May 23, 1961 H. J. STAPLETON 2,985,360

MAIL BOX SIGNAL

Filed April 21, 1958

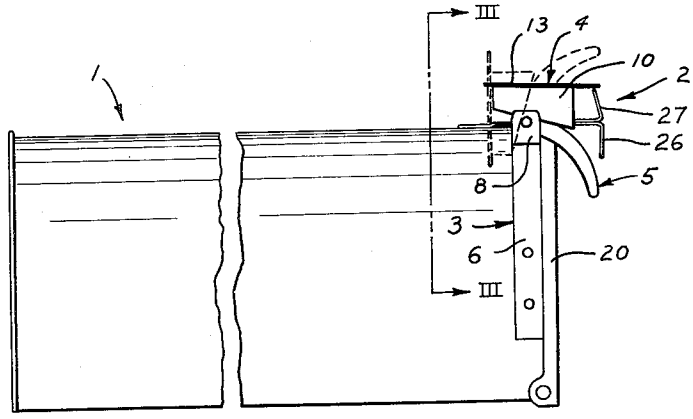


Fig. 1

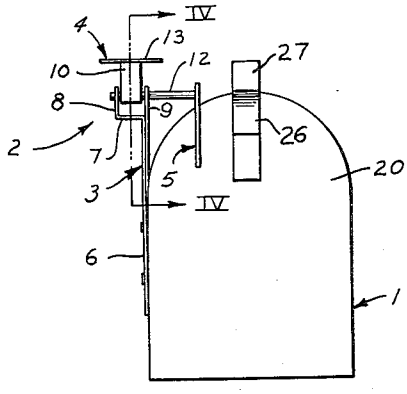


Fig. 2

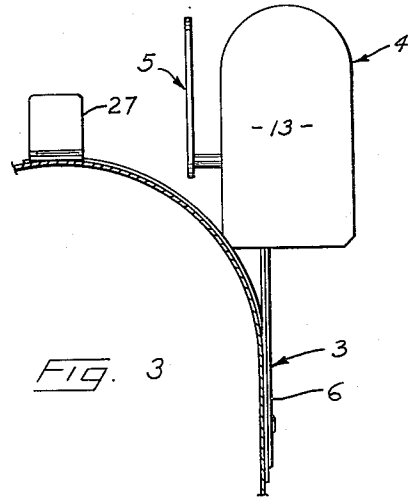


Fig. 3

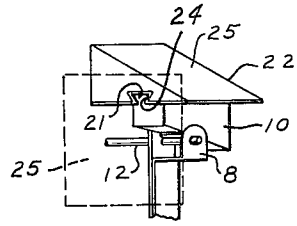


Fig. 5

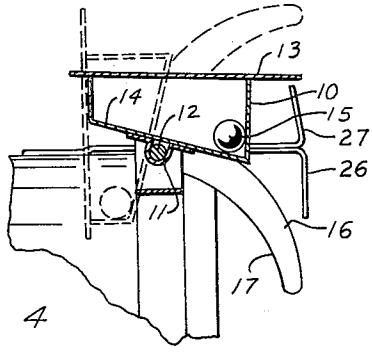


Fig. 4

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MAIL BOX SIGNAL

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3 Claims. (Cl. 232—35)

This invention relates to a signal device for a rural-type mail box and particularly to a type thereof in which the signal device can be pre-set and will then be automatically actuated upon the opening of the door of the mail box.

Persons living in rural areas, or suburban areas served by rural-type mail delivery, have long desired to be able to ascertain whether mail is in a mail box without actually going to the box and looking in it. Boxes of this type are often placed at a substantial distance from the house served thereby and, particularly in unpleasant weather, it is undesirable to have to make a journey to the mail box merely to look inside of it. A very large number of devices have been proposed in which some sort of a signal is automatically actuated when the door of a rural-type mail box is opened for the deposit of mail therein but, insofar as I am aware, these signals are either unreliable in operation, unattractive in appearance, cumbersome to pre-set, expensive to make or install, or have been undesirable from the standpoint of the postal authorities and hence their use has not been permitted. Thus, no completely satisfactory solution to this problem has thus far been devised.

Therefore, a principal object of the invention has been to provide a signal device which can be attached to a standard rural-type mail box, which will not interfere with the placing of mail in the mail box by the carrier but which will give a signal when the door of the mail box is opended.

A further object of the invention has been to provide a signal device, as aforesaid, which can be easily pre-set with one hand by the box owner as desired and which will function automatically to provide a visual signal when the mail box door is opened without requiring any special attention of any nature whatever on the part of the mail carrier.

A further object of the invention has been to provide a signal device, as aforesaid, which will be relatively inexpensive to manufacture and to install and which is reasonably attractive in appearance, whether in an activated or unactivated position.

A further object of the invention has been to provide a signal device, as aforesaid, which will be of sufficiently simple construction that it can be made of sturdy and reliable parts and will therefore present virtually no maintenance problems.

A further object of the invention has been to provide a signal device, as aforesaid, which can, if desired, be made separately from the mail box, which can in such case be readily attached to mail boxes of a wide variety of constructions and which can be so attached by means which can be readily manipulated by the average purchaser and by the use of only simple tools, if any.

A further object of the invention has been to provide a signal device, as aforesaid, which will give a readily visible signal and wherein the position of the signal with respect to the mail box can be changed within reasonable

limits so that the signal can be viewd from different directions.

A further object of the invention has been to provide a signal device, as aforesaid, which when tripped by the opening of the door of the mail box will remain firmly in tripped position and will not be materially affected by wind or other normal external forces operating thereon and will continue to present its signal until it is manually reset.

Other objects and purposes of the invention will become apparent to person acquainted with devices of this general type upon a reading of the following specification and inspection of the accompanying drawings.

In the drawings:

Figure 1 is a partially broken side view of the mail box with the signal device mounted thereon and showing in broken lines the position assumed by the signal device when the door of the mail box has been opened.

Figure 2 is an end elevation view taken from the rightward end of the mail box as appearing in Figure 1.

Figure 3 is a sectional view taken along the line III—III of Figure 1 and showing the signal device in the position assumed when the door of the mail box has been opened.

Figure 4 is a sectional view taken along the line IV—IV of Figure 2.

Figure 5 is an oblique view of a modified signal device and showing in broken lines the psition assumed by the signalling surface after the door of the mail box has been opened.

In general

In general, the mail box signal device comprises a signal pivotally mounted on the mail box and having a trigger mechanism extending in front of the box door. The signal is movable between two positions, one of which is an activated position indicating that the door of the mail box has been opened since the last time the signal was set and the other of which is an inactivated position indicating the door has not been opened. A movable weight is associated with the signal in such a manner it will tend to hold the signal in which ever position it occupies at any given time. Thus, when the signal is set, the weight will hold it in the inactivated position until the mail box door is opened. When this occurs, the signal is moved to its activated position and the weight will tend to hold the signal in such position wherein it can be seen from the house or other position of observation used by the box owner. The signal device can be manually and easily reset with one hand in inactivated position when the box owner removes the mail from the mail box.

Detailed description

Referring now to the drawing for one specific construction illustrating the invention, the signal device is shown in association with one common type of rural mail box. However, it will be recognized that the use of the signal with the specific type of mail box shown herein is for illustrative purposes only. It will be apparent to persons acquainted with devices of this general type that the signal may be mounted on other types of mail boxes by a simple modification of the signal mounting bracket and/or the triggering arm.

Turning now to the drawings, there is indicated a mail box 1 having a signal device 2 mounted thereon. The signal device 2, in general, comprises a bracket structure 3, an indicating means 4 and a trigger 5. The bracket structure 3 consists of a mounting portion 6 which is attached to the side of the mail box and a U-shaped portion 7 having upstanding arms 8 and 9. The indicating means 4 consists of a hollow box 10 having a bracket 11 (Figure 4) on the lower side thereof and

encircling a pivot pin 12 which extends between and is rotatably mounted on the upstanding arms 8 and 9. The bracket 11 is fastened in any convenient manner, as by peening, to the pivot pin 12 so that the box 10 will rotate with said pivot pin 12. The side of said box opposite the pivot pin 12 is preferably enlarged substantially to provide a signalling surface 13. The surface 13 may be made of whatever size is desired consistent with convenient design of the entire apparatus and consistent with the size of the mail box with which it is to be used.

The lower side 14 of the box 10 is arranged at such an angle with respect to the signalling surface 13 that when said signalling surface 13 is in horizontal position as shown in Figure 4, said lower side 14 extends upwardly in a rearward direction at a substantial angle with respect to the horizontal. A movable weight such as a ball 15 is placed within the box 10 for purposes appearing hereinafter.

The trigger 5 includes a triggering arm 16 which is secured to and extends from the end of the pivot pin 12 to a position in front of the door 20 of the mail box 1 so that it will be struck by said door when same is opened. The lower edge 17 of the trigger arm 16 is curved outwardly and downwardly with respect to door 20, as shown in Figure 4, so that as said door 20 opens it will rotate the arm 16, and thereby the shaft 12 and box 10 counterclockwise (Figure 4) a sufficient distance that the lower side 14 of box 10 will assume a position extending downwardly in a rearward direction with respect to the horizontal. When the lower side 14 of the box 10 extends downwardly the ball 15 will move to the leftward side of the pivot pin 12. Once the ball 15 moves to the left of the pivot pin 12, the weight of said ball effects further rotation of the box 10 and it assumes the position shown in broken lines in Figures 1 and 4. The weight of the ball 15 then tends to hold the box in such position, and the trigger 16 will then be completely out of the way and will in no way interfere with the closing of the mail box door.

The door 20 of the mail box is normally held in closed position by any suitable latch structure. The latch structure is here shown as comprising two frictionally engageable leafs 26 and 27 which are mounted on the door 20 and the main body of the mail box, respectively.

When the box 10 is in the broken line position shown in Figures 1 and 4, the view thereof from the rearward side of the mail box, that is, the side which is normally toward the owner's house or other point of observation, is that indicated in Figure 3, wherein the entire signalling surface is presented to the observer and can be seen even at a considerable distance.

It will be appreciated that the said signalling surface 13 can be painted or otherwise colored in any color or pattern of colors as desired for improving visibility.

Similarly, it will be apparent in view of the foregoing that under some circumstances the point of observation may be substantially displaced sidewardly from a point substantially directly rearwardly of the mail box. If this is the case, the box 10 may be provided with a suitable modified signal which will be visible from the desired angle. For example, the box 10 may have a key 21, preferably of a dovetail form, along its upper surface. An adapter 22 has a slot 24 for receiving the key 21 whereby the adapter 22 is mounted on box 10. The adapter 22 has a signalling surface 25 extending at a substantial angle, such as 30 degrees, with respect to the surface 13 of the box 10. The adapter 22 may, in view of the dovetail attachment thereof to the box 10, be placed thereon so that the signalling surface 25 presented thereby faces in either direction as desired. It will be appreciated that the signalling surface 25 will be moved by the opening of the mail box door through a substantial angle between the position thereof shown in solid lines in Figure 5 and its upright signalling position in which when viewed at an angle of approximately 30 degrees from the longitudinal axis of the box 10, it appears as shown in broken lines in Figure 5. Thus, by the use of the adapter 22 and selection of a suitable angle for surface 25, the signal can be made effective for use where the observation point lies within a wide range of angles to one side or the other of the point directly rearwardly of the mail box without other change in the apparatus.

While specific forms of the invention have been illustrated and described herein for illustrative purposes, it will be recognized that various modifications may be made in the invention without departing from the principle thereof and the hereinafter appended claims will be recognized as covering such modifications excepting as such claims may by their own terms expressly provide otherwise.

I claim:

1. A mail box and mail box signal, comprising: a mail box having bottom, side and top walls and having a closed rear end and an open front end; a front door hingedly connected to said bottom wall adjacent the front edge thereof for closing off said open end when in an upright position and for exposing said open end upon downward pivotal movement thereof; a bracket having an elongated arm secured to one of said side walls and extending upwardly therealong; said bracket having a U-shaped yoke at the upper end thereof; a pivot rod rotatably supported on the legs of said U-shaped yoke and extending substantially parallel with said bottom wall; a closed signal support box and means securing same to said pivot rod between the legs of said yoke and for pivotal movement with said pivot rod, said box having a bottom wall secured intermediate the ends thereof to said pivot rod and located thereabove, said box having a top wall whose outer surface has signalling means thereon, said bottom wall being inclined with respect to the pivot axis of said pivot rod toward said top wall of said support box in a direction toward the rear wall of said mail box; a freely movable weight within said signal support box and resting on said bottom wall thereof; a trigger arm fixedly secured to said pivot rod at a point spaced from said signal support box, said trigger arm extending downwardly from said pivot rod to a location in front of said front door of said mail box so that it will be engaged by said front door when said front door is pivoted downwardly so that said trigger arm will be pivoted upwardly and outwardly thereby to thereby pivot said pivot shaft and said support box in a direction toward the rear wall of said mail box until the bottom wall of said signal support box is moved to a downwardly and rearwardly inclined position whereupon said weight will move from the front end to the rear end of said signal support box and said support box will thereby automatically pivot further in the same direction to a position where the signalling means thereon faces rearwardly.

2. A mail box signal for a mail box having bottom, side and top walls and an open front end and having a door hingedly connected to the bottom wall for closing off the open front end of the mail box when in upright position and exposing said front end upon downward pivotal movement thereof, comprising: a bracket mounted upon said mail box; a pivot rod rotatably supported on said bracket; a trigger arm connected to pivot rod and extending to a location in front of said open front end of said mail box where said trigger arm may be engaged by said door when same is pivoted from its upright position downwardly to thereby effect pivoting of said rod rearwardly from a first position to a second position; an elongated, closed, hollow, signal support structure secured between the ends thereof to said pivot rod for movement therewith and located thereabove and spaced from said trigger arm, said signal support structure having a lower internal surface which is inclined downwardly and frontwardly when said pivot rod is in said first posi-

tion and which is inclined downwardly and rearwardly when said pivot rod is in said second position; a freely movable weight within said signal support structure and resting on said lower surface and movable to the lowest point thereon when said pivot rod is moved between said first and said second positions; a signalling member mounted on the upper external surface of said signal support structure for movement therewith, said signalling member being in a substantially horizontaly position when said pivot rod is in its first position and being in a substantially vertical position when said pivot rod is in its second position, said signalling member when in said vertical position being viewable from behind the mail box.

3. A mail box signal according to claim 2 wherein said

bracket is a plate mounted on a side wall of said mail box and said pivot rod is positioned for rotation about a horizontal axis adjacent the upper edge of said mail box; said trigger arm being downwardly and outwardly curved from said pivot rod so that it is positioned in front of said door for engagement thereby.

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