Sept. 16, 1958 L. D. STOUTEN 2,852,185

MAIL BOX FLAG

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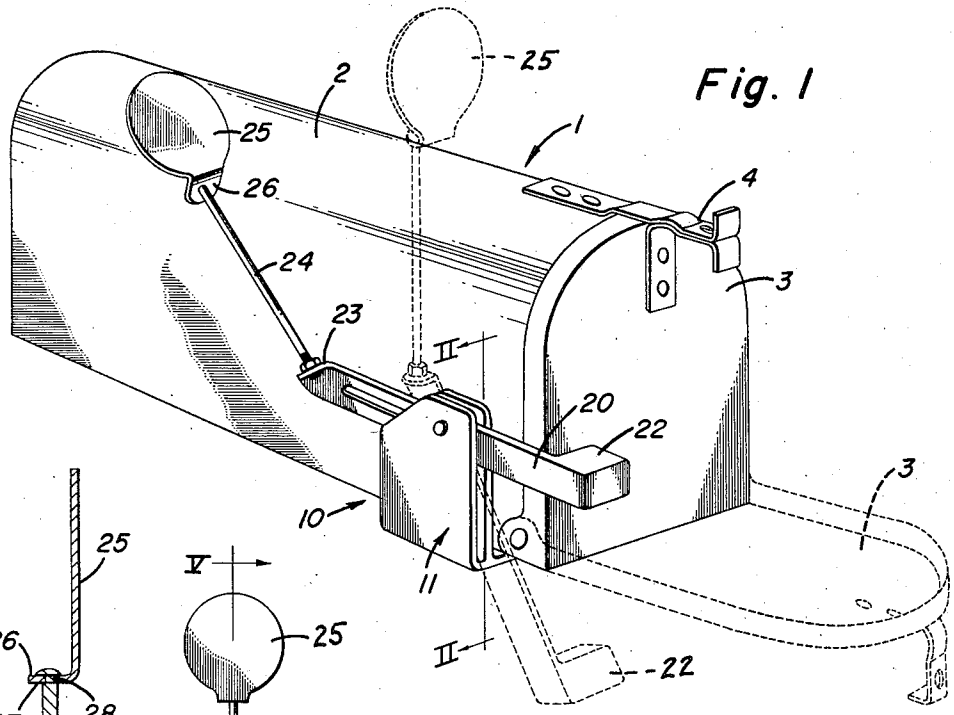


Fig. 1

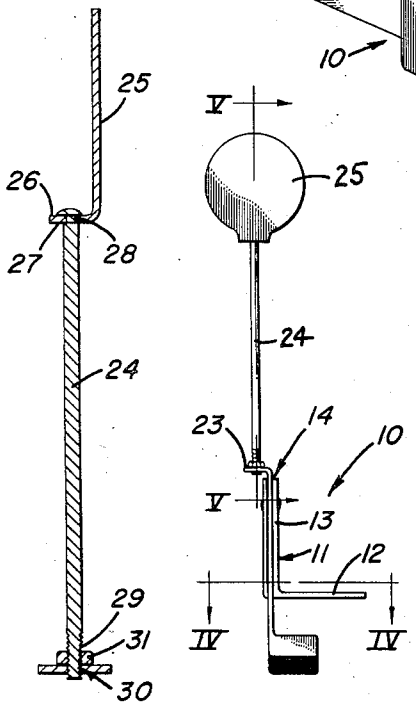


Fig. 5

Fig. 3

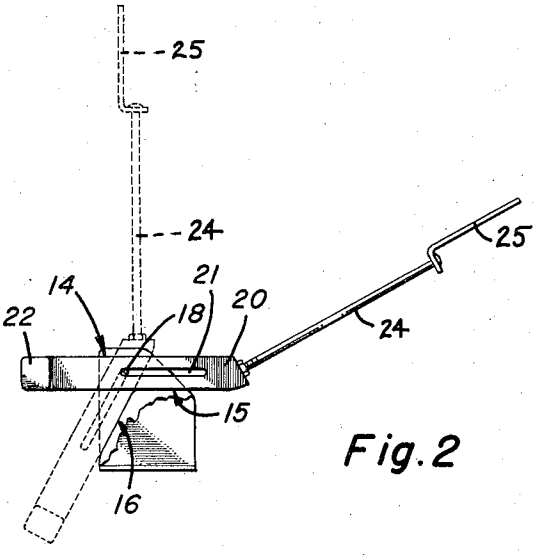


Fig. 2

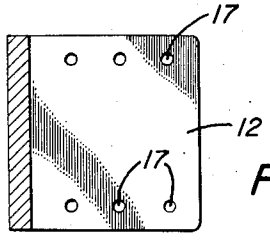


Fig. 4

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MAIL BOX FLAG

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This invention relates to a mail box flag mechanism for automatically indicating when mail has been placed in the box.

Flag mechanisms or signalling devices for mail boxes have been designed for indicating whether mail has been placed in the box. Most of these types of mechanism are complicated and require modifying or cutting into the mail box in order to mount it on a conventional mail box. An object of the present invention is to provide a simple and inexpensive signalling device which may be readily mounted on any conventional mail box.

A further object of this invention is to provide a flag mechanism for a mail box, such mechanism being tripped automatically when the mail box is open so that a signal is given that mail has been deposited in the box.

Still another object of this invention is to provide a mail box flag mechanism which is foolproof in operation to indicate when the box has been opened.

Another object of this invention is to provide a signalling device for a mail box to indicate when the box has been opened, such device being simple in construction, installation and operation.

A further object of this invention is to provide a signalling device for a mail box, such signalling device indicating from any desred direction whether the box had been opened.

Other objects of this invention will become obvious upon reading the following specification in conjunction with the accompanying drawings wherein:

Fig. 1 is an oblique view of a mail box with the signalling device installed.

Fig. 2 is a side elevational view of the mechanism having a portion cut away to show details.

Fig. 3 is a front elevational view of the mail box flag mechanism.

Fig. 4 is a cross sectional view taken along the plane IV—IV of Fig. 3 and illustrating the attachment flange.

Fig. 5 is a cross sectional view taken along the plane V—V of Fig. 3 and illustrating the means for adjusting the direction the flag faces.

Briefly, this invention is concerned with a mail box flag mechanism for a mail box having a door hinged at one end to open outwardly. This mechanism includes a slide arm and a support means for slidably supporting the slide arm for movement in the same direction as the door. The flag is attached to the rear end of the arm and the front end is weighted. The front end extends into the path of the door as it would normally open. The arm, flag, and support means are so related that in rearward position of the arm the flag is held downwardly and the weighted end upwardly in the path of the door. When the door is opened the door strikes the weighted end causing the arm to slide forwardly and the weighted end to drop. As a result the flag is pivoted upwardly to indicate that the door had been opened.

Referring to the drawings, reference numeral **1** indicates a mail box having a compartment **2** for holding

the mail and a door **3** pivotally connected at one end. The door **3** is normally held shut by the latch **4**.

Reference numeral **10** indicates the flag unit having an L-shaped support member **11**. The L-shaped support member **11** includes the attachment flange **12** and an upstanding support arm **13**. A channel **14** is provided in the arm **13** for receiving the sliding arm **20**. The channel terminates at a horizontal support surface **15** and an inclined support surface **16**. Apertures **17** are provided in attachment flange **12** for receiving screws to secure the unit to the bottom surface of the mail box (Fig. 4) or the board on which it is supported.

Slidably mounted on a pin **18** extending through channel **14** between the two walls thereof is the sliding arm **20**. The sliding arm **20** has an elongated slot **21** extending lengthwise of the arm. The forward end **22** of the arm is weighted and forms a hook which the door strikes to actuate the mechanism. The rear end of the arm is bent outwardly to provide a tab **23** on which the flag post **24** of the flag **25** is secured.

The flag **25** consists of a circular flat member having a tab **26** bent substantially at 90° to the surface of the flag. The flag **25** is rigidly secured to a reduced end portion **28** of the post **24** by inserting the end **28** of reduced diameter through an aperture **27** in the tab **26** and then peening the end to form a head. The lower end **29** of post **24** is threaded and received by the threaded aperture **30** in the tab **23** of the arm **20**. A nut **31** screwed on the threaded end **29** locks the post in position.

The arm **20**, while slidable in the slot **14**, is always in one of two positions, either slid forwardly or rearwardly. In the forward position the arm rests on the inclined support surface **16**. In the rearward position it rests on the horizontal support surface **15**. Somewhere between these two positions there is a balance position on each side of which the arm will slide to either of the two positions.

This balance point is determined by the weight and position of the weighted end **22** and the flag **25**. In accordance with this invention, I construct the arm and the flag so that in the rearward position, as shown in the full lines of Figs. 1 and 2, the weight of the rearward end of the arm and flag, including the flag post, overbalances the weighted end **22**. Thus, in the position shown by the full lines the weight of the flag, flag post, and rear end of the arm **20** maintains the flag in down position. I also construct the arm, flag and flag post in such a manner that when the arm is slid or pulled forwardly past the balance point the weighted end **22** of the arm overcomes the weight on the rearward end of the arm. Thus, the weight **22** drops down, the arm falls on the inclined surface **16**, and the flag is pivoted upwardly into signalling position as shown in phantom in Figs. 1 and 2.

Operation

The unit is secured to the bottom surface of the box or the board supporting it. This is accomplished by screws inserted through the apertures **17** of flange **12** (Fig. 4). In the properly mounted position the hooked weighted end **22** extends in front of the door **3** so that when the door **3** is opened slightly it strikes the hooked end **22** causing the arm **20** to be pulled forwardly beyond the balance point. When the arm is pulled forwardly beyond the balance position, the weighted end **22** overcomes the weight on the rear end of the arm **20** and thus it drops pivoting the flag up to give the signal that the box had been opened.

Setting the unit is very simple. The arm is slid rearward or back as far as possible to a position where the flag is down and the hooked end extends in front of the door **3**. When the mailman opens the box to insert mail the door **3** strikes the hooked end **22** and pulls the arm

20 forward causing the hooked weighted end 22 to fall down due to gravity and pivot the flag upwardly into signalling position. When the mailman closes the door 3 he does not affect the position of the flag 25 because the weighted end 22 continues to hold the flag 25 upwardly in signalling position. Thus, the flag remains up until the owner of the box withdraws his mail at which time the owner simply slides the arm back or rearwardly into non-signalling position. In this position the mechanism is set for automatic actuation by the mailman when he deposits the mail.

I incline the flag at a slight angle in the non-signalling position so that the flag does not strike the side of the box regardless of direction the flag is facing. Also the L-shaped bracket can be attached so that the arm 13 is spaced slightly from the box to provide sufficient clearance between the flag 25 and the side of the box.

Fig. 5 illustrates a preferred form of this invention in which the flag is adapted to be adjusted for facing in different directions. The structure of Fig. 5 provides a nut 31 for locking the flag post 24 and the flag 25 in one position. This position or direction can be modified or changed by loosening nut 31 and then turning the post 24 until the flag 25 faces the desired direction. Then the nut 31 is tightened to lock the flag in the new position. Thus, the householder can have full view of the flag regardless of the respective positions of the mailbox and residence.

It should be evident from the above description that I have provided a novel indicating mechanism for indicating whether the mail box had been opened and mail deposited. This mechanism is simple in construction and operation and can be mounted to any conventional box without requiring cutting into the box or modifying it in any way.

Having described my invention it should be obvious that although I have shown preferred embodiments thereof, several other embodiments and modifications are possible within the broadest aspect of this invention. Accordingly, these modifications and embodiments are covered by this invention unless the appended claims expressly state otherwise.

I claim:

1. A mailbox flag mechanism for a mailbox having a door at one end hinged to open outwardly, and comprising: a slide arm; a support means for slidably supporting said slide arm for movement in the same direction as said door; said support means having a substantially horizontal surface for supporting said arm horizontally and an inclined surface in front of said horizontal surface for supporting said arm at an inclined angle, the juncture between said surfaces providing a fulcrum; said arm being adapted to slide from one surface to the other; means for securing said support means to said box; a flag on the rear end of said arm; said front end of said arm being weighted and in horizontal position having a portion extending into the path of said door; said fulcrum being located between said flag and weighted end such that when said arm is positioned to lie on said horizontal surface with said flag down the lever force of said weighted end about said fulcrum is insufficient to pivot the flag upwardly but when said door is opened it pulls said arm forwardly causing the lever force of said weighted end to increase and pivot downwardly on said inclined surface raising said flag.

2. A mailbox flag mechanism for an elongated mailbox having a door at one end hinged at its lower edge for opening outwardly, comprising: an L-shaped support member, one of its legs being adapted for securement to the bottom of said box, the other of said legs extending upwardly along the side of said box; said other leg being a grooved channel member adapted to receive an arm extending alongside said box; an elongated arm seated in said channel, said arm being slidable in said channel in the same directions as said door opens and closes; a flag on the rearward portion of said arm; said forward portion of said arm being weighted and projecting in front of said door when said door is closed; said arm being arranged in said channel whereby when said door is opened it is slid forward causing said weighted end to drop and pivot said flag up.

3. The mechanism of claim 2 in which the flag has a post rotatable with respect to said arm whereby it can be adjusted to face in any direction.

4. A mail box flag mechanism for a mail box having a door hinged at one end to open outwardly, and comprising; a slide arm having an elongated slot; a support means for said arm having a fulcrum pin received in said slot; a flag on the rear end of said arm; the front end of said arm being weighted and having a portion extending into the path of said door for engagement by said door as said door is opened; said arm in its rearward position having its center of gravity rearward of said fulcrum pin; means for supporting said arm in a horizontal position when said arm is in its rearward position and said flag is lowered; said arm in its forward position having its center of gravity forward of said fulcrum pin; and stop means on said support means for holding said arm in an inclined position when said arm is shifted forward by said door and rocks by gravity about said fulcrum pin to raise said flag.

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