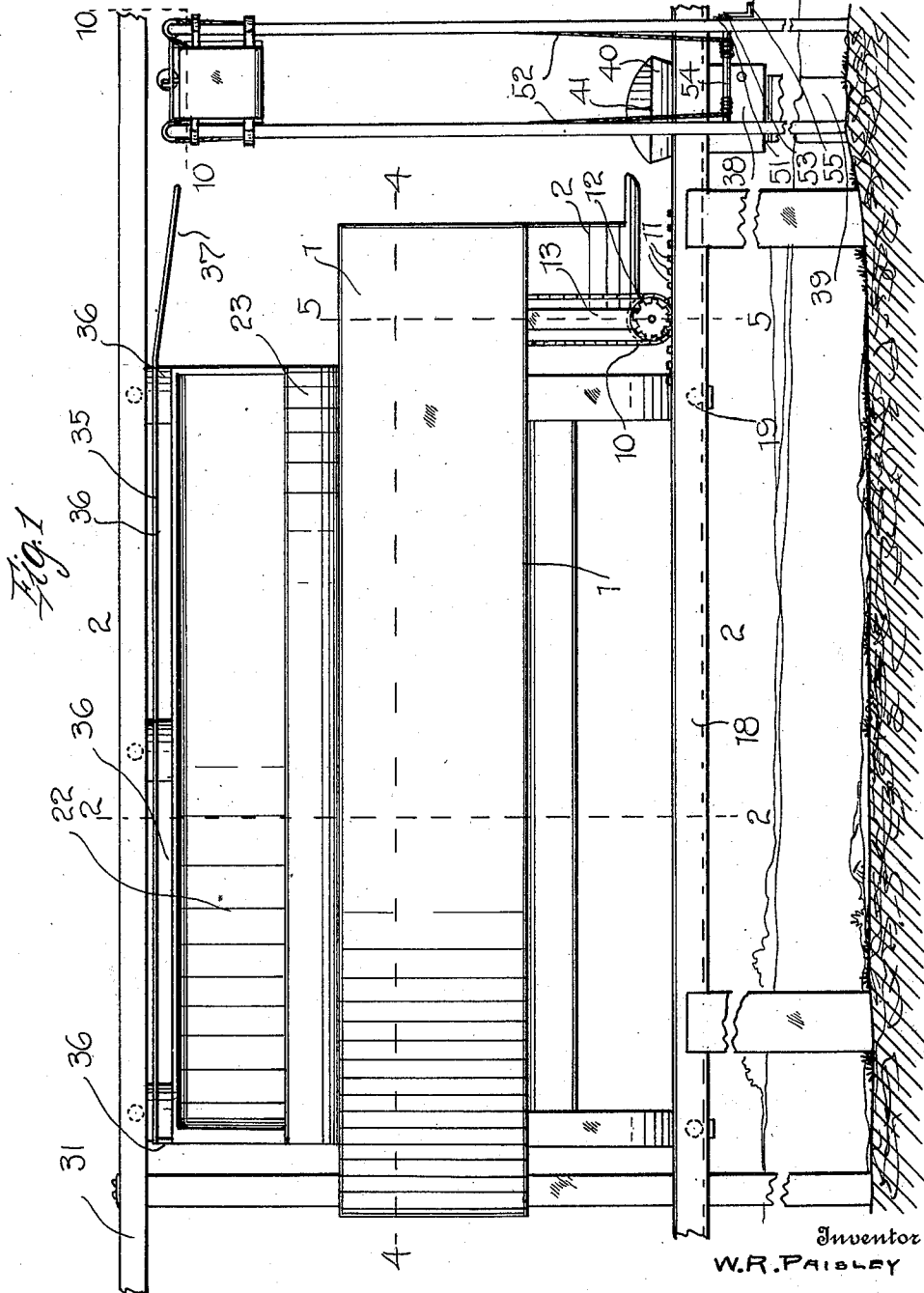


W. R. PAISLEY.
RURAL MAIL DELIVERING AND COLLECTING APPARATUS.
APPLICATION FILED MAR. 1, 1913.

1,062,183.

Patented May 20, 1913.

4 SHEETS—SHEET 1.



Witnesses
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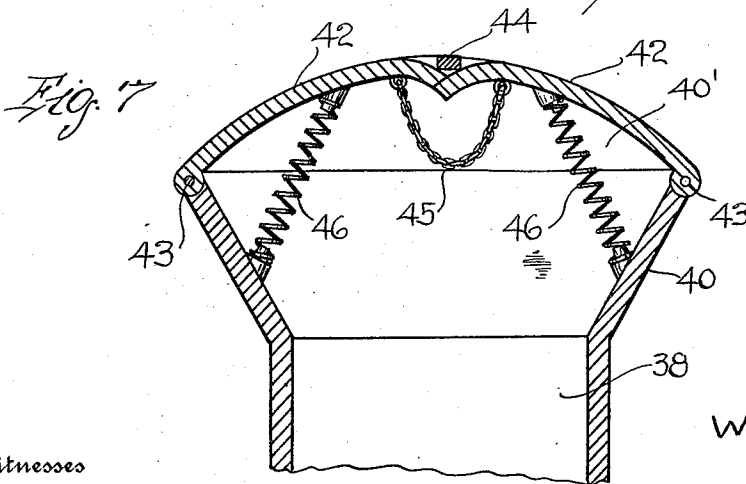
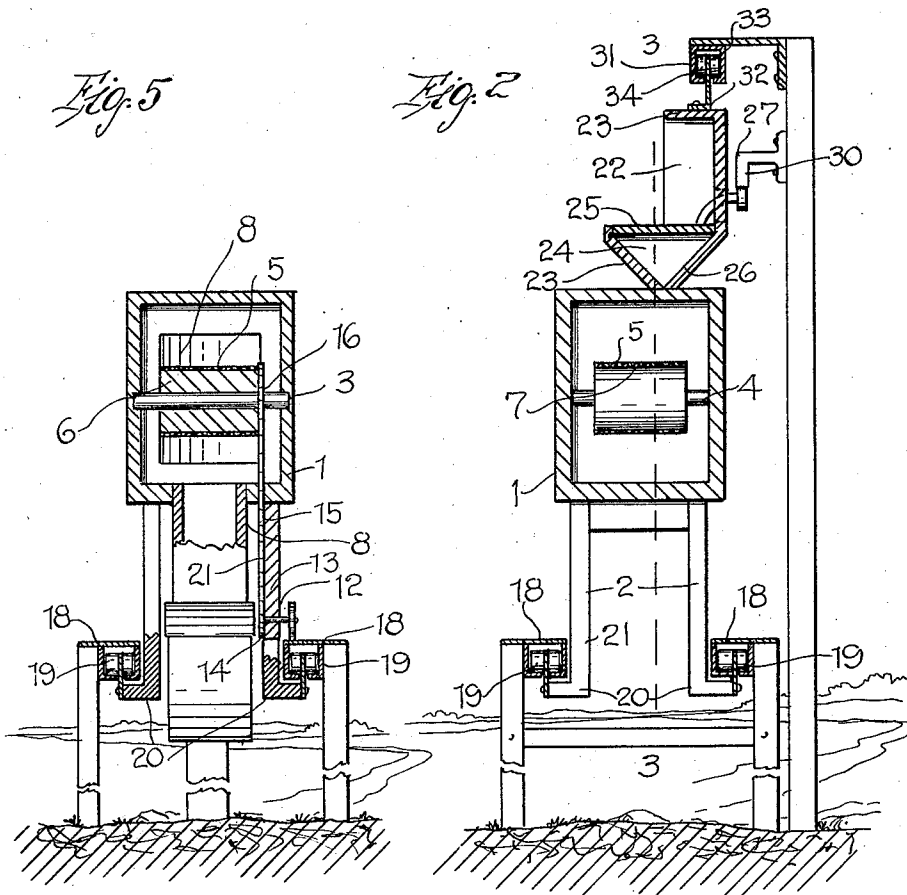
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4 SHEETS—SHEET 2.



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4 SHEETS—SHEET 3.

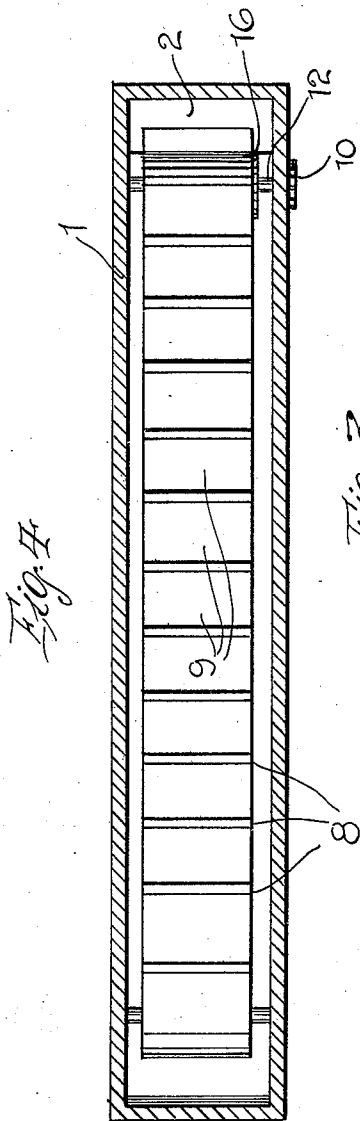
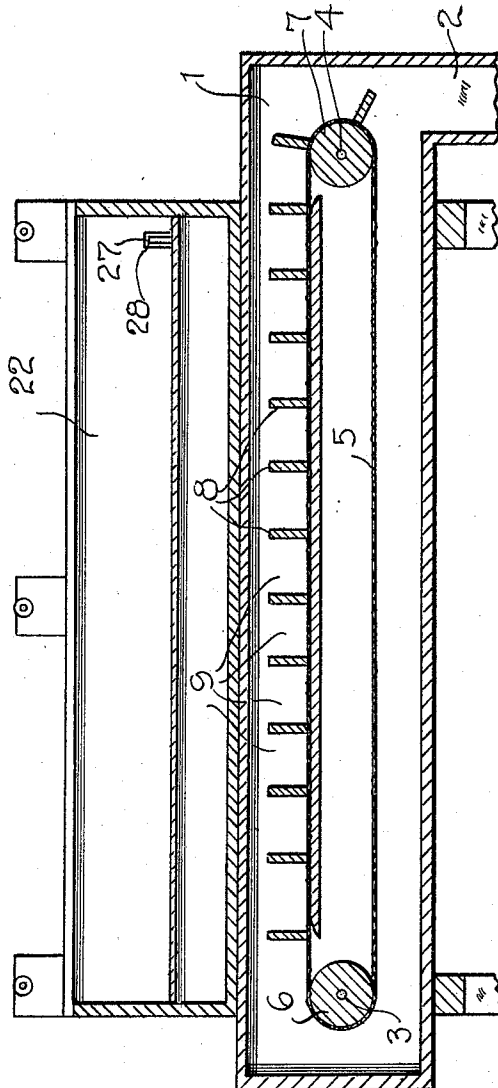


Fig. 3



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4 SHEETS—SHEET 4.

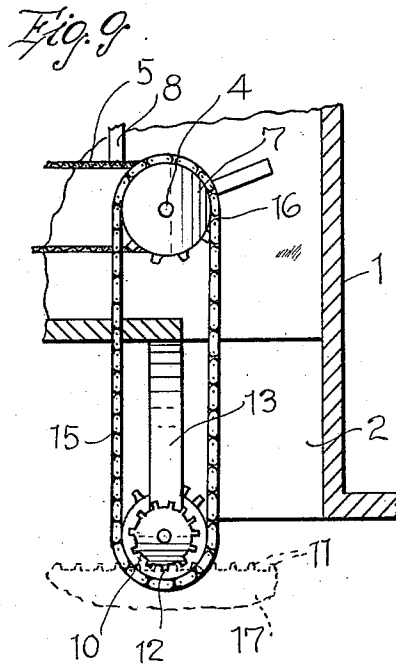
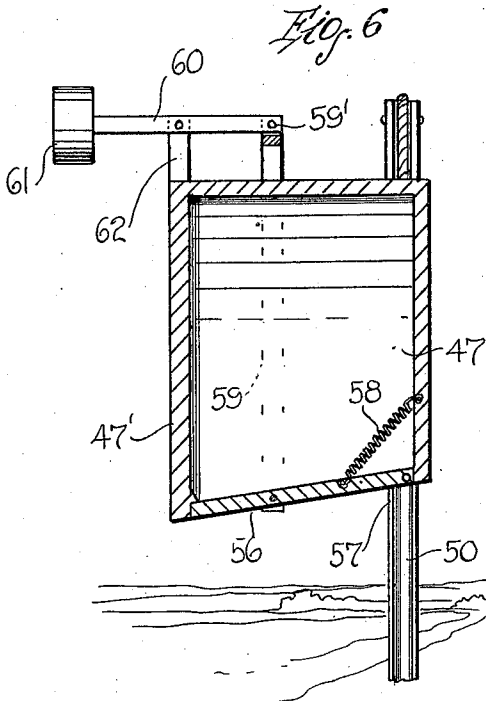


Fig. 10

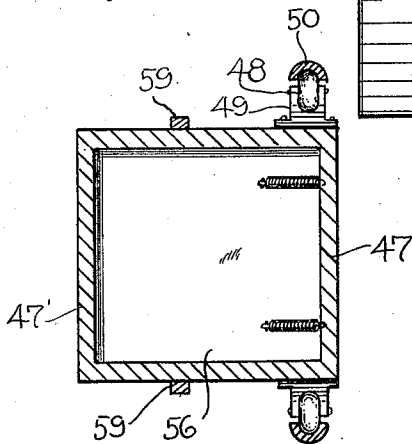
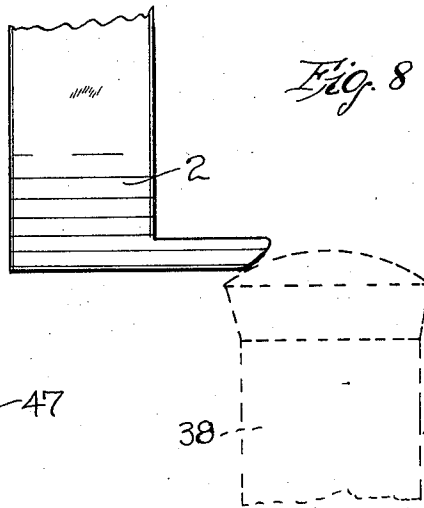


Fig. 8



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UNITED STATES PATENT OFFICE.

WILLIAM R. PAISLEY, OF LEWISVILLE, MINNESOTA.

RURAL-MAIL DELIVERING AND COLLECTING APPARATUS.

1,062,183.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed March 1, 1913. Serial No. 751,561.

To all whom it may concern:

Be it known that I, WILLIAM R. PAISLEY, a citizen of the United States, residing at Lewisville, in the county of Watonwan and State of Minnesota, have invented certain new and useful Improvements in Rural-Mail Delivering and Collecting Apparatus, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in mail delivering and collecting apparatus and has for an object to provide means for delivering and collecting mail in the rural districts.

Another object is to provide electrically operated means for automatically delivering mail and collecting mail from patrons in the rural districts.

Another object is to provide a car adapted to travel on suitable cables and provided with a separate compartment for carrying the mail of each patron and another compartment secured thereto for receiving mail to be collected and carried to the station.

Another object is to construct the apparatus in such manner that the mail will be delivered from the proper compartment in the car to each patron's receiving box as the end of the car travels over the same, means being provided upon the car for automatically opening the lid of the patron's receiving box, said lid being closed by a spring or other suitable means, the receiving compartment carrying means for opening the patron's delivering box to permit the latter to deliver its contents to the trough portion of the receiving compartment.

Another object is to construct a delivering box for each patron in such manner that it may be readily opened by the means for this purpose carried upon the receiving compartment.

Another object is to mount each patron's delivering box in such manner that it will be properly supported above the receiving compartment but may be readily lowered for the purpose of placing therein the mail to be delivered to the receiving compartment carried upon the main or mail delivering car.

Another object is to generally improve and simplify the construction and operation of the various parts and to reduce the cost of the same, thereby making the system practical and desirable.

With the above and other objects in view, this invention consists in certain novel details of construction, combination and arrangement of parts to be hereinafter more fully described, claimed, and illustrated in the accompanying drawings, in which—

Figure 1, is an elevational view of the delivering and collecting cars upon their tracks and the receiving and delivering boxes for one of the patrons, showing said boxes in their normal positions. Fig. 2, is a cross sectional view on the line 2—2 of Fig. 1. Fig. 3, is a longitudinal vertical sectional view on the line 3—3 of Fig. 2. Fig. 4, is a horizontal cross sectional view on the line 4—4 of Fig. 1. Fig. 5, is a vertical cross sectional view on the line 5—5 of Fig. 1. Fig. 6, is a detail sectional view through the delivering box and its supporting means, showing the manner in which it is supported in its uppermost position and the means connected with the trap door and adapted to be engaged by the operating means carried by the receiving compartment. Fig. 7, is a detail sectional view through the cover for the receiving box and means for closing said cover. Fig. 8, is a detail view showing the means carried by the delivering car for opening the cover of the receiving box. Fig. 9, is a detail view of the forward end of the delivering car with a portion of the same broken away to show the means for rotating the belt to bring the proper compartment into position to deliver its contents to the receiving box. Fig. 10, is a cross sectional view on the line 10—10 of Fig. 1, showing the means for raising and lowering the delivering box.

Referring more specifically to the drawings in which similar reference characters designate corresponding parts throughout the several views, 1 designates the mail delivering car which has a downwardly directed open forward end 2 and within which are mounted the transverse shafts 3 and 4 adjacent the rear and forward ends thereof. A continuous belt 5 is engaged around the wheels 6 and 7 mounted respectively upon the shafts 3 and 4 and the partition plates 8 extend laterally from the outer face of the belt to provide the separate mail compartments 9 to be brought in turn to the forward end of the car 1 and thus cause the compartment to drop its contents out of the downwardly directed open end 2 of the car, by

engagement of the gear wheel 10 with the gear teeth 11, as will be later more fully described.

The gear wheel 10 is mounted upon a shaft 12 in the lower end of the depending bracket arm 13 secured to the side of the car 1 near the front end and having a projecting end of the shaft 4 secured in its upper end. A sprocket wheel 14 is also mounted upon the shaft 12 and a sprocket chain 15 is engaged therearound, said chain being also engaged around a sprocket wheel 16 upon the projecting end of the shaft 4, thus causing rotation of the shaft 4 upon engagement of the gear wheel 10 with the gear teeth 11, which latter are carried upon a plate 17 to the side of one of the lower tracks 18 within which operate wheels 19 suitably mounted upon the stub shafts 20 in the supporting standards 21 secured to the under face of the car 1. It will be seen that the stub shafts are mounted in the standards 21 in such manner that they may readily turn and thus prevent the wheels 19 from leaving the tracks 18 when the car is rounding a curve.

The mail receiving compartment 22 is mounted upon the upper face of the mail delivering car 1 and has its opposite ends and one side closed by a guard portion or wall 22' while the other side is open, the last mentioned side being directed upwardly and outwardly, as shown at 23, thus forming a trough portion 24 extending longitudinally of the car and normally closed by the hinged cover 25 which is hinged along one edge of the first mentioned side of the compartment, it being understood that the lower portion of the first mentioned side is inclined, as shown at 26. The handle 27 projects through the vertical slot 28 in the first mentioned side and has its inner end secured to the cover 25 while its free end is adapted for engagement against the lower cam face 29 of the block 30 secured beneath the third track 31 for raising the cover 25 in order that the mail may be deposited in the trough 24, as will be later clearly understood.

The plates 32 are secured upon the top of the mail receiving or collecting compartment 22 and have the wheels 33 mounted thereabove on suitable shafts 34 and adapted for engagement within the track 31, as clearly shown in Fig. 2.

It will be understood that the car 1 is preferably operated by means of electricity and therefore any suitable electrical connections may be made between the car and one or more of the tracks.

The rod 35 is mounted longitudinally upon the guard portion 22' of the compartment 22 and connected to the guard portion 22' by the standards 36 or any other suitable means and the forward end of the rod 35 is turned downwardly at an angle to the main portion of said rod, as shown at 37. The

purpose of the rod 35 will presently be apparent.

At each point at which mail is to be delivered and collected, a patron's mail receiving box 38 is positioned, said box being properly supported upon a post 39 or in any other suitable manner and having its upper open end flared, as shown at 40 and a hinged cover 41 is provided for closing said upper open end. The cover 41 is formed in concavo-convex sections 42, said sections 42 being hinged at their outer edges to the flared sides 40 of the receiving box 38, as shown at 43. It will be understood that the sides 40' at right angles to the flared sides 40, are extended above the flared sides 40 and have convex upper edges, the purpose of which will be apparent as the description proceeds. The free inner edges of the cover sections 42 are overlapped when said sections are in closed positions and upward movement of the overlapped free edges of the cover sections 42 is limited by means of the stop lugs 44 carried upon the inner faces of the sides 40', and positioned at the uppermost portions of said sides. The inner edges of the cover sections 42 are connected by the chain 45 and said cover sections are normally held in their uppermost positions by means of the springs 46 connected with the cover sections and the flared sides 40 of the receiving box 38. It will be seen that by this construction, the turned edge of the depending open end 2 of the mail delivering box 1 will engage the upper faces of the cover sections 42 and press the latter downwardly, thus separating the same at their inner edges and allowing the mail from the proper compartment to pass out of the car 1 and drop into the receiving box 38, while the cover sections 42 are held in depressed or open position. It will be further understood that after the mail has been deposited in the receiving box 38 and the car moves from over the same, the springs 46 will automatically return the cover sections 42 to closed position. Each patron is also provided with a mail delivering box 47 which has a pair of wheels 48 mounted in suitable bracket arms 49 projecting from either side of the box and adapted for engagement in the longitudinally slotted pipes 50 which are positioned parallel to one another and have their lower ends secured in the ground, as shown, or in a stationary support of any suitable construction. It will be understood that the box 47 is positioned between the pipes 50 and is normally held in its uppermost position by the pawl and ratchet members 51 and 53 carried by one pipe 50 and the windlass shaft 54. The box 47 is raised and lowered by means of the cables 52 passing over the pulleys mounted in the upper ends of the pipes 50, the upper ends of the cables 52 being secured to the

box 47 while the lower ends of the cables are secured to the shaft 54 mounted transversely through the lower portions of the pipes 50 and having the crank wheel 55 mounted upon one end for rotating the shaft to wind the cables thereon or unwind the cables from said shaft, as desired, it being understood that winding of the cables upon the shaft 54 will raise the delivering box 47 while unwinding of the cables will allow the box 47 to descend between the pipes 50 in order that mail matter may be properly placed in the box to be delivered from the same (when in its uppermost position) to the mail receiving compartment 22.

The mail delivering box 47 projects from one side of the pipes 50 and has a front edge 47' and a hinged bottom 56 which is hinged at its upper edge to the back edge of the box, as shown at 57. The hinged bottom 56 is normally held in closed position by means of the spring 58, having one end secured to the upper face of the bottom 56 and its opposite end to the back of the box 47. The lower ends of the U-shaped member 59 are secured to the opposite side edges of the bottom 56, near the lower front edge thereof, and, pivoted between ears 59' projecting upwardly from the center of the U-shaped member, above the box 47, is one end of the lever 60, which carries the roller 61 upon its opposite end, said lever being pivoted intermediate its ends to the arm 62 projecting upwardly from the top of the box 47 near the front edge thereof.

As the roller 61 is engaged by the rod 55 upon the top of the guard portion 22' of the mail receiving or collecting compartment 22, the free end of the lever is raised, thus forcing the U-shaped member 59 downwardly and thereby swinging the bottom 56 upon its hinge 57 and allowing the mail matter within the delivering box 47 to drop into the mail receiving or collecting compartment 22 and into the trough portion 24 thereof, it being understood that at this time the arm 27 is engaged upon the lower cam face 29 of the block 30, thus retaining the trough cover 25 in raised or open position. It will further be understood that after the rod 35 passes from beneath the roller 61, the spring 58 will automatically return the bottom 56 to closed position, thereby raising the U-shaped member 59 and causing the lever 60 to return to its normal position.

It will be clearly apparent from the foregoing description that this device will automatically deliver and collect mail throughout the rural districts and as the parts of the apparatus are of extremely simple construction, the system may be employed at a comparatively small cost.

While I have shown the preferred embodiment of my invention, it will be apparent that I do not wish to be limited to

this specific form, as minor changes in the details of construction may be made within the scope of the appended claims without departing from the spirit of my invention.

Having thus described my invention, what I claim is:—

1. A mail delivering and collecting system comprising a delivering car, means for receiving the contents of the delivering car, means for causing the delivering car to deliver its contents to the receiving means, a mail delivering box, a trough carried by the delivering car for receiving the contents of the delivering box, said trough being provided with a guard portion, and means carried by the guard portion of the trough for causing the delivering box to deliver its contents to the trough.

2. A delivering and collecting apparatus comprising a movable car, matter containing compartments within the car, a receiving compartment, a receiving box, a delivering box, means for moving the compartment within the car and causing one of said compartments to deliver its contents to the receiving box, means for operating the compartment moving means, a collecting or receiving compartment carried by the car, and having an open side and a lower trough portion, and means for causing the delivering box to deliver its contents to the trough portion of the receiving compartment.

3. A mail delivering and collecting apparatus comprising a delivering car, an open collecting compartment secured to the delivering car, a closed receiving box, a closed delivering box, means for supporting the boxes, a track for the car, means for opening the receiving box and delivering thereto the contents of the delivering car, means for opening the delivering box to cause the same to deliver its contents to the collecting compartment of the car, and means for operating the car.

4. A mail delivering and collecting apparatus comprising a car having a collecting compartment with a trough portion and a guard portion, a track for said car, wheels carried by the car and engaged with the track, means for receiving matter from the delivering car, means adjacent one of the tracks to cause the delivering car to deliver matter to the receiving means, and means for delivering matter to the trough portion of the collecting compartment.

5. A delivering and collecting apparatus comprising a movable delivering car, a collecting compartment carried by the car and having a trough portion, a hinged cover for said trough portion, a track for said car, the car having an open depending end, the collecting compartment having a guard portion with one side open, means for raising the cover of the trough portion of the collecting compartment, means for depositing

mail matter in the trough portion when the cover is raised, and means for receiving matter from the delivering car, said means being adapted to be opened by the depending end of the delivering car.

6. A delivering and collecting apparatus comprising a movable delivering car, a collecting trough formed with the delivering car, said delivering car having a plurality of movable compartments, and means for receiving mail matter from the compartments, said receiving means being normally closed, the delivering car having an open end adapted for engagement with the receiving means to open the latter to receive mail from one of the compartments, means for depositing mail matter in the trough, and means for moving the compartments.

7. A delivering and collecting apparatus comprising a movable delivering car, tracks for said car, a trough formed upon said car, shafts projecting through said car, a continuous belt mounted on said shaft, compartments formed on said belt, a shaft secured to a depending portion of the delivering car, connections between the last mentioned shaft and one of the belt shafts, a pinion mounted upon the lower shaft, a receiving box beneath the tracks, means for depositing mail matter in the trough, and a rack mounted adjacent one of the compartments to deliver its contents to the receiving box.

8. A delivering and collecting apparatus comprising a movable delivering compartment, a receiving compartment formed upon the delivering compartment, said receiving compartment being in the form of an open trough, a cover for said trough, a receiving box for receiving mail matter from the delivering car, a delivering box, said delivering box being normally closed and having a hinged bottom, a lever connected with the hinged bottom, a roller carried by said lever, a rod carried by the trough and adapted for engagement with the roller to operate the lever and open the bottom of the delivering box and thereby allow the contents of the same to drop into the trough, and means for raising the cover of the trough.

9. A mail delivering and collecting system comprising a delivering car, a collecting compartment secured to the upper face of the car and having an open side and a lower trough portion with a cover for the same, means for receiving mail from the delivering car, means for causing the delivering car to deliver a portion of its contents to the receiving means, and means for raising the cover of the trough portion of the collecting compartment and delivering mail to the same by means of the open side of said collecting compartment.

10. A mail delivering and collecting apparatus comprising a mail delivering car,

a receiving compartment secured upon the car and having a trough portion and an upwardly directed guard portion with an open side, means for operating the car, tracks for said car, the mail delivering car having an open end, means for receiving mail from the open end of the delivering car, and means for delivering mail to the trough portion of the receiving compartments by way of the open side of the guard portion of said compartment.

11. A mail delivering and collecting apparatus comprising a mail delivering car, a mail receiving compartment upon the car and having a lower trough portion and an upper guard portion with an open side, a receiving box, a cover carried by the box, the delivering car having a depending open portion the edges of which are adapted to open the cover of the receiving box, means for closing the cover of the receiving box, and means for delivering mail to the trough portion of the receiving compartment by way of the open side of the guard portion of said compartment.

12. A delivering and collecting apparatus comprising a mail delivering car, a movable compartment within the car, means for supporting the movable compartment, a track for the car, a rack adjacent the track, said car having a depending open portion, a receiving box, a cover for the receiving box, a pinion carried by the car and operatively connected with the movable compartment, the depending open portion of the delivering car being adapted to open the cover of the receiving box as it passes over the same, said pinion being adapted for engagement with the rack to move the compartment to position above the depending open portion of the delivering car to allow the contents of the compartments to drop into the receiving box when the cover of said box is opened, and means for closing the cover of the receiving box.

13. A mail delivering and collecting apparatus comprising a delivering car having a movable compartment therein, a receiving compartment secured upon the top of the car, the receiving compartment having a lower trough portion and an upper guard portion, a cover for the trough portion, means for raising the cover of the trough portion, a mail delivering box, and means carried by the receiving compartment for opening the delivering box to permit the contents of the same to pass through the guard portion and into the trough portion of the receiving compartment when the cover of the latter is in raised position.

14. A mail delivering and collecting apparatus comprising a delivering car, a receiving compartment upon the car and provided with a closed trough portion and an open guard portion above said trough por-

tion and forming a continuation of the latter, a receiving box, means for causing the delivering car to deliver its contents to the receiving box, a mail delivering box, a track
5 for the car, means for opening the trough portion of the receiving compartment, and means carried by the guard portion of the receiving compartment for opening the delivering box and causing the same to deliver
10 its contents to the trough portion of the receiving compartment.

15 A mail delivering and collecting apparatus comprising a delivering car, a track for said car, a receiving compartment carried by said car, a delivering box for delivering mail to the receiving compartment, a receiving box having a sectional cover, means for resiliently retaining the cover in closed
20 position, the delivering car having a depending open position the edges of which are adapted for engagement with the sectional cover to press the same downwardly and separate the sections thereof, and means for
25 causing the delivering car to deliver its contents to the receiving box.

16. A mail delivering and collecting apparatus comprising a delivering car having a depending open portion, a receiving box having a sectional curved cover, the outer edges of the sections being hinged to opposite edges of the box and the inner edges of the sections being overlapped when the cover is in closed position, means for resiliently retaining the cover in closed position, the edges of the open depending portion of the
35 delivering car being adapted to open the sectional curved cover of the receiving box and separate said sections at their inner edges, means for causing the delivering car to deliver its contents to the receiving box,
40 a receiving compartment carried by the car, and means for delivering mail to the receiving compartment.

In testimony whereof I hereunto affix my signature in the presence of two witnesses. 45

WILLIAM R. PAISLEY.

Witnesses:

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M. A. PETTERSEN.