No. 763,975. PATENTED JULY 5, 1904.

C. GRAY.

MAIL BOX.

APPLICATION FILED NOV. 20, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

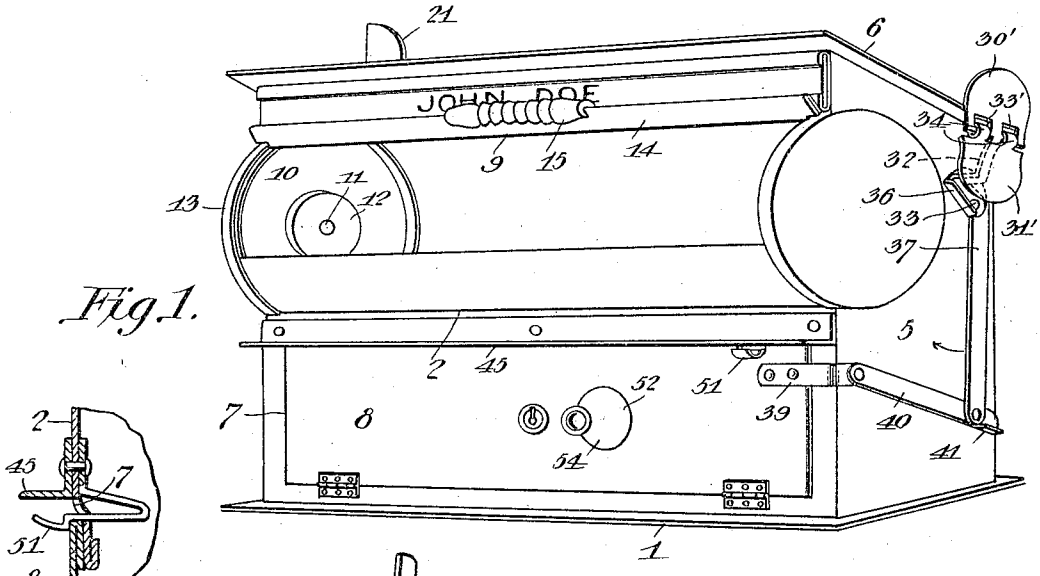


Fig. 1.

Fig. 9.

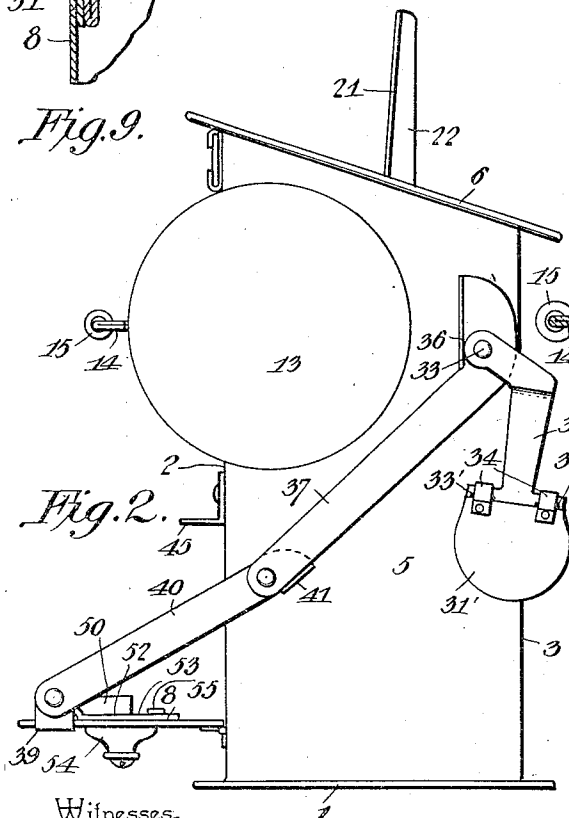


Fig. 2.

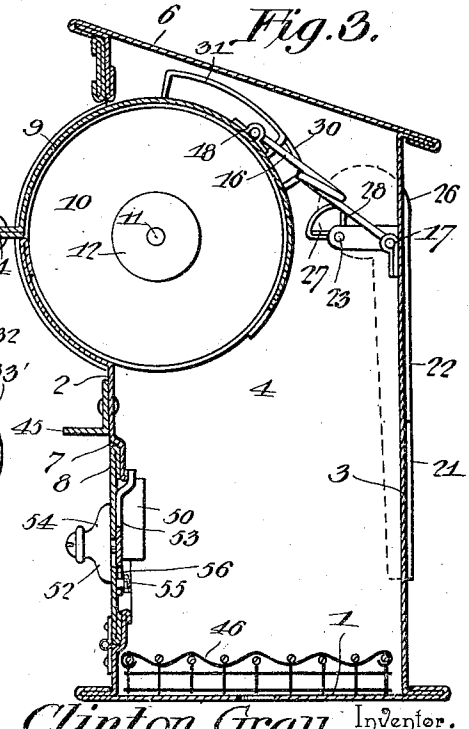


Fig. 3.

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NO MODEL. 2 SHEETS—SHEET 2.

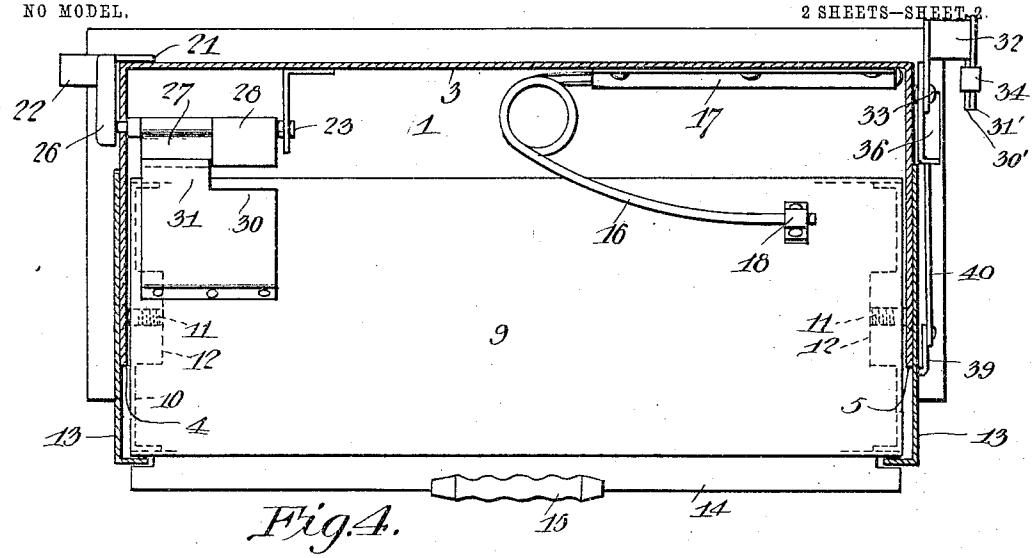
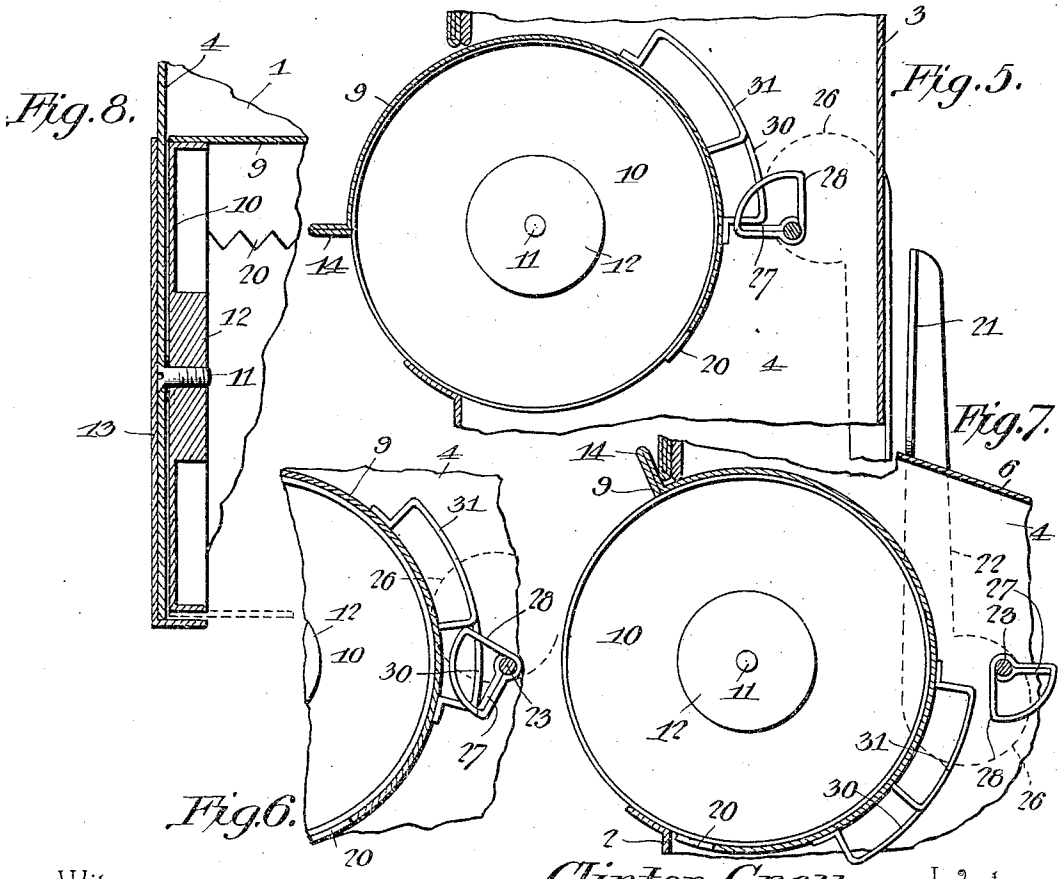


Fig. 4.



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No. 763,975. Patented July 5, 1904.

UNITED STATES PATENT OFFICE.

CLINTON GRAY, OF HAMMONDSPORT, NEW YORK.

MAIL-BOX.

SPECIFICATION forming part of Letters Patent No. 763,975, dated July 5, 1904.

Application filed November 20, 1903. Serial No. 181,989. (No model.)

To all whom it may concern:

Be it known that I, CLINTON GRAY, a citizen of the United States, residing at Hammondsport, in the county of Steuben and State of New York, have invented a new and useful Mail-Box, of which the following is a specification.

This invention relates to improvements in mail-boxes, and particularly to that general type of boxes known as "rural-delivery" boxes, although many of the features of the invention are applicable to boxes employed for other purposes.

The principal object of the invention is to provide a novel form of mail-box with signals that will be automatically set when mail is deposited in the box and with signals that will be automatically moved from position when the mail is removed from the box.

A further object of the invention is to provide a mail-box in which the letter-receiving tray is provided with signal-actuating means.

A further object of the invention is to provide a mail-box having a pivotally-mounted mail-receiving tray provided with cams that serve as signal-actuating means.

A further object of the invention is to provide a mail-box with a pivoted letter-tray so arranged as to be positively moved to full-open and full-closed position after the movement has been started by hand.

A still further object of the invention is to provide a signal-actuating mechanism in which a portion of the actuating mechanism serves as a support for the door of the letter-box.

A still further object of the invention is to provide a letter-box having a false bottom in order to prevent deposited mail being injured from dampness.

A still further object of the invention is to provide a mail-box with a safety-catch which may be used in place of the lock or in addition thereto for the purpose of maintaining the door of the box in closed position.

A still further object of the invention is to provide a signal that will automatically alter both its size and character in accordance with the position to which it is adjusted.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view of a mail-box constructed in accordance with the invention. Fig. 2 is an end elevation of the same with the door of the box open to permit the withdrawal of the mail. Fig. 3 is a transverse sectional view of the box. Fig. 4 is a sectional plan view of the same, showing a pivoted tray. Fig. 5 is a detail sectional view corresponding to the upper portion of Fig. 3. Fig. 6 is a detail view of some of the parts shown in Fig. 5, illustrating the connections between the pivoted tray and one of the signals. Fig. 7 is a similar view showing the signal moved to front position. Fig. 8 is a detail sectional view through one end of the pivoted tray, illustrating the pivoted connection between the tray and the box. Fig. 9 is a detail sectional view through the door of the box, illustrating a construction of catch which may be employed to hold the door in closed position.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The casing may be of any desired shape and in the present instance is provided with a bottom 1, a front wall 2, a rear wall 3, end walls 4 and 5, and an inclined top 6. The lower portion of the front wall is provided with a rectangular opening 7, which may be closed by a door 8, hinged or otherwise movably connected to the casing. The upper portion of the front wall is curved outward and is in part formed by a pivoted tray 9, which may be moved to open position for the insertion of mail-matter.

The tray 9 is in the form of a substantially semicircular metallic sheet provided at its opposite ends with flanged disks 10, through the central portions of which extend screws or pins 11, carried by the end walls and serving as a pivoting means on which the tray

may be partly revolved. In the present instance screws are employed for the purpose of supporting the tray in position, and the disks are provided with enlarged or thickened hub members 12, having threaded openings for the reception of the screws, and said screws are inserted from the outside of the casing, the screw-heads being afterward concealed by circular guard-disks 13, secured to the end walls and projecting outward beyond a vertical portion of the front wall. These guard-disks are provided with flanges to form a connecting means for the ends of the curved portion of the front wall, so that all the parts may be rigidly secured together and access to the tray prevented except at the open front.

The outer edge of the tray is provided with a flange 14, serving to limit the movement of the tray in both directions, and said flange may be provided with a suitable operating-handle 15, if desired. The flange serves as a shield or guard, so that when in closed position it will prevent rain or snow from entering the box.

In order to assist in the opening and closing movements of the tray and to maintain the same in either open or closed position, a spring 16 is placed between the rear of the tray and the rear wall of the box, one arm of said spring being passed through a sleeve 17, carried by the rear wall of the box, and the opposite arm of said sleeve enters an eye 18, arranged on the rear face of the tray in such position that when the tray is in mid-position the spring will be substantially horizontal and movement in either direction will permit the expansive force of the spring and move the tray to full-open or full-closed position. The inner edge of the tray is provided with teeth or serrations 20 in order to prevent the withdrawal of a letter through the lower portion of the box.

In order to signal to the owner of the box on the deposit of mail-matter therein, I employ a signal 21, carried by an arm 22, that is secured to a rock-shaft 23, extending through one of the end walls of the casing, said end wall forming one support for the shaft, while the opposite is formed by a small bracket riveted or otherwise secured to the rear wall of the box. This signal may assume either of the two positions shown, and in one position movement is limited by contact of the lower edge of the signal proper with the roof of the box, while in the opposite or non-signaling position the signal engages the rear wall of the box. For the purpose of maintaining the signal in adjusted position I employ a weight 26, secured to the lever at one side of the center of the rock-shaft, the eccentric position of the weight making it effective in either of the two positions of adjustment of the signal.

On the rock-shaft are secured two arms 27 and 28, that in the present instance are formed of a piece of sheet metal bent in such manner as to form two substantially radial faces, one at an angle of approximately ninety degrees from the other. The rear surface of the tray is provided with two cams 30 and 31, which are also formed of sheet metal arranged one in advance of the other, so that the signal being in operative position opening movement of the tray will cause the cam 30 to engage the arm 27 and rotate the rock-shaft, moving the signal to an approximately horizontal position, and said cam will continue to hold the signal in this position until the second cam 31 engages with and operates the second arm 28, moving the signal to full signaling position, and so long as the tray is kept open it will be impossible for the signal to reassume the non-signaling position. This signal is therefore operated automatically when the tray is opened to deposit a letter, and after the owner of the box has responded to the signal and removed the mail-matter he may drop the signal to the lowermost position, the tray at this time being closed.

In order to signal to the carrier that there is mail in the box awaiting collection, I employ a signal of the character shown in Fig. 1. This signal is formed of two members 30′ and 31′, hinged together in such manner that when moved to signaling position they will open to display the color and attract the attention of the carrier. In the present instance the main member 30′ is carried by an arm 32, pivoted to a stud or rivet 33 at one end of the box. The lower portion of the signal member 30′, which may be approximately semicircular in form, is provided with a pair of openings 33′ for the reception of eyes 34, formed of an integral part of the signal member 31′, the eyes being merely strips of metal forming continuations of the signal member and bent to form eyes of suitable size, the ends of the strips being riveted or otherwise secured to the member 31′. The lower portion of the signal-carrying arm, adjacent to the pivot-pin of such arm, is provided with an angularly-bent portion that rests on a flange 36, carried by a lever 37, also pivoted to the stud 33, the flange being disposed on that side of the pivoted stud where the weight of the signal and its arm are disposed when in signaling position, so that the inclined portion of the arm may rest on the flange to hold the signal upright. When the lever 37 is moved in the direction of the arrow, the flange is turned until the weight of the signal is turned beyond or to the opposite side of the vertical line of the stud, and the signal then falls to non-signaling position, the signal member 31′ folding automatically against the main signal member 30′ and hiding a distinctive color, so that the attention of the carrier will not be attracted. When moved to upright or signaling position, the signal members will automatically open, and thus display a distinctive

color covering a comparatively large surface area.

The carrier-signal is operated automatically on the opening of the main door 8, and for this purpose the inner end of the door is provided with a projecting arm 39, that is connected by a link 40 to the lower end of the lever 37, excessive movement being prevented by extending the lever-connected end of the link beyond the pivot-pin and then bending it at a right angle to form a stop 41. This stop not only limits pivotal movement of the lever and link, but also forms a rigid connection when the door is open between the pivot-stud 33 and the end of the door, thus supporting said door in a horizontal position and lessening liability of accidental damage. As soon as the door is opened the supporting-flange carried by lever 37 is thrown to the rear and the signal immediately falls to its inoperative position.

Immediately above the door is placed a projecting flange 45 in order to prevent the entrance of rain or snow to the box when the door is open.

In boxes of this character, which are generally placed in exposed position, there is always likelihood of more or less moisture accumulating in the bottom of the box, and in order to prevent injury to the mail-matter inserted I employ a false bottom 46, formed of a sheet of wire gauze or netting having its ends and edges turned downward to form vertical supporting-flanges, by means of which such netting is maintained a slight distance above the bottom of the box.

In order to hold the door of the box in closed position, a number of devices may be employed. In the present instance there is shown an ordinary form of spring-lock 50, the locks being of different character on different boxes, so that the holder may gain access to the box, while the carrier is provided with a master-key that will open any of the locks. In addition to this a spring-catch 51 may be employed to hold the door in closed position, and a safety-catch 52 may also be used either in connection with the main lock or as a substitute therefor. The safety-catch is formed of a vertically-slidable bar 53, to which is connected the inner end of a knob 54, extending through a vertical slot in the door, the knob being of sufficient size to conceal the slot. The door is further provided with a projecting stud 55, that may be in the form of a headed rivet, and said stud extends through a vertically-disposed slot 56, formed in the lower portion of the catch-bar. This forms a convenient means for locking the door in closed position and may be employed where key-opening locks are not considered essential.

It will be observed that all of the parts of the device are formed of sheet metal, and these parts may be die-struck and soldered or riveted together, so that economy of manufacture is assured.

Having thus described the invention, what is claimed is—

1. In a mail-box, a pivotally-mounted tray, a signaling device, a rock-shaft carrying said signaling device and extending to a point within the box, an arm on said shaft, and a cam carried by the tray and serving on movement of said tray to adjust the signaling device to said arm and signaling position.

2. In a mail-box, a pivotally-mounted tray, a plurality of successively-acting cams on said tray, a signaling device, a rock-shaft supporting said signaling device, and arms carried by the rock-shaft and disposed within the path of movement of the cams.

3. In a mail-box, a pivotally-mounted tray, a signaling device, a rock-shaft carrying said signaling device, said shaft extending through one of the walls of the box, a pair of arms carried by the rock-shaft and disposed at an angle to each other, and a pair of successively-acting cams carried by the rear portion of the tray and adapted to engage said arms.

4. In a mail-box, a pivotally-mounted tray, a plurality of successively-acting cams carried by said tray, a signaling device, a weight for maintaining the signaling device in either position to which it may be adjusted, a rock-shaft carrying said signaling device, and a pair of arms carried by the shaft and disposed within the path of movement of said cams.

5. In a mail-box, a pivotally-mounted tray, a signaling device, a rock-shaft carrying said signaling device, said shaft extending through one of the walls of the box, a pair of arms carried by the rock-shaft and disposed at an angle to each other, a pair of successively-acting cams carried by the rear portion of the tray and adapted to engage said arms, and a weight mounted eccentrically with respect to the rock-shaft and adapted to hold the signaling device in either of its two positions of adjustment.

6. In a mail-box, a signaling device comprising a pivotally-mounted signal having portions arranged at an angle to each other and adapted to engage respectively with the top and rear walls of the box to thereby limit movement of the signal.

7. In a mail-box, a signal having a member movable by gravity to open and closed positions, and means for supporting said signal.

8. The combination with a mail-box, of a pivotally-mounted supporting-arm, and a sheet-metal signal carried thereby and bearing on one side a signal of distinctive color, said signal being formed of sections which may be automatically closed to conceal the color.

9. In a mail-box, a signaling device comprising a pair of signaling members of approximately equal area, each bearing on one side a signal of a pronounced color, said mem-

bers being movable automatically to conceal the signaling-color when the signal is in non-signaling position.

10. In a mail-box, a door, a pivoted signal, a pivoted lever having a flange for supporting the signal in signaling position, and a link engaging the lever to the door.

11. In a mail-box, a door, a pivotally-mounted signal, a lever having a flange for supporting the signal and mounted on the signal pivot, a link connecting the lever to the door and means for forming a locking-joint between the lever and the link.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CLINTON GRAY.

Witnesses:
LYMAN AULLS,
C. F. KAY.