July 2, 1957 F. W. FOSTER 2,797,860

MAIL BOX DOOR SETTING SIGNAL

Filed March 10, 1953 2 Sheets-Sheet 1

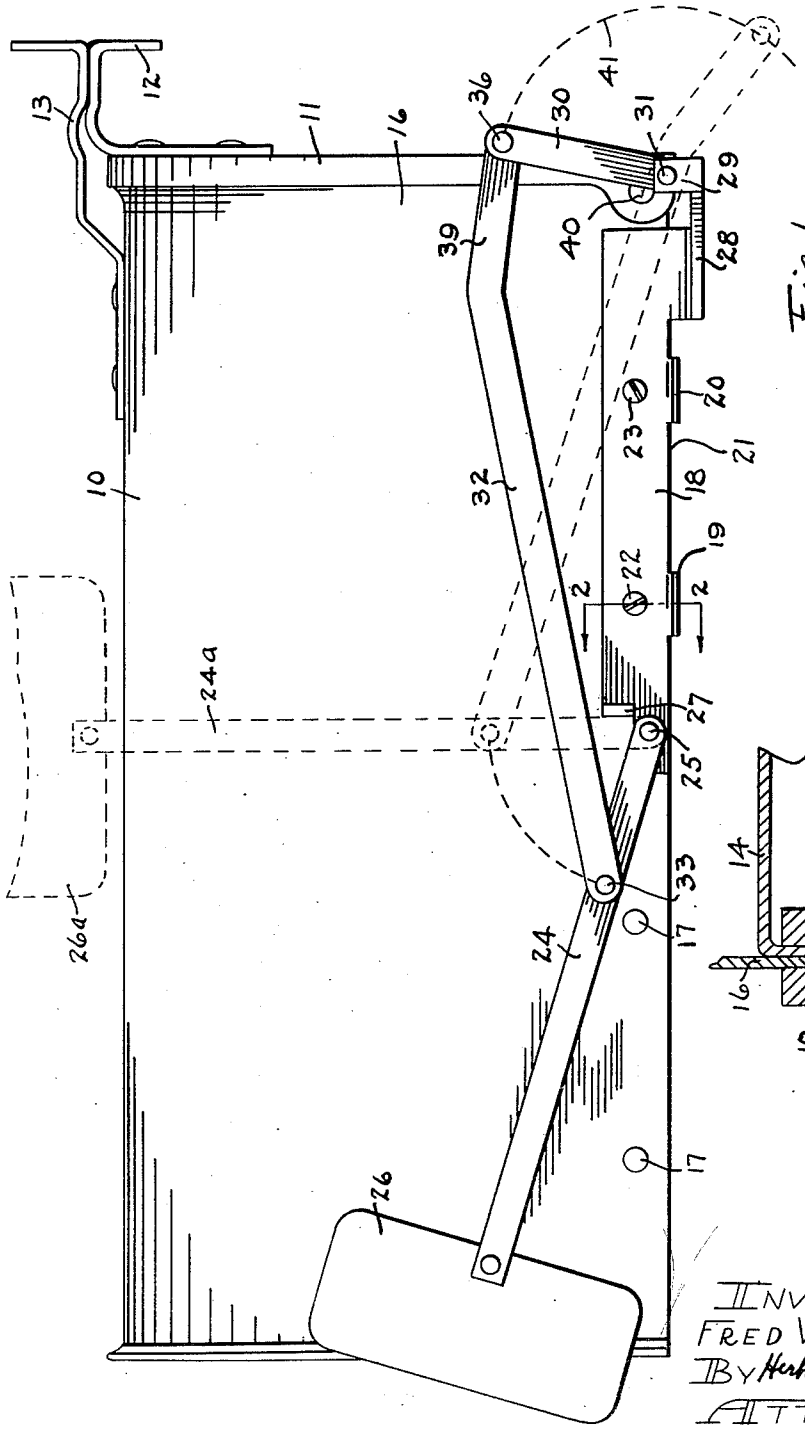


Fig. 1.

Fig. 2.

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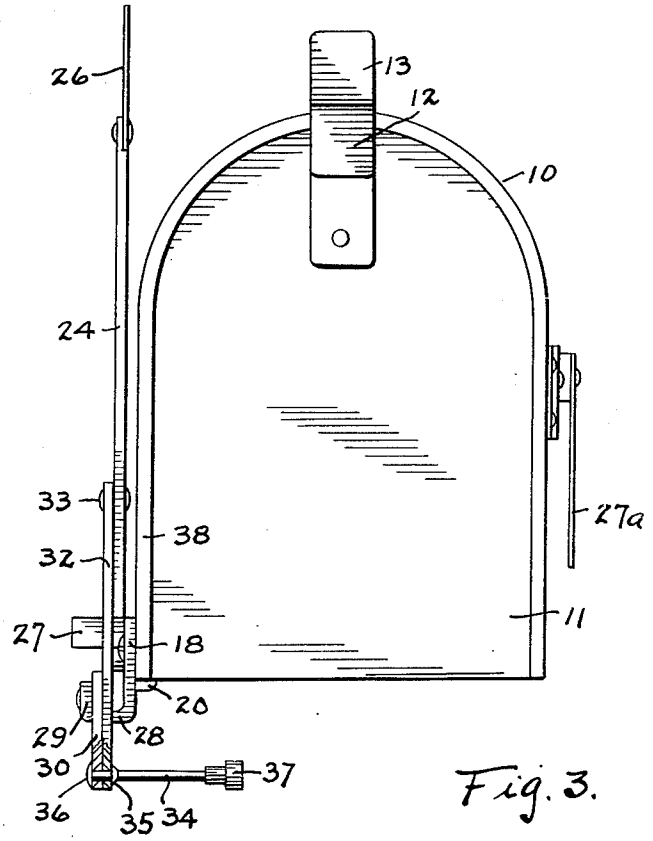


Fig. 3.

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MAIL BOX DOOR SETTING SIGNAL

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1 Claim. (Cl. 232—35)

This invention relates to a signaling device for attachment to a rural mail box, which signal is operated automatically by opening of the end door of the box, so that a flag or other device is raised to indicate that there is either mail in the box or that mail has been removed from the box. This signal is entirely apart from the ordinary signal which is utilized to indicate to the mail carrier that there is mail in the box requiring his attention.

One of the primary objects of the invention is to provide an automatic signal which may be attached to the box without having to drill any holes or provide any special construction of the box itself to support the signal thereon. A further primary object of the invention is to provide a signaling device which may indicate to the person having the box that either the mail carrier has been along and taken the mail out of the box or that he has stopped to put mail in the box.

In many cases, in rural districts, the house of the owner of the box is at quite a distance from the box itself, and particularly in bad weather, it is a great convenience to know whether or not there is any mail in the box to be picked up by the owner, or whether the mail carrier has been past and picked up mail which the owner has left in the box. That is, the owner is advised by observing the condition of the signal on the box whether or not the mail carrier has been along to pick up mail, or whether the mail carrier has left mail in the box. This signaling device is therefore of great benefit in that it gives the owner of the box positive indication whether or not it is in order for him to make a trip to the box to pick mail which has been deposited therein.

These and many other objects and advantages of the invention, including the unique combination of the various elements as set forth in the appended claim, will be better understood by those versed in the art in the following description of one particular form of the invention as is illustrated in the accompanying drawings, in which

Fig. 1 is a view in side elevation of a structure embodying the invention;

Fig. 2 is a detail on a greatly enlarged scale on the line 2—2 in Fig. 1; and

Fig. 3 is a view in end elevation of the box to which the invention has been applied and in which view the signal has been operated from that position shown in full lines in Fig. 1 to the position shown in dash lines.

The invention is shown as applied to a conventional mail box **10** of the style and shape well known to those versed in the art, which box has an end door **11** normally opened by a spring latch member **12** at the upper end portion thereof engaging under a spring **13**. This box **10** is of the type which has been approved by the Postmaster General.

It is an all metal box, and one of its peculiarities is, as is indicated in Fig. 2, that it has a floor **14** from which extends downwardly at substantially right angles thereto a flange **15** to lie along the lower edge portion of the side wall **16**, rivets **17**, Fig. 1, being passed through the flange

15 and the lower end portion **16** to hold the floor **14** in position at an elevation above the lower edge of the side wall **16**.

A signal mounting plate **18** is formed to have at least two spaced apart jaws **19** and **20** bent around from the lower under edge **21** of the plate **18** to fit against the inside of the floor flange **15** with the plate **18** bearing frictionally against the lower end portion of the wall **16**. That is, the plate **18** is engaged over the lower edge of the side wall **16** by means of the jaws **19** and **20** being carried upwardly over the flange **15** with the plate **18** being carried upwardly over the lower edge of the wall **16**, all as indicated in Fig. 2. The plate **18** is fixed in position along the lower portion of the wall **16** in the engagement just described by any suitable means, herein shown as by two set screws **22** and **23** screw-threadedly passing through the plate **18** to bear against the wall **16**, Fig. 2.

On the rear end of the plate **18** in reference to the front of the box **10** over which the door **11** fits, there is pivotally mounted a signal arm **24** confined to a swinging action parallel to the side wall **16**. The arm **24** is, in the present showing, secured to the plate **18** by means of a rivet **25**. On the outer free end of the arm **24**, there is some sort of a signal indication, herein shown as a plate **26** in the nature of a flag, which may be given any particular decoration desired, yellow being one color suggested so it would be distinguished from the usual flag **27***a*, Fig. 3, which is normally colored red to attract the attention of the mail carrier when it is in an up position, all as is well known to those versed in the art. Incidentally, in Fig. 3, the structure which forms the present invention is located on the side of the box **10** opposite to that side on which the flag **27***a* is mounted.

The arm **24** and the height of the plate **26** are made to be such that when the arm **24** is swung from a normally lower position as indicated by the solid lines in Fig. 1 to the upright or dash line position, the plate **26** will be visible across the top of the box **10**. The plate **18** has a finger **27** turned outwardly therefrom so as to be in the path of the arm **24** when it approaches the vertical position, to serve as a stop to limit the swinging of the arm **24** thereby.

From the forward or front end portion of the plate **18**, there is a bracket **28** formed by carrying the plate **18** downwardly and thence outwardly at substantially right angles. From the outer forward edge portion of the bracket **28**, there is turned upwardly a leg **29**. A link **30** is pivoted by one end by any suitable means such as by a rivet **31** to this leg **29**, the rivet **31** having its axis somewhat below the axis of the rivet **25** at the other end of the plate **18**.

A connecting rod **32** has its forward end pivotally connected to the other end of the link **30** by any suitable means, to be described later, and the other end of the connecting rod **32**, that is the rear end, is pivotally connected by means of the rivet **33** to the arm **24** at a distance spaced along the arm **24** from the rivet **25**. That is, the rivet **33** is carried by the arm **24** intermediate the plate **26** and the rivet **25**, being nearer to the rivet **25** than it is the plate **26**.

A finger **34** has an enlargement **35** near one end to abut the face of the arm **32** removed from the link **30**, and from this enlargement **35** the finger **34** extends through the arm **32** and through the link **30** to have a head **36** riveted over so as to rockably interengage the link **30** with the arm **32**.

This finger **34** preferably has a member **37** on its outer free end to be in the path of the door **11** of the box **10** when that door is opened. This member **37** may take any number of a variety of forms such as simply a rubber button, or even a roller, so long as it is in the path of

the door **11**. Of course the member **37** may be omitted if it is desired that the finger **34** itself ride on the flange **38** of the door.

An important feature of the connecting rod **32** is that it has a forward portion **39** which extends angularly downwardly in reference to the longitudinal axis of the major length of the connecting rod **32** as it extends forwardly from the rivet **33**. The length of this downwardly turned portion **39** is made to be such that when the arm **24** is rocked to its vertical position, as indicated by the dash lines in Fig. 1, the major straight length of the connecting rod **32** will extend from that arm **24** to the forward end of the bracket **28**, and then the forward end portion **39** will turn downwardly and then forwardly therefrom so that a straight line drawn between the center of the rivet head **36** and the center of the rivet **33** will pass below the center of the rivet **31**. The connecting link **30** will in this position be parallel to the portion **39**. By reason of the weight of the connecting rod **32**, the link **30**, and the finger **34**, the signal arm **24** will be maintained in its upright position and held there against any wind pressure or vibration due to wind so that the signal plate **26** will remain visible until it is reset by lifting up on the finger **34** so as to lift the connected members and permit them to swing around to bring the arm **24** back into its lowered position.

The operation of the invention is this—normally the structure rests in the position wherein the weight of the arm **24** and the plate **26** carries the connecting rod **32** rearwardly to have the finger **34** against the door **11** when in its closed position. In this position, the display or signal plate **26** does not appear above the top of the box **10**, and therefore the absence of any signal appearing above the box would indicate one of two things, either that mail placed in the box has not as yet been picked up by the carrier, or that the carrier has gone on past without either picking up mail or leaving mail. It is to be remembered that the owner of the box, in case he places mail in the box, will have raised the red flag **27***a* on the opposite side of the box to signal to the carrier to stop for mail thus deposited. Thus when the plate **26** does not appear above the box top, but the flag **27***a* does, the condition thus indicated is that the mail carrier has not as yet been along.

Then when the mail carrier does come along, either to pick up the mail in the box or put mail in the box, he will pull the door **11** open and drop it downwardly, the door being hinged on the axis of the rivet **40**, Fig. 1, in the usual manner, and in so doing, the door **11** will push against the finger **34** or any abutting member **37** thereon, so that as the door is opened, that finger **34** on the axis of the head **36** will be pulled around on the arc **41** as indicated in dash lines in Fig. 1, and this travel of the finger **34** will rock the connecting link **30** and also pull the connecting rod **32** forwardly and carry the front end **39** downwardly to bring the arm **24** with signal plate **26** to its upright position and to have further down travel of the door arrested by reason of the rod **32** striking and resting on the forward edge of the bracket **28**. The signal **26** will thus remain in that position until the owner comes to the box and resets the signal by dropping it back to its normal inoperative or non-signaling position.

Therefore, it is to be seen that I have provided a structure which may be readily attached to the standard mail box without any change whatsoever in the actual structure of the box, without drilling holes therethrough, and without any obstructions placed in the path of the hand of the mail carrier when he operates the door **11**. The structure may be readily applied to any mail box of the standard type simply by mounting the plate **18** thereon and tightening the screws **22** and **23**. The structure is of value because of its extreme simplicity and ease of attachment to the box, as well as for its actual result in providing the signal.

While I have herein shown and described my invention in the one particular form as now best known to me, it is obvious that structural changes may be made without departing from the spirit of the invention, and I therefore do not desire to be limited to that precise form beyond the limitations which may be imposed by the following claim.

I claim:

For a mail box having a depending flange along a side therof, and an end door hinged at its bottom end across the box, a signal device erected by opening travel of the door comprising a mounting member engaging about said flange and adjustably secured along said side; a signal arm pivoted by one end on a rear end portion of said member; a signal member on the other end of the arm; a link of lesser length than that of said signal arm pivoted by one end to a forward end portion of said mounting member; a connecting rod pivoted by one end to the other end of said link, and pivoted by its other end to said signal arm intermediate said signal and the signal arm pivot at said mounting member; a finger carried by said link extending into the path of said door in downwardly swinging travel thereof; said connecting rod having a major straight length extending from said signal arm, from which length a minor length approximately equal to the length of said link extends at an obtuse angle therefrom; the spacing apart of the pivot connections of said arm and said link on said mounting member, the location of the connecting rod pivot along said arm, the length of said link, and the overall length of said rod bringing the signal arm from near a horizontal position to an upright position upon opening and swinging of said door downwardly against said finger; and an abutment carried by said mounting member in the path of said rod limiting travel of the arm to said upright position; said connecting rod being disposed in said arm position to position said finger below the pivot connections of said arm and said link with said mounting member and support the door in its opened position.

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