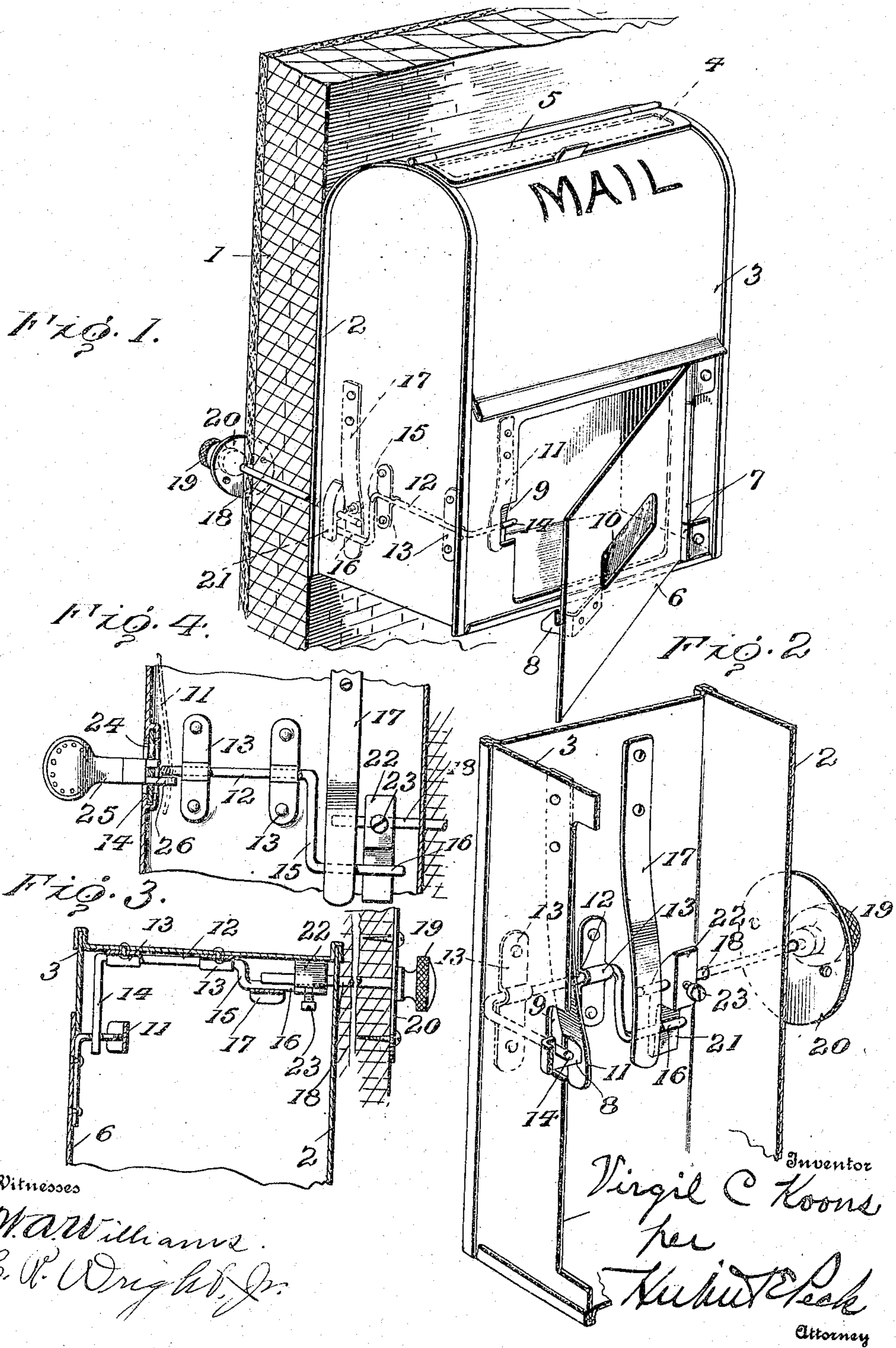


980,484.

V. C. KOONS.
HOUSE LETTER BOX.
APPLICATION FILED NOV. 30, 1908.

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UNITED STATES PATENT OFFICE.

VIRGIL C. KOONS, OF COLORADO SPRINGS, COLORADO.

HOUSE LETTER-BOX.

No. 930,484.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, VIRGIL C. KOONS, a citizen of the United States, residing at Colorado Springs, El Paso county, 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 deposit and collection receptacles, and more particularly relates to what are commonly known as 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 accompanying drawings illustrating what I now consider my preferred embodiment from among other structures within the spirit and scope of my invention.

An object of the invention is to provide a house letter box of the type adapted for location on a house or other building, with certain improvements whereby an exceedingly durable, efficient and simple device will be produced for locking and releasing the movable closure for the mail egress opening of the box.

A further object of the invention is to provide certain improvements in arrangements, constructions and combinations of parts, whereby an efficient and comparatively low-priced letter box will be produced wherein the letter box door is adapted to be opened and locked by fastening or lock mechanism operative from within the building to the exterior of which the letter box is secured.

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

Referring to the accompanying drawings:—Figure 1, shows the wall of a building partially broken away and in perspective a letter box of my invention applied thereto, the door being open, certain portions of the lock mechanism being shown in dotted lines. Fig. 2, is a detail perspective view of a portion of the interior of the box, the remaining portions of the box walls being broken away.

Fig. 3, is a horizontal section through the box showing the lock mechanism and the

operating means therefor, portions of the box being broken away. Fig. 4, is a vertical sectional view through the front wall of the box showing means whereby a key, illustrated in said view, can be utilized for releasing the box door.

In the drawings, I show an approximately rectangular letter box or like receptacle rigidly secured to and at the exterior surface of a wall or exterior door, 1, of a building, such for instance, as a house or dwelling so that the letter carrier can deposit in the box his delivery for the house without disturbing the occupants or awaiting the personal appearance of an occupant to receive the mail.

The letter box can be of any suitable or desirable construction, although I at present prefer to employ a box having a flat strong rear wall 2, by which the box can be secured to the building, a fixed vertical front wall 3, rigid bottom and edge walls, and a tapered or dome-like fixed top having letter ingress opening 4, normally closed by a vertically swinging drop or lid 5.

I show the rigid or fixed front wall of the box formed with a letter egress opening usually into the lower portion of the box and preferably less in width than the width of said front wall so as to leave portions of the front wall between the opening and the vertical edge walls of the box, although I do not wish to so limit my invention. This opening is normally closed by a suitable movable closure, such as swinging door 6, arranged at the exterior of the front wall and adapted to overlap the same around the opening when closing the same. I show the door united to the front wall of the box by vertical hinge 7, between one vertical edge of the door and the box wall, while the free end of the door is provided with a rigid inwardly projecting notched and beveled keeper 8, adapted, when the door is closed, to project into the interior of the box through opening or notch 9, in the front wall thereof. The door can also be provided with peep opening 10, if so desired covered by a glass plate or other suitable transparent material, so that a person in front of the box can see whether there is mail matter in the box. The box can also be provided with the common spring clips or other means to hold newspapers or packages at the exterior of the box.

Suitable means should preferably be provided for normally tending to maintain the

door in opened position so that when released from the locking mechanism the door will at once swing open or partially open. To this end, I secure a plate spring 11, within the box and at the inner surface of the front wall of the box so that the lower free end of said spring extends downwardly across the opening 9 and constantly tends to spring forward against the inner surface of said wall. The arrangement is such that as the door is closed, the inner end of its keeper 8, will project through opening 9, and engage the free end of the spring so that the door must be forced to completely closed position against the tension of said spring, thereby forcing or pressing the free end of the spring inwardly. The spring is thus held under tension while the door is in locked or closed position, hence, the instant the door is released from its locking mechanism, the spring will assume its normal position and in doing so will, through the medium of the keeper, swing the door open.

The mechanism for locking the door comprises a rock or crank shaft 12, arranged transversely of and within the box between the front and rear walls thereof and arranged horizontally along the inner face of one of the box edge walls. Any suitable boxes or other bearing or journal supports can be provided for securing said shaft within the box, although in the specific example illustrated I show the shaft supported by and confined to turn in straps or brackets 13, secured to the said edge wall of the box and arranged between the two end cranks or lateral arms of said shaft. The front end of said shaft is bent at right angles or otherwise formed with a crank or lateral arm 14 forming the latch or bolt extending horizontally between the front box wall toward the mail egress opening and transversely across the opening 9, and across the front or outer face of the door-opening spring 11. This latch or bolt arm is so arranged with respect to the keeper 8, that as the door is forced to closed position, the beveled end of the keeper will engage the latch and move the same upwardly, and thereby swing the rock shaft until the door is in completely closed position whereupon the latch will drop into the notch of the keeper and hold the door locked.

I provide spring means to yieldingly hold the rock shaft and consequently the latch in locking position. For instance, I show the inner portion of the rock shaft formed or provided with a downward deflection, offset or crank 15, terminating in a rearwardly extending horizontal straight free end 16, usually terminating a short distance from the inner face of the rear wall of the letter box. The rock shaft and its latch are yieldingly held in locking position by a straight or plate spring 17, at its lower inwardly springing free end overlapping and bearing inwardly on

said free end 16 of the crank shaft and constantly tending to press the same to the inner surface of the edge wall of the box. The spring 17 can be secured at its upper end to said edge wall of the box, although I do not wish to limit my invention to this particular spring device for yieldingly holding the latch in locking position. However, where the spring 17, is employed it is obvious that upward swing of the latch will rock the crank shaft to swing its end 16 in a direction away from the inner face of the edge wall and consequently against the tension of said spring.

From the foregoing description, it is obvious that to release the door from its locking mechanism, it is necessary to oscillate or turn the rock shaft in a direction to lift the latch against the tension of spring 17, and that various means can be employed for this purpose. To this end, I can provide means for operating the lock to release the door, from within the house to the exterior of which the box is secured with the end in view of preventing opening of the box by any unauthorized person at the exterior of the house. Hence, in the specific example illustrated, I show a rock or opening shaft or rod 18, passed loosely through and mounted to turn in an opening therefor in the rear wall of the letter box and in the wall or door of the house with a turn button or finger piece 19, on its inner end and exposed at some accessible point within the house. If so desired the inner end of said opening shaft can pass through and turn in escutcheon 20.

At its inner end within the letter box, I show the opening shaft provided with a cross head with its lower arm or toe 21, resting against the inner face of the edge wall of the box and interposed between the same and the end 16, of the latch rock shaft, said end 16 being held to said toe by the spring 17. The upper end 22, of the cross head on the lock operating shaft 18, extends upwardly along the inner face of the box edge wall and can be beveled off to form a stop limiting swing of the shaft 18 in lock releasing direction.

In order to permit adjustment of the lock releasing or operating shaft 18 according to doors or walls of different thickness, the cross head can be longitudinally adjustable on said shaft. For instance, I show the cross head formed with a hole to loosely receive the shaft and permit shifting of the cross head longitudinally on the shaft, and a set screw 23, whereby the cross head can be locked to the shaft at the desired longitudinal position thereon.

To release the door of the letter box from within the house, it is only necessary to give the shaft a partial revolution in the proper direction by button 19, whereupon the toe 21, will swing away from the edge wall of the box and swing the latch shaft end 16, in-

wardly against tension of spring 17, and thereby rock said shaft to lift the latch and release the same from the door keeper.

If so desired, the letter boxes can be fitted to receive a key at the exterior or front thereof so that the lock can be operated from the exterior to release the door, whether or not the lock operating device extending to the interior of the house is applied or provided. For instance, a freely turnable disk 24, can be confined in and closing an opening through the front wall of the box by a suitable flange or ring secured to the front wall around said opening and overlapping the edge of the disk, or in any other suitable or desirable manner. This disk will be arranged between the opening 9 for the door keeper and the adjacent vertical edge of the front wall and opposite the junction between the latch and its rock shaft. The disk is provided with a pair of spaced openings, slots or perforations therethrough. A key 25, is provided formed with a bifurcated end formed by two parallel projecting pins adapted to project through said holes in the disk with one of the pins 26, extending under the latch so that when the key is turned in the proper direction the disk will be rotated or oscillated and said pin 26, will engage and lift the latch so as to release the same from the door keeper.

It is evident that various changes and modifications might be resorted to in the forms, constructions and arrangements of the parts described or that elements might be omitted or features added, without departing from the spirit and scope of my invention as defined by the claims and hence I do not wish to limit myself to the exact constructions shown.

What I claim is:—

1. A house letter box having an opening and a movable closure therefor provided with a keeper, a lock mechanism for said keeper, said box having an exterior wall thereof provided with an opening therethrough for the passage of said keeper, and a closure opening spring device within the box and behind said opening and adapted to engage said keeper.

2. A house letter box having a letter egress opening and a swinging door for closing the same provided with an inwardly projecting keeper, a lock within the box to engage said keeper to lock the door closed, and a spring within the box to engage said keeper for opening the door when unlocked.

3. A house letter box having an opening and a swinging door for closing the same, said door provided with an inwardly projecting keeper, a lock within the box to engage

said keeper, and an outwardly springing door-opening flat spring secured within the box and interposed across the path of movement of said keeper.

4. A house letter box having a movable closure, and a lock mechanism therefor within the box comprising a rock shaft having a crank arm forming the latch and a spring acting on said shaft to normally hold the same and its latch in locking position.

5. A house letter box having a movable closure, and a lock mechanism therefor arranged within the box and comprising a rock shaft having a crank arm forming the latch and another crank arm and a spring bearing thereon to yieldingly hold the shaft and its latch in normal position.

6. A house letter box having a movable closure, and a latch mechanism therefor comprising a rock shaft having a crank arm forming the latch, said shaft being provided with another crank arm, and a latch releasing rod extending to the exterior of the box and provided with means to engage said last mentioned crank arm to rock said shaft to move the latch to unlocked position.

7. A house letter box having a swinging front door provided with an inwardly projecting keeper, a rock shaft arranged transversely of and within the box and at its front end having a lateral projection forming a latch to engage said keeper, at its rear end said rock shaft having a crank arm, and a flat spring within the box and bearing against said crank arm to yieldingly hold the shaft and its latch in locking position.

8. A house letter box having a door, means for locking said door comprising a rock shaft within the box having a lateral arm forming a latch and a crank arm, a turn rod extending to the exterior of the box and within the box having a cross head engaging said crank arm and forming a stop, and a spring device yieldingly holding said shaft and rod in normal position.

9. A house letter box having a door, means for locking said door comprising a spring held rock shaft within the box having a crank arm forming the latch, and means whereby a key can be inserted into the box to engage and lift said latch, substantially as described and shown.

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

VIRGIL C. KOONS.

Witnesses:

J. C. SPICER,
R. E. JOHNSON.