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J. A. VAN METER

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MAILBOX INDICATOR

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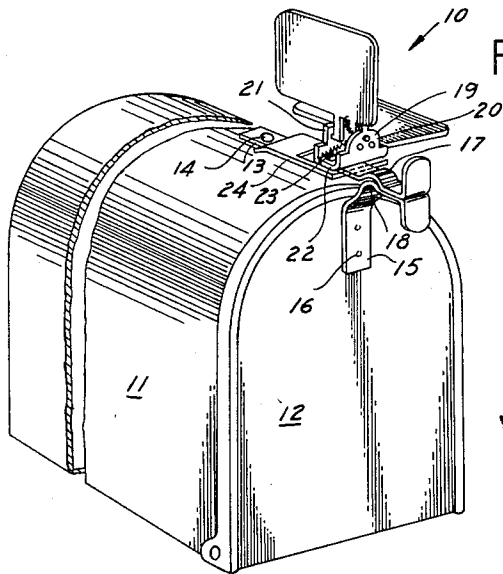


FIG. 1

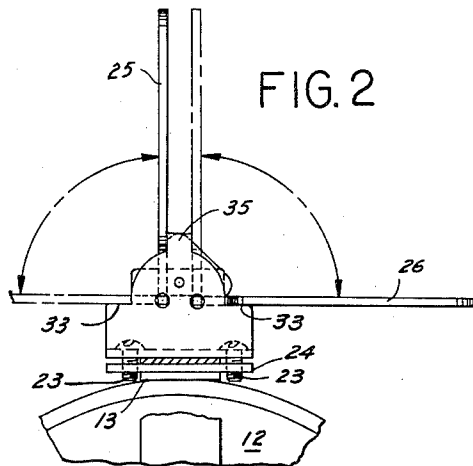


FIG. 2

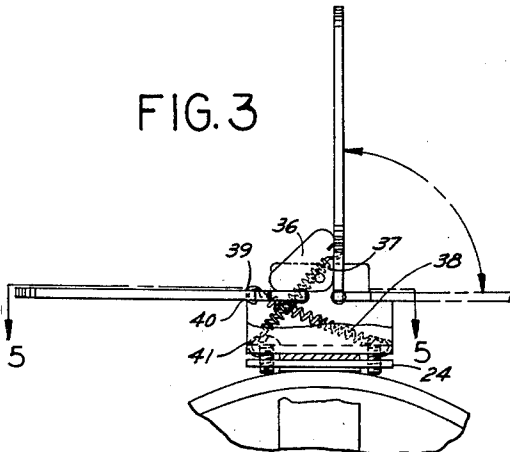


FIG. 3

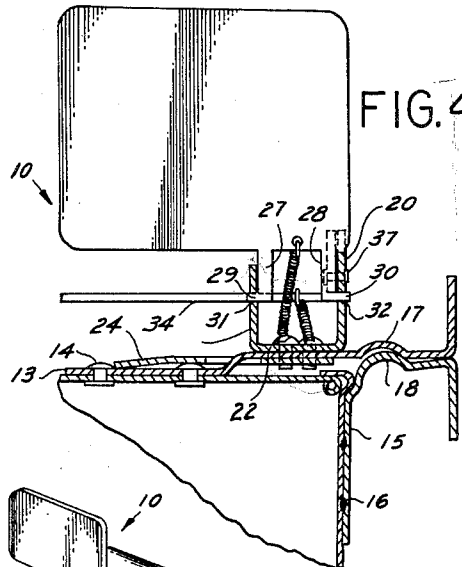


FIG. 4

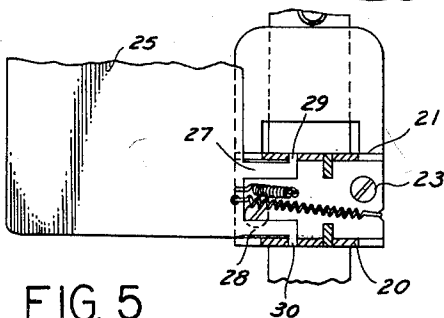


FIG. 5

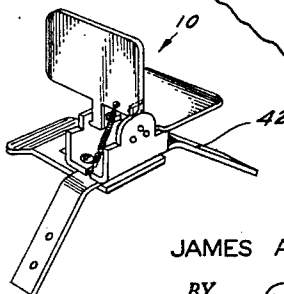


FIG. 6

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1

3,072,322 MAILBOX INDICATOR

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The present invention relates to indicating or signaling devices and more particularly to such devices used in combination with rural mailboxes.

The present red flag indicator on regulation rural mailboxes, according to postal regulations, is for the purpose of advising the carrier that there is mail to be picked up in this box. Since, however, in most rural areas the mailbox is located rather a substantial distance from the residence, it is desirable that some sort of indicating or signaling means be employed to advise the residents that mail has been delivered to this box. This is particularly true in those instances where, because of climatic conditions, it is not always pleasant to make the necessary trip to the box unless for the specific purpose of picking up delivered mail. As a result, many indicating or signaling devices of one type or another have been developed, and most carriers, through courtesy, are agreeable to using these devices each time mail is delivered. While various attempts have been made to provide an effective signaling device for rural mailboxes, all of these attempts have been unsuccessful for various reasons, including their general complexity, which in turn was directly attributable to early malfunctioning and the fact that they were not designed to withstand the elements to which they were exposed. Further, they were relatively difficult to install and required holes to be drilled or other alterations to be made in the box.

The signaling device of the present invention is designed to overcome the objections to all these previous devices and, first of all, is a voluntary signal which can be located within easy reach of the carrier, and secondly, is relatively simple in design and will withstand the elements to which it is expected to be exposed. It is further characterized by the fact that it can be readily installed upon standard rural mailboxes without the necessity of drilling of holes or altering in any other respect the standard box.

It is therefore a primary object of the present invention to provide an improved signaling device for rural mailboxes.

A further object of the present invention is to provide a rural mailbox signaling device having an incoming indicator and an outgoing indicator, and means whereby while both indicators can be moved into their non-indicating position, only one indicator at any one time can be moved into its indicating position.

A still further object of the present invention is to provide a signaling device for a rural mailbox which is relatively simple in construction, cheap to manufacture, and which can be easily and readily mounted on a standard mailbox.

Other objects and advantages of the present invention will be readily apparent to those skilled in the art upon perusal of the following description and drawings in which:

FIG. 1 is a perspective view of a typical rural delivery mailbox with a signaling device embodying the principles of the present invention attached thereto.

FIG. 2 is a front view, slightly enlarged, of the combination disclosed in FIG. 1, with parts removed.

FIG. 3 is a view similar to FIG. 2 with the respective indicators in positions opposite to those shown in FIG. 2, and with parts removed to show details in construction.

FIG. 4 is a longitudinal sectional view of the combination disclosed in FIG. 2.

2

FIG. 5 is a horizontal sectional view taken on the line 5-5 of FIG. 3, with parts removed.

FIG. 6 is a perspective view of the signaling device and a modified bracket for mounting the same on a mailbox.

Referring to the drawings, a signaling device embodying the principles of the present invention is designated broadly as 10 and is shown mounted on a conventional rural mailbox which comprises a housing 11 and a swingable door 12. Latch means are conventionally provided for holding the door in its closed position, and such latch means comprises an upper strap 13 which is fixed to the housing by suitable rivets 14 and a strap member 15 which is fixed by welding 16 to the door 12. The upper strap member 13 is preferably formed of suitable spring strip metal and has a curved portion 17 which cooperates with a curved portion 18 formed in the strap 15 in order to provide the said latch attachment.

The signaling device 10 comprises a channel-shaped supporting member 19 which consists of a front leg 20 and a rear leg 21 with an interconnecting web 22. The supporting member 19 is carried on the upper strap 13 and fixed in this position by a pair of screws 23 which are received in spaced openings formed in web 22 and straddle the upper strap 13 and threadedly engage a retainer bar 24. It will be appreciated that when the screws 23 are threadedly engaged into the retainer bar 24 to an extent sufficient to draw the bar 24 and the web 22 of the supporting member 19 tightly against the upper strap 13, the supporting member, and consequently the signaling device, is firmly engaged with the mailbox. It will also be appreciated that the signaling device is so located with reference to the strap 15 that the carrier, in so closing the door 12, can operate the signaling device in almost the same motion.

A pair of indicators or flags 25 and 26 are pivotally carried by the member 19. Each of the flags 25 and 26 is identical in construction and each comprises a pair of depending legs 27 and 28 having stub shafts 29 and 30 which are pivotally received in suitable aligned openings 31 and 32 formed in the respective legs of the member 19. It will be noted from the drawings that the two sets or pairs of aligned openings 31 and 32 are so located that the flags 25 and 26 are in substantially parallel, side-to-side relationship. It will be further noted that each of the legs 21 and 22 is formed with lower stops 33 and 34 respectively, for supporting the respective flags 25 and 26 in their non-signaling, horizontally disposed position, and that the leg 20 has an upper stop 35 for defining the respective vertical position of the respective flags 25 and 26.

A triangular shaped cam 36 is swingably carried on a pin 37 fixed with the leg 20 of the support member 19 and disposed between the flags 25 and 26. The cam 36 is in the path of movement of each of the flags 25 and 26, and is so shaped as to define the angular relationship of the flag 25 with reference to the flag 26 when one of these flags is in its raised position, and prevents both flags from being moved into their raised or indicating position at the same time.

Each of the flags 25 and 26 is resiliently urged to maintain its upright or indicating position or its non-indicating horizontally disposed position. This is effected by a pair of tension springs 37 and 38, spring 37 being interconnected between the flag 26 and its opposite end of the member 19, whereas spring 38 is interconnected between flag 25 and its opposite end of the member 19. Each spring has a hook element 39 at one end which is engaged in an opening 40 of its respective flag, the other end of each spring also comprising a hook element 41 which is engaged in a slot 41a formed in the respective end of the interconnecting web 22 so that the springs are

in effect in criss-crossed relationship. The interconnection of each spring between the opening 40 of its respective flag and the respective slot 41 of web 22 is such that when the respective flag is substantially half-way between its horizontally disposed position and its vertical or indicating position, the line of force exerted by the spring is in alignment with the axis of pivotal movement of the flag. It will be appreciated, therefore, that as the flag is moved further in the direction of its indicating position or in the direction of its horizontally disposed or non-indicating position, the force exerted by the spring assists in such movement. As a practical matter, therefore, it is merely necessary for the operator to move the flag in one direction a distance sufficient to move the axis of pivotal movement to the other side of the line of force exerted by the spring, and the spring itself will then cause continual movement of the flag in the same direction. The respective springs are so chosen that they will hold the respective flags in their indicating position against any reasonable force, such as for example, wind or the like.

While the method of mounting the signaling device to the upper strap 13 of the latch means is most effective and permits installation of the signaling device without alteration of the mailbox itself, besides providing stiffening to the upper strap member 13, this type of installation depends upon the box having a member corresponding to member 13. It is contemplated, therefore, that the signaling device may have to be otherwise attached to a mailbox, and FIG. 6 discloses an alternate form of attachment which comprises a strap 42 which can be suitably bolted or riveted to the housing 11 of the box.

It is contemplated, of course, that the respective flags 25 and 26 will be differently colored or otherwise suitably differentiated to be readily visible from a distance, such as for example, the flag 26 could be painted red, and the flag 25 could be painted yellow. In operation, therefore, it will be readily appreciated that if there is no outgoing or incoming mail, the respective flags 25 and 26 will both be disposed in their horizontal position against their respective stops 33 and 34. If the resident wishes to indicate to the carrier that there is outgoing mail in the box, he merely moves the red flag 26 into its vertical position and the respective spring will retain such flag in this position. After the carrier has stopped and collected the outgoing mail and has left incoming mail, it is relatively easy for him, after closing the door 12, to flip the red flag down and the yellow flag up to signal to the resident that mail is in the box. Since the cam prevents both flags from being in their vertical position at one time, this act can be accomplished by merely moving the yellow flag up, which in turn will move the red flag into its horizontal position. If the carrier leaves no mail, he merely flips the red flag down. Since the signaling device is mounted in close proximity to the latch member of the box, the operation of the signaling device

can be effected in the same motion and, therefore imposes no additional hardship upon the carrier.

What is claimed is:

1. A signal device comprising a supporting member, a pair of indicators pivotally carried by said supporting member in substantially side-by-side relation, each of said indicators being swingable from a non-indicating position to an indicating position, and resilient means interconnected between each of said indicators and said supporting member for urging each of said indicators to move into its indicating or non-indicating position and for retaining each of said indicators in its selected position, and a cam swingably mounted by said supporting member and disposed between and in the path of movement of said indicators and shaped to define a pre-selected angular relationship between said indicators whereby both indicators cannot be in their indicating position at one time.

2. The signal device defined in claim 1 further characterized by said resilient means comprising a pair of tension springs, each of said springs being interconnected between its respective indicator and said supporting member so that the line of force of each of said springs is in alignment with the axis of swinging movement of its respective indicator when said indicator is positioned substantially half-way between its indicating and non-indicating position.

3. A signal device for a rural mailbox comprising a channel-shaped supporting member having spaced legs and an interconnecting web, a pair of indicators swingably mounted by said legs in substantially side-by-side relation for swinging movement from a non-indicating position to an indicating position, a cam swingably mounted by one of said legs and disposed in the path of movement of said indicators and shaped so as to define a predetermined angled relationship between said indicators when one of said indicators is in its indicating position and the other of said indicators is in its non-indicating position, and a tension spring interconnected between each of said indicators and said member for urging said indicator to move in one direction.

4. The signal device defined in claim 3 further characterized by each of said tension springs being so disposed that its line of force is in alignment with the axis of swinging movement of its respective indicator when said indicator is substantially half-way between its indicating and non-indicating position.

5. The signal device defined in claim 3 further characterized by said mailbox having an upper strap member and said web being supported on said strap member and firmly engaged therewith by a retainer bar disposed below said strap member and means for drawing said web and said bar together against said strap member.

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