June 22, 1954 S. E. LONG ET AL 2,681,762

DOOR-CONTROLLED SIGNAL FOR MAILBOXES

Filed July 30, 1951

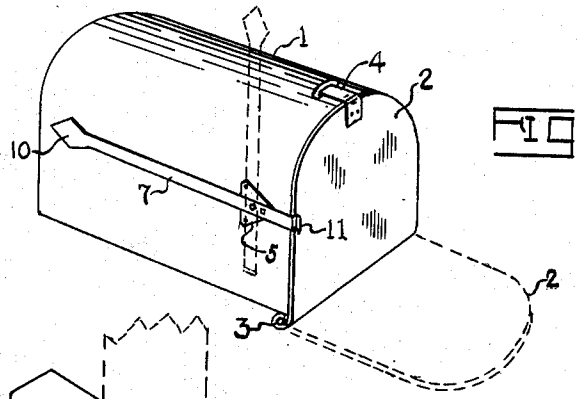


FIG. 1.

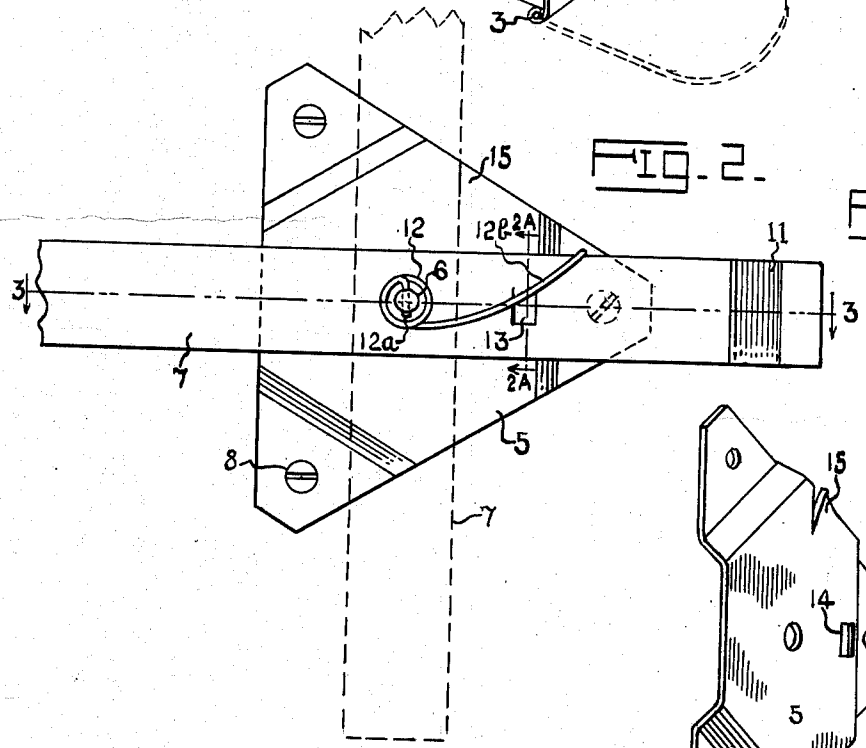


FIG. 2.

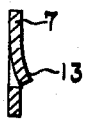


FIG. 2A.

FIG. 4.

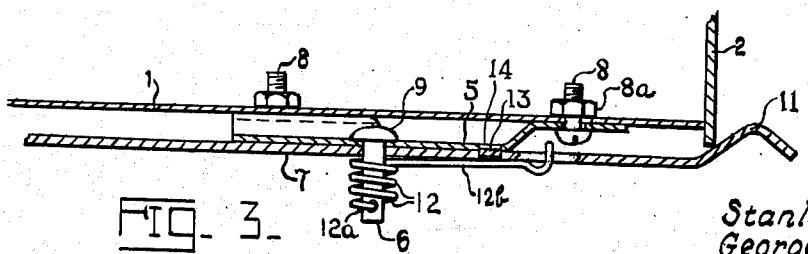


FIG. 3.

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Patented June 22, 1954

2,681,762

UNITED STATES PATENT OFFICE

2,681,762

DOOR-CONTROLLED SIGNAL FOR MAILBOXES

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Application July 30, 1951, Serial No. 239,274

7 Claims. (Cl. 232—35)

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This invention relates to door-controlled signals for mail boxes and more particularly rural boxes.

An object of the invention is to provide a highly simplified and relatively inexpensive mechanism for shifting a mail box signal arm from an idle to a signaling position responsive to opening of the door of the box.

Another object is to provide a mechanism for the aforementioned purpose requiring no special manipulation by the person delivering mail.

Another object is to provide a signal arm and associated control mechanism, rapidly attachable as a unit to a rural mail box, and requiring very simple tools for its attachment.

Another object is to horizontally pivot a signal arm on a mail box for travel between a substantially horizontal idle position and a substantially vertical signaling position, to subject said arm to a spring urging it to signaling position, to resist such spring by a latch maintaining the idle position of the arm, and to provide the arm with a cam element normally obstructing opening of the door and effective through the arm to release the latch when the door is opened.

These and various other objects are attained by the construction hereinafter described and illustrated in the accompanying drawing, wherein:

Fig. 1 is a perspective view of a mail box equipped with our improved signal.

Fig. 2 is an enlarged fragmentary view in side elevation of the signal occupying its latched position on the box.

Fig. 2A is a sectional detail of the signal arm taken on the line 2A—2A of Fig. 2.

Fig. 3 is a horizontal sectional view of the same taken substantially on the line 3—3 of Fig. 2.

Fig. 4 is a perspective view of a mounting plate for the signal.

In these views, the reference character 1 designates a horizontally elongated mail box of a type common to rural districts, the front end of such box being formed by a door 2 hinged at its lower edge to the box as indicated at 3. Thus the door may be swung forward and downward for access to the box, as shown in dash lines in Fig. 1. The upper edge of the door may carry any desired catch 4 for holding the door normally closed. Our signal attachment comprises a substantially triangular mounting plate 5 centrally and rigidly carrying a pin 6 whereon an elongated signal arm 7 is pivoted. The plate 5 is secured to the forward portion of a side wall of the box by bolts 8 and nuts 8a, such bolts re-

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spectively engaging the respective apex portions of the plate. Such portions are similarly offset slightly from the central portion of the plate whereby said central portion has clearance from the box for a purpose hereinafter explained. The arm 7 has differential lengths at opposite sides of the pivot pin, its major length terminating in an enlarged signal flag or plate 10 and its minor length being terminally bent to form a cam element 11 of approximate V-shape. When said arm is in its idle horizontal position, as illustrated in full lines, and the door 2 is shut, the cam element 11 slightly laps the front face of the door so as to obstruct the opening path of the door, as best appears in Fig. 3. The pin 6 projects sufficiently outward from the arm 7 to carry a coiled torsion spring 12 having its outer end socketed in said pin at 12a and having an integral extension 12b from its inner end which extension is terminally hooked over an upper edge of the arm in a manner tending to swing the arm to its upright (or signaling) position responsive to torsion of the spring. The arm is maintained normally in its horizontal or idle position, in resistance to the spring, by a latch means comprising a tongue 13 struck slightly inward from said arm at a downward inclination and normally received in and abutting an edge of a square aperture 14 formed in the plate. The spring 12 is under a slight compressive stress additional to its torsion stress, so as to urge the arm flat against the plate 5. Upon opening thereof, the door 2 deflects the cam element 11 and the forward end of the arm slightly laterally, the arm then horizontally rocking about a vertical axis intersecting the pivot pin, thus disengaging the tongue 13 from the aperture 14, and permitting the spring to raise the flag-mounting end of the arm. When so actuated, the arm is limited to a ninety-degree travel through engagement with a stop formed by vertically slitting the upper edge portion of the plate 5 and imparting a slight outward deflection to the resultant tongue 15, as best appears in Fig. 4. Offsetting the central portion of the plate 5 away from the box serves to sufficiently space the arm 7 from the box to permit rocking of the arm about the aforementioned vertical axis without such resistance as would arise if the flag-mounting end of the arm were rocked against the box.

In its upright position, the signal arm and flap thereon may be seen from a considerable distance, saving a trip to the mail box when the latter is empty. When the box owner has removed mail, he closes the door and lowers the

signal arm, whereupon the latch tongue 13 snaps into the aperture 14, again maintaining the horizontal position of the arm.

Due to extreme simplicity of the described signal mechanism, it may be produced at low cost, and its installation on a box requires only the drilling or punching of three holes for the bolts 8, and tightening of the corresponding nuts.

What we claim is:

1. In a door-controlled signal for a mail box, the combination with a mail box having a front end and an opening at such end giving access to the box, a door controlling such opening, and means hinging the door for opening and closing travel, of an elongated signal arm in exterior proximity to a side wall of the box, means pivoting the arm on said side wall to swing about a substantially horizontal axis transverse to the box, between an approximately horizontal idle position and an approximately vertical signaling position, said axis being spaced from the arm ends, the arm being proportioned to forwardly extend, in its idle position, in proximity to an edge portion of the door other than its hinge portion, a cam element on said arm extending into the path of opening travel of the door in the idle position of said arm, a spring urging the arm pivotally toward its signaling position, and coacting means carried independently of the door by box and arm for latching the arm in its idle position in resistance to said spring, said cam element and at least a portion of the arm being laterally actuable by the door in its opening travel to release said latch means.

2. A door-controlled signal for a mail box as set forth in claim 1, said cam element comprising a terminal portion of the arm bent to an approximate V-shape.

3. A door-controlled signal for a mail box as set forth in claim 1, said spring having a portion urging the arm along its pivot axis toward the box, for giving effect to said latch means when the arm assumes its idle position.

4. In a door-controlled signal for a mail box, the combination with a mail box having a front end and an opening at such end giving access to the box, a door controlling such opening, and means hinging the door for opening and closing travel, of a mounting plate, means securing such plate exteriorly to a side wall of the box, an elongated signal arm, means pivoting such arm on the mounting plate to swing in a substantially vertical plane substantially parallel to said side wall, between an approximately horizontal idle position and an approximately vertical signaling position, a spring carried by said plate and urging the arm pivotally toward its signaling position, coacting means carried by said plate and arm for latching the arm in its idle position in resistance to said spring, and a cam element carried by the arm and obstructing the opening path of the door in the idle position of the arm, the arm being laterally movable by such cam element and such element being laterally movable by the door in its opening travel, and said latch means being releasable by lateral movement of the arm to afford actuation of the arm to its signaling position by the spring.

5. A door-controlled signal for a mail box as set forth in claim 4, said pivot means comprising a pin fixed on said plate, said spring being coiled on such pin and urging the arm against said plate, whereby said latch means takes effect on the arm as the latter assumes its idle position.

6. In a door-controlled signal for a mail box, the combination with a mail box having a front end and an opening at such end giving access to the box, a door controlling such opening, and means hinging the door for opening and closing travel, of an elongated signal arm in exterior proximity to a side wall of the box, means pivoting the arm on said side wall to swing about a substantially horizontal axis transverse to the box, between an approximately horizontal idle position and an approximately vertical signaling position, said axis being spaced from the arm ends, the arm being proportioned to forwardly extend, in its idle position, in proximity to an edge portion of the door other than its hinge portion, a cam element on said arm extending into the path of opening travel of the door in the idle position of said arm, a spring urging the arm pivotally toward its signaling position, and coacting means carried by the box and arm between said cam element and the pivot axis of the arm for latching the arm in its idle position in resistance to said spring, said cam element and at least a portion of the arm being laterally actuable by the door in its opening travel to release said latch means.

7. A door controlled signal for a mail box as set forth in claim 1, said pivot means comprising a pin laterally projecting from said side wall, said spring comprising a portion coiled upon said pin and compressed axially of the pin against the signal arm, whereby said latch means takes effect as the arm assumes its idle position.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,204,580	McDonald	Nov. 14, 1916
1,458,836	McDowell	June 12, 1923
1,671,520	Farrell	May 29, 1928
1,685,874	Feist	Oct. 2, 1928
2,421,603	Doppelhammer	June 3, 1947