

(No Model.)

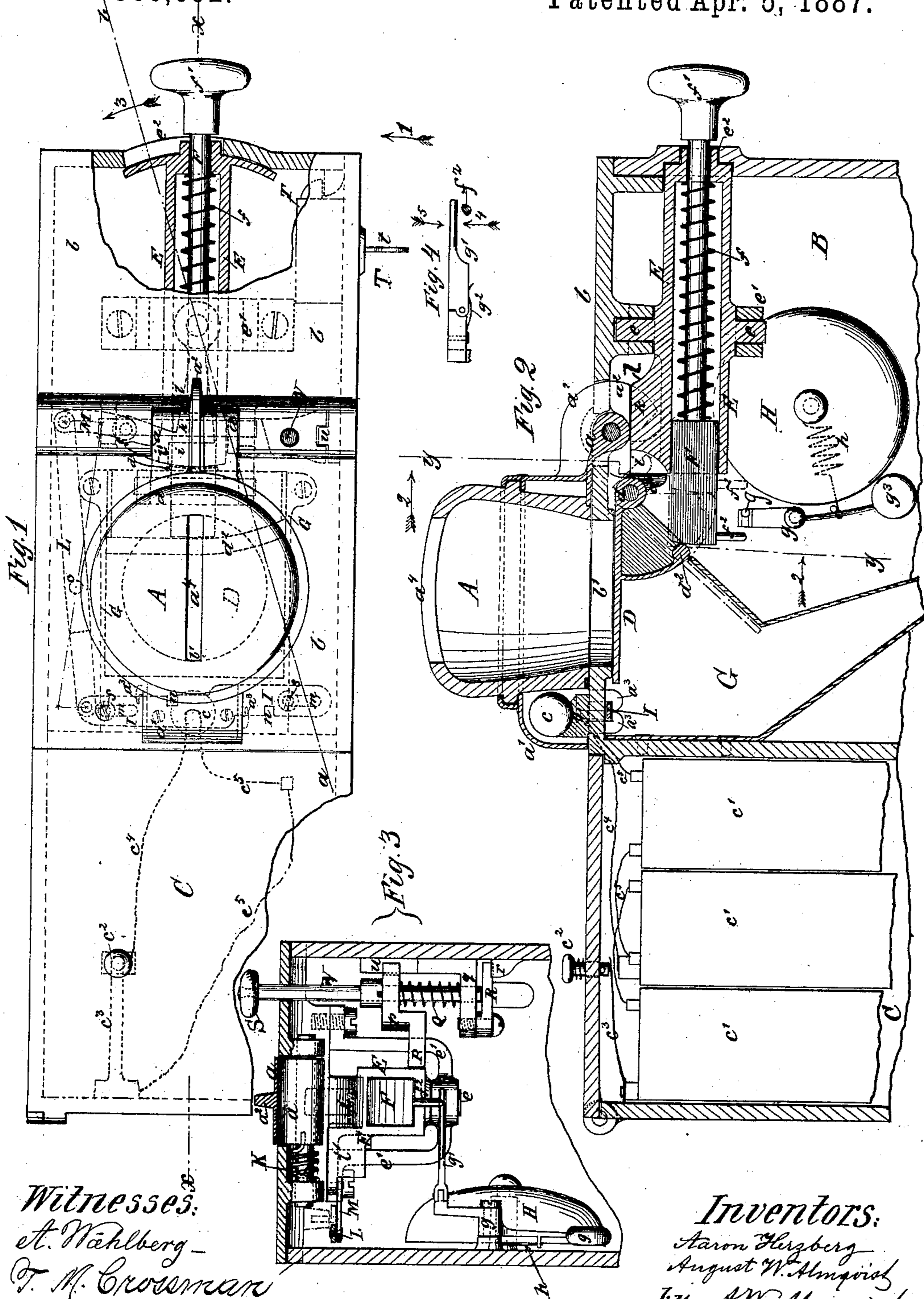
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A. HERZBERG & A. W. ALMQVIST.

LOCKING AND DELIVERING DEVICE FOR FARE BOXES.

No. 360,692.

Patented Apr. 5, 1887.



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(No Model.)

2 Sheets—Sheet 2.

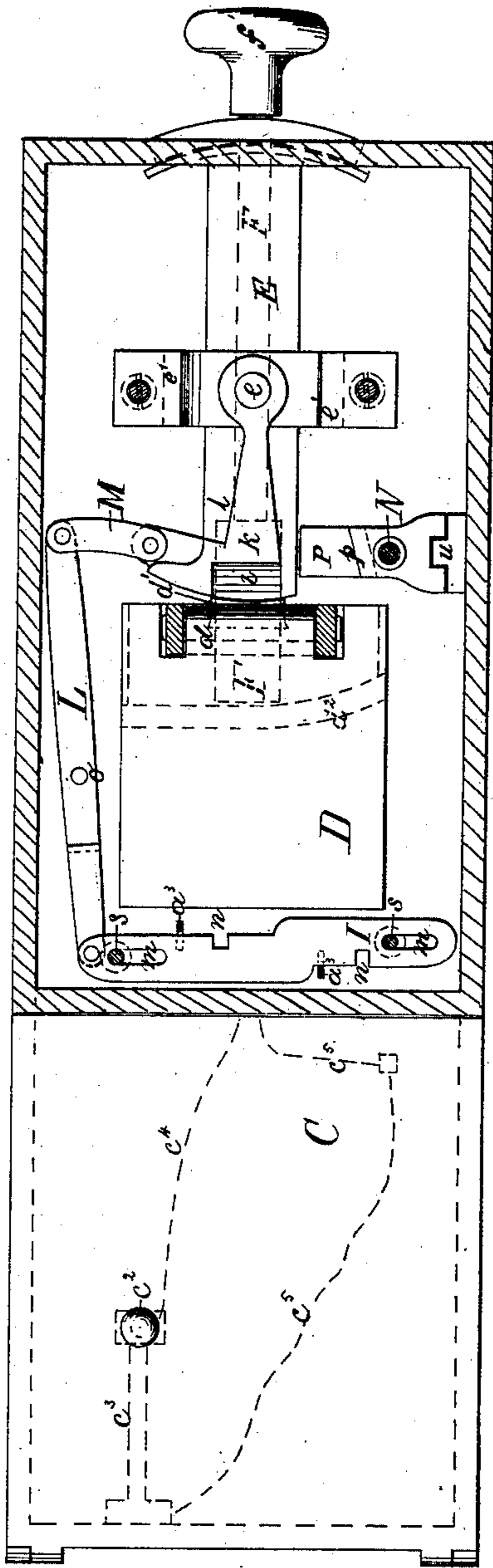
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Fig 5.



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# UNITED STATES PATENT OFFICE.

AARON HERZBERG, OF NEW YORK, AND AUGUST W. ALMQVIST, OF BROOKLYN, NEW YORK; SAID ALMQVIST ASSIGNOR TO SAID HERZBERG.

## LOCKING AND DELIVERING DEVICE FOR FARE-BOXES.

SPECIFICATION forming part of Letters Patent No. 360,692, dated April 5, 1887.

Application filed April 27, 1886. Serial No. 200,274. (No model.)

*To all whom it may concern:*

Be it known that we, AARON HERZBERG and AUGUST W. ALMQVIST, citizens of the United States, and residents of New York, in the county and State of New York, and Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Conductors' Fare-Boxes, of which the following is a specification.

The object of the invention is to provide an improved box for collecting fares in street-railroad cars, or on piers, steamboats, &c., and of such construction that the conductor has no access to the money, the passenger himself depositing the money in the box, and yet of such construction as to enable the conductor, without gaining access to the money previously deposited, to return to the passenger a foreign or counterfeit coin which, wilfully or inadvertently, may have been dropped by him in the opening of the box.

The invention will be hereinafter fully described, and specifically pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a top view of a fare-box constructed according to the present invention and partly broken out. Fig. 2 is a longitudinal vertical section of the same, taken on the line *x x* of Fig. 1, the lower part of the box being broken away. Fig. 3 is a cross-section taken on the line *y y* of Fig. 2, and seen in the direction of arrows 2. Fig. 4 is a detail view of the bell-hammer lever. Fig. 5 is a plan view similar to Fig. 1, with the difference that the top plate, covering the mechanism, is cut away, the bell, however, (fully shown in Figs. 2 and 3,) being left out.

The box has three compartments, A B C, which we will call, respectively, the "drop-cover," the "coin-receptacle," and the "electric-battery box."

A is the transparent cover, which may be made of glass, mounted in a metallic fitting, adapting it to be provided with a lug, *a*, by which it is hinged to the top plate, *b*, of the coin-receptacle B. The metallic fitting of the cover A has oppositely to the hinge a cap, *a'*, projecting outside of the glass, to inclose the bulb of an incandescent electric light, and from the said cap project downward one or

more hooks, *a''*, to lock the cover when closed, as will be hereinafter described. The hinged lug *a* is provided with a flange, *a''*, the lower edge of which is flush with the lower surface of the lug, and serves as a stop to lock the casing of the pull when the cover A is thrown open, as will presently appear. The cover A is provided with a slot, *a'*, through its upper surface, through which, in paying a fare, the coin is dropped, and the lower end of the cover has a circular opening, which, when the cover is closed, corresponds and surrounds a similar circular opening, *b'*, of the top plate, *b*.

The compartment C contains one or more electric batteries, *c'*, which by wires are connected to an incandescent in an air-evacuated glass bulb, *c*, which latter is secured to the top plate, *b*, in position to be inclosed between the metallic cap *a'* and the nearest surface of the glass cover A when the latter is closed, as shown in Fig. 2. A little knob, *c''*, fitted to slide through the cover of the battery-box C, is pressed upward by a flat spring, *c'''*, the said knob and spring together acting as a circuit-breaker. The circuit between wires *c''* *c'''* is closed by depressing the knob *c''*, so as to cause the current to pass through the incandescent in the bulb *c*, and thereby throw the electric light upon the coin deposited upon a drop-plate, D, underneath the opening *b'*, so as to enable the conductor, in the absence of daylight, to examine the coin before causing it to fall into the receptacle B.

The drop-plate D is hinged at *d* to the under side of the plate *b*, and has upon its hinged lug a downwardly-projecting toe, *d'*, the acting surface of which is about at a right angle to the surface of the drop-plate, and acts as a stop in contact with the pull-casing E, as will presently appear, to lock the drop-plate in its horizontal position when the cover A is open.

F is the pull sliding in the casing E, and surrounded by a spiral spring, *f*, interposed between the casing and a shoulder upon the pull, as shown in Fig. 2, and normally tending to move the pull inward against a downward projection, *d''*, upon the drop-plate D, and thereby also to normally keep the drop-plate closed, as in Fig. 2.

Upon the outer end of the pull F, which

projects through the end wall of the receptacle B, is secured a knob,  $f'$ , serving as a handle to operate the pull. When the pull is drawn, the drop-plate D falls or swings down around its hinge by its own weight, and the coin or fare deposited upon the drop-plate falls down into and through a spout, G, and thence onto the bottom of the receptacle B. The spout G incloses the drop-plate, and is so constructed, as shown in the drawings, that after the coin has issued from the lower end of the spout it cannot re-enter and be returned to the opening  $b'$ , so that if the fare-box should be turned up side down for the purpose of stealing, it would be impossible to get any coin back again through the spout, and all other access to the opening  $b'$  from the inside of the receptacle is also shut off by the said spout.

The drawing of the pull, and thus the opening of the drop-plate to allow a fare deposited upon it to fall into the receptacle B, is announced by a bell, H, which is sounded by the following device: The bell crank lever or hammer-lever  $g$ , pivoted as usual, has an arm,  $g'$ , pressed up to the butt of the hinge-joint by means of a small spring,  $g^2$ , as seen in Fig. 4. A spring,  $h$ , keeps the hammer  $g^3$  in the normal position, (shown in Fig. 2,) and the pin  $f^2$ , projecting from the under side of the inner end of the pull F, acts on the lever  $g$  in the direction of arrow 4, thus raising the hammer and ringing the bell when the pull is drawn. When the pull is allowed to move inward by the pressure of the spring  $f$ , the pin  $f^2$  acts upon the lever in the opposite direction or that indicated by arrow 5, Fig. 4, thus simply oscillating the hinged part  $g'$  while the pin passes it and not ringing the bell. If a passenger drops a counterfeit or foreign coin through the opening  $a'$ , the conductor can open the cover A, and picking the coin off the plate D, return it to the passenger. In order to enable him to do this the casing E is pivoted by trunnions  $e$  between the top plate,  $b$ , and a bracket,  $e'$ , secured thereto, so that it may be oscillated upon its pivot, a slot,  $e^2$ , through the end wall of the receptacle B, allowing and limiting such movement. The inner end of the casing E of pull F is contiguous to the toe  $d'$ , and its surface is curved to a radius from the center of the pivot  $e$ , and in order that the plate D shall not be prevented from dropping by contact between the said toe  $d'$  and the casing E when the latter is in the position shown in the drawings, the portion of the casing then contiguous to the said toe is cut away at  $i$ , Figs. 3 and 2, to give the said drop-plate and toe room to swing into the position shown in broken lines in Fig. 2; but when the pull and casing are turned in the direction of arrow 3, so that its center-line coincides with the line  $a b$ , the solid or integral inner end surface  $i'$  of the casing E comes in contact with the contiguous surface of the toe  $d'$ , and thus locks the drop-plate D in the position of closing the opening  $b'$ . When in that position, the flange or stop  $a^2$  of the cover-hinge  $a$ , which otherwise rests upon the up-

per surface of the casing E at  $k$ , passes an edge,  $l$ , beyond which the metal of the casing is cut away, thus allowing the said flange to turn down into the said cut-away portion adjoining the said edge (see dotted lines in Fig. 2) to permit the cover to open.

The opening of the cover is done automatically on the oscillation of the pull, as aforesaid, by means of a spiral spring, K, which surrounds its hinge, and is secured with one end to the lug  $a^2$ , and with the other end to the stationary hinge-lug on the top plate,  $b$ , as shown in Fig. 3. Consequently, when the cover is open so as to get access to the coin resting upon the plate D, the flange  $a^2$  upon the hinged lug  $a$  acts as a stop against the edge  $l$  upon the casing E, thus retaining the latter in the said position indicated by the line  $a b$ , so as to keep the drop-plate D tightly closed as long as the cover is open. In the meantime, the drawing of the pull F has no effect whatever, except to ring the bell. The oscillation of the casing E in the line  $a b$  is also made to unlock the hooks  $a^3$  of the cover A, and the return of the pull in its normal position, or in the line  $x x$  of Fig. 1, again locks the hooks  $a^3$  of the cover by the following means: A bar, I, provided with notches  $n$ , has slots  $m$ , by which it is fitted to slide upon pins  $s$ , secured to the top plate,  $b$ . (See Fig. 1.) A lever, L, also pivoted to the top plate,  $b$ , is movably connected at one end to the said slide-bar I, and at the other end to one end of the link M, whose other end is similarly attached to the inner end of the pull-casing E. When the parts are in the position shown in the drawings, the integral edge of the bar I engages the hooks  $a^3$ , as shown in Fig. 2; but when the casing E is oscillated into the line  $a b$  the notches  $n$  of the bar I come opposite to the hooks  $a^3$  at the same time as the flange  $a^2$  of the cover-hinge gets past the edge  $l$  of the pull-casing E, thus unlocking the cover A and allowing the spring K to swing it open.

N (see Fig. 3) is a vertical rod fitted to slide through the top plate,  $b$ , and through a lug or bracket,  $q$ , within the receptacle B, and provided at its upper end with a knob, S, by which it may be depressed. Upon the said rod N is secured a plate, P, which is in contact with the side surface of the inner end of the casing E when in its normal position, thus preventing the oscillation of the pull, and consequently the opening of the cover A. When it is desired, therefore, to open the cover, the knob S must first be depressed until the plate P comes below the casing E, allowing the latter to be swung toward the offset  $p$  in the plate P, which offset may serve as the stop to limit the oscillation of the casing if preferred to having it limited by the end of the slot  $e^2$  in the end wall of the receptacle B, as before stated. The plate P slides upon a guide,  $u$ , in the box, so as to provide against any possible lateral movement, and a spring, Q, is interposed upon the said rod N, between the plate P and the bracket or lug  $q$ , so as to automatically

raise the said stop-plate in the position shown in Fig. 3 when the spring has returned to its normal position.

Should the company desire to prevent the conductor from opening the cover A, all that is necessary is simply to prevent the depression of the rod N by the knob S. For this purpose a button, R, is pivoted to the bracket or lug *q* in such a manner that it can be swung into the position in which it is shown in Fig. 3, underneath the end of the rod N, and left resting with its free end upon a little bearing or projection, *r*, within the box, thus keeping the pull in its central position and completely preventing the opening of the cover, as desired.

Access to the interior of the receptacle B for removing the fares therefrom and for setting the said knob R is obtained through the door of the box, to which the company has the key, and which door may be arranged on the side of the box below the machinery—for instance, as indicated by the lock and key lettered T *t* in Fig. 1.

The invention having thus been described, the following is claimed as new and desired to be secured by Letters Patent:

1. The combination of the drop-cover A, receptacle B, drop-plate D, and the oscillative slide-pull F E, the parts being severally constructed and arranged substantially as described, whereby the oscillation of the said pull from its normal position locks the said drop-plate and unlocks the said cover, and the opening of the said cover in its turn locking the said pull in the deflected position, for the purpose of always keeping the drop D locked when the cover A is open, substantially as specified.

2. The combination of the drop-cover A, receptacle B, drop-plate D, pull F, and pivoted pull-casing E, the said drop-plate being provided with a downward projection, *d*<sup>2</sup>, and lock-toe *d'*, the said pull pressing by the force of a spring, *f*, the said projection *d*<sup>2</sup>, to keep the drop-plate normally closed, the said casing E having a portion cut away at *i*, opposite the said toe *d'*, and having also a solid portion, *k*, cut away, so as to leave an edge at *l*, and the said cover A having at its hinge a lock flange

or stop, *a*<sup>2</sup>, to engage the said edge *l* when open, substantially as and for the purpose set forth.

3. The combination of the drop-cover A, provided with one or more hooks, *a*<sup>3</sup>, projecting downward through the plate *b*, to which the cover is hinged, with the slide-bar I, provided with one or more notches, *n*, corresponding to the said hooks, the pivoted casing E, and means, substantially as described, connecting the said slide-bar I and casing E, for the purpose of unlocking the cover by the oscillation of the said casing in one direction and locking it by oscillation in the opposite direction, substantially as specified.

4. The combination, with the oscillating pull-casing E, and with the drop-cover A, and means for unlocking the cover connected to the casing, of the depressible stop P, normally kept in position for preventing the oscillation of the said casing, substantially as specified.

5. The combination, with the oscillating pull-casing E, and with the drop-cover A, and means for unlocking the cover connected to the casing, of the depressible stop P, normally kept in position for preventing the oscillation of the said casing, and means, as R, for preventing, when desired, the depression of the said stop, and thus also the oscillation of the said casing and opening of the said cover, substantially as specified.

6. The combination of the drop-plate D, having a downward projection, *d*<sup>2</sup>, the pull F, normally pressed against the said projection *d*<sup>2</sup>, and provided with a pin or projection, *f*<sup>2</sup>, the hammer-lever *g*, provided with the hinged part *g'* and spring *g*<sup>2</sup>, the spring *h*, and the bell H, for sounding the said bell whenever a fare is dropped into the receptacle, all substantially as hereinbefore set forth.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of two witnesses, this 23d day of April, 1886.

AARON HERZBERG.  
AUGUST W. ALMQVIST.

Witnesses:

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HELMER WESTEN.