

[54] **DOOR OPERATED SIGNAL FOR MAILBOXES**

[72] Inventor: **John William Lewis**, 17228 Shumer Road, Strongsville, Ohio 44136

[22] Filed: **Mar. 30, 1970**

[21] Appl. No.: **23,731**

[52] U.S. Cl. .... **232/35, 292/76**

[51] Int. Cl. .... **B65d 91/00**

[58] Field of Search ..... **232/35; 292/76**

[56] **References Cited**

**UNITED STATES PATENTS**

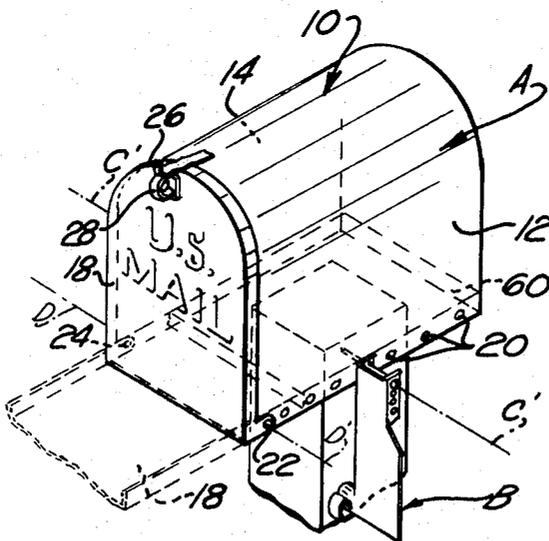
1,154,399	9/1915	Hull .....	292/76
1,654,707	1/1928	Schroyer .....	292/76 X
2,581,880	1/1952	Price .....	232/35
2,639,856	5/1953	Thomas .....	232/35
3,083,046	3/1963	Eberly .....	292/76
3,143,287	8/1964	Holt .....	232/35
3,214,208	10/1965	Swisher .....	292/76

Primary Examiner—Bobby R. Gay  
 Assistant Examiner—Peter A. Aschenbrenner  
 Attorney—Yount and Tarolli

[57] **ABSTRACT**

A door operated delivery signal is disclosed for a mailbox which has an opening at one end, and a door pivotally mounted at substantially its lower edge to the lower portion of the box for pivotal movement between a door open position and a door closed position for covering the opening. The signal includes an elongated member which is adapted to be pivotally secured to one side of the box for pivotal movement about a horizontal axis located rearwardly of the opening, and extending parallel to the door axis between a substantially horizontal latched position where the member extends longitudinally alongside one side of the box from its pivot axis toward the opening, and a downwardly directed substantially vertical unlatched position for signaling mail delivery. A resilient curved member extends from the elongated member in such a manner that in the latched position a curved surface of the resilient member bears against the forwardly facing surface of the door to latch the signal in place. The door cams against the curved surface as it is being opened and the signal is pivotally displaced to its unlatched position.

2 Claims, 7 Drawing Figures



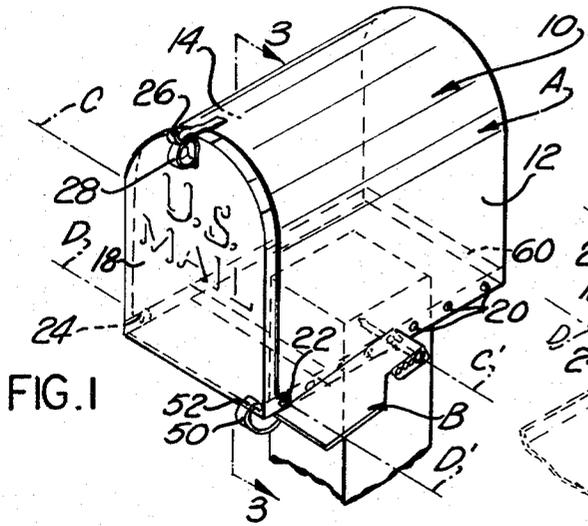


FIG. 1

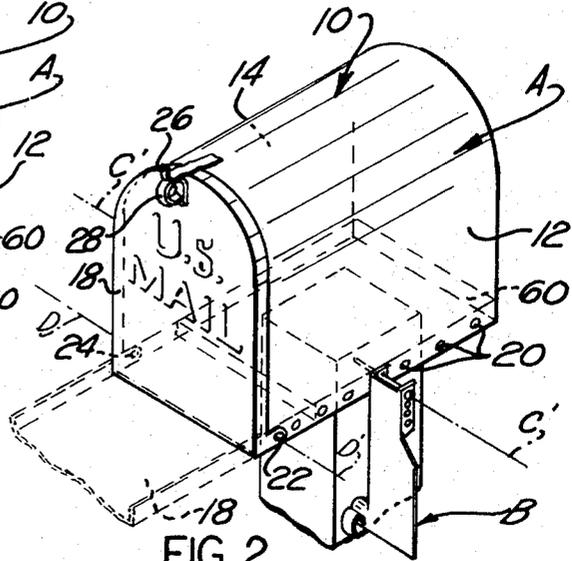


FIG. 2

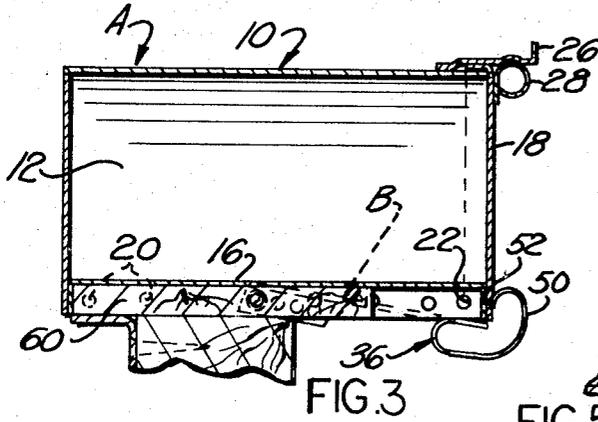


FIG. 3

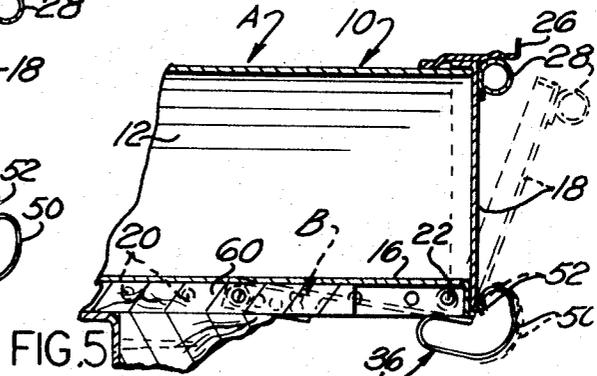


FIG. 5

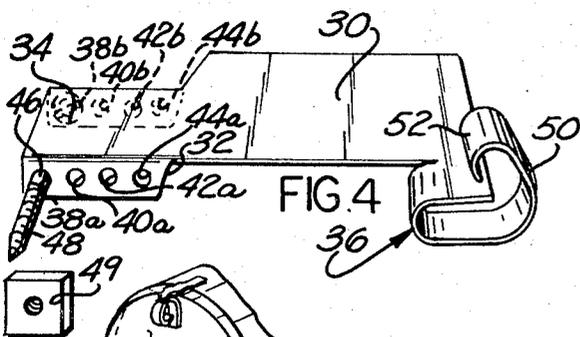


FIG. 4

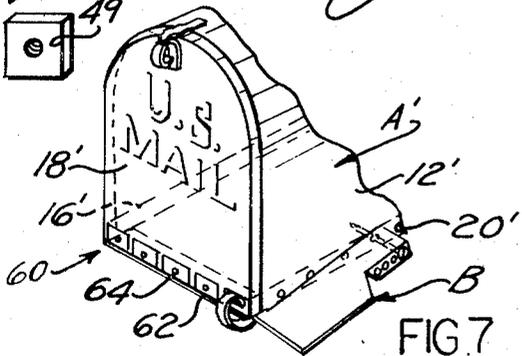


FIG. 7

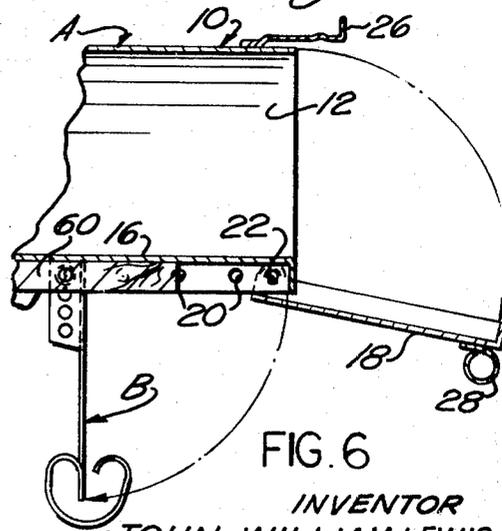


FIG. 6

INVENTOR  
JOHN WILLIAM LEWIS  
BY *Yount and Tarolli*  
ATTORNEYS

**DOOR OPERATED SIGNAL FOR MAILBOXES**

This invention is directed to the art of signaling, and more particularly, to mailbox signals for providing a visual indication to a box holder that mail is contained within the mailbox.

The invention is particularly applicable in conjunction with conventional U.S. Government approved rural mailboxes for signaling that mail has been placed therein; however, it is to be appreciated that the invention has broader applications and may be used, for example, in conjunction with various article receiving containers for signaling that articles have been placed therein.

Typically, in a rural community a mailbox is located at a remote distance from the box holder. Consequently, in the absence of a visually observable signal at the mailbox, the box holder must actually inspect the contents of the box to ascertain whether mail has been delivered. Heretofore, mail delivery signals in the form of flag-like structures have been pivotally mounted on mailboxes and must be manually operated to a mail delivered position. Since structures of this nature require overt acts by mailmen, improvements have been suggested in the prior art by which the mailbox door automatically actuates a signal to a mail delivered position as the door is being opened by a mailman. However, such improvements have normally required that substantial structural modifications be made to a conventional mailbox, such as securing spring clips to the box door for latching a signal in place until it is actuated by the door to a mail delivered position.

The present invention is directed toward an improved mailbox delivery signal which does not require substantial structural modifications to a conventional mailbox, while at the same time accomplishing the desired function of a door operated signal which is automatically displaced to a mail delivered position while the door is being opened.

The invention contemplates that a mailbox, or similar structure, be provided which has walls defining a tunnellike, longitudinally extending structure with a substantially horizontally aligned bottom wall, and having an opening at one end with a door which is pivotally mounted at substantially its lower edge to a lower portion of the box for pivotal movement between a door open position and a door closed position for covering the opening.

In accordance with the present invention, the signal includes an elongated member which is adapted to be pivotally secured to one side of the box for pivotal movement about a horizontal axis, located rearwardly of the opening and extending parallel to the door axis. The elongated member is pivotally movable between a normal, substantially horizontal, latched position where it extends longitudinally along one side of the box from its pivot axis toward the box opening, and a downwardly directed, substantially vertical, unlatched position for signaling mail delivery. A resilient latching means having a curved surface portion is provided and extends from the elongated member in such a manner that in the latched position the curved surface portion resiliently bears against the forwardly facing surface of the door so as to latch the member in place, and also serves, as the door is being opened, to provide a surface against which the door may cam to unlatch the member, whereupon the member is pivotally displaced by gravity forces to its unlatched mail delivery signaling position.

In accordance with a more limited aspect of the present invention, the curved surface portion of the latching means, when in the signal latched position, extends forwardly beyond the forwardly facing surface of the box door and is coiled back upon itself sufficiently to resiliently engage the forwardly facing surface of the door.

In accordance with a still further aspect of the invention, the signal includes a substantially flat portion which has at least one side flange extending substantially perpendicularly therefrom, with the side flange having a plurality of longitudinally spaced apertures defined therein, each aperture being adapted for use in pivotally securing the signal to the box so that a selected one of a plurality of pivot axes for the signal may be used.

The principal object of the invention is to provide a relatively inexpensive door operated mail delivery signal which may be secured to a mailbox without structural modification to the mailbox.

It is a further object of the present invention to provide such a door operated signal which is of unitary construction to minimize the number of parts and, hence, expense to provide the signaling function.

It is a further object of the present invention to provide a door operated mail delivery signal which may be used in conjunction with mailboxes having variously pivoted doors, such as piano hinged or rivet hinged.

These and other objects and advantages of the invention will be more readily appreciated from the following description taken in conjunction with reference to the patent drawings wherein:

FIG. 1 is a perspective view illustrating the preferred embodiment of the delivery signal pivotally secured in a substantially horizontal position to a mailbox;

FIG. 2 is a perspective view similar to that of FIG. 1 illustrating the delivery signal in its unlatched mail delivery signaling position;

FIG. 3 is a sectional view taken along line 3—3 in FIG. 1 looking in the direction of the arrows;

FIG. 4 is an enlarged perspective view illustrating the preferred embodiment of the delivery signal in accordance with the present invention;

FIG. 5 is a fragmentary view similar to that of FIG. 4;

FIG. 6 is a view similar to that of FIG. 5, but with the mailbox door being in an open position; and,

FIG. 7 is a view similar to that of FIGS. 1 and 2, but showing an application of the invention to a mailbox having a door pivotally secured thereto by means of a piano-type hinge rather than the rivet-type hinge shown in the aforementioned figures.

Referring now to the drawing wherein the showings are for purposes of illustrating a preferred embodiment of the invention only and not for purposes of limiting same, FIGS. 1 and 2 generally illustrate a conventional U.S. Government approved mailbox A to which, in accordance with the present invention, a delivery signal B is pivotally secured for pivotal movement about an axis C—C' between a substantially horizontal latched position, as shown in FIG. 1, and a downwardly directed vertical unlatched position for signaling mail delivery, as shown in FIG. 2.

Mailbox A is representative of a typical U.S. Government approved mailbox for rural delivery mail. Briefly, such a mailbox, as shown in FIGS. 1, 2 and 3, is constructed of sheet metal, including a metal sheet bent back upon itself to define an inverted U-shaped structure 10 having opposed side walls 12 and 14. A substantially horizontally aligned flat bottom wall 16 is suitably secured to the side walls 12 and 14. Door 18 is pivotally mounted at substantially its lower edge to a lower portion of the mailbox A for pivotal movement between a door open position and a door closed position for covering the opening of the forward end of the mailbox. As shown in FIG. 3, the lower edges of side walls 12 and 14 extend below bottom wall 16 providing elongated side flanges in which a plurality of longitudinally spaced apertures 20 are defined. Two of these apertures, located adjacent the forward edges of side walls 12 and 14, serve to pivotally mount door 18 by means of rivets 22 and 24, so that the door 18 pivots about a horizontal axis D—D' located behind door 18 and above the lower edge of box 10 and slightly below bottom wall 16. As is conventional, cooperating spring clips 26 and 28 are respectively secured to the upper portion of door 18 and the upper surface of the mailbox.

In accordance with the present invention, the delivery signal B is pivotally mounted to the lower edge of one of the side walls, such as side wall 12, of the mailbox. As shown in FIG. 4, the delivery signal B is of unitary construction and generally includes a substantially flat portion 30 configured with a flag-like appearance, a pair of opposed side flanges 32 and 34 ex-

tending perpendicularly from opposed edges of flat portion 30, and a latching member 36 extending from the flat portion 30. Side flanges 32 and 34 are respectively provided with apertures 38a, 40a, 42a, 44a and 38b, 40b, 42b and 44b. These apertures are aligned in registry so that a pivot shaft may extend through a pair of aligned apertures to define an axis which will be perpendicular to a side wall, such as side wall 12, of the mailbox A. The pivot shaft may take the form of threaded wood screw 46 having a pointed threaded portion 48 suitable for being secured in a block of wood, or being secured in place with a nut 49. Preferably, the portion of screw 46 that extends between side flanges 32 and 34 is cylindrical in shape to facilitate pivotal movement of delivery signal B.

Delivery signal B is preferably constructed of resilient material so that when latching member 36 is coiled back upon itself it will have a substantial degree of resiliency. Preferably, delivery signal B is constructed of sheet metal; however, other materials, such as various plastic materials, can be used.

The latching member 36, as shown in FIG. 4, is integral with and is cantilevered from the flat portion 30 of delivery signal B. Also, latching member 36 is coiled back upon itself to provide a curved portion 50, which is substantially C-shaped in cross section. When mounted to the mailbox, as shown in FIG. 3, portion 50 provides a bearing surface 52 for engaging the forwardly facing surface of door 18.

Delivery signal B is secured to the lower edge of mailbox A, such as alongside the lower edge of side wall 12, by utilizing screw 46 extending through one of the conventionally provided apertures 20. As shown in FIG. 3, screw 46 is threaded directly into a wooden support plate 60. In the event, however, that no wooden support plate is provided, the delivery signal B is secured directly to lower edge of side wall 20 by means of nut 49.

In securing delivery signal B to the mailbox it is important that bearing surface 52 engage the forwardly facing surface of mailbox door 18. Also, as it is an object of this invention to utilize the apertures 20, normally provided along the lower edge of the side walls of a mailbox, it is preferred that no additional apertures be made. Consequently, when installing delivery signal B to a mailbox, one of the pairs of apertures 38a, 38b, etc., should be chosen, which upon installation of delivery signal B will permit bearing surface 52 to engage door 18. If additional adjustment is required to obtain resilient engagement of latching member 36 with door 18, then the C-shaped portion 50 should be either slightly uncoiled or further coiled upon itself to obtain a proper fitting.

Referring now to FIG. 5, the solid lines illustrate the mailbox door 18 in its closed position and the delivery signal B in its latched position, with bearing surface 52 in snug resilient engagement with the forwardly facing surface of the mailbox door. As door 18 is opened, as shown by the dotted lines in FIG. 5, the forwardly facing surface of the door will cam against bearing surface 52 causing latching member 36 to be displaced somewhat, as shown by the dotted lines in FIG. 5. Continued opening movement of door 18 will, as shown in FIG. 6, unlatch signal B so that by gravity forces it pivots about its axis C—C' to its downwardly directed position for signaling mail delivery.

Reference is now made to FIG. 7, which illustrates another application of the invention to a mailbox A' constructed in the same fashion as that illustrated in FIGS. 1 through 6, with the

exception that floor 16' is substantially flush with the lower edge of side wall 12' and that door 18' is secured to bottom wall 16' by means of a piano hinge 60 having leafs 62 suitably secured to bottom wall 16' and leafs 64 secured to door 18'. In this application, delivery signal B is secured to side wall 12' as by a nut and bolt arrangement. Since floor 16' is substantially flush with the lower edge of side wall 12' the delivery signal B in its latched position is canted slightly from absolute horizontal alignment in order for latching member 36 to extend beneath bottom wall 16' and then upwardly and back upon itself to resiliently engage the forwardly facing surface of door 18', in the manner shown in FIG. 7. The operation of delivery signal B in this application of the invention is substantially the same as that discussed hereinbefore with reference to mailbox A and, accordingly, no further description of operation is deemed necessary for a complete understanding by one skilled in the art.

Although the invention has been described and shown in conjunction with a preferred embodiment, it will be readily apparent to those skilled in the art that various changes in form and arrangement of parts may be made to suit requirements without departing from the spirit and scope of the invention as defined by the appended claims.

Having thus described my invention, I claim:

1. A delivery signal for a mailbox or the like having walls defining a tunnellike, longitudinally extending, structure with a substantially horizontally aligned bottom wall and having an opening at one end and a door pivotally mounted at substantially its lower edge to a lower portion of said box for pivotal movement between a door open position and a door closed position for covering said opening; said signal comprising an elongated member located alongside said mailbox and secured to only one exterior side of said box for pivotal movement about a horizontal axis, located rearwardly of said opening and extending parallel to said door axis, between a normal, substantially horizontal, latched position where said member extends longitudinally along said one side of said box from its pivot axis toward said opening and a downwardly directed, substantially vertical, unlatched position for signaling mail delivery; and, resilient latching means having a curved surface portion and being integral with and extending from said member in such a manner that in said latched position said surface portion resiliently bears against the forwardly facing surface of said door to latch said member and so that as said door is opened it cams against said surface portion to unlatch said member whereupon said member is pivotally displaced by gravity forces to its unlatched position, said curved portion being integral with and cantilevered from said member and is coiled so that it initially extends rearwardly of said door, then downwardly below the lower edge of said box, then forwardly of said door, then upwardly above the door pivot axis, and then downwardly toward the door for engaging the forwardly facing surface of said door.

2. A delivery signal as set forth in claim 1, wherein said member includes a substantially flat portion configured with a flag-like appearance and at least one side flange extending substantially perpendicularly therefrom, said side flange having a plurality of longitudinally spaced apertures defined therein, each being adapted for use in pivotally securing said member to said box so that one of a like plurality of pivot axes for said member may be chosen.

\* \* \* \* \*

65

70

75