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4 SHEETS—SHEET 1.

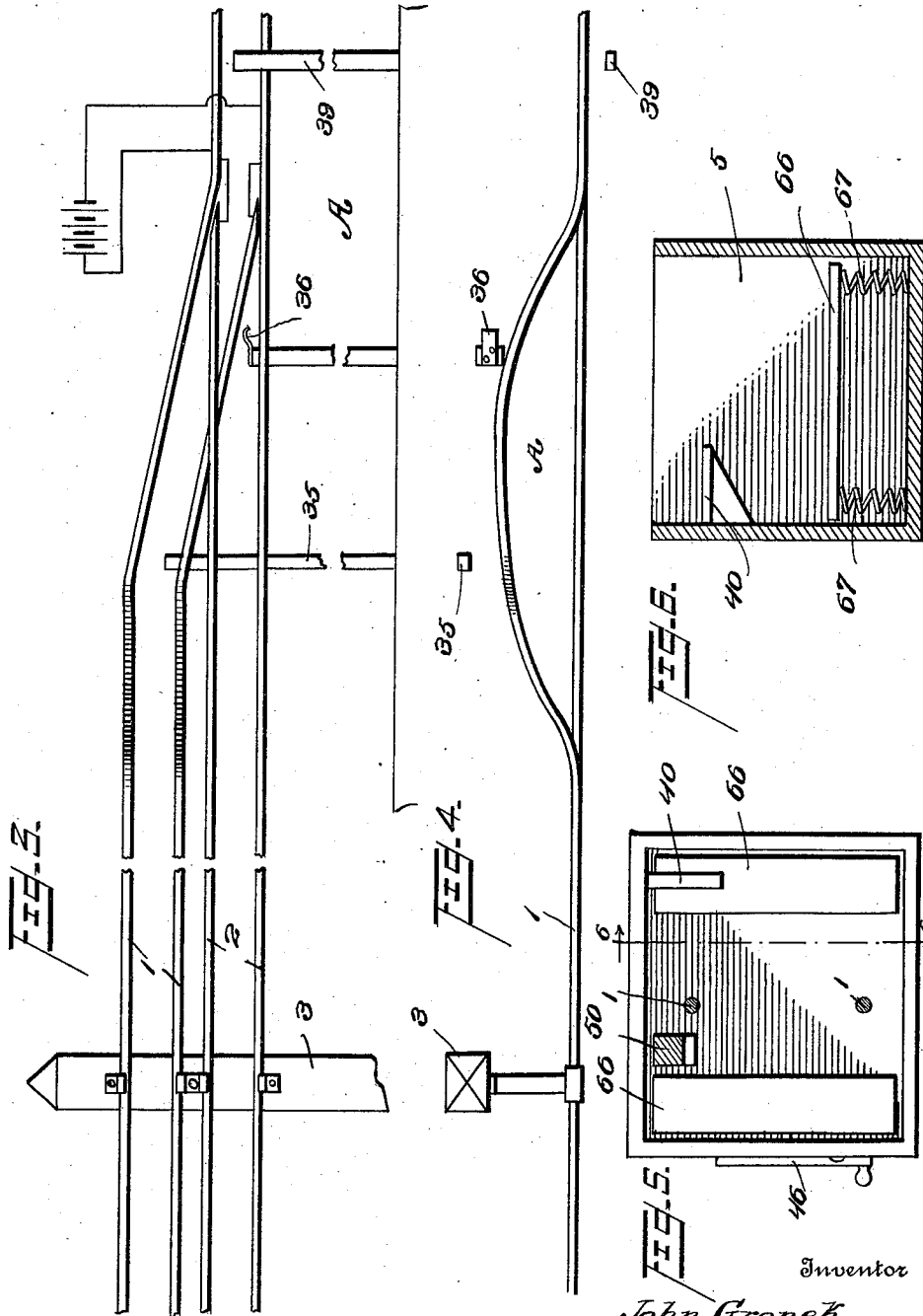


J. GRONEK.
AUTOMATIC MAIL CARRIER.
APPLICATION FILED JUNE 7, 1911.

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Patented Aug. 22, 1911.

4 SHEETS—SHEET 2.



Witnesses
A. Strauss
R. H. Krenkel.

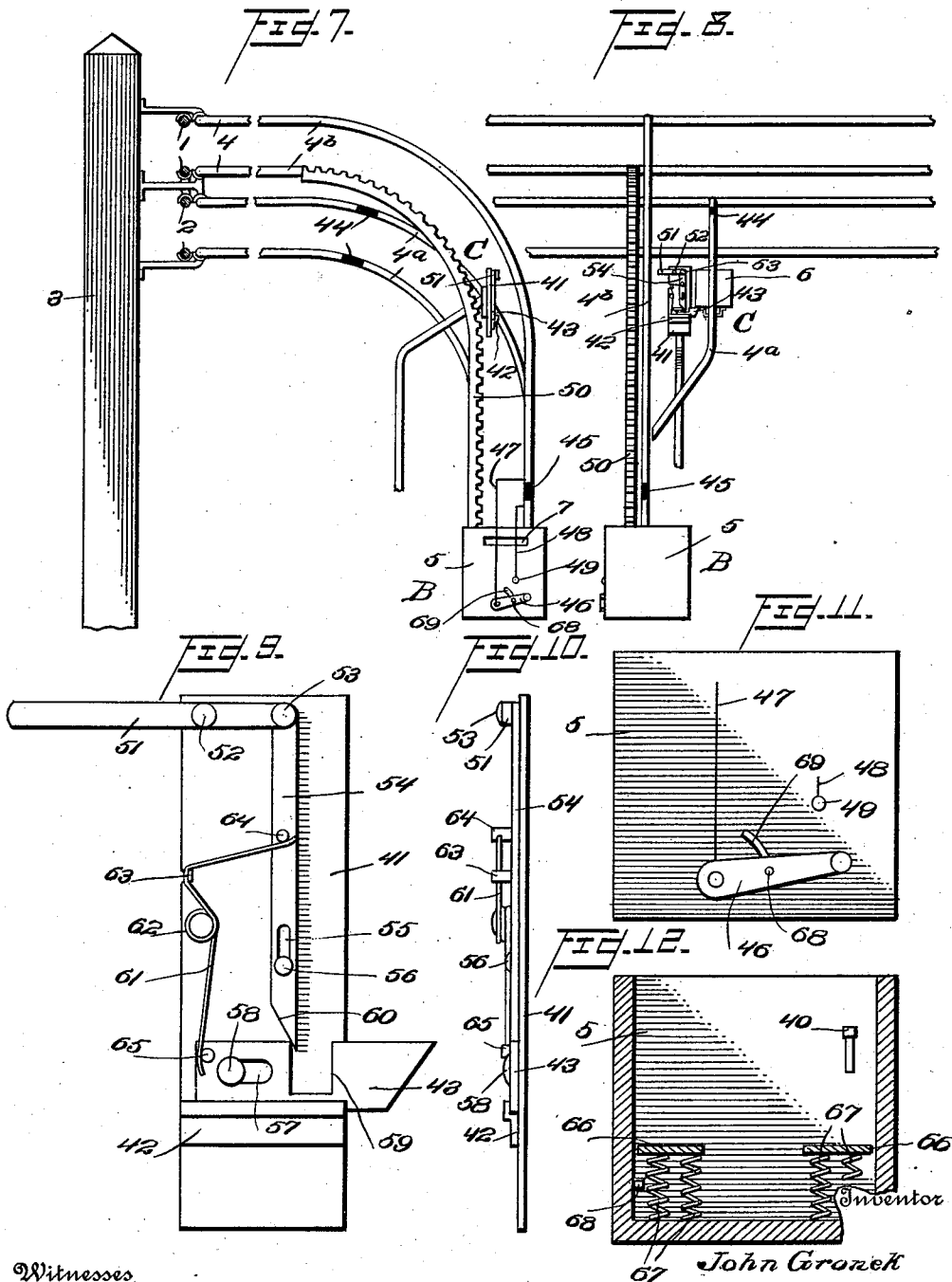
Inventor
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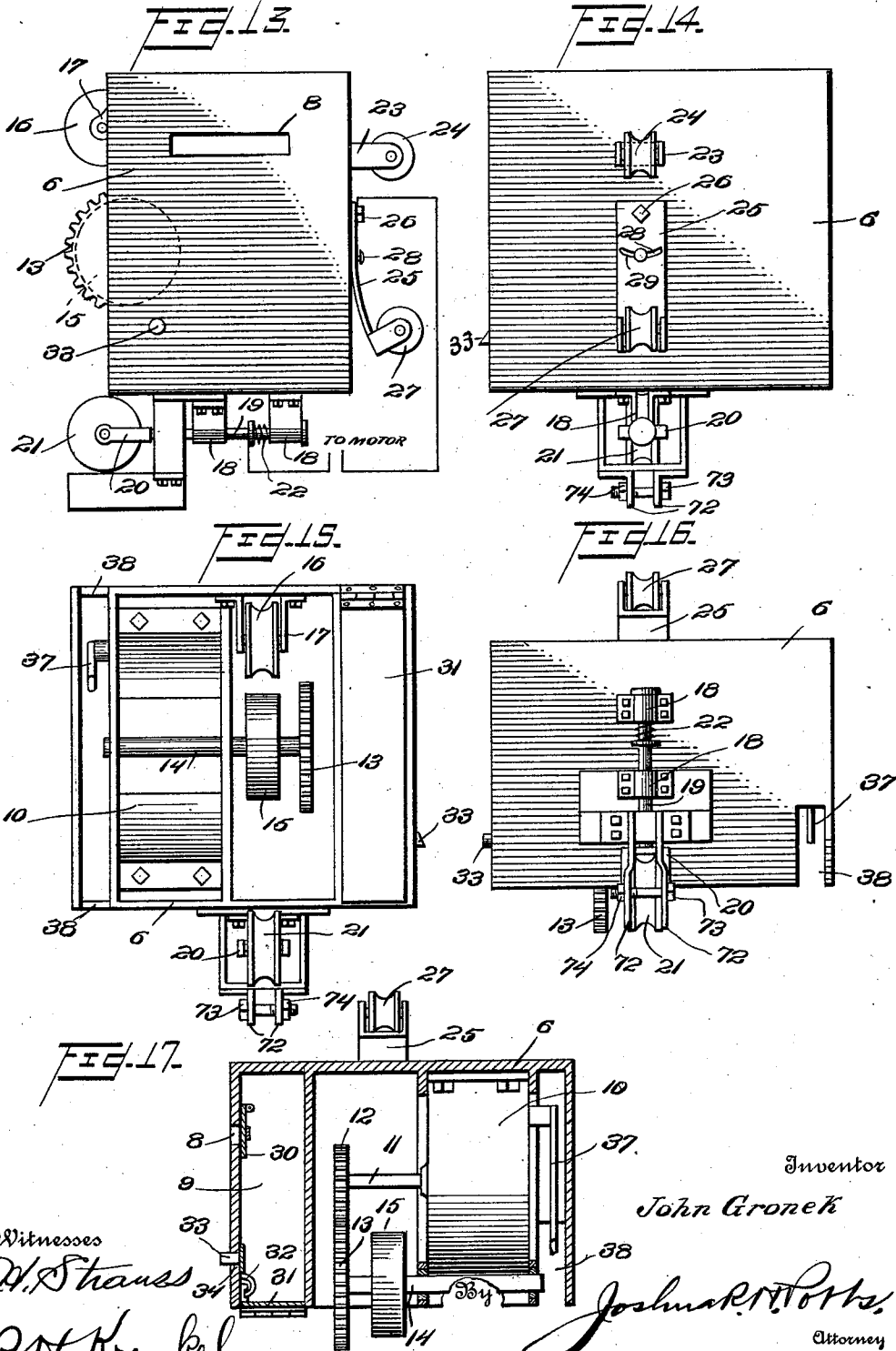
By Joshua R. Potts.
Attorney

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4 SHEETS—SHEET 4.



Witnesses
W. Strauss
R. H. Krenkel.

Inventor
John Gronek

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UNITED STATES PATENT OFFICE.

JOHN GRONEK, OF PHILADELPHIA, PENNSYLVANIA.

AUTOMATIC MAIL-CARRIER.

1,001,021.

Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed June 7, 1911. Serial No. 631,730.

To all whom it may concern:

Be it known that I, JOHN GRONEK, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Mail-Carriers, of which the following is a specification.

My invention relates to improvements in automatic mail carriers, the object of the invention being to provide an improved electrically operated mechanism, in which elevated tracks are employed, and provide cars relatively small adapted to receive mail and transport the same from the house or point of despatch to the post office and return.

A further object is to provide an improved construction of track having an improved arrangement of switches, which cooperate with mechanism on the cars, whereby each particular car will take its own turnout only.

A further object is to provide improved mechanism for controlling the movement of the cars, and which mechanism is comparatively simple in construction, yet strong and durable in use.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1, is a diagrammatic plan view illustrating my improved track. Fig. 2, is a view in side elevation of the structure shown in Fig. 1. Fig. 3, is an enlarged view in side elevation illustrating the track at the post office. Fig. 4, is a plan view of Fig. 3. Fig. 5, is a top plan view of one of the car receiving boxes. Fig. 6, is a view in section on the line 6—6 of Fig. 5. Fig. 7, is a view partly in section and partly in elevation illustrating one of the stations. Fig. 8, is a view at right angles to Fig. 7. Fig. 9, is a face view of the car releasing means. Fig. 10, is an edge view of Fig. 9. Fig. 11, is a view of the outside of the car receiving box. Fig. 12, is a view in section at right angles to Fig. 6. Fig. 13, is a view in side elevation of the car, showing it in the position it assumes when in the box. Fig. 14, is a top plan view of the car. Fig. 15, is a bottom plan view of the car. Fig. 16, is an end view of the car, and Fig. 17, is a view in cross section on the line 17—17 of Fig. 15.

In constructing my improved apparatus, I employ two tracks 1 and 2, the former located above the latter, and both supported on suitable posts 3. Each of these tracks consists of upper and lower electric conductors, and these electric conductors may be in various forms, a simple form being to make them circular in cross section as shown. It is to be understood that these main tracks 1 and 2 are the main tracks which connect the post office illustrated at "A" with all of the residences illustrated at "B," and assuming that the main tracks are along a road, each of the residences B is connected with the main tracks by turnouts or switch tracks 4.

At each residence, a box 5 is provided which is adapted to receive one of my improved cars 6. Box 5 and car 6 are provided with registering slots 7 and 8 respectively for the reception of mail, which falls into a suitable pocket or receptacle 9 in a car.

Car 6 is provided with an electric motor 10, and serves to turn a shaft 11 having a pinion 12 thereon meshing with a gear 13 on a shaft 14, and on this shaft 14, a friction wheel 15 is secured, and is adapted to propel the car over the horizontal portions of the tracks.

At one end of the car, a wheel 16 is mounted in a fixed bracket 17, and is adapted to run on the lower rail of the track. At the opposite end of the car, brackets 18 are secured, and provide rotary mounting for a shaft 19, the latter having a forked lower end 20, in which a wheel 21 is mounted to run on the lower rail of the track.

A coiled spring 22 normally presses this wheel 21 onto the track, and said wheel serves as an electric conductor. On top of the car, a bracket 23 is secured, and supports a wheel 24 adapted to run on the upper rail of the track.

A spring bar 25 is pivotally secured to the top of the car by means of a bolt 26, and carries at its free end a wheel 27 to run on the upper rail of the track. This wheel 27 also serves as an electric conductor and the current passes from wheel 27 through bar 25, and thence to the motor and back to shaft 22, and from the latter through the wheel 21 to the lower rail of the track, all of which is illustrated in Fig. 13.

To enable the wheel 27 to follow the curvature of the track, bar 25 is pivotally mount-

ed, but its pivotal movement is limited by means of a pin 28, which projects through a slot 29 in bar 25, and is secured in the body of the car 6. The slot 8 in car 6 is normally closed by a flap cover or gate 30 located inside the compartment 9, and this compartment is closed at its lower end by a hinged bottom 31, which is normally held in closed position by means of a catch 32 operated by a lug 33, which projects through an opening 34 in the side of the car. Lug 33 is beveled as shown, so that it is moved inwardly when it engages a standard 35 at the post office to release the bottom 31, and permit the latter by reason of the weight of the mail thereon to hinge downwardly to open position and drop the mail. As the car moves out of the post office, the bottom 31 contacts with a spring tongue 36, which latter presses the bottom upwardly until it is caught and held in locked position ready for returning to the residence station.

The motor 10 is provided with a reversing lever 37, and the ends of the car are cut out as shown at 38, whereby as the car moves along near the end of the track, it will move over a standard 39, and the latter will engage lever 37 by reason of the momentum of the car, will reverse the position of the lever, and hence reverse the motor. This lever is also adapted to engage a web 40 in box 5, so as to reverse the motor.

All of the residence stations indicated at B are precisely alike, and the description hereinafter of one will apply alike to all.

The boxes 5 are at an appreciably lower level than are the tracks, so that the turnouts or switch tracks 4 curve downwardly and extend into the boxes 5.

Bearing in mind that the upper track 1 is the track which the cars take as they travel to the post office, and the lower track 2, is the one that they take in returning to the residences, for convenience of description I shall give the return portion of the turnout track the reference character 4^a and the out-going turnout section the reference character 4^b.

By reference particularly to Fig. 8, it will be seen that the return portion of the track is not below the outgoing track but at one side thereof, and approximately parallel therewith, so that a car in turning along track 2 if another car occupies the box 5, will be stopped at the point C, and held in such position until the car in the box begins its journey to the post office, and moves past the point C as will be now explained. At the point C, a metal plate 41 is provided, and a guide 42 thereon serves to support a horizontal sliding bar 43. This bar 43 normally projects outwardly far enough to be engaged by a car, and prevent the car from moving downwardly into the box 5. It is to be understood that this point C is located

where the car is moving downward by gravity, and not by electric motive power, as this portion of the turnout 4^a is dead by reason of insulated sections 44 in the rails. The lower portion of track 4^b which projects into the box 5 is also dead by reason of a block of insulation 45, which is inserted in the upper rail of the track. An electric switch 46 is pivotally supported on the outside of the box, and is connected by a wire 47 with the upper rail of track 4^b at one side of the insulated block 45, and said track at the other side of said insulated block is connected by a wire 48 with a contact 49, so that when the switch lever 46 is operated to engage contact 49, the circuit is closed through the lower portion of the track 4^b to operate the motor of the car in the box and start the car.

Beside the lower rail of the track 4^b, a toothed rack 50 is provided, and this rack extends from the box upwardly and outwardly until the track reaches a horizontal. Hence, when the motor is started, and the car is in the box, gear 13 above referred to will draw the car up the track by reason of engagement of the gear with the rack, when the gear will ride off the end of the rack, and the friction wheel 15 will engage the lower rail of the track, and act as a propelling means for the car.

It is to be understood that each residence is to be provided with two cars precisely alike, with one car normally in the box, and the other car at the station C. As the car leaves the box, and passes the station C, it releases the car at the station C and allows the latter to move down into the box. To accomplish this, a lever 51 is fulcrumed between its ends on a pin 52 secured to plate 41, and the upper end of this lever is in position to be struck by the outgoing car on track 4^b. The inner end of the lever 51 is pivotally connected by means of a pin 53 with a vertically movable bar 54. This bar 54 has a slot 55 through which a pin 56 projects, and is secured in plate 41. The bar 43 above referred to, is also provided with a slot 57, through which a pin 58 secured in plate 41 projects, to limit the movement of lever 43. Lever 43 is also provided with a recess 59 against one edge of which the beveled end 60 of bar 54 engages, so that a downward movement of said bar 54 serves to draw the bar 43 inwardly, and release the car at station C. To hold these bars 54 and 43 in normal position, a spring 61 is coiled between its ends as shown at 62, is passed around a lug 63 on plate 41, and at one end bears against a pin 64 on bar 54. The other end of said spring engages a pin 65 on bar 43, to project the latter outwardly.

As the car from station C moves downwardly into box 5 by gravity in order to cushion the car it moves into the box, up-

wardly spring-pressed platforms 66 are provided at opposite sides, and are preferably supported on coiled springs 67. A pin 68 on switch lever 46 projects through a slot 5 69 in the box 5 below one of these platforms 66, so that the falling of the car into the box depresses the platform, and throws the switch 46 to open position, and this switch 46 must be manually operated to 10 close the circuit to send the car on its trip to the post office.

In box 5, the web 40 is fixed, and is in the path of lever 37, so that as the car falls into the box, lever 37 will be moved to reverse the motor as will be understood. 15

In order that the several cars may return to their proper stations after delivering the mail at the post office, I provide at the meeting points of the lower rails with the turnouts 4^a, adjustable switch points 71, that is, these switch points are spaced different distances from the main tracks. 20

On the end of the car which is front, as the car is returned from the post office, two 25 spring fingers 72 are provided, and are connected by means of a bolt 73 and nut 74, so that these fingers may be adjusted toward or away from each other, or in other words, the fingers are normally apart, and may be 30 adjusted toward each other by means of the bolt and nut above described.

The switch point nearest the post office is farthest removed from the main track, and each successive switch point is slightly 35 nearer the main track.

The cars of the residences nearest the post office will therefore have their fingers 72 farthest apart, sufficiently far to engage over the switch point 71, and thence guide 40 the car onto the turnout. Cars belonging to other stations or to other residences, will have their fingers so close together that they will not engage the first switch pin 71 at all, but will pass switch point after switch 45 point until they reach the one for which they are adjusted to take. By means of this arrangement, each person will receive their own car, and there will be no confusion whatever in the return of the cars to their 50 own station.

We will assume that one car is in the box 5 at residence B, and the other car is at the station C of the same residence. When mail is deposited through the 55 openings 7 and 8 into the compartment 9 in the car, and it is desired to send the mail to the post office, the operator moves switch lever 46 so that it engages contact 49. Instantly, that portion of the track in the box 60 is in electric circuit, and the motor of the car is included in such circuit through the medium of wheels 21 and 27, and shafts 11 and 14 begin to turn. As the gear 13 is in mesh with rack 50, the car will com-

mence to climb. When it reaches station C, 65 the outgoing car will strike lever 51, and release the car at station C as above explained, so that this empty car will travel by gravity down into the box. The outgoing car continues its journey along the 70 turnout and onto the main track 1 to the post office.

It will be noted that the car 1 at the post office swings outwardly and down to the same horizontal plane as the return 75 track 2. In the movement of the car along this portion of the track 1 at the post office, pin 33 strikes standard 25 and the bottom 31 falls to deposit the mail in the post office. As the car continues its movement, 80 the spring finger 36 moves the bottom 31 upwardly into closed position. A further movement of the car causes the standard 39 to strike the lever 37, and reverse the motor. The car then begins its journey 85 along the track 2, thence over its proper turnout to station C, when it is stopped by the bar 43, and held in this position until the car already in the box is sent to the post office. 90

As above explained, that section of the track 4^a at station C is dead, so that the motor of the car is at a stand-still, and when this car is permitted to move down into the box 5 by gravity, the fall of the car will 95 cause platforms 15 to be depressed and the switch 46 will be opened.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims. 105

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, 110 turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, and means at said halting station adapted to hold an incoming car, said means released by the outgoing car, substantially as described. 115

2. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, 120 turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an 125

outgoing car, to draw back the said bar and release the car held thereby, substantially as described.

3. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an outgoing car, a bar movable at right angles to the first-mentioned bar and having cam engagement therewith, whereby the movement of said lever causes the withdrawal of said first-mentioned bar to release the car held thereby, substantially as described.

4. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an outgoing car, a bar movable at right angles to the first-mentioned bar and having cam engagement therewith, whereby the movement of said lever causes the withdrawal of said first-mentioned bar to release the car held thereby, and a spring normally holding said first-mentioned bar projected into the path of a car, substantially as described.

5. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, means at said halting station adapted to hold an incoming car, said means released by the outgoing car, said tracks comprising upper and lower rails, and wheels at top and bottom of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, and said first-mentioned wheels serving as electric conductors between the rails and the motor, substantially as described.

6. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further

movement, a lever adapted to be engaged by an outgoing car, to draw back the said bar and release the car held thereby, said tracks comprising upper and lower rails, and wheels at top and bottom of the body of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, and said first-mentioned wheels serving as electric conductors between the rails and the motor, substantially as described.

7. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an outgoing car, a bar movable at right angles to the first mentioned bar and having cam engagement therewith, whereby the movement of said lever causes the withdrawal of said first-mentioned bar to release the car held thereby, said tracks comprising upper and lower rails, and wheels at top and bottom of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, and said first-mentioned wheels serving as electric conductors between the rails and the motor, substantially as described.

8. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an outgoing car, a bar movable at right angles to the first-mentioned bar and having cam engagement therewith, whereby the movement of said lever causes the withdrawal of said first-mentioned bar to release the car held thereby, and a spring normally holding said first-mentioned bar projected into the path of the car, said tracks comprising upper and lower rails, and wheels at top and bottom of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, and said first-mentioned wheels serving as electric conductors between the rails and the motor, substantially as described.

9. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the

main track, means at said halting station adapted to hold an incoming car, said means released by the outgoing car, said tracks comprising upper and lower rails, and wheels
 5 at top and bottom of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, said first-mentioned wheels serving as electric conductors between
 10 the rails and the motor, a motor reversing lever in the car, and means at the post office and in the residence box adapted to engage said lever and reverse the motor, substantially as described.

15 10. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting
 20 station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an
 25 outgoing car, to draw back the said bar and release the car held thereby, said tracks comprising upper and lower rails, and wheels at top and bottom of the body of the car adapted to engage said rails respectively, an electric
 30 motor in the car, a driving wheel in the car operated by the motor, and said first-mentioned wheels serving as electric conductors between the rails and the motor, a motor reversing lever in the car, and means at the
 35 post office and in the residence box adapted to engage said lever and reverse the motor, substantially as described.

40 11. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting
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 50 outgoing car, a bar movable at right angles to the first-mentioned bar and having cam engagement therewith, whereby the movement of said lever causes the withdrawal of said first-mentioned bar to release the car
 55 held thereby, said tracks comprising upper and lower rails, and wheels at top and bottom of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the
 60 motor, a motor reversing lever in the car, and means at the post office and in the residence box adapted to engage said lever and reverse the motor, substantially as described.

65 12. An apparatus of the character described, comprising two main tracks, a resi-

dence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting
 70 station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an
 75 outgoing car, a bar movable at right angles to the first-mentioned bar and having cam engagement therewith, whereby the movement of said lever causes the withdrawal of said first-mentioned bar to release the car
 80 held thereby, a spring normally holding said first-mentioned bar projected into the path of a car, said tracks comprising upper and lower rails, and wheels at top and bottom of the car adapted to engage said rails respec-
 85 tively, an electric motor in the car, a driving wheel in the car operated by the motor, said first-mentioned wheels serving as electric conductors between the rails and the motor, a motor reversing lever in the car, and
 90 means at the post office and in the residence box adapted to engage said lever and reverse the motor, substantially as described.

13. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the re-
 95 spective main tracks with said box, a halting station between the residence station and the main track, means at said halting station adapted to hold an incoming car, said means released by the outgoing car, said tracks
 100 comprising upper and lower rails, and wheels at top and bottom of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, said first-men-
 105 tioned wheels serving as electric conductors between the rails and the motor, a mail compartment in said car, a hinged bottom in said compartment, a locking pin normally holding said bottom closed, and means at
 110 the post office adapted to engage said pin to permit the bottom to drop, and other means at the post office adapted to close the bottom, substantially as described.

14. An apparatus of the character de-
 115 scribed, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting
 120 station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an
 125 outgoing car, to draw back the said bar and release the car held thereby, said tracks comprising upper and lower rails, and wheels at top and bottom of the body of the car adapted to engage said rails respectively, an
 130 electric motor in the car, a driving wheel in

the car operated by the motor, and said first-mentioned wheels serving as electric conductors between the rails and the motor, a mail compartment in said car, a hinged bottom in said compartment, a locking pin normally holding said bottom closed, and means at the post office adapted to engage said pin to permit the bottom to drop, and other means at the post office adapted to close the bottom, substantially as described.

15. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an outgoing car, a bar movable at right angles to the first-mentioned bar and having cam engagement therewith, whereby the movement of said lever causes the withdrawal of said first-mentioned bar to release the car held thereby, said tracks comprising upper and lower rails, and wheels at top and bottom of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, and said first-mentioned wheels serving as electric conductors between the rails and the motor, a mail compartment in said car, a hinged bottom in said compartment, a locking pin normally holding said bottom closed, and means at the post office adapted to engage said pin to permit the bottom to drop, and other means at the post office adapted to close the bottom, substantially as described.

16. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an outgoing car, a bar movable at right angles to the first-mentioned bar and having cam engagement therewith, whereby the movement of said lever causes the withdrawal of said first-mentioned bar to release the car held thereby, a spring normally holding said first-mentioned bar projected into the path of a car, said tracks comprising upper and lower rails, and wheels at top and bottom of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, and said first-mentioned wheels serving as electric conductors between the rails and the motor, a mail

compartment in said car, a hinged bottom in said compartment, a locking pin normally holding said bottom closed, and means at the post office adapted to engage said pin to permit the bottom to drop, and other means at the post office adapted to close the bottom, substantially as described.

17. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, means at said halting station adapted to hold an incoming car, said means released by the outgoing car, said tracks comprising upper and lower rails, and wheels at top and bottom of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, said first-mentioned wheels serving as electric conductors between the rails and the motor, a motor reversing lever in the car, means at the post office and in the residence box adapted to engage said lever and reverse the motor, a mail compartment in said car, a hinged bottom in said compartment, a locking pin normally holding said bottom closed, and means at the post office adapted to engage said pin to permit the bottom to drop, and other means at the post office adapted to close the bottom, substantially as described.

18. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an outgoing car, to draw back the said bar and release the car held thereby, said tracks comprising upper and lower rails, and wheels at top and bottom of the body of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, and said first-mentioned wheels serving as electric conductors between the rails and the motor, a motor reversing lever in the car, means at the post office and in the residence box adapted to engage said lever and reverse the motor, a mail compartment in said car, a hinged bottom in said compartment, a locking pin normally holding said bottom closed, and means at the post office adapted to engage said pin to permit the bottom to drop, and other means at the post office adapted to close the bottom, substantially as described.

19. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station,

turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an outgoing car, a bar movable at right angles to the first-mentioned bar and having cam engagement therewith, whereby the movement of said lever causes the withdrawal of said first-mentioned bar to release the car held thereby, said tracks comprising upper and lower rails, wheels at top and bottom of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, said first-mentioned wheels serving as electric conductors between the rails and the motor, a motor reversing lever in the car, means at the post office and in the residence box adapted to engage said lever and reverse the motor, a mail compartment in said car, a hinged bottom in said compartment, a locking pin normally holding said bottom closed, and means at the post office adapted to engage said pin to permit the bottom to drop, and other means at the post office adapted to close the bottom, substantially as described.

20. An apparatus of the character described, comprising two main tracks, a residence station, a box at the residence station, turnouts or switch tracks connecting the respective main tracks with said box, a halting station between the residence station and the main track, a sliding bar at said halting station adapted to be engaged by an incoming car to hold the car against further movement, a lever adapted to be engaged by an outgoing car, a bar movable at right angles to the first-mentioned bar and having cam engagement therewith, whereby the movement of said lever causes the withdrawal of said first-mentioned bar to release the car held thereby, a spring normally holding said first-mentioned bar projected into the path of a car, said tracks comprising upper and lower rails, and wheels at top and bottom of the car adapted to engage said rails respectively, an electric motor in the car, a driving wheel in the car operated by the motor, said first-mentioned wheels serving as electric conductors between the rails and the motor, a motor reversing lever in the car, means at the post office and in the residence box adapted to engage said lever and reverse the motor, a mail compartment in said car, a hinged bottom in said compartment, a locking pin normally holding said bottom closed, and means at the post office adapted to engage said pin to permit the bottom to drop, and other means at the post office adapted to close the bottom, substantially as described.

21. An apparatus of the character described, comprising main tracks, a post office constituting a terminal for the main tracks, a plurality of residence stations, turnout tracks connecting the main tracks with the residence stations, cars adapted to move over said tracks, switch points at the juncture of the main return track and the turnouts, each switch point of the series of stations differently spaced with relation to the main track, and adjustable fingers on the cars adapted to be adjusted to engage over the switch points of their proper stations, substantially as described.

22. An apparatus of the character described, comprising main tracks, a post office constituting a terminal for the main tracks, a plurality of residence stations, turnout tracks connecting the main tracks with the residence stations, cars adapted to move over said tracks, switch points at the juncture of the main return track and the turnouts, each switch point of the series of stations differently spaced with relation to the main track, adjustable fingers on the cars adapted to be adjusted to engage over the switch points of their proper stations, said fingers comprising spring bars normally pressed apart, a bolt and nut connecting said fingers and adapted to draw them toward each other, substantially as described.

23. An apparatus of the character described, comprising main tracks, a post office constituting a terminal for the main tracks, a plurality of residence stations, turnout tracks connecting the main tracks with the residence stations, cars adapted to move over said tracks, switch points at the juncture of the main return track and the turnouts, each switch point of the series of stations differently spaced with relation to the main track, adjustable fingers on the cars adapted to be adjusted to engage over the switch points of their proper stations, boxes at the resident stations, and spring-pressed platforms in said boxes adapted to cushion the cars when they enter the boxes, substantially as described.

24. An apparatus of the character described, comprising main tracks, a post office constituting a terminal for the main tracks, a plurality of residence stations, turnout tracks connecting the main tracks with the residence stations, cars adapted to move over said tracks, switch points at the juncture of the main return track and the turnouts, each switch point of the series of stations differently spaced with relation to the main track, adjustable fingers on the cars adapted to be adjusted to engage over the switch points of their proper stations, said fingers comprising spring bars normally pressed apart, a bolt and nut connecting said fingers and adapted to draw them toward each other, boxes at the residence sta-

tions and spring-pressed platforms in said boxes adapted to cushion the cars when they enter the boxes, substantially as described.

25. An apparatus of the character described, comprising main tracks, a post office constituting a terminal for the main tracks, a plurality of residence stations, turnout tracks connecting the main tracks with the residence stations, cars adapted to move over said tracks, switch points at the juncture of the main return track and the turnouts, each switch point of the series of stations differently spaced with relation to the main track, adjustable fingers on the cars adapted to be adjusted to engage over the switch points of their proper stations, boxes at the residence stations, spring-pressed platforms in said boxes adapted to cushion the cars when they enter the boxes, said tracks comprising electric conductors, means insulating that portion of the track in the box, and an electric switch on the outside of the box adapted to open or close the electric circuit between that portion of the track in the box and the other portion of the track, substantially as described.

26. An apparatus of the character described, comprising main tracks, a post office constituting a terminal for the main tracks, a plurality of residence stations, turnout tracks connecting the main tracks with the residence stations, cars adapted to move over said tracks, switch points at the juncture of the main return track and the turnouts, each switch point of the series of stations differently spaced with relation to the main track, adjustable fingers on the cars adapted to be adjusted to engage over the switch points of their proper stations, said fingers comprising spring bars normally pressed apart, a bolt and nut connecting said fingers and adapted to draw them toward each other, boxes at the residence stations, spring-pressed platforms in said boxes adapted to cushion the cars when they enter the boxes, said tracks comprising electric conductors, means insulating that portion of the track in the box, and an electric switch on the outside of the box adapted to open or close the electric circuit between that portion of the track in the box and the other portion of the track, substantially as described.

27. An apparatus of the character described, comprising main tracks, a post office constituting a terminal for the main tracks, a plurality of residence stations, turnout tracks connecting the main tracks with the residence stations, cars adapted to move over

said tracks, switch points at the juncture of the main return track and the turnouts, each switch point of the series of stations differently spaced with relation to the main track, adjustable fingers on the cars adapted to be adjusted to engage over the switch points of their proper stations, boxes at the residence stations, spring-pressed platforms in said boxes adapted to cushion the cars when they enter the boxes, said tracks comprising electric conductors, means insulating that portion of the track in the box, an electric switch on the outside of the box adapted to open or close the electric circuit between that portion of the track in the box and the other portion of the track, a pin on said switch projecting through a slot in the box, and said pin adapted to be moved by the depression of one of the platforms to open the electric circuit, substantially as described.

28. An apparatus of the character described, comprising main tracks, a post office constituting a terminal for the main tracks, a plurality of residence stations, turnout tracks connecting the main tracks with the residence stations, cars adapted to move over said tracks, switch points at the juncture of the main return track and the turnouts, each switch point of the series of stations differently spaced with relation to the main track, adjustable fingers on the cars adapted to be adjusted to engage over the switch points of their proper stations, said fingers comprising spring bars normally pressed apart, a bolt and nut connecting said fingers and adapted to draw them toward each other, boxes at the residence stations, spring-pressed platforms in said boxes adapted to cushion the cars when they enter the boxes, said tracks comprising electric conductors, means insulating that portion of the track in the box, an electric switch on the outside of the box adapted to open or close the electric circuit between that portion of the track in the box and the other portion of the track, a pin on said switch projecting through a slot in the box, and said pin adapted to be moved by the depression of one of the platforms to open the electric circuit, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN GRONEK.

Witnesses:

P. H. KRENKEL,
CHARLES E. POTTS.