

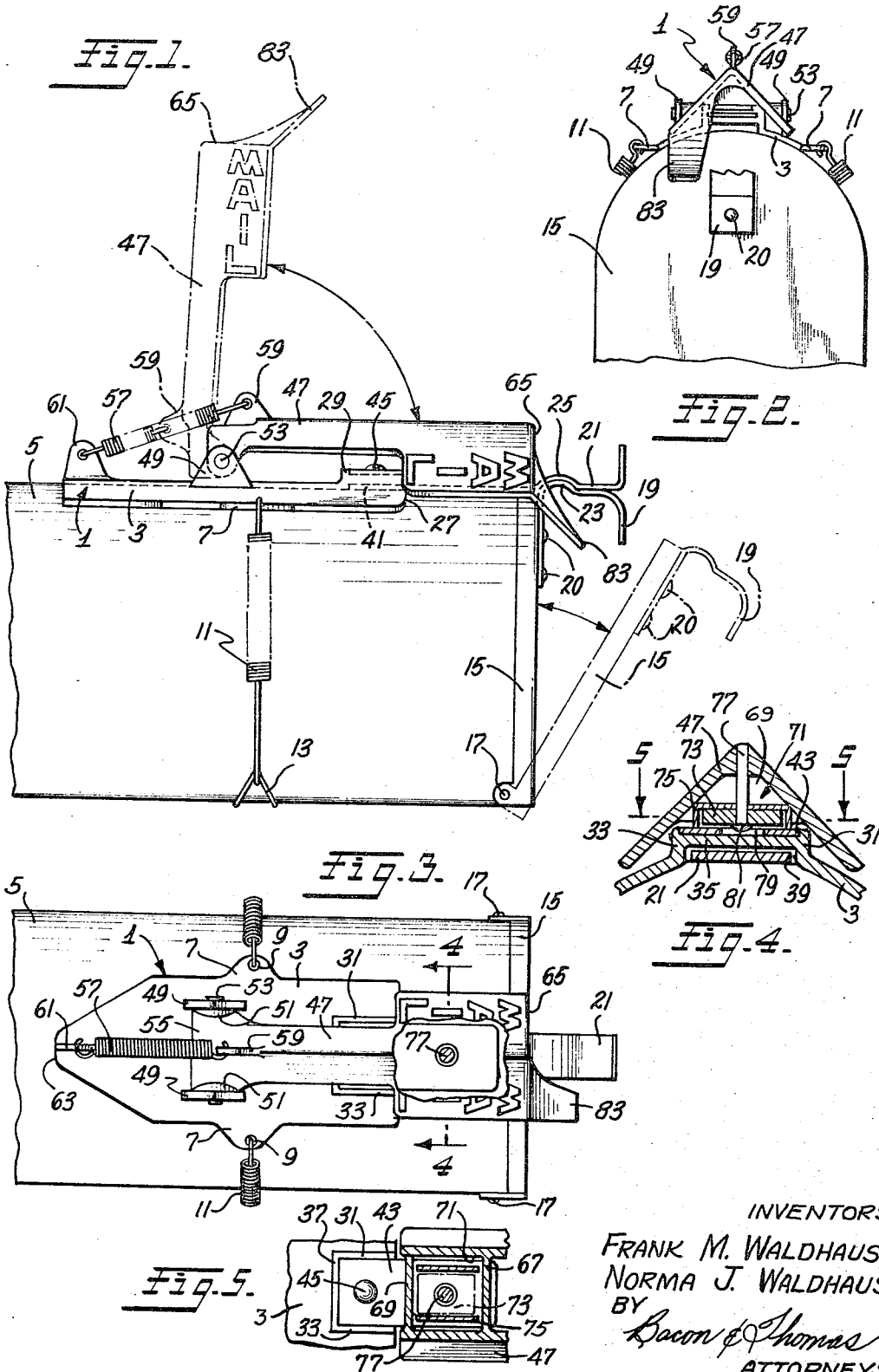
Sept. 26, 1967

F. M. WALDHAUS ET AL

3,343,784

MAIL INDICATOR

Filed April 21, 1966



INVENTORS
 FRANK M. WALDHAUS
 NORMA J. WALDHAUS
 BY *Bacon & Thomas*
 ATTORNEYS

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3,343,784

MAIL INDICATOR

Frank M. Waldhaus and Norma J. Waldhaus,

R.R. 2, Quincy, Ill. 62301

Filed Apr. 21, 1966, Ser. No. 544,238

6 Claims. (Cl. 232—35)

ABSTRACT OF THE DISCLOSURE

A signal arm is pivotally mounted at one end thereof on a base and is biased to a vertical, signalling position by a coiled tension spring. The other end of the signal arm carries a permanent magnet which cooperates with a strip of magnetic material carried by the base for holding the signal arm in a horizontal, non-signalling position against the action of the tension spring. The base is mounted on the upper surface of a mail box so that a finger formed on the arm adjacent the magnet is engaged by the mail box door as it opens moving the arm upwardly to release the holding magnet from the magnetic strip, whereupon the tension spring pivots the signal arm to the vertical, signalling position.

This invention relates to a mail indicator for automatically providing a signal when mail has been disposed in a rural-type mail box.

More specifically, the invention resides in a device adapted to be mounted on the top of a rural-type mail box with the signal arm or indicator thereof normally maintained in a non-signalling position by means of a holding magnet. A finger or trigger carried by the signal arm is adapted to be disposed adjacent the mail box door and positioned in the path thereof in such a manner that the door of the mail box will engage the finger or trigger as the door is being opened and will release the holding magnet permitting the signal arm or indicator to move to a signalling position under the influence of a spring.

It is an object of the invention to provide a novel mail indicator in which the signal arm is releasably secured in a non-signalling position by a holding magnet.

Another object of the invention is to provide a mail indicator adapted to be readily attached to a rural-type mail box without in any way altering the mail box and to be actuated by the door thereof as the door is moved from the closed toward the open position.

A further object of the invention is to provide a mail indicator device which will automatically provide a visual signal when the mail box door has been opened and is durable, economical to manufacture and easy to install.

In order to more fully understand the invention, one form of which is disclosed by way of example, reference is made to the following specification and claims taken with the drawings in which:

FIG. 1 is a fragmentary, side-elevational view of a mail box incorporating the mail indicating device of the present invention shown in two positions, the phantom line position illustrating the mail indicator in its raised, signalling position when mail has been deposited in the box and the full line position illustrating the mail indicator in the lowered, non-signalling position;

FIG. 2 is a fragmentary, front-elevational view of the device of FIG. 1;

FIG. 3 is a fragmentary, top plan view of the mail indicating device;

FIG. 4 is an enlarged, fragmentary, vertical, sectional view taken on the line 4—4 of FIG. 1; and

FIG. 5 is a fragmentary, horizontal, sectional view on a reduced scale, taken on the line 5—5 of FIG. 4.

The present mail indicator 1 includes an elongated base member 3 curved as viewed in transverse cross-section

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to correspond to the curvature of the upper surface of a rural-type mail box 5 and adapted to be mounted thereon in the manner of a saddle. A wing 7 formed integrally with the base 3 extends laterally outwardly from each side of the base for a short distance and the wings 7 are provided with vertically extending openings 9 for securing the base member 3 to the mail box 5. As shown, a coiled tension spring 11 is secured at its upper end to each of the openings 9 in the base member 3. The lower end of the springs 11 are connected to a wire member 13 extending transversely across the lower surface of the mail box 5. By means of this arrangement, the base member 3 is held in the desired adjusted position on the mail box 5 and adjacent the end thereof carrying the door 15. The mail box 5 is of conventional construction with the door 15 being pivoted adjacent its lower edge on the pivots 17. The door 15 is normally maintained in a closed position by cooperation between a spring member 19 secured to the upper portion of the door by rivets 20 and a cooperating spring member 21 secured to the upper surface of the mail box 5 by suitable fastening means, not shown. The spring members 19 and 21 are provided with curved mating portions 23 and 25 which cooperate to form a detent for releasably securing the door in the closed position.

The end 27 of the base member 3 is provided midway between the opposite sides thereof with a raised portion 29 of generally square configuration having side walls 31 and 33, a top wall 35 and a back wall 37. The under surface of the base member 3 below the top wall 35 is thus formed with a recess 39 which receives therein the inner end 41 of the spring member 21. The inner end 41 of the spring member 21 fits freely between the side walls 31 and 33 of the recess 39 and cooperates with walls of the recess 39 for positioning the base member 3 adjacent the door 15 and for assisting in maintaining the base member in the proper position on the top of the mail box 5.

The mail indicating device may be formed of any suitable rigid material not readily affected by the elements such as aluminum, iron, brass, plastic or the like. In the present disclosure the base member 3 is formed from a rigid, non-magnetic, metallic material. A strip 43 of magnetic material is secured adjacent one end thereof to the upper surface of the top wall 35 of the raised portion 29 of the base by a rivet 45. The riveted end of the magnetic strip 43 is positioned between the walls 33, 31 and 37, which extend upwardly a short distance above the top wall 35 of the raised portion 29, and the other end of the magnetic strip 43 extends outwardly from the end 27 of the base member 3.

An indicator or signal arm 47 preferably formed of a rigid, non-magnetic, metallic material, is pivotally mounted adjacent one end thereof between a pair of spaced, rigid lugs 49 extending upwardly from the upper surface of the base member 3 intermediate the opposite ends thereof. The signal arm 47 is shown as being of generally right-angle configuration as viewed in transverse cross-section and is provided at the pivot end thereof with enlargements 51 spaced to fit between the lugs 49. A pivot pin 53, extending through aligned openings formed in the lugs 49 and in the enlargements 51 connects the base member 3 and the end 55 of the signal arm 47. The signal arm 47 is pivotally mounted on the pin 53 for movement between a substantially vertical signalling position as shown in phantom lines in FIG. 1 and a substantially horizontal, non-signalling position as shown in full lines. The signal arm 47 is continuously biased to the vertical, signalling position by means of a coiled tension spring 57, secured at one end thereof to a lug 59 formed on the signal arm 47 adjacent the end 55 and at the other end

thereof to a lug 61 extending upwardly from the end 63 of the base member 3. The end 55 of the signal arm abuts against the upper surface of the base member 3 when the signal arm 47 reaches substantially the vertical, signalling position thus limiting the extent of pivotal movement imparted thereto by the tension spring 57.

The signal arm 47 is enlarged adjacent the outer end 65 thereof and may carry suitable indicia or may be painted a suitable color to attract attention. A pair of spaced, transverse walls 67 and 69 extend across the under surface of the angle-shaped signal arm 47 adjacent the end 65 providing therebetween a recess 71. A flat permanent magnet 73 of generally rectangular configuration is loosely confined within a U-shaped sheet metal member 75 and both the permanent magnet 73 and the U-shaped member 75 are supported in the recess 71 by means of a rivet 77 fixed in the signal arm 47 and extending downwardly therefrom through suitable aligned openings formed in the magnet 73 and the U-shaped member 75. The magnet 73 and the U-shaped member 75 are loosely mounted in the recess 71 and on the rivet 77 for limited vertical and lateral movement. The lower surface of the magnet 73 and the U-shaped member 75 is adapted to extend a short distance below the lower surface of the transverse walls 67 and 69 and to engage the upper surface of the strip 43 of magnetic material adjacent its outer end for releasably holding the signal arm in the horizontal, non-signalling position. An opening 79 is formed in the magnetic strip 43 in alignment with the head 81 of the rivet 77 in order to permit the head of the rivet to enter the opening and thus permit the magnet 73 to properly cooperate with the magnetic strip 43.

A trigger or finger 83 is formed on the outer end 65 of the signal arm 47 and, when the signal arm 47 is held by the magnet 73 in the horizontal, non-signalling position, the finger 83 extends outwardly and downwardly from the signal arm 47 and lies in the path of movement of the mail box door 15. Movement of the door 15 from the closed toward the open position engages the door with the under surface of the finger 83 resulting in lifting the finger 83 and the outer end 65 of the signal arm 47 upwardly a distance sufficient to release the connection between the holding magnet 73 and the magnet strip 43 whereupon the tension spring 57 will move the signal arm to the vertical signalling position.

After mail has been removed from the box 5 and the door 15 has been closed, the signal arm 47 is grasped and moved from the vertical, signalling position to the horizontal, non-signalling position engaging the holding magnet 73 with the magnet strip 43. The signal arm 47 will be maintained in the non-signalling position by the coaction between the magnet 73 and the strip 43 until the door 15 is again opened whereupon the magnetic connection will be broken and the signal arm 47 will be moved to the signalling position.

Various changes in the shape, size, materials and arrangement of parts of the form of the invention shown and described herein will occur to those skilled in the art. For example, the base member 3 may be formed of magnetic material, in which event the magnet 73 could engage and cooperate directly with the base member for holding the signal arm 47 in the non-signalling position, or the magnet 73 could be arranged to engage the metal mail box itself or a metal portion thereof for holding the signal arm 47. Further, it would be obvious to fixly secure the base 3 directly to the mail box 5 by suitable fasteners such as screws, bolts or rivets, if it were so

desired. It is also conceivable to arrange an operable connection between the mail box door 15 and the finger 83, rather than the direct cooperation disclosed herein, so that opening of the door 15 results in releasing the holding magnet 73.

It will be understood that the invention is not to be limited to the exact construction shown and described, but that various changes and modifications may be made without departing from the spirit and scope of the invention, as defined in the appended claims.

We claim:

1. A signal for a mail box having a door, comprising: a base; a signal arm; means mounting said signal arm adjacent one end thereof on said base for pivotal movement between a signalling and a non-signalling position; resilient means biasing said signal arm to said signalling position; and magnetic means for releasably holding said signal arm in the non-signalling position against the force of said biasing means, said magnetic holding means being located adjacent the other end of said signal arm and comprising a permanent magnet carried by one of said signal arm and said base and a cooperating magnetic portion carried by the other of said signal arm and said base, said signal arm including adjacent said other end thereof, a finger portion; said base to be attached to the mail box with said finger portion disposed adjacent to and in the path of movement of the mail box door where-by said finger is engaged by the mail box door as it opens moving said other end of said arm away from said base and releasing said magnetic holding means thereby permitting said resilient means to pivot the signal arm to the signalling position.

2. A signal according to claim 3 wherein said permanent magnet is loosely carried by said signal arm to thereby assure cooperation between the face of said permanent magnet and the opposed, cooperating face of said magnetic portion.

3. A signal according to claim 1 wherein said permanent magnet is carried by said signal arm and said base carries said magnetic portion.

4. A signal according to claim 2 wherein said signal arm and said base are formed from non-magnetic material.

5. A signal according to claim 3 wherein the lower surface of said base is convex and is configured to conform to the upper convex surface of a conventional rural-type mail box; and including means for adjustably and readily removably mounting said base on said rural-type mail box with said finger portion in the path of travel of said mail box door.

6. A signal according to claim 3 wherein said signal arm is disposed in a substantially horizontal position when in the non-signalling position and is disposed in a substantially vertical position when in the signalling position.

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FRANCIS K. ZUGEL, *Primary Examiner*.