

(No Model.)

2 Sheets—Sheet 1.

N. FINCK.
CAN LOCKING AND UNLOCKING MECHANISM.
No. 464,610. Patented Dec. 8, 1891.

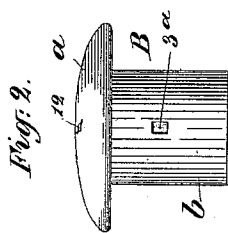


Fig: 8

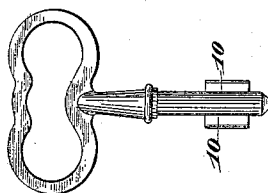
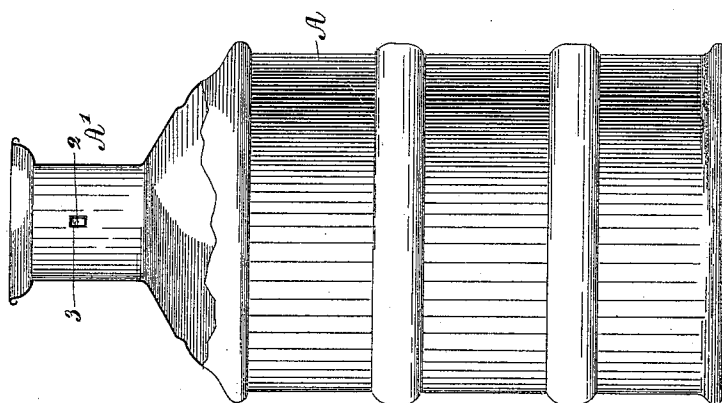


Fig: 1.



WITNESSES:
Chas. A. Halsk
F. M. Caplinger.

INVENTOR:
Nicholas Finck

By *Henry Conner*
Attorney.

(No Model.)

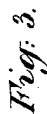
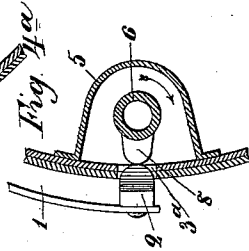
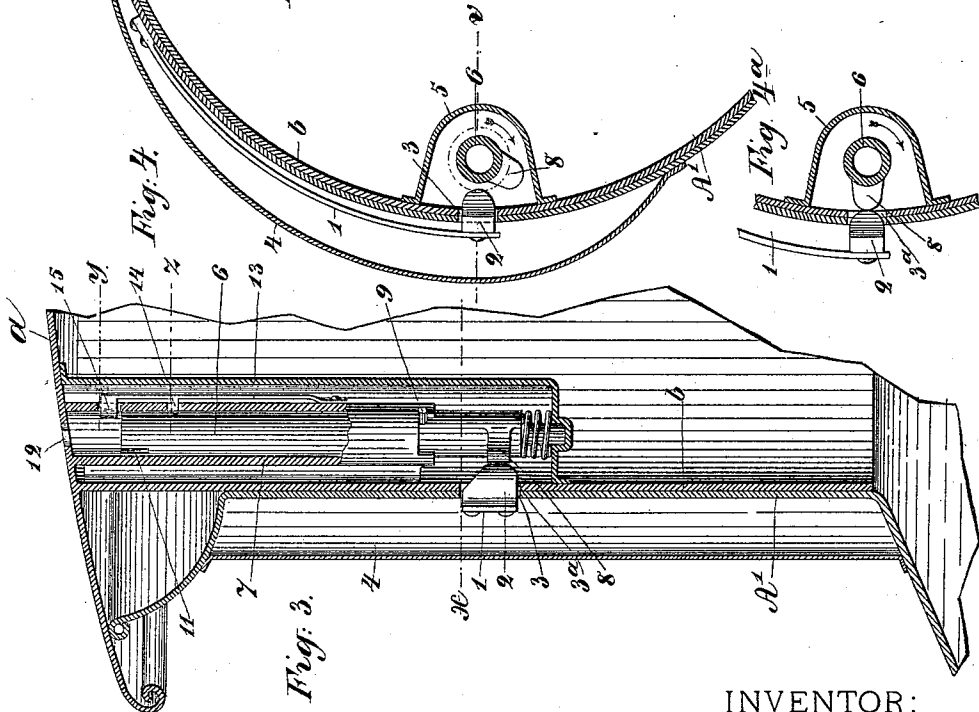
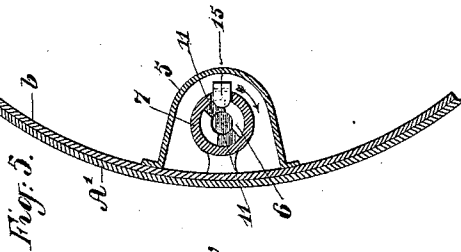
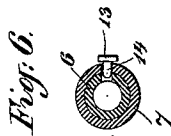
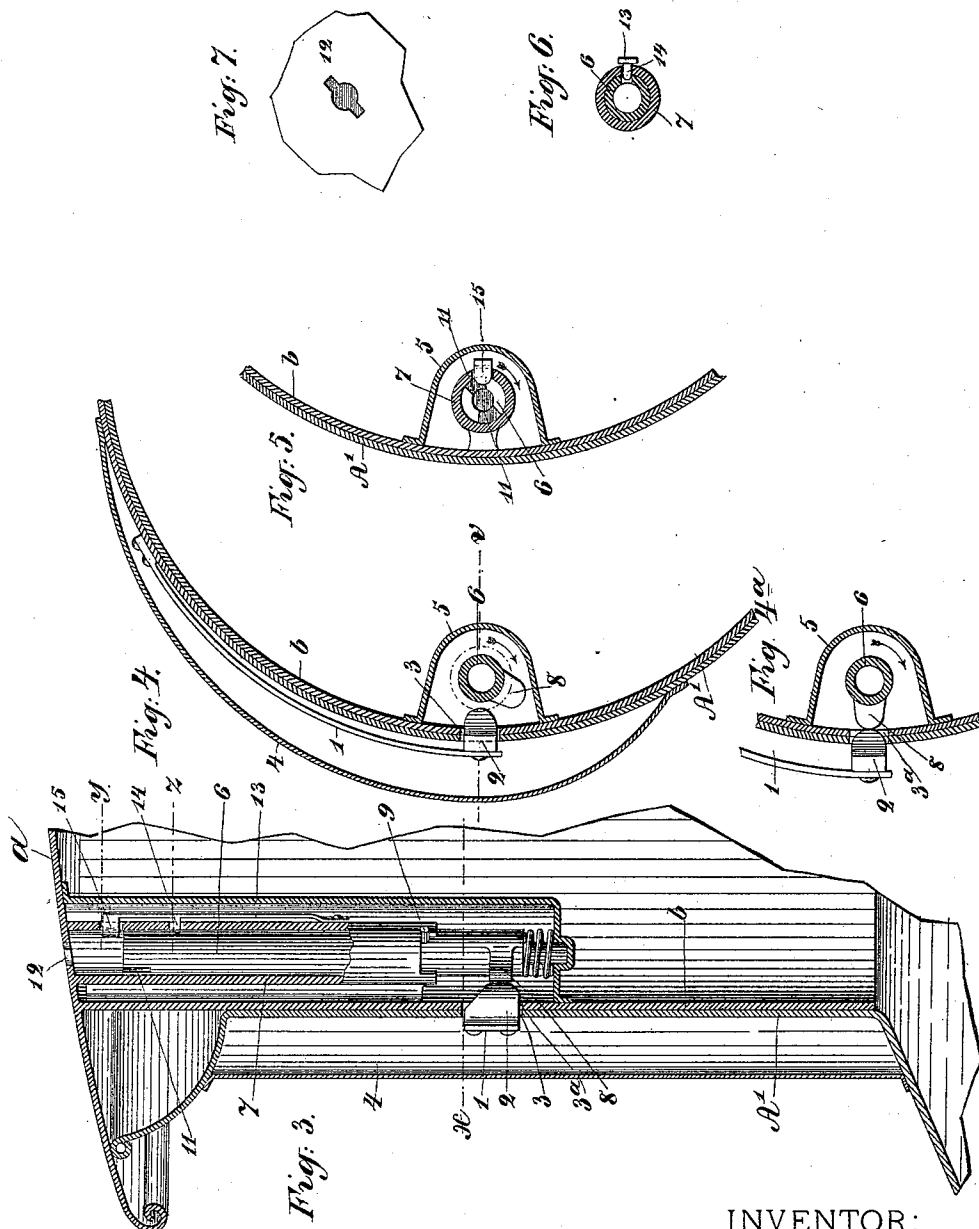
2 Sheets—Sheet 2.

N. FINCK.

CAN LOCKING AND UNLOCKING MECHANISM.

No. 464,610.

Patented Dec. 8, 1891.



INVENTOR:

Nicholas Linck

WITNESSES:

Chas. J. Walsh
J. M. Caplinger.

J. M. Caplinger.

By Henry Lounsbury
Attorney.

Attorney.

UNITED STATES PATENT OFFICE.

NICHOLAS FINCK, OF ELIZABETH, NEW JERSEY.

CAN LOCKING AND UNLOCKING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 464,610, dated December 8, 1891.

Application filed March 16, 1891. Serial No. 385,290. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS FINCK, a citizen of the United States, and a resident of Elizabeth, in the county of Union and State of New Jersey, have invented certain Improvements in Can Locking and Unlocking Mechanisms, of which the following is a specification.

My invention relates to means for securing and locking the covers on vessels, and especially on cans having covers with stopper-like bodies adapted to be inserted in the tubular neck of the can. The ordinary milk-can is a type of this class of vessels.

The object of my invention is to provide the can with an automatic locking device, whereby when the cover is inserted and pushed in it will be locked in place and cannot be moved except by first unlocking it with a key.

My invention will be fully described hereinafter and its novel features carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a side elevation, with the upper part in section, of a can provided with locking mechanism embodying my invention; and Fig. 2 is a side view of the cover of the can removed. These views are on a comparatively small scale. Figs. 3, 4, 4^a, 5, 6, and 7 are fragmentary sectional views on a much larger scale than the principal views. Fig. 3 is a vertical section through the neck of the can, the inserted cover, and the locking mechanism in the plane indicated by line *v* in Fig. 4. Figs. 4, 5, and 6 are horizontal or transverse sections in the respective planes indicated by the dotted lines *x*, *y*, and *z* in Fig. 3. Fig. 7 shows the key-hole in the top-plate of the cover, and Fig. 8 the form of key employed. Fig. 4^a is a sectional view similar to Fig. 4, but showing the parts in a different position.

A represents the body of a can—as a milk-can, for example—and A' is the tubular neck at the mouth of same.

B is the cover of the can, which comprises the top-plate or crown *a* and the body or stopper *b*, which is adapted to fit quite snugly in the neck A' of the can when the cover is applied to the latter. As herein shown, the body *b* of the cover is cylindrical and fits into

the neck of the can, which is also cylindrical; but these parts may have other forms.

The neck of the can is provided with a spring-bolt arranged to protrude, normally, through an aperture in the wall of the neck into the path of the body of the cover, and said bolt being beveled or inclined on its upper face the pushing in or down of the cover displaces said bolt until the cover is pushed entirely home, when a bolt-hole in the wall of the cover-body is brought into coincidence with the bolt and the latter enters said bolt-hole and locks the cover in place. There is an unlocking mechanism on the cover-body, whereby the bolt may be pushed back through the medium of a special key, and the cover be thus released, so that it can be removed.

The detail views, Figs. 3 to 6, illustrate the locking and unlocking mechanisms, which will now be described. Mounted on the outer face of the neck A' of the can is a leaf-spring 1, to which is secured the bolt 2, which is arranged to protrude through an aperture 3 in the side wall of the neck. This spring is by preference inclosed by a housing 4, of sheet metal, secured to the outer face of the neck. The bolt 2 is beveled or inclined on its upper face, as seen in profile in Fig. 3, and when the body *b* of the cover is pushed down into the neck A' its lower edge strikes the incline on the bolt and pushes the latter back, the spring 1 yielding. When, however, the cover is pushed "home" or wholly down, the bolt 2 will enter a bolt-hole 3^a in the body *b*, and thus automatically lock the cover in place.

The unlocking mechanism is mounted on or in the body of the cover B. In a housing 5 within the body *b* is mounted a key-bar 6, which has its axis parallel with the axis of the cover. This key-bar has a bearing at its lower end in the casing 5, and has also a bearing above in a fixed tube 7 or some similar bearing-piece. On the key-bar is a projecting stud or cam 8, situated opposite to the bolt-hole 3^a and of course adjacent to the bolt 2 when the cover is locked in place, as represented in Figs. 3 and 4. The key-bar is adapted to rotate about its axis; but its movement is limited, by preference, to about a quarter-revolution, that being sufficient to effect the unlocking. A stud 9 in the key-bar, playing between shoulders on the fixed

tube 7, serves as a limiting-stop. The key seen in Fig. 8 has a simple cylindrical body adapted to fit in the bore of the key-bar and is provided with wings or splines 10, adapted to engage recesses 11 in the upper end of the key-bar, whereby a purchase is obtained for rotating the latter. The key is inserted through a key-hole 12 in the top plate of the cover.

In order to add security to the fastening and prevent another key than the one specially designed for the purpose from being used to turn the key-bar, I prefer to employ the device I will now describe. Secured to the outer face of the fixed tube 7 is a leaf or blade spring 13, which is furnished with a short detent-stud 14. This stud passes through an aperture in the tube 7, and its tip engages a slight recess in the key-bar (see Fig. 6) sufficient to prevent the latter from turning. On the spring 13 is also a laterally-projecting cam-piece 15, which passes through the tube 7 and projects out for a little distance over the upper end of the key-bar. When the key is inserted and pressed down into the key-bar as far as it will go, the upper ends of the wings or splines 10 thereon will project above the top of the key-bar. Now when the key is turned it is enabled, owing to the comparative width of the recesses 11 in the upper end of the key-bar, to turn part way round without rotating the key-bar, which is locked by the detent-stud 14; but during this first portion of the rotation of the key one of the splines thereon takes against the cam-piece 15 and forces it outward, thereby withdrawing the stud 14 from its recess and freeing the key-bar. At this moment the splines on the key engage the shoulders on the key-bar at the ends of the recesses 11 and its further movement rotates said bar. When the key-bar is turned up to the stop in unlocking, the cam 8 thereon pushes back the bolt 2 and the cover B may be taken off. When unlocked, the pressure of the bolt-spring 1 will suffice to hold the key-bar turned up to the unlocking stop, as seen in Fig. 4^a, which is a view similar

to Fig. 4, but showing the bolt pushed back. The lower corner of the bolt may be slightly rounded or beveled, so that if the cam 8 does not press the bolt back quite far enough the lower margin of the bolt-hole 3^a in the cover will take under this beveled portion of the bolt when said cover is raised, and thus force the bolt back far enough to enable the cover to free itself.

The key-bar may be furnished with a suitable light retracting-spring 16 to return it to its normal position after unlocking. This has the advantage that it leaves the bar in position to receive the key and insures the cam 8 being out of the way of the bolt 2 when the cover of the can is put in place. If no retracting-spring is used, it will be necessary to turn the key-bar back to its normal position with the key after each unlocking operation.

Having thus described my invention, I claim—

1. The combination, with a can having a tubular neck and provided with a spring 1 and bolt 2, secured to the free end of said spring and normally protruding into the hollow of the neck, of the cover B, having a body adapted to fit into the neck of the can, and the unlocking mechanism mounted in a housing in said cover, said mechanism comprising a rotatively-mounted key-bar provided with a cam adapted to push back the locking-bolt when the key-bar is rotated, and a key for rotating said bar.

2. In a can locking and unlocking device, the combination, with the can-cover provided with a bolt-hole in its side, of the key-bar mounted rotatively in said cover and parallel to the side of the cover-body and provided with an unlocking-cam and a socket to receive the key, and the said key.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

NICHOLAS FINCK.

Witnesses:

HENRY CONNETT,
CHAS. A. WALSH.