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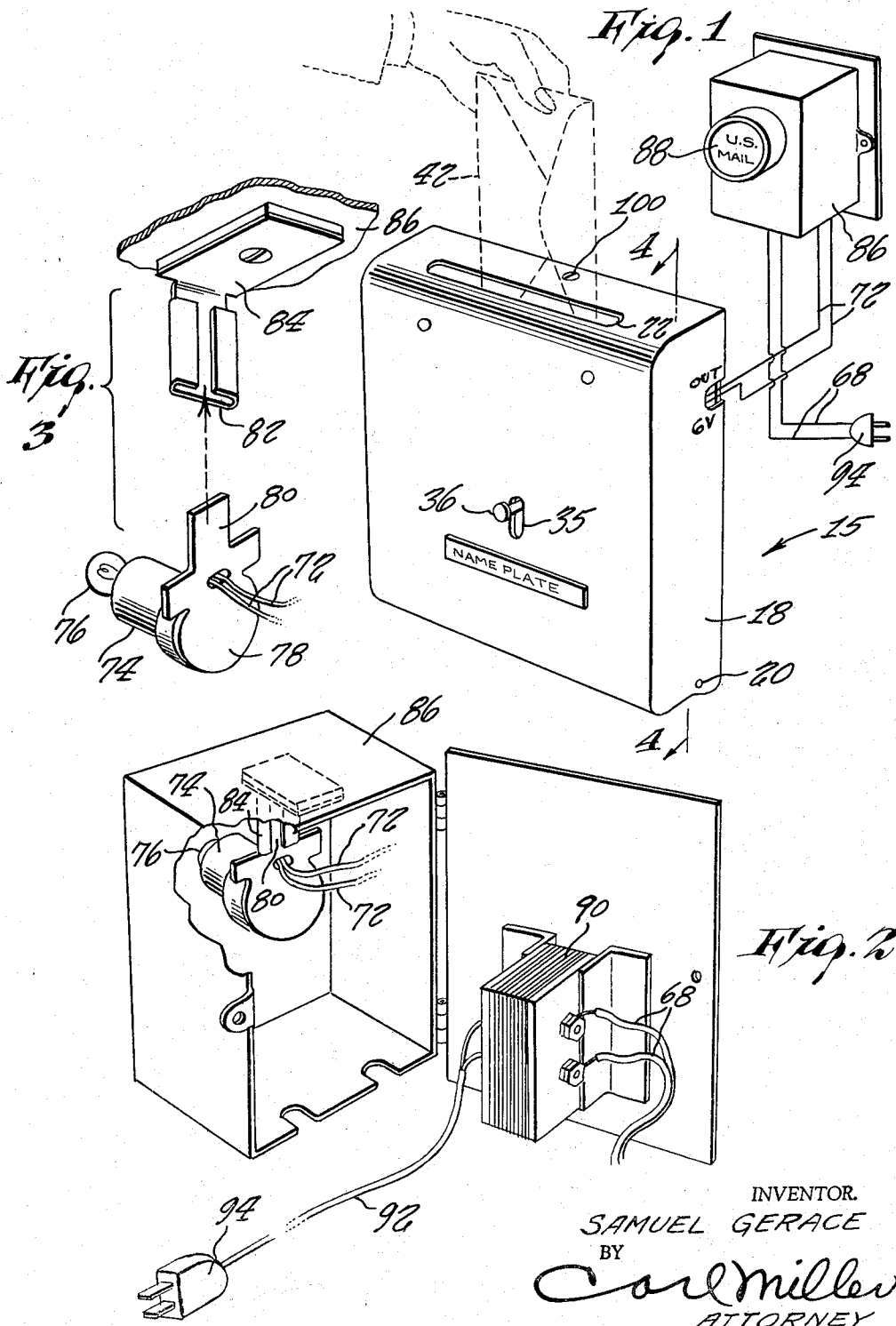
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LETTER BOX WITH SIGNAL SYSTEM

Filed April 11, 1961

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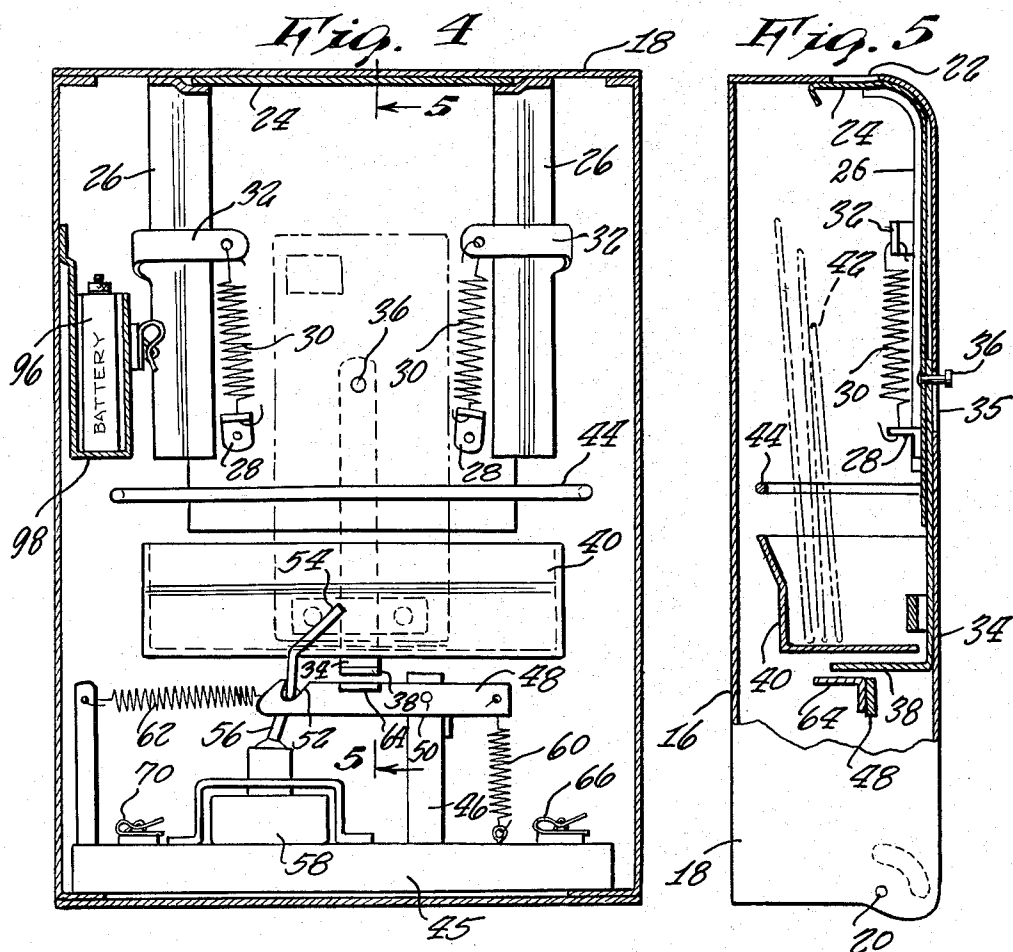
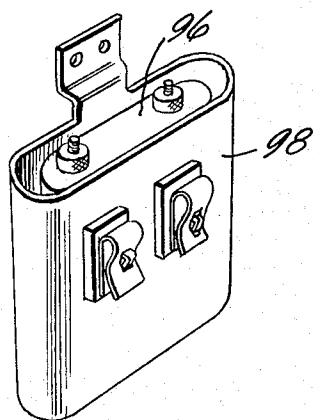
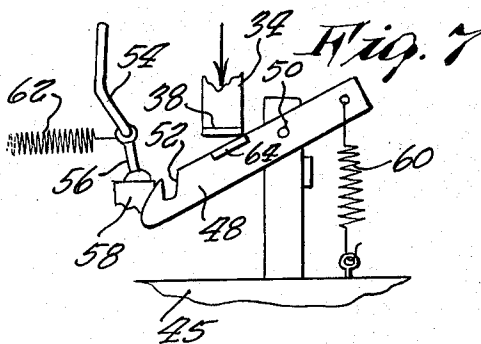


Fig. 6

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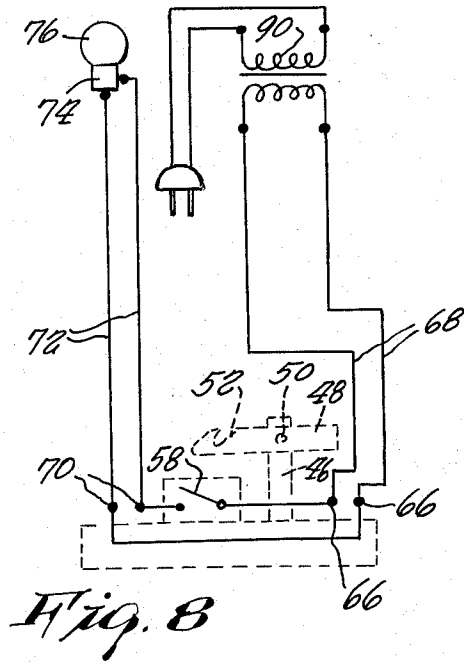
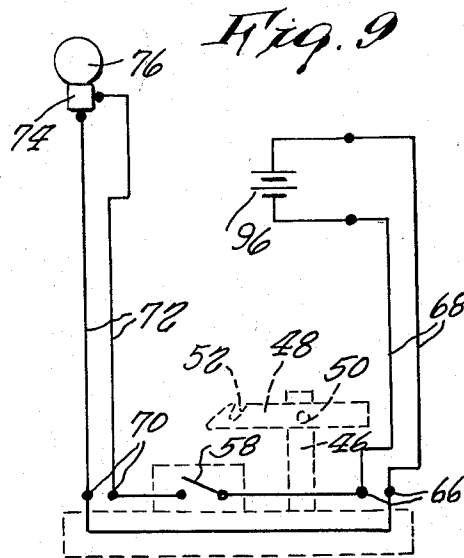
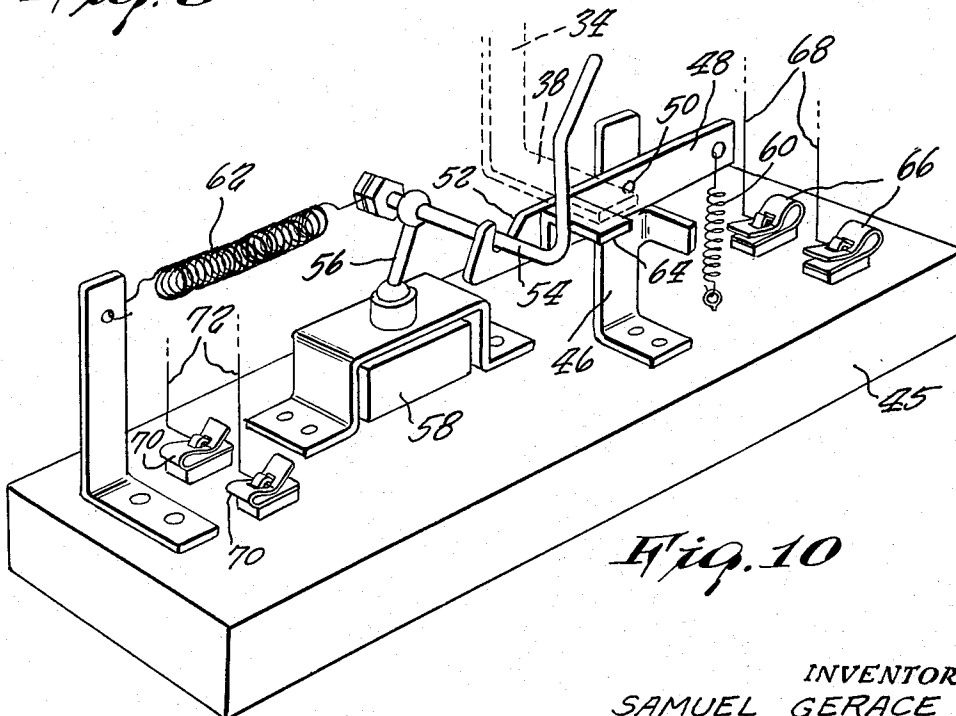
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LETTER BOX WITH SIGNAL SYSTEM

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3 Sheets-Sheet 3



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LETTER BOX WITH SIGNAL SYSTEM

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8 Claims. (Cl. 340-281)

This invention relates to mail delivery equipment and, more particularly, to a signal type mail box of the type disclosed and claimed in my co-pending application, Serial No. 76,540, filed December 19, 1960, for Mail Receptacle and Signal Therefor.

It is an object of the present invention to provide a mail box having manually initiated apparatus for energizing a signal in a remote location in response to the insertion of mail into the interior of the mail box.

A further object of the present invention is to provide a manually operated mail receptacle having an entrance slot for the reception of mail which is normally maintained in a closed position so as to prevent the entry of moisture, rain, and other foreign matter into the interior thereof, but which may be opened for the insertion of mail, during which opening operation, a remote signal is energized to signal the insertion of such mail for pick-up purposes.

An additional object of the present invention is to provide an extremely simple, substantially foolproof, and easily operated signal mail receptacle of the type described which can be manufactured in large quantities at a relatively low cost, and which can be readily installed in any desired location.

All of the foregoing and still further objects and advantages of this invention will become apparent from a study of the following specification, taken in connection with the accompanying drawing, wherein:

FIGURE 1 is a perspective view of a signal mail receptacle system made in accordance with the present invention in actual use;

FIGURE 2 is a perspective view, with parts broken away, of a signal lamp unit in an open position, and showing energization means made in accordance with one form of the present invention;

FIGURE 3 is an exploded fragmentary perspective view of certain parts of the assembly shown in FIGURE 2;

FIGURE 4 is a longitudinal cross sectional view taken along line 4-4 of FIGURE 1, illustrating a slightly modified form of energization means;

FIGURE 5 is a transverse cross sectional view taken along line 5-5 of FIGURE 4;

FIGURE 6 is a perspective view of an electrical supply unit forming a part of the assembly shown in FIGURE 4;

FIGURE 7 is a fragmentary side elevational view of certain parts shown in FIGURE 4 in an actuated position;

FIGURE 8 is a schematic wiring diagram of the form of the invention shown in FIGURES 1 and 2;

FIGURE 9 is a schematic wiring diagram of the form of the invention shown in FIGURES 4 and 5; and

FIGURE 10 is an enlarged fragmentary perspective view of certain main operating parts of the present invention.

Referring now to the drawing, a mail receptacle system made in accordance with the present invention is shown to include a mail receptacle 15 having a main mounting plate 16 for attachment to a wall or other supporting surface, and having a closure 18 hingedly mounted thereupon by means of pivot pins 20 for movement between a normally closed position as shown in the drawing, and an open position, in which position the mail therewithin may be removed and the actuating parts thereof reset.

The top of the closure 18 is provided with a transversely extending mail receiving slot 22 which is normally maintained in a closed position by means of a flexible spring-

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type plate 24 extending across the entire width thereof, and guided for movement between the normally closed position and an open position by means of guide brackets 26 secured to the interior of the closure 18.

Mounted upon the lower end of the slide plate 24, are a pair of anchor brackets 28 secured to one end of a spring 30. The opposite end of the spring 30 is secured to flanged brackets 32 of the guides 26, whereby the springs 30 normally urge the plate 24 toward the slot closing position shown in FIGURES 4 and 5.

A mounting pin 36 having one end formed into a handle and extending slidably through a vertical slot 35 in the closure member 18, is secured at its inner end to the bottom of the slide plate 24 and serves as a mounting for a depending push bar 34 having a transversely extending flange 38 for abutment with latch means hereinafter more fully described. However, secured to the interior of the enclosure 18 is a trough 40 for receiving letter mail 42 therewithin through the slot 22, and supported in an upright position by a guide bar 44. It will thus be recognized that downward movement of the mounting pin 36, as shown in FIGURE 1, will effect the opening of the mail slot 22 for the insertion of the mail 42 therewithin.

A mounting block 45 is secured to the base of the mounting plate 18. A stanchion 46 is supported upon the block 45 and has a transversely extending pivot pin 50 pivotally supporting a latch lever 48 having a detent 52 at one end normally receiving a transversely extending portion of a control bar 54 connected to the actuating lever 56 of a two position switch 58. A tension spring 60 acting between the block 45 and the opposite end of the lever 48, normally urges the detent 52 at the opposite end of the lever into an engaged position with the control bar 54, thus retaining the switch 58 in a normally open circuit position against the action of the tension spring 62 tending to urge the lever 56 toward a position which will close the circuit through the switch 58. However, the lever 48 intermediate the pivot pin 50 and the detent 52, is provided with a transversely extending flange 64 which is in the path of downward movement of the abutment flange 38 of the push bar 34, so that in response to downward movement of the pin 36, the abutment flange 38 will effect downward movement of the lever 48 through the flange 64, to release the bar 54 of the control switch lever 56, to allow the spring 62 to move the switch 58 into a circuit closed position.

A first set of terminals 66 is mounted at one end of the block 45 for connecting a pair of leads 68 thereto that lead to a source of energy for energizing the system. Another set of terminals 70 is mounted at the opposite end of the block 45 for connecting a pair of leads 72 thereto which are connected at their opposite end to the base 74 of a lamp 76 mounted by means of a tongue 80 secured to the housing 78 of the base 74 for frictional insertion with a sleeve 82 of a bracket 84 mounted upon the interior roof of a housing 86 remote from the receptacle 15. This housing 86 has a light transmitting panel 88 provided with suitable indicia, facing the lamp 76, whereupon energization of the lamp 76 will illuminate the panel 88 to produce a visual signal in response to the closing of the circuit through the terminals 66, 70 connected to opposite ends of the switch 58 which is moved to a circuit closed position in response to downward movement of the pin 36 in a manner hereinbefore described.

In accordance with one form of the present invention illustrated in FIGURES 1 and 2 of the drawing, a transformer 90 mounted within the housing 86 will energize the lamp 76 from a wall receptacle, such as by inserting a male plug 94 of a connecting line 92. In the other form of the invention illustrated in FIGURES 4 to 6 of the drawing, an external source of power is eliminated in

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favor of an internal source of power in the form of a dry cell 96 mounted within holder 19.

It will now be recognized that an extremely convenient and effective mail reception has been provided which will automatically illuminate the signal panel 88 at a location remote from the receptacle 15, immediately in response to downward movement of the pin 36 for opening the slot 22 for the insertion of mail 42, or for any other purpose. Immediately upon release of downward pressure upon the pin 36, the closure plate 24 will return to the closed position, thus preventing the entry of foreign matter, or the like into the interior of the receptacle until the mail 42 is removed. The mail is removed simply by opening the closure 18 about the pivot pin 20 of the main mounting plate 16, thus providing access to the interior of the housing for removing the mail 42, and resetting the latch to the switch 58. If desired, a lock 100 may be installed upon the closure 18 for preventing unauthorized entry into the interior of the mail receptacle.

While this invention has been described with particular reference to the construction shown in the drawing, it is to be understood that such is not to be construed as imparting limitations upon the invention, which is best defined by the claims appended hereto.

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

1. A mail receptacle comprising, in combination, a main mounting plate, a housing hingedly supported upon said main mounting plate for movement between a normally closed position and an open position, the upper end of said housing defining a mail reception slot, a closure plate carried within said housing normally spring biased toward a closed position with said slot, signal means, switch means mounted within said housing and connected to said signal means, spring means biasing said switch means toward a closed circuit position, latch means releasably securing said switch means in an open circuit position, and mechanical movement means simultaneously moving said closure plate opening said slot and releasing said latch means to allow movement of said switch means to a circuit closed position to energize said signal.

2. Mail receiving apparatus as set forth in claim 1, wherein said housing is hingedly mounted at the lower end of said main mounting plate for such selective movement between a normally closed and an open position.

3. Mail reception apparatus as set forth in claim 2, wherein said closure plate is a spring plate, guide means

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connected to the inside of said housing slidably supporting said spring plate for such movement between a normally closed position and an open position, the upper portion of said spring plate normally being in closed engagement with said slot and being movable to an open position in response to downward movement of said spring plate.

4. Mail reception apparatus as set forth in claim 3, wherein said signal means comprises a lamp, a lamp housing, mounting means supporting said lamp within said lamp housing remote from said receptacle housing, and electrical conductor means connecting said lamp to said switch for energizing said lamp in response to movement of said switch to a closed circuit position.

5. Mail reception apparatus as set forth in claim 4, wherein said latch means comprises a latch lever pivotally supported for movement between adjusted positions, one end of said latch lever including a detent for securing said switch in an open circuit position against the action of said spring means biasing said switch toward a closed circuit position, and additional spring means at the opposite end of said latch lever normally biasing said latch lever toward a position restraining said switch against movement toward said closed circuit position.

6. Mail reception apparatus as set forth in claim 5, wherein said mechanical movement means comprises a push bar carried by said closure plate for engaging said latch lever between the pivot means thereof and said detent, for urging said detent out of engagement with said switch to allow movement of said switch toward said circuit closed position.

7. Mail reception apparatus as set forth in claim 6, further comprising a transformer for energizing said lamp in response to closing of said switch.

8. Mail reception apparatus as set forth in claim 6, further comprising a dry cell mounted within the interior of said housing for energizing said lamp in response to movement of said switch to said circuit closed position.

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