No. 737,667. PATENTED SEPT. 1, 1903.

L. R. SCHUNCK.

LOCK FOR STOP BOXES.

APPLICATION FILED APR. 25, 1902.

NO MODEL.

Fig. 1.

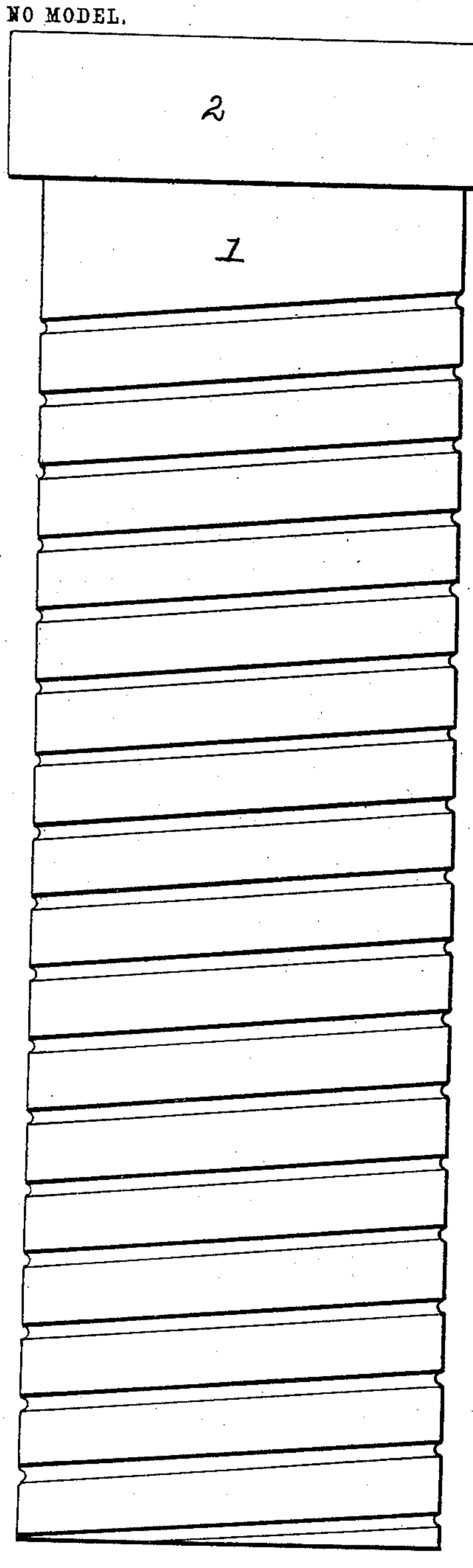


Fig. 2.

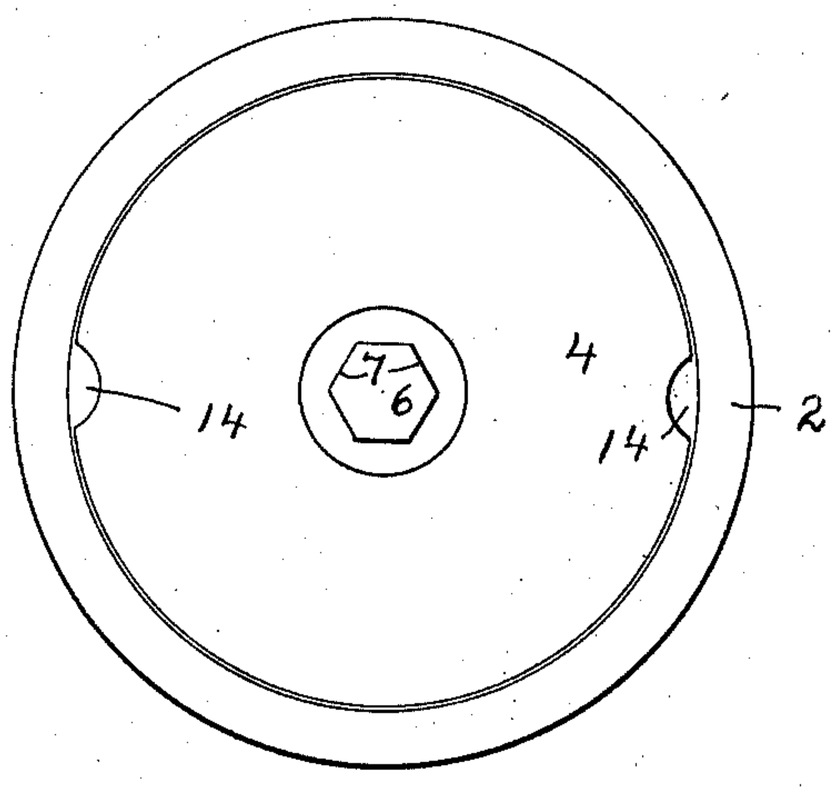


Fig. 3.

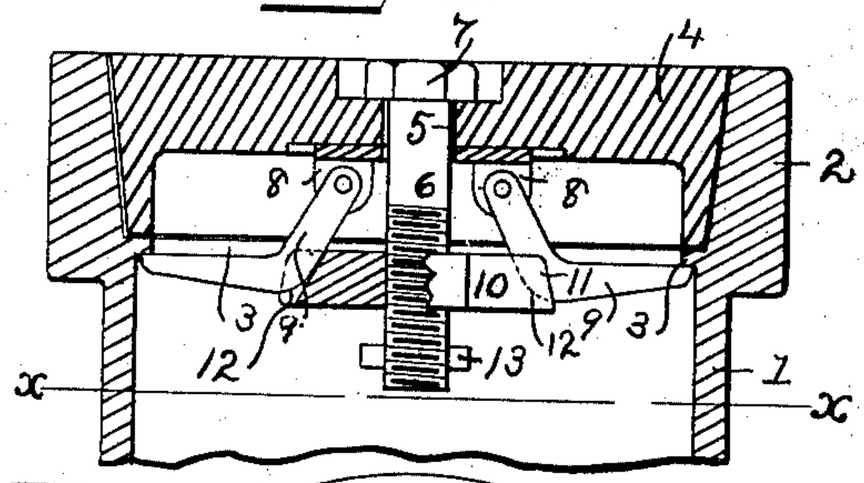
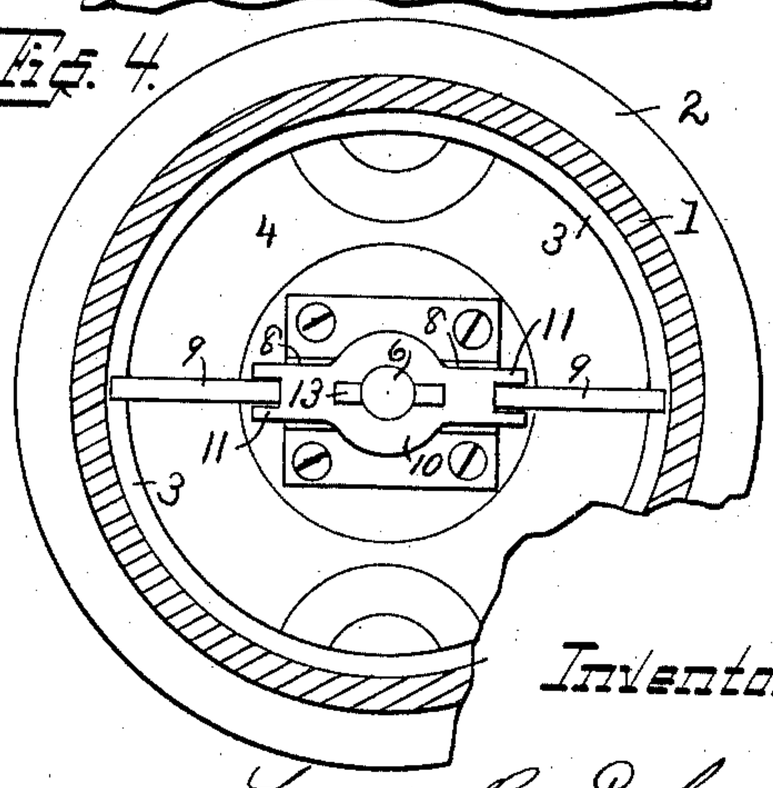


Fig. 4.



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No. 737,667. Patented September 1, 1903.

UNITED STATES PATENT OFFICE.

LOUIS R. SCHUNCK, OF MILWAUKEE, WISCONSIN.

LOCK FOR STOP-BOXES.

SPECIFICATION forming part of Letters Patent No. 737,667, dated September 1, 1903.

Application filed April 25, 1902. Serial No. 104,615. (No model.)

To all whom it may concern:

Be it known that I, LOUIS R. SCHUNCK, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Locks for Stop-Boxes, of which the following is a specification.

My invention relates to improvements in locks for stop-boxes, with especial reference to that class of boxes used to protect the street-valves of water-supply systems. It is customary to locate these valves at a considerable distance below the surface of the ground, inclosing them within a protecting-tube which extends vertically to the surface of the ground and is provided with a removable cover, whereby access to the valve is permitted. It has been extremely difficult to provide loose covers for these boxes, owing to the fact that they are exposed to the elements, and the fastenings heretofore devised have been found to rust to such an extent as to frequently render it impossible to remove the cover without destroying it.

The object of my invention is to provide a comparatively inexpensive form of lock in which the movable parts are so constructed that any rust or corrosion thereof will be ineffective to prevent the release of the cover.

In the following description reference is had to the accompanying drawings, in which—

Figure 1 is an elevation of a stop-box of the class to which my invention is applied. Fig. 2 is a top view of the same. Fig. 3 is a detail view of the upper end of the box in vertical longitudinal section; and Fig. 4 is a sectional view of the upper portion of the box, drawn on line *x x* of Fig. 3 and showing the under side of the cover and lock.

Like parts are identified by the same reference-numerals throughout the several views.

1 is the body of the box; 2, the head or upper portion thereof, which is provided with an inwardly-projecting flange 3, upon which the cover 4 rests, the head of the box being tapered on its interior surface from the upper end to the flange 3 and the cover correspondingly tapered. The cover is provided with a central aperture 5, through which a bolt 6 is passed, the head 7 of the bolt being preferably countersunk in the cover, as shown, with sufficient space for the application of the key to the bolt-head. At each side of the bolt the under surface of the cover is provided with projecting ears 8, to which the elbowed locking-arms 9 are pivotally secured, the arms being so formed that when moved outwardly to the position in which they are shown in Fig. 3 their outer ends will engage underneath the flange 3. The lower end of the bolt is screw-threaded and is provided with a nut 10 of rectangular shape with forked ends, Fig. 4, which straddle the upper portion of the locking-arms 9. The arms 9 are rounded, as shown at 12 in Fig. 3, and the lower end of the bolt is provided with a pin 13, which limits the downward movement of the nut, preventing the latter from moving downwardly out of engagement with the arms 9.

It will be observed that the elbow of the arms 9 is in the form of an obtuse angle and the engagement of the nut 10 with the arms prevents the nut from turning with the bolt. When the bolt 6 is turned, therefore, the nut 10 will move upwardly or downwardly upon the screw and when moved upwardly will force the arms 9 outwardly into locking position. When moved downwardly, the nut will permit the arms to drop into the position of release, when the cover may be removed by inserting the fingers or a suitable tool in the recesses 14.

By providing the elbowed arms with the rounded portions 12 any danger of the nut 10 getting caught on the angle formed by the elbow is avoided, and at the same time the initial upward movement, with nut acting upon the rounded portion 12, causes the arms to throw out toward their locking position rapidly; but when the arms reach a position under the annular flange or rib 3 the nut will have moved upwardly to a position of engagement with the angular face of the locking-arms above the elbow, where it acts with great force in moving the arms to a binding position upon the flange 3.

It will be observed that in unlocking the box it is merely necessary to turn the bolt 6, any rust or corrosion of the bolt being overcome by means of the leverage of the key used. When the nut 10 has been moved downwardly to the pin 13, if the locking-arms 9 do not drop to their releasing position they

can easily be made to do so by prying upon the cover, owing to the long leverage between the outer ends of the arms and the supporting-pivots. I prefer, however, to make the entire locking mechanism of brass, as the corrosion of that metal is much less likely to interfere with the operation of the lock than if made of any other suitable metal.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the upper end of a stop-box for water-controlling valves; of an interior rib or flange, projecting inwardly therefrom; a cover fitting the upper end of the box; locking-arms, each pivotally secured at one end to the cover, and adapted to be moved outwardly into contact with the under side of said rib or flange, when the cover is in position; a screw-threaded draw-bolt passing freely through a central aperture in said cover; and a nut on said bolt provided with forked arms moving in sliding engagement with said locking-arms.

2. The combination with a stop-box for water-controlling valves; of a head therefor, provided with an interior rib or flange; a cover fitted to said head; a bolt passing through a central aperture in said cover; a nut on said bolt; elbowed locking-arms pivotally secured to the under surface of the cover, and movably engaged by said nut, said arms being adapted to be moved outwardly into locking engagement underneath said interior head-flange, when the nut is moved upwardly on the bolt.

3. The combination with a stop-box for water-controlling valves; of an interior flange connected therewith; a cover fitting the upper end of the box; elbowed arms pivotally secured to the under side of said cover, and adapted to be adjusted with their free ends engaging under said flange; a nut loosely engaging said arms and holding the same with their upper portions in a downwardly-diverging position; and a bolt passing through an aperture in the cover, and having screw-threaded engagement with said nut.

4. The combination with a stop-box for water-controlling valves; of an interior annular flange connected therewith; a cover fitting the upper end of the box and adapted to rest on said flange; elbowed arms pivotally secured to the under side of said cover, and adapted to be adjusted with their free ends engaging under said flange; a nut loosely engaging said arms and holding the same with their upper portions in a downwardly-diverging position; and a bolt passing through an aperture in the cover, and having screw-threaded engagement with said nut; together with means for limiting the downward movement of the nut.

5. The combination with a stop-box for water-controlling valves, having an interior annular flange near the upper end thereof; of a cover adapted to fit within said box, and to rest upon said flange; elbowed locking-arms pivotally secured to said cover, with their free ends adapted to engage underneath said flange; an actuating-nut loosely engaging said locking-arms, and holding the same with their engaged portions in a diverging position; and an actuating draw-bolt having screw-threaded engagement with said nut.

In testimony whereof I affix my signature in the presence of two witnesses.

LOUIS R. SCHUNCK.

Witnesses:

JAS. B. ERWIN,

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