Jan. 4, 1955 O. KREITLOW 2,698,712

RURAL MAILBOX SIGNAL MECHANISM

Filed Dec. 19, 1949 2 Sheets-Sheet 1

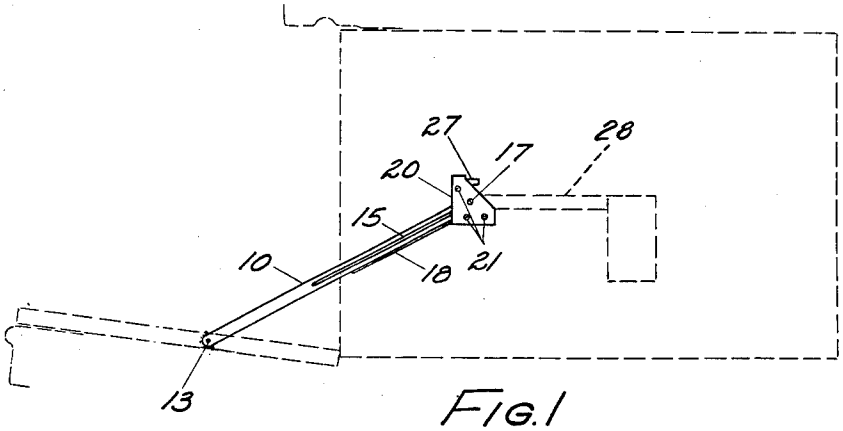

FIG. 1

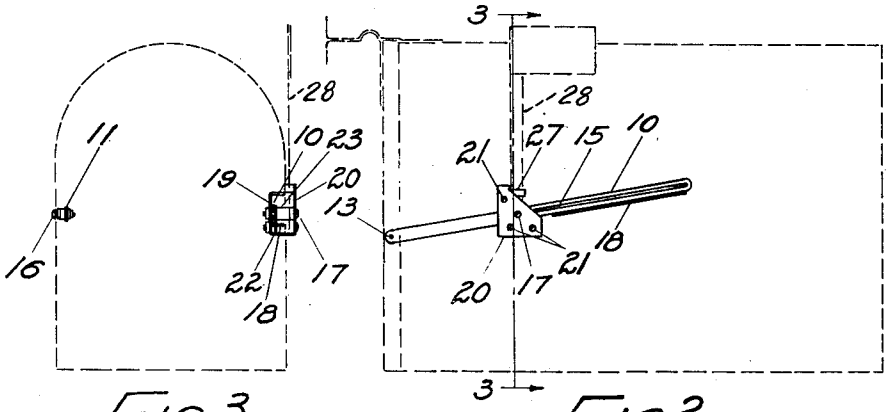

FIG. 3 FIG. 2

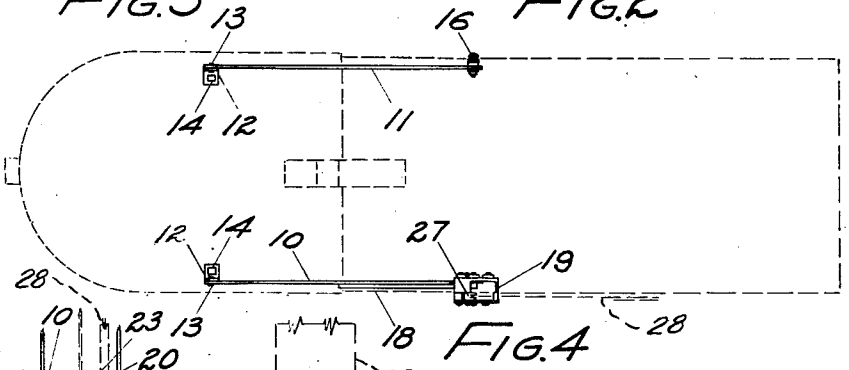

FIG. 4

FIG. 6 FIG. 5

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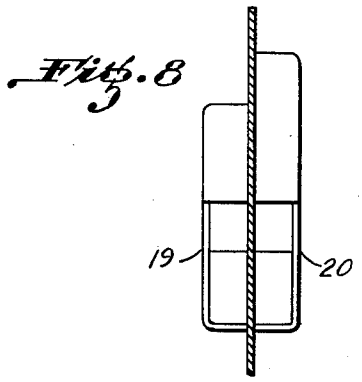

Fig. 8

Fig. 7

Fig. 10

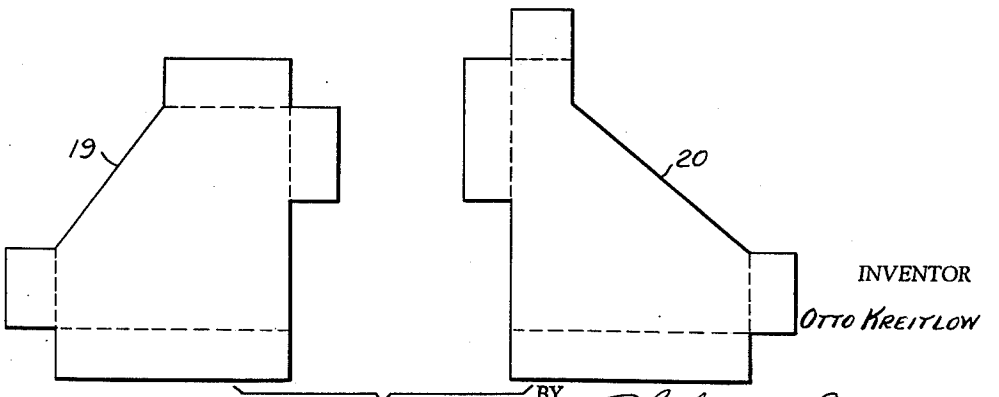

Fig. 9

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United States Patent Office 2,698,712
Patented Jan. 4, 1955

2,698,712

RURAL MAILBOX SIGNAL MECHANISM

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Application December 19, 1949, Serial No. 133,849

2 Claims. (Cl. 232—35)

This invention relates to rural mail box signal mechanisms, devised to be built into new boxes and also to be easily applied to existing boxes, so that opening of door by the mail carrier automatically restores the signal to normal position.

Because of lack of better devices on mail boxes of the type used in rural districts of the country, the work of the mail carrier is hindered and too much time is consumed in covering the route. This is all the more serious in cold weather, when mittens must be worn, making it more difficult for the carrier to restore signals to normal position and to pick up letters and cards for mailing. If the carrier overlooks the normal positioning of the signal, the owner of the box is in a quandary as to whether the carrier has made the route. The approved type of mail box, used in rural districts, has a signal or flag pivotally mounted on the side of the box. This signal is set in a vertical position by the owner, to indicate to the carrier, that the box contains mail for mailing. When the carrier has picked up this mail and deposited mail addressed to the owner, he restores the signal to normal position, by lifting it up slightly to release it from its locking, and then tip it downward into a horizontal position along the side of the box. To do this, he must reach quite far out of his car. Some signals have been devised that are controlled by a mechanism, which is actuated by the closing and latching of the door. There is need, however, for improvement in the mechanism, and which has been located principally on the outside of the box, and rendered inoperable by snow and ice. A reliable mechanism is needed, which consists of a minimum number of parts, with the actuating means on the inside of the box, and which will automatically restore the signal to normal position, by the opening of the door of the box.

An important object of my invention is to provide a device, which is applicable to a rural free delivery mail box, which will expedite the work of the carrier and save much of his time, particularly in cold weather; by providing a signal that will be automatically restored to normal off position, by opening of the door, and which also benefits the owner, who is not misled as to status of the route, because the carrier cannot overlook restoring the signal.

Another important object is to provide such a signal operating device with the actuating means located on the inside of the box, so it is not affected and rendered inoperable by freezing of snow and ice but is always positive and reliable.

Another object is to provide such signal mechanism of few and durable parts at a reasonable cost, and which can be easily applied to existing mail boxes, as well as included in the manufacture of new boxes.

Other objects will be apparent from the description and appended claims.

For a full disclosure of my invention, reference is made to the description following and to the drawings, in which the different figures show my improved signal mechanism applied to a rural free delivery mail box. The signal mechanism is shown in full lines, while the mail box and the hand set and hand restored signal, with which it comes equipped, are shown in dotted outline.

Fig. 1 is a side elevational view, with the door of the box open.

Fig. 2 is a side elevational view, with the door of the box closed, and the signal set in operative position.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a top plan view, with the door of the box open.

Fig. 5 and Fig 6 are on an enlarged scale and show details of the signal tripping device. Fig. 5 is a side view of the bottom of the signal arm, showing the trip attached, and Fig. 6 is a view at right angles thereto, showing same in assembly with the mail box.

Fig. 7 is a view in perspective, on an enlarged scale, showing the slide arm, the long flanged angular lug on its lower edge, and the trip device with its downward extension, adapted to be engaged by the flanged lug, in striking down the signal, when the door of the box is opened.

Fig 8 is a view on a larger scale, showing plates inside and outside of the box forming a housing for the tripping device, as viewed from the open end of the box. All other parts are omitted.

Fig. 9 is a view showing the cut and slotted blanks from which the housing plates are made. These are shown in their relative right hand and left hand positions and bends are indicated by dotted lines.

Fig. 10 is a top view of the friction grip member on a larger scale, together with a fragmentary portion of the housing plate, to which it is secured.

In my improved rural mail box signal mechanism hereby disclosed, I provide interiorly of the box slide arms **10** and **11**. These slide arms are secured to the inner side of the door, at the end of the box, by means of angle brackets **12**, to which same are secured with pivot pins **13**. The angle brackets are preferably secured to the door with bolts **14**, so that installation can be readily made in existing mail boxes. In the manufacture of mail boxes with the devices included, welding might be more preferable. The slide arms **10** and **11** are provided with long slots **15**, which are engaged by bolts **16** and **17** extending through the sides of the mail box. The bolts are provided with the necessary spacers or complement of washers, so that slide arms move in a direct line. The slots are of a length to permit opening of door, as shown in Fig. 1, and closing same, as shown in Fig. 2.

Along flanged lug **18** is provided on the slide arm **10**, to act on the signal tripping device. This device, through which the bolt **17** passes, and inside of which the arm **10** slides, is supported by bent housing plates **19** and **20** respectively, on the inside and outside of the box. These plates, slotted and bent as shown on the drawing, permit the arm **10** to slide through same, when clamped tightly by bolts **21**. A trip **22** is engaged by the long flanged lug **18** on the slide arm **10**, and causes the signal to be lowered, when the slide arm **10** is actuated by the opening of the door of the box. This trip is secured to a boss **23**, as clearly shown in Fig. 6, and both have a bore **24** through same, engaged by the bolt **17**. The boss **23** is provided with a square shoulder **25**, to conform to which, a square slot may be easily filed in the lower end of the signal arm **28**. This will make for easy installation in existing boxes. In the manufacture of new boxes with the device included, it may be preferable to weld the boss to the signal arm. A washer **26** spaces the signal arm from the housing plate **20**, and directs it into the opening of a friction grip member **27**. This friction grip member is attached to the plate **20**, near its top, and is formed of bent portions, in between which, the signal arm finds a frictional fit. When the use of the signal is not necessary, the box opens without hindrance.

From the foregoing, it is apparent how my rural mail box signal mechanism is constructed and that it has many desirable features. The work of the mail carrier is expedited, saving much time at all times and particularly so in cold weather, when mittens must be worn. It is impossible for the mail carrier to overlook restoring the signal and misleading the owner, as to whether he has made the route. After the letters for mailing have been deposited in the box and the door closed, it is only then that the signal can be set in operative position since the long flange **18** prevents the trip **22** from being cleared until the door is closed. As soon as the carrier opens the door, the signal is automatically restored to normal off position through rotation of trip **22** by engagement therewith of

the end of flange **18**, and it is impossible for it to be raised while the door remains open. When use of signal is not necessary, the box opens without hindrance. Where the box has only a hand set signal, the carrier must reach far out of his car to lift the signal from its locking, and then tip it down toward the back of the box. The smaller standard mail box has a catch, so that the door when opened is held in substantially a horizontal position and does not drop down. In the larger standard boxes, which are fast becoming popular, the doors are quite heavy and hinged, so that same drop clear down. This presents additional difficulties to the carrier. Some carriers provide a pad on the outside of the car door, for the mail box door to drop against and be supported while depositing the mail, and still not damage the car. When there are snow drifts, it sometimes is impossible for the carrier to drive at this gaged distance from the box, to support the door. With the door dropped clear down, it is difficult for the carrier to reach to close it. It sometimes happens that the door is not securely closed, so that it drops down and the mail is carried out of the box by the wind. With the slide arms **10** and **11** of my invention, which in the drawings are shown applied to a larger standard box, the door when open is held in a position slightly above the horizontal. This is convenient for depositing mail and also is a safe-guard against loss of mail, if the door by chance comes to be open. The slide arms, though offering no appreciable resistance to opening of the door, do tend to prevent accidental opening of the door. To operate the signal, only the slide arm **10** is required and the slide arm **11** might be dispensed with. To increase the sturdiness, however, it is preferable to employ both. Compared to signal actuating devices located on the outside of the box, it must be conceded that my invention has great advantage. It is impossible for it to become inoperable by freezing of ice and snow. Also, the working parts being shielded from the elements are very durable. Another desirable and very important feature, is the fact that my signal mechanism may be readily applied to existing mail boxes at a reasonable cost, as well as being included in the manufacture of new boxes. By providing in sets specified for large and for small standard mail boxes, and including directions and perhaps templates for drilling, same can be readily applied to existing boxes, with the tools usually possessed by every farmer or householder. All in all, it provides a means for saving much time and effort on the part of the carrier, avoiding mistakes and even loss of mail.

While I have shown and described a preferred form of my invention, it is obvious that many changes which are within the scope of my invention, will be apparent to those skilled in the art. I therefore desire to be limited only by the scope of the appended claims.

What I claim is:

1. The combination with a regulation rural mail box, having a door at one end thereof hinged to open downwardly, and having a signal arm pivotally mounted on one side thereof, adapted to be manually moved to display a signal; of a slide arm pivotally connected at one end to said door and slidably connected to a side of said box on the inner side thereof, said slide arm having a right angled flanged lug of substantial length adjacent the end projecting into the box, a trip arm fixedly secured to said signal arm and pivotally mounted to turn and lower said signal when engaged by said lug due to opening of said door, and inside and outside mounting plates with fasteners for attaching said slide arm, trip and signal arm in operable relation to each other to said box.

2. In a device of the character described, in combination, a slotted slide arm having a right angled flanged lug of substantial length adjacent one end thereof, a rotatable trip and a housing supporting said trip and said end of said slide arm in operable relation to each other, so that said trip may be actuated by said lug on said slide arm, said combination being adapted for incorporation into any regulation rural mail box by pivoted connection of said slide arm to the inner side of the door and by slidable bolting through the slotted portion to the inner side of the box, and securement of the housing to the side of the box and trip to the end of the signal arm, whereby opening of the door restores manually set signal to normal down position, facilitating and speeding up at all times the work of the carrier, said housing including means for positively but releasably holding said signal arm in operative position until restored to normal by said trip.

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