

2 Sheets—Sheet 1.

No. 557,883.

Patented Apr. 7, 1896.

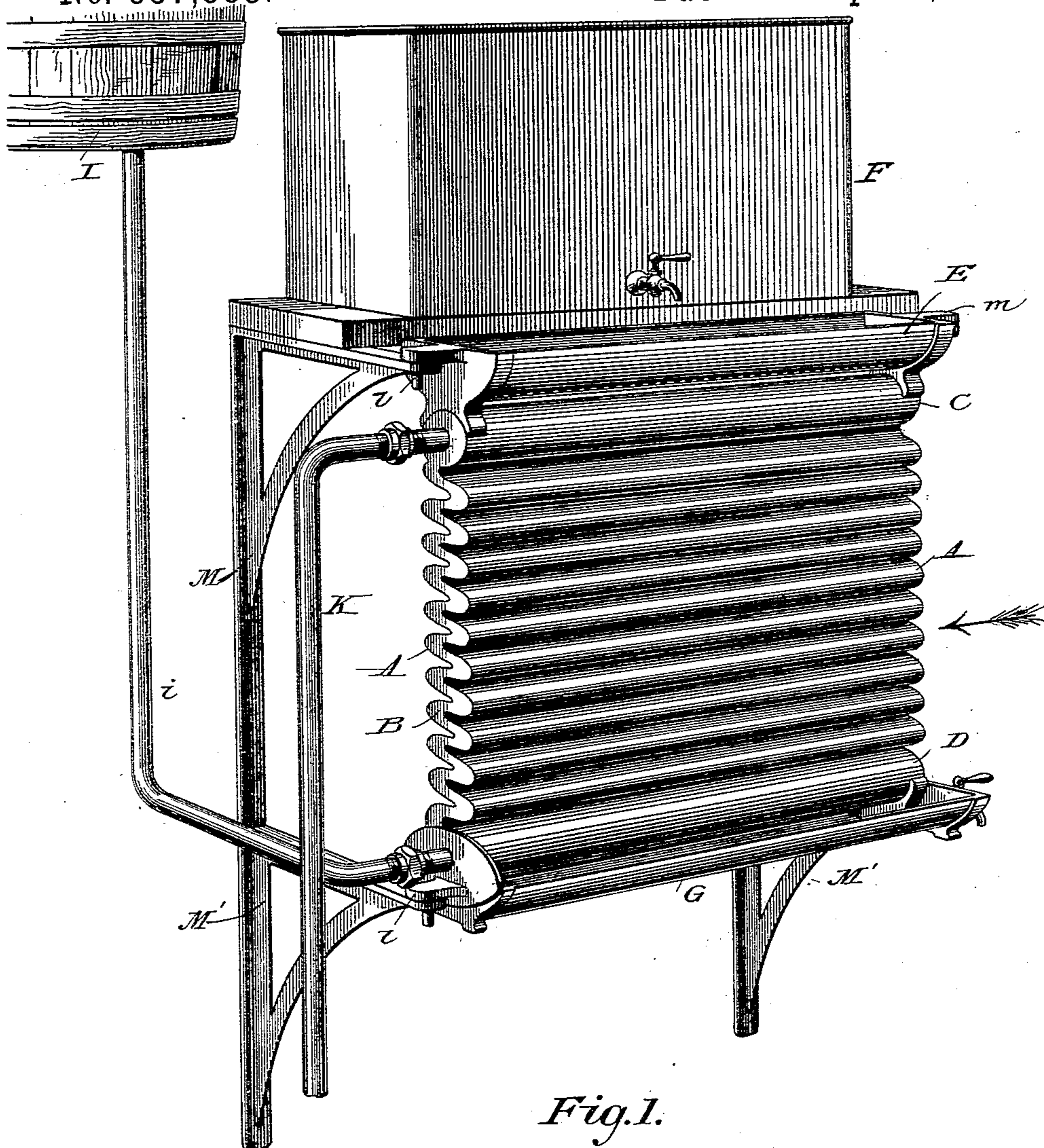


Fig. 1.

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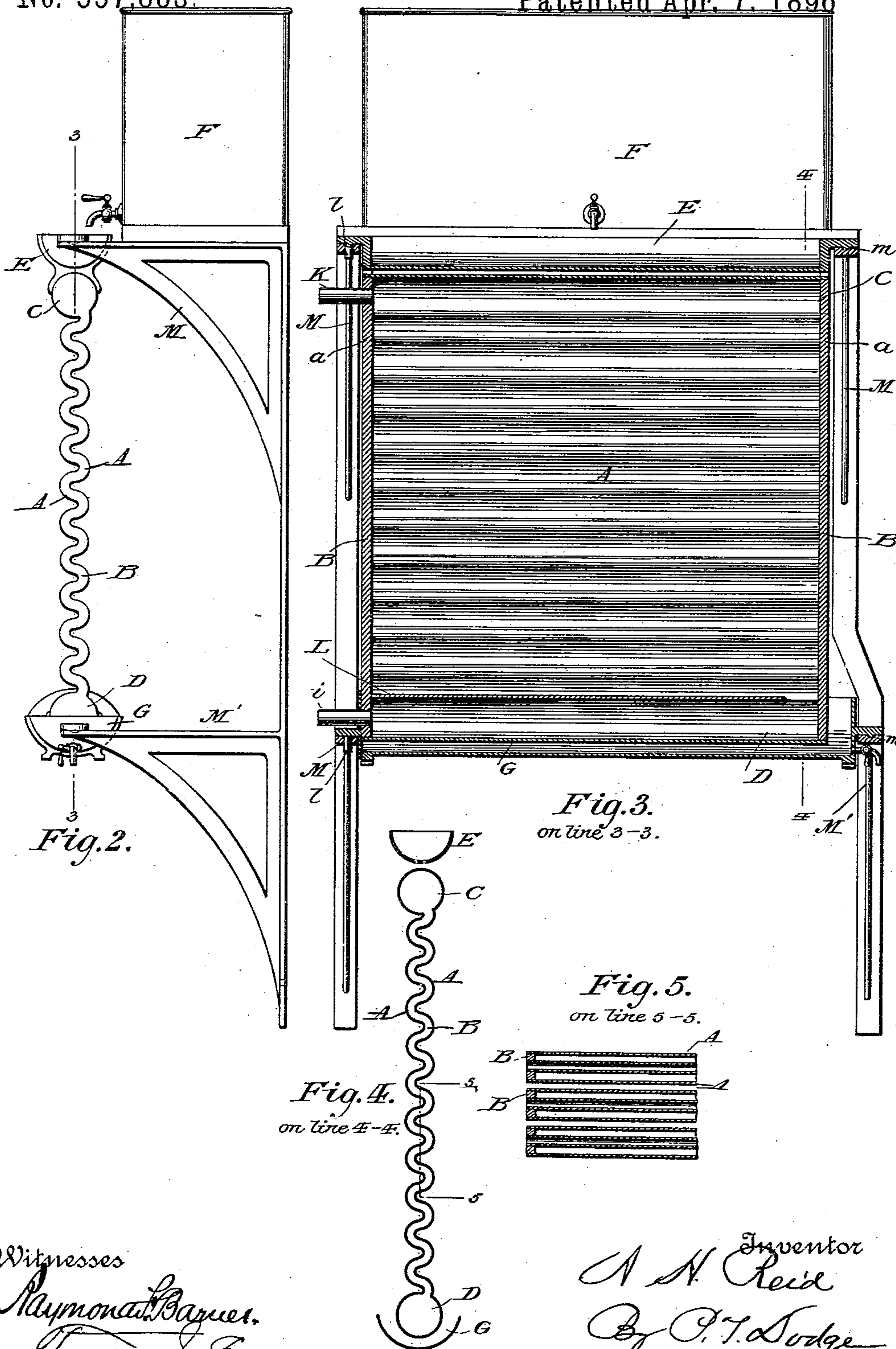
(No Model.)

2 Sheets—Sheet 2.

A. H. REID.
MILK COOLER.

No. 557,883.

Patented Apr. 7, 1896



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UNITED STATES PATENT OFFICE.

ALBAN H. REID, OF PHILADELPHIA, PENNSYLVANIA.

MILK-COOLER.

SPECIFICATION forming part of Letters Patent No. 557,883, dated April 7, 1896.

Application filed August 15, 1892. Serial No. 443,087. (No model.)

To all whom it may concern:

Be it known that I, ALBAN H. REID, of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful
5 Improvement in Milk-Coolers, of which the following is a specification.

This invention relates to that class of milk coolers and aerators in which the substance to be cooled is allowed to flow over cooling-
10 surfaces within which the cooling medium is contained; and the invention consists in an improved manner of sustaining the cooling-body to admit of its being turned from its operative position to allow access to its
15 rear side; and the invention further consists in improved pipe connections for securing the perfect circulation of the cooling medium.

The invention also consists in the details of construction and combination of parts here-
20 inafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a cooler embodying my invention, a portion being broken away to expose its internal construction to view. Fig.
25 2 is an elevation of the same, looking in the direction of the arrow in Fig. 1. Fig. 3 is a vertical longitudinal section on the line 3 3 of Fig. 2. Fig. 4 is a transverse vertical section on the line 4 4 of Fig. 3. Fig. 5 is a vertical cross-section on the line 5 5 of Fig. 4.

The cooling-surfaces consist of two corrugated metal plates A, which are connected together at opposite ends a slight distance apart by means of filling-strips B. These
35 filling-strips are of a form corresponding to that of the space between the plates and project but a slight distance inward, so that a closed chamber is left between the plates for the circulation of the cooling medium. The
40 strips may be soldered between the plates, or they may be formed by flowing molten metal therein. They are so applied that they will be contained wholly within the end of the plates and will not project beyond the
45 same. This feature constitutes the principal part of my invention and is deemed of advantage in that the corrugations in the plates are left free from end to end and may be readily cleansed. This is not possible where
50 in certain cases the plates have been connected by end plates, the edges of which projected beyond the surface of the cooling-

plates. In such cases the corners at the ends of the corrugations are difficult of access and cannot be freed from the accumulation of
55 foreign substances.

At the upper and lower ends the plates are bent to form chambers C and D, respectively, which connect with the space between the plates. E represents a trough which is seated
60 on the top of the chamber C and provided in its bottom, preferably on both sides, with a series of perforations. This trough is adapted to receive the milk or other substance to be cooled from the reservoir F, whence it flows
65 through the perforations in the trough over the corrugated plates to a second trough G, fixed to the bottom of the chamber D, from which it flows from a discharge-opening in the end of the trough.

The cooling medium is introduced from the
70 reservoir I through a pipe *i* into one end of chamber D, whence it flows up between the plates and emerges from the end of the chamber C through pipe K.

In order that the cooling medium may be caused to circulate freely between the plates, I extend between the same, near their lower
75 ends, a horizontal partition L. This partition is of such form that it will separate the chamber D from the space between the plates, except at the end opposite that at which the cooling medium is introduced, so that the
80 latter will be compelled before passing upward to pass to the opposite end of the plates.

In order that access may be had to the rear side of the cooler, which when in operation is sustained in an upright position by means of brackets M M, &c., I so attach the cooler to the brackets that it may be swung bodily
85 outward from the wall on a vertical axis.

In the drawings I have represented the projecting ends of the brackets at one side of the cooler provided with vertical holes adapted to receive vertical and downwardly-project-
95 ing journals *ll*, formed on the ends of lugs projecting laterally from the ends of the upper trough E and the end of the lower chamber D. The brackets at the opposite end of the cooler are provided in the upper sides
100 near the ends with depressions which are adapted to receive projections formed on the under side of lugs *m m*, extending, respectively, from the end of the trough E and the

lower chamber D. Under this construction it will be observed that the projections on the lugs at the free end of the cooler may be first disengaged from the depressions in the brackets and the cooler swung bodily outward, turning at its opposite end on a vertical axis passing through the center of the journals. It will be further observed that this action of the cooler will not interfere with the connections for introducing and discharging the cooling medium inasmuch as the latter is introduced and discharged at the same end of the cooler.

Having thus described my invention, what I claim is—

The combination with the brackets, the upright cooling-body provided at one end with journals mounted in bearings in the brackets to turn on vertical axes, the brackets at the opposite end of the body and the lugs attached to the body and adapted to engage the brackets and hold the body in position.

In testimony whereof I hereunto set my hand in the presence of two attesting witnesses.

ALBAN H. REID.

Witnesses:

NEIL MCGLADE,

GABRIEL C. KNECHT.