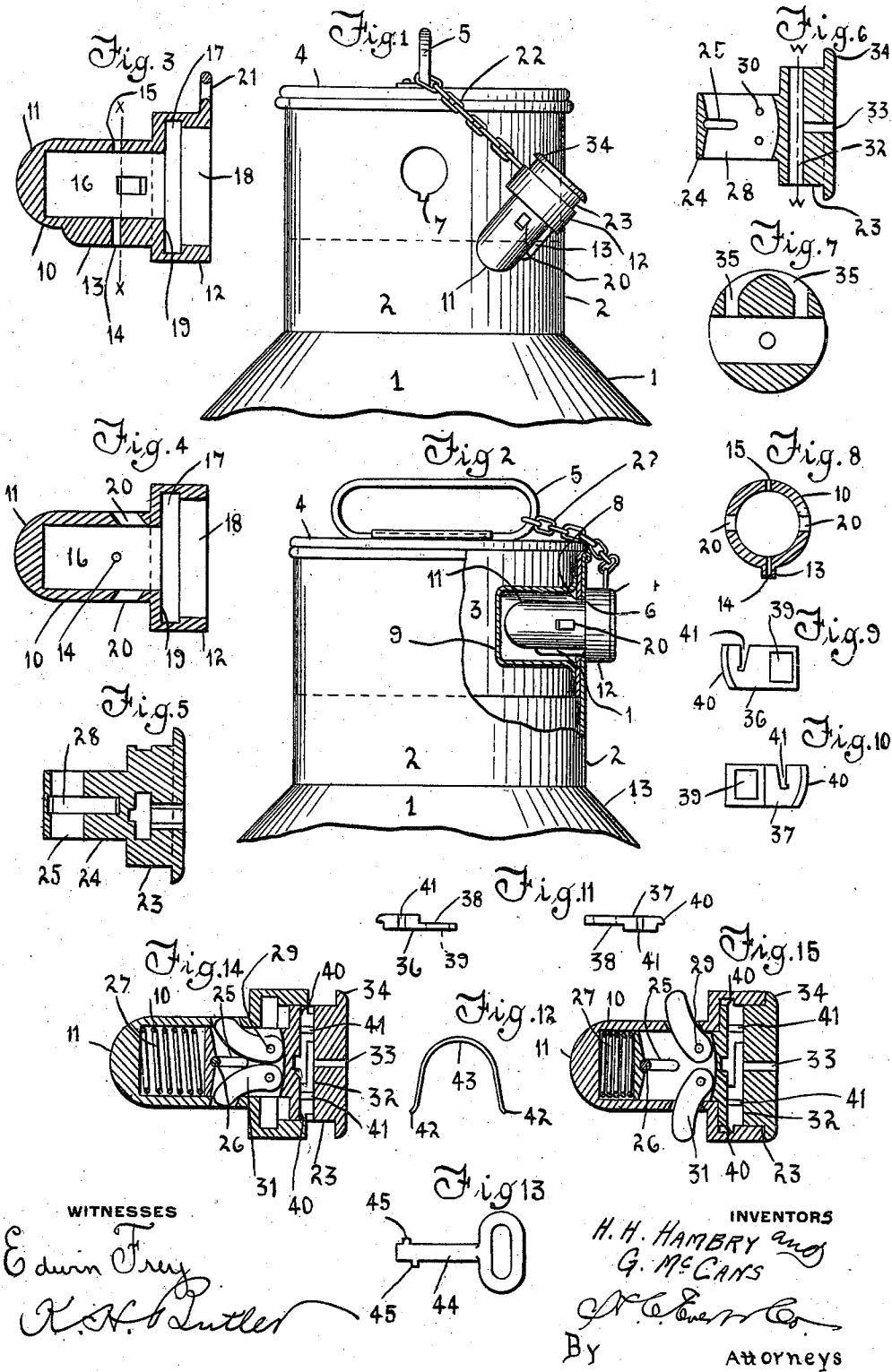


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MILK CAN LOCK.
APPLICATION FILED APR. 29, 1910.

972,853.

Patented Oct. 18, 1910.



UNITED STATES PATENT OFFICE.

HAROLD H. HAMBRY AND GEORGE McCANS, OF DONORA, PENNSYLVANIA.

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972,853.

Specification of Letters Patent.

Patented Oct. 18, 1910.

Application filed April 29, 1910. Serial No. 558,360.

To all whom it may concern:

Be it known that we, HAROLD H. HAMBRY and GEORGE McCANS, citizens of the United States of America, residing at Donora, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Milk-Can Locks, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to milk can locks, and the object of our invention is to provide the neck of a milk can with positive and reliable means for securing a lid upon a milk can, whereby the contents of the can cannot be surreptitiously removed or tampered with, particularly during the transportation of the can from a dairy farm to the consumer.

Another object of our invention is to provide a novel lock that can be easily and quickly placed in position and set to lock the lid upon a can, the lock when not in use being attached to the lid of the can whereby it will not be lost.

A further object of our invention is to provide a tumbler lock that is simple, durable, easy to repair and highly efficient for the purposes for which it is intended.

These and such other objects as may hereinafter appear are attained by the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing forming a part of this specification, wherein there is illustrated a preferred embodiment of the invention, but it is to be understood that the structural elements thereof can be varied or changed, as to the size, shape and manner of assemblage without departing from the spirit and scope of the invention.

In the drawing:—Figure 1 is a side elevation of a portion of a milk can provided with our improved lock, showing the lock in an unlocked position, Fig. 2 is a similar view showing the can partly broken away and partly in section with the lock in a locked position, Fig. 3 is a vertical longitudinal sectional view of the shell of the lock, Fig. 4 is a horizontal sectional view

of the same, Fig. 5 is a vertical longitudinal sectional view of the plug of the lock, Fig. 6 is a horizontal sectional view of the same, Fig. 7 is a vertical sectional view of the plug taken on the line W—W of Fig. 6, Fig. 8 is a vertical cross sectional view of the shell taken on the line X—X of Fig. 3, Figs. 9 and 10 are detail views of latches adapted to form part of the lock, Fig. 11 shows the latches in plan, Fig. 12 is an elevation of a detached spring adapted to form part of the lock, Fig. 13 is a similar view of a key for operating the lock, Fig. 14 is a horizontal sectional view of the entire lock in an unlocked position, and Fig. 15 is a similar view of the lock in a locked position.

In the accompanying drawing the reference numeral 1 denotes a portion of a milk can having a vertical neck 2 and adapted to fit in this neck is the depending annular collar 3 of a lid 4, said lid having the top edge thereof provided with a central pivoted handle 5. The neck 2 is provided with an opening 6 having the lower wall thereof in communication with a slot 7, and this opening and slot are adapted to register with a similar opening and slot 8 formed in the collar 3. The inner wall of the collar 3 adjacent to the opening 8 is provided with a casing 9 and it is into this casing that our improved lock is adapted to extend whereby the lid cannot be removed from the can, the casing preventing the contents of the can from contacting with the lock or passing into the openings 8 and 6.

The lock comprises a cylindrical shell 10 having one end thereof rounded, as at 11 and the opposite end thereof provided with a circular head 12. The bottom of the shell 10 is provided with a longitudinal rib 13 adapted to extend through the slot 7 and prevent the lock shell from rotating in the openings 6 and 8. The rib 13 is provided with a vertical opening 14 alining with a similar opening 15 formed in the top of the shell 10. The bore 16 of the shell communicates with an annular groove 17 formed in the walls of the head 12 and with the open end 18 of said head, the open end of said head being of a greater diameter than the bore 16 and of

a less diameter than the annular groove 17, whereby there will be an annular shoulder 19 at the forward end of the bore 16. The side walls of the shell 10 are provided with angularly disposed openings 20, the object of which will presently appear. The top of the head 12 is provided with an apertured lug 21, whereby the lock shell can be connected by a chain or other flexible connection 22 to the handle 5 of the lid 4.

23 denotes a plug adapted to slide into the open end 18 of the head 12, while the reduced end 24 of the plug 23 slides into the bore 16 of the shell 10. The reduced end 24 is provided with a vertical slot 25 for a vertical guide pin 26 mounted in the openings 14 and 15 of the shell 10. Interposed between the reduced end 24 of the plug 23 and the inner end of the bore 16 of the shell 10 is a coiled compression spring 27, and this spring is adapted to normally retain the plug in an extended and unlocked position within the shell 10. The reduced end 24 of the plug 23 is provided with a horizontal slot 28 intersecting the vertical slot 25. Pivotaly mounted in the forward end of the horizontal slot 28 by pins 29 extending into openings 30 provided therefor in the plug are pivoted tumblers 31, these tumblers being curved and the outer ends thereof rounded to protrude into the angularly disposed openings 20 of the shell 10. The tumblers 31 when in a retracted position are housed within the plug 23 and the shell 10, but when in an extended position, with the spring 27 under tension, the rounded ends of the tumblers protrude from the openings 20 and engage the inner wall of the collar 3 within the casing 9, whereby the plug or the shell cannot be removed from the openings 6 and 8.

The plug 23 is provided with a transverse opening 32, a longitudinal key opening 33 and with a peripheral flange 34, the key opening 33 extending from the outer end of the plug to the opening 32. The plug 23 is also provided with two vertical converging openings 35 establishing communication between the upper side of the plug and the top of the opening 32. Slidably mounted in the opening 32 are two latches 36 and 37 having the inner ends thereof cut away, as at 38 whereby the latches can overlap each other, and these overlapped ends of the latches are provided with rectangular openings 39, said openings being positioned whereby they will normally provide a key opening corresponding in width and depth to the key opening 33. One of the walls of each of the openings 39 is adapted to form a key opening in the latches. The outer ends of the latches are provided with teeth 40 adapted to engage in the groove 17 of the

shell 10, and said latches intermediate the ends thereof have the vertical edges provided with sockets 41 for the lower ends 42 of an inverted V-shaped spring 43 mounted in the converging openings 35 of the plug 23. The spring 43 normally retains the latches 36 and 37 under tension with the toothed ends 40 thereof against the walls of the open end 18 of the shell 10, and this spring immediately forces the latches outwardly to engage in the groove 17 when the plug is pushed into the head 12 of the shell 10.

The key shown in Fig. 13 has the shank 44 thereof provided with two wards 45 and these wards are adapted to engage the side walls of the openings 39 of the latches 36 and 37 and shift said latches inwardly to move the toothed ends thereof out of the groove 17, whereby the coiled spring 27 can immediately push the plug 23 outwardly and withdraw the outer ends of the tumblers 31 from engagement with the walls of the collar 3. The inward movement of the plug 23 is limited by the flange 34 engaging the outer end of the head 12 and by the plug contacting with the annular shoulder 19, while the outward movement of said plug is limited by the pin 26 extending through the slot 25.

Suitable protection can be made for the registration of the openings 6 and 8, for instance, a mark can be placed upon the lid 4 and a mark upon the neck 2 and when these marks are in vertical alinement, the openings 6 and 8 will register whereby the lock can be easily placed in position.

It is thought that the utility of our improved lock will be fully understood without further description and that various kinds of keepers can be provided for the tumblers 31, whereby the lock can be used for other purposes than a milk can lock.

Having now described our invention what we claim as new, is:—

1. A lock comprising a shell, a plug movably mounted in said shell, tumblers carried by said plug and adapted to be projected through said shell to engage the inner walls, means in connection with said plug for locking said plug within said shell, said means including spring actuated latches movably mounted in said plug, and a key adapted to retract said latches.

2. A lock of the type described embodying a shell, a spring pressed plug movably mounted in said shell, pivoted tumblers carried by said plug and adapted to be projected from the walls of said shell, and means carried by said plug and adapted to lock said plug within said shell.

3. A lock of the type described embodying a shell, a spring pressed plug movably

mounted in said shell, pivoted tumblers carried by said plug and adapted to be projected from the walls of said shell, means carried by said plug and adapted to lock
5 said plug within said shell, said means including spring pressed latches having the confronting ends thereof overlap and provided with a key opening.

In testimony whereof we affix our signatures in the presence of two witnesses.

HAROLD H. HAMBRY.
GEORGE McCANS.

Witnesses:

W. A. BECHTEL,
HARRY A. COX.