May 26, 1942. E. F. BAUMGARDEN 2,283,904

JIFFY MILK COOLER

Filed Nov. 26, 1941

Fig. 1.

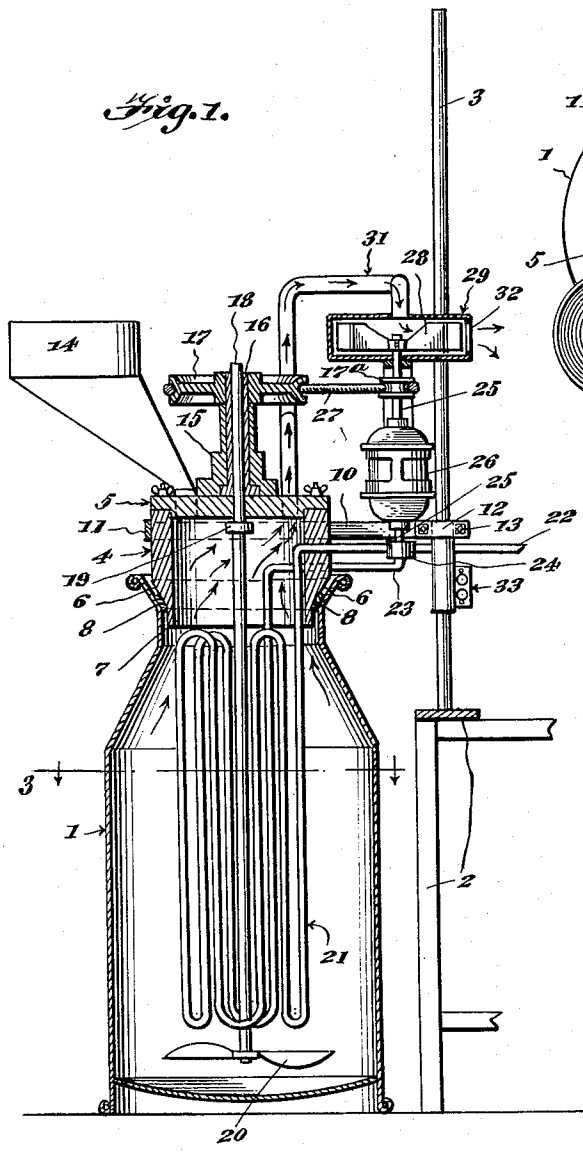


Fig. 2.

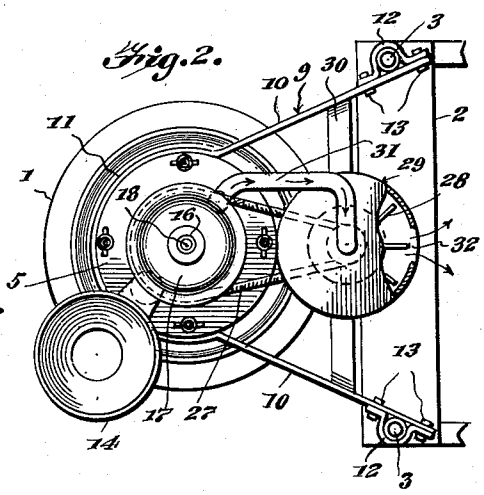
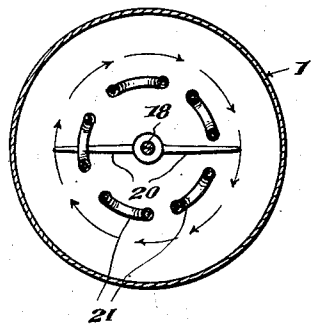


Fig. 3.



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JIFFY MILK COOLER

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Application November 26, 1941, Serial No. 420,598

2 Claims. (Cl. 31—4)

This invention relates to a jiffy milk cooler.

An object of the invention is the construction of a novel and efficient milk cooler of special value to a small dairyman, by reason of its simplicity and low cost of manufacture.

Another object of the invention is the construction of an efficient apparatus that can be easily placed upon a milk can, and retained in position thereon during the operation.

With the foregoing and other objects in view, the invention comprises certain novel constructions, combinations, and arrangements of parts as will be hereinafter fully described, illustrated in the accompanying drawing, and more particularly pointed out in the appended claims.

In the drawing:

Figure 1 is a view partly in elevation and partly in vertical section of an apparatus constructed in accordance with the present invention, while

Figure 2 is a top plan view.

Figure 3 is a sectional view taken on line 3—3, Figure 1, and looking in the direction of the arrows.

Referring to the drawing, in which the preferred embodiment of this apparatus is illustrated, 1 designates an ordinary milk can, and 2 is a support upon which are mounted the vertical units 3; these vertical units are in the nature of rods or shafts, or the like.

Mounted upon the can 1 is a head 4 which is provided with a removable cover 5. The head 4 is provided with an annular bevel which produces a narrow lower end 7 upon the head 4. A gasket 8 is placed upon the annular bevel 6 and presses upon the mouth of can 1. This produces a tight connection, as the weight of the head and its associated parts cause the gasket to be substantially jammed against the lower end of the bevel 6, holding the gasket efficiently in place and producing an excellent result.

A rack 9 is employed, comprising two arms 10 and an integral semi-circular band 11. Band 11 is fixedly secured to head 4. The arms 10 bear against the inner portions of the vertical units 3, Fig. 2. Clamps 12 are partly around the vertical units 3 and are fastened by any suitable means 13 upon the arms 10. By releasing the fastening means 13, the rack 9 can be moved vertically upon the vertical units 3.

A suitable funnel 14 is supported upon the head cover 5, whereby the milk can be deposited in the can 1.

Mounted upon the head cover 5 is an agitator shaft bearing 15. A rotatable sleeve 16 is within bearing 15. A drive pulley 17 is fixedly secured to the sleeve 16, against the upper end of bearing 15. A vertical shaft 18 is fixedly secured within sleeve 16 and rotates simultaneously with the sleeve 16 and pulley 17. On shaft 18 and just under the head cover 5 is a sediment cup 19. Fastened to the lower end of the shaft 18 are agitator blades 20.

Cooling coils 21 are placed around shaft 18, and one end 22 communicates with a suitable source of supply of brine when brine is used in the apparatus. The other end 23 communicates with the pump 24, the pump 24 being used when brine is employed in the apparatus, although the pump can be replaced by an expansion valve when refrigeration gas is used.

The pump 24 is in communication, through shaft 25 with the motor 26; in other words, through shaft 25 the pump 24 is operated. The shaft 25 of the motor extends beyond the upper end of said motor, and carries a small pulley 17*a*; on pulleys 17 and 17*a* is a belt 27, whereby the motor 26 rotates the agitator blades 20. On the extreme upper end of shaft 25 is a fan 28; fan 28 is positioned in the vacuum fan casing 29. Casing 29 is supported upon the bracket 30, which bracket has its lower ends fastened to arms 10 of the rack 9, per Figure 2. A tube 31 communicates at one end with the interior of vacuum fan casing 29 and its other end with the interior of the head 4, whereby when the motor is operating, the fumes, etc. in the can 1 can be drawn therefrom and discharged to the outer atmosphere through the opening 32.

A temperature control 33 is employed, supported by one of the vertical units 3. If refrigerant brine is used in the coils 21, instead of regular refrigerant the apparatus will work just as efficient, owing to its construction.

It will be understood that when the motor 26 is operating that the fan 28, pump 24 and the agitator, constituted by agitator blades 20 will all operate simultaneously, producing an efficient cooling of the milk in can 1. The apparatus is comparatively simple in construction, and requires a relatively small space for placement, whereby it is particularly attractive to a dairyman operating on a simple or somewhat restricted basis.

While I have described the preferred embodiments of my invention and illustrated same in the accompanying drawing, certain changes or alterations may appear to one skilled in the art to which this invention relates during the extensive manufacture of same, and I, therefore,

reserve the right to make such changes or alterations as shall fairly fall within the scope of the appended claims.

What I claim is:

1. In an apparatus of the class described, the combination with a support, of vertical units on said support, an adjustable rack on said vertical units, a head carried by said rack, a motor carried by said rack, a suction fan supported upon said rack, means connecting said suction fan to said head, an agitator carried by said head, cooling means mounted upon said head, a pump in communication with said cooling means, and means connecting said motor to said agitator, fan and pump, whereby said units are simultaneously operated.

2. In an apparatus of the class described, the combination with a support, of a pair of vertical units extending from said support, a rack provided with outwardly-extending arms, said arms bearing against said vertical units, said arms terminating at their outer ends in a semi-circular band, clamps partly around said vertical units and detachably secured to said arms, whereby said arms are held tightly against said vertical units, a head within said rack and fixedly secured to said semi-circular band, and agitating and cooling means carried by said head.

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