

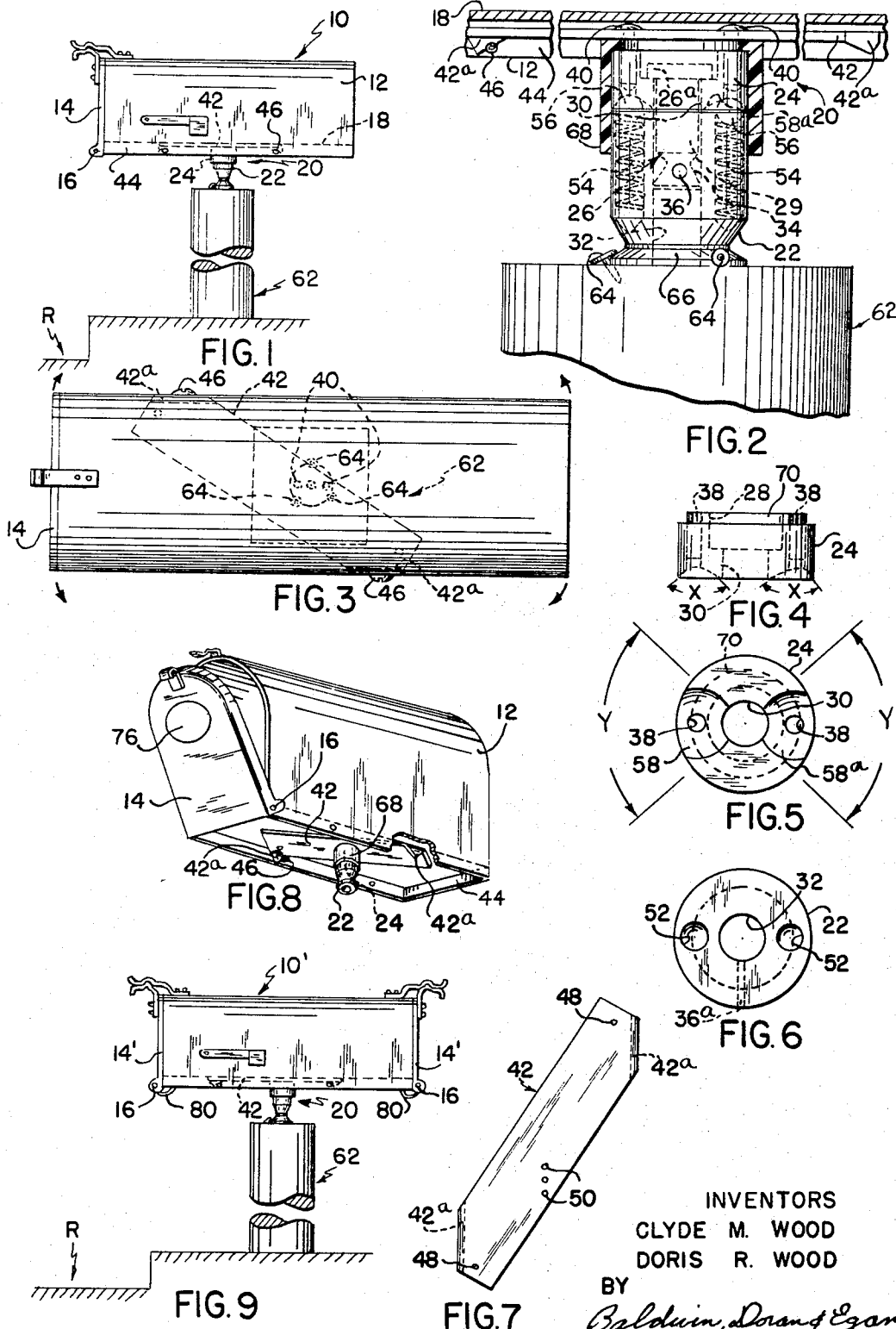
Oct. 29, 1968

C. M. WOOD ETAL

3,407,997

ROTATABLE MAIL BOX

Filed Nov. 22, 1966



INVENTORS
CLYDE M. WOOD
DORIS R. WOOD

BY

Baldwin, Doran & Egan
ATTORNEYS

1

3,407,997

ROTATABLE MAIL BOX

Clyde M. Wood and Doris R. Wood, both of 1100 SOM
Center Road, Mayfield Heights, Ohio 44124
Filed Nov. 22, 1966, Ser. No. 596,332
7 Claims. (Cl. 232—39)

ABSTRACT OF THE DISCLOSURE

A balanced, readily rotatable, mailbox mounting comprising a rotatable member adapted for attachment to the mailbox and a stationary member adapted for mounting on a support, with the stationary member having spaced spring loaded detents projecting upwardly therefrom on diametrically opposite sides of the vertical axis thereof and with the detents coacting with complementarily positioned openings in the underside of the rotatable member, for releasably holding the rotatable member in predetermined positions with respect to the stationary member, thus facing the mailbox either toward the roadway or facing the mailbox 180 degrees in the opposite direction. Concentric recesses are formed in the rotatable member about the aforesaid openings, for causing automatic indexing of the rotatable member with respect to the stationary member through a range of approximately 90 degrees at each end of the box, so that a force does not have to be continuously applied to the mailbox in order to accomplish the full 180-degree rotary movement of the box. A headed pivot pin extends axially between the rotatable and stationary members with the pin having a tapered surface at its lower end, with a transversely extending stud on the stationary member coacting with the tapered surface to hold the rotatable and stationary members together against the resistance to compression of the spring loaded detents. The rotatable member has an elongated generally horizontal bracket secured thereto with the bracket having downturned corner portions for convenient fastening of the mailbox to the bracket. A brightly-colored decal may be secured to the closure door of the box for indicating to the resident that the box has been rotated from a roadway facing position 180 degrees to a rearwardly facing position. In one embodiment the mailbox has a door at both ends thereof for providing access to the box from either end.

This invention relates in general to mailboxes and the like and more particularly to a support for a mailbox which enables rotation or pivoting of the box from a forwardly facing position to a rearwardly facing position and vice versa.

It is known in the prior art to fixedly mount a mailbox on a support, and also to swingably mount a mailbox on a support. The swingable type of mounting is generally for the purpose of enabling the box to be struck by a vehicle and to swing with the blow without causing material damage to the box and/or to the supporting structure. Such mailboxes are generally mounted on a post or a support adjacent the periphery of a roadway, with the box extending outwardly sufficiently toward the roadway to enable a mail carrier to deposit and remove mail from the box without getting out of a mail carrying vehicle.

In conventionally mounted mailboxes someone who is attempting to remove mail or deposit mail into the box must generally step into the roadway to accomplish this, and many times stepping into the roadway is hazardous due to the flow of traffic therealong. Moreover, in those areas where snow plows form large piles of snow along a roadway, such snow piles may present a considerable obstacle to access to a roadway facing mailbox.

The present invention provides a rotatable or swing-

2

able mailbox mounting which is operative for ready swinging of the mailbox from a forwardly facing or road facing position to a rearwardly facing position, and including means thereon for releasably holding the mailbox in either of said positions, so that the access opening of the box can be conveniently moved from a road facing position to a rearwardly facing position, for removal or insertion of mail from and into the box, and without the necessity of stepping into the roadway to accomplish this.

Accordingly, an object of the invention is to provide a novel rotatable or swingable mailbox mounting.

Another object of the invention is to provide a mailbox mounting which may be easily attached to a conventional mailbox, and which includes means thereon for releasably holding the mailbox in a forwardly or road facing position, and in a rearwardly facing position with respect to the support.

A further object of the invention is to provide a rotatable or swingable mailbox mounting of the above mentioned type which includes means for automatically indexing the box into either a forwardly, road facing position or a rearwardly facing position after predetermined rotary or swingable movement of the box, and without the necessity of applying a manual rotary force to the box for a full 180° of movement, in order to switch the position of the box from said forwardly facing to said rearwardly facing position or vice versa.

A still further object of the invention is to provide a mailbox mounting of the aforementioned type which is rotatable through a full 360°, and which includes spring loaded detents coacting with a rotatable member adapted for attachment to the mailbox proper, for predetermined positioning of the mailbox with respect to a post or supporting member.

A further object of the invention is to provide a mailbox mounting comprising a lower stationary member mounting spring loaded detent means therein, and an upper rotary member coupled to said lower member and adapted for rotation with respect thereto, with said upper member having means thereon for attaching the upper member to a mailbox, and with the upper member including means adapted for coaction with the detent means for releasably maintaining the mailbox in predetermined positions with respect to the lower member.

A still further object of the invention is to provide a mailbox mounting which is of rugged construction and which will effectively rotatably mount a mailbox on a post or the like support, whereby the mailbox may be rotated a full 360° and wherein means is provided for releasably positioning the mailbox in a forwardly facing position with respect to the support and in a rearwardly facing position with respect to the support.

A still further object of the invention is to provide a novel mailbox which has access openings in both ends thereof, and adapted for use with a rotary or swingable mounting arrangement of the above type, whereby the mailbox can be swung about a generally vertical axis through at least approximately 180°.

Other objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings wherein:

FIGURE 1 is a side elevational, broken view of a mailbox mounted on a swingable or rotatable mounting in accordance with the instant invention;

FIGURE 2 is an enlarged fragmentary, partially sectioned view of the mailbox mounting illustrated in FIGURE 1;

FIGURE 3 is an enlarged top plan view of the mailbox as supported on the mounting of FIGURE 1;

FIGURE 4 is a side elevational view of the upper rotary member of the swingable mailbox mounting;

FIGURE 5 is a bottom plan view of the FIGURE 4 member, and showing in particular the recesses formed therein adapted to receive the spring loaded detents illustrated in FIGURE 2, for automatically urging the mailbox into predetermined positions on a support;

FIGURE 6 is a top plan view of the lower stationary member of the rotatable mailbox mounting, and showing the openings therein for receiving the spring loaded detents illustrated in FIGURE 2;

FIGURE 7 is a top plan view of a mounting plate which is adapted for attachment to the rotary member of the mailbox mounting for subsequent attachment to the mailbox proper;

FIGURE 8 is a generally diagrammatic perspective view illustrating the rotary mounting of the invention as attached to the underside of a mailbox; and

FIGURE 9 illustrates a modified form of mailbox secured to the rotary mounting of the invention, and more particularly a mailbox having an access opening at both ends thereof.

Referring now again to the drawings, reference number 10 designates a mailbox which may be of conventional construction including a housing portion 12 having an access door 14 pivotally mounted thereto as at 16. The bottom wall 18 of the housing may be recessed in the conventional manner as shown, with such bottom wall being adapted for attachment to the rotatable mailbox mounting referred to by reference numeral 20. Bottom wall 18 may be of conventional corrugated configuration with the corrugations extending lengthwise of the box.

Support 20 may include a lower cylindrical-like stationary member 22, and an upper cylindrical-like rotary member 24, with such upper member being rotatably attached to said lower member as by means of pin 26 which includes a head portion 26a received in a recess 28 in the upper member 24, and a body portion 29 which extends through opening 30 in the upper member to be received in passageway 32 in the lower member. Pin 26 may have a lower tapered portion 34 of reduced diameter which is adapted for coaction with a locking stud 36 extending snugly through opening 36a in the lower member 22, and into vertically holding coaction with the tapered portion 34 of pin 26, thus holding the upper member 24 coupled to the lower member 22, but permitting free rotary movement of the upper member 24 with respect to member 22.

Upper rotary member 24 may have diametrically spaced openings 38 extending completely therethrough and which open onto the upper surface of member 24, and are adapted to receive therein headed fastening means 40 (FIGURE 2) which secure a bracket member 42 (FIGURES 3, 7 and 8) to member 24.

Bracket 42 may comprise a generally flat plate-like member of generally elongated rectangular shape configuration, with preferably a pair of opposite corners thereof turned or bent downwardly as at 42a at approximately 90° with respect to the plane of member 42. When the rotary mounting is in assembled relation with the mailbox, corner portions 42a are adapted to engage in flat surface-to-surface relation the interior of lower lip 44 of the box formed by the conventional recessed bottom wall 18 of the box. Fastener means 46 (FIGURE 3) extending through the box lip 44 may coact with the bent corner portions 42a, for securing the mailbox to the bracket 42 and attached rotary support 20. Moreover, bracket 42 preferably has openings 48 (FIGURE 7) therethrough adjacent the ends thereof which may receive other fastening means for securing the bracket 42 to the underside of wall 18 of the box. A conventional mailbox has openings in lip 44 just adjacent the location of bent corner portions 42a with the inside surface of the lip, and the use of a washer or the like in overlapping holding relation with the associated bent corner portion 42a provides a convenient and rapid arrangement for securing a box to bracket 42. Even if fastener means 46 happens to become

loose, the camming coaction thereof with the adjacent sloping edge of the respective bent corner portion insures that the box and bracket remain in assembled relation. Bracket 42 also has openings 50 therethrough, which are adapted to receive the aforementioned fasteners 40 securing the bracket to the upper rotary member 24. It will be seen that openings 50 are disposed in a line extending parallel to the planes of the bent corner portions 42a.

The lower stationary member 22 has recesses 52 (FIGURE 6) formed therein which receive resilient means, such as springs 54. Springs 54 abut against the lower end of the associated recess 52 and at their upper ends, each spring supports a hardened ball or detent member 56 which is adapted to be received within a confronting recess 58, 58a on the underside of the rotary member 24. As can be best seen in FIGURE 5, each of such recesses 58, 58a is comprised of a generally dish-shaped cavity of substantial diameter as the outer cavity recipient of the associated ball member. The included angle X (FIGURE 4) of each of recesses 58, 58a may be approximately 130° with the periphery of each of recesses 58, 58a preferably smoothly merging with the undersurface of rotary member 24, so that there is no sudden step, but instead more or less of a blended juncture. Each recess 58, 58a preferably smoothly merges with the associated opening 38 extending generally perpendicular to the associated recess.

As can be best seen in FIGURE 2, when the upper member 24 is assembled in attached but rotatable rotation with respect to the lower member 22, the detents 56 are adapted to be received in generally centered relationship in the respective one of the recesses 58, 58a with the lower portion of the ball detent being disposed in the associated opening 52 in the lower member 22. The respective spring 54 urges the respective ball detent upwardly and thus releasably holds the ball detent in its associated recess and in axially aligned relation with the associated opening 38 in the upper member 22. However, upon application of a lateral or rotary force to the box so as to rotate it, the smoothly tapered surfaces of the recesses 58, 58a coacting against the respective ball detent forces the latter downwardly against the resistance to compression of the associated spring 54, to permit the box to rotate, whereby the recesses 58, 58a move or rotate away from the respective ball detent due to rotation of member 24. The box may continue to rotate until such time as each of the detents commences to move over the preferably rounded edge of the upcoming recess 58, 58a, whereupon due to the resistance to compression action of the spring, the box is then automatically swung into a position wherein the access door 14 either faces forwardly toward the street or roadway, or faces rearwardly away from the street or roadway. Accordingly, it will be seen that the recess means 58, 58a and detent means 56 not only provides an arrangement for releasably holding the mailbox in predetermined position with respect to the mounting 20 but also provides an arrangement for automatically indexing such box into such position, upon rotation of the box a predetermined amount, or in other words until the ball detent members start to coact with the associated one of the recesses 58, 58a, to automatically urge the box into a definite forwardly or rearwardly facing direction.

It will be noted that the center of each of recesses 58, 58a is disposed on the circumference of a circle, the center of which lies on the axis of rotary member 24, and which circumference is intersected by the axes of the openings 38 in member 24. In the embodiment illustrated, the diameters of recesses 58, 58a, each of which diameters passes through the axis of the respective opening 38, is such that the included angle Y (FIGURE 5) defining the range of coaction between the ball detents 56 and the respective recess 58, 58a, approximately 90°. The resistance to compression of each of the spring members is such that only a relatively slight force is required to rotate the box and attached rotary member 24, and thus cause movement of

the recesses 58, 58a with respect to their associated detent members 56, and such force will ordinarily cause the box to rotate a full 180°. However, the resistance to rotation of the box is such that wind forces will not ordinarily cause the box to rotate. Accordingly, if, for instance, the access door 14 is facing the street or roadway R and upon application of sufficient rotary force to the box, the latter is caused to rotate 180° so that the access door 14 will face the rear, and it will be seen that automatic indexing or self-centering occurs before completion of 180° of movement due to the coaction between the ball detents and the associate recesses 58, 58a. If the applied force is such that the box tends to rotate past the 180° range, it will be seen that the coaction between the detents and the recesses 58, 58a will automatically cause the box to back-up to the 180° position, thus, in effect, providing an approximate 90° automatic positioner for each end of the box. When the detents 56, are not coacting with the associated recesses 58, 58a, then the detents ride smoothly on the smooth generally flat undersurface of rotary member 24, intermediate the recesses 58, 58a.

It will be seen that the rotary mounting 20 may be assembled or mounted on a support such as for instance, post 62 adjacent the periphery of the roadway R, and may be attached to the post as by fastener means 64 coacting with the beveled lower portion 66 of the stationary member 22 of the mounting. The mounting 20 is so positioned on the support 62, so that the axes of vertical openings 52 therein are disposed in a line arranged generally perpendicular to the vertical plane of the periphery of the confronting roadway, so that in the normal condition of the mounting with the detents 56 disposed in centered relation in the respective recesses 58, 58a, the lengthwise axis of the box will likewise be disposed generally perpendicular to the plane of the periphery of the roadway.

The rotary mounting is preferably provided with a cup-shaped shield 68 (FIGURE 2) which may be formed of any suitable material such as for instance, plastic, and which encases the upper rotary member 20 and the top portion of the lower stationary member 22, so as to prevent foreign matter, such as rain and snow from entering the juncture between the upper rotary member 24 and the lower stationary member 22 of the rotary mounting.

In this connection, shield 68 has an opening in the top wall thereof in which is received in snug fitting relation the upper shoulder portion 70 (FIGURE 4) of the rotary member 24. Shield 68 is adapted to rotate with the rotary member 24 and insures a long life and quiet and smooth operation for the mounting. A lubricant is preferably inserted into the juncture between the upper rotary member 24 and the lower stationary member 22 upon assembly of the mounting, and shield 68 aids in retaining the lubricant therein.

The access door 14 of the box may be provided with a brightly colored decal 76 thereon, so that after a mail carrier has inserted mail into the box, he may rotatively flip the box so as to cause rotary movement thereof through 180°, so that access door 14 and the brightly colored decal 76 mounted thereon, instead of facing the street, now faces rearwardly towards the dwelling. The resident merely by looking out his window will be able to observe the decal and know that mail has been delivered to his box, thus saving needless inspection trips to the mailbox.

Referring now to FIGURE 9, there is shown a mailbox 10' which has an access opening on each end thereof, with closures or doors 14' pivoted to the box as at 16, to close such access openings. Such closure doors 14' may have spring means 80 associated therewith for automatically closing the respective door 14' after opening thereof. The box 10' is mounted on a rotary mounting 20 and associated mounting bracket 42, in the same manner as aforescribed for the first embodiment.

One advantage of the double door arrangement of box

is that if the resident after rotating the box from a forward roadway facing position to a rearward position to remove mail therefrom without entering the roadway, forgets to rotate the box back to its forwardly facing position, the box still has an access opening facing the roadway for insertion of mail therein by the mail carrier, without the necessity of the mail carrier rotating the box back toward a forwardly facing position. The double door box may have a decal on one of the doors thereof in a similar manner as the first described embodiment for indicating to a resident that mail has been delivered.

It will be seen that in the embodiments illustrated, the mailboxes may be rotated in either lateral direction, and through more than one 360° revolution, without harming in any manner the rotary mounting. Moreover, in those environmental settings wherein an obstacle, such as a post or the like may be disposed closely adjacent the rear of the box so as to possibly interfere with the removal of mail from the access door (e.g., 14 or 14') when the box has been rotated a full 180°, convenient access to the box may be had by rotating the box away from such interfering obstacle a sufficient amount so that access to the box via the selected closure door may be readily had.

From the foregoing discussion and accompanying drawings it will be seen that the invention provides a novel mounting for a mailbox and one which enables pivoting or rotation of the box from a street or roadway facing position to a generally rearwardly facing position, to eliminate the usual necessity of stepping into the roadway, and which includes means for releasably positioning the box in centered relationship either facing forwardly or rearwardly, and which includes means for automatically moving the box into such positions after rotary movement of the box a predetermined amount.

The terms and expressions which have been used are used as terms of description and not of limitation, and there is no intention in the use of such terms and expressions of excluding any equivalents of any of the features shown or described, or portions thereof, and it is recognized that various modifications are possible within the scope of the invention claimed.

We claim:

1. A rotatable mounting for a mailbox or the like comprising, a first member adapted for attachment to the box, a second member mounting said first member thereon for rotary movement of said first member with respect to said second member, diametrically spaced vertically acting spring loaded detent means on one of said members adapted for coaction with complementary diametrically spaced detent receiving means on the other of said members for releasably holding said first member in at least two 180-degree opposed positions with respect to said second member, and means for automatically indexing said first member into said positions with respect to said second member through a predetermined range of movement of said first member with respect to said second member, and pivot means coacting between said first and second members and coupling said first member to said second member for rotary movement with respect thereto, said pivot means having tapered means thereon coacting with holding means projecting generally transversely of said second member and into engaging coaction with said tapered means for coupling said members together against vertical separation and maintaining compression on said spring loaded detent means for proper rotary movement of said first member with respect to said second member.

2. A mounting in accordance with claim 1 wherein said spring loaded detent means includes a spring member mounted in a recess in said second member and a ball member coacting with the spring member in said recess and being urged upwardly with respect thereto by said spring member, said detent receiving means comprising a downwardly facing opening in the underside of said first member adapted for coacting with said ball member in centering relationship thereto so as to releasably position

7

said first member with respect to said second member in said positions, and said means for automatically indexing said first member into said positions comprising downwardly facing cup-shaped recesses in the underside of said first member with the axes of said cup-shaped recesses being disposed coincident with the axis of the respective opening and with said cup-shaped recesses merging with the respective of said openings.

3. A mounting in accordance with claim 2 wherein said cup-shaped recesses are of such size that said automatic indexing occurs through a rotatable range of said first member with respect to said second member of approximately 90°.

4. A rotatable mounting for a mailbox or the like, comprising a first member adapted for attachment to the box, a second member mounting said first member thereon for rotary movement of said first member with respect to said second member, means on one of said member adapted for coaction with means on the other of said members for releasably holding said first member in at least one predetermined position with respect to said second member, and means for automatically indexing said first member into said predetermined position with respect to said second member through a predetermined range of movement of said first member with respect to said second member, an elongated bracket secured to said first member, said bracket having means thereon for attaching the same to a mailbox, said bracket being of generally rectangular plate-like configuration with a pair of opposite corners thereof bent downwardly at approximately 90° to the plane of said plate, and fastener means securing said bracket to said first member, said downwardly bent corner portions being adapted for abutting relation with the interior of the lip on the bottom of a mailbox, and providing said means for attaching the bracket to the mailbox.

8

5. A mounting in accordance with claim 4 including shield means encompassing the juncture between said first and second members, for preventing entrance of foreign material therebetween.

6. A rotatable mounting in accordance with claim 4 including the combination therewith of a mailbox secured to said first member for rotation therewith, said box comprising an elongated body portion having an access opening at each end of said body portion, and openable closure means for each of said access openings.

7. A rotatable mounting in accordance with claim 4 including the combination therewith of a mailbox secured to said first member, said box comprising a body portion having an access opening at one end thereof, an openable closure means for said access opening, and means on said closure means visually apparent for ready observation at a distance whereby it can be visually determined whether the mailbox is disposed in said predetermined position.

References Cited

UNITED STATES PATENTS

839,607	12/1906	Lanier	248—145
1,170,030	2/1916	Wilcox	248—145
1,358,756	11/1920	Kozlowski	248—349
1,634,922	7/1927	Stubblebine et al.	248—418
1,666,392	4/1928	Masury	248—418
2,017,944	10/1935	Braley	211—163
2,609,787	9/1952	Lawson	232—34
2,654,534	10/1953	Van Meter	232—34
2,829,777	4/1958	Berardinelli	211—163
3,106,335	10/1963	Allan	232—17
3,107,891	10/1963	Burke	248—417

35 FRANCIS K. ZUGEL, *Primary Examiner*.