June 10, 1930. M. E. HUGHES 1,762,477

MAIL BOX

Filed June 13, 1928 2 Sheets-Sheet 1

Fig. 1.

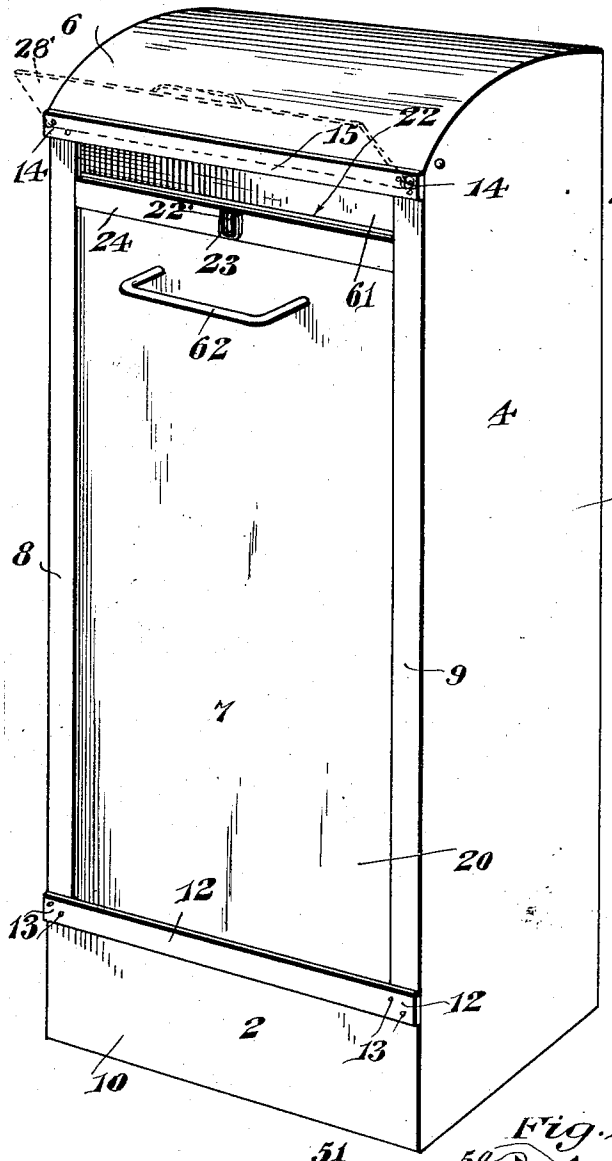


Fig. 2.

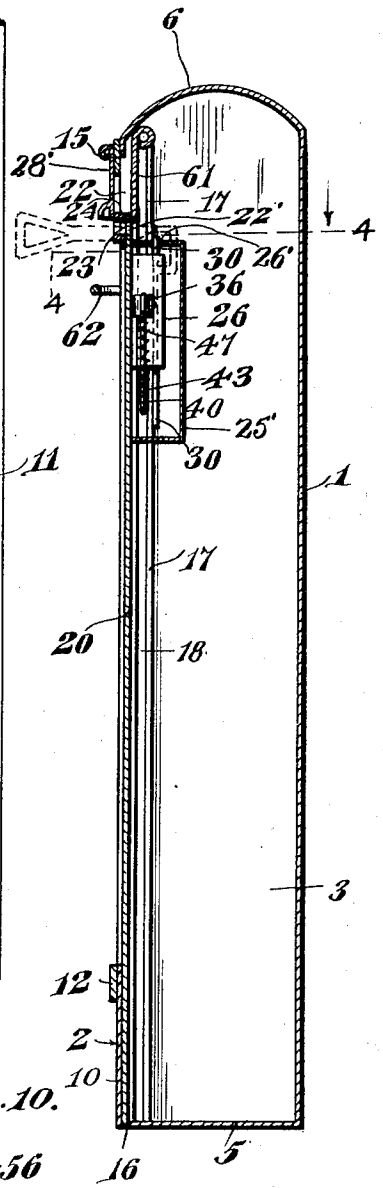


Fig. 7.

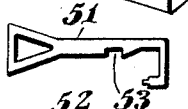


Fig. 8.

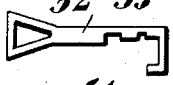


Fig. 9.

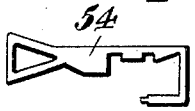


Fig. 10.



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Fig. 3.

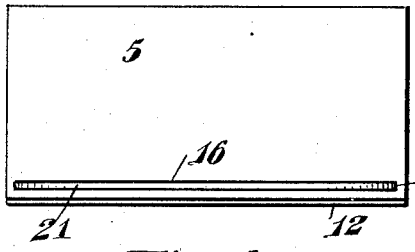


Fig. 4.

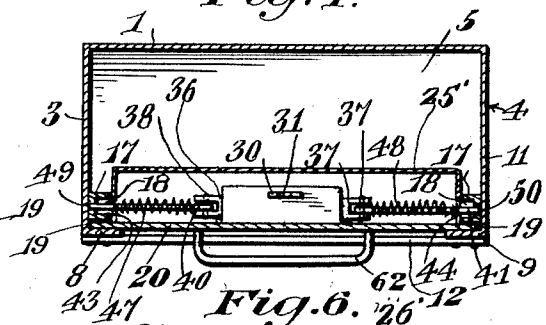


Fig. 5.

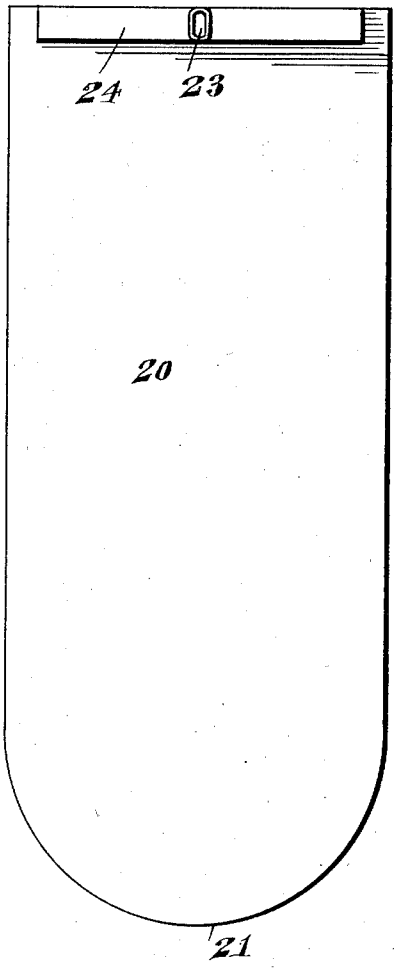
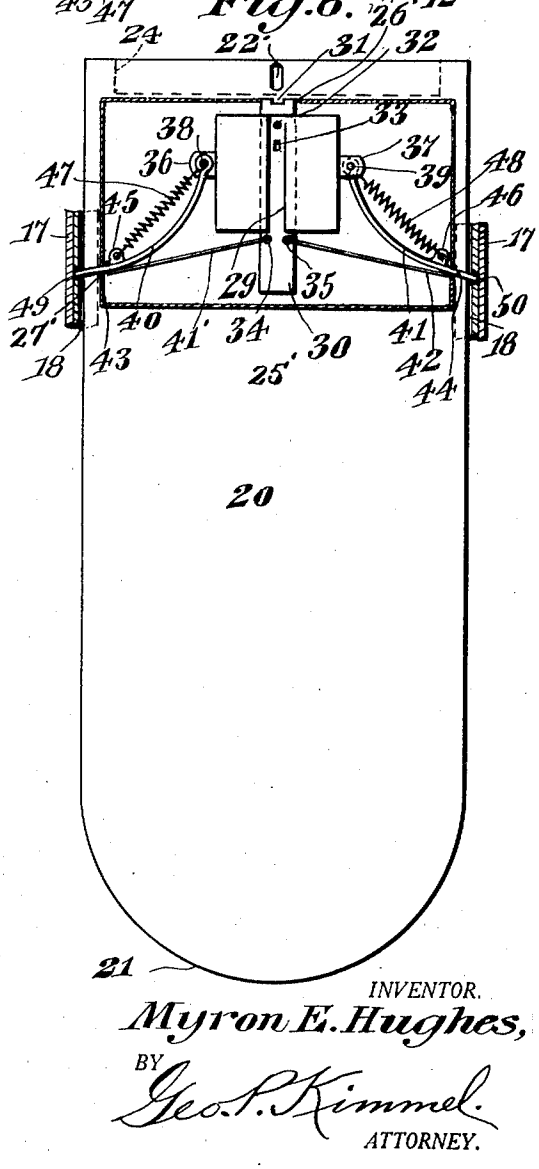


Fig. 6.



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Patented June 10, 1930 1,762,477

UNITED STATES PATENT OFFICE

MYRON E. HUGHES, OF IRON MOUNTAIN, MICHIGAN

MAIL BOX

Application filed June 13, 1928. Serial No. 285,159.

This invention relates to mail boxes, and thus has for its object to provide a box of such class, in a manner as hereinafter set forth, with means to prevent the opening thereof surreptitiously or by an unauthorized person.

A further object of the invention is to provide, in a manner as hereinafter set forth, a mail box accessible only to the owner thereof and a mail carrier when occasion requires.

A further object of the invention is to provide, in a manner as hereinafter set forth, a mail box constructed and arranged in a manner whereby it will be convenient for the mail carrier when depositing mail through the entrance slot of the box and further whereby it can be conveniently opened by the mail carrier for depositing mail matter therein of a size which cannot be passed through the entrance slot of the box.

A further object of the invention is to provide, in a manner as hereinafter set forth, a mail box so constructed and arranged to prevent any possibility of the mail deposited therein being mutilated.

A further object of the invention is to provide, in a manner as hereinafter set forth, a mail box whereby access can be had thereto by the owner or the mail carrier without any possibility of injury to the hands of the owner or carrier and further without the necessity of stretching one's hands when depositing mail or removing mail therefrom or when opening the box.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a mail box which is simple in its construction and arrangement, strong, durable, thoroughly efficient in its use, conveniently operated, providing a great measure of safety for the mail deposited therein, readily assembled, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described, and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended:—

In the drawings wherein like reference characters denote corresponding parts throughout the several views:—

Figure 1 is a front elevation of a mail box in accordance with this invention.

Figure 2 is a vertical sectional view thereof and further illustrating in dotted lines the position of a key for releasing the locking mechanism.

Figure 3 is an inverted plan of the box.

Figure 4 is a section on line 4—4 Figure 2.

Figure 5 is a front elevation of the door.

Figure 6 is a rear elevation of the door.

Figures 7, 8 and 9 are elevation of the keys employed for opening the locking mechanism.

Figure 10 is a perspective view of a modified form of releasing bar for the locking members of the locking mechanism.

The mail box in accordance with this invention comprises a one-piece open front casing, housing or receptacle consisting of a rear wall 1, a front wall 2, a pair of side walls 3, 4, a bottom 5 and an arch shaped top 6. The front wall 2 is cut away from a point above its lower end to its upper end to provide an opening 7. The parts of the front wall 2 arranged at the sides of the opening 7 are termed vertically disposed flanges 8, 9 and which extend from the imperforate part 10 of the front wall 2 to the top 6 and merge into the latter. Preferably the casing, housing or receptacle, which is indicated generally at 11 is of rectangular contour.

Fixedly secured to the outer face of the front wall 2, at the top of the part 10 of such wall, is a transversely extending combined stop and reinforcing slat 12 having its width materially less than its length. The slat 12 is secured in position by the holdfast devices 13 and has its top edge extend across the lower end of the opening 7. Secured to the outer face of the front wall 2, at the top thereof by the holdfast devices 14 is a transversely extending combined reinforcing and stop member in the form of a slat 15 which

has its width materially less than its length. The slats 12 and 15 are secured against the flanges 8, 9. The bottom 5 in proximity to the front thereof is formed with a lengthwise extending slot 16, for a purpose to be presently referred to.

Secured to the inner faces of the side walls 3, 4 and arranged in proximity to but spaced from the inner face of the front wall 2, as well as being co-extensive with the latter, are channel shaped vertically disposed guide rails 17 which are oppositely disposed and have the channels 18 thereof oppose each other. The rails 17 do not project beyond the inner side edges of the flanges 8, 9. The rails 17, in connection with the front wall 2 provide a pair of guide channels 19 which are co-extensive with the front wall 2.

Positioned within the channels 19 is a vertically movable door 20 which extends across the opening 7 and normally acts to close the major portion of said opening 7. The slot 16 aligns with the channels 19 to permit of the passage of the door 20 through said slot 16 when the door 20 is lowered. The lower end of the door 20 is rounded as indicated at 21. The normal position of the door 20 is that the upper end thereof will be spaced from the slat 15 to provide an entrance slot 22 to enable the mail to be deposited in the casing, housing or receptacle 11. The door 20 centrally of its upper end is formed with a keyhole 22 which registers with a keyhole 23 formed in a reinforcing member 24 which is secured to and extends transversely of the outer face of the door 20 at the top of the latter. The member 24 has its top edge flush with the top edge of the door 20. The member 24 is of less length than the width of the door 20 and of a length to correspond to the width of the opening 7. The length of the member 24 is such that its ends will ride against the inner side edges of the flanges 8, 9 and prevent the wobbling of the door 20 when the latter is vertically adjusted relative to the front of the casing, housing or receptacle 11.

Secured to the rear face of the door 20 in close proximity to the keyhole 22 is a locking mechanism for said door and which consists of a block 25 having centrally thereof a vertically disposed T-shaped groove 29 which extends from the bottom to the top of the block. Slidably mounted in the groove 29 is a flat vertically shiftable releasing member or element for the locking members of the locking mechanism. The releasing member or element is indicated at 30, notched at its upper end as at 31 to provide a seat and provided in proximity to the seat 31 with a pair of superposed openings 32, 33 of different contour, and as shown by way of example in Figure 6 the opening 32 is circular and the opening 33 polygonal, the openings however can be of any shape desired. The opening 32 is employed for the reception of a key belonging to the owner for the purpose of releasing the locking mechanism and the opening 33 is employed for the reception of a master key which will be hereinafter more specifically referred to. The element 30 in proximity to its lower end is provided with a pair of openings 34, 35.

The block 25 is provided at its side edges with a pair of oppositely extending, bifurcated lugs 36, 37 carrying pivot pins 38, 39 respectively for curved locking members 40, 41 respectively. Attached to the element 30, at the openings 34, 35 are oppositely extending pull members 41′, 42 respectively which at their outer ends, as at 43, 44 respectively extend into the locking members 40, 41 respectively. Vertically disposed apertured lugs 45, 46 are provided on the locking members 40, 41 respectively. Attached to the lugs 35, 46 and the pivot pins 38, 39 are controlling springs 47, 48 respectively.

A casing 25′ encloses the locking mechanism and which is secured to the rear of door 20. The casing 25′ has a top opening 26′ for passage member 30 and openings 27′ in its sides for passage of locking members 40, 41. A pivoted door 28′ is arranged at the front of the entrance slot or opening for the mail.

The locking members 40, 41 are adapted to engage in sockets or openings 49, 50 respectively formed in the guide rails 17. The springs 47, 48 act to retain the locking members 40, 41 within the openings 49, 50 for the purpose of locking or latching the door 21 in its elevated position to close the major portion of the opening 7.

When the element 30 is elevated the pull members 41′, 42 are carried therewith, and act to withdraw the locking members from the openings 49, 50 thereby releasing the door and the latter can be lowered. The position of the openings 49, 50 with respect to the upper end of the front wall 2 is such as to receive the locking members 40, 41 to latch or lock the door a sufficient distance below the slat 15 to provide for the entrance slot or opening 22 for the mail matter. Although there is illustrated each guide 17 provided with a single opening to receive a locking member, yet it is to be understood that each guide can be provided with a series of superposed openings permitting of the door 20 to be latched or locked the desired distance from the slat 15 to increase or decrease the width of the entrance opening or slot 22.

With reference to Figure 7 the key 51 illustrated thereby is the key which belongs to the owner and which operates in the opening 32. With reference to Figure 8 the key 52 illustrated thereby is a master key and is used by the mail carrier for the purpose of unlocking the door 20 and said key 52 is extended into the opening 33.

It will be assumed that there are a series

of letter boxes, constructed in accordance with this invention within the neighborhood, but each box would have a separate owner's key so that the door 20 can be unlocked, but each owner's key would be different from one another. However, the letter carrier would have a master key which could open any one of the boxes. The owner can only open his box, as the opening 32 in one element 30 of the locking mechanism would be different from that in another, although the opening 33 in the several elements 30 would be such to receive the master key used by the mail carrier. The key 51 as well as the key 52 is provided with a notch 53 for straddling the member 24 and the door 20. See Figure 2.

Figure 10 illustrates a modified form of key which is employed in connection with the modified form of releasing element as shown in Figure 10. The key illustrated in Figure 9 is designated 54 and the releasing element shown in Figure 10 is designated 55 and is formed with a polygonal shaped opening 56, an opening 57 arranged above the opening 56 and said element 55 has its top edge 58 of V-contour and with the edges of said top edge merging into the side walls of the opening 57. The element 55 has openings 59 and 60 for connecting therewith the pull members 41', 42.

The arrangement of the locking mechanism for said several boxes will be such as to have a series of different shaped keyholes to overcome one party using the next neighbor's key and still be free from duplication by having rounded corners in each type or shape of hole, for instance one hole will be diamond shaped and another heart shaped, etc. The form of releasing element 55 shown in Figure 10 is provided with the open slot or opening 57 and keyhole 56 and they are so arranged to overcome any lock tampering by wire or duplication of the original key.

It is to be understood, however, that the locking mechanism carried by the door 20 can be of any suitable construction for the purpose intended.

Arranged within the upper portion of the casing, housing or receptacle 11 rearwardly with respect to the entrance opening 22 is a hinged closure flap 61 for said opening and said flap is mounted to swing rearwardly for the passage of mail matter through the opening 22. The normal position of the flap 61 is in a depending position so as to close the opening 22 to normally prevent the entrance of foreign bodies to the receptacle.

The door 20 has projecting outwardly therefrom, near its upper end a yoke-shaped handle member 62 to facilitate the shifting of the door, and said handle 62 cooperates with the slat 12 to limit the downward movement of the door when the locking mechanism is released. The rounded lower end 21 of the door facilitates its passage through the slot 16 formed in the bottom 5. The length of the door is such that it will extend from the bottom 5 to a point in proximity to the upper end of the front wall 2.

It is thought the many advantages of a mail box, in accordance with this invention can be readily understood, and although the preferred embodiment of the invention is as illustrated and described, yet it is to be understood that changes in the details of construction can be had which fall within the scope of the invention as claimed.

What I claim is:

1. A mail box comprising a casing having an open front, a vertically movable door for closing said open front, means on the rear of the door and engaging with the casing to lock the door in position to partly close said open front to provide an entrance opening at the top of the front of the casing for the passage of mail into the latter, said means including a releasing member therefor provided with a pair of different shaped openings, one to receive a box owner's key and the other to receive a mail carrier's key for shifting said member to operate it to unlock the door.

2. A mail box comprising a casing having an open front, a vertically movable door for closing said open front, means on the rear of the door and engaging with the casing to lock the door in position to partly close said open front to provide an entrance opening at the top of the front of the casing for the passage of mail into the latter, said means including a releasing member therefor provided with a pair of different shaped openings, one to receive a box owner's key and the other to receive a mail carrier's key for shifting said member to operate it to unlock the door, means within the casing to provide guides for the door, and the bottom of said casing having a slot for the passage of the door downwardly when the latter is unlocked.

3. A mail box comprising a casing having an open front, a vertically movable door for closing said open front, and releasable means carried by the door for engaging the casing for locking said door in a position to provide a mail entrance opening for the casing between the top wall thereof and the upper edge of said door.

4. A mail box comprising a casing having an open front, apertured guide rails within said casing and providing in connection with the latter guide grooves, a vertically movable door mounted in said guide grooves and providing for closing the open front of the casing, spring controlled locking members carried by the door, travelling in said guide rails and further engaging in the apertures in the rails for locking said door in a position to provide a mail entrance opening for the cas-

ing between the top wall thereof and the upper edge of said door and further for maintaining the door in position to close the major portion of the open front of the casing, and key operated releasing means for said locking members.

5. A mail box comprising a casing having an open front, apertured guide rails within said casing and providing in connection with the latter guide grooves, a vertically movable door mounted in said guide grooves and providing for closing the open front of the casing, spring controlled locking members carried by the door, travelling in said guide rails and further engaging in the apertures in the rails for locking said door in a position to provide a mail entrance opening for the casing near the top thereof and further for maintaining the door in position to close the major portion of the open front of the casing, key operated releasing means for said locking members, and said key operated releasing means including a plurality of different shaped openings to provide for its operation by a plurality of different shaped keys for box owners and a master key for mail men.

6. A mail box comprising a casing having an opening in its front, a vertically movable door within the casing for closing said opening, and locking means for and carried by the door, said means including different shaped openings for selectively receiving different shaped keys for releasing said means to permit for the shifting of the door.

7. A mail box comprising a casing having an opening in its front, a vertically movable door for partly closing said opening to provide a mail entrance opening for the casing near the top of the latter, and locking means carried by the door and engaging with said casing to lock the door in a position to provide said mail entrance opening, said locking means including different shaped openings for receiving different shaped keys for releasing the locking means.

8. A mail box comprising a casing having an open front, a vertically movable door for closing said front, releasable means for locking said door in closed position with respect to said open front, and a vertically movable releasing element for said releasing means and including a pair of different shaped openings each for the reception of a different shaped key for operating said element to move said means to release.

9. A mail box comprising a casing having a closed top, bottom, sides, rear and an open front, a vertically movable door for closing said front, means for locking said door to partly close said open front to provide in connection with the top of the door and casing a mail entrance opening, and means selectively engaged and operated by keys of different contour for releasing said locking means.

10. A mail box comprising a casing having a closed top, bottom, rear, sides and an open front, a vertically movable door for closing said front, oppositely disposed, spring controlled locking members carried by the door and engaging with the casing for locking the door to partly close said front to provide in connection with the top of the door and casing a mail entrance opening, and means carried by the door and selectively engaged and operated by keys of different contour for shifting said members to released position to unlock the door.

11. A mail box comprising a casing having a closed top, bottom, rear, sides and an open front, a vertically movable door for closing said front, oppositely disposed, spring controlled locking members carried by the door and engaging with the casing for locking the door to partly close said front to provide in connection with the top of the door and casing a mail entrance opening, means carried by the door and selectively engaged and operated by keys of different contour for shifting said members to released position to unlock the door, and guiding means within the casing for said door and locking members.

In testimony whereof, I affix my signature hereto.

MYRON E. HUGHES.