

No. 893,452.

PATENTED JULY 14, 1908.

D. M. CULVER.
AERATOR FOR MILK.
APPLICATION FILED JUNE 1, 1907.

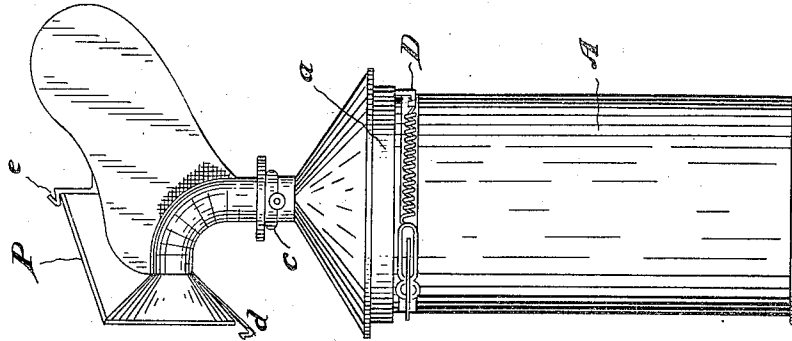


Fig. 1.

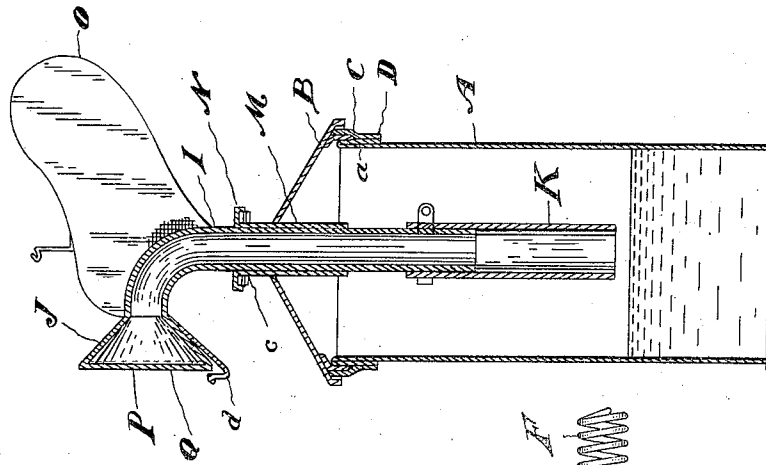


Fig. 2.

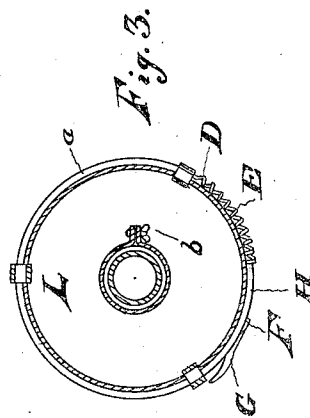


Fig. 3.

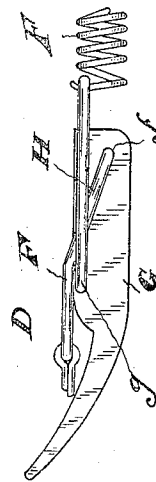


Fig. 4.

WITNESSES:

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AERATOR FOR MILK.

No. 893,452.

Specification of Letters Patent.

Patented July 14, 1908.

Application filed June 1, 1907. Serial No. 376,840.

To all whom it may concern:

Be it known that I, DUDLEY MERRITT CULVER, of the town of Simcoe, in the county of Norfolk and Province of Ontario, Canada, have invented certain new and useful Improvements in Aerators for Milk, of which the following is a specification.

My object is to devise a cheap and effective device which may readily be attached to a milk can to cause a continuous current of air to pass over the surface of the milk and out under the cover to carry off the animal heat and purify the milk, and which will suitably cover the can and protect its contents from rain when left out in the open air.

The device comprises a cover provided with means for detachably securing it upon a can above the open top of the can, and an aerating tube and cowl rotatably carried by the cover. The aerating tube extends down through the cover to a point just above the surface of the milk, and the cowl is provided with a vane which tends to keep the mouth of the cowl to the wind.

Figure 1 is a side elevation of my improved aerator. Fig. 2 is a vertical section of the same. Fig. 3 is a cross sectional view showing the means of securing the cover to the can. Fig. 4 is an enlarged plan view of the fastening means of the divided band clamping the cover to the can.

In the drawings like letters of reference indicate corresponding parts in the different figures.

A is a milk can of ordinary construction. B is a cover of somewhat greater diameter than the can, and provided with hooks C adapted to hook over the upper rim of the can to support the cover above the open end of the can in such a manner that a clear opening is formed on all sides between the cover and the can for the escape of air from the latter. In order that this cover may be securely and detachably fastened to the can I secure to the hooks C a divided band D. To one end of this band is secured one end of the coil spring E. To the other end of the band is pivotally connected a double link F. On the other end of this double link is fulcrumed the lever G, at *f*.

A double link H is connected to the end of the spring E, and is pivoted on the lever G at a point *g* which is nearer to the can than the fulcrum of the lever when the latter is in the position shown in the drawings. Thus the fulcrum is outside the line of draft of the

spring, and the tension of the latter tends to retain the lever against the can. By grasping the end of the lever, however, it may be rocked to bring the pivot *g* outside the fulcrum, when the lever, under the tension, will spring around with the fulcrum and the pivot of the link F in reverse positions from that shown in Fig. 4. The band is then slacked sufficiently to enable the cover to be withdrawn from the can as the increase in its diameter is sufficient to enable it to be slipped up over the reinforcing rim *a* of the can.

An aerating tube I extends through the cover. This aerating tube is provided at its upper end with a cowl J, and its lower end extends down to within a short distance above the surface of the milk in the can. From this construction it follows that if the cowl be faced to the wind a continuous current of air will pass down the aerator over the surface of the milk in the can, thence up and out through the lateral opening between the cover and the can.

As the milk level is variable it is necessary to provide means whereby the distance between the cover and the bottom of the aerating tube may be adjusted. For this purpose I make the aerating tube in two sections telescoping together. The lower section K is preferably sleeved upon the upper section and is split at its upper end so that it may be contracted upon the upper portion by means of a clamping band L, provided with a clamping screw *b*. Thus the section K may be slipped up and down and clamped in position. It is also preferable that the aerating tube should be adapted to automatically rotate to face the wind as the direction of the latter may change after the aerating device has been originally set. For this purpose the aerating tube I is made rotatable in the cover. The aerating tube passes loosely through the tube M carried by the cover, which tube carries a series of horizontally journaled anti-friction rollers *c*, upon which rests an annular flange N secured to the aerating tube. The upper end of the aerating tube is provided with the stationary vane O. This vane tends to cause the mouth of the cowl to face the wind, and the connections just described enable the tube to turn readily within the cover. The mouth of the cowl is preferably provided with a hinged cover P, which may be used to close the mouth of the cowl in very high winds and when much dust is blowing about. A spring hasp *d* is se-

cured to the cowl opposite the hinge to serve as a lock. A similar spring hasp *e* is secured to the vane *O* by means of which the cover may be held up. A wire gauze *Q* is preferably placed within the mouth of the cowl to exclude insects, leaves, or other light bodies blown by the wind.

When the device is in use the can will usually be stood in a tub of cold water in a place accessible to the wind. As long as any air is in motion a continuous current will be passed over the surface of the milk, and up and out between the cover and the rim of the can. This will quickly carry off the heat from the milk, and will effectively subject the milk to the purifying action of the air.

What I claim as my invention is:—

1. An aerator for use with milk cans, comprising a can cover provided with lateral openings beneath its top; an aerating tube extending down through the cover, and journaled therein; and a cowl on the upper end of the tube.

2. An aerator for use with milk cans, comprising a can cover provided with lateral openings beneath its top; an aerating tube extending down through the cover, and journaled therein; a cowl on the upper end of the tube; and a vane secured to the cowl.

3. In an aerator for milk the combination of a can; a cover provided with lateral open-

ings beneath its top; an aerating tube extending down through the cover to a point just above the milk level in the can; and a cowl on the top of the tube.

4. An aerator for use with milk cans, comprising a can cover provided with lateral openings beneath its top; an aerating tube extending down through the cover; a cowl on the upper end of the tube; and means for varying the distance between the bottom of the tube and the cover.

5. In an aerator for milk the combination of a can; a cover; hooks depending therefrom and adapted to engage the rim of the can; a divided band connected to said hooks; a spring connected to one end of the band; a lever; a double link secured to the other end of the band, embracing the lever and forming the fulcrum of the lever; a second double link secured to the spring, embracing the lever and pivoted on the latter at a point which is nearer to the can than the fulcrum when the lever is rocked to cross the links and stretch the spring to clamp the band on the can.

Simcoe, Ont., 21st May, 1907.

DUDLEY MERRITT CULVER.

Signed in the presence of—

J. R. ATKINSON,
A. A. WINTER.