No. 614,344. Patented Nov. 15, 1898.

F. POPE.

COIN CONTROLLED LOCKING APPARATUS.

(Application filed Feb. 8, 1898.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

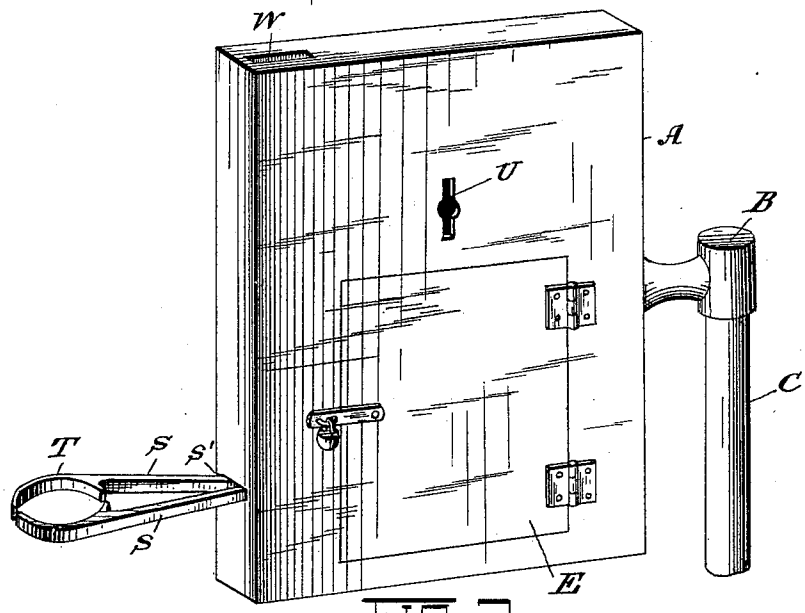
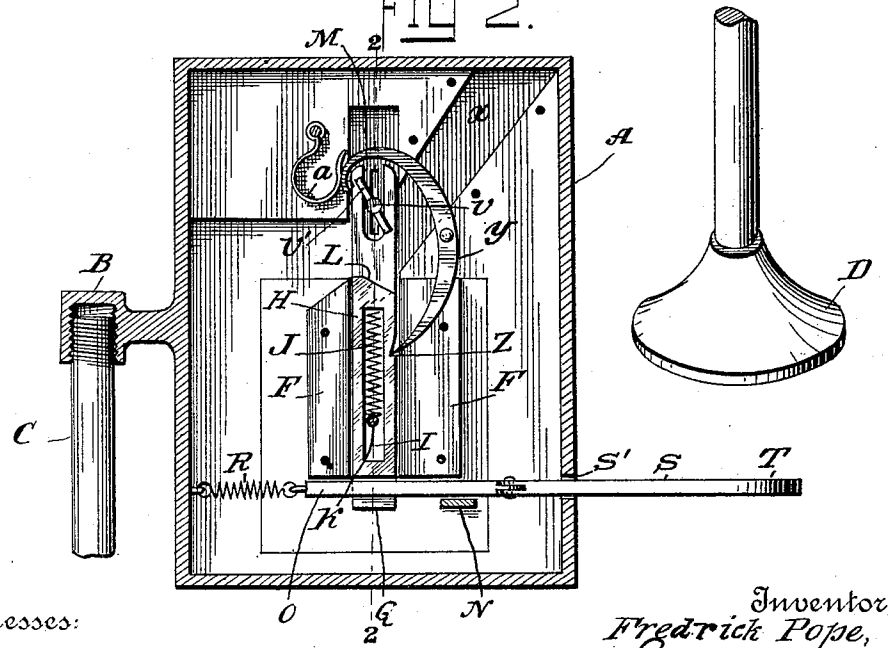


FIG 2.



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(No Model.) 2 Sheets—Sheet 2.

FIG. 3.

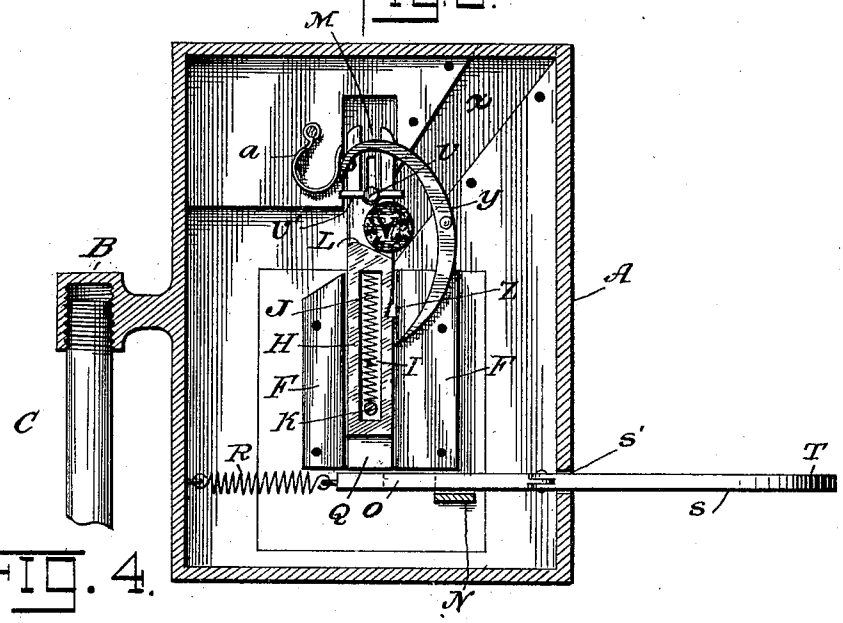


FIG. 4.

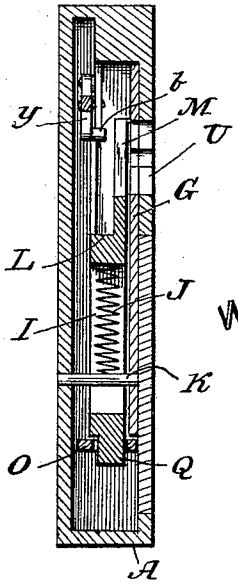
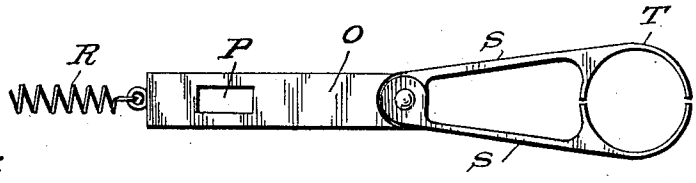


FIG. 5.



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UNITED STATES PATENT OFFICE.

FREDRICK POPE, OF FOND DU LAC, WISCONSIN.

COIN-CONTROLLED LOCKING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 614,344, dated November 15, 1898.

Application filed February 8, 1898. Serial No. 669,537. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK POPE, a citizen of the United States, residing at Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented certain new and useful Improvements in Coin-Controlled Locking Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates generally to coin-controlled apparatus, and particularly to a coin-controlled locking apparatus for bicycles.

The object of the invention is to provide a simple and effective device whereby the bicycle may be quickly and securely locked by the depositing of a coin.

With the above object in view the invention consists in the novel details of construction hereinafter fully described in the specification, particularly referred to in the claims, and clearly illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of a locking device embodying my invention. Fig. 2 is a vertical sectional view showing the position of the parts when locking a bicycle. Fig. 3 is a similar view showing the position of the parts when about to be operated to lock the bicycle. Fig. 4 is a vertical transverse sectional view taken on line 2 2 of Fig. 2, with the key removed. Fig. 5 is a detail view of the sliding bar and pivoted clamping-arms.

Referring more particularly to the accompanying drawings, A designates a casing having a threaded socket B to receive the threaded end of a standard C, provided with the supporting-base D. The casing is provided in one of its sides with a door E, by means of which access may be had to the interior of the casing, said door being provided with any preferred locking means.

Movable vertically in suitable guides F, secured to the backing-plate G within the casing, is a locking-bolt H, slotted longitudinally at I to receive a coil-spring J, one end of which is secured to a pin K, extending transversely through said slot, and its other end bearing against the bolt and holding the same normally raised or retracted. Said bolt is reduced at its upper end, forming the inclined shoulder L intermediate its ends, and is also provided at its upper end with the inwardly-extending guide-slot M.

Sliding horizontally beneath the lower end of the bolt upon a guide N is a bar O, having a bolt-opening P, which is held normally in position to receive the lower reduced end Q of the bolt by the spring R, secured at one end to the bar and at its opposite end to the casing.

Pivoted at their inner ends to the free end of bar O are the arms S, which extend through an opening S′ in the end of the casing and diverge toward their outer end, where they are formed on their inner sides with the clamping-jaws T, which are adapted to embrace the wheel-rim. The clamping-arms form a wedge, and when normally drawn inwardly by the action of spring R they engage the end walls of the opening S′ in the casing and the jaws are held in engagement with each other; but, however, when the arms are drawn outwardly, as in Fig. 3, the clamping-jaws thereof may be separated to engage the wheel-rim, such separation of said jaws being permitted by reason of the narrow portion of the wedge engaging the opening S′ of the casing.

The casing is provided with a keyhole U, which is coincident with vertical slot M in the bolt, and the key *v*, having the lateral wings *v*′, is inserted through the keyhole and guide-slot and is normally retained therein, owing to the fact that when the bolt is in its retracted position the lower portion of the keyhole is closed thereby.

The upper wall of the casing is slotted, as illustrated at W, and communicating at its upper end with said slot is the inclined passage *x*, which at its lower end terminates adjacent the shoulder of the bolt when the latter is retracted, so that a coin dropped in the slot will roll down the passage and rest upon said inclined shoulder, as illustrated in Fig. 3. In this position the coin forms a connecting portion between the wing of the key and the bolt, so that when said key is rotated the bolt will be forced downwardly into engagement with the bolt-opening in the sliding bar. The coin will drop to the bottom of the casing and may be removed when desired through the medium of the door.

For holding the bolt in its downward or projected position I provide the curved tumbler or dog *y*, which is intermediately pivoted at its lower end and is adapted to engage a notch Z in the bolt. A spring *a* is secured at one end within the casing and at its opposite end bears against the upper end of the tumbler, holding the lower end thereof in engagement with said notch of the bolt. Normally the laterally-bent upper end *b* of the tumbler is out of the pathway of the wings of the key and is not engaged thereby as the latter is rotated to project the bolt. When, however, the bolt is projected, the spring will cause the lower end of the tumbler to engage the notch of said bolt, while the upper end thereof will be brought in position to be engaged by the key when the latter is rotated in a reverse direction, as clearly shown in Fig. 2.

When the bolt is projected, the position of the slot M is such that the keyhole is unobstructed, so that the key may be withdrawn.

The operation of my invention is as follows: When it is desired to lock the bicycle, the clamping-arms are drawn outwardly against the tension of spring R sufficiently to permit the clamping-jaws to be opened far enough to receive the rim of the wheel. They are then released and are drawn inward by said spring, closing the clamping-jaws so as to retain the rim therein and bringing the bolt-opening of bar O in line with the locking-bolt. The coin is then dropped through the slot into the inclined passage, through which it passes until it engages the shoulder of the bolt. By turning the key the bolt is projected until it enters the bolt-opening of the sliding bar, as before described. The bolt is held in this position by the tumbler and the wheel-rim is securely held by the clamping-jaws, so that the latter cannot be separated to release said rim for the reason that they are locked from outward movement by the bolt, and in order to separate them it is necessary that they should be drawn outwardly. The key is then drawn from the casing by the rider, who retains the same until he desires to unlock his wheel, when the key is inserted and turned to engage the upper end of the tumbler and disengage the lower end thereof from the bolt, the latter being returned to its retracted position by the spring J. The bar O being thus released, the arms may be drawn outwardly and the clamping-jaws separated to release the wheel. The key is then locked in the casing and cannot be again withdrawn until another coin has been deposited and the bolt projected.

The casing may be secured upon a railing against a wall or supported in any preferred manner, and the various details of construction may be varied and modified without departing from the spirit of my invention.

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

1. In a coin-controlled apparatus for locking bicycles, the combination with a clamp adapted to engage the bicycle, of a key-actuated locking-bolt adapted to engage said clamp and hold the same in engagement with the bicycle, the parts being so arranged that the coin when inserted forms the connection between the key and bolt, substantially as described.

2. In a coin-controlled apparatus for locking bicycles, the combination with a clamp adapted to release the bicycle when drawn outwardly, of a key-actuated locking-bolt adapted to engage the clamp and prevent outward movement thereof, the parts being so constructed and arranged that the coin when inserted forms the connection between the key and bolt, substantially as described.

3. In a coin-controlled apparatus for locking bicycles, the combination with a casing having an opening, of a bar movable in said casing and having a bolt-opening, clamping-arms pivoted to said bar and movable through the opening in the casing and forming a wedge, and a key-actuated bolt adapted to engage the bolt-opening of the bar and prevent outward movement of the latter, the parts being so arranged that the coin forms the connection between the key and bolt, substantially as described.

4. In a coin-controlled apparatus for locking bicycles, the combination with an outwardly-movable clamp, of a bolt held normally retracted and adapted to be projected by a key to engage the clamp and prevent outward movement thereof, the parts being so arranged that the coin when inserted forms the connection between the key and bolt, and a tumbler adapted to hold said bolt in its projected position, substantially as described.

5. In a coin-controlled apparatus for locking bicycles, the combination with an outwardly-movable clamp, of a normally-retracted bolt adapted to be projected by a key to engage the clamp and prevent outward movement thereof, the parts being so arranged that the coin forms the connection between the key and bolt, and an intermediately-pivoted tumbler adapted to engage the bolt and hold the same projected and to be disengaged from the bolt by a reverse movement of the key, substantially as described.

6. In a coin-controlled apparatus for locking bicycles, the combination with a clamp, of a key-actuated bolt adapted when projected to hold the clamp closed, the parts being so arranged that the coin forms the connection between the key and bolt, and means for preventing the removal of the key when the bolt is retracted, substantially as described.

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

FREDRICK POPE.

Witnesses:
ERNEST J. PERRY,
CHARLES HOTALING.