March 30, 1948. M. McKALLICK 2,438,785

LETTER BOX

Filed Jan. 20, 1947

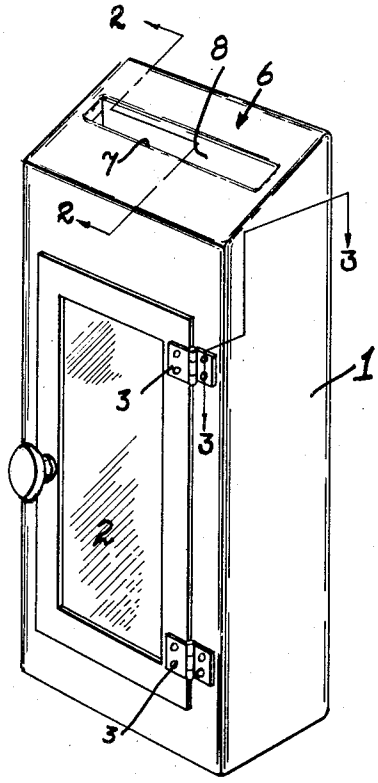


Fig. 1

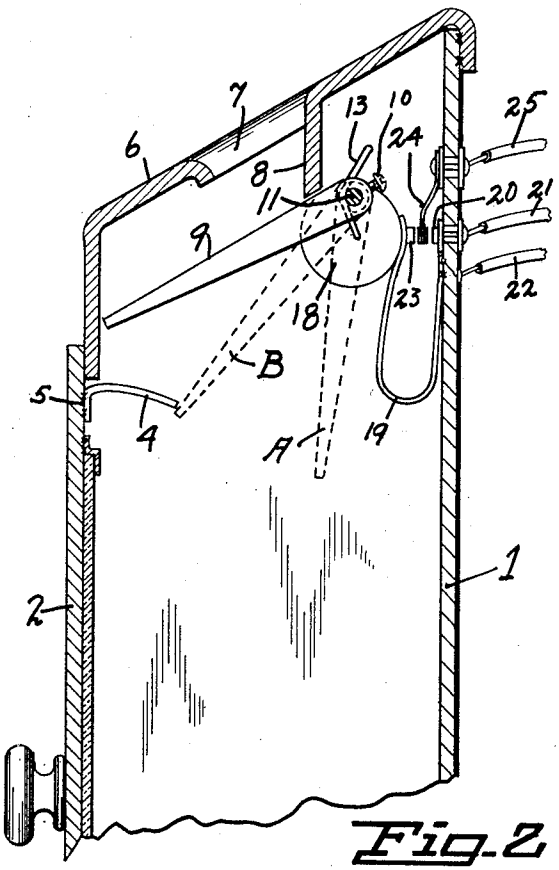


Fig. 2

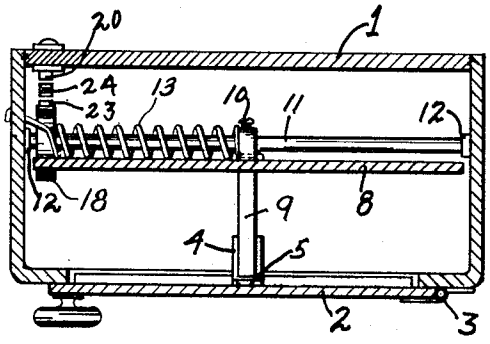


Fig. 3

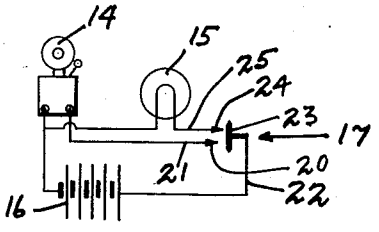


Fig. 4

INVENTOR.
MARY McKALLICK

BY

Glenn L. Fish

ATTORNEY

Patented Mar. 30, 1948

2,438,785

UNITED STATES PATENT OFFICE

2,438,785

LETTER BOX

Mary McKallick, Spokane, Wash.

Application January 20, 1947, Serial No. 723,006

4 Claims. (Cl. 232—34)

1

My present invention relates generally to the broad class of deposit and collection receptacles, and more specifically, to an improved letter box or mail box of the pivoted trap type, and including an electrical visual signal and an electrical audible signal, both of which are controlled by the movement of the pivoted trap member that is actuated as mail is being deposited in the box.

The primary object of the invention is the provision of a letter box that may be manufactured with facility and low cost of production, and of which the parts may be assembled with convenience to insure a smooth operating, reliable, and durable device of this character.

While the letter box of my invention may be utilized for various purposes, it is especially designed and adapted for urban as well as suburban and rural mail deliveries; and the outside box is equipped with an electrical circuit including a short audible signal and a prolonged visible signal located inside a house or dwelling for notifying the recipients of a mail delivery.

The invention consists in certain novel features of construction and combinations of parts as will hereinafter be described and more specifically set forth in the appended claims.

In the accompanying drawings I have illustrated an example of a physical embodiment of my invention in which the parts are combined and arranged in accord with one mode I have devised for the practical application of the principles of my invention. It will, however, be understood that changes and alterations are contemplated and may be made in these exemplifying drawings and mechanical structures, within the scope of my claims, without departing from the principles of my invention.

Figure 1 is a perspective view of a letter box in which my invention is embodied.

Figure 2 is an enlarged detail vertical sectional view of the upper portion of the letter box, as at line 2—2 of Fig. 1.

Figure 3 is a transverse horizontal sectional view of the letter box at line 3—3 of Fig. 1; and

Figure 4 is a diagram of the wiring for the electrical signal system combined with the box structure.

In carrying out my invention I employ a box 1 of suitable material and manufacture, of appropriate size and preferably rectangular shape, which is equipped with a front door 2, hinged at 3 to permit ready access to the interior of the box for withdrawal of delivered mail.

The letter box is located at a convenient place for delivery of mail by the letter carrier, and the

2

usually locked or fastened door, on its inner side, has mounted thereon a leaf spring or resilient blade 4 attached at 5 to the door, and the blade or spring detent projects a substantial distance within the interior of the box for co-action with a trap member in prolonging the illumination of a signal lamp as will be described, and for the performance of other functions.

The inclined top 6 of the box is fashioned with a deposit slot 7, and a flange 8 integral with the top wall of the box depends from the slot into the upper portion of the box and preferably extends the full length of the slot, to act as a guide for the mail matter that is to be forced down through the slot.

Below the flange 8 a depressible trap arm or spring lever 9 is centrally located within the box, and its rear perforated end is fixed by a set screw 10 upon a cross pin or horizontal spindle 11 that is journaled at its ends 12 to rock in bearings located in the opposite lateral walls of the box; and a coiled spring 13 having its ends anchored respectively to the lever and a side wall of the box tends to lift the depressible lever or trap arm up against the bottom edge of the flange 8, as a stop.

The trap lever or trap arm 9 is located at the lateral center of the interior of the box, on its spindle, and in its initial position the front free end of the lever is located directly above or over the spring detent 4 of the front door of the box, so that when the lever is depressed by forcible entry of mail matter into the box the free end of the lever will ride down over the spring detent 4 and swing to the dotted positions in Fig. 2, thus permitting the deposited mail to fall to the bottom of the box.

After deposit of the mail the trap lever is retained by the spring detent, and the lever is released when the front door is opened for withdrawal of the deposited mail, whereupon the trap lever automatically swings up to its initial position as indicated by full lines in Fig. 2, thus restoring the box to position for reception of additional mail.

In combination with the depressible trap lever and its spindle I employ an audible signal, bell, or buzzer 14, and a prolonged visible signal or electric lamp 15 included in an electrical signal circuit having a battery 16, and a two point circuit maker 17 which is indicated as a whole in the wiring diagram of Fig. 4.

The closing of the circuit maker is controlled by the movement of the lever and its spindle, and in Fig. 2 the first dotted position of the lever indicates that the prolonged signal or lamp 15

is illumined; while the second dotted position of the lever indicates that the buzzer or bell is also sounding while the lamp is illumined.

The control switch 17 of the signal circuit is located within the box, and the signals of course are located in a house or dwelling, with the wires of the circuit extended between the box and the interior of the house, or arranged in other suitable manner.

The switch is operated by turning movement of a cam disk or eccentric 18 rigidly mounted on and partially rotatable with the rocking spindle 11, and a U-shaped compressible conductor or spring leaf 19 has one end in frictional contact with the periphery of the cam disk and at its other end is attached to the back wall of the box by a fixed contact member 20 which forms the terminal for a wire 21 of the buzzer and lamp circuit.

The U-shaped conductor or spring leaf also forms a terminal for the wire 22 on the buzzer or bell, and a movable contact 23 on the free end of the conductor is adapted to press against and force an intermediate contact member 24 or lamp terminal into frictional and electrical contact with the point 20, and a wire 25 is connected with this intermediate spring contact 24.

By this arrangement of parts when the lever 9 is swung to its dotted position A the spindle is rocked and the cam disk is turned to close the switch for both the bell and the lamp and they are simultaneously activated. In this position the bell is sounded and the illumination of the lamp is prolonged; then, as the lever is automatically swung to position B, where it is detained by the spring detent 4, the bell is deenergized but the lamp remains illumined as a signal that mail is in the box.

When the front door of the box is opened for withdrawal of the deposited mail the trap lever is re-set as it is released from the spring detent, the lever swings to initial position beneath the flange, and the signal switch is opened by breaking the circuit.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a letter box having a deposit slot in its top wall and an electrical signalling circuit having an open switch located in the box, the combination with a hinged door having an interior spring detent mounted thereon, of a spring lifted and depressible trap arm pivotally mounted within the box beneath the slot in position for co-action with the detent, whereby the free end of the depressed arm is caught by the detent and released when the door is opened, and means actuated by depression of the trap arm for closing the switch.

2. In a letter box having a deposit slot in its top wall, an interior guide flange integral with the top wall and depending into the box, and an electrical signalling circuit having an open switch mounted in the box, the combination with a hinged front door having an interior spring detent mounted thereon, of a spring lifted and depressible trap arm mounted within the box for co-action with the flange as a stop and in position for co-action with the detent, whereby the free end of the depressed arm is caught by the spring detent and released when the door is opened, and means actuated by depression of the trap arm for closing said switch.

3. In a letter box having a deposit slot in its top wall, an electrical circuit including a prolonged visible signal and a shorter audible signal, and an open switch located in the box for the circuit, the combination with a hinged front door having an interior spring detent mounted thereon, of a spring-actuated spindle journaled within the box, a cam disk rigid with the spindle, and a depressible trap arm mounted on the spindle beneath the slot in position for co-action with the spring detent, whereby the free end of the depressed arm is caught by the spring detent and released when the door is opened, and a U-shaped leaf spring mounted in frictional engagement with the cam disk and forming a conductor of the switch for closing said switch when the trap arm is depressed.

4. In a letter box of the type described, the combination with a hinged door and a spring detent thereon and a spring lifted and depressible trap lever for coaction with the detent, of an electrical circuit including a prolonged visible signal and a shorter audible signal, and an open switch for the circuit, and means actuated by depressing movement of the trap lever for closing the switch, whereby the switch is again opened by opening movement of the door.

MARY McKALLICK.