(No Model.)

# F. A. HICKSON.

## MILK CAN.

No. 280,820. Patented July 10, 1883.

Fig. 1

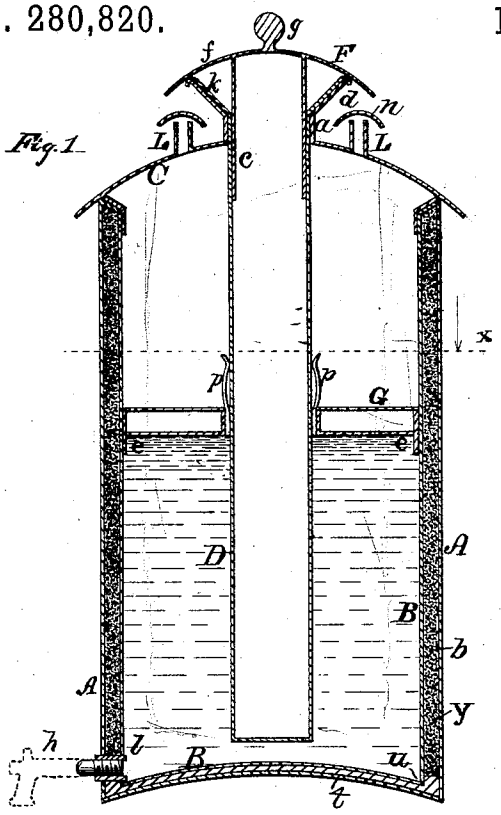



Fig. 4.

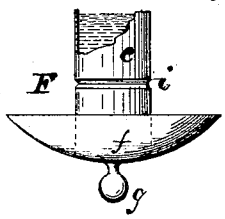



Fig. 3.

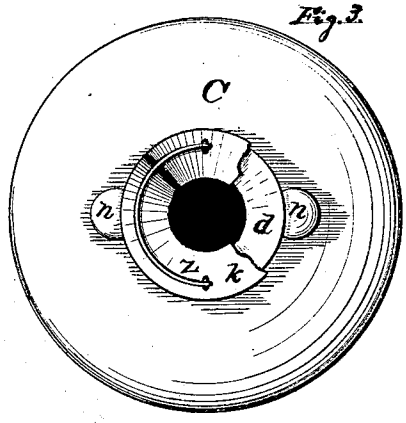
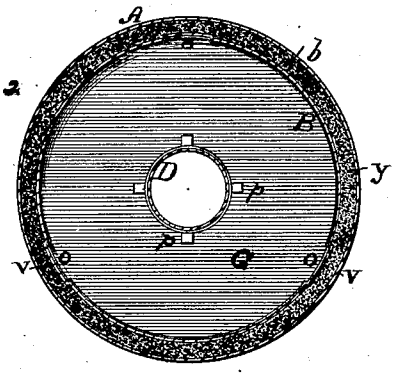



Fig. 2.



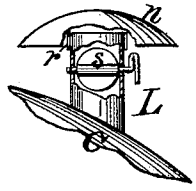




Fig. 5.

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# UNITED STATES PATENT OFFICE.

FREDERICK A. HICKSON, OF ROCHESTER, NEW YORK.

## MILK-CAN.

SPECIFICATION forming part of Letters Patent No. 280,820, dated July 10, 1883.

Application filed May 8, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK A. HICKSON, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Milk-Cans, which improvement is fully set forth in the following specification and accompanying drawings.

The object of my invention is to produce a can or receptacle for milk or other liquids for the purpose of carriage or transportation, the same being constructed with reference to keeping said contained milk or liquid of moderate and even temperature in hot or cold weather, and with reference to preventing agitation of the same during transportation, and to combine in said can or receptacle certain other improvements, all of which are fully described in the following specification, and more particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a central vertical section of the parts in place; Fig. 2, a transverse section of the same upon the dotted line *x;* Fig. 3, a view upon top of the can, with cap-piece removed and a part broken away; Fig. 4, a view of the cap inverted, with a part sectioned and broken away; and Fig. 5, an enlarged drawing of a ventilator and air-supply device, with parts sectioned and broken away.

This can is designed to be made of sheet metal, and is double-walled. In the figures, A is the outer wall of the can, and B the inner wall, with a space, *b*, between them to receive some non-heat-conducting substance—as powdered charcoal.

The cover is provided with an arched cover, C, resting upon the upper sloping edge of the same, with a flange entering within the can to secure the cover to place, as shown. At the center of the cover is provided a circular opening fitted with a straight neck, *a*, and flaring or funnel-shaped mouth-piece *d*. A straight tube, D, is fitted to slide within the neck *a*, and of such a length as to reach nearly to the bottom of the can, as shown, and provided with a flaring or funnel-shaped upper end, *k*, which fits and rests upon and within the mouth-piece *d* of the cover, which supports the tube within the can, the edge of the part *k* bending over the edge of the part *d*, as shown, for the purpose of forming a tight joint.

F is a cap-piece, consisting of a curved top or cover, *f*, and cylindrical part *c*, which latter is made to telescope within the tube D. The top *f* rests upon the outward-turned edge of the part *k*, and extends some way thereby beyond for the purpose of protection from rain and dust, and is provided upon its outer surface with a knob or handle, *g*, for the purpose of handling. The cylindrical part *c* is purposely made of the capacity of a quart-measure, and when withdrawn from the tube and inverted, as shown in Fig. 4, it serves as a measure for the milk, holding, when full, a quart, and when filled to the mark *i*, at the middle, a pint.

A light float, G, rests upon the surface of the milk, fitted to move freely within the inner wall, B, of the can and upon the tube D, the design of which is to prevent, as far as possible, splashing of the milk within the can during handling or conveying the same. This splashing or agitation of the milk held in a can of common construction, due to conveyance or handling, injuriously changes the texture of the milk by producing a partial separation of the watery and oily parts of the same, or "churns" the milk.

Ribbon-springs *p*, attached to the inner periphery of the float, press upon the exterior of the tube and serve as a tension for the float. The friction of these springs upon the tube is not sufficient to prevent the float falling with the surface of the milk as the latter is drawn out at the faucet *h;* but they serve to prevent the float being continuously moved up and down from the motion of the milk incident to carriage.

The float may be provided with a flange or part, *e*, extending up or down, for the purpose of forming a broader bearing against the inside of the can to prevent tilting of the float, and consequent binding of the same within the can. The float has several slight projecting ribs, *o*, upon its periphery, which fit within corresponding longitudinal grooves, *v*, in the inner surface of the wall B, as appears in Fig. 2. This prevents any rotary motion of the float from the jolting of the cars or wagons carrying the cans, which rotation would tend to communicate motion to the milk, which is designed to be prevented.

Small ventilators L are provided at the top of the cover C, through which air is supplied to the interior of the can as the milk is drawn out, and through which vapor arising from the milk may escape. These ventilators are provided internally with valves *s*, formed and operating like a common stove-pipe damper, which open or close the passage-way through the ventilators, as may be needed. Each ventilator is covered by a broad cap or canopy, *n*, supported by standards *r* over the same, to protect the openings from the entrance of rain or dust.

These cans are designed for use in shipping milk on railroads, as well as to be carried in a delivery-wagon, and the faucet *h*, which may be of any suitable kind, is designed to be unscrewed from the socket *l* and replaced by a plug, as shown, when shipping on board of cars, the removing of which faucet prevents the same being bent or broken, and the cans may be more closely packed or placed in the cars after the faucets are removed.

The space at the bottom of the can between the outer and inner walls is filled with cement or other similar substance, *t*, in a plastic state, which reaches up slightly above the corner *u* of the inside wall, B, or above the seam thereat. This cement, when solidified, serves to hold or stay the two parts A and B relatively in position, and, being impervious to milk, also serves to prevent any leakage from the inner can into the charcoal-filling *y* through defects or openings that may occur in said seam. This cement, after becoming solidified, also adds to the strength of the can by making the bottom of the same rigid.

For the purpose of keeping the milk at a desirable temperature, the tube D in cold weather is filled with hot water, and in warm weather with pounded ice, and being suspended in the middle of the mass of milk quickly communicates cold or warmth to the milk for the purpose stated.

A bail, *z*, Fig. 3, attached within the flaring upper end of the tube D, serves as a handle with which to draw said tube out of the can, and suitable handles are intended to be attached to the exterior of the can with which to handle the same.

The cover C and interior parts being removable from the can enables all parts, including the interior of the can, to be conveniently cleansed.

The tube D, on account of its contents serving to temper the milk contained within the can, also acts as a guide or track for the springs *p* to slide upon as the float moves up or down, as before mentioned.

I claim as my invention—

1. A milk-can composed of an outer wall, A, and an inner wall, B, with space between for a non-heat-conducting filling, *y*, the space between said walls at the bottom of the can being filled with a cement or other substance, *t*, in a plastic state, which when solidified serves as a stay for the inner wall or can to hold it concentrically within the outer wall, said cement being made to cover the seam at the bottom, *u*, of the inner can, to prevent the escape of the milk into the filling *y* through imperfections in said seam, as they may occur.

2. The float G, provided with tension-springs *p*, in combination with the central tube, D, and double-walled can, substantially as and for the purpose set forth.

3. A milk-can having its wall or shell provided with internal grooves or channels, *v*, in combination with a contained float, G, provided with projecting ribs *o*, made to fit and slide within said grooves *v*, and tension-springs *p*, and a guide for said springs, substantially as shown and set forth.

FREDERICK A. HICKSON.

Witnesses:
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