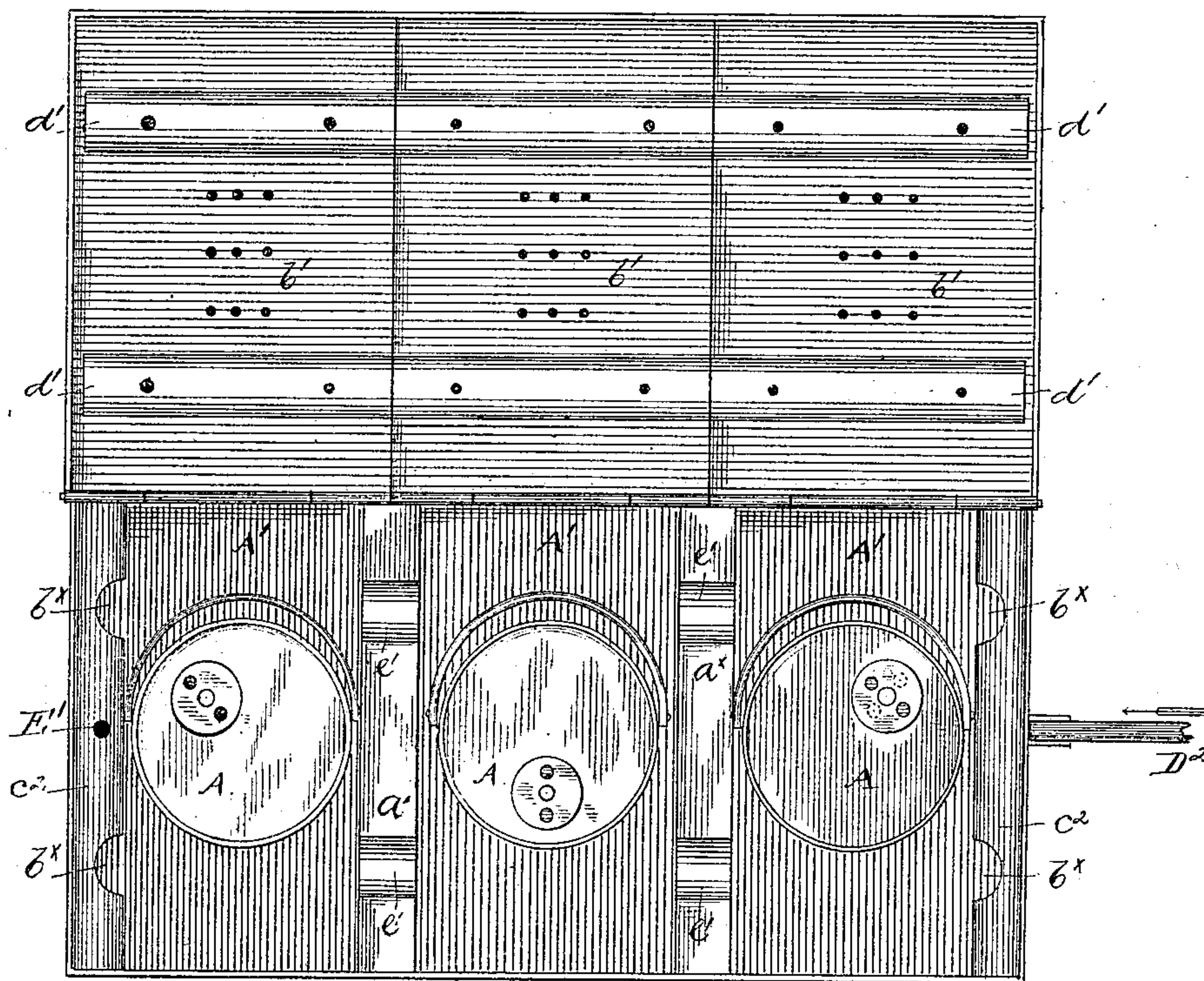


Fig. 2.

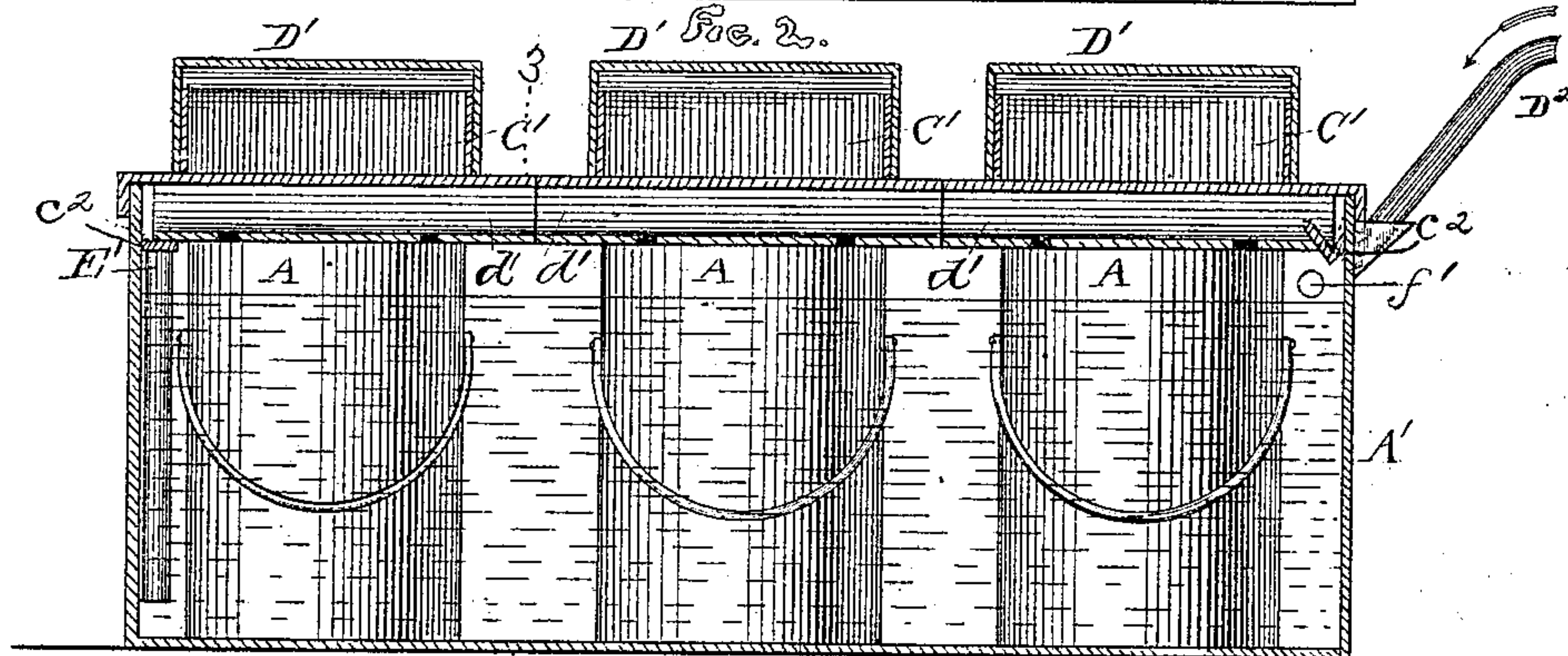
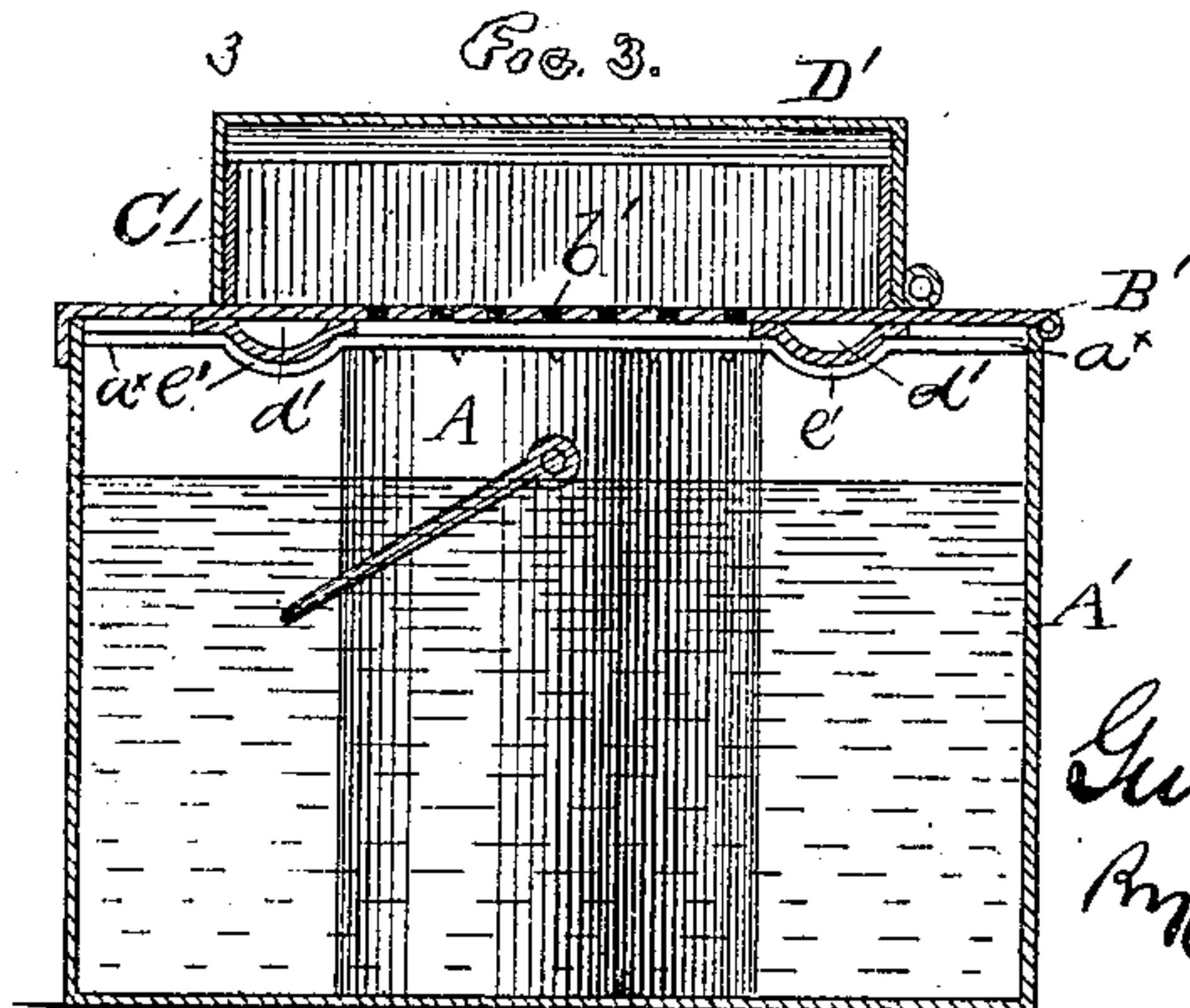


Fig. 3.



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UNITED STATES PATENT OFFICE.

GUY S. FRAZEY, OF JERSEY CITY, NEW JERSEY.

MILK-COOLER.

SPECIFICATION forming part of Letters Patent No. 313,309, dated March 3, 1885.

Application filed February 14, 1884. (No model.)

To all whom it may concern:

Be it known that I, GUY S. FRAZEY, a citizen of the United States of America, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Milk-Coolers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention consists, essentially, in certain improvements in the construction of a case or box for receiving milk-cans and cooling the milk therein and raising the cream on such milk. This box or case is designed to
15 be used in connection with an improved construction of milk can or pail described and shown in my application for patent filed on even date herewith, Serial No. 120,732; but
20 to be used in conjunction with each other, still it is possible to use them separately, or with other devices differing somewhat in character.

In the accompanying drawings, Figure 1 is a plan view with the cover turned back of
25 my improved case or box for receiving the cans and cooling the milk therein, with cans in position within said case or box. Fig. 2 is a longitudinal vertical section, and Fig. 3
30 is a transverse section thereof through the line 3 3 of Fig. 2.

In this arrangement, A represents the milk-cans, which are preferably of the construction shown and described in my application for patent heretofore referred to; but any other
35 suitable construction of can may be used in lieu thereof, provided its lid or cover is provided with suitable overflow orifices or recesses to admit of the water as it trickles down upon the lids from the boxes C', to be presently described, readily flowing off from said cover
40 in order that the top of said can may never be entirely submerged in water, as it is one of the main objects of this part of my invention to cool the milk in the cans without sub-
45 merging said cans; and this result I accomplish by the peculiar construction of the device to be presently described, taken, preferably, in conjunction with the peculiar construction of can or pail heretofore referred to.

Still any can, as heretofore intimated, constructed to admit of the water flowing readily off the cover may be employed.

A' represents a box or case of any suitable shape to adapt the same to receive one or more of the milk-cans, such as heretofore referred
55 to.

In the form shown in the drawings the box is adapted to receive three of such cans, the box being divided into the requisite number of compartments by transverse strips a^x , and
60 the lid or cover B' is shown as formed in three independent hinged sections, each having on its top a box, C', within which is placed ice, although, if desired, the box may be provided with any greater or less number of ice-boxes,
65 and the lid may be formed of more or less sections. Each of these boxes C' is provided with a cap or cover, D', which may either be hinged thereto and secured by any suitable
70 retaining device, or it may consist of a cap adapted to slide up and down upon said boxes C', as desired. Perforations b' are formed in the bottoms of the boxes C', to allow of the
75 water resulting from the melting of the ice dropping down upon the tops of the cans beneath, as shown in the drawings. By increasing the area of these perforations b' , the water
80 resulting from the melting of the ice in the boxes C' will not only drop down upon the tops of the cans, but also drop down within the box A' surrounding said cans.

At each end of the box A', on the interior thereof, are transverse ledges or gutters c^2 , which are recessed at their top inner edges,
85 as shown at b^x , to receive and support the perforated tubes d' on the bottoms of the boxes C'. When the sectional cover B' is closed down upon the box A', the sectional portions of the tubes d' attached to the inner or lower
90 side of cover B' will rest within such recesses b^x , and also within the recessed or depressed portions e' of the strips a^x , and come together, and thus produce continuous tubes through which the water can readily pass from the pipe D² at one end of the box to the other
95 end thereof.

D² represents a pipe, tube, or other suitable device through which water from any desired

or convenient source is supplied to the tubes d' . The water entering such tube d' is cooled in its passage across or under the ice-boxes C' . A small portion of this water and that
 5 resulting from the melting of the ice trickles down through the perforations in the tubes d' and the perforations b' in the boxes C' either upon the tops of the cans when such tubes and cans are in line vertically with each other,
 10 as they may be either by placing the cans beneath either tube or by forming the tubes nearer the center of the cover than they are shown in the drawings, or by using cans of a circumference equal to the area covered by
 15 the tube-sections, or in the manner heretofore described; but the main portion of the water passes along said tubes to the gutter at the opposite end of the box A' , from whence it flows through the pipe E' to or near the bot-
 20 tom of the box A' . An overflow-opening, f' , is formed in or near the end of the box A' at which the water enters, through which the surplus is discharged, thereby insuring a constant circulation of water within the box A'
 25 and the rapid cooling of the milk and raising of the cream in the cans placed in said box. The cans are placed within the box A' so that the ventilator-tube in the cover is to one side of the perforation b' in the boxes C' , in or-
 30 der that the perforated disk on the top of such tube may remain open for the purpose of allowing the escape from the cans of the animal-heat from the milk and preventing the entrance of water within the can.
 35 When it is desired to remove the can from the box A' , the cover B' is turned back, the perforated disk closed, and the can tilted slightly to allow the water that has collected within the rim on the top of the can to flow

off through the slits in said rim, then, by grasp- 40
 ing the handle on the can, said can, or any one, can be readily removed without disturbance to the rest of the cans or causing the tempera-
 45 ture to change in any perceptible degree or in any sense exposing the surface of the milk not ready to be removed or skimmed.

If desired, an additional slit or orifice may be formed in said rim near the bottom, or to extend from top to bottom thereof, and be provided with a sliding shutter or valve, so 50
 that by sliding such shutter or valve away from such larger slit or orifice the water within the rim can readily flow off the cover.

Having thus described my invention, what I claim is—

1. The box A' , having gutters c^2 , strips a^x , tube E' , and a water entrance and exit at one end thereof, in combination with the cover B' , provided with tubes d' , substantially as and for the purpose set forth. 55

2. The box A' , having gutters c^2 , strips a^x , tube E' , and a water entrance and exit at one end thereof, in combination with the cover B' , provided with ice-boxes C' and tubes d' , sub- 60
 stantially as and for the purpose set forth.

3. The combination of a milk can or pail provided with a cover having suitable over- 65
 flow-openings, cover B' , having tubes d' , and the box A' , having gutters c^2 , strips a^x , tube E' , and water entrance and exit at one end, 70
 substantially as described.

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

GUY S. FRAZEY.

Witnesses:

CHAS. J. GOOCH,
 E. P. HOUGH.