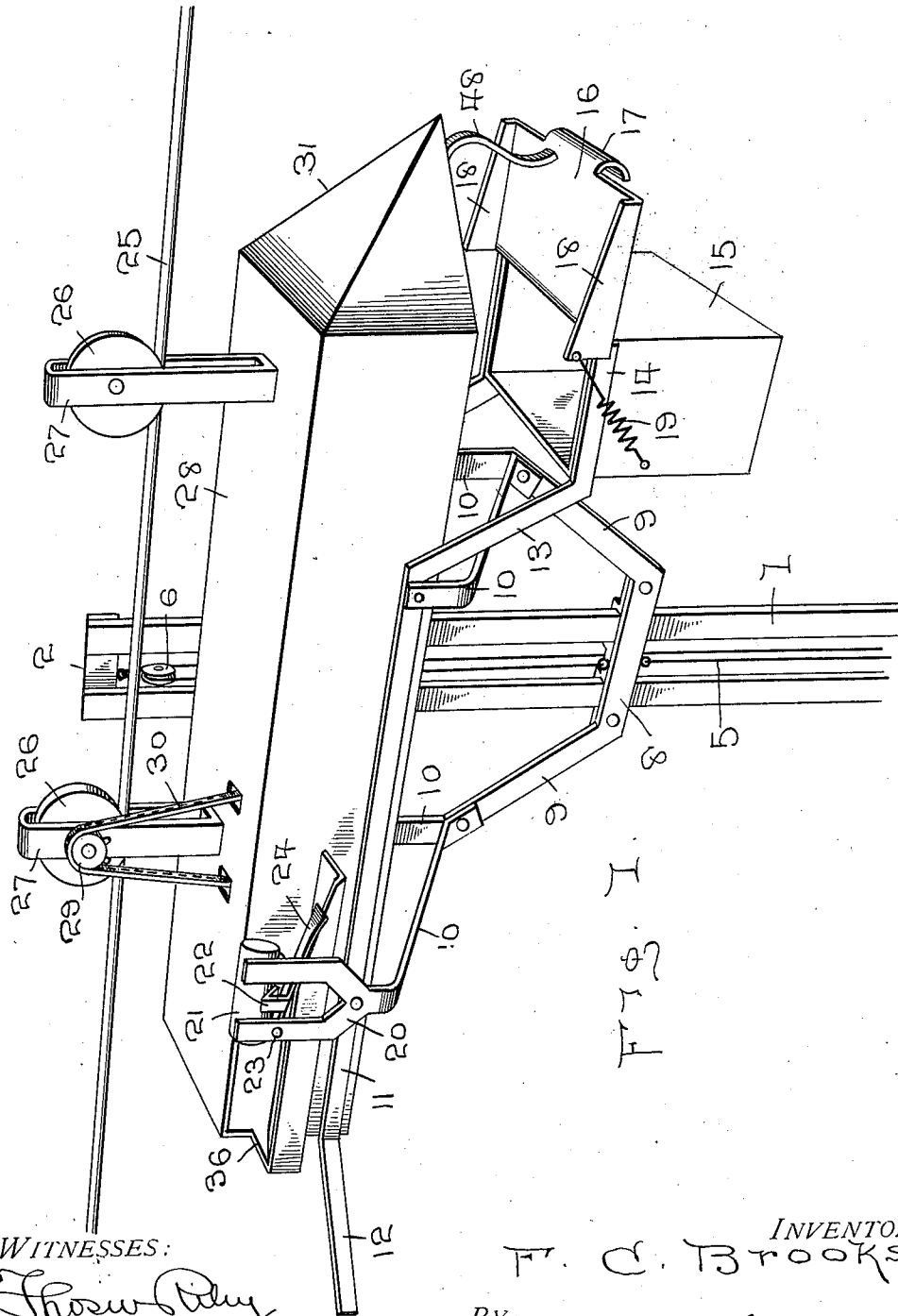


F. C. BROOKS.
RURAL MAIL DELIVERING SYSTEM.
APPLICATION FILED MAR. 4, 1911.

Patented Nov. 14, 1911.

3 SHEETS—SHEET 1.

1,008,889.



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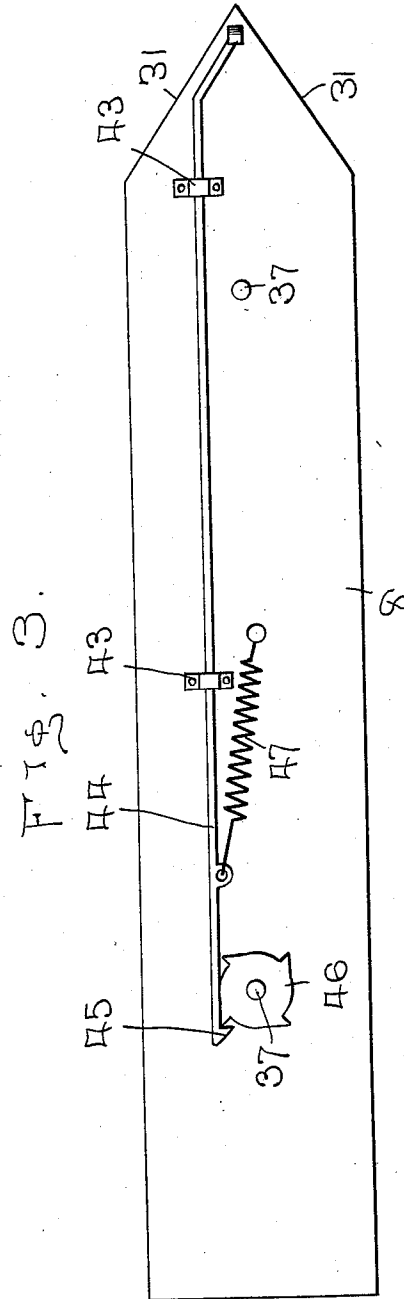
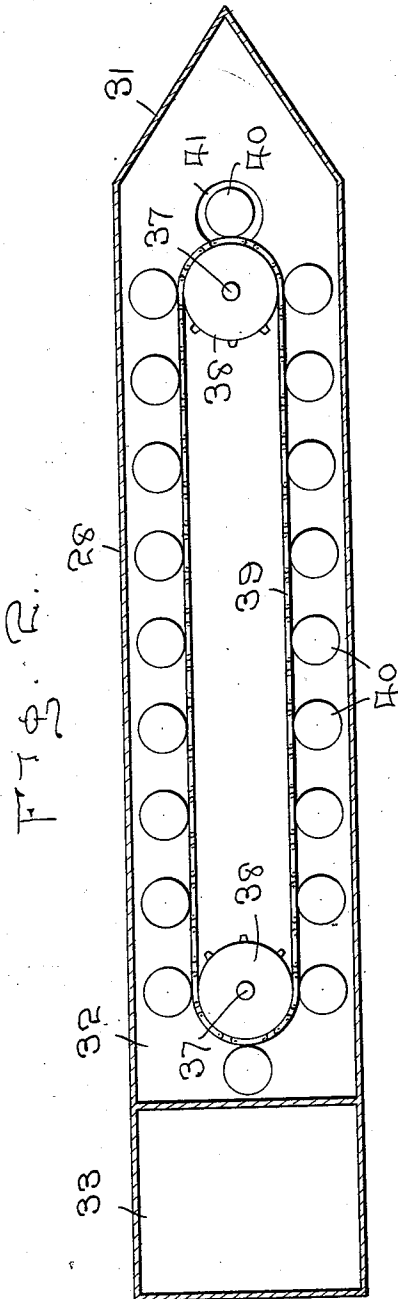
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3 SHEETS—SHEET 3.

Fig. 4.

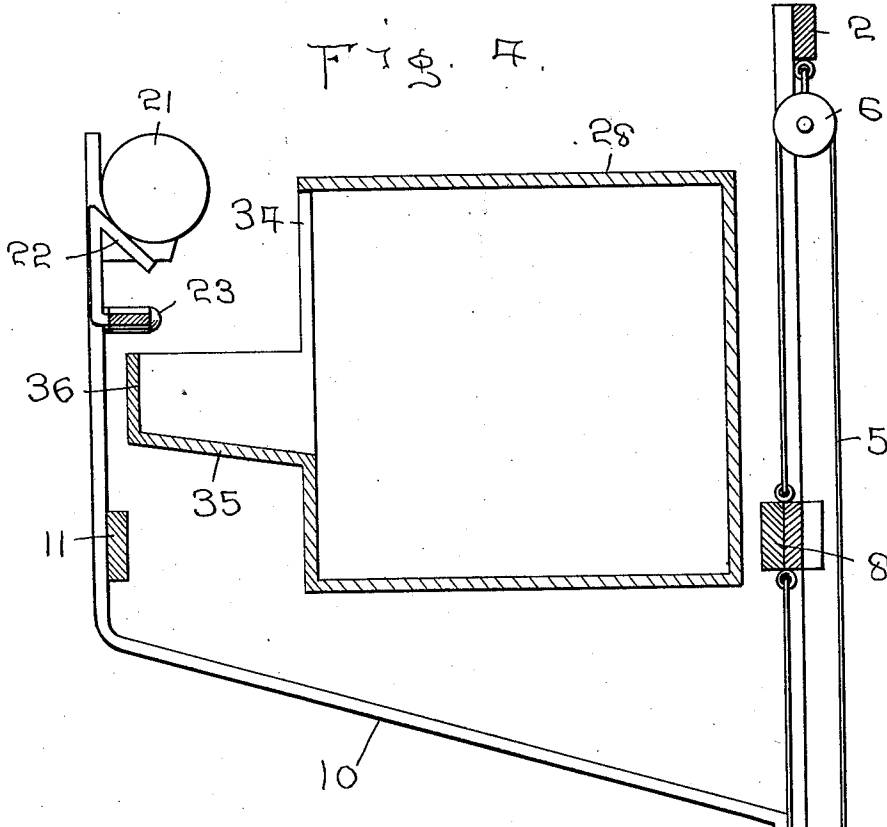
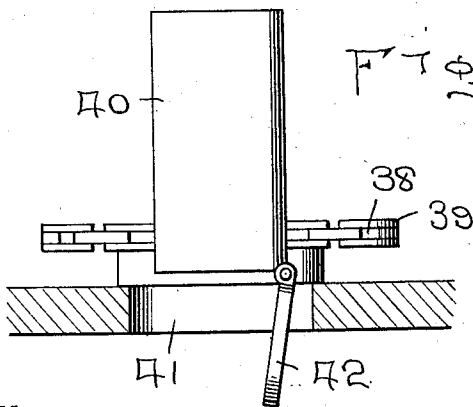


Fig. 5.



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UNITED STATES PATENT OFFICE.

FREDRICK C. BROOKS, OF BRUNSWICK, NEBRASKA.

RURAL-MAIL-DELIVERING SYSTEM.

1,008,889.

Specification of Letters Patent.

Patented Nov. 14, 1911.

Application filed March 4, 1911. Serial No. 612,194.

To all whom it may concern:

Be it known that I, FREDRICK C. BROOKS, a citizen of the United States, residing at Brunswick, in the county of Antelope and State of Nebraska, have invented certain new and useful Improvements in Rural-Mail-Delivering Systems; 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.

This invention relates to mail delivering apparatus and more particularly to apparatus adapted to carry mail to private residences and automatically deliver the same into specially provided receptacles and to automatically collect matter to be mailed from other receptacles and carry the same to a main or collecting station.

An object of the invention is to provide a car adapted to travel upon a cable and carry mail from a station to the residences of persons residing in rural districts and deposit the same at said residences.

Another object is to provide a car of the above stated character provided with a collecting compartment which is adapted to automatically receive matter to be mailed upon its travel around its district and carry said matter to the station to there be mailed.

Another object is to provide suitable receptacles at or near the residences to receive the mail for the persons residing at these points, and receptacles within which the patrons place mail to be collected by the automatic carrier and carried to the collecting station, and suitable supports for said receptacles.

Another object is to provide suitable supports for receiving and depositing receptacles and posts upon which the said supporting mechanism may be adjustably secured to suspend the receptacles the proper distance below the cable upon which the automatic carrier travels to deposit mail matter within the receiving receptacle and to collect the matter from the depositing receptacle.

Another object is to provide mechanism upon the carrier for automatically opening the receptacles which will automatically close after the passage of the carrier.

A further object is to provide a carrier adapted to carry a suitable motor for operating the carrier to travel upon a cable,

and, a further object is to provide a carrier within which is positioned a plurality of mail containing compartments which are brought successively into proper position so that each compartment will deliver its contents into the proper receiving receptacle when the car or carrier is in the proper position above said receiving receptacle and after the said receptacle has been opened by mechanism carried upon the carrier.

Other objects and advantages will be hereinafter set forth and pointed out in the specification.

In the accompanying drawings which are made a part of this application, Figure 1 is a perspective view of the automatic motor operated carrier at one of the stations, the receptacles having been opened by the mechanism carried by the car for the deposit and collection of mail matter. Fig. 2 is a longitudinal horizontal sectional view through the carrier, Fig. 3 is a bottom plan view of the carrier, showing the mechanism for opening the receiving receptacle and for operating the mechanism within the carrier to successively bring the compartments into position to deposit their contents within the proper receiving receptacles. Fig. 4 is a vertical sectional view through the car and the support with the former at one of its delivering stations, and, Fig. 5 is an enlarged detail view of one of the compartments.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 represents parallel posts connected at their upper ends by the cross bar 2. The posts are positioned at or near the gates of the residences in rural districts, or at any place or places along the line at which it is desired to deliver and collect mail matter.

Secured to the posts 1, near the lower ends thereof, is the shaft 3 having mounted thereon the pulley 4, over which passes the adjusting chain or cable 5, which also passes over the pulley 6 extended from the cross bar 2. Upon one portion of the rope or pulley 5 is secured the counterbalancing weight 7 and at a point nearly opposite the weight 7 are secured the cross pieces 8 having suitable slide openings through which the posts 1 extend to allow the cross bars 8 to slide up and down upon the posts 1.

Extending upwardly at an angle from the

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outer ends of the cross pieces 8 are the arms 9, which are forked at their upper ends forming the opposite supporting members 10, which have secured upon their extremities the horizontal guide rods 11. At one end the guide rods are flared outwardly, as shown at 12, while the opposite ends thereof are directed downwardly, as shown at 13, and terminate in the horizontal portions 14 which are adapted to support the receiving receptacle 15, which is provided with the hinged top 16 having the curved tongue 17 and the side flanges 18. The flanges 18 are adapted to extend outwardly of the supporting arms 14 and allow the top 16 to close upon the top of the receptacle 15. To the flanges 18 are secured the upper ends of the springs 19, which have their lower ends fastened to the receptacle 15 to automatically close the lid 16 and resiliently hold the latter in closed position. The purpose of the opposite flared ends 12 of the guides 11 will later appear.

Integral with the upper end of one of the arms 10 is a forked support 20, to which is secured a depositing receptacle 21 having the sliding closing portion connected with the lever 22, which is pivoted at one end to the support 20, (as shown at 23). The opposite end 24 of the lever is adapted to normally rest in a position lower than its pivoted end 23 to retain the sliding closure of the receptacle 21 in closed position. The above described receptacles and their supports may be adjusted in position in respect to the upper ends of the posts 1 by moving the rope or cable 5, the weight 7 serving to counterbalance the weight of the arms and receptacles.

A cable 25 is supported in any suitable manner along the route and it is positioned a short distance from the upper ends of the posts 1, outwardly of the latter, or directly across the receiving receptacles 15. Traveling upon the cable 25 are the wheels 26 carried in U-shaped supports or brackets 27 projecting upwardly from the top of the carrier or car 28. Secured to the shaft of one of the wheels 26 outwardly of the bracket 27, is the sprocket wheel 29, which is operated by the sprocket chain 30 connected with suitable power carried upon or within the car 28.

The car 28 is preferably oblong in shape having its front end pointed, as shown at 31. The car 28 is divided into two chambers, a long chamber 32 and a square chamber 33 at the rear end of the car. The chamber 33 has a portion of one side open, as shown at 34, and is provided with the shelf or guide-trough 35 upon the side of the car at the bottom of the opening 34. The trough 35 is provided with the wall 36, the height of which gradually decreases toward the front of the car. The compartment 33 is adapted

to receive the contents of the delivering receptacles 21 through the openings 34, as will be later described.

Near the opposite ends of the long chamber 32 are positioned the vertical shafts 37 upon which are mounted the sprocket wheels 38, around which passes the sprocket chain 39 carrying, at spaced intervals, the separate mail compartments 40. Within the bottom of the carrier 28 is a circular delivering opening 41, over which each mail compartment 40 is brought in its turn.

Each compartment 40 is provided with the hinged cover 42, which normally rests upon the floor of the chamber 32, preventing the mail or other matter within the compartment 40 from dropping out of the latter until said compartment is brought in position above the opening 41, at which moment the cover 42 will swing open through the opening 41 and allow the contents of the compartment 40 to drop within the receiving receptacle 15 therebelow.

It will be understood, that the lid 15 is automatically opened by the mechanism which will now be described, when the compartment 40 is brought in position above the opening 41.

Carried within the brackets 43 upon the bottom of the car 28, is the reciprocating rod 44, which has a pawl 45 upon its rear end which is adapted to engage the ratchet wheel 46 carried upon one of the shafts 37 to operate the shaft 37 and move the chain 39 the distance of the space between the compartments 40 each time that the rod 44 is forced rearwardly and then drawn forwardly by the spring 47, as will be presently described. The opposite end of the rod 44 is curved downwardly and terminates in the lid opening portion 48, which engages the lids 16 and swings the latter upon their hinges to open the receptacles 15.

As will be understood one end of the spring 47 is secured to the rod 44, while the opposite end is secured to the car 28, and as the curved end 48 of the rod 44 comes in contact with the curved lip of a lid 16 the rod is forced rearwardly against the tension of the spring 47 and after the lid 16 is swung upon its hinge to open position, the spring 47 pulls the rod 44 forward, causing the pawl 45 to engage one of the teeth of the ratchet wheel 46 to bring the next compartment 40 in position above the delivery opening 41.

The operation of the device is as follows: The mail is assorted and placed in the proper compartments 40 at the distributing station, and the car 28 set in motion upon the cable 25. As the car travels along the route and comes to one of the places at which the mail is to be delivered, the front or pointed end of the car 28 is caught and guided by the flared ends 12 between the

supports 11 and as the depending curved end 48 of the rod 44 engages the lip 17 of the lid 16, the latter is swung upon its hinge, as the rod 44 is forced rearwardly against the tension of the spring 47. The spring 47 also serves to absorb the shock caused by the sudden contact of the arm 48 with the lip 17, and the spring 19 serves to protect the lid 16 by preventing it from swinging suddenly and possibly breaking the hinge thereof. As the lid assumes its open position the end 48, under action of the spring 47, slides upon the upper surface of the lid and allows the rod 44 to be drawn by the spring 47 in a forward direction against the pawl 45 to engage the teeth of the wheel 46 and rotate the latter a predetermined distance to bring the compartment containing the mail for this stop into position above the opening 41. The compartment 40 reaches its position at about the same moment that the lid 16 assumes its full open position and the hinged cover 42 of the compartment 40 swings to its open position through the opening 41, which at this instant is directly above the receiving receptacle 15 and the contents thereof will drop into the receptacle 15.

As the top or lid 16 is being forced to its full open position, the beveled or slanting edge of the wall 36 engages the outer depending end 24 of the lever 22 upon its under side, and raises the lever to open the depositing receptacle 21. At the moment that the receptacle 21 is opened by the wall 36 and lever 22, the feed-opening 34 of the small chamber 33 is directly opposite the receptacle 21 and the contents of the latter slide into the trough 35 and thence into the chamber 33.

As the car 28 moves onward and the wall 36 passes from under the lever 22, the latter assumes its former position by the weight of the outer end 24 of the lever 22 and the receptacle 21 is again closed. As the rear end of the car passes beyond the receptacle 15 the lid 16 thereof is automatically closed upon the top of the receptacle with the mail therein by means of the spring 19. Thus, it will be seen that the receptacles are retained in their closed condition except when mail is being deposited into or collected from said receptacles by the automatic car carrier.

The car 28 travels along the route and the above described operations are performed at each point provided with receiving receptacles properly supported upon the supporting mechanism above described.

It will be understood that there is a compartment 40 for each receiving receptacle 15 and the mail is distributed in these compartments 40 accordingly, the mechanism operating at each post to deposit the con-

tents of each compartment 40 within the proper receptacle 15.

It will thus be seen that I have provided a rural delivery system which is thoroughly automatic and which will deliver the mail to each and every patron and collect matter to be mailed without the necessity of a person accompanying the delivery car, and, it will also be seen that this system may be easily adopted and will be comparatively cheap and will be highly satisfactory.

What I claim is:

1. A rural mail delivering system comprising a motor operated carrier, movable compartments within said carrier, receiving receptacles, depositing receptacles, a collection chamber carried by said carrier, said receiving receptacles being adapted to receive the contents of the said movable compartments, said depositing receptacles being adapted to deposit their contents within the said collection chamber, means carried by said carrier to open said receptacles, and supporting arms vertically adjustable upon a post for supporting said receptacles.

2. A rural mail delivering system comprising a motor operated carrier, movable compartments within said carrier, receiving receptacles, depositing receptacles, a collection chamber carried by said carrier, said receiving receptacles being adapted to receive the contents of the said movable compartments, said depositing receptacles being adapted to deposit their contents within the said collection chamber, means carried by said carrier to open said receptacles and at the same time move the compartments within the carrier, arms for supporting said receptacles, and means for guiding said carrier.

3. A rural mail delivering system comprising a motor operated carrier, movable compartments within said carrier, receiving receptacles, depositing receptacles, a collection chamber carried by said carrier, said receiving receptacles being adapted to receive the contents of the said movable compartments, said depositing receptacles being adapted to deposit their contents within the said collection chamber, means carried by said carrier to open said receptacles and move the movable compartments, a track for said carrier, and vertically adjustable supporting arms for supporting the receptacles.

4. A rural mail delivering system comprising a motor operated carrier, movable compartments within said carrier, receiving receptacles, depositing receptacles, a collection chamber carried by said carrier, said receiving receptacles being adapted to receive the contents of the said movable compartments, said depositing receptacles being adapted to deposit their contents within the said collection chamber, means carried by

said carrier to open said receptacles and move the compartments within the carrier, vertically adjustable means for supporting said receptacles, and guiding said carrier, and a track for said carrier.

5 5. A rural mail delivering system comprising in combination a motor operated carrier, movable compartments within said carrier, receiving receptacles, depositing receptacles, a collection chamber carried by said carrier, said receiving receptacles being adapted to receive the contents of the said movable compartments when the latter are directly thereabove, said depositing receptacles being adapted to deposit their contents within the said collection chamber when the latter is directly opposite the former, means carried by said carrier to open said receptacles and move the movable compartments to positions directly above the receiving receptacles when the collection chamber is directly opposite the depositing receptacles, and means for adjustably supporting said receptacles.

25 6. A rural mail delivering system comprising in combination a motor operated carrier, movable compartments within said carrier, receiving receptacles, depositing receptacles, a collection chamber carried by said carrier, said receiving receptacles being adapted to receive the contents of the said movable compartments when the latter are thereabove, said depositing receptacles being adapted to deposit their contents within the said collection chamber at the same time the receiving receptacles are receiving the contents of the movable compartments, means carried by said carrier to open said receptacles and move the movable compartments, means for supporting said receptacles, and means for automatically closing said receptacles.

7. In a rural mail delivering system the combination of a motor operated carrier, movable compartments within said carrier, receiving receptacles, depositing receptacles, a collection chamber carried by said carrier, said receiving receptacles being adapted to receive the contents of the said movable compartments, said depositing receptacles being adapted to deposit their contents within the said collection chamber, means carried by said carrier to open said receptacles, supporting arms vertically adjustable upon a stationary support for supporting said receptacles, said carrier having a delivering opening, and means for automatically bringing the compartments opposite said openings in succession to deliver their contents into the respective receiving receptacles.

8. In a rural mail delivering system the combination of a motor operated carrier, movable compartments within said carrier, receiving receptacles, depositing receptacles, a collection chamber carried by said carrier,

said receiving receptacles being adapted to receive the contents of the said movable compartments, said depositing receptacles being adapted to deposit their contents within the said collection chamber, means carried by said carrier to open said receptacles, adjustable arms for supporting said receptacles and guiding the carrier, said carrier having a delivering opening, means for automatically bringing the compartments opposite said openings in succession, and means carried by each compartment to prevent the contents thereof from dropping out of said compartment except when the compartment is opposite the delivery opening of said carrier.

9. In a rural mail delivering system the combination of a motor operated carrier, movable compartments within said carrier, receiving receptacles, depositing receptacles, a collection chamber carried by said carrier, said receiving receptacles being adapted to receive the contents of the said movable compartments, said depositing receptacles being adapted to deposit their contents within the said collection chamber, means carried by said carrier to open said receptacles, a post for receptacle supporting arms, receptacle supporting arms secured upon the post, and adjustable vertically thereon for supporting said receptacles, said carrier having a delivering opening, means for automatically bringing the compartments opposite said openings in succession, and means carried by each compartment to prevent the contents thereof from dropping out of said compartment except when the compartment is opposite the delivery opening of said carrier the arms being adapted to guide said carrier.

10. In a rural mail delivering system the combination of a motor operated carrier, movable compartments within said carrier, receiving receptacles, depositing receptacles, a collection chamber carried by said carrier, said receiving receptacles being adapted to receive the contents of the said movable compartments, said depositing receptacles being adapted to deposit their contents within said collection chamber, means carried by said carrier to open said receptacles, parallel adjustable arms for supporting said receptacles, said carrier having a delivering opening, means for automatically bringing the compartments opposite said openings in succession at the receiving and depositing receptacles, means carried by each compartment to prevent the contents thereof from dropping out of said compartment except when the compartment is opposite the delivery opening of said carrier, and a track for said carrier.

11. In a rural mail delivering system the combination of a motor operated carrier, movable compartments within said carrier,

receiving receptacles, depositing receptacles, a collection chamber carried by said carrier, said receiving receptacles being adapted to receive the contents of the said movable compartments, said depositing receptacles being adapted to deposit their contents within the said collection chamber, means carried by said carrier to open said receptacles, parallel adjustably secured arms for supporting said receptacles and guiding the carrier, said carrier having a delivery opening, means for automatically bringing the compartments opposite said openings in succession, means carried by each compartment to prevent the contents thereof from dropping out of said compartment except when the compartment is opposite the delivery opening of said carrier, and means for automatically closing said receptacles after the carrier has passed.

12. In automatic mail delivering apparatus the combination of a carrier, vertical shafts within the carrier, an endless belt around said shafts, cylindrical compartments secured to the belt in vertical positions, hinged bottoms to the compartments, the carrier having a delivery opening in its bottom near the front end thereof, receiving receptacles and depositing receptacles adjustably supported upon posts, a track for the carrier, the carrier having a collection chamber, the receptacles having covers, the belt being adapted to be moved to bring the compartments successively above the opening to allow the hinged bottoms thereof to swing through said opening and permit the contents of the compartments to drop into the receiving receptacles, and means upon the bottom of the carrier and movable longitudinally thereof to engage and raise the

cover of each receiving receptacle and move the belt to bring the proper compartment above the opening in the carrier bottom, said carrier being formed adjacent the collection chamber so as to engage and open the depositing receptacles to allow the contents thereof to drop into the collection chamber of the carrier.

13. In a rural mail delivering system the combination of a carrier and movable compartments within said carrier, parallel supporting arms having flared guide ends and depending receptacle supporting ends opposite the guide ends, a receiving receptacle carried between the depending ends of the parallel supporting arms, a depositing receptacle carried by the supporting arms, a post for supporting the supporting arms, said parallel arms being connected to and supported upon the post and adjustable vertically thereon, means for retaining the arms in adjusted position upon the post, a track above the supporting arms for the carrier to ride upon, the guide ends of the arm being adapted to guide the carrier between the parallel arms to bring said carrier directly above the receiving receptacle, said receiving receptacle being adapted to receive the contents of the movable compartments, and a collection chamber carried by the carrier, said collection chamber being adapted to receive the contents of the depositing receptacle.

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

FREDRICK C. BROOKS.

Witnesses:

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