April 21, 1925. 1,534,920

C. N. COX

MAIL BOX

Filed June 7, 1924 5 Sheets-Sheet 1

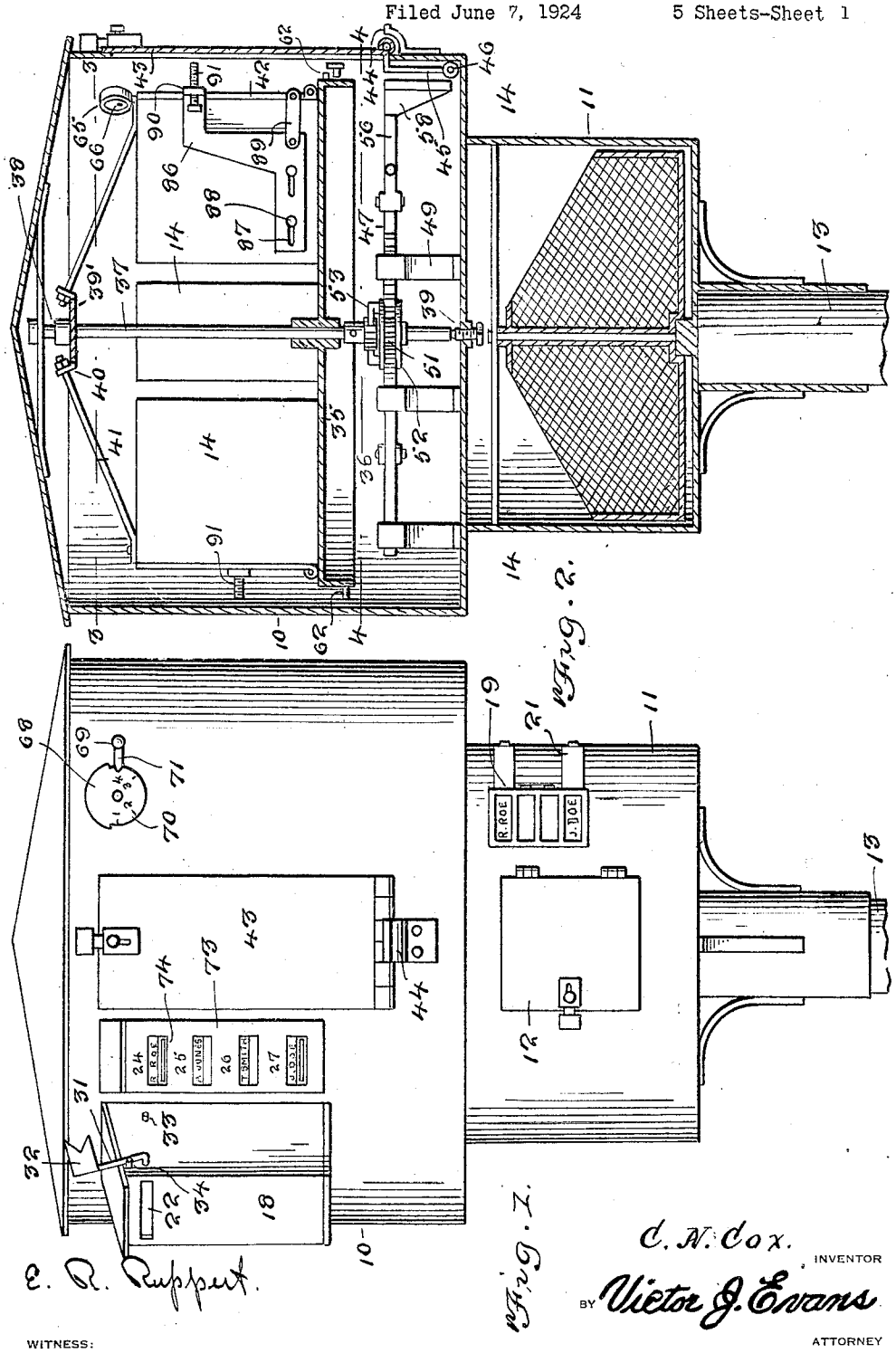


Fig. 2.

Fig. 1.

C. N. Cox. INVENTOR

BY Victor J. Evans ATTORNEY

WITNESS:

April 21, 1925. 1,534,920

C. N. COX

MAIL BOX

Filed June 7, 1924 5 Sheets-Sheet 2

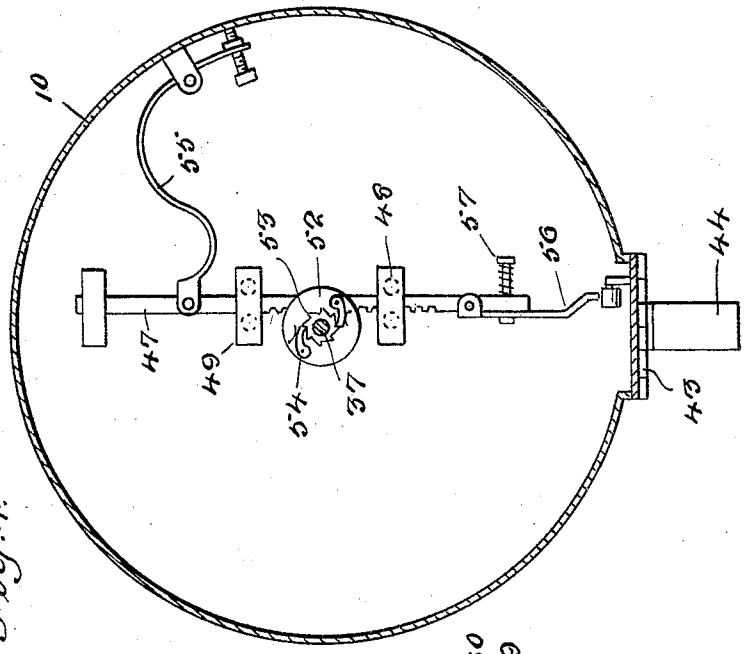


Fig. 4.

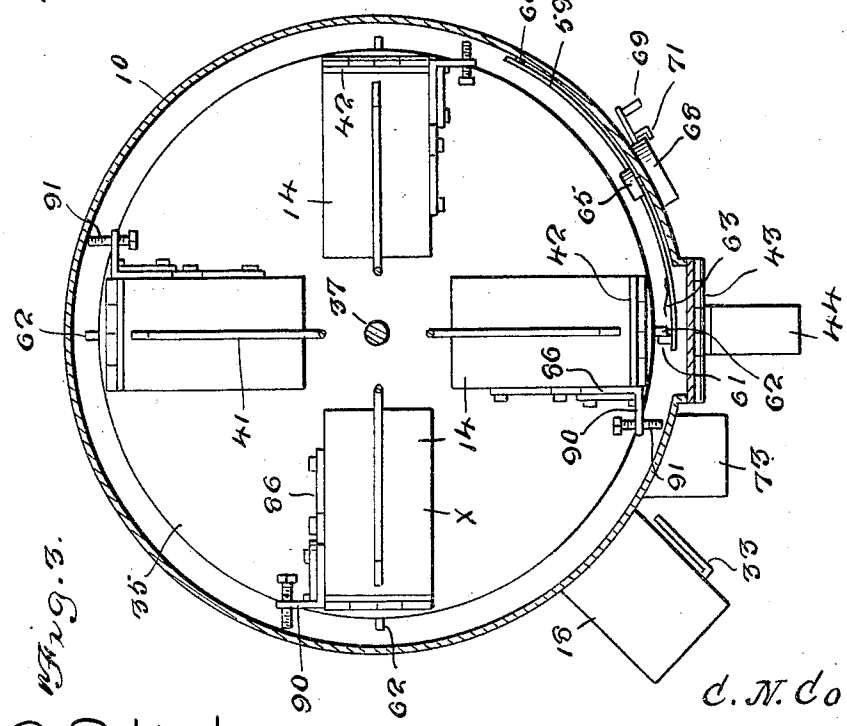


Fig. 5.

C. N. Cox.
INVENTOR

BY Victor J. Evans
ATTORNEY

E. R. Ruppert.
WITNESS:

April 21, 1925. 1,534,920

C. N. COX

MAIL BOX

Filed June 7, 1924 5 Sheets-Sheet 3

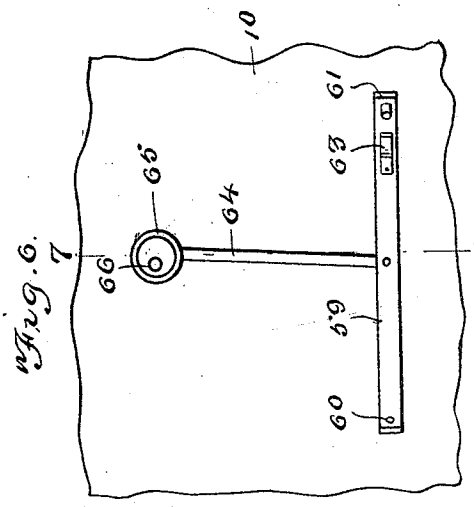


Fig. 6.

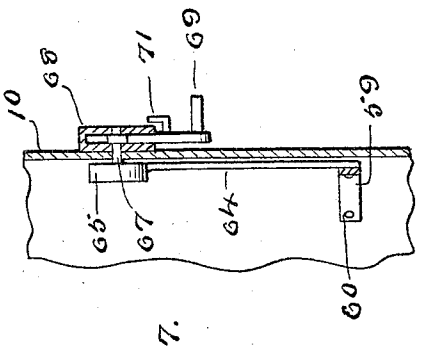


Fig. 7.

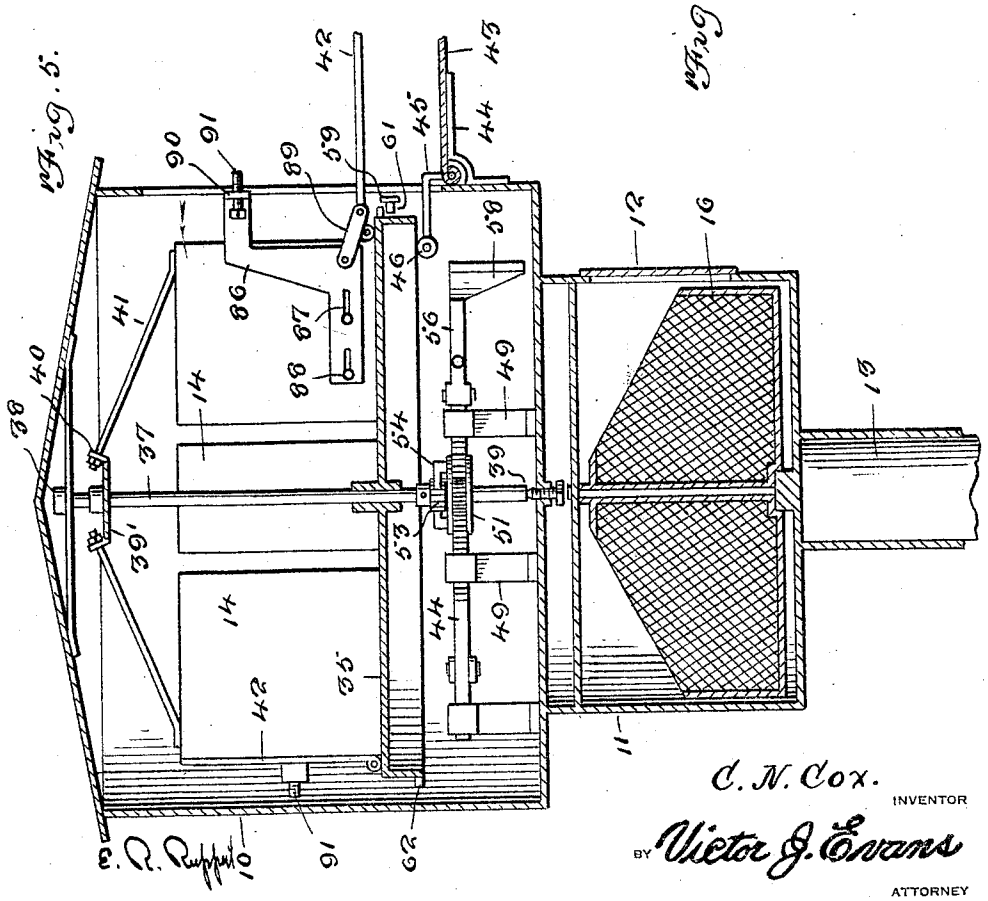


Fig. 5.

C. N. Cox. INVENTOR

BY Victor J. Evans ATTORNEY

WITNESS:

April 21, 1925. 1,534,920

C. N. COX

MAIL BOX

Filed June 7, 1924 5 Sheets-Sheet 4

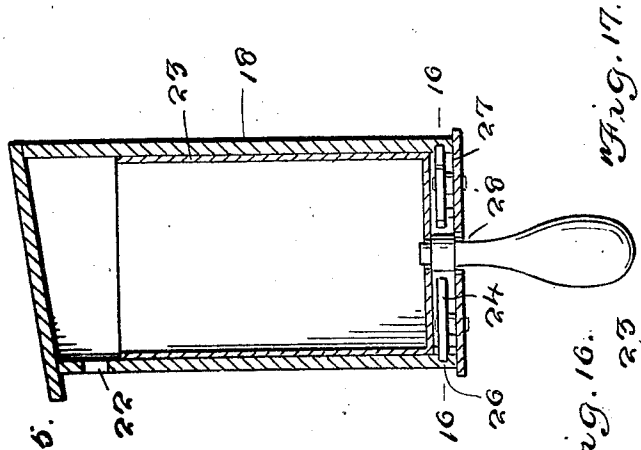


Fig. 16.

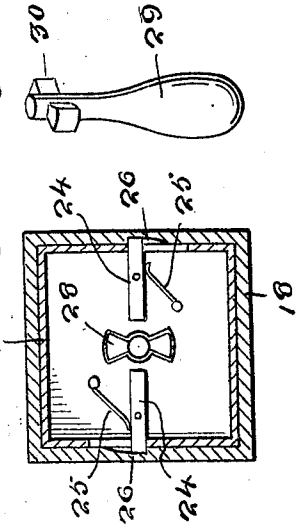


Fig. 17.

Fig. 16.

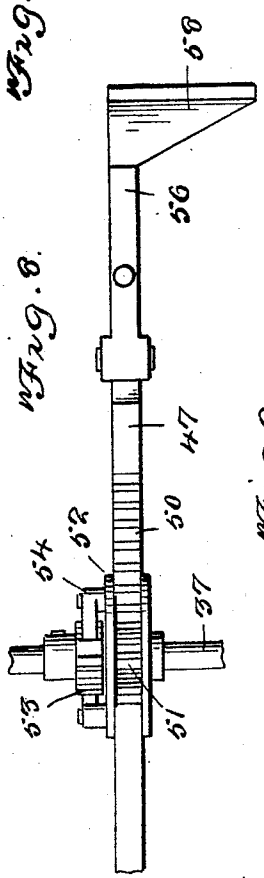


Fig. 8.

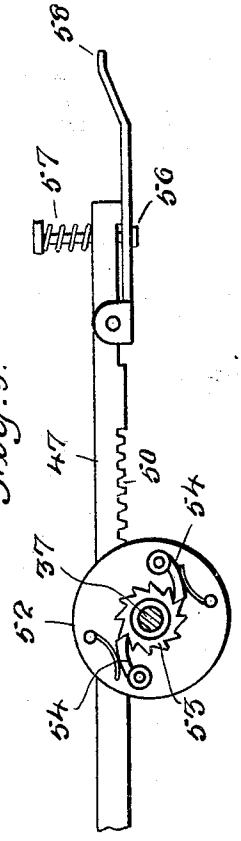


Fig. 9.

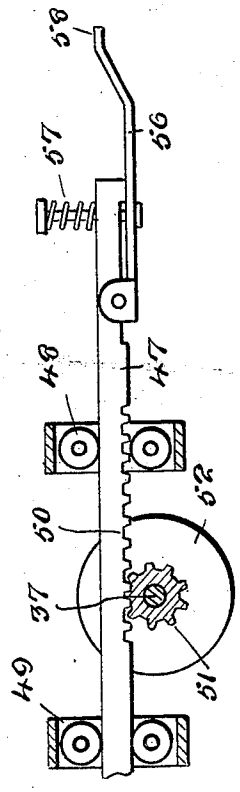


Fig. 10.

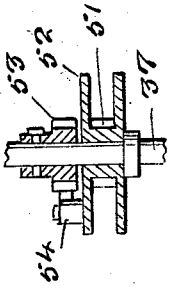


Fig. 11.

E. R. Ruppert.

WITNESS:

C. N. Cox. INVENTOR

BY Victor J. Evans

ATTORNEY

April 21, 1925. 1,534,920

C. N. COX

MAIL BOX.

Filed June 7, 1924 5 Sheets-Sheet 5

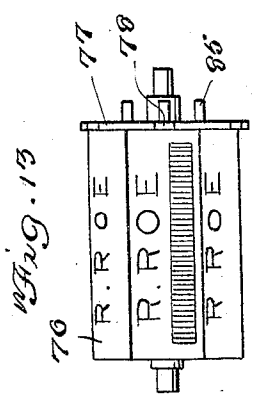


Fig. 3.

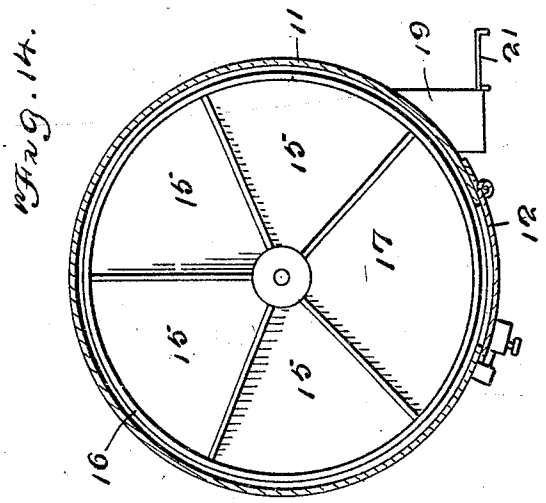


Fig. 4.

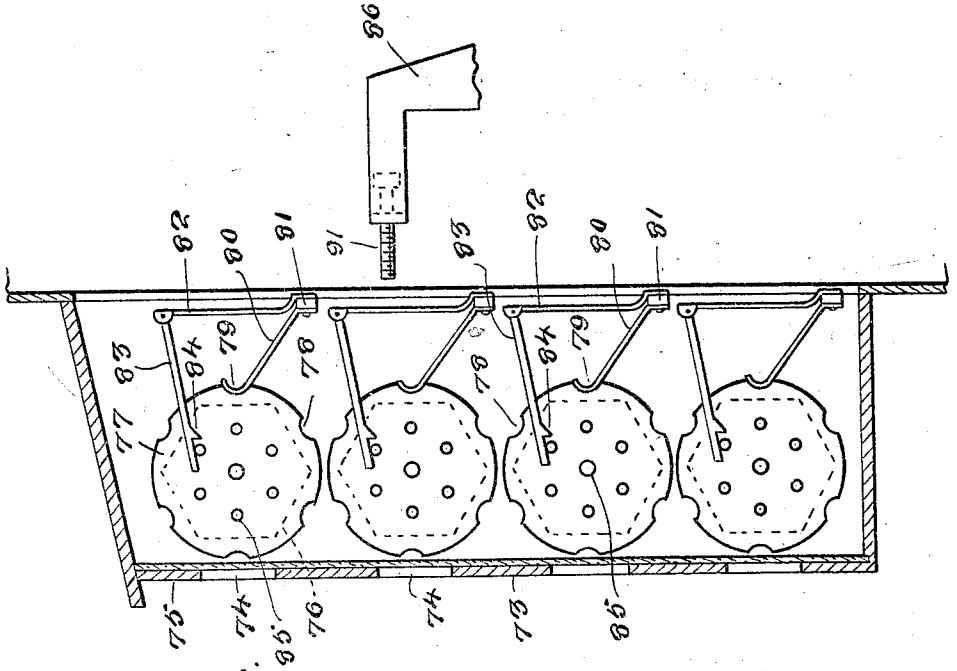


Fig. 2.

C. N. Cox.
INVENTOR

BY Victor J. Evans
ATTORNEY

E. R. Ruppert.
WITNESS:

Patented Apr. 21, 1925. 1,534,920

UNITED STATES PATENT OFFICE.

CHARLES N. COX, OF OROVILLE, CALIFORNIA.

MAIL BOX.

Application filed June 7, 1924. Serial No. 718,602.

To all whom it may concern:

Be it known that I, CHARLES N. COX, a citizen of the United States, residing at Oroville, in the county of Butte and State of California, have invented new and useful Improvements in Mail Boxes, of which the following is a specification.

It is the general object of the present invention, to provide a mail box designed for use by those living a greater or less distance from the route of the carrier in rural districts, the boxes being arranged at certain points so that these persons can receive their mail and deposit mail to be collected without the necessity of making long trips to the post office.

In carrying out the invention, I contemplate the provision of a turn table mounted within the box proper, the table supporting a plurality of auxiliary boxes, access to which can only be obtained by the owner or user of said boxes, in combination with means for automatically rotating the turn table incident to the opening of the door of the box proper, so that any of the auxiliary boxes can be brought before the door opening by the users of the box or by the carrier.

The invention also embodies a mail receiving box mounted upon the outside of the main box, and into which the mail to be collected by the carrier is deposited by the users of the box, this receiving box being of novel construction, so that the box proper can be removed from its casing to facilitate depositing of the mail into a mail sack or the like.

A further object of the invention resides in the provision of an indicator supported exteriorly of the main box, and automatically operated when the door of any auxiliary box is opened for the purpose of depositing mail thereinto, so that the owner of this particular box will be notified when mail has been delivered without the necessity of opening the box for this purpose.

The nature and advantages of the invention will be better understood when the following detailed description is read in connection with the accompanying drawings, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawings forming part of this application, like numerals of reference indicate similar parts in the several views, and wherein:

Figure 1 is a view in elevation of the box forming the subject matter of the present invention.

Figure 2 is a vertical sectional view therethrough.

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

Figure 4 is a sectional view taken on the line 4—4 of Figure 2.

Figure 5 is a view similar to Figure 2 showing the door of the main box and a door of one of the auxiliary boxes opened.

Figure 6 is a detail view of the adjustable stop for the turn table.

Figure 7 is a sectional view taken on the line 7—7 of Figure 6.

Figure 8 is a detail view of the rack bar showing how it is associated with the shaft of the turn table.

Figure 9 is a view taken at a right angle to Figure 8.

Figure 10 is a plan view of the rack bar showing its support and guiding means in section.

Figure 11 is a detail sectional view showing the manner of supporting the pinions on the shaft of the turn table.

Figure 12 is a vertical sectional view through the indicator.

Figure 13 is a detail view of one of the drums constituting part of the indicator.

Figure 14 is a sectional view taken on the line 14—14 of Figure 2.

Figure 15 is a vertical sectional view through the mail receiving box arranged exteriorly of the main box.

Figure 16 is a sectional view taken on the line 16—16 of Figure 15.

Figure 17 is a detail view of the key for actuating the latch means shown in Figure 16, for holding the box positioned within its outer casing.

Referring to the drawings in detail, 10 represents the main box which may be of any suitable size and configuration for the purpose intended, and supported in any suitable manner. Arranged directly beneath the bottom of this box is a smaller box 11, having a door 12. These boxes are preferably supported upon a post indicated at 13. Arranged within the main box 10 is a plurality of auxiliary boxes 14, and in accordance with the present invention, it is the in-

tention that each of these boxes is rented by a person living along a rural delivery route, so that the said person can receive his or her mail, and deposit mail to be collected within a reasonable distance from their residence thereby eliminating long trips to the post office inasmuch as these boxes are adapted to be arranged at suitable points along the route. In addition to having access to these auxiliary boxes 14, each owner is entitled to use one of the compartments 14 of a suitable receptacle 16 arranged for rotation within the smaller auxiliary box 11 above referred to. It is to be understood that any number of the boxes 14 can be embodied in the construction, but for the purpose of illustration I have shown four of such boxes, and four compartments 15 in the receptacle 16 to be used by the respective owners of the boxes 14. These compartments 15 are reasonably large and are adapted to receive packages or other articles too large to be deposited within the auxiliary boxes 14, the latter being exclusively used for mail matter such as letters and the like. It will be noted upon inspection of Figure 14 that the receptacle 16 is provided with an additional larger compartment 17 adapted to be used by anyone entitled to the use of the box, for the purpose of depositing packages which are too large to be deposited in the mail receiving box 18 arranged exteriorly of the main box 10 and supported thereon in any suitable manner.

Supported upon the small box 11 is an indicator adapted to be used by the carrier to indicate when this particular box contains packages for the respective owners or users of the compartments 15. This indicator comprises a frame like structure 19 supported by suitable brackets 20 which are secured to the box 11. This frame 19 is provided with the names of the different owners or users of the compartments 15 and arranged to slide over each name plate and within the frame 19 is a slide 21. Normally these slides 21 conceal all of the names from view, but when packages are deposited in the compartments belonging to R. Roe or J. Doe, the slides 20 are pulled outwardly to expose these names. Consequently, the owners of these particular compartments will be thus notified that there has been packages deposited in their respective compartments in the box 11.

The box in which mail matter is deposited to be collected by the carrier is indicated at 18, but this in reality represents the outer casing of the box which is provided with a mail receiving slot 22. This casing is opened at its lower end to receive the box proper indicated at 23 Figure 15, which box is opened at its upper end, so that when the carrier desires to remove the mail matter from this box, he removes the box 23 from the lower end of the casing 18, by means of a combined key and handle such as shown in Figure 17, whereupon the box 23 can be handled like a scoop to facilitate depositing of all the mail contained in this receptacle into a mail bag or other suitable receptacle. Upon inspection of Figure 16 it will be noted that the bottom of this receptacle or box 23 has mounted thereon a pair of pivoted latch members 24, each of which is influenced by a spring 25 which holds the latch members in notches or grooves 26 formed in the opposed side walls of the casing 18, and this of course maintains the receptacle 23 within the casing. This receptacle 23 is also provided with a false bottom 26 which covers this latch mechanism when the receptacle 23 is positioned within its casing, thereby protecting this mechanism from rain, snow or the like. This bottom 27 is provided with a keyhole slot 28 to receive the combined key and handle 29 shown in Figure 17. This element is carried on the person of the carrier, and when it is desired to empty the receptacle 23, it is only necessary to insert the key and handle 29 within the key hole slot just referred to. This element is provided with oppositely disposed tapered lugs 30 which when the key is initially inserted occupies positions between the adjacent ends of the latch members 24, so that when the key is given a half turn it moves the latch members 24 in opposite directions out of the notches or grooves 26 and allows the receptacle 23 to be withdrawn from the bottom of the casing 18 by means of the handle 29 to be emptied. If desired, this box may be provided with a signal to inform the carrier when mail is contained within the receptacle 23, the signal preferably being in the nature of an arm 31 Figure 1 pivoted on one side of the casing and supporting a flag 32. When there is no mail in the box, the arm 31 occupies a horizontal position resting upon the pin 33, but after mail has been deposited within this box to be collected, the person so depositing the mail is supposed to swing the signal arm 31 to a vertical position such as shown in Figure 1, in which position, the arm rests against the pin 34.

As above stated, the auxiliary boxes 14 arranged within the main box 10 are supported on a turn table indicated at 35 which table is provided with a depending ledge or wall 36. The turn table is mounted upon a shaft 37 which is journalled in a suitable bearing adjacent the top of the box indicated at 38 and on a suitable bearing point 39 adjacent the lower end of the box. Carried by this shaft adjacent its upper end is a plate 39′ having upstanding lugs 40, and terminally connected with each lug and one of the boxes 14 is a bracing element 41. Each box 14 is provided with a door 42 hinged at the

lower end of the box and adapted to be swung outwardly through the door opening of the main box 10 after the door therefore is swung to an open position, this latter mentioned door being indicated at 43. Supported upon the box 10 is a ledge or shelf 44 upon which letters or the like may be arranged for the purpose of addressing letters and paying stamps or the like, and in addition to that fact it may also be used to support the door 43 in an open position as shown in Figure 5. The door 43 for the main box 10 carries an arm 45 on the lower end of which is arranged a roller 46 and the normal position of this arm and roller is clearly shown in Figure 2, wherein it will be noted that the arm is arranged vertically within the door 43 when the latter is closed. The arm is adapted to move with the door, so that when the door is swung to an open position, this arm 45 is arranged horizontally as shown in Figure 5. This arm is directly instrumental in rotating the turn table 35 when the door is opened, and thereby allow the boxes 14 to be selectively brought into a position directly behind the main door opening of the box 19, in order to allow the door of this auxiliary box to be opened as will be readily understood.

For this purpose I make use of a rack bar 47 which is mounted to slide between spaced pairs of guide rollers 48 mounted in suitable brackets 49, and the teeth 50 of this bar are adapted to mesh with the teeth of a pinion 51 loosely mounted upon the shaft 37 and arranged between spaced disks 52, Figure 2. Arranged directly above the uppermost disk 52 and keyed or otherwise secured to the shaft 31 is a pinion 53 with which cooperates a pair of spring pressed pawls 54 which allows the rack bar to move in one direction without imparting rotation to the shaft 37, but to rotate the shaft when moved in an opposite direction. It will be noted that these spring pressed pawls 54 are carried by the uppermost disk 52, and consequently when the rack bar 47 is moved inwardly, the pinion 51 idles on the shaft 37, but the pawls 54 provide a connection between this pinion 51 and the pinion 53 when the rack bar is moved in an outward or reverse direction at which time a shaft 37 and the turn table 35 are rotated. The rack bar 47 is initially moved inwardly by the roller 46 carried by the arm 45 incident to the opening of the door 43 of the main box 10, and as this rack bar is moved inwardly it tensions a substantially S-shaped spring 55 which has one end secured to the rack bar 47 and its other end suitably connected with the main box 10 as shown in Figure 4. Consequently, when the door 43 of the main box is opened and the rack bar moved inwardly as stated, this spring 55 is placed under tension, so that when the door 43 is fully opened, the spring comes into use to reverse the movement of the rack bar 47, and thus rotate the turn table 35. It will be noted upon inspection of Figures 8 to 10 inclusive that the rack bar has pivoted thereon an arm 56 which is connected with a spring pressed pawl 57 which slides transversely through an opening in the rack bar 47 and which pawl normally maintains the arm 56 in the positions shown in Figures 8, 9 and 10. This arm projects a slight distance beyond the end of the rack bar 47 and is formed with a relatively wide angular shaped extremity 58, which portion of the arm is contacted by the roller 47 to move the rack bar inwardly when the door is opened as above described. By reason of this construction, however, when the door 43 is swung to a closed position, the roller 46 so contacts the angular extremity 58 of the arm 56 that it moves the latter upon its pivot to an out of the way position, thereby allowing the arm 45 and the roller 46 to assume its normal position when the door is closed.

Now, in order to check the rotation of the turn table 35, to bring any of the boxes 14 into a position directly behind the door opening of the main box 10, I provide an adjustable stop clearly illustrated in Figures 6 and 7, and which preferably consists of a strap 59 of metal or other suitable material which is pivoted as at 60 on the wall of the main box 10. The free end of this adjustable strap 59 is offset as at 61 to provide a lug capable of being arranged in the path of movement of any one of the stop pins 62 carried by the depending wall 36 of the turn table. In other words, this turn table is provided with one stop pin for each box 14, the various pins 62 being arranged in staggered relation with each other, so that the strap 59 can be adjusted to arrange the stop lug 61 thereof in the path of movement of any one of the pins 62, and in this way bring the particular box desired to a position directly behind the door opening of the main box 10. The strap 59 is equipped with a leaf spring 63 arranged adjacent the stop lug 61, the spring is adapted to be engaged by the pins 62 on the turn table to check or retard the rotation of the table just prior to the contact of these pins with the stop lugs 61, and thereby protect both the pins 62 and the stop lug 61 from any undue stress or impact. While various ways may be employed to effect an adjustment of the strap 59, I preferably make use of a rod 64 having its lower end pivotally connected with the strap 59 centrally thereof. This bar is arranged inside of the main box 10 and supports an annulus or strap 65 at its upper end in which operates an eccentric 66 carried by the shaft or the pin 67 which projects through an opening in the main box 10. This shaft or pin is journalled

in opposed walls of a casing 68 supported on the outside of the main box 10 and which casing is of substantially U-shaped formation in cross section as shown in Figure 7. Supported on the shaft or pin 67 is a handle 69 by means of which the eccentric is operated from the outside of the box to adjust the band, the outer wall of this casing 68 is provided with indicating characters 70, such as 1, 2, 3 and 4 representing the different boxes supported on the turn table. An indicating pointer or finger 71 is carried by the handle and arranged to move over these indicating characters so that the handle can be adjusted any particular degree to regulate the degree of rotation of the turn table for the purpose specified. For instance, if it is desired to bring the box X illustrated in Figure 3 into a position directly behind the door opening of the main box 10 incident to the opening of the door thereof, the handle 69 is turned to bring an indicating finger 21 coincident with the indicating character 3 on the casing 68, during which operation of the handle, the adjustable strap 59 is moved upon its pivot to position the stop lugs 61 thereof in the path of movement of the pin carried by this particular box X. Manifestly, by adjusting the strap 59 upon its pivot, the stop 61 can be positioned in the path of movement of the pin carried by any particular box for the purpose of checking the rotation of the turn table when said particular box is brought before the door opening of the box 10.

Mounted upon the outside of the box 10 adjacent the door 43 is an indicator automatically operable by the opening of the door 42 of the particular box 14 brought before the door opening. This indicator comprises a box or casing 73, the front wall of which is provided with a plurality of sight openings 74, Figure 12, behind which is arranged a transparent panel 75. Journalled in this box or casing is a plurality of hexagonal members 76 clearly illustrated in Figure 13, and there is one of these members for each person entitled to use one of the boxes 14 carried by the turn table. The name of the said person appears on every alternate side of the hexagonal member, so as to bring the name of the person before the sight opening every time the door 42 of the box 14 is opened by the mail carrier, thereby indicating to the owner that mail has been deposited for him within the box 14. By having the owner's name appear on every other side of this member 76, it will be noted that the member is rotated one degree when the door is opened by the carrier to bring the owner's name before the sight opening 74, but when the door is subsequently opened by the owner in order to obtain the mail matter deposited within the box, the member 76 is again rotated one degree bringing the blank side of the member before the sight opening. The members 76 are arranged in superimposed relation within the box 73, and each includes a disk like member 77 at one end thereof, the periphery of which is formed with a circumferential series of depressions 78 arranged to receive the rounded extremity 79 of the resilient element 80 secured at its lower end to a strip 81 which in turn is suitably secured to the box 73. The depressions 78 successively receive the rounded extremity 79 of the resilent element, and thereby holds the hexagonal member 76 against retrograde movement and at the same time limits the movement of this member a certain degree with each opening of the door 42. Rising from the strip 81 for each member 76 is a resilient arm 82 from the upper extremity of which extends an arm 83 carrying a lug 84. The free end of the arm 83 is adapted to repose upon one of a circumferential series of pins 85 projecting from the disk 77, and obviously, as the member is rotated one degree in a manner to be presently described, the arm 83 moves from the pin on which it was supported onto the next pin in order. As shown in Figure 12, when the arm 83 is supported by one of the pins 85, the lug 84 is arranged directly behind the particular pin, so that when the arm 83 is moved in one direction, the lug 84 engages said pin and rotates the hexagonal member a predetermined distance. As above stated this indicating member 76 is thus rotated incident to the opening of the door 42 of the particular box 14 brought before the door opening of the main box 10 and for this purpose, I make use of a substantially Z-shaped arm 86, Figure 5, one of which is arranged within each box 14. The arm is provided with a slot 87 to receive pins 88 projecting from the wall of the box 14 in which it is arranged, and which pins limit the sliding movement of the arm 86 in opposite directions. The arm is moved by reason of this connection with the door 42 of the box, this connection being made by means of a link 89 clearly illustrated in Figure 5, the upper and the free end of each arm is offset as at 90 and carries an adjusting screw 91 adapted to be projected through the door opening of the main box 10 when the door 42 of one of the auxiliary boxes is swung to an open position through the same door as shown in Figure 5. The screw 91 when thus projected is brought into contact with one of the arms 82 of one of the indicating hexagonal members 76, operating this arm and the arm 83 to rotate the member 76 a predetermined distance. When the door 42 of the particular box 14 is closed, the arm 86 is moved to its normal position within the box 14 inasmuch as the indicating members 76 are ar-

ranged in superimposed relation within the box 73, it is necessary to arrange the upper ends of the arms 86 in different planes in order to operate the particular indicating member for a particular box when the latter is brought before the door opening of the main box 10, and this arrangement is clearly shown in Figure 5, wherein it will be noted that the adjusting screw 91 at the left hand side of this figure is arranged in a plane beneath the adjusting screw 91 hereinabove referred to and clearly illustrated in use at the right hand side of said figure.

While it is believed that from the foregoing description, the nature and advantages of the invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described, and that such changes may be resorted to when desired as fall within the scope of what is claimed.

Having thus described the invention, I claim:

1. A mail box having a door, a rotatable member arranged therein, a plurality of auxiliary boxes carried by said member, means for rotating said member and initially actuated upon the opening of said door, and means for checking the rotation of said member to bring any of said auxiliary boxes directly behind the door opening.

2. A mail box having a door opening, a door therefore, a rotatable member arranged within the box, a plurality of auxiliary boxes supported on said member, means for rotating said member, pins projecting from the rotatable member and arranged in staggered relation, and an adjustable stop adapted to be arranged in the path of movement of any particular pin to stop the rotation of said member with any particular box arranged behind the door opening.

3. A mail box having a door opening, a door therefore, a rotatable member, a plurality of auxiliary boxes supported by said member, means for rotating said member and put into operation incident to the opening of said door, a plurality of pins projecting from said rotatable member and arranged in staggered relation, an adjustable stop adapted to be arranged in the path of movement of any pin to check the rotation of said member at a predetermined interval, and means operable from the outside of the box for effecting an adjustment of said stop.

4. A mail box having a door opening, a door therefore, a rotatable member mounted within the box, a plurality of auxiliary boxes supported upon the rotatable member, means for rotating said member including a sliding rack bar, means carried by the door for shifting the rack bar in one direction when the door is opened independently of any movement of said rotatable member, resilient means for reversing the movement of said rack bar whereupon the rotatable member is actuated for checking the rotation of said table to bring any of the auxiliary boxes directly behind the door opening.

5. A mail box having a door opening therefore, a shaft, a rotatable member supported by said shaft, a plurality of auxiliary boxes arranged upon said member, means for rotating said member and including a pinion fixed upon the shaft, a second pinion loosely mounted on the shaft, a rack bar meshing with the second mentioned pinion, an element carried by the door and adapted to engage the shaft of the rack bar in one direction when the door is opened without imparting rotation to said rotatable member, resilient means for reversing the movement of said rack bar, means for connecting the loose pinion with the fixed pinion to rotate said member when the rack bar is moved in the last mentioned direction, and adjustable means for stopping the rotation of said member to bring any particular auxiliary box to a position directly behind the door opening.

6. A mail box having a door opening, a door therefore, a rotatable member arranged within the box, a plurality of auxiliary boxes supported on said member, means for rotating said member and initially actuated upon the opening of said door, a plurality of pins projecting from the said member and arranged in staggered relation, an element pivoted at one end within the box and formed with a stop lug at its free end, a rod connected with said element, an eccentric supporting said rod, and operable from the exterior of said box to effect an adjustment of said element, and position said lug in the path of movement of any particular pinion and thereby regulate the degree of rotation of the member for the purpose specified.

7. A mail box having a door opening, a door therefore, a rotatable member arranged within the box, a plurality of auxiliary boxes supported by said member, means for rotating the member, adjustable means for stopping said member when any of said auxiliary boxes is positioned behind the door opening, a pivoted door for each auxiliary box adapted to extend through the door opening of the main box, a casing supported on the outside of the latter mentioned box, an indicator for each auxiliary box mounted within said casing and including a rotatable element, and means actuated upon the opening of the door of each auxiliary box for operating the particular indicator therefore.

8. A mail box having a door opening, a door therefore, a rotatable member within

the box, means for rotating said member, adjustable means for stopping said member when any of said auxiliary boxes is positioned behind said door opening, a casing supported on the main box, an indicator for each auxiliary box arranged within said casing and including a rotatable member, a pivoted door for each auxiliary box adapted to extend through the door opening of the main box when opened, and means carried by each auxiliary box and adapted to be projected through the door opening of the main box when said doors are opened, and rotate the particular indicating member therefore, and means for preventing the retrograde movement of said indicating member and to limit the rotation thereof step by step.

9. A mail box having a door opening, a door therefore, a rotatable member arranged within the box, a plurality of auxiliary boxes carried by the rotatable member, means for rotating said member, an adjustable stop means for checking the rotation of said member to arrange any of said auxiliary boxes behind said door opening, a pivoted door for each auxiliary box and adapted to extend through the door opening of the main box when opened, a casing arranged exteriorly of the main box, an indicator for each auxiliary box arranged within said casing and including a hexagonal rotatable element having indicating indicia on every alternate side thereof, an angular shaped arm arranged within the auxiliary box for sliding movement, means connecting each arm with the door of said auxiliary box whereby said arm is projected through the door opening of the main box upon the opening of the door of the auxiliary box to rotate said indicating element, means providing a connection between said arm and the rotatable element, and means for limiting the rotation of the elements step by step.

In testimony whereof I affix my signature.

CHARLES N. COX