March 15, 1932. C. M. JESPERSEN 1,849,746

TANK CAP LOCK

Filed Oct. 8, 1931

Fig. 1.

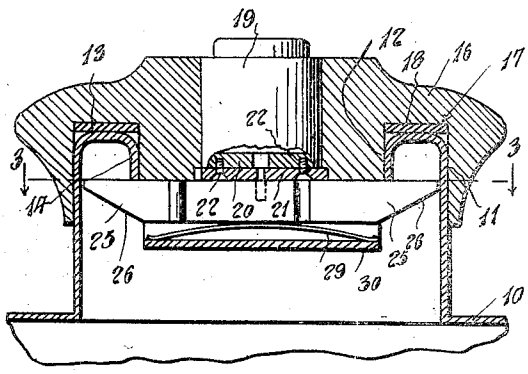


Fig. 2.

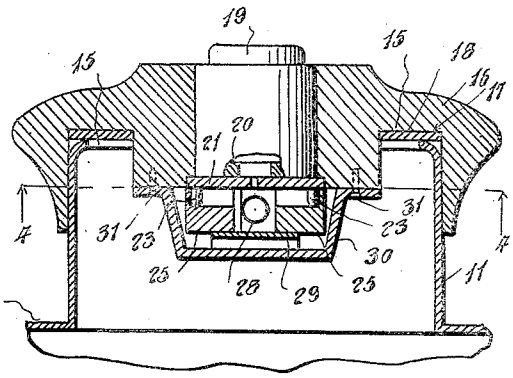


Fig. 3.

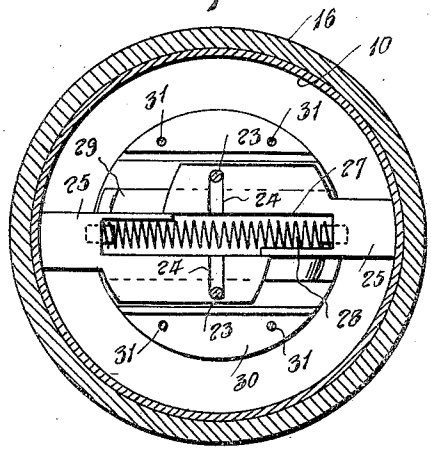


Fig. 4.

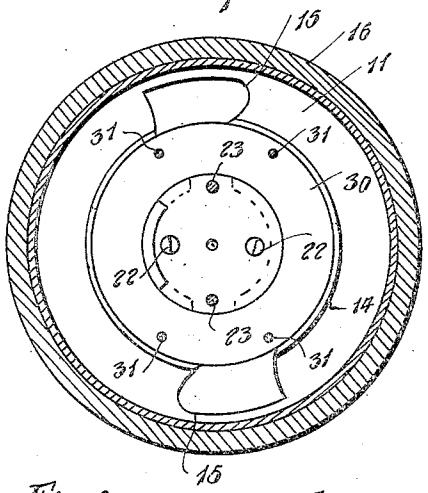


Fig. 5.

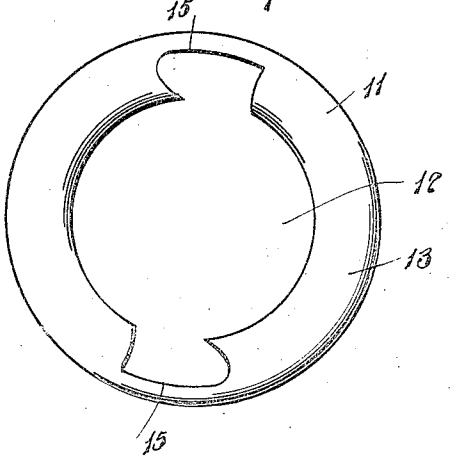


Fig. 6.

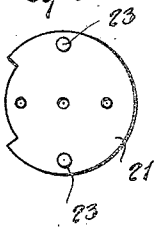
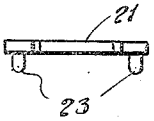


Fig. 7



Inventor

C. M. Jespersen.

By L. F. Randolph Jr.

Attorney

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UNITED STATES PATENT OFFICE

CHRISTIAN M. JESPERSEN, OF KANSAS CITY, MISSOURI

TANK CAP LOCK

Application filed October 8, 1931. Serial No. 567,712.

This invention relates to a locking means for a tank cap or the equivalent.

It is aimed to provide a novel construction embodying preferably a cylinder or tumbler lock in combination with locking elements adapted to engage a cam seat or the equivalent, and which are resiliently supported so as to yield to avoid rattling and maintain a tight connection at all times.

The invention resides in the novel construction hereinafter described and illustrated in accompanying drawings wherein:—

Figure 1 is a diametric sectional view through the improved cap and associated portion of a tank;

Figure 2 is a view similar to Figure 1 but taken at a right angle thereto;

Figure 3 is a horizontal sectional view taken on the line 3—3 of Figure 1;

Figure 4 is a horizontal sectional view taken on the line 4—4 of Figure 2;

Figure 5 is a detail plan view of the filling neck of the tank;

Figure 6 is a detail plan view of the pin-carrying plate of the lock; and

Figure 7 is a side elevation of said plate of Figure 6.

Referring specifically to the drawings, 10 designates a tank or the equivalent having a neck 11 through which a filling opening at 12 is provided. The neck 11 has an inwardly extending portion 13 from which downwardly extending flanges 14 extend, the same preferably being of cam shape or inclined on their lower edges, to coact with latch means hereinafter described. The portion 13 is also cut away as at 15, to permit insertion and removal of the latch means.

The cap is shown at 16 and may be of any desired material or form, the same preferably having a groove at 17, to engage the portion 13, and also accommodating a gasket 18, if desired.

Said closure or cap 16 carries a cylinder or tumbler block 19 of conventional form, the cylinder 20 of which has a plate 21 secured thereto as at 22. Plate 21 carries a pair of depending pins 23 which extend into slots 24 of locking bolts or latch members 25, which are substantially radially slidable, and whose ends are chamfered as at 26. Said bolts 25 are cut away as at 27 to accommodate an expansive coil spring 28, which normally urges the same apart and in coacting relation with the flanges 14. It will be noted that the slots 15 do not extend completely outward to the wall of the neck 11 and hence since the bolts engage such wall, they cannot be withdrawn even if alined with the slots 15.

The said bolts 25 are resiliently supported and have free engagement and relative movement with respect to the pins 23. To this end, a leaf spring 29 urges upward movement of the latches 25 and in turn is supported by a bracket 30, fastened to the under side of the cap or closure as at 31.

It will thus be seen that to apply the cap, the chamfered edges 26 of the latches will engage portions 13 not cut away opposite the openings 15, causing relative movement thereof and slippage into the tank so that the cap may be turned for coaction of the latch members with the cams 14. The cap cannot be removed, as previously stated, even if the latches aline with the slots 15, since they are of greater extent from end to end than the slots 15 from end to end. In order to remove the cap or closure, a key actuates the cylinder 20, whereby the plate 21 is rotated and the pins 23 by coaction with the slots 24 retract the latch members. Particular attention is directed to the fact that the latch members may move vertically according to the cam surface 14, due to the loose engagement with the pins 23.

Various changes may be resorted to provided they fall within the spirit and scope of the invention.

I claim as my invention:—

1. A device of the class described comprising a closure, latch means carried by the closure, lock means operable to retract or permit projection of the latch means, and means whereby said latch means may yield in a path substantially at a right angle to the path of their movement.

2. A device of the class described comprising a closure, latch means carried by the closure, lock means operable to retract or permit projection of the latch means, and

means whereby said latch means may yield in a path substantially at a right angle to the path of their movement, comprising spring means supporting the latch means, and a pin and slot connection between the latch means and operating means.

3. A device of the class described comprising a closure, latch means carried by the closure, lock means operable to retract or permit projection of the latch means, and means whereby said latch means may yield in a path substantially at a right angle to the path of their movement, comprising a bracket on the closure, a spring on the bracket engaging the latch means and urging upward movement thereof, and a pin and slot connection between the operating means and the latch means.

In testimony whereof I affix my signature.

CHRISTIAN M. JESPERSEN.