No. 849,447. PATENTED APR. 9, 1907.

J. J. WOOD.

COIN OPERATED MECHANISM.

APPLICATION FILED SEPT. 21, 1905.

2 SHEETS—SHEET 1.

FIG. 2.

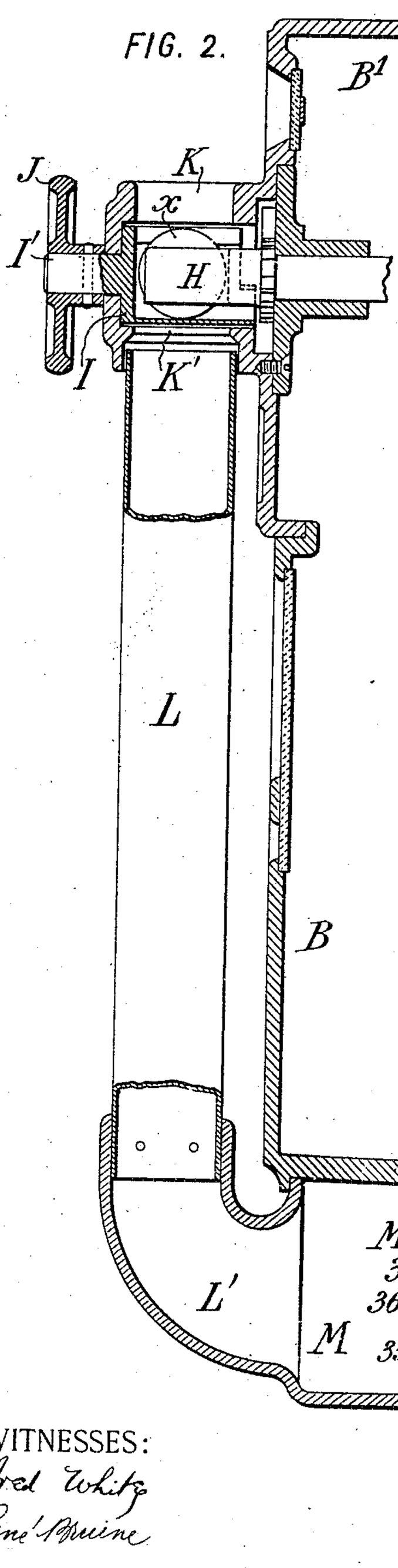
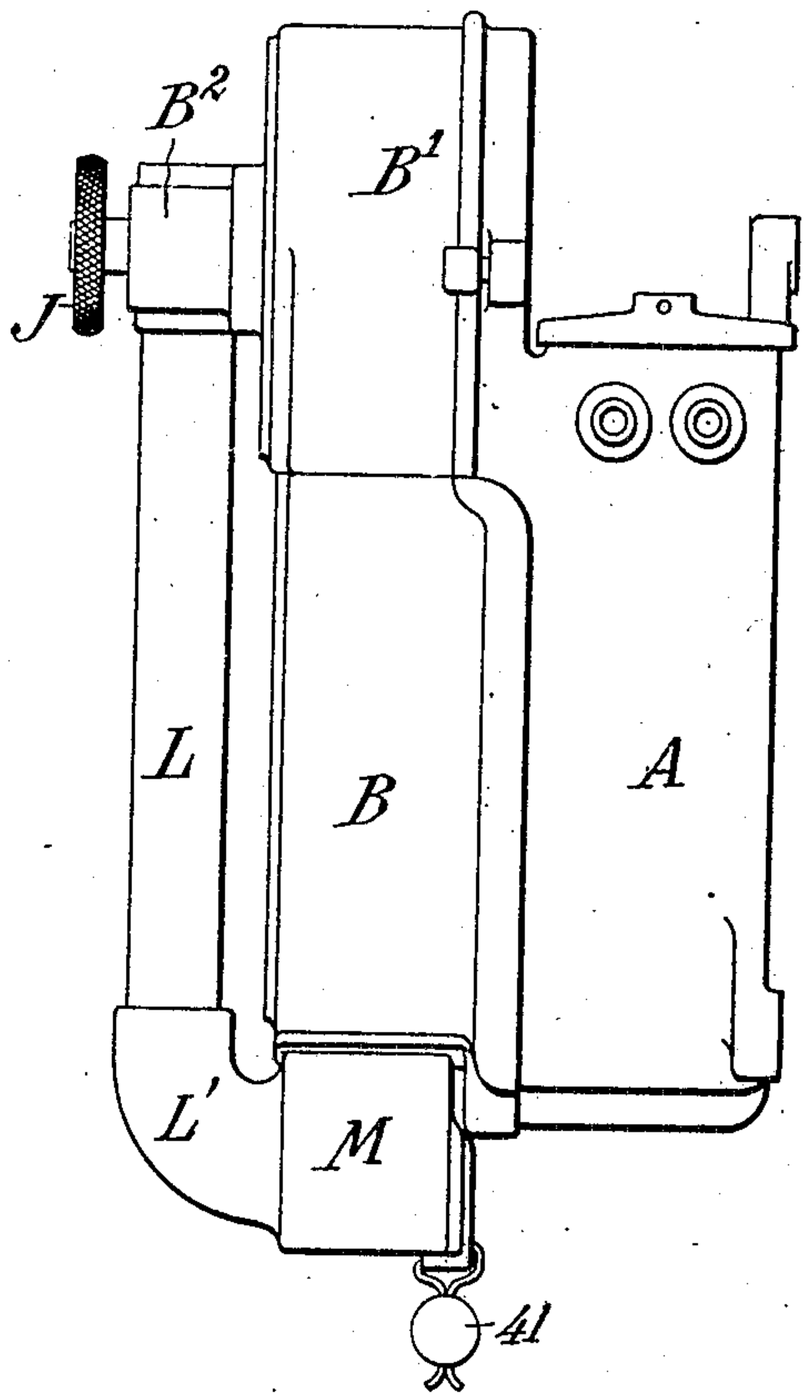


FIG. 1.



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2 SHEETS—SHEET 2.

FIG. 3.

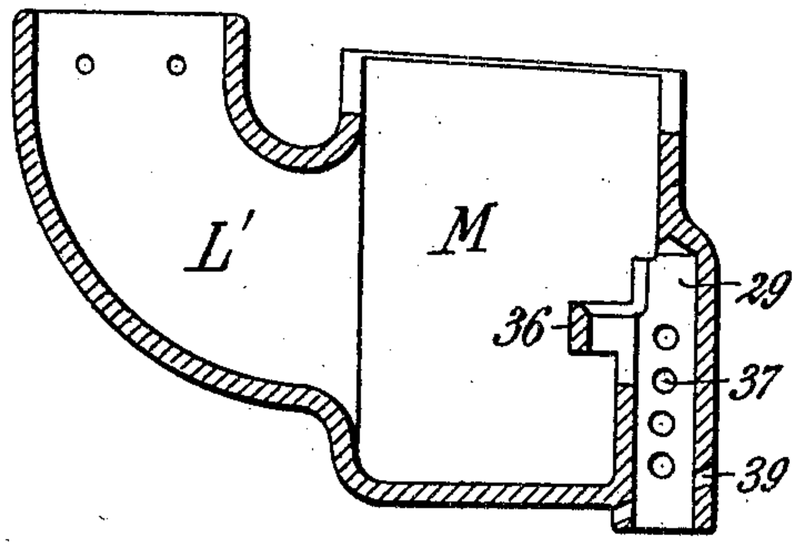


FIG. 4.

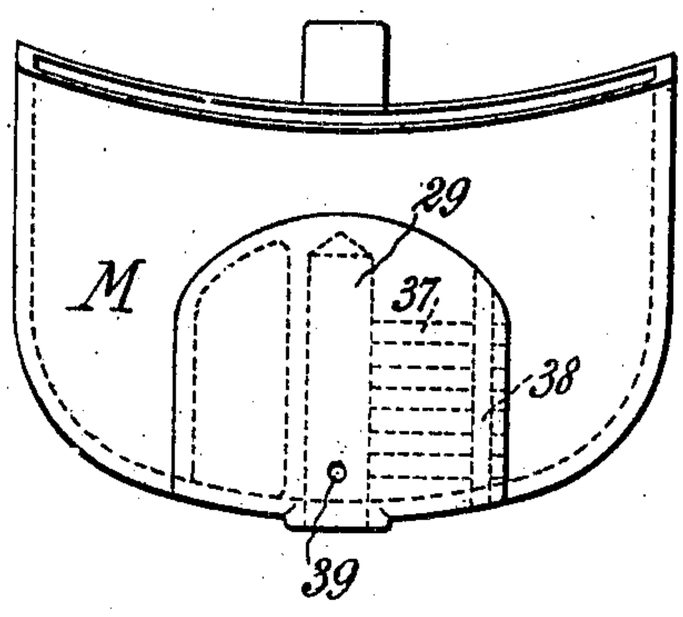


FIG. 5.

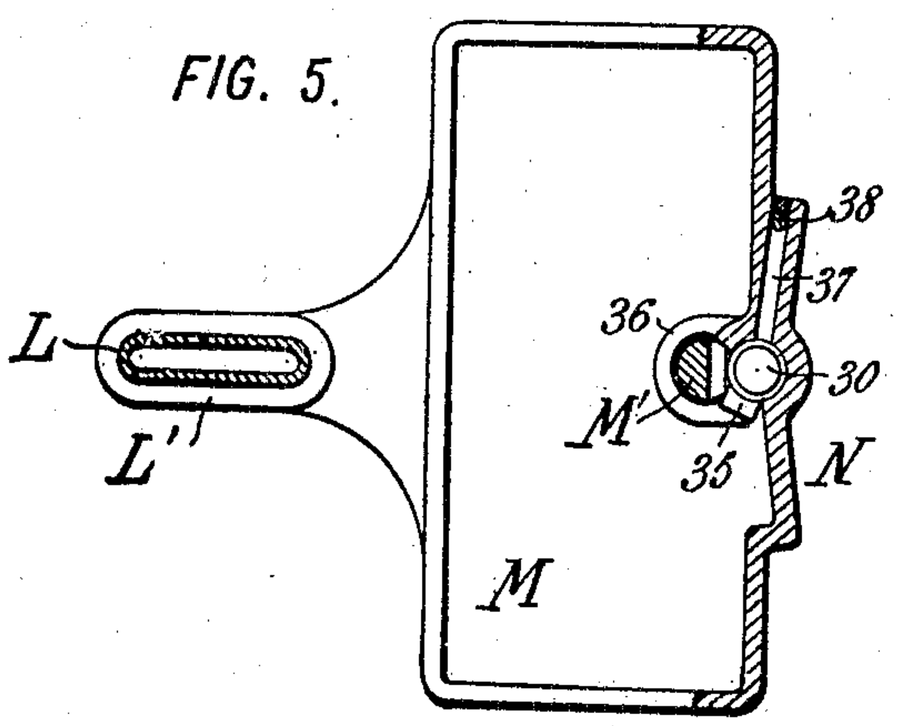


FIG. 6.

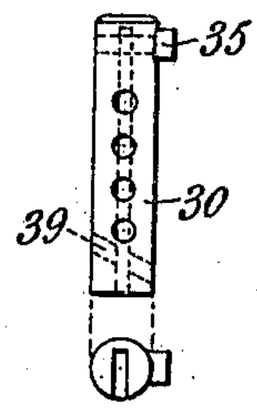
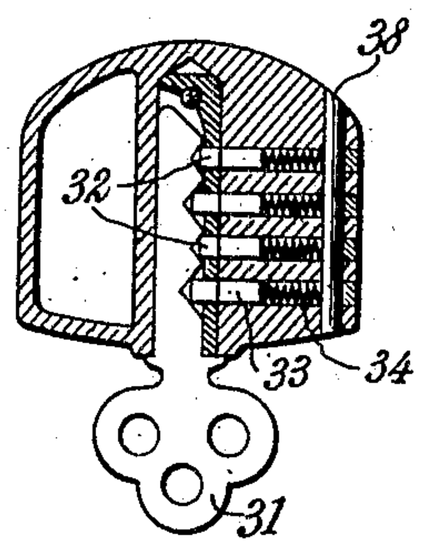


FIG. 7.



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UNITED STATES PATENT OFFICE.

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COIN-OPERATED MECHANISM.

No. 849,447. Specification of Letters Patent. Patented April 9, 1907.

Application filed September 21, 1905. Serial No. 279,466.

To all whom it may concern:

Be it known that I, JAMES J. WOOD, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Coin-Operated Mechanisms, of which the following is a specification.

This invention provides certain improvements applicable generally to coin-operated apparatus, although specially designed and adapted for use with prepayment electric meters.

The subject-matter of the present application is in part taken from my application, Serial No. 235,412, filed December 3, 1904, (patented December 5, 1905, No. 806,722,) and in part is taken from my application, Serial No. 264,850, filed June 12, 1905.

The present invention relates principally to the coin-box for receiving the coins which have passed through the coin-operated mechanism and the means for fastening such box to the casing of the main apparatus.

Figure 1 of the drawings is a side elevation of a prepayment electric meter, showing the application thereto of my invention. Fig. 2 is a vertical mid-section of so much of the coin-operated mechanism and its appurtenances as is necessary to illustrate my invention. Fig. 3 is a vertical section of the coin-box alone. Fig. 4 is a rear elevation thereof. Fig. 5 is a plan thereof, partly in horizontal section. Fig. 6 is an elevation and bottom plan of the lock-barrel which has been removed from Fig. 3. Fig. 7 is a vertical section, being a fragment of Fig. 4, showing the key in place.

Referring first to Fig. 1, let A designate as a whole any meter or other apparatus to which the coin-actuated mechanism is applied, and B the casing thereof. The upper part B′ of this casing incloses the coin-actuated or prepayment mechanism. This mechanism is only partly shown in Fig. 2, and for a full understanding thereof reference is made to my said application Serial No. 235,412, it being understood, however, that this particular coin-operated mechanism has no necessary connection with the features to which my present application is directed. The casing B′ is shown as having a tubular forward extension B^2, in which turns a coin-barrel I, having a coin-entering slot and a stem I′, on which stem is fixed an operating wheel or handle J. Within the barrel I projects a coin-driven part or spindle H. On dropping a coin through the admission-slot K and turning the knob backward to bring the slot in the barrel I at the top the coin falls through both slots and into a slot in the spindle H, and if of the proper size the coin, which occupies the position indicated by the circle *x*, locks together the barrel I and shaft H, so that when the operator turns the knob J the coin imparts rotation from the barrel to the shaft for a half-revolution, whereupon the coin falls out through the bottom slot K′ and falls into a discharge-conduit L, which conducts it to the coin box or receptacle M.

The coin box or receptacle M may be located in any convenient manner relatively to the main casing B. It is shown as applied beneath this casing, and this arangement is preferable in most instances. The coin-conduit L is arranged outside of the casing B, its upper end registering with the coin-discharging slot K′ and its lower end entering the coin-box. The coin-box is removably attached to the casing B by being locked thereto in a suitable manner. It is desirable in order that the coin-box may be beneath the casing or behind the plane of the front thereof and that the conduit L may descend in the plane of the coin-slots K K′, and hence be in front of the casing, that the conduit connect with the box through the medium of a curved elbow or branch L′, formed, preferably, integrally with the coin-box. By reason of the fact that the coin-operated mechanism is at the upper end of the apparatus and the coin-box is at the bottom or lower part thereof the coin-conduit L is of considerable length, and by descending directly from the coin-discharge slot K′ it affords the coin a long fall, so that in falling the coin acquires considerable velocity, and on striking the curved side of L′ it is thrown backwardly into the box M, so that it reaches the rear portion thereof instead of remaining in or near the elbow L′, where it would tend to clog the conduit.

For locking the box to the casing B a lock N is provided, which is carried by the box, and as far as possible concealed. This lock engages a projection M′ or any suitable form of locking-piece, which is fastened adjustably to the casing B. The adjustability of the locking-piece M′ enables the coin-box M to be closely fitted to the casing B, so as to compensate for any variations in these parts, which ordinarily will be castings. The lock-

ing-piece M′ is shown as a screw-threaded post or rod screwing into or through a hole in the casing B and fastened by a jam-nut. It carries any suitable shoulder for engaging the lock, and by means of its screw-threaded adjustment this shoulder may be raised or lowered to fit the box more or less tightly against the casing.

To remove the coins which have accumulated in the box M, it is only necessary to unlock the lock and displace the box downwardly. Preferably the conduit L is fixed at its lower end to the box M, as shown, its upper end being inserted loosely into a socket beneath the slot K′, so that the conduit comes off with the box. The conduit is preferably made of sheet metal and flat or narrow, as shown in cross-section in Fig. 5.

Ordinarily the coin-receptacle of a coin-operated mechanism is locked by a padlock or some similarly conspicuous lock. Such a lock is apt to lead evil-disposed persons to break open the box and remove the contained coins. To avoid this liability, I have devised a construction of lock N which is practically invisible and affords sufficient security, while being readily accessible. This lock is constructed on the pin-tumbler principle, its only novelty being in its peculiar adaptation to the coin-receptacle. The lock comprises the usual oscillating barrel 30, turning in a socket 29 in the rear wall of the box, slotted along one side for receiving a key 31, Fig. 7, and having the usual pin-tumblers 32 pressed against by pin-tumblers 33, sliding in holes or chambers 37, drilled horizontally in the back plate of the coin-box M, and pressed out by springs 34, housed in these holes.

The barrel 30 has a projection 35, which when locked, as shown in Fig. 2, engages the shoulder 35′, formed by the hooked end of the rod M′, and when unlocked swings to one side, as shown in Fig. 5, to clear this rod. To insure the correct engagement of the lock with the rod, the box is formed with a yoke 36, which embraces the rod as the box is pushed up into place. To make room for the tumbler-chambers 37, the back wall of the box is thickened, as shown in Fig. 5, and these chambers are formed by drilling holes in from the back at a very acute angle to the plane of the back wall, as shown in Fig. 5, a pin 38 being then inserted through a hole drilled vertically to intersect the other holes. This pin is inserted after the tumblers and springs have been introduced. The outer ends of the holes can then be closed by solder.

This lock is very compact and very secure and in actual use is practically invisible. It is operated by thrusting the key up vertically from beneath into the slot in the barrel, so that by pushing back the tumblers to bring their abutting ends into line with the periphery of the barrel (as in any pin-tumbler lock) the latter is unlocked, Fig. 7, and may then be turned to swing the projection 35 out of engagement with the hooked end of the rod M′.

As an additional precaution against the abstraction of the coins in the box my invention provides a seal which detects any effort to tamper with the lock. For this purpose a hole 39 is drilled through the barrel 30 of the lock and also through its socket or casing 29, as shown in Figs. 2 and 3, through which hole is passed a wire 40, the ends of which are joined by a seal 41. As this wire intersects the key-slot, any effort to force in a key or otherwise to tamper with the lock is certain to be either blocked by the wire or to result in severing the wire, in which latter case the attempt is exposed, or if the lock should be picked and the barrel turned this would shear off the wire and likewise expose the fraud.

It will be understood that my invention is subject to considerable variation or modification. Thus the screw-threaded post or rod M′ may be varied in form, it being only essential that a locking-piece be provided engaged by the lock on one part and adjustable relatively to the other. While it is preferable to have the barrel of the pin-tumbler lock arranged vertically, so that its keyhole is underneath and therefore is as inconspicuous as possible, yet in some instances it may be preferable or necessary to arrange it in other positions.

What I have referred to herein as the "casing" and illustrated as the part B or the portion thereof to which the coin-box is fastened, need not necessarily be an inclosing casing or even a hollow shell, it being only necessary that it constitute the main support or body of the apparatus to which the coin-box is fastened and by which the latter is held in operative relation with the coin-operated mechanism to receive the coins discharged therefrom.

I claim as my invention—

1. The combination with a casing, of a coin-box applied removably to the exterior of the casing, a lock carried by the coin-box, and a locking-piece engaged thereby, fastened adjustably to the casing.

2. The combination with a casing, and a coin-box, of a lock and locking-piece for fastening the coin-box to the casing, the lock carried by one of said parts, and the locking-piece fastened adjustably to the other, whereby to compensate for any variations in their dimensions.

3. The combination with a casing, of a coin-box fitting the exterior of the casing, an adjustable locking-piece comprising a screw-threaded rod engaging the casing, and a lock carried by the coin-box and engaging said rod.

4. The combination with a casing, of a

coin-box fastened to said casing, and a lock carried by said box, comprising an oscillatable barrel, a wall of the box formed with a socket in which said barrel turns, whereby it is concealed from view and the box forms also the lock-case.

5. The combination with a casing, of a coin-box fastened to said casing, and a pin-tumbler lock carried by said box, the latter formed with a socket in which its oscillatable barrel may turn, and with sockets for its pin-tumblers.

6. The combination with a casing of a coin-box and a lock for fastening the box to the casing, its moving parts socketed in the box, and having a hole intersecting a part of the lock through which to pass a seal-wire.

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

JAMES J. WOOD.

Witnesses:

EDWARD A. BARNES,

A. A. SERVA.