No. 610,299. Patented Sept. 6, 1898.

C. CAHOON.

MILK COOLER.

(Application filed July 9, 1897.)

(No Model.)

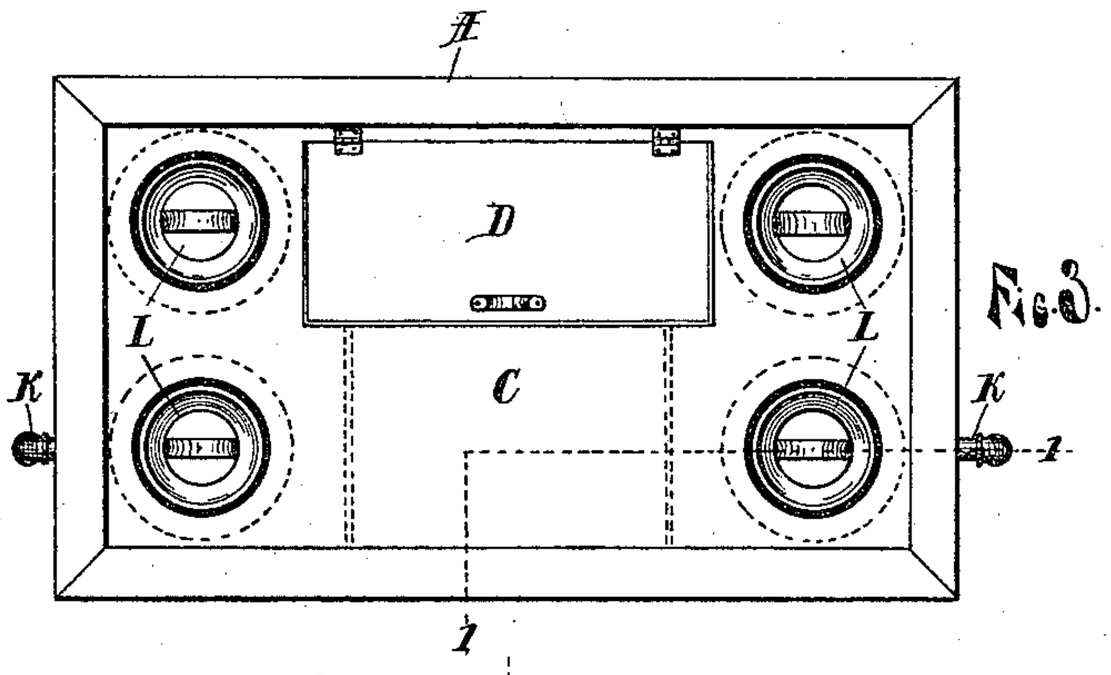

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

WITNESSES:

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CLARE CAHOON, OF GRAND RAPIDS, MICHIGAN.

MILK-COOLER.

SPECIFICATION forming part of Letters Patent No. 610,299, dated September 6, 1898.

Application filed July 9, 1897. Serial No. 644,010. (No model.)

To all whom it may concern:

Be it known that I, CLARE CAHOON, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, 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.

My invention relates to improvements in milk-coolers; and its object is to provide the same with certain new and useful features hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of a device embodying my invention, with parts broken away, showing a vertical section on the line 1 1 of Fig. 3. Fig. 2 is a transverse vertical section of the same on the line 2 2 of Fig. 1; Fig. 3, a plan view of the device with the top cover removed, and Fig. 4 the same with the cover C also removed.

Like letters refer to like parts in all the figures.

A represents a suitable rectangular case or box having the usual double walls, metal lining, and hinged cover B. A short distance below the cover B is a second removable cover C, having openings near each end, through which project the upper ends of the milk-cans L. Between the cans L and near the middle of the case A are two compartments G H to contain ice, said compartments being formed by vertical walls extending from the bottom of the case to the cover C. These compartments are connected by openings J' in the upper part of the dividing-walls and also with the end spaces of the box by other openings J in the upper part of the wall dividing the same from said spaces. Openings I are also formed in the lower part of the walls between the forward compartment H and the said end spaces. Close below the cover C is a perforated cover E, closing the top of the compartment H, and at a convenient distance from the cover C is also a perforated cover F in the compartment G, dividing the same horizontally into two parts. Said covers E and F may be secured by suitable locks M to prevent removal of the ice placed in the compartments G and H. An overflow-pipe K extends from the respective end spaces near the level of the upper part of the cans, and a drain-pipe K' connects the bottom of the compartment G with the pipe K.

The operation of my device is as follows: The cans of milk to be cooled are placed in the spaces at the ends of the case and a suitable quantity of ice is placed in each of the compartments G and H. Water is then poured around the cans until up to the overflow-pipe K. This water also fills the compartment H to the same level by passing through the openings I. The ice in the compartment H, being in direct contact with the water, cools the same rapidly until near the freezing-point, while at the same time it is confined in said compartment and does not get in the way of the cans should they be removed and replaced, as frequently occurs in practice. I find, however, that it is not desirable to cool the water to such a low temperature, and also that it is desirable to maintain a moderately low temperature for a considerable time. I can accomplish this by so apportioning the ice that the ice in the compartment H will do the initial cooling of the water. Then the ice in the compartment G will gradually absorb the heat through the walls of this compartment and melt much more slowly than if in contact with the water, said compartment being drained free of any water by the pipe K'. The ice in the same will be surrounded with non-circulating cold air. It therefore melts away very slowly, maintaining the water in the other compartments at a sufficiently low temperature, but somewhat above its own temperature and for a long time, with but little consumption of ice. The upper part of the compartment G serves as a convenient receptacle for butter, being sufficiently cool for the purpose.

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

1. In a milk-cooler the combination of a case, a compartment to contain water, and milk-cans partially submerged in the water, a compartment to contain ice having its walls contacted by the water, a drain-pipe in the

bottom of said compartment, and a second ice-compartment having openings into the water-compartment to admit water from the same, substantially as described.

2. In a milk-cooler the combination of a case, a compartment at each end thereof for milk-cans, and two middle compartments, a drain-pipe in the bottom of one of said middle compartments, there being openings in the sides of the other of said compartments to admit water from the end compartments, substantially as described.

3. In a milk-cooler the combination of a case, a compartment at each end thereof and two middle compartments, a drain-pipe in the bottom of one of the middle compartments, there being openings in the walls of the other middle compartment to admit water from the end compartments, a drain-pipe from near the upper part of the end compartments, there being air-openings in the walls of said middle compartment and above the water-level, substantially as described.

4. In a milk-cooler the combination of a case having two end and two middle compartments, a drain-pipe at the bottom of one of said middle compartments, there being openings in the sides of the other of said compartments near the bottom and top thereof, perforated covers in each of said middle compartments, one of said compartments being divided into two chambers thereby, and a removable cover above all of said compartments having openings for the milk-cans, and a door in said cover above one of said middle compartments, substantially as described.

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

CLARE CAHOON.

Witnesses:

TITUS GROOTHOFF,

LEWIS E. FLANDERS.