(No Model.) 2 Sheets—Sheet 1.

J. J. WILLARD.

MILK COOLER.

No. 422,676. Patented Mar. 4, 1890.

Fig. 1.

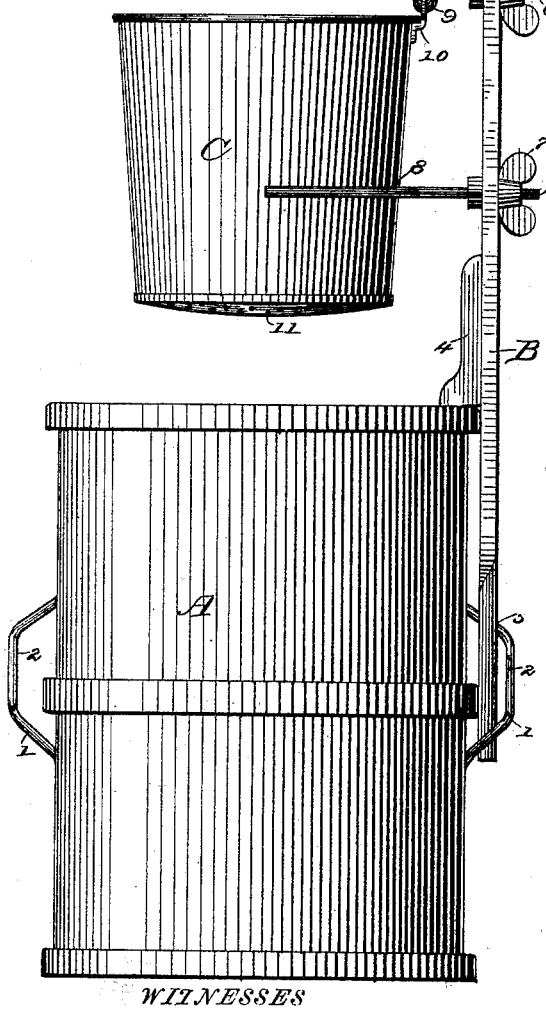


Fig. 4.

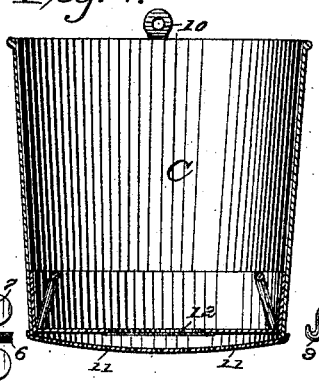


Fig. 2.

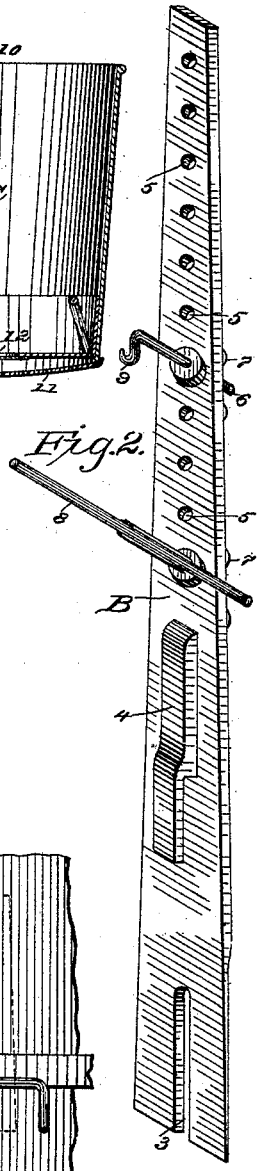
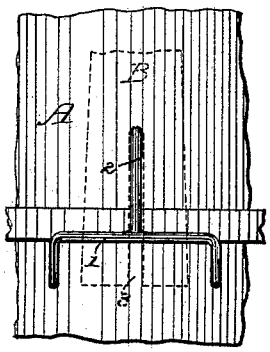


Fig. 3.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

J. J. WILLARD.

MILK COOLER.

No. 422,676. Patented Mar. 4, 1890.

Fig. 6.

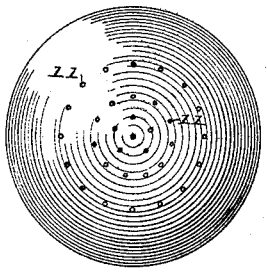


Fig. 5.

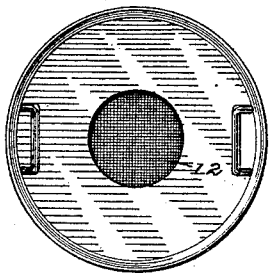
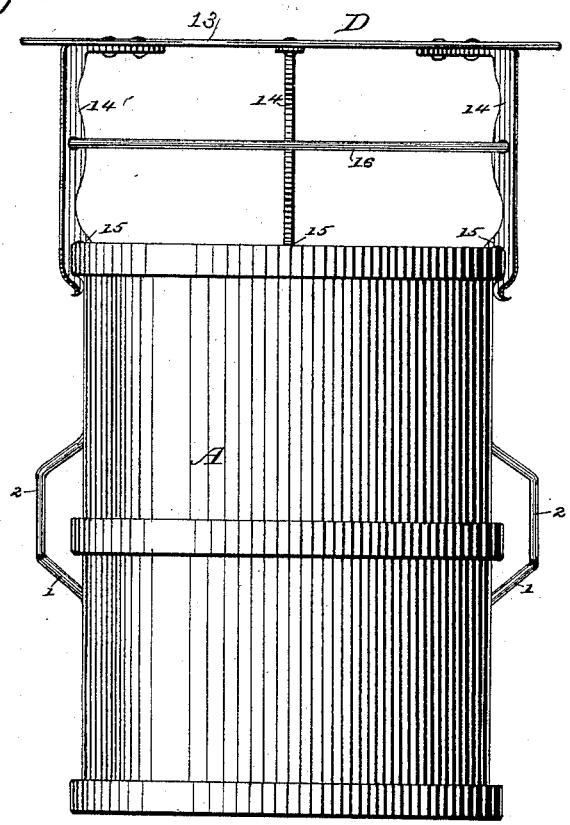


Fig. 7.



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UNITED STATES PATENT OFFICE.

JACKSON J. WILLARD, OF HERMAN, NEW YORK.

MILK-COOLER.

SPECIFICATION forming part of Letters Patent No. 422,676, dated March 4, 1890.

Application filed November 25, 1889. Serial No. 331,560. (No model.)

To all whom it may concern:

Be it known that I, JACKSON J. WILLARD, a citizen of the United States of America, residing at Herman, in the county of St. Lawrence and State of New York, have invented new and useful Improvements in Milk-Coolers, of which the following is a specification.

My invention has relation to means and apparatus for cooling milk, and has especial relation to that class of such appliances as cool the milk by the process of aeration, wherein the descending milk passes through a perforated vessel and in its finely-divided state is subjected to the action of air.

The object of my invention is to provide an improved means or apparatus to effect the speedy, certain, and thorough aeration of the milk.

My invention therefore consists in the novel construction of parts and their combination, as will be fully hereinafter specified, and specially as the same is particularly pointed out and distinctly claimed.

I have fully and clearly illustrated my invention in the accompanying drawings, wherein—

Figure 1 is a side view of the apparatus in operative position. Fig. 2 is a perspective of the supporting-standard with its hook and yoke. Fig. 3 is a detail view of one of the handles of the can with a portion of the metal of the can attached and the base of the supporting-standard shown in dotted lines arranged therein. Fig. 4 is a view in central vertical section of the strainer-bucket, showing the strainer arranged therein. Fig. 5 is a a view of the strainer. Fig. 6 is a bottom view of the strainer-bucket. Fig. 7 is a view of the milk-can with the cover arranged thereon.

A designates the milk-can, which may be of any suitable construction and of such capacity as desired. On the sides of the can are fixed handles 1 of usual construction, but having vertically-arranged bars 2 fastened to their middle and extended upward, having their upper ends soldered or riveted to the can. The handles and bar thus arranged constitute a rest and keeper for the supporting-standard on which the strainer-bucket is mounted.

B designates the supporting-standard for the strainer-bucket. This consists of a rod, plate, or bar formed with an open-end slot 3 at its lower end, to straddle the bar 2 on the can and long enough to permit the end of the standard to project below the handle, which serves to keep the standard from tilting inward. On the inner side of the standard is a keeper 4, the arm of which fits down over the inside of the can, as shown, and serves to keep the standard in position. The standard is provided with a series of holes 5, which take the supports for the strainer-bucket and allow the adjustment of that element at any desired height on the standard. In the standard is adjustably and detachably secured a yoke or rest for the strainer-bucket. This consists of a threaded stem 6, to engage the holes in the standard and having a setting-nut and thumb-nut to clamp the stem in position on the standard, as seen at 7, and on the free end of the stem 6 is a curved rod 8, forming a yoke or seat in which the lower part of the strainer-bucket rests. In the standard is also arranged an adjustable and detachable hook 9, held by a setting-nut, as shown, which hook takes the ear on the strainer-bucket and holds it suspended.

C designates the strainer-bucket, smaller in diameter than the milk-can, and having a perforated ear 10, to engage the hook 9, fixed in the standard. The bottom of the strainer-bucket is provided with a number of small perforations 11, through which the milk is discharged in finely-divided streams. In the strainer-bucket is arranged a strainer 12, located a distance above the perforated bottom, stubstantially as shown in the drawings.

D designates the cover of the can after the required quantity of milk has been run into it from the strainer-bucket. This cover consists of an imperforated top 13, supported on standards 14, having lugs 15 to set over the rim of the milk-can, the supports being connected by one or more rods 16. The cover, constructed as described, permits the free circulation of air in the can, and at the same time serves as a guard to keep out such larger vermin as may attempt to obtain access to the contents.

The operation may be readily perceived by the foregoing description of the several parts or elements and their specified functions, but is here rehearsed as follows:

The parts of the apparatus being arranged substantially as shown in Fig. 1 of the drawings, the milk is poured in the strainer-bucket, runs by gravity through the strainer, and out through the perforated bottom into the milk-can. In the passage past the space between the bottom of the strainer-bucket and the can it is brought directly into contact with the air, and being in the form of fine jets or spray becomes thoroughly aerated and cooled, the process removing the animal heat and discharging whatever of gaseous substances as may be associated therewith, leaving the deposited milk pure and cold and in a condition to stay sweet longer than it otherwise would. When the quantity of milk has been deposited in the can, the cover is adjusted on the can, the strainer and supports can be removed, and another can substituted to receive subsequently-treated milk.

Having thus described my invention, I proceed to particularly point out and distinctly claim the parts, improvements, and combinations, I claim as my invention as follows:

1. In a milk-cooling apparatus, the combination of a milk-can provided with a handle having a rigid vertical rod fixed to its middle and its upper end secured to the can, a strainer-bucket support having a slotted lower end to engage the vertical rod of the handle and a lug to engage the rim of the can, a hook in the standard to take the ear of the strainer-bucket, a yoke in the standard to hold the lower end of the strainer-bucket, and a strainer-bucket on the supports of the standard, substantially as described.

2. In a milk-cooler, the combination of the milk-can, a standard supported by the can and having arranged therein a hook and a yoke to hold and support a strainer-bucket, and a strainer-bucket on the hook and yoke, substantially as described.

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

JACKSON J. WILLARD.

Attest:

A. L. FOSTER,

JOSEPH GEORGE.