No. 861,290. PATENTED JULY 30, 1907.

V. C. KOONS.

HOUSE LETTER BOX.

APPLICATION FILED JUNE 22, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

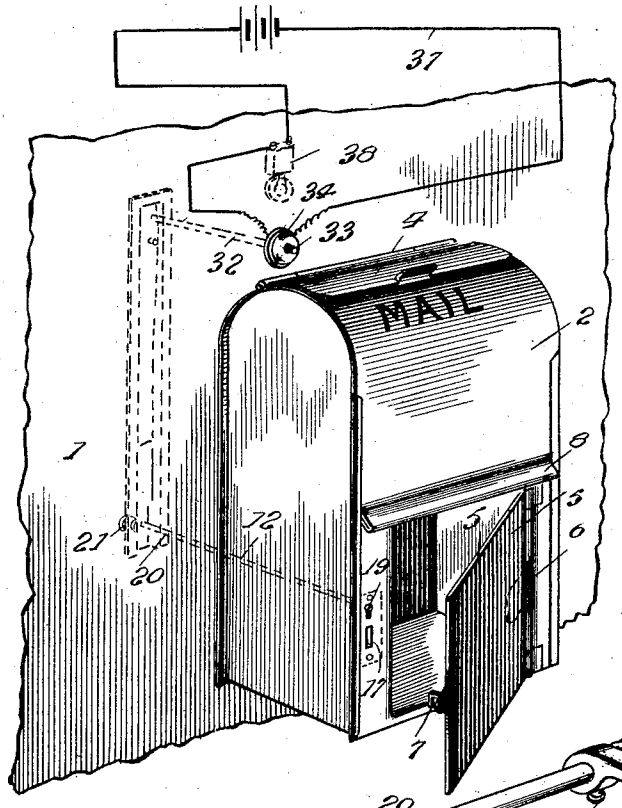


Fig. 2.

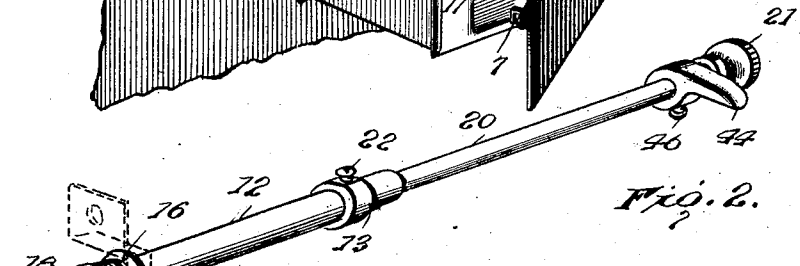


Fig. 3.

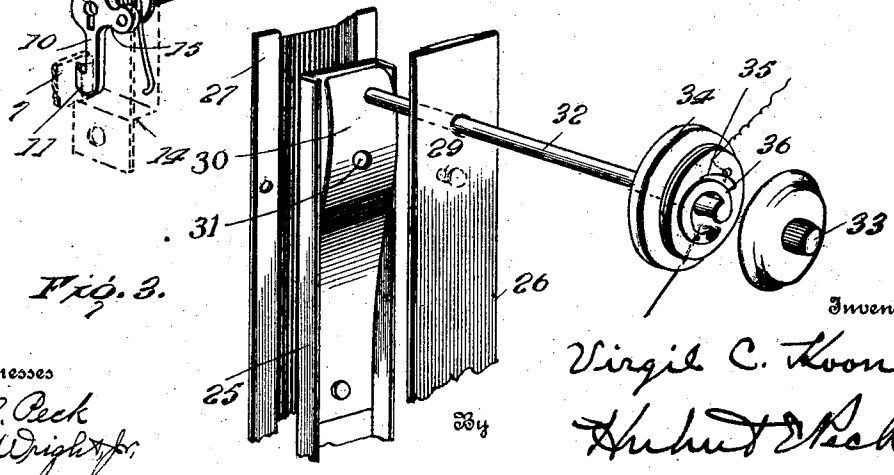
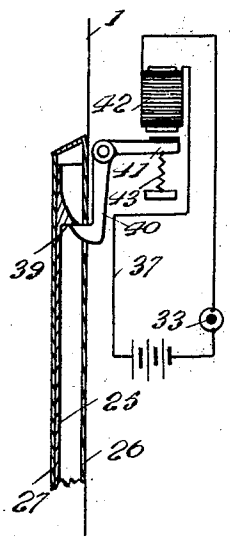


Fig. 8.



Witnesses

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No. 861,290. PATENTED JULY 30, 1907.

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HOUSE LETTER BOX.

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2 SHEETS—SHEET 2.

Fig. 4.

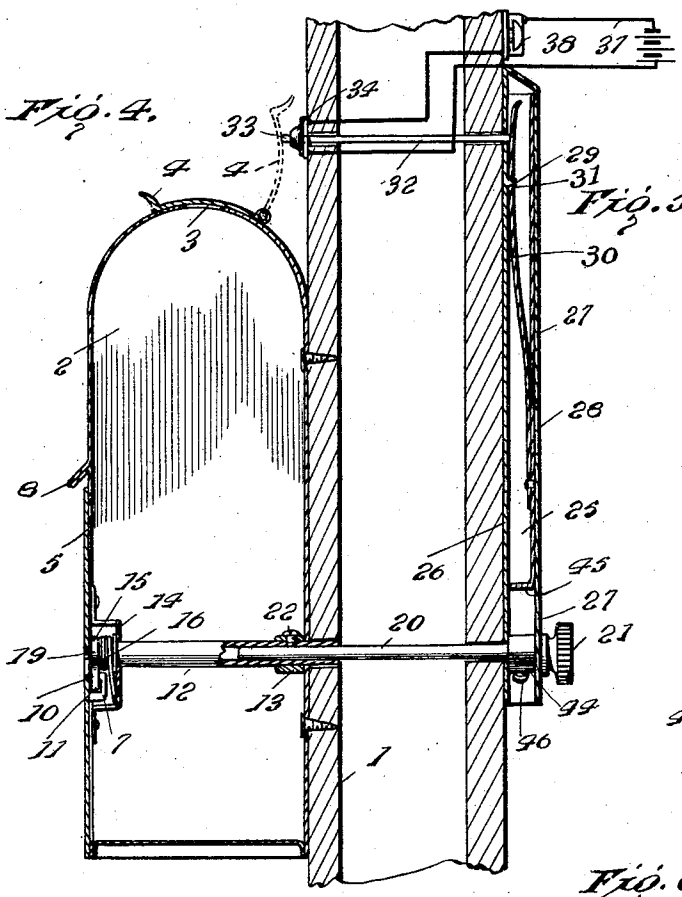


Fig. 5.

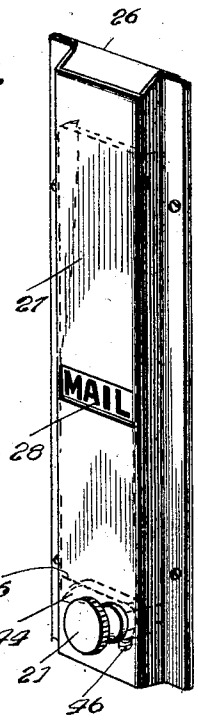
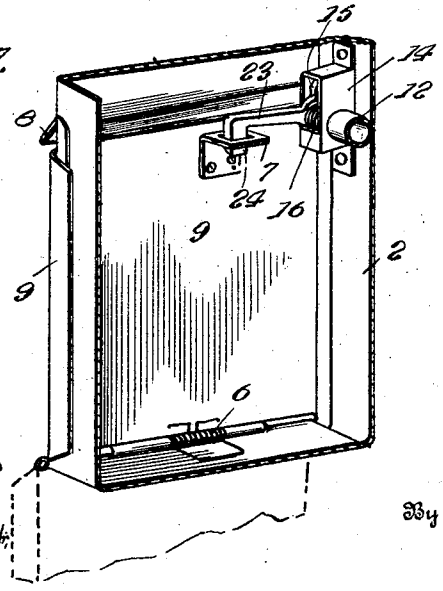
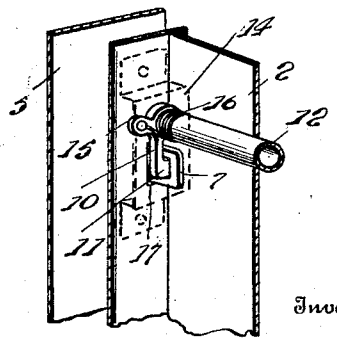


Fig. 6.

Fig. 7.





Witnesses

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UNITED STATES PATENT OFFICE.

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HOUSE LETTER-BOX.

No. 861,290. Specification of Letters Patent. Patented July 30, 1907.

Application filed June 22, 1906. Serial No. 322,920.

To all whom it may concern:

Be it known that I, VIRGIL C. KOONS, a citizen of the United States, residing at Colorado Springs, county of El Paso, State of Colorado, have invented certain new and useful Improvements in House Letter-Boxes; 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 to certain improvements in mail boxes, and more particularly relates to improvements in house letter boxes; and the objects and nature of my invention will be readily understood by those skilled in the art in the light of the following explanation of the constructions shown in the accompanying drawings as examples from among other arrangements within the spirit and scope of my invention.

An object of my invention is the production of a simple and yet exceedingly efficient house letter box provided with improved means, whereby the box can be opened from within the house to the exterior of which the box is attached.

A further object of the invention is to provide a house letter box with simple, efficient and improved means operative from the interior of the house for opening the box at the exterior of the house, for removal of mail, and also whereby said means can be operated to open the box, by a key or the like inserted and operative at the exterior of the box and house.

A further object of the invention is to provide a house letter box adapted for location at the exterior of a house and having means operative from within the house for opening the box, with improved indicating mechanism within the house and adapted to be operated by the act of opening the box for the insertion of mail, and to be restored to normal position by the means for unlocking the box for removal of mail.

A further object of the invention is to provide certain improvements in arrangements of parts, details and combinations of elements, whereby a highly efficient and advantageous house letter box will be produced, which will be comparatively simple and durable in construction and capable of economical manufacture.

The invention consists in certain novel features in construction, or in combinations and arrangements of parts and elements as more fully and particularly set forth hereinafter.

Referring to the accompanying drawings:—Figure 1, is a perspective view of a letter box, in accordance with my invention, attached to the exterior of a house, dotted lines indicating certain parts within the house and box. Fig. 2, is a detail perspective view of the latch or lock and its operating device. Fig. 3, is a detail perspective showing separated parts of the indicator and of the push device for tripping or releasing the indicator drop or slide. Fig. 4, is a vertical sectional view of the letter box and indicator, applied to the wall of a house. Fig. 5, is a detail perspective of the indicator. Fig. 6, is a detail perspective of the front inner corner of the mail box, showing the free edge portion of the front door and the locking mechanism. Fig. 7, is a detail perspective of a portion of the inside front of a box, showing a modification. Fig. 8, is a detail sectional view of a portion of the indicator, showing a modification.

The letter box of my invention is adapted to be fixedly secured, in any suitable manner to the exterior of a wall or door of a house or other building so that the letter carrier can deposit the mail therein through any suitable slot or ingress opening. The box has an opening at any suitable point, through which the mail can be removed at the exterior of the house. This opening is provided with a suitable closure, such as a door, and any suitable lock mechanism is provided for securely locking said door in closed position. Lock operating means are provided, whereby said lock can be actuated from the interior of the house, to release the door and permit opening thereof, so that an authorized person within the house can open the letter box, and can then proceed to the exterior of the house and remove the mail from the box and close the door which will be thereby automatically locked. If so desired, indicating means can be employed, arranged within the house, operated by the act of raising the flap or lid to permit insertion of mail into the box, or by other means to indicate within the house when mail has been deposited in the box. This indicator can be restored to its normal position by the action of the lock releasing means when unlocking the letter box door.

In the drawings, 1, indicates the portion of a house wall shown, or a door to the exterior of which the letter box is firmly and rigidly secured. The letter box 2, can be of any suitable and approved or desirable shape or type and composed of any suitable material or materials. As at present advised by experience, I prefer to employ a box constructed of sheet steel or other suitable metal, approximately oblong in shape, with a top letter ingress opening or slot 3, normally closed by an exterior upwardly and rearwardly swinging lid or flap 4. The flat closed rear wall of the box fits the outer surface of the door or wall 1, and is firmly and rigidly secured thereto by any desirable means or in any suitable manner. In the specific example illustrated, I show the opening for removal of mail, formed in the lower portion of the front wall of the box, although I do not wish to so limit my invention. In the construction of Fig. 1, I show the exterior outwardly opening door 5, for closing said opening. This door closes against the outer face of said box front wall around the opening and is hinged at one vertical edge to the box wall at one vertical edge of the opening so that

the door swings on a vertical axis, and a suitable spring 6, or other suitable device is preferably employed to constantly tend to open the door. In other words, I preferably employ a door, whatever its construction or location relative to the box, which constantly tends to assume its opened position, so that when released from its lock, the door will automatically open. The door is shown provided at its free end or edge with a strong keeper or staple 7, projecting inwardly. 8 is a horizontally arranged metal flange or lip projecting from the face of the box front wall above the door to protect the same and serve as a guard to prevent moisture running down onto the door or between the same and the box front.

In Fig. 7, I show a box provided with a front opening, closed by a drop door 9, hinged along its lower horizontal edge to swing outwardly and down in opening by gravity or by spring pressure. In the specific example illustrated, the locking mechanism comprises a swinging radial arm or latch 10 at its free end having a locking or latch projection or lug 11, adapted to extend into the keeper 7, to lock the door in closed position. This radial arm 10, is rigid with the front end of a shaft, sleeve or barrel 12, and projects laterally therefrom. The shaft 12 extends horizontally through the letter box from rear to front, and adjacent a side wall thereof. The rear end of said shaft preferably projects into a hole or perforation in the rear wall of the box, forming a bearing for the rear end of the shaft, which usually projects rearwardly therefrom and into a hole or perforation in the wall 1. The shaft is preferably formed with a rigid collar or annular shoulder 13, within the box and at the front face of the rear wall thereof, to limit rearward longitudinal movement of said shaft. At its front, said shaft is journaled in and passes through a perforation in the lock casing or box 14, secured to the rear face of the portion of the front wall of the box over which the free end of the door overlaps when closed. The box or casing 14 is usually secured against the front wall and in the angle between the front and adjacent side wall. The locking or latch arm 10, is arranged at the rear face of the front wall and within said casing, depending from the shaft end. Within said casing, the shaft is preferably also provided with a lateral arm 15, through the medium of which a spring acts on the shaft to yieldingly hold the shaft and its locking arm in normal locking position. For instance, I show spring 16, coiled on the portion of shaft within the casing and having one end attached to arm 15, and the other end bearing against the wall of the casing so that the spring is maintained under tension and exerting its tension on the shaft, preferably yieldingly holding the same with the depending latch arm 10, swung toward the box side wall with the locking projection or lug 11 held against the inner face of the side wall (which forms a stop, or any other suitable stop can be provided) and projecting across a slot 17, in the box front. The keeper 7, of the door can project inwardly beyond the free vertical edge of the door which closes against the outer face of the box front wall, and when the door is closed the keeper 7, projects inwardly through slot 17, and into the casing. The door is locked by the bolt or latch 11, projecting through the keeper. The front face of bolt 11, is beveled toward the free edge thereof, so that said beveled face is behind slot 17, hence when the door is pressed or forced to closed position, the end edge of the keeper engaging said beveled surface, will force the bolt to one side, rocking the shaft against the spring tension, and permitting the keeper to pass through the slot and into the casing, whereupon the bolt will slip through the keeper and lock the door, as the spring returns the shaft to normal position. The front end of the shaft 12, is usually arranged close to the rear face of the front wall of the letter box, and if so desired, I can form a slot, recess or key receiving seat 18, in said front end, immediately in rear of and in line with a key hole 19, through the front wall of the letter box. The letter box door can hence be released or unlocked by rocking or turning the shaft 12, in the proper direction to withdraw the bolt, by a suitable or special separate key inserted from the front of the box through said key hole and into the shaft end. I do not however, wish to limit all features of my invention, to means whereby the door can be unlocked from the front or exterior of the house by a separate or special key.

I provide means for operating the lock to withdraw the bolt and release the door, manually operative from a convenient or accessible point within the house or at the inner face of the door or wall. For this purpose, I usually employ a longitudinally adjustable or extensible shaft comprising the barrel or shaft 12, hereinbefore described and mounted in and extending through the box and formed hollow with a rear open end, and the shaft section 20, passing loosely and horizontally through a hole formed transversely through the wall or door 1. At its inner end within the house, this shaft section 20 is provided with a handle such as a head or button 21, whereby the shaft can be easily turned. The section 20 slides longitudinally into the hollow shaft or barrel 12, and is coupled or locked to turn therewith, by any suitable means such as set screw 22, accessible within the letter box. The two shaft sections 12, 20, in effect form a longitudinally extensible shaft which can be increased or decreased in length to suit conditions or according to the thickness of each particular wall or door where the boxes are being installed.

The door can be released, by a slight turn of the knob or handle 21, within the house, thereby rocking the shaft to throw the arm 10 toward the door and away from the box side wall hence withdrawing bolt or latch 11 from the keeper, whereupon the door is swung open by its spring 6. When the handle 21 is released, the shaft and locking device are immediately returned to their normal positions by spring 16.

In the drop door arrangement of Fig. 7, the door 9, is provided with a keeper 7 and the same shaft arrangement hereinbefore described, can be employed for operating the lock to release the door. The latch or bolt, consists of a radial arm 23 rigid with shaft 12, and extending horizontally therefrom behind the box front with the depending beveled bolt end 24, to coöperate with the keeper in locking the door. The lock construction, otherwise, is approximately the same as hereinbefore described.

An indicator is preferably provided within the house to operate in conjunction or combination with the letter box at the exterior of the house, for the purpose of

indicating within the house whenever the letter box is operated for the insertion of mail. As an example of means which can be provided for this purpose, I show an indicating device arranged at the inner face of the wall or door to the exterior of which the letter box is secured; the indicator being arranged behind the box, the door or wall intervening. In the specific example shown, the indicator comprises a vertically disposed elongated gravity slide or drop 25, inclosed and slidable vertically within a suitably secured casing consisting of wall plate 26, and box 27. The casing is usually formed at its outer face with a narrow aperture or peep opening 28, exposing a portion of the indicator drop. The indicator drop is provided with a suitable visual signal, such as suitable letters, for instance, the word "Mail". When the drop is in its normal elevated position, the word "Mail" is elevated above the opening 28, and is concealed behind the casing wall, and hence the drop is then in non-indicating position. When released, the drop falls to its lower and indicating position with the word "Mail" displayed and exposed at said opening. The drop is usually released to fall to indicating position, by means actuated by a movable part of the letter box moved by the entrance of mail into the box, or moved to permit the entrance of mail into the box. The drop is preferably restored to its elevated non-indicating position by the lock releasing device when operated to unlock the letter box door.

Suitable means can be provided to detachably hold the drop in elevated position. For instance, I show a stud or short pin 29 rigid with the wall plate and projecting outwardly into the upper portion of the casing. The drop is provided with a plate spring member 30 arranged longitudinally thereof and between the same and the wall plate and at its lower end secured to the drop with its upper curved free end portion pressing against the wall plate and formed with a perforation 31, to receive stud 29. When the drop is forced up to non-indicating position, the spring 30 rides on the stud until the stud enters perforation 31. The stud then holds the drop in elevated position.

Suitable means are provided to press the spring from the stud, and thereby permit the drop to fall by gravity (or otherwise) to indicating position. For instance, I show a push rod 32, extending loosely through the wall or door 1, and through the indicator face plate with its inner end in the upper part of the indicator casing and behind said spring therein. The outer end of the push rod is arranged above the letter box and so that when lid 4, thereof is swung up and back to permit entrance of letters into the box, the push rod will be forced longitudinally by said lid, and against said spring 30, forcing the spring from the stud, whereupon the drop falls to indicating position, showing to those within the house that the box should contain mail matter. The spring 30 serves to force the push rod outwardly to normal position, as the drop is lifted to its normal position.

If so desired, the outer end of push rod 32, instead of terminating in the path of lid 4, to be directly engaged by said lid, can project into an ordinary electric push button or other electric circuit closer, having its push button 33, arranged to be engaged by the lid 4. The outer end of push rod 32 passes loosely through the base 34, of the push button, and the extremity of said rod abuts against the inner end of the push button, whereby when the push button is depressed by lid 4, or by the finger, the push rod will also be forced in to release the drop. The push button operates any suitable electric contacts 35, 36, which are normally held separated, to close an electric circuit 37, including a suitable source of electrical energy and an audible signal 38, arranged at a suitable location within the house. Where this push button arrangement is employed, a signal will be sounded within the house and the indicator will be actuated to indicating position, whenever the lid 4, is opened to permit entrance of mail to the box. The indicator operating device can be employed, however, with the push button and electric circuit.

If so preferred, the electrical energy can be utilized to release the drop and permit the same to fall to indicating position. For instance, in Fig. 8, I show the upper end of the indicator drop 25, provided at its upper end with a shoulder 39, adapted to be engaged by swinging catch or elbow lever 40, to hold the drop in elevated non-indicating position. One arm of the catch 40, forms the armature 41, of magnet 42 included in the normally open circuit 37 in which the push button 33, is also included. The catch 40 is normally held in locking position with respect to the drop 25, by spring 43. When the lid 4 is opened, the push button 33, closes the circuit 37, and thereby energizes the magnet 42, swinging catch 40, to release the indicator drop.

Suitable means are provided to restore the indicator drop to normal non-indicating position. For instance, I show the actuating shaft 20, for releasing the letter box door lock, passing through the lower end portion of the indicator casing with the knob or handle 21, in rear of said casing. Within the casing, shaft 20, is provided with a radial or lateral lift arm or toe 44, normally arranged about horizontally beneath the lower end or shoulder 45, of the drop 25. The arm 44 can be rigid with a sleeve on the shaft 20, adjustably clamped thereon by set screw 46. When released, the drop 25, falls to indicating position and rests on the arm 44, or closely adjacent thereto. When the handle 21, is turned to withdraw the latch or bolt and release the mail box door, the shaft 20, is rocked and the arm 44, is swung upwardly thereby forcing the drop upwardly, by engagement with end or shoulder 45, until the stud 29 enters perforation 31, and locks the drop in elevated position. The shaft 20, and arm 44 are thereupon returned to normal positions by the lock spring. I preferably removably attach the lift arm 44, to the shaft 20, so that said arm can be applied to or removed from the shaft, as desired, in view of the fact that the letter box can be set up and used with or without the indicator.

The box and indicator can be used in combination and so placed on the market, but the box can be located and used without the indicator as there are no direct connections between the two, and the indicator can afterwards be placed in proper position to act in combination with the box, or where both have been set up, the indicator can at anytime be removed.

The box is produced with the rearwardly extending shaft section having the handle, but as said section is removable and the hollow section is independently mounted within the box; said box can be applied to the house without the rearwardly extending section and the special key can alone be used to operate the

hollow shaft section to release the door, as hereinbefore set forth. The construction of box is adapted to suit various conditions and requirements in the line of house letter boxes.

The employment of such letter boxes, as herein set forth, is very advantageous both to the householder and the postal service in the matter of preservation of mail matter from damage and loss. It is also evident that various changes, modifications, omission of elements and addition of features, might be resorted to within the scope of the claims without departing from the spirit and scope of my invention, hence I do not wish to limit all features of my invention to the exact constructions illustrated.

What I claim is:—

1. In combination, in a house letter box having a mail egress opening, a door to close said opening, and a lock mechanism for said door comprising a longitudinally adjustable operating shaft provided with the door locking bolt and adapted to extend from a point within the box to a point accessible within a house at the exterior of which the box is arranged.

2. A house letter box having a mail egress opening, a door for closing said opening, a lock for said door and arranged within the box, actuating mechanism for operating said lock to release said door, said mechanism adapted to extend rearwardly from a point within the box to a point accessible within the house to which said box is secured, said mechanism formed to receive and be operated by a key, said box formed with a key hole to said mechanism.

3. A house letter box having an opening and a door to close the same, a rock shaft arranged within the box and having a lateral arm forming a lock bolt for said door, a spring yieldingly holding the shaft and arm in normal locking position, and means whereby the shaft can be rocked from the exterior of the box to swing the arm to release the door.

4. A house letter box having a mail egress opening, and a door to close the same, a lock within said box for said door, and lock releasing means comprising a rock shaft arranged within the box and extending rearwardly from the box and adapted to extend to an accessible point within the house, said shaft comprising a sleeve or hollow shaft section mounted within the box and a rear extension shaft section fitted and longitudinally adjustable within said hollow section and at its rear end provided with a handle.

5. A house letter box having a letter egress opening and a door to close the same, said door tending to assume open position, a spring actuated bolt to lock said door in closed position, a bolt-with-drawing rock shaft mounted within the box and having a longitudinally adjustable rearward extension from the box and adapted to extend to an accessible point within a house.

6. A house letter box having a door at the front thereof, a spring actuated bolt for locking said door arranged behind the front wall of the box, a bolt-with-drawing rock shaft within the box and extending forwardly along a side wall thereof and at its front end carrying said bolt, said shaft adapted to extend rearwardly to an accessible point within a house.

7. A house letter box having a front door, a lock casing secured within the box, a spring actuated rock shaft extending through the box and at its front end mounted in said casing and within the same provided with and carrying a locking bolt for said door.

8. A house letter box having a door, a bolt for locking said door, a spring pressed bolt actuating rock shaft comprising a hollow section within the box and at its inner end carrying said bolt, a rearward extension fitting and longitudinally adjustable with the hollow section and extending rearwardly through and beyond the rear wall of the box and at its rear end provided with a handle, and means for adjustably locking said sections together.

9. A house letter box, having a door, a bolt for locking said door, a sectional bolt actuating rock shaft mounted within the box and having a rearward extension beyond the box with an actuating handle, the inner end of said shaft formed to receive a key to rock the shaft, said box having a key hole opening to the exterior thereof and opposite said shaft end.

10. A letter box having an opening through an outer wall thereof and a slot in said wall adjacent to said opening, a door to close said opening and having a keeper adapted to project into the box through said slot, a locking bolt for said door arranged within the box and behind said wall and adjacent to said slot to project across the slot into locking engagement with said keeper, and bolt actuating connections within the box and projecting therefrom to the exterior thereof and adapted to extend to a point within a house at the exterior of which the box is arranged.

11. A house letter box having lock operating means, in combination with an indicator having operating means actuated by a part of said box, and means actuated by said lock operating means for setting said indicator.

12. A house letter box having a letter ingress opening, and a letter egress opening, and provided with a movable part, a door to close the egress opening, a lock for said door, lock-operating means adapted to extend to an accessible point within a house and there provided with a handle, in combination with an indicator adapted to be located within a house, and provided with operating means adapted to extend into operative relation to said movable part and to be actuated thereby to operate the indicator to indicate the presence of mail within the box, and means operated by said lock operating mechanism to set or restore the indicator when said mechanism is operated to open said door.

13. An indicator comprising a slide or drop, a catch to normally hold the same in non-indicating position, in combination with a house letter box having a movable part arranged to operate said catch to release said slide, a door for said box, a lock for said door, and lock-releasing or operating mechanism having means to raise or set said slide when said mechanism is operated to unlock said door.

14. A house letter box having an exterior movable lid for the letter ingress opening, and a door for the letter egress opening, a lock for said door, lock-operating means comprising a rock shaft having a lateral lift arm at the exterior of the box, in combination with an indicator comprising an indicating drop slide, a catch to normally hold said slide elevated, catch releasing means in the path of opening movement of said lid, whereby the engagement of the lid therewith will release the catch from the slide, said arm adapted to lift the slide into holding engagement with the catch when said shaft is rocked to release said door.

15. A house mail box indicator comprising a vertical casing, a vertically movable indicator slide having a shoulder whereby the slide can be held in non-indicating position and a shoulder whereby the slide can be restored to set or non-indicating position, a spring catch to hold said slide in set position, and a catch releasing push rod adapted to be extended into the path of a movable part of a house letter box.

16. In combination, a mail box having an opening, a movable door to close said opening, and a door locking mechanism within the box comprising a spring held bolt and an operating connection for actuating said bolt to release the door, said connection extending from a point within the box to a point exterior of the box and adapted to extend into a house at the exterior of which the box is arranged, said connection comprising sections normally held to operate together and adjustable longitudinally of each other, whereby said operating connection is capable of longitudinal contraction or extension.

17. In combination, a house mail box having an opening, a movable door to close said opening, door locking mechanism comprising a movable bolt within the box, a bolt withdrawing connection comprising an inner section arranged and held within the box and extending through a wall thereof, an outer section adapted to extend from a point within the house at the exterior of which said box is arranged, into operative and longitudinally adjustable engagement with said inner section, and means whereby said sections operate together in withdrawing said bolt from the door.

18. In combination, a house mail box having an opening,

a door to close said opening, and means for locking said door in closed position comprising a spring pressed sleeve arranged within the box and at its inner end provided with a door locking bolt, the outer end of the sleeve projecting through and mounted in a rear wall of the box and adapted to receive means for oscillating the same to release the door.

19. In combination, a house mail box having an opening, a door to close said opening, a plate adjacent said opening, a shaft at its inner end mounted in said plate and at its outer end projecting through and mounted in a wall of the box, said shaft at its inner end provided with a bolt to lock said door, and a spring yieldingly holding said bolt in locking position, the outer end of said shaft adapted to receive means for oscillating the shaft to release the bolt from the door.

20. In combination, a letter box having an opening and a door to close the same, a bolt arranged within the box adjacent to said opening to lock the door, a spring pressed shaft connected to withdraw said bolt to release the door, said shaft arranged within the box and at its outer end projecting through and journaled in a wall of the box, a plate secured in the box adjacent to said opening, the inner end of said shaft journaled in said plate, and shaft operating means at the exterior of the box and adapted to operatively engage the outer end of said shaft.

21. In combination, a house letter box having an opening and a door to close the same, a spring pressed bolt within the box to lock said door closed, a bolt withdrawing hollow shaft arranged within the box and at its inner end mounted therein and at its outer open end passing through and journaled in the rear wall of the box, shaft operating means at the exterior of the box and longitudinally entering the outer open end of the shaft, and a set screw carried by the shaft for locking said means thereto.

22. In combination, a letter box having an opening in the front wall thereof and a slot in said wall adjacent to said opening, a swinging door to close said opening and provided with a keeper to project into the box through said slot, a spring pressed beveled bolt within the box and behind said front wall and normally projected across said slot to enter said keeper and lock said door, and a bolt withdrawing connection within said box and projected rearwardly through the rear wall thereof.

23. In combination, a letter box having an opening and a door to close the same, a spring pressed rock shaft within said box having a lateral locking bolt projecting therefrom to lock the door closed, said shaft having means at the exterior of the box for rocking the shaft to withdraw the bolt from locking position, said means adapted to extend to a point within a house at the exterior of which the box is arranged.

24. In combination, a letter box having an opening and a door to close the same, a casing secured within the box adjacent to the opening, a rock shaft arranged within the box and at its inner end mounted in said casing and at its outer end mounted in and extending through the rear wall of the box and having exterior operating means, a locking bolt secured to and projecting laterally from the inner end of the shaft, and a spring acting on the bolt and shaft.

25. In combination, a letter box having an opening, a door to close the opening and provided with an inwardly projecting keeper, a rock shaft within and extending across the box and having an exterior operating handle and provided with a laterally projecting bolt to engage said keeper and lock said door, and a spring acting on the shaft and bolt to yieldingly hold the same in locking position.

26. In combination, a letter box having an opening, a door to close the same provided with an inwardly projecting keeper, a rock shaft arranged within and extending across the box and provided with an exterior operating handle, a locking bolt projecting laterally from said shaft and having a beveled portion to engage said keeper, and a spring coiled on said shaft to yieldingly hold said bolt across the path traversed by said keeper.

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

VIRGIL C. KOONS.

Witnesses:
JOHN MOFFATT,
J. C. SPICER.