United States Patent

[11] 3,623,655

[72] Inventor **Peter P. Tieszen**
Reedley, Calif.

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[73] Assignees **Samuel Tieszen;**
Waldo H. Pust
Savage, Mont., part interest to each

[54] **MAILBOX**
7 Claims, 5 Drawing Figs.

[52] **U.S. Cl.** **232/35**
[51] **Int. Cl.** **A47g 29/12**
[50] **Field of Search** 232/34, 35

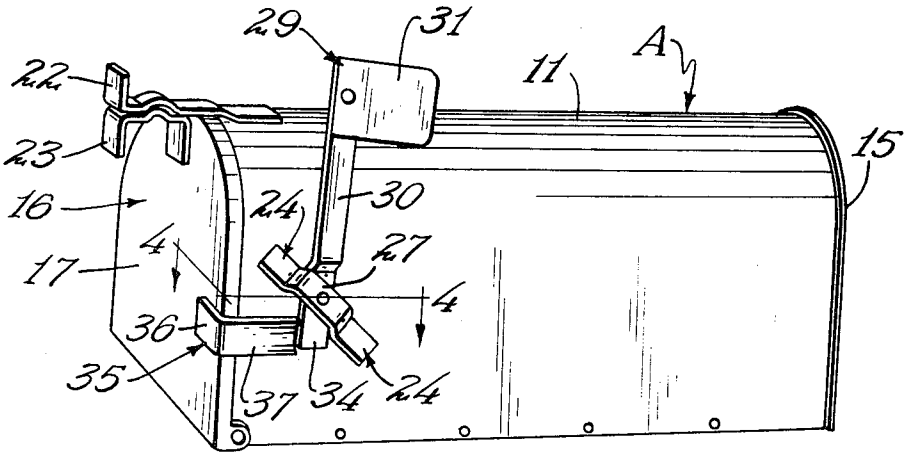
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Primary Examiner—Francis K. Zugel
Attorney—Robert M. Dunning

ABSTRACT: A mailbox is provided, having a door opening normally closed by a door hingedly connected to the mailbox along the horizontal lower edge of the door. A signal standard is pivoted to one side of the mailbox to pivot between horizontal and vertical position. An arm is provided having a concavo-convex end, the arm being secured to the door and extending below the lower end of the signal standard in horizontal position thereof. When the signal standard is pivoted to vertical signaling position while the door is closed, the signal standard swings between the arm and the mailbox wall and is engaged by the end of the arm to hold the signal arm in vertical position.



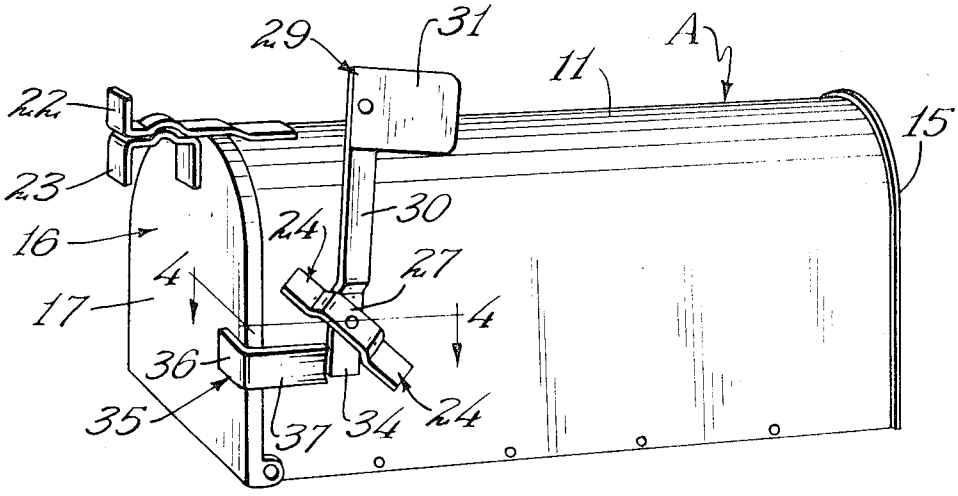


FIG. 1

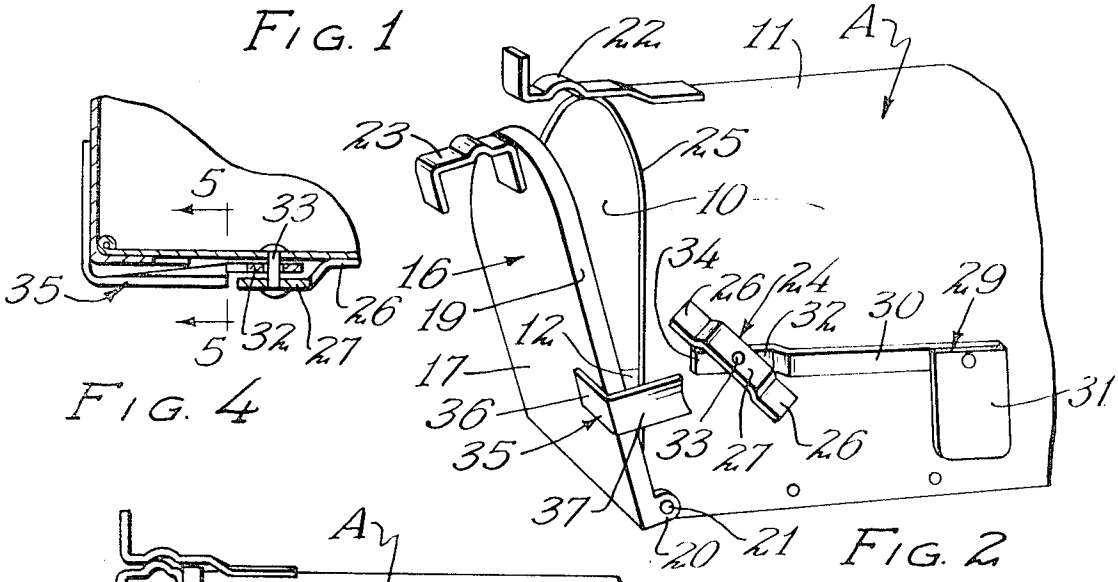


FIG. 4

FIG. 2

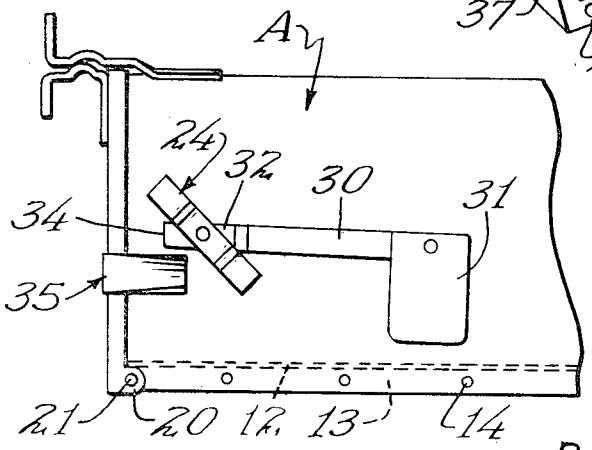


FIG. 3

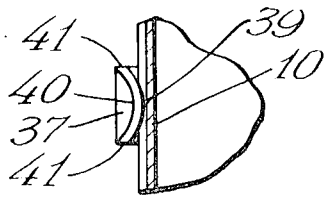


FIG. 5

INVENTOR
PETER P. TIESZEN
BY Alfred M. Dunning
ATTORNEY

MAILBOX

BACKGROUND OF THE INVENTION

This invention relates to an improvement in mailboxes, and deals particularly with a signal which sill automatically pivot into lowered position when the door of the mailbox is opened.

A great number of mailboxes have been designed which include signals which may be raised by the owner of the box to indicate when mail is to be picked up. Some of these are provided with means of lowering the signal when the door of the mailbox is opened. Some such devices include signaling flags which are slidably and pivotally supported so that the signaling flag may be swung from horizontal position to vertical position while the door is closed and which will slide downwardly into a position where the flag is locked in vertical position. For example, U.S. Pat. No. 1,626,320 issued Apr. 26, 1927, to Alms shows a structure in which the signal is automatically lowered when the door of the mailbox is opened, and yet which may be swung into upright position while the door is closed, by pivoting the signal into vertical position, and dropping it downwardly into latching position.

Such slidable supports for the signal arms are not particularly satisfactory in cold climates where the sliding of the signal may be hindered by ice. Furthermore, the pivot must of necessity be arranged to engage the signal freely enough so that the signal may slide as well as pivot. The slot in the arm of the signal weakens the signal very materially. As a result signals which slide as well as pivot have not met much favor with the postal department.

Other signals such as that shown in the U.S. Pat. to Maserang No. 1,535,677 and issued Apr. 28, 1925, show signals which are pivotally supported for movement from a vertical to a horizontal position, and which automatically swing from vertical to horizontal position when the door of the mailbox is opened. However, devices of this type require that the door be opened when the signal is swung from horizontal to signaling position.

SUMMARY OF THE INVENTION

The present invention resides in the provision of a simple device which may be swung into vertical position when the door of the mailbox is closed, and which will automatically pivot into horizontal position when the door is opened. The device requires virtually no more space than is required by any conventional box having a pivotal signal, and adds but a single part to the mailbox construction. Because of the simplicity of the device and its reliability of operation, the mailbox structure has already been given approval by the post office department which is not believed true of most of the structures shown in the prior art of the patents.

An object of the present invention resides in the provision of a signaling flag including a supporting standard pivotally connected to a sidewall of the mailbox in such a manner that it will pivot from substantially vertical position to substantially horizontal position. The lower end of the standard is designed to extend above the short arm projecting from the door of the mailbox. The projecting end of the standard swings beneath the projecting end of the flag standard when the flag standard is in horizontal position. When in vertical position, the end of the arm engages against this projecting end of the standard and the flag remains in vertical position until the door of the mailbox is opened.

A very important feature of the present invention resides in the construction of the arm attached to the mailbox door. This arm is of concavo-convex cross-sectional shape, with the center of the convex side of the arm virtually engaging the wall of the mailbox or being in very closely space relation thereto. This cross-sectional shape of the arm is of importance, and serves a plurality of purposes. In the first place, as the door is swung shut, a portion of the edge of the arm which is normally spaced from the wall of the mailbox when the door is closed first passes over the wall of the mailbox so that any slight misalignment of the arm will have no effect on the operation. The

convex surface of the arm acts as a cam to guide the arm over the sidewall of the mailbox. However, of more importance is the fact that when the flag is in horizontal position, the arm is positioned below the projecting end of the flag standard.

The flag standard has its lower end portion in face contact with the wall of the mailbox. Accordingly, a pivotal movement of the signal flag to swing the signal into upright position causes the projecting end of the standard to wedge between the convex surface of the arm and the mailbox wall, flexing the arm away from the mailbox wall sufficiently to permit the standard to be raised into vertical position. The arm attached to the door is made of material sufficiently rigid to normally remain in fixed position, but also sufficiently resilient to flex outwardly as the projecting end of the signal standard pivots between the arm and the mailbox wall. As soon as the flag standard reaches vertical position, it swings from beneath the resilient arm, permitting the arm to swing back into contact with the mailbox wall or into closely spaced relation thereto, the end of the arm then serving as a stop to prevent downward swinging of the signal arm until the door of the mailbox is opened. Thus, the entire automatic operation is accomplished by simple resilient arm which is capable of flexing to permit the raising of the signal but which serves as a stop to prevent the reverse pivotal movement.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a mailbox showing the signal flag in erected position.

FIG. 2 is a perspective view of the mailbox with the door partially open position, and showing the signal flag in its horizontal or nonsignaling position.

FIG. 3 is a side elevational view of a portion of the mailbox, showing the general construction thereof.

FIG. 4 is a sectional view through the signal pivot, the position of the signal being indicated by the line 4—4 of FIG. 1.

FIG. 5 is a sectional detail showing the end of the arm on the mailbox door, the position of the section being indicated by the line 5—5 of FIG. 4.

The mailbox is indicated in general by the letter A, and is of generally conventional form. The mailbox body comprises a structure having parallel sides **10** and a semicylindrical connecting top portion **11**. The bottom is usually of generally inverted U-shaped form including a bottom panel **12**, and parallel side portions **13** which are welded or riveted to the lower edges of the side walls as indicated at **14**.

The mailbox is preferably provided with a closed rear end **15** which is not shown in detail, and a hinged front closure or door **16** having a front panel **17**, and a peripheral right angularly turned flange **19** extending along the parallel sides and rounded top of the door panel **17**. Parallel ears **20** project rearwardly from the lower ends of the flange **19**, and aligned pivots **21** pivotally support the door. The pivots extend through the ears **20** and the mailbox sides **10**. The mailbox normally includes a latch portion **22** projecting forwardly from the top portion of the body, and a cooperable latch portion **23** welded or otherwise secured to the upper portion of the door **16**. The latch portions **22** and **23** frictionally engage together to hold the door in a closed position. In view of the fact that the structure described is conventional, it has not been described in great detail.

An upwardly and forwardly slanted bracket **24** is spot welded or otherwise secured to the outside wall of the mailbox on one of the vertical sides **10** near the door opening **25**. The bracket **24** includes coplanar end portions **26**, and an offset center portion **27**. A signal flag is indicated in general by the numeral **29**. The flag **29** includes a standard portion **30** one end of which is riveted or otherwise secured a flat flag panel **31** of suitable shape and design. The standard **30** is provided with a parallel offset lower end portion **32** which extends

through the loop form by the offset central portion 27 of the bracket 24. A pivot 33 pivotally connects the standard to the bracket and the wall of the mailbox. The lower end 34 of the offset end 32 projects slightly beyond the ends of the central offset portion 27 of the bracket, and the dimensions of the bracket and of the flag standard are such that when the standard is in one extreme position illustrated in FIG. 2 of the drawings, the projecting standard end 34 engages the bracket at one end of the offset center portion 27 to limit pivotal movement in this direction. When the standard is swung into the vertical position indicated in FIG. 1 of the drawings the projecting end portion 34 engages the other end of the central offset portion 27 of the bracket 24, limiting the pivotal movement in this direction.

An angularly bent arm 35 is provided, having one end 36 spot welded or otherwise secured in face contact with the front surface of the door panel 17. The other end 37 of the finger 35 is designed to extend along the outer surface of the mailbox sidewall to which the flag 29 is hinged. The arm end 37 is provided with a convex inner surface 39 and a concave outer surface 40 as is indicated in FIG. 5 of the drawings. The convex surface 39 extends into closely spaced relation to the wall 10 and in any event is spaced therefrom a distance less than the thickness of the strip forming the standard 30 and any spacing washer between the standard and the wall 10. As is indicated in FIG. 3 of the drawings when the signal flag is lowered, the end extremity of the arm member 37 is directly beneath the end 34 of the standard 30. The standard end 34 is spaced from the arm 35 a distance just sufficient to permit the door 16 of the mailbox to be closed without interference with the flag standard.

The flag may be pivoted into vertical position while the door is in closed position. This is accomplished by merely grasping the flag or standard and swinging it in a counterclockwise direction from the position shown in FIGS. 2 and 3 of the drawings to the position shown in FIG. 1. The side edges 41 of the concavo-convex arm are spaced from the wall of the mailbox a distance greater than the thickness of the flag standard, and the arm is made of material sufficiently resilient to flex away from the wall 10 a short distance. As a standard 30 is pivoted, the projecting end 34 swings between the convex surface of the finger end 37 and the mailbox wall 10. This action flexes the arm end 37 away from the wall 10. As soon as the projecting end 34 reaches the upright position indicated in FIG. 1 the standard swings free of the arm end 37 and this arm snaps back into position adjoining the wall 10. The end extremity of the arm end 37 engages against the side edge of the end portion 34 of the signal arm as is indicated in FIG. 1 of the drawings, and the flag is held in an elevated position until the door 16 is swung open, releasing the flag standard and permitting it to drop by gravity into the horizontal position shown in FIGS. 2 and 3.

I claim:

1. In combination with a mailbox having an open end, and a door hingedly connected to the mailbox along a generally horizontal axis;

a signal standard pivotally connected to said mailbox on a generally horizontal pivot,

means supporting said signal standard for pivotal movement from generally horizontal position to a generally vertical position,

a resilient arm attached to said door and having a convex end directed toward said mailbox so that when the door is closed the arm is horizontal with the central portion of said end closely adjacent said mailbox and the upper and lower side edge portions spaced from said box,

said signal standard including an end pivotal between said arm and said mailbox when swinging from horizontal to vertical position, and

said resilient arm end engaging the end of said signal standard when in vertical position to hold said signal standard in generally vertical position.

2. The structure of claim 1 and in which said means supporting said signal standard includes a bracket overlying said signal standard and engageable therewith to limit pivotal movement thereof.

3. The structure of claim 2 and in which said means pivotally supporting said standard includes a pivot extending through said bracket.

4. The structure of claim 2 and in which said bracket extends at an angle of substantially 45° to horizontal.

5. The structure of claim 1 and in which said means supporting said signal standard includes a bracket having an intermediate portion offset from said mailbox to accommodate said signal standard therebetween.

6. The structure of claim 5 and in which the ends of said offset portion limit the pivotal movement of said standard.

7. The structure of claim 5 and in which said bracket extends at an angle of about 45° to the horizontal.

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