O. S. PRINDLE.

MILK-COOLERS.

No. 195,646. Patented Sept. 25, 1877

Fig. 1.

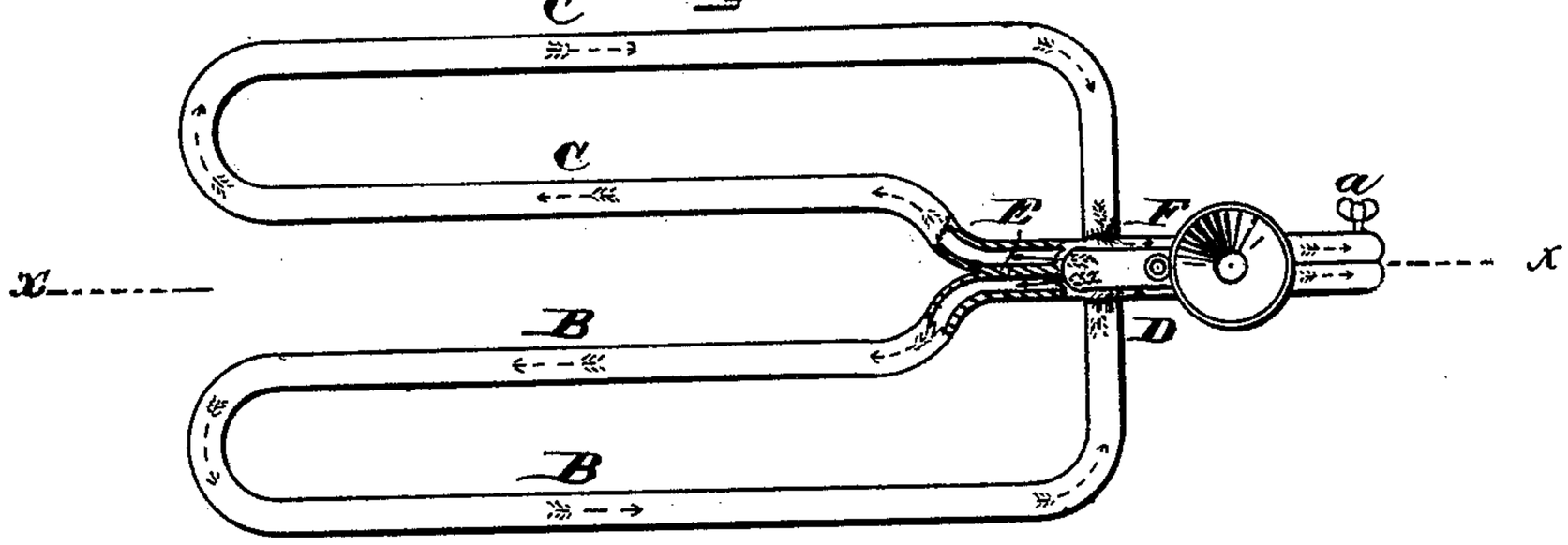


Fig. 2.

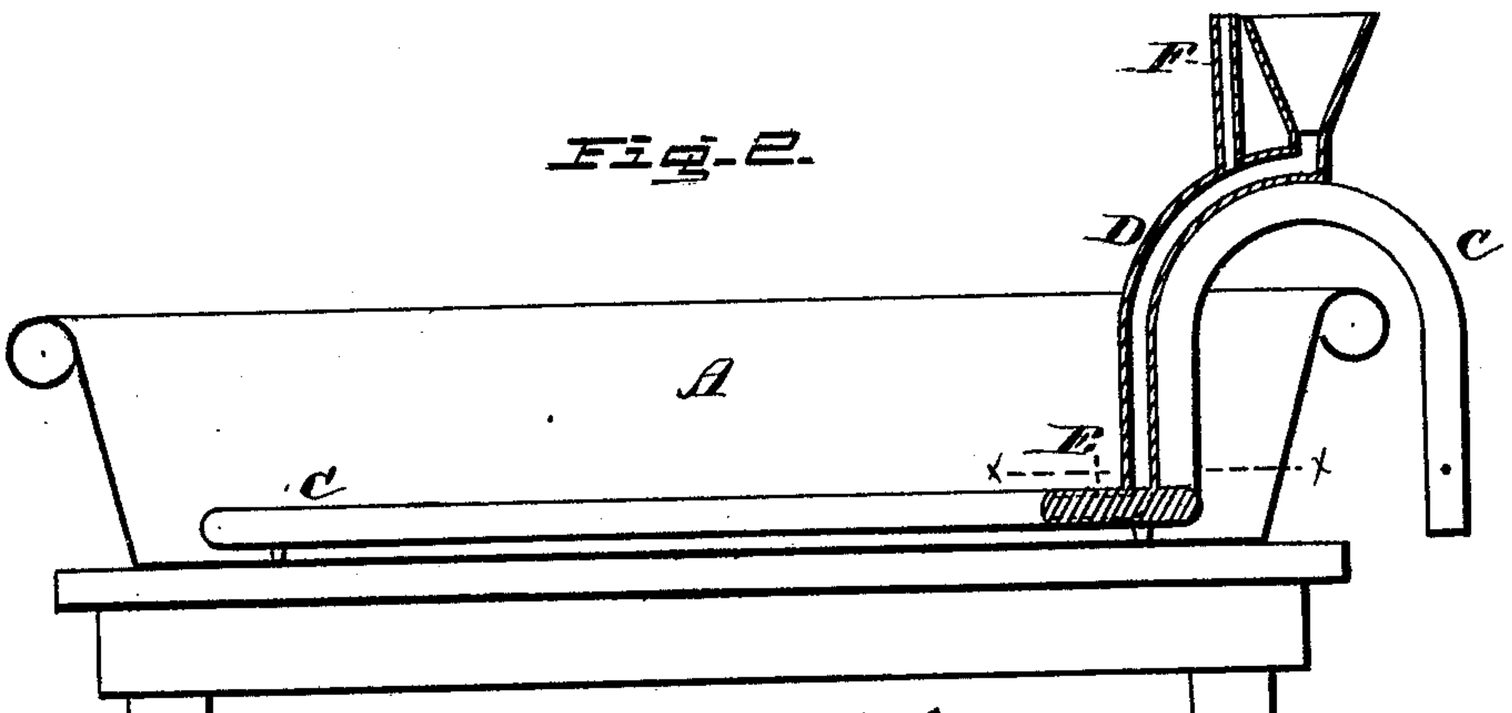


Fig. 3.

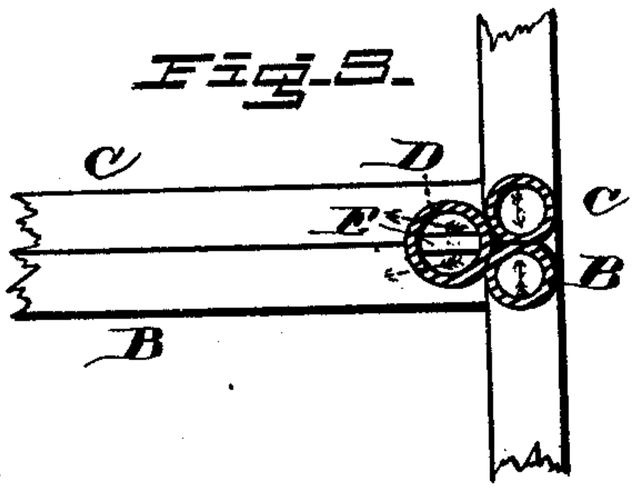
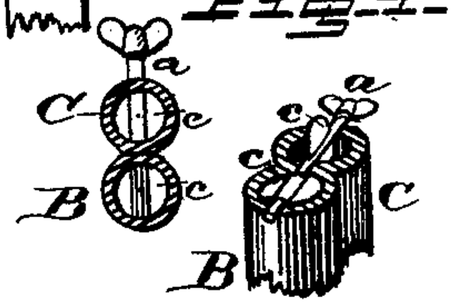


Fig. 4.



WITNESSES:

Ezra Hodgkins

J. F. DuHamel.

INVENTOR:

Osbert S. Prindle

PER

A. J. Abbot.

ATTORNEY.

UNITED STATES PATENT OFFICE.

OSBERT S. PRINDLE, OF CARTHAGE, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO HENRY C. HODGKINS, OF SAME PLACE.

IMPROVEMENT IN MILK-COOLERS.

Specification forming part of Letters Patent No. **195,646**, dated September 25, 1877; application filed January 12, 1877.

To all whom it may concern:

Be it known that I, OSBERT S. PRINDLE, of the village of Carthage, in the county of Jefferson, and in the State of New York, have invented certain new and useful Improvements in the Construction of an Apparatus for Regulating the Temperature of Milk in Dairy-Pans; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making part of this specification.

My invention relates to the regulating of the temperature of milk in dairy-pans; and consists of a series of tubes placed inside of the pan, and so arranged that either one or both sides of the pan may be cooled at pleasure. Said tubes are provided with an inlet and outlet, both at the same end of the pan, one above the other, and combined in one. Also, the inlet-tubes are provided with a partition, whereby water of the temperature required is made to pass equally through the tubes in continuous direct and returning currents, thus either cooling or heating the milk contained in the pan to the required temperature, as hereinafter more fully set forth.

In the drawings illustrating my invention, Figure 1 is a top view of my apparatus, showing the inlet-tubes, part in section. Fig. 2 is a central longitudinal vertical section. Fig. 3 is a section taken on the line *x x*, Fig. 2; and Fig. 4 is a section showing the mode of passing the water through one or both of the outlet-tubes.

A represents a pan, supported by a table or other suitable device, in which are placed two series of tubes, B C, for containing either hot or cold water, as may be desired.

At the point of receiving water the two tubes B C unite into one induction-tube, D, and are provided with a partition, E, which divides the stream of water, conducting part into the tube B and part into the tube C.

The induction-tube D is provided with a basin for the reception of water. Near this basin is placed an air-escape, F.

The tubes B C are arranged as shown in Fig. 1 of the drawings which accompany this specification. A short distance from the induction-tubes the tubes B C are, respectively, curved to the left and right for a short distance. They then advance in horizontal parallel lines nearly to the end of the pan, where they are respectively curved to the left and right, and return in lines parallel to their advance to near the opposite end of the pan, where they are curved toward each other, and meet in the center of the pan, immediately beneath and contiguous to the induction-tube D. The two tubes are then curved upward and over the side of the pan, forming two eduction-tubes united together. These are united to the induction-tube.

Near the lower end of the eduction-tubes is placed a rod, *a*, passing through both tubes B and C. In each tube on this rod is placed a valve, *c*, one at right angles to the other, as shown in Fig. 4 of drawings. By this arrangement, when one tube is closed the other is opened, and when one valve is at an angle of forty-five degrees (45°) to the plane of a cross-section of one of the tubes, both tubes are open. By closing one of the tubes the water is dammed up back to the partition E, and seeks an outlet through the other tube.

By this device the water may be caused to flow through either of the tubes B or C, or both, at pleasure, and by this means maintain an even temperature.

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

1. The tubes B B and C C, provided with a combined inlet and outlet, substantially as and for the purpose herein set forth.

2. The tubes B C and partition E, said tubes being provided with upwardly-curved eduction-extensions, as shown, in combination with the tube D, pipe F, and valves *c*, all arranged, constructed, and operating substantially in the manner and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 18th day of December, 1876.

OSBERT S. PRINDLE. [L. S.]

Witnesses:
EZRA HODGKINS,
GEO. GILBERT.