

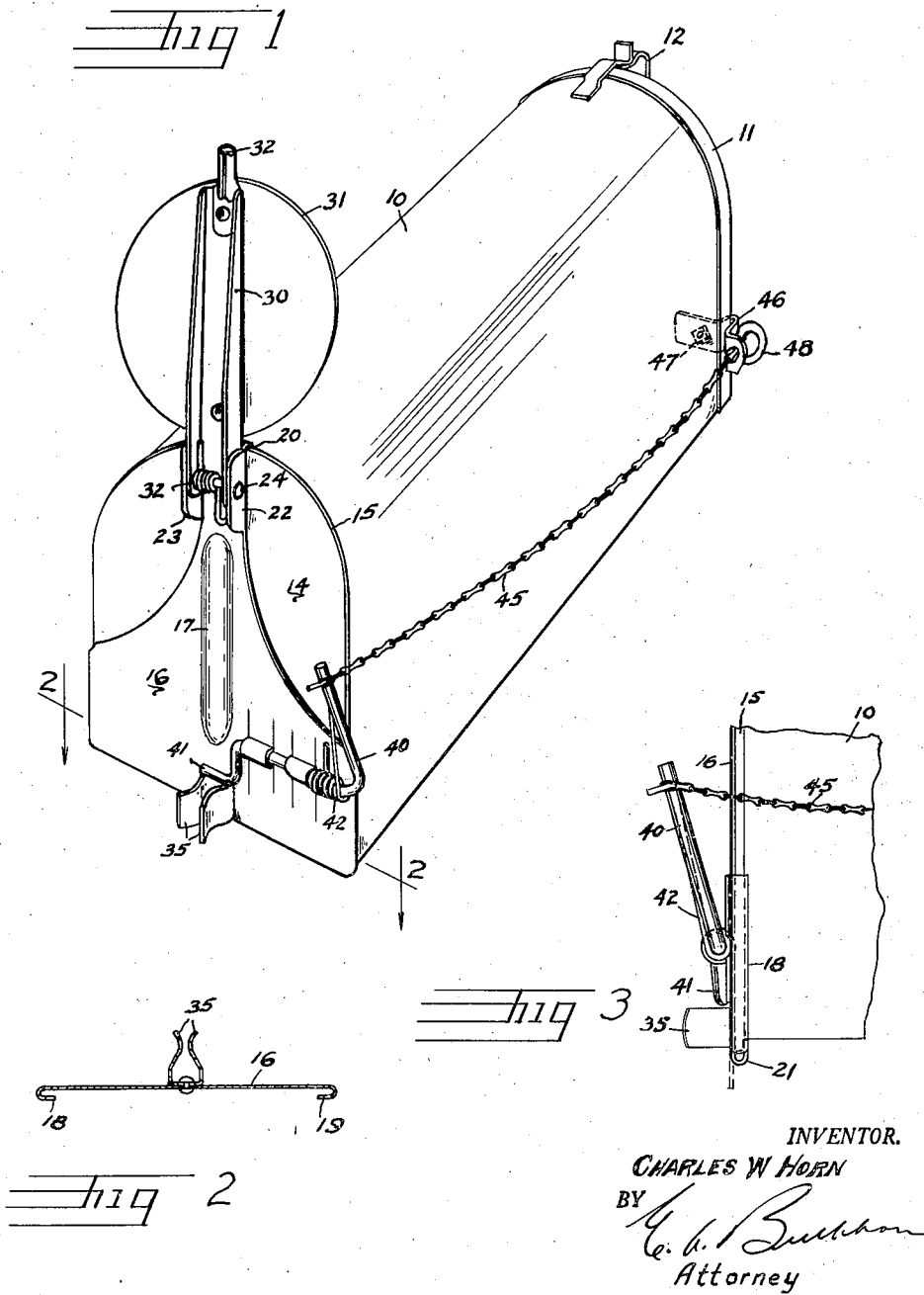
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DOOR OPERATED MAILBOX SIGNAL

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DOOR OPERATED MAILBOX SIGNAL

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9 Claims. (Cl. 232—35)

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My present invention relates to a mail box signaling device for rural route mail boxes.

The principal object of my present invention is to provide means whereby the owner of a rural route mail box may be apprised of the presence of mail in the box from a long distance. It is usually the case that the holders of rural route boxes are domiciled back from the route followed by the mail carrier while their mail boxes are located along the road over which the mail carrier drives. In many cases the house may be separated from the mail box by several hundred yards. The present invention is designed to signal the presence of mail in the box to the home owner in his home thus relieving him of the necessity of walking to the mail box every time the mail carrier should have passed by. Even in the case of urban or suburban dwellers served by rural route delivery, where the mail box may not be much more than several yards from the front door, the present invention serves a long felt need since in many cases the home owner may feel the necessity of inspecting the box during inclement weather. The present invention relieves the home owner of the necessity of physically inspecting the mail box to ascertain whether mail has been deposited therein.

The principal object of the present invention is therefore to provide signaling means to inform the owner of a mail box that mail has been deposited therein.

A further object of the present invention is to provide mail box signaling means of sturdy construction, manufactured from inexpensive materials.

A further object of the present invention is to provide a mail box signal which is simple in operation, which automatically signals the presence of mail upon the opening of the mail box to deposit mail therein thus relieving the depositor of the necessity of performing any actions in addition to opening the mail box door, and it may be returned to cocked non-signaling position by even the youngest person capable of opening the box to take the mail therefrom. A further object of the present invention is to provide a mail box signal which may be easily and rapidly affixed to a mail box by any person of average intelligence thus facilitating the sale and installation of mail box signaling devices.

A further object of the present invention is to provide a mail box signaling device which may be readily and quickly assembled and which in assembled form does not present a plurality of disassociated parts susceptible to becoming lost.

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A further object of the present invention is to provide a mail box signaling device which may be readily assembled with a mail box in very rapid order, and which may be just as readily disassembled therefrom so as to permit a home owner to carry the signaling device with him in the event he wishes to do so without removing the mail box from its position.

The foregoing and other objects and advantages of the present invention may be more readily understood from inspection of the accompanying drawing taken in connection with the following specification wherein like numerals refer to like parts throughout.

In the drawing Fig. 1 is a view in perspective taken from the rear of a mail box having the present invention associated therewith;

Fig. 2 is a vertical section taken substantially along the line 2—2 of Fig. 1; and

Fig. 3 is a partial side elevation of a portion of a mail box with the present invention associated therewith.

In the drawing a conventional mail box is illustrated comprising a receptacle having a hinged front door 11 adapted to be held in place by a snap catch 12, the door being hinged at the bottom to drop forwardly in the conventional manner. As in all standard mail boxes, the rear wall 14 of the receptacle is joined to the side, top and bottom wall by a rolled seam forming a peripheral edged bead 15. I make use of this bead to attach my invention thereto by providing a mounting plate 16, preferably having a vertical stiffening rib or ribs 17 thereon, which is adapted to be slid vertically downward in engagement with the rear wall 14 by engaging the vertical portions of the bead 15 in channels formed by re-entrantly bending the side edges of the mounting plate to form opposite guides as indicated at 18 and 19. The upper portion of the plate 17 is reduced in width and the upper end thereof is re-entrantly bent as indicated at 20 to form a clamp adapted to engage the top of the bead 15. At the central portion of the lower edge of the plate 17 there is provided a tab 21 adapted to be bent upwardly and crimped about the lower portion of the bead 15 after the mounting plate has been slid into the illustrated position. Such crimping action may be accomplished by any convenient, normally available tool such as a hammer or pliers and serves to rigidly lock the signaling device in position. The tab may be withdrawn in order to remove the mounting plate by sliding it upward.

The upper edges to the mounting plate are pro-

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vided with tabs which are bent forwardly to provide a pair of pintle ears 22 and 23 through which may be passed a pivot member 24 such as a stove bolt, or a length of wire having one end preformed to provide a head, the other end of which may be peened over after assembly. The pivot member 24 is passed through suitable openings in the lower ends of flanges provided on a lever 30, to which lever there is firmly affixed a signal disc 31 or other rigid member of relatively large size visible from a great distance. A spring 32 is coiled about the pivot member 24 in tensioned condition having its ends extending a sufficient distance in opposite directions to engage the surfaces of the mounting plate 16 and the lever 30. The free end of lever 30 is extended beyond the signal disc 31 and it is preferably rolled into a tubular extension 32, or a tubular extension member 32 is welded or otherwise affixed to the end of the lever 30. The extension 32 could be solid or have other cross sectional configurations without departing from my invention. The signal device is adapted to be set in cocked position by swinging the lever 30 downwardly about the pivot 24 and engaging the extension 32 between the prongs 35 of a clip fixed to the lower central portion of the plate 16. The clip preferably comprises a strip of fairly rigid but resilient material folded upon itself as illustrated.

In order to trip the signaling device, means are provided to force the extension 32 from the clip when the door 11 is opened. The releasing means preferably comprises a crank 40 having a fairly long horizontal portion journaled in spaced apart push-outs which may be struck up from the surface of the plate 16 when it is being formed. The inner end of the crank is provided with an offset releasing portion 41 adapted to lie above the clip between the extension 32 and the mounting plate 16. The horizontal portion of the crank on the opposite side of the journal therefor provided by the push-outs mounts a coil spring 42 having its inner end biased against the mounting plate 16 and its outer end extended upwardly and engaged with the upwardly extending crank arm of the crank. As illustrated, the engagement of the outer end of the spring with the crank arm is preferably achieved by passing an offset end of the spring through a hole drilled through the free end of the crank. The spring is so tensioned as constantly to urge the crank arm away from the door 11. The upper end of the crank arm is attached to flexible means preferably comprising a chain 45, the forward end of which passes through an opening in a chain guide 46 suitably mounted on the front door 11 as by means of a bolt 47. The member may be attached by other means but I prefer the bolt 47 inasmuch as the member is thereby made detachable if desired and the bolt may be inserted through a hole easily punched or drilled through the door.

The assembly of the chain 45, member 46, crank 40, and spring 42 with the mounting plate 16 is achieved as follows: The crank is formed without bending the crank arm upwardly so that it may be slipped through the push-outs on the mounting plate. The spring is held in tensioned condition and slipped on to the crank whereupon the crank arm may be bent upwardly and the formed end of the spring slipped through the hole in the crank arm. The chain 45 is slipped through the opening in the member 46 and is held therein by an enlargement 48 such as a ring carried by the chain. The other end is engaged by the crank arm as by means of spring-

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ing a link and slipping it over the crank arm. Thereafter the end of the spring 42 may be hooked over the end of the chain to lock the members in assembled relation.

The present invention may be assembled with an existing mail box by sliding the mounting plate into position and bending the tab 21 upward as seen in Fig. 3, and by attaching the member 46 to the door 11. The signal device is cocked by engaging the extension 32 between the clip arms 35 and the mail box is ready for the receipt of mail. Upon opening the door the chain 45 is pulled outwardly thus rocking the crank toward the rear and forcing extension 32 from the clip. The spring 32 causes the lever 30 to spring upwardly until it strikes the upper end of the mounting plate which retains the signal device in view above the mail box. If desired the signal member 31 may be painted a bright color to increase its visibility. The owner is thus apprized that the mail box has opened. After inspection of the mail box and reclosing the door 11 the signal device may be returned to its cocked position by placing the extension 32 in the clip.

Having illustrated and described a preferred embodiment of my invention, it should be apparent to those skilled in the art that modifications in detail and arrangement are permissible. For example, the dimensions may be altered to enable the mounting plate to be fitted over various sizes of mail boxes and the chain 45 may be altered in length and method of attachment to the crank. All such modifications in detail and arrangement as come within the true spirit and scope of the appended claims are considered to be a part of my invention.

I claim:

1. A mail box signaling device comprising a mounting plate adapted to be attached to the rear wall of a mail box, a signal pivotally mounted on said mounting plate, a spring biased between said mounting plate and said signal to urge said signal into an upright position, a retainer adapted to resiliently engage and retain said signal device in downwardly extending position overlying said mounting plate, a crank mounted on said mounting plate and including an offset portion extending between said mounting plate and said signal when said signal is retained by said retainer, and means connecting said crank to the door of the mail box and movable upon opening said door to rock said crank and disengage said signal.

2. The invention set forth in claim 1 wherein said mounting plate comprises re-entrantly bent edge portions adapted to engage the rear wall bead portion of a standard mail box.

3. The invention set forth in claim 1 in combination with spring means associated with said crank and biased to normally urge said offset portion against said mounting plate.

4. The combination set forth in claim 1 wherein said connecting means comprises a chain and a member engaged with an end of said chain and detachably securable to the door of said mail box.

5. The combination set forth in claim 1 wherein said mounting plate is provided with channel grooves at its opposite edges adapted to receive the bead of the rear wall of a standard mail box and retain the mounting plate thereon, a substantially horizontal downwardly facing groove at its upper edge adapted to receive the upper portion of said bead, and a tab at its lower edge

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adapted to be bent around the lower portion of said bead.

6. The invention set forth in claim 1 wherein said signal comprises an elongated lever having an enlarged rigid target mounted thereon, said lever having an extension extending beyond said target, and said retainer comprises a pair of resilient, spaced apart, clip arms adapted to receive and retain said extension.

7. A mail box signal device adapted to be mounted upon a mail box of the type having a bead about the junction of the sides thereof to the rear wall thereof, comprising a mounting plate having re-entrant edge portions forming channels adapted to receive and embrace said bead, said re-entrant portions comprising a pair of vertical opposed side portions and an upper downwardly facing portion and said plate having a tab extending from the lower edge thereof and normally positioned in the plane of said mounting plate so as to permit vertical sliding movement of said plate, said tab being bendable upwardly and inwardly to engage the lower surface of the mail box after said plate has been positioned thereon.

8. A mail box signal device comprising a mounting plate adapted to be mounted upon the mail box, a spring-urged signal device mounted upon said plate, means for releasably retaining said signal device against the tension of its spring in non-signaling position, a crank mounted upon said plate in position to trip said signaling device from said retaining means, a crank-operating chain permanently fixed to said crank, and a chain retaining member permanently engaged

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with the free end of said chain and adapted to be affixed to the door of the mail box.

9. A mail box signal device adapted to be mounted upon a mail box of the type having a door at the front and a bead about the edge of its rear wall, comprising a mounting plate having at least one reentrant edge portion forming a channel adapted to embrace a portion of said bead, a signal pivotally mounted upon said plate, a spring biased between said plate and said signal in position to urge said signal to a signaling position, a catch releasably engaging and retaining said signal in a non-signaling position adjacent said plate, a catch releasing member movably mounted upon said plate and including a portion arranged to release said catch to permit said signal to be moved to signaling position by said spring, and an operating member connected to said catch releasing member and adapted to be connected to the door of the mail box whereby opening of the door would cause release of said catch.

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