June 3, 1947. J. DOPPELHAMMER 2,421,603

MAIL BOX SIGNALING DEVICE

Filed Jan. 6, 1945

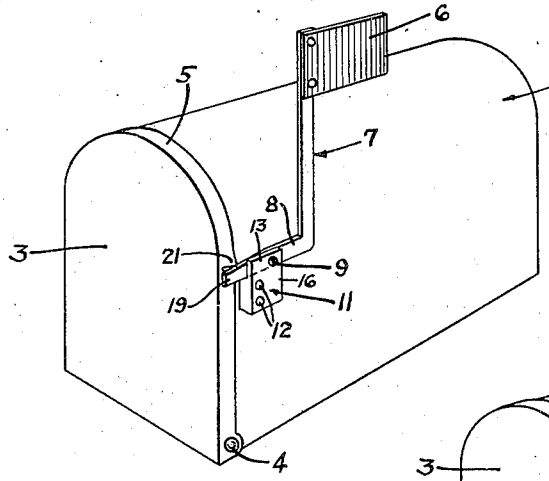


FIG. 1

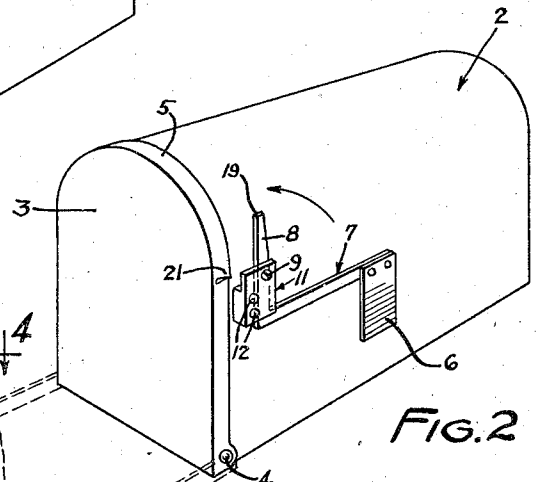


FIG. 2

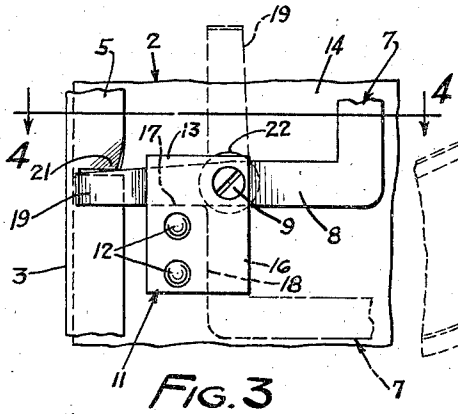


FIG. 3

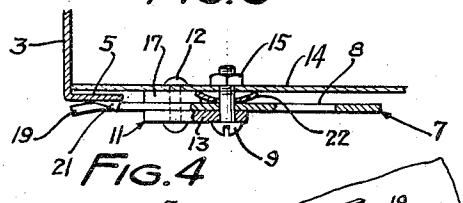


FIG. 4

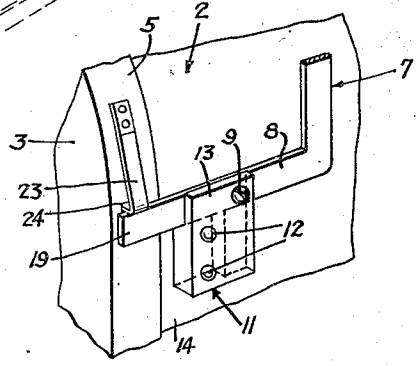


FIG. 5

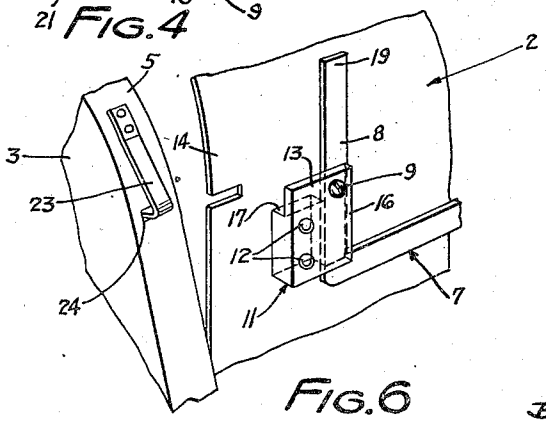


FIG. 6

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MAILBOX SIGNALING DEVICE

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2 Claims. (Cl. 232—35)

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This invention relates to new and useful improvements in mail boxes and more particularly to a signal device adapted for use on a mail box to indicate when mail has been placed therein.

An object of the present invention is to provide a simple and inexpensive signaling device which may readily be mounted on a conventional mail box at low cost, and which is extremely simple and inexpensive in construction and operation.

A further object is to provide a signaling device of the class described comprising a signal flag secured to an arm which in turn is pivotally mounted on a wall of the mail box whereby the signal flag carried by said arm may readily be moved into signaling position, when mail is placed in the mail box by the mail man or by the owner of the box.

A further and more specific object is to provide a signaling device for mail boxes comprising a supporting arm of angular formation having a signaling flag secured to one of its legs and having its other leg pivotally mounted on a wall of the mail box at a point intermediate the ends of said leg, whereby when the supporting arm carrying the signal flag is swung into signaling position the free end of the other leg of the arm is swung into position to engage a detent carried by the door of the mail box, when said door is closed, thereby to retain the signal in signaling position, the mounting of said signal arm being such that when the door of the mail box is opened, the signal flag will assume a non-signaling position and will remain so until again manually swung into signaling position when the mail is placed in the mail box and the door is closed.

Other objects of the invention reside in the simple manner in which the signal is secured to a wall of the mail box; in the formation of the detent in the flange of the door which is so related to the free end of the signal supporting arm that when the signal is swung into signaling position when the mail box door is closed, said free end portion will lockingly engage said detent and thereby support the signal in signaling position; and in the formation of the pivot block for supporting the signal arm, which block has means for limiting swinging movement of the arm in both directions and also for permitting limited lateral movement of the supporting arm, whereby it may yield when the free end thereof is snapped into locking engagement with the detent on the door, when moving the arm into signaling position after the door is closed.

Other objects of the invention will appear from the following description and the accompanying

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drawing and will be pointed out in the annexed claims.

In the accompanying drawing there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown, as various changes may be made within the scope of the claims which follow.

In the drawing:

Figure 1 is a perspective view of a conventional mail box showing the invention applied thereto and in signaling position;

Figure 2 is a view similar to Figure 1, showing the signal in non-signaling position;

Figure 3 is an enlarged detail view showing the means for locking the signal arm in signaling position;

Figure 4 is a sectional plan view on the line 4—4 of Figure 3;

Figure 5 is a fragmentary view of a portion of a mail box showing a modified form of detent, the signaling arm being shown in signaling position; and

Figure 6 is a view similar to Figure 5, showing the door partially opened to release the signaling arm.

In the selected embodiment of the device herein disclosed, there is illustrated in Figures 1 and 2, for purposes of disclosure, a conventional mail box generally designated by the numeral 2, provided with a door 3 hinged to the body of the box by suitable pivots 4. The door is shown provided with a marginal flange 5 which in the form of the mail box herein disclosed, fits over the open end of the box when the door is closed.

An important feature of the present invention resides in the novel means provided for indicating when mail has been placed in the mail box. It is not broadly new to provide mail boxes with some sort of signal which may be moved into signaling position when mail is placed in the mail box to indicate that the box contains mail which should be removed therefrom. Most such devices now in common use are rather complicated and expensive in construction, and therefore have not become universally used. Others of the more simpler type have been so fashioned that when moved or swung into signaling position, they could remain in such position when the door of the mail box is opened, unless manually moved into non-signaling position by the mail man or owner of the box.

The novel signaling device herein disclosed has been designed in an effort to provide such a device

wherein all of the objectionable features now present in devices of this general type have been eliminated, whereby such a device is provided which is extremely simple and inexpensive in construction and operation, and which is such that when in signaling position and the door of the mail box is opened, the signal will automatically move into non-signaling position and will remain so until the door of the mail box is again closed and the signal is manually moved into signaling position. In other words, the novel signal herein disclosed is so constructed that it cannot be retained in signaling position when the door of the mail box is open, whereby when the door is opened the signal will immediately assume a non-signaling position.

The novel signaling device herein shown is shown comprising a signal flag 6 secured to one end of an arm 7 having an offset portion or leg 8 at its lower end which is supported intermediately of its ends by a pivot pin 9 secured to a pivot block 11 which, in turn, is secured to a wall of the mail box by suitable means such as rivets 12. The pivot pin 9 in the present instance is shown extending through the upper wall portion or flange 13 of the pivot block and the wall 14 of the mail box and may be secured in position by applying a nut 15 to the threaded end of the pivot pin or screw.

The wall 13 of the pivot block 11 constitutes, in effect, a flange which is disposed in a common plane with a flange or wall portion 16 of the pivot block. By so constructing the pivot block, abutment shoulders or faces 17 and 18 are adapted to be engaged by the lower edge of the leg 8 of the supporting arm 7, thereby to limit the swinging movement of the arm in both directions, as will be understood by reference to Figure 3.

The free end portion 19 of the leg 8 of the arm is adapted to be swung into position to engage a detent 21 shown provided in the flange 5 of the door 3 of the mail box, whereby when the door is closed, as shown in Figures 1, 3, and 4, and the signal 6 is swung into signaling position as illustrated in Figure 1, the free end portion 19 of the signal arm will engage beneath the detent 21 and thereby retain the signal arm in signaling position, as will readily be understood.

To facilitate swinging the free end 19 of the supporting arm into locking engagement with the detent 21, when the door 3 is in closed position, a suitable spring washer 22 is shown provided on the pivot pin 9 between the leg 8 of the supporting arm and the adjacent face of the wall 14 of the mail box. This washer normally holds the signal arm outwardly against the wall flanges 13 or 16, but permits the leg 8 of the signal arm to move laterally or in other words, axially on the pivot pin 9 within certain limits, thereby to permit the free end portion 19 of the arm to laterally swing over the detent 21 and snap into locking engagement therewith.

From the foregoing it will be noted that when the door of the mail box is closed as shown in Figure 2, and the signal is swung upwardly as indicated by the arrow in said figure, the end portion 19 of the leg 8 of the signal arm will move into locking engagement with the detent 21, whereby the signal arm is retained in signaling position so long as the door of the mail box remains closed. Immediately upon opening of the mail box door, the signal flag 6 will assume its non-signaling position, shown in Figure 2, returning to such position by gravity as the pivot pin 9 is so located with respect to the signal flag 6 that gravity will quickly swing the flag into non-signaling position when the detent 21 is moved out of locking engagement with the supporting arm by opening the door 3 of the mail box. It will thus be seen that the signal flag cannot be retained in signaling position unless the door of the mail box is closed.

In Figures 5 and 6 there is illustrated a construction comprising a yieldable detent 23 which may be formed of flat spring stock having one end secured to the flange 5 of the cover 3 by such means as rivets. The opposite end of the detent 23 is bent inwardly and may pass through a suitable aperture 24 provided in the flange 5, as clearly illustrated in the drawing. The detent 23 functions in a manner similar to the detent 21 shown in the previous figure, except that it may yield somewhat should the end portion 19 of the signaling arm 7 be swung into locking engagement therewith when the door of the mail box is closed.

In some instances it may be desirable to attach a small spring to the arm 7 to constantly exert a force thereon to swing it into non-signaling position. From actual experience, however, I have found that by constructing the arm as herein disclosed, gravity will quickly swing the arm into non-signaling position when the door of the mail box is opened.

It will be apparent to those skilled in the art that I have accomplished at least the principal objects of my invention, and it will also be apparent to those skilled in the art that the embodiments herein described may be variously changed and modified without departing from the spirit of the invention, and that the invention is capable of uses and has advantages not herein specifically described; hence it will be appreciated that the herein disclosed embodiments are illustrative only, and that my invention is not limited thereto.

I claim as my invention:

1. In combination with a mail box having an open end and a door for closing said open end, a signal device including a mounting bracket secured to the side wall of the box, said mounting bracket being formed with a rearwardly extending flange spaced outwardly from the adjacent wall of the mail box and extending upwardly from the bottom of the bracket and forwardly to the front end thereof, and disposed in substantially a vertical plane, and a signal arm of substantially L-shaped configuration comprising angularly disposed legs, one of said legs being pivoted to the upper rear portion of the bracket flange and adapted, when in substantially a horizontal position, to interlock with means on the door to secure the signal arm with its other leg in an upright signalling position when the door is closed, the mounting of said signal arm on the mounting bracket being such that when the signal arm is in signalling position and the door is opened, said signalling arm will gravitate to a non-signalling position.

2. In combination with a mail box having an open end and a door for closing said open end, a signal device including a mounting bracket secured to the side wall of the box, said mounting bracket being formed with a rearwardly extending flange spaced outwardly from the adjacent wall of the mail box and extending upwardly from the bottom of the bracket and forwardly to the front end thereof, and disposed in substantially a vertical plane, and a signal arm of substantially L-shaped configration comprising an-

gularly disposed legs, one of which is longer than the other, the relatively shorter leg being pivoted to the upper rear portion of the bracket flange and adapted to interlock with means on the door to secure the signal arm with its other relatively longer leg in an upright signalling position when the door is closed, the mounting of said signal arm on the mounting bracket being such that when the signal arm is in signalling position and the door is opened, said signalling arm will gravitate to a non-signalling position.

JOHN DOPPELHAMMER.

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