No. 751,310. PATENTED FEB. 2, 1904.

H. G. LEFFINGWELL.

MAIL BOX.

APPLICATION FILED MAY 15, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 3.

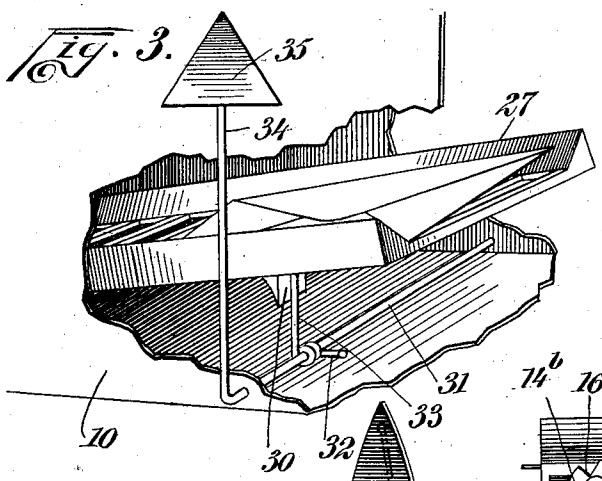


Fig. 2.

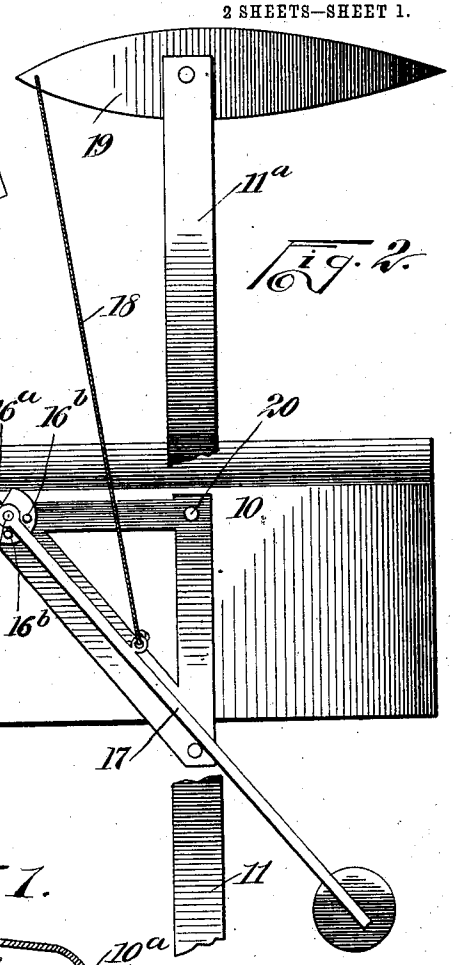
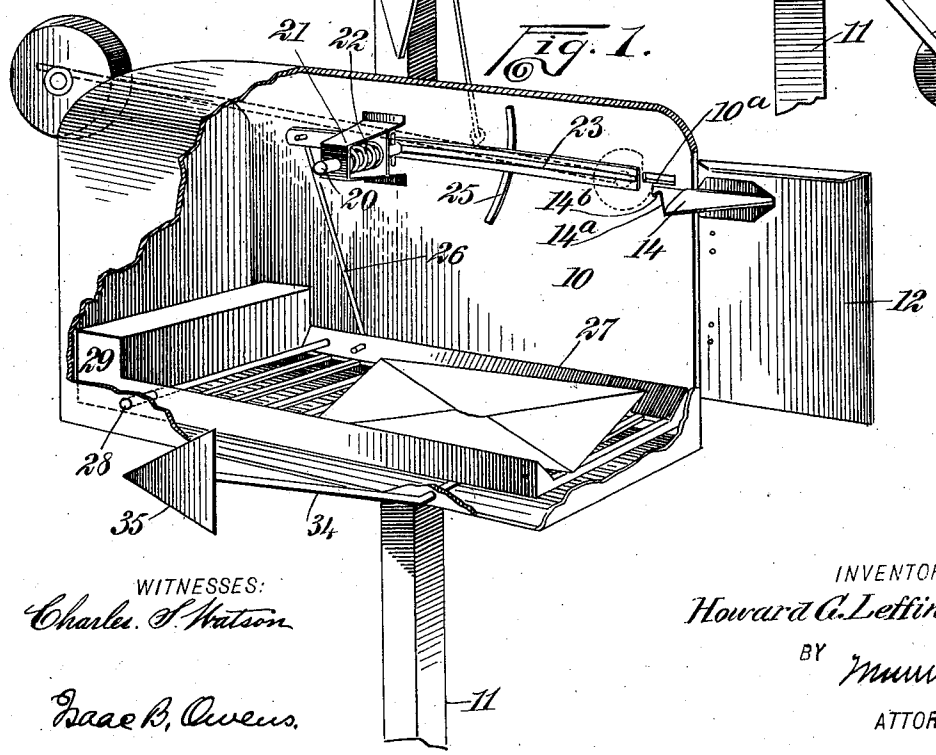


Fig. 1.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig. 4.

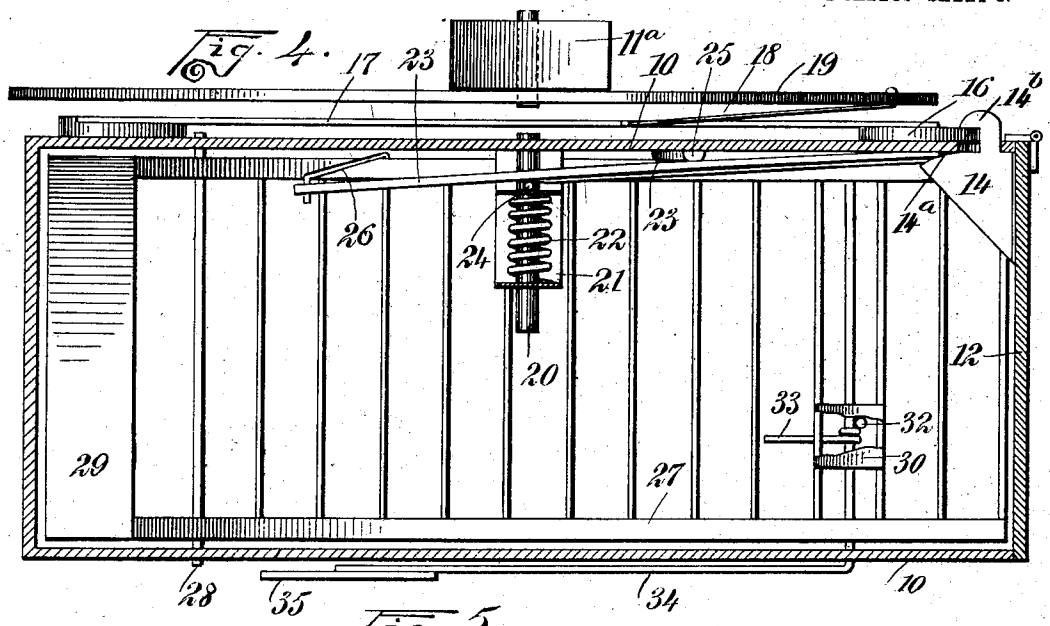
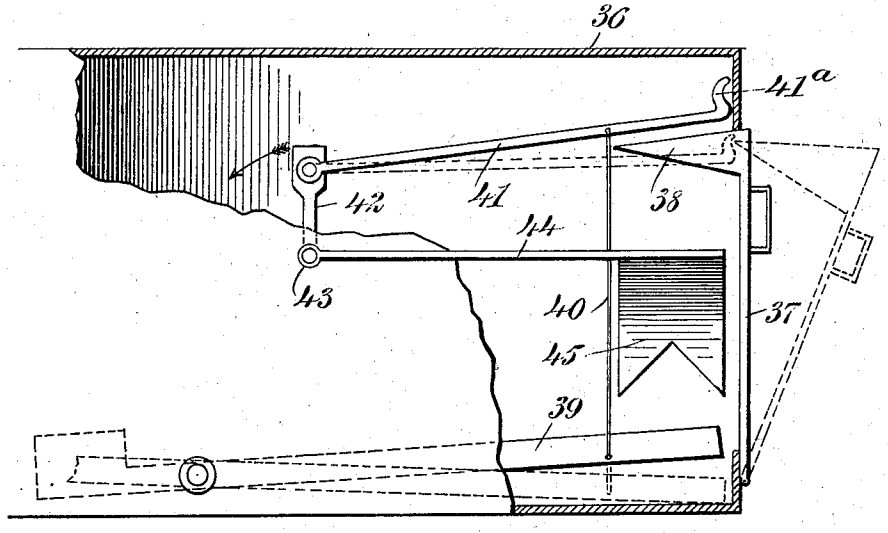


Fig. 5.



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No. 751,310. Patented February 2, 1904.

UNITED STATES PATENT OFFICE.

HOWARD G. LEFFINGWELL, OF SEVERY, KANSAS.

MAIL-BOX.

SPECIFICATION forming part of Letters Patent No. 751,310, dated February 2, 1904.

Application filed May 15, 1903. Serial No. 157,253. (No model.)

To all whom it may concern:

Be it known that I, HOWARD G. LEFFINGWELL, a citizen of the United States, and a resident of Severy, in the county of Greenwood and State of Kansas, have invented a new and Improved Mail-Box, of which the following is a full, clear, and exact description.

This invention relates to a box adapted especially for rural free-delivery routes; and it comprises means for automatically indicating to the box-owner that mail has been deposited therein by the postman and for automatically indicating to the postman that mail has been deposited for collection.

The invention resides in certain novel features of construction, which will be fully pointed out hereinafter.

This specification is an exact description of two forms of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the invention, showing the box with parts broken away. Fig. 2 is a side elevation thereof, showing the box with the semaphore thrown to indicate that mail has been delivered into the box. Fig. 3 is a fragmentary perspective view showing the parts in the position which they assume when mail has been deposited for collection. Fig. 4 is a sectional plan view of the invention; and Fig. 5 is a side elevation with parts broken away, showing a modification of the invention.

Referring to Figs. 1 to 4, the box 10 is here shown as mounted on a supporting-post 11. Said box is provided at one end with a door 12, to which a lock of the usual or any desired character is to be fitted. The door 12 is hinged on a vertical axis on one of its side edges and it carries at its inner side a projecting lug 14, terminating in a shoulder 14^a and a hook 14^b. The box has an opening 10^a in its side adjacent to the door 12, and through this opening the said hook 14^b projects when the door is closed. Mounted outside of the box to swing around an axis 15 is a disk 16, having a notch 16^a in its periphery. This disk is juxtaposed to the opening 10^a, so that the notch may be moved opposite the opening, and then when the hook 14^b is projected through the opening and notch the disk 16 may be turned to move the notch 16^a away from the hook and engage the unnotched part of the disk with the hook, thus locking the door in closed position, as shown in Fig. 2. An arm 17 is loose on the axis 15, but is connected to the disk 16 by means of two pins 16^b on the disk. These pins lie one on each side of the arm 17 and allow the arm a slight movement independently of the disk. Said arm 17 is weighted and has a connection 18 with a semaphore or other signal 19, which is mounted on an extension 11^a of the post 11.

The arm 17 swings alongside of the box 10 between said box and the post 11 and is held in the raised position (indicated by the dotted lines in Fig. 1) by means of a pin 20. This pin is mounted in a suitable bracket 21, located within the box, and a spring 22 is employed to press the pin outward into normal or active position. Fulcrumed on the pin 20, as best shown in Fig. 4, is a lever 23, which is also in engagement with a cotter 24, passed through the pin 20. On the inner wall of the case 10 is formed or fastened a bead 25, this bead forming the fulcrum of the lever under certain operations, which will be hereinafter fully set forth. The forward end of the lever 23 lies just adjacent to the opening 10^a in position to be struck by the shoulder 14^a when the door 12 is moved into closed position. This, however, does not take place unless the long or front arm of the lever is raised, as in Fig. 1. The short or rear arm of the lever is connected with a link 26, which extends downward to and is connected with a platform 27, which serves to receive the mail. This platform lies in the bottom of the box and is in the form of a lever, the fulcrum of which is the pin 28, the long arm of the lever constituting the platform proper for receiving the mail and the short arm being weighted, as indicated at 29, so that when the platform is light it is raised above the bottom of the box and the long arm of the lever 23 is dropped

from the position shown in Fig. 1. When, however, mail is deposited on the platform, the weight of the mail will throw the platform downward, as in Fig. 1, and this will throw upward the long arm of the lever 23.

The platform is provided on its under side with a stop 30, and under the platform is arranged a rod 31, having an arm 32 and a second arm 33 attached thereto, these arms extending at approximately right angles and the first-named arm serving to bear on the bottom of the box to limit the rocking movement of the rod 31 in one direction, while the other arm, 33, is arranged to turn under the platform and against the projection 30 to hold the platform raised, as in Fig. 3, notwithstanding that mail may be deposited thereon. The rod 31 projects outside of the box 10 and carries an arm 34, to which a pointer or other signal 35 is attached. The arm 34 and the attached parts may assume, therefore, either the position shown in Fig. 1 or that shown in Fig. 3.

The operation of the apparatus may be traced as follows: Assuming that there is no mail in the box and that the door is closed, the hook 14^b will be projected through the opening 10^a and engaged slightly with the disk 16, this engagement being sufficient, nevertheless, to hold the door 12 closed. The arm 17 will be raised and held by the pin 20, and the semaphore 19 will be in vertical position. Should the postman arrive with the mail, opening the door 12 and placing the mail on the platform 27, this movement will lower the platform and throw up the forward or long arm of the lever 23. The mail having been deposited, upon the closing of the door 12 the lever 23 is rocked around the pin 24, which then becomes the temporary fulcrum of the lever. This rocking of the lever draws back the pin 20, and the arm 17, deprived of its support, falls to the position shown in Fig. 2. This throws the semaphore 19 into horizontal position, and the owner of the box is thereby advised that mail has been deposited. When this mail is to be taken from the box by the owner, it is necessary first to raise the arm 17. As the arm moves it turns the disk 16 until the notch 16^a is opposite the hook 14^b, whereupon the door 12 is released. The slight independent movement allowed the parts 16 and 17 enables the arm 16 to be lifted up clear above the pin 20 before the door is released, so as to be sure that the arm 17 will be above the pin when the pin is returned to its projected or active position, it being understood that when the door was previously closed by the postman the front end of the lever 23 was held pressed tightly against the side of the box, and thus the pin 20 was held back into active position. The door 12 being opened, the owner of the box may remove the mail, and upon raising the arm 17 slightly above the pin 20 the disk 16 will be placed with its notch 16^a fully opposite the opening 10^a, and then the door may be moved completely closed with its hook 14^b projected through the opening. When this has been done, by allowing the arm 17 to drop on the pin 20 the disk 16 will be sufficiently reëngaged with the hook 14^b to hold the door closed. If mail is to be placed in the box for collection, the arm 34 should be raised to vertical position, so that the arm 33 will then lie under the tilting platform, and the weight of the mail will not, therefore, throw down the platform sufficiently to throw up the end of the lever 23. Therefore mail may be deposited by the owner of the box for collection by the postman without throwing the semaphore 19 into horizontal position and without causing the arm 17 to drop from its horizontal position. This action of the parts 34 and 33 is shown in Fig. 3. The postman arrives to collect the mail, and upon removing it from the platform the platform will rise sufficiently to bring the projection 30 clear of the arm 33, and the arm 34 will then fall by gravity, taking with it the arm 33. This leaves the parts in the position first described—viz., that in which they are ready for the reception of mail from the postman.

It will be seen that excepting the insertion and removal of the mail the operation of the box is entirely automatic and that signals are provided which show necessarily the condition of the box and which enable persons at comparatively great distances to know whether it is necessary to approach the box.

The modification of my invention shown in Fig. 5 embodies the same principle as that above described, viz: When mail is deposited in the box and the door closed, a signal is automatically raised to indicate that the box contains the mail. Referring to this figure, the box 36 is provided with a door 37, hinged as indicated and having a projection 38 at its inner side. 39 indicates the tilting counterbalanced platform similar to the platform 27, and 40 indicates a connection between said platform and a link 41, having at its forward end a lateral bend 41^a and having its rear or inner end connected to an arm 42, fastened to a rock-shaft 43, suitably mounted in the box 36 and carrying outside of the box an arm 44, to which is fastened a suitable signal 45.

As the door 37 is opened and mail is deposited on the platform 39 the link 41 will fall to the position indicated by the broken lines, and then when the door 37 is returned its projection 38 engages the end 41^a of the link 41 and throws the link, with the arm 42, rearward in the direction indicated by the arrow in Fig. 5. This will impart a rocking movement to the shaft 43 and raise the signal 45. If no mail is deposited in the box, the closing of the door 37 will not affect the signal, since the link 41 will not then be lowered.

Various changes in the form, proportions,

and minor details of my invention may be resorted to at will without departing from the spirit and scope thereof. Hence I consider myself entitled to all such variations as may lie within the intent of my claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A mail-box, comprising a box proper, a closure therefor, a movable member mounted in the box and adapted to receive and be actuated by the mail, a signal, and mechanism connecting the signal and said movable member, said mechanism including a part actuated by the door to throw the signal.

2. A mail-box, comprising a box proper, a closure, a movable member mounted in the box and adapted to receive and be actuated by the mail, a signal, means for actuating the signal, said means being operated from the closure, and a connection between said actuating means and the movable member, for the purpose specified.

3. A mail-box, comprising a box proper, a closure therefor, a signal, a loaded member having connection with the signal, a retaining device for the loaded member, said device being actuated from the closure, a movable member mounted in the box and adapted to be engaged by the mail, and a connection between the movable member and the retaining device of the loaded member.

4. A mail-box, comprising a box proper, a closure, a signal, a loaded member connected with the signal, a retaining-pin for the loaded member, a lever for actuating the pin, said lever being operated from the closure, a movable member mounted in the box and adapted to be engaged by the mail, and a connection between said movable member and the lever, for the purpose specified.

5. A mail-box, comprising a box proper a closure, a signal, a loaded member connected with the signal, a retaining-pin for the loaded member, a lever for actuating the pin, said lever being operated from the closure, a movable member mounted in the box and adapted to be engaged by the mail, a connection between said movable member and the lever, for the purpose specified, the closure having a hook thereon, and a locking device coacting with the hook and in connection with the said loaded member.

6. A mail-box, comprising a box proper, a closure therefor, a signal, a loaded member having connection with the signal, a retaining device for the loaded member, said device being actuated from the closure, a movable member mounted in the box and adapted to be engaged by the mail, a connection between the movable member and the retaining device of the loaded member, a hook on the closure, and a locking device coacting with the hook and having connection with the said loaded member.

7. A mail-box, comprising a box proper, a closure, a hook on the closure, a locking device coacting with the hook, a weighted arm mounted to swing and having connection with the locking device, a signal connected with said weighted arm, a retaining-pin for the weighted arm, a lever in connection with the retaining-pin, said lever being actuated from the closure, for the purpose specified, a movable member mounted in the box and adapted to be engaged by the mail, and a connection between the movable member and the lever.

8. A mail-box, comprising a box proper, a closure therefor, a signal, a loaded member having connection with the signal, a retaining device for the loaded member, said device being actuated from the closure, a movable member mounted in the box and adapted to be engaged by the mail, a connection between the movable member and the retaining device of the loaded member, a part capable of adjustment to limit the movement of the said movable member, and a signal in connection with said part.

9. A mail-box, comprising a box proper, a closure therefor, a signal, a loaded member having connection with the signal, a retaining device for the loaded member, said device being actuated from the closure, a movable member mounted in the box and adapted to be engaged by the mail, a connection between the movable member and the retaining device of the loaded member, a rock-shaft mounted under the movable member, an arm attached to the rock-shaft and adapted to engage the said movable member when in one position, and a signal in connection with the rock-shaft.

10. A mail-box, comprising a box proper, a closure therefor, a signal, a loaded member having connection with the signal, a retaining device for the loaded member, said device being actuated from the closure, a movable member mounted in the box and adapted to be engaged by the mail, a connection between the movable member and the retaining device of the loaded member, and means for limiting the movement of the said movable member, for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HOWARD G. LEFFINGWELL.

Witnesses:
R. W. BURKE,
EARL D. JONES.