

G. V. KINNEY.
RURAL MAIL DELIVERY DEVICE.
APPLICATION FILED DEC. 2, 1909.

986,012.

Patented Mar. 7, 1911.

3 SHEETS—SHEET 1.

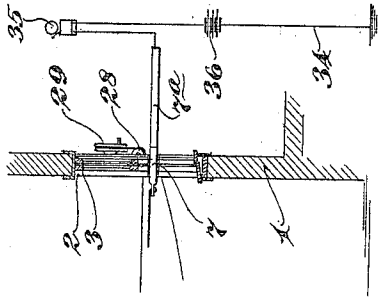
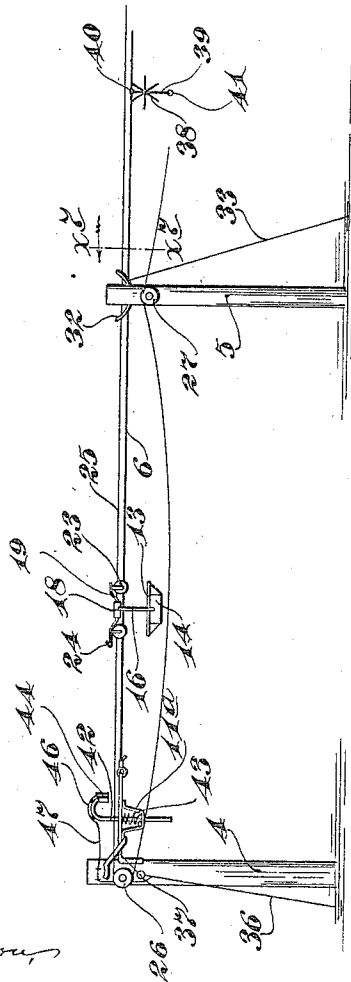


Fig. 1.



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3 SHEETS-SHEET 2.

Fig. 2

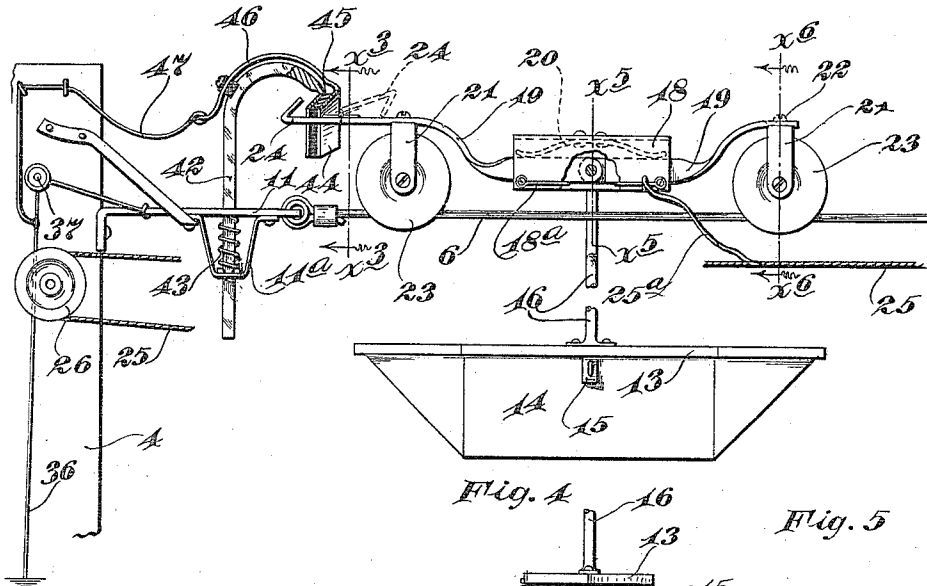


Fig. 4

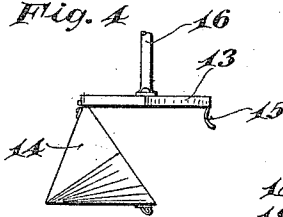


Fig. 5

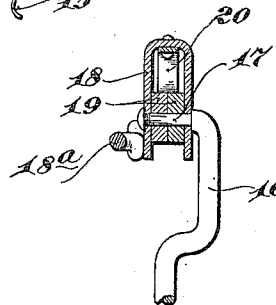


Fig. 3

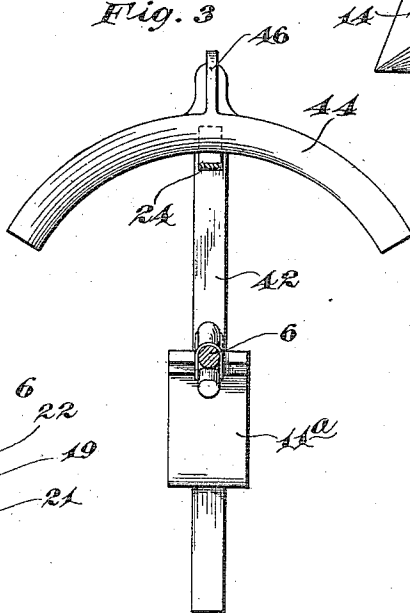
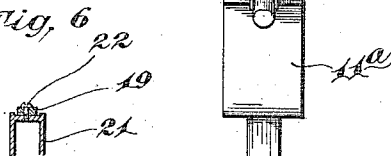


Fig. 6



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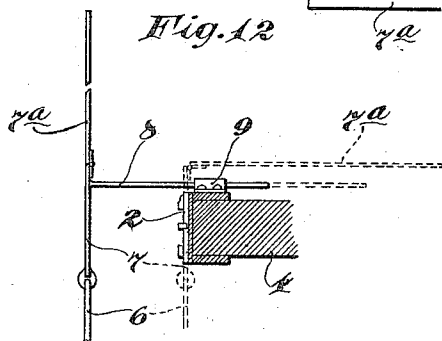
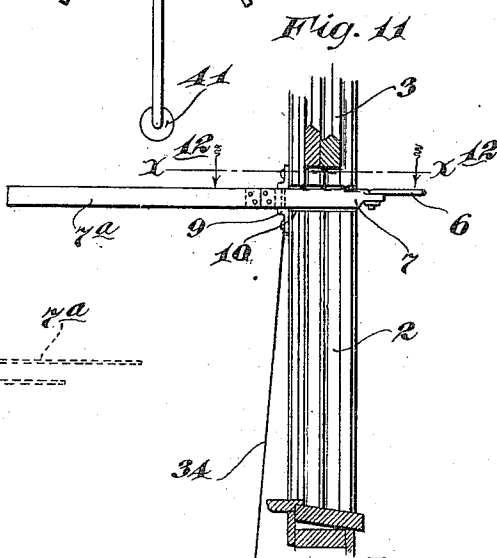
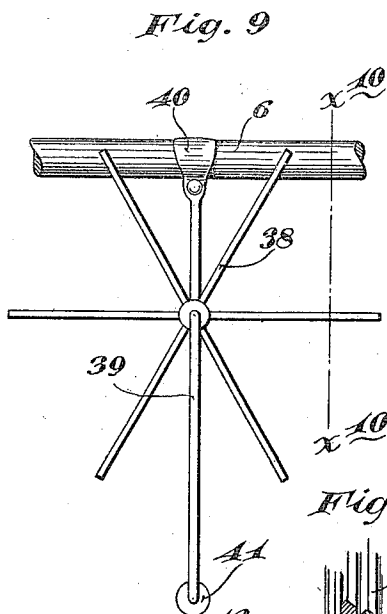
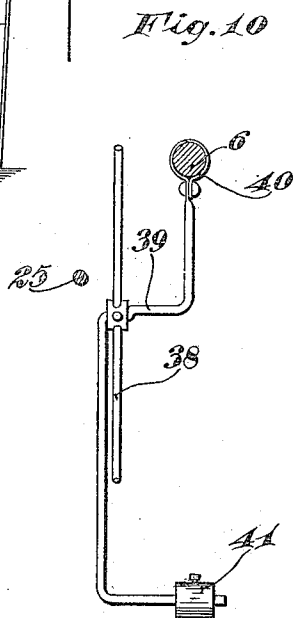
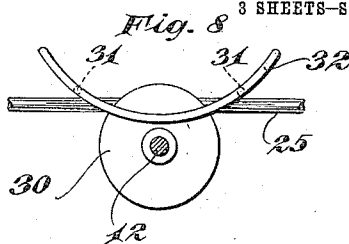
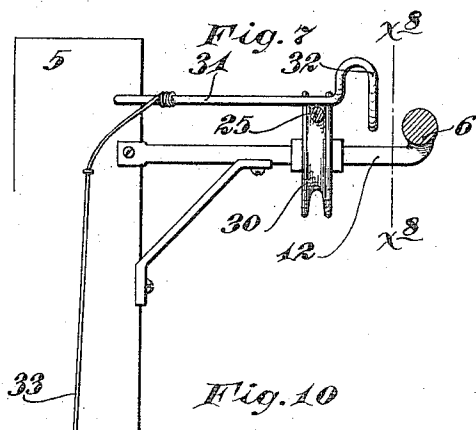
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3 SHEETS-SHEET 3.



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UNITED STATES PATENT OFFICE.

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RURAL-MAIL-DELIVERY DEVICE.

986,012.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE V. KINNEY, a citizen of the United States, residing at Kenyon, in the county of Goodhue and State of Minnesota, have invented certain new and useful Improvements in Rural-Mail-Delivery Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention has for its object to provide a simple and efficient mail carrying device, especially adapted for use in rural districts for carrying mail from the road to a house located at considerable distance from the road.

To the above ends, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view partly in elevation, partly in section and partly in diagram, showing the improved mail carrying device; Fig. 2 is a view in elevation, with some parts broken away, showing on a much larger scale than in Fig. 1 the mail carriage and that portion of the device which is in the vicinity of the road or most distant from the house; Fig. 3 is a section taken on the line $x^3 x^3$ of Fig. 2; Fig. 4 is an end elevation of the mail box, showing the same opened up; Fig. 5 is a section taken approximately on the line $x^5 x^5$ of Fig. 2; Fig. 6 is a fragmentary section on the line $x^6 x^6$ of Fig. 2; Fig. 7 is an enlarged section taken on the line $x^7 x^7$ of Fig. 2; Fig. 8 is a section taken on the line $x^8 x^8$ of Fig. 7; Fig. 9 is a detail, showing a portion of the track wire and a so-called cable guard applied thereto; Fig. 10 is a section on the line $x^{10} x^{10}$ of Fig. 9; Fig. 11 is a vertical section showing a window frame of the house or building to which the mail delivery device is connected; and Fig. 12 is a horizontal section taken on the line $x^{12} x^{12}$ of Fig. 11.

The house or building to which the mail delivery device is connected is indicated by the numeral 1 and is provided with an or-

dinary window frame 2, through which the track for the mail box and carriage is adapted to pass, when the sash 3 of the window is raised.

The numeral 4 indicates a post located at the roadside at a point distant from the house, and the numeral 5 indicates an intermediate post of which there may be any desired number, depending on the length of the track.

The track for the truck which carries the mail box is preferably and, as shown, in the form of a heavy wire 6 which, at its inner end or end which is connected to the house, is attached to the outer end of a short track bar 7 which extends through the window opening. At its inner end this track bar 7 is rigidly secured to a supporting bar 8 that is arranged to slide through a keeper 9 rigidly secured inside of the building to one side of the window frame 2, and the said window frame is provided with a channel 10 (see Figs. 11 and 12) into which the said track bar 7 may be moved far enough to permit the window sash 3 to be raised and lowered. The track bar 7 is provided with a hinged extension bar 7^a which, when the bar 7 is moved into its inoperative position within the channel 10, is adapted to be turned against the wall, as indicated by the dotted lines in Fig. 12.

At its outer end, or end that extends to the road, the track wire 6 is attached to the projecting end of a metallic anchor bracket 11, which, in turn, is anchored to the outer post 4. At its intermediate portions, the track wire 6 is securely attached to the outwardly projecting arms of supporting brackets 12 secured to the intermediate posts 5.

The mail box, as preferably constructed, is made up of a flat top plate 13 and a receptacle 14 hinged to the said top plate at one side and are adapted to be secured thereto, at its other side, by means of a spring latch 15. The top plate 13 is rigidly secured to the lower end of a depending hanger rod 16, the upper end of which is laterally bent to form a trunnion 17 that is pivotally connected to the intermediate portion of an approximately U-shaped casing 18 that constitutes the body of the carrier truck. The trunnion 17 also pivotally connects the inner ends of a pair of arms 19 to

the casing 18 and a spring 20, secured within said casing, yieldingly presses the said arms 19 downward. To the outer ends of the arms 19, wheel brackets 21 are pivotally connected at 22 and grooved truck wheels 23, that run upon the track 6, are journaled to the prongs of these brackets. The pivotal connections 22 permit the truck to freely travel in a curve which there may be in the track 6. To the extreme end of the arm 19, which projects toward the outer post 4, is hinged a so-called cam bar 24 having an upwardly and backwardly turned free end and which bar is capable of upward pivotal movements, as shown by dotted lines in Fig. 2, but can move downward only as far as indicated by full lines in said Fig. 2.

For causing the carrier truck to travel on the track 6, a light endless cable 25 is provided. This cable 25 runs over a guide sheave 26 on the outer post 4, over guide sheaves 27 on the intermediate post 5 and over cooperating guiding and driving heaves 28 and 29 located inside of the building 1 and applied to one side of the window frame 2. This cable 25 has a short branch 25^a, the extended end of which is slidably connected to a bail 18^a which latter is secured, at its ends, to one side of the truck casing 18, as best shown in Fig. 2. Figs. 2 and 10 show the proper relation of the upper run of the cable 25 in respect to the truck and to the track wire 6, while in Fig. 1, for the sake of clearness, the said upper portion of the cable is shown as raised slightly above its actual position. The upper run of said cable 25 is passed over guide sheaves 30 journaled on the projecting arms of the rail supporting brackets 12. The cable branch 25^a should be metallic, so it will serve as a conductor under the conditions hereinafter noted. The main body of the cable 25 is preferably of non-metallic or non-conducting material.

Secured to the intermediate post 5 which is next adjacent to the outer post 4, is a combined cable guard and contact, preferably from a metallic rod bent to form a pair of parallel arms 31 and a segmental head 32. The said arms 31 are rigidly secured to the post 5 and the segmental head 32 occupies a position between the sheave 30 and track wire 6 and extends downward below a line intersecting the axes of said track wire and of that portion of the cable 25 which rests upon the sheave 30 (see Fig. 7). One of the arms 31 is grounded by a wire 33.

In the signaling mechanism, which is here employed in connection with the carrier system, the track wire 6, the anchor bar 11, the track bar 7, the supporting bar 8 and bearing 9 constitute parts of the signaling circuit, and the said bearing 9 is grounded through a wire 34 into which is interposed

an electrical bell 35 and a battery 36. The anchor bar 11 is grounded through a wire 36 that is normally broken by a push button 37.

To prevent the upper run of the operating cable 25 from being swung by the wind and blown around the track wire 6, cable guards of novel construction are provided, and these are applied at suitable intervals along the track. In the drawings but one of these cable guards are shown and it comprises a star wheel 38 journaled on the intermediate portion of a supporting bracket 39, the upper end of which is rigidly secured to the track wire 6 by a thin clamp 40, shown as formed as part of the upper end of said bracket. On the lower end of said bracket 39 is a weight 41 which assists in holding the bracket against swinging movement with the star wheel 38 in an approximately vertical plane with its upwardly extended arms interposed between the track wire 6 and the upper run of the cable 25, as best shown in Fig. 10.

In the vicinity of the outer post 4 is a truck latching device which, as shown, comprises an upright square rod arranged to slide vertically through the anchor bar 11 and through a U-shaped bearing 11 thereof and is spring held downward, or in the normal position shown in Fig. 2, by a coiled spring 43. The upper end of the plunger 42 is shown as bent forward and provided with a transversely extended segmental latch bar 44 that overlies the track wire 6 and is adapted to be engaged by the cam end of the truck arm extension 24. This segmental latch bar 44 is made up of two segmental metallic plates separated by insulating material 45 and the outer of the said metal plates is connected to a curved metallic conductor 46 insulated from the plunger 42, but connected by a wire 47 to the ground wire 36 below the push button 37.

The operation and use of the device is substantially as follows: When a person in the house has mail to be delivered to the mail carrier at the road, such mail is placed within the box 13-14, while the box and truck are either inside of the window opening or immediately outside thereof and, then, by manipulations of the driving sheave 29, which is preferably provided with a crank or hand piece, the operating cable 25, may be driven in the proper direction to cause the truck and loaded box to travel outward on the track wire 6 until it comes into close proximity to the outer post 4 where the box will be within easy reach of the mail carrier at the road. As the truck and box pass the intermediate posts 5 which are next adjacent to the outer post 4, the cable branch 25^a will engage with the segmental end 32 of the arms 31, thereby closing the circuit to the ground through wires 33, 34, bell 35 and

battery 36, and thereby sounding the said bell and giving a signal at the house indicating that the truck and box have nearly reached their outer destination. When the truck approximately reaches its extreme position toward the outer post 4, the cam end of the arm extension 24 engages the segmental or arch bar 44 and this does two things, to-wit: first, it closes the segmental circuit to the ground through wires 47, 36 and 34 and bell 35 and battery 36, again sounding the bell and indicating that the truck has reached its outer destination; and, second, the said cam end of the bar 24 raises the plunger 42 and passes to the position shown by full lines in Fig. 2, in which position the said arch bar locks the truck against return movement. When the mail carrier deposits mail within the box for delivery to the house, he first raises the latch plunger 42 and turns the bar extension 24 back into the dotted line position, shown in Fig. 2, thereby releasing the truck and then, by pressing on the button 37 closes the segmental circuit through the bell 35 and battery 36, thereby giving a signal at the house indicating that mail has been deposited in the box.

It has already been noted that the star wheel or wheels 38 prevent the upper run of the cable 25 from being wound around the track wire 6. The said star wheels do not, however, interfere with the operative movement of the said cable, and, as the cable branch 25^a passes one of these star wheels, it will simply fall between the arms thereof, causing rotation of the star wheel, which permits the cable branch to freely pass the wheel.

The downwardly spring pressed arms 19 causes the truck wheels 23 to obtain engagement with the track wire 6, even if the box should be caused to jump slightly by vibration of the wire 6. The mail box being suspended by the rod or hanger 16, which is pivotally connected to the body of the truck, if loaded heavier at one end than at the other, will, without causing one of the truck wheels to raise or to press more lightly on the wire 6 than the other truck wheel, swing to a position where it will naturally hang under the action of gravity. The arch of the latch bar 44 permits engagement of the cam end of the arm extension 24 therewith, even when the box may be swung laterally from its position directly under the track wire.

What I claim is:

1. In a carrier system of the kind described, the combination with a track wire, of a truck body having downwardly spring pressed pivoted arms and track wheels connected to said arms and arranged to run on said track wire, a box suspended from and pivotally connected to said truck body, a

cable connected to said truck body, and suitable guides for said cable, substantially as described.

2. In a carrier system of the kind described, the combination with a track wire, of a truck body, a box having an upwardly projecting supporting rod pivotally connected to said truck body, oppositely projecting arms pivotally connected at their inner ends to the pivotal connection of said rod, track wheels connected to the outer ends of said arms and arranged to run on said track wire, and yielding means tending to press the free ends of said arms downward, substantially as described.

3. In a carrier system of the kind described, the combination with a track, of a truck mounted to travel on said track and provided with a projecting and pivotally connected cam acting arm, a box suspended from said truck, a cable for causing said truck to travel on said track, and a yielding latch at one extremity of said track coöperating with the cam arm of the said truck to secure said truck in one extreme position and which latch is adapted to be moved into an inoperative position, to release said truck, substantially as described.

4. In a carrier system of the kind described, the combination with a track wire, of a truck body having downwardly spring pressed arms and truck wheels connected to said arms and arranged to run on said track wire, a box suspended from said truck, a cable connected to said truck, and suitable guides for said cable, substantially as described.

5. In a carrier system of the kind described, the combination with a track wire, a truck mounted to travel thereon, a box suspended from said truck, a cable having a branch connection to said truck, guides for said cable, and a star wheel suspended from the intermediate portion of said track wire with its arms interposed between said track wire and cable and arranged to be engaged by the branch connection of said cable, substantially as described.

6. In a carrier system of the kind described, the combination with a track and a carrier mounted to run thereon, said track having at one extremity a track section adapted to support said carrier and itself supported at one end only for free horizontal pivotal movements independent of said track, substantially as described.

7. The combination with a building having an opening and a closure therefor, of a track extended from said opening to a distant point, and a carrier mounted to travel on said track, a track bar forming a part of said track, extending through said opening and mounted for lateral movements to and from one side of said opening, with said track connected thereto, to permit the closing

of said opening with said closure without disconnecting said track and said track bar adapted to support said carrier when the latter is moved through said opening into
5 said building.

8. In a carrier system of the kind described, the combination with a track and a carrier mounted to run thereon, said track having at one extremity a track section in
10 the form of a track bar mounted for lateral movement, a track bar extension pivotally connected to said track bar for horizontal, swinging movement and adapted to support said carrier, substantially as described.

9. The combination with a building hav-
15 ing an opening and a closure therefor, of a track extending from said opening to a distant point, and a carrier mounted to travel

on said track, a keeper secured to said building, a track bar forming a part of said
20 track, extending through said opening and having secured thereto a supporting bar mounted for sliding movement in said
25 keeper and arranged to carry said track bar laterally to and from one side of said opening to permit the closing of said opening with said closure and said track bar adapted
30 to support said carrier when the latter is moved through said opening into said building.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE V. KINNEY.

Witnesses:

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GEORGE A. WHEELER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
