

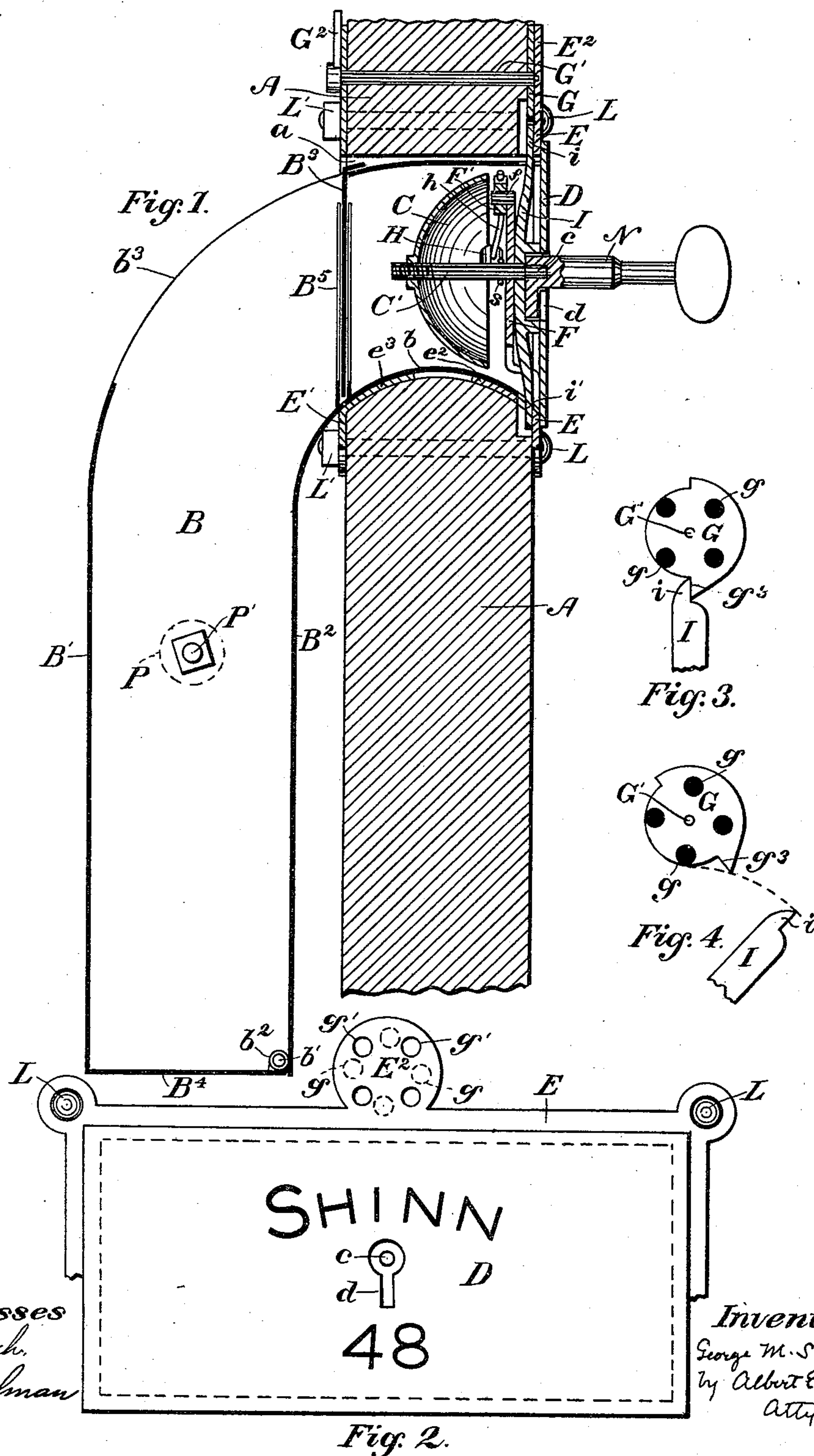
(No Model.)

2 Sheets—Sheet 1.

G. M. SHINN.  
HOUSE DOOR LETTER BOX.

No. 448,086.

Patented Mar. 10, 1891.



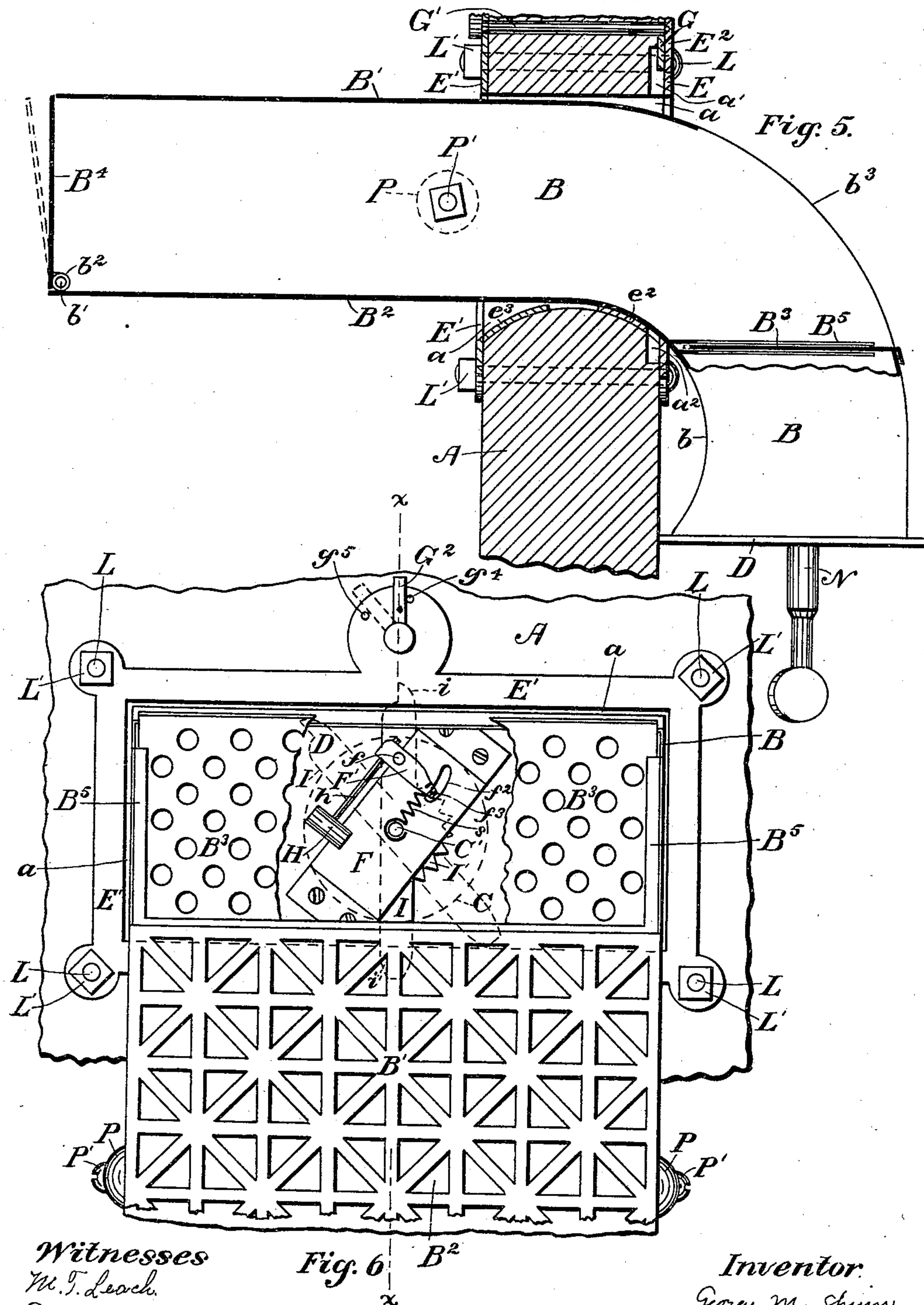
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Witnesses  
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# UNITED STATES PATENT OFFICE.

GEORGE M. SHINN, OF NEWTON, MASSACHUSETTS.

## HOUSE-DOOR LETTER-BOX.

SPECIFICATION forming part of Letters Patent No. 448,086, dated March 10, 1891.

Application filed January 5, 1891. Serial No. 376,773. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE M. SHINN, a citizen of the United States, residing at Newton, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Letter-Boxes, of which the following is a full specification.

My invention consists of an improved letter-box especially adapted for facilitating both the collection and distribution of mail over postal routes in such a manner that a single letter-carrier on each route may readily collect as well as distribute mail-matter. To this end the boxes of my improved construction are applied to doors along the mail routes, all boxes on each route capable of being locked and unlocked on the outside by a single key carried by the mail-carrier. The box is so arranged that when locked it is open on the inside of the door and serves as a receptacle for letters and papers for the mail. The letter-carrier unlocks the box, opens it, removes the contents, which he transfers to a portion of his bag containing matter for mailing, places the letters and papers which are to be delivered to the occupants of the house within the box, and finally closes and locks it, going through the same operations all along his route. The box is, moreover, preferably provided with a bell or gong, which is automatically rung by the operations of locking and unlocking, thus notifying the occupants of the house that the postman is at the door, and serving also as a burglar-alarm in case of any one tampering with the box from the outside. I furthermore preferably provide each box with an indicator visible on the outside thereof for the convenience of the letter-carrier. Whenever any one from the inside places letters or papers in the box for mailing, he so sets by hand this indicator, that it shows on the outside that there is matter for collection in the box. By this means the carrier sees at a glance as he passes along the route whether the boxes are empty or not, thus saving him both time and trouble in unlocking and examining empty boxes on houses where he has no mail for delivery. The indicator is so arranged that the operation of un-

locking the box automatically moves back the indicator into the position for showing an empty box.

Referring to the accompanying drawings, Figure 1 is a sectional view through the box and the portion of the door to which it is applied, the box being in a locked position and the section being taken in the plane of  $x x$ , Fig. 6. Fig. 2 is a view of the front plate and adjacent parts, as seen from the outside of the door. Figs. 3 and 4 show the indicator-plate in its two extreme positions. Fig. 5 is a sectional view of the box shown open in position for access by the postman, and Fig. 6 is a rear view of the box.

A is the material of the door to which the box is applied, being provided with the opening  $a$ , through which the top and front of the letter-box protrudes and in which the box slides or rolls in opening and closing.

B B are the sides, B' the back, and B<sup>2</sup> the front, of the box, the back B' being preferably perforated, as shown in Fig. 6. This box is of peculiar shape, as shown, its top being curved or rounded over practically at right angles with the body of the box, the under surface  $b$  of the curved top forming, preferably, the arc of a circle, which rolls on a suitably-shaped seat at the bottom of the opening which contains it.

At the front and back of the door A are respectively placed the front and rear frame-plates E E', which are bolted or screwed to the material of the door around the opening  $a$ . As herein shown, the plates E E' are held by bolts L, passing through the material of the door and held by nuts L' on the inside. The frame-plates E E' are preferably provided with the inwardly-curved flanges  $e^2 e^3$ , respectively, which correspond to the curve  $b$  on the letter-box, and form a seat over which said letter-box rolls or slides in being opened and closed, as will readily be understood by reference to Figs. 1 and 5.

The body of the mail-box is secured in front to the plate D, which rests against the frame E and closes the opening therein when the box is closed. The top of the body of the box is open at  $b^3$ , and through this opening or mouth the mail-matter is introduced into



and removed from the box, this opening being directly in front when the box is in the open horizontal position shown in Fig. 5.

F is a fastening-plate screwed or otherwise fixed to the back of the front plate D. In this plate is firmly secured the post C', the inner end of which is screw-threaded and supports the bell C, as shown in Fig. 1. The post C' terminates in front in the key-post c, on which the key N turns.

I is the locking-bar, which turns on the key-post c as a pivot, and is operated by the key in the manner presently to be seen. When the box is closed and the locking-bar is in a vertical position the box is locked. In this locked position the top  $i$  of the locking-bar bears against the back of the top portion of the frame E, and the bottom  $i'$  of said bar bears against the back of the bottom portion of said frame E, as in Fig. 1, the material of the door being recessed, as at  $a' a^2$ , in which recesses the top and bottom of the locking-bar are held when the box is locked. The central portion of the locking-bar I is recessed to fit the locking end of the key, and when once the key is inserted therein the bar may be turned with the key. By turning said locking-bar out of engagement with the frame E the box is unlocked, and it may then be rolled out into the horizontal position shown in Fig. 5, using the key as a handle.

P P are two washers, preferably of rubber or some soft material to act as a cushion, held by screws P' on the sides B of the box in such a position as to prevent the box from being rolled out farther than into the substantially horizontal position shown in Fig. 5. When this limit has been reached these cushioning washers or stops rest against the inner frame E'.

The bottom B<sup>4</sup> of the box is preferably hinged in such a manner that it may open, as indicated by the dotted lines in Fig. 5, and spring back into place when pressure is removed. To this end  $b'$  is a rod passing through the entire width of the box, the bottom B<sup>4</sup> being hinged on this rod and held normally in a closed position by means of the spring  $b^2$  embracing said rod. Any desired arrangement of spring-hinge may be employed. The use of this spring-flap at the bottom of the box is to enable the carrier to insert papers and documents of unusual length into the box, said papers simply protruding at the bottom and being held by the pressure of the flap B<sup>4</sup> tending to close itself.

The bell C, attached to its post C', is rung automatically by locking and unlocking the box.

In Fig. 6 I have shown the bell removed so as to clearly show the mechanism that operates it.

H is the hammer of the bell, connected by the rod  $h$  with the vibrator F'. This vibrator is pivoted on a pin  $f$ , fixed in the fastening-

plate F. The free or outer end of this vibrator F' is bent down at  $f^3$  into the slot  $f^2$  in the plate F, in which slot the end of the vibrator moves up and down. I' is the section of a ratchet on the locking-bar I, the teeth of which ratchet engage with the bent-down end  $f^3$  of the vibrator F' as the locking-bar turns.

s is a spring which tends to pull the free end of the vibrator inward, being secured to the post C' and to the vibrator. The construction and arrangement are such that when the locking-bar I is turned by the key—as, for instance, in the process of unlocking the box—the ratchet-teeth I' engaging with the end of the vibrator, together with the spring s, cause the hammer to ring the bell in the manner readily apparent without further description. The bell is thus rung both on locking and unlocking the box, and the inmates of the house are thus notified of the presence of the postman at the box.

The indicator which shows the postman whether or not the box is empty without his opening the same consists, as herein shown, of a plate G, fixed to turn on a spindle G', passing through the material of the door. This plate G rests against a dial portion E<sup>2</sup>, preferably integral with the frame E and projecting upward from the top thereof. This dial portion is provided with one or more openings  $g'$ , while the plate G has corresponding spots  $g$  painted or otherwise fixed on the surface thereof in some conspicuous color or colors, as black or red, and so placed that when the movable plate G is in one of its extreme positions, as in Fig. 3, the spots  $g$  thereon will coincide with the openings  $g'$  in the dial portion E<sup>2</sup> and be visible from the outside. When, however, the movable plate is in the other position, (shown in Fig. 4,) the spots  $g$  are not visible. These spots  $g$  may, if desired, be painted with luminous paint, thus being visible in the dark.

G<sup>2</sup> is a handle fixed to the inner end of the spindle G' on the inside of the door. When this handle is in its uppermost position, (shown by the full lines in Fig. 6,) the movable plate is in the position shown in Fig. 3, with the spots thereon opposite the openings  $g'$ . When the handle G<sup>2</sup> is in the position indicated by the dotted lines in Fig. 6, the movable plate is in the position shown in Fig. 4, with the spots thereon hidden by the dial portion E<sup>2</sup>. (See also Fig. 2.)  $g^4$  and  $g^5$  are stops against which the handle G<sup>2</sup> bears when in its extreme positions.

The movable plate G is provided with a shoulder  $g^3$ , which, when the box is locked and the said plate set in the position indicated in Fig. 3, (so that the spots are visible from the outside,) rests against the top part  $i$  of the locking-bar I, the said movable plate being in the same plane as the locking-bar. When, however, the box is unlocked, the locking-bar in moving pushes against the shoul-



der  $g^3$  and turns the plate G on its axis into the position shown in Fig. 4.

When matter to be mailed is placed in the box from the inside, the person doing so simply turns the handle  $G^2$  into the upward position shown in Fig. 6. This indicates to the postman the fact that there is something in the box. When he unlocks the box to open it, the movable plate is turned back automatically by the operation of unlocking, as just described, into the position which indicates that the box is empty, and the indicator so remains until again set by hand.

The bell and its operating mechanism is normally kept covered by the perforated slide  $B^3$ , which moves in the guides  $B^5$ , and which may, when desired, be removed. This perforated slide when in place serves as a continuation, as it were, of the front  $B^2$  of the body of the box, being especially convenient when the box is in the open horizontal position shown in Fig. 5.

The front plate D is useful, as forming a convenient name-plate on the door and as a place for the street-number.

While I have for convenience described my letter-box as applied to a door, I do not limit myself to this construction, as any wall or support may be used in place of the door. I have herein shown, and preferably employ, a curved seat at the bottom of the opening, through which the box rolls. The seat need not necessarily be curved, however.

The carrier is provided with a key fitting all the boxes on his route. He first inserts the key in each box, turns it, thus unlocking the box, and rolls it down from the vertical to the horizontal position, using the key as a handle. He thus removes the mail left in the box for collection through the mouth  $b^3$ , then in front, and places therein the mail for the inmates of the house, after which he rolls back the box into the vertical position, locks it and removes the key. The locking and unlocking operations ring the bell automatically in the manner already described. The spring-flap  $B^4$ , aside from its use of allowing long articles to be pushed through the bottom and held, is also useful when there is more mail for the house than the box can contain. In this case the postman simply presses the excess of matter through the bottom of the box past the spring-flap, whence it falls to the floor on the inside. The box when in its closed vertical position may, moreover, be easily emptied by simply pressing open the spring-flap, allowing the mail to fall out at the bottom by gravity.

I claim—

1. As a new article of manufacture, a movable letter-box having its top curved over substantially at right angles to the body thereof and provided with a receiving and delivering mouth, substantially as described.

2. The combination, with a door or suit-

able support provided with an opening, of a letter-box having its top curved over substantially at right angles to the body thereof and movable within said opening, substantially as described.

3. A letter-box having its top curved over substantially at right angles to the body thereof and provided with a mail receiving and delivering mouth, in combination with a door or support provided with an opening, and having a seat over which the box is adapted to slide or roll within said opening, substantially as described.

4. A letter-box provided with a receiving and delivering mouth and having its top curved over substantially at right angles to the body thereof, the under surface of the curved top forming practically the arc of a circle, in combination with a door or suitable support provided with an opening through which the box is adapted to roll from a vertical to a horizontal position, and a front plate secured to the body of the box, whereby the opening is closed when the body of the box is vertical, substantially as described.

5. A letter-box having its top curved over substantially at right angles to the body thereof and provided with a receiving and delivering mouth, in combination with a door or suitable support provided with an opening through which the box is adapted to slide or roll and having suitable locking-recesses, and a key-operated locking-bar pivoted within said box and engaging in said recesses, substantially as described.

6. The combination, with a door or suitable support provided with an opening  $a$  and recesses  $a' a^2$ , of a front frame-plate E, a letter-box movable within said opening and frame-plate, a front plate D, secured to said letter-box and adapted to close over said frame-plate, and a key-operated locking-bar pivoted within said letter-box and engaging in said recesses  $a' a^2$ , substantially as and for the purposes described.

7. The combination, with a door or suitable support provided with an opening, of front and rear frame-plates E E', provided with inwardly-curved seat-forming flanges  $e^2 e^3$ , and a letter-box having its top curved over substantially at right angles with the body thereof and movable over said flanges and within said opening, substantially as described.

8. A letter-box having a key-operated locking-bar pivoted therein and provided with ratchet-teeth, a bell-hammer, a vibrator connected with said hammer and operated by said ratchet-teeth, and a bell arranged and operating substantially as described.

9. A movable letter-box provided with a key-operated locking device, in combination with a door or suitable support provided with an opening within which the box slides, and an indicator automatically operated by said

locking device, substantially as and for the purposes described.

10. The combination, with a door or suitable support provided with an opening, of a  
5 letter-box movable within said opening and having stops on the sides thereof, whereby the box is prevented from being removed from the opening, substantially as described.

In witness whereof I have hereunto set my hand.

GEO. M. SHINN.

Witnesses.

E. H. GILMAN,  
ALBERT E. LEACH.