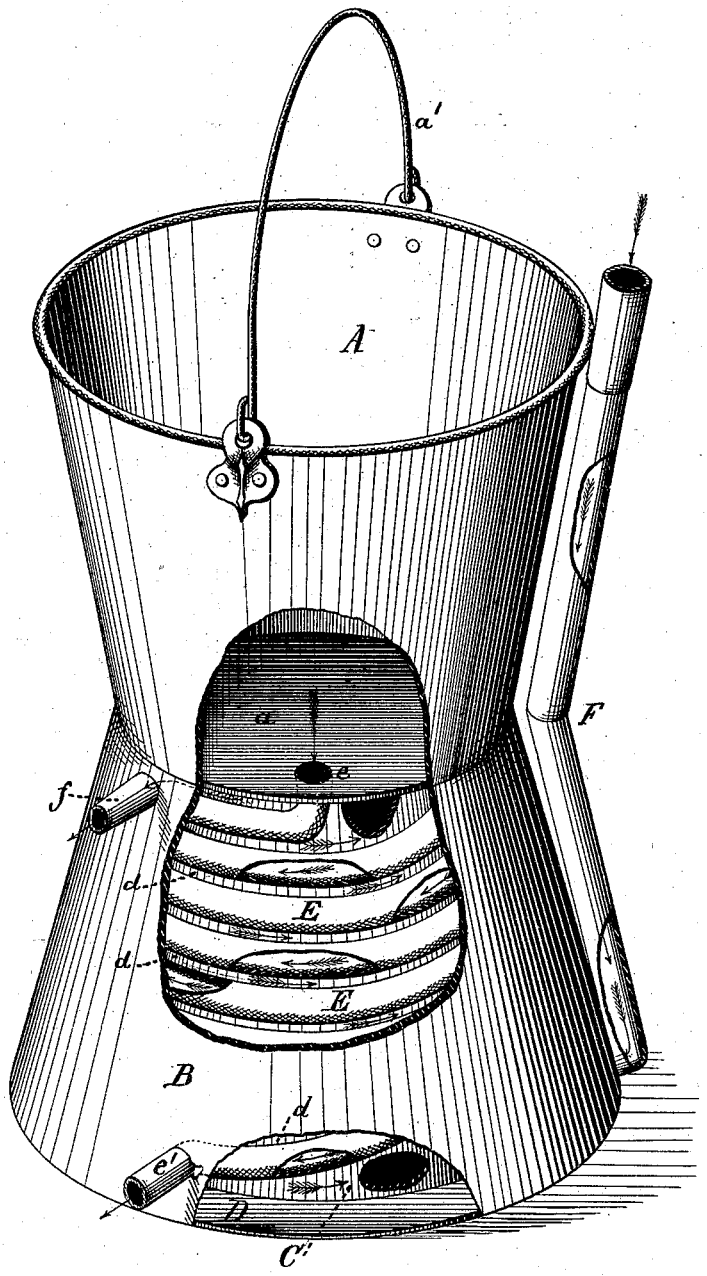
M. F. POTTER.
Milk-Cooler.

No. 209,420. Patented Oct. 29, 1878.



WITNESSES:
as. E. Hutchinson.
ames H. Lange.

INVENTOR.
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UNITED STATES PATENT OFFICE.

MERRITT F. POTTER, OF HINCKLEY, ILLINOIS.

IMPROVEMENT IN MILK-COOLERS.

Specification forming part of Letters Patent No. **209,420**, dated October 29, 1878; application filed February 28, 1878.

To all whom it may concern:

Be it known that I, MERRITT F. POTTER, of Hinckley, State of Illinois, have invented certain new and useful Improvements in Milk-Coolers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters of reference marked thereon, which form a part of this specification, and in which the figure is a perspective view of my improved milk-cooler, having the interior construction partly exposed to view by the breaking away of suitable portions of the milk-cooler.

My invention relates to devices for cooling milk by a cold current of water.

The nature of my invention consists in a bucket supported by a vessel containing a pipe-coil, and forming therewith a spiral space, which latter serves as a passage for cold water while the milk is drawn from the bucket through the pipe-coil.

A in the drawing represents a bucket, which is supported by a cylindrical or conical foot, consisting of two concentric vessels, B C, having a bottom, D. Between the said vessels a pipe-coil, E, is so inclosed as to fit the sides of the vessels perfectly, so that a spiral space, *d*, is formed between them. The coil E opens at *e* into the bottom *a* of the bucket A, and passes out of the vessel B at *e'*.

A water-supply pipe, F, connects with the vessel A and the spiral space *d* near the bottom D, and a discharge-pipe, *f*, serves to draw off the water from the upper termination of the space *d*. The bucket A may be provided with a bail, *a'*, or other appliances of convenient transportation.

Operation: The pipe F is connected with the pipe of a hydrant, reservoir, or other water-supply, and the water-supply thereof is caused to enter the space *d*, follow its windings upward, and leave the same through the discharge-pipe *f*. The coil E becomes thereby thoroughly cooled, and now milk is poured into the bucket A.

The milk leaves the bucket gradually by passing down through the coil E, which it leaves at the discharge end *e'* perfectly cool, as during its descent it has by degrees been deprived of its warm temperature by means of the cold temperature of the water surrounding the coil E.

A constant supply of fresh water to the milk-cooler prevents the gradual warming up of the water, and by having the water introduced at the foot of the cooler the temperature of the water is always the lowest near the discharge end of the coil E, and thereby most readily furnishes additional cool temperature to the already-cooled milk, which would not be the case if the fresh water were supplied near the upper end of the coil E.

I am aware that it is not new, broadly, in a cooling and condensing apparatus to run between two concentric tanks or tubes a spiral partition-plate and coil or worm.

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

1. A bucket or reservoir, A, the two concentric conical vessels B C, and coil E, forming a passage-way, *d*, substantially as shown and described.

2. A bucket or reservoir, A, the two concentric conical vessels B C, and coil E, forming a passage-way, *d*, discharges *e f*, and supply-pipe F.

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

MERRITT F. POTTER.

Witnesses:
G. L. C. WHEATEN,
PETER COSTER.