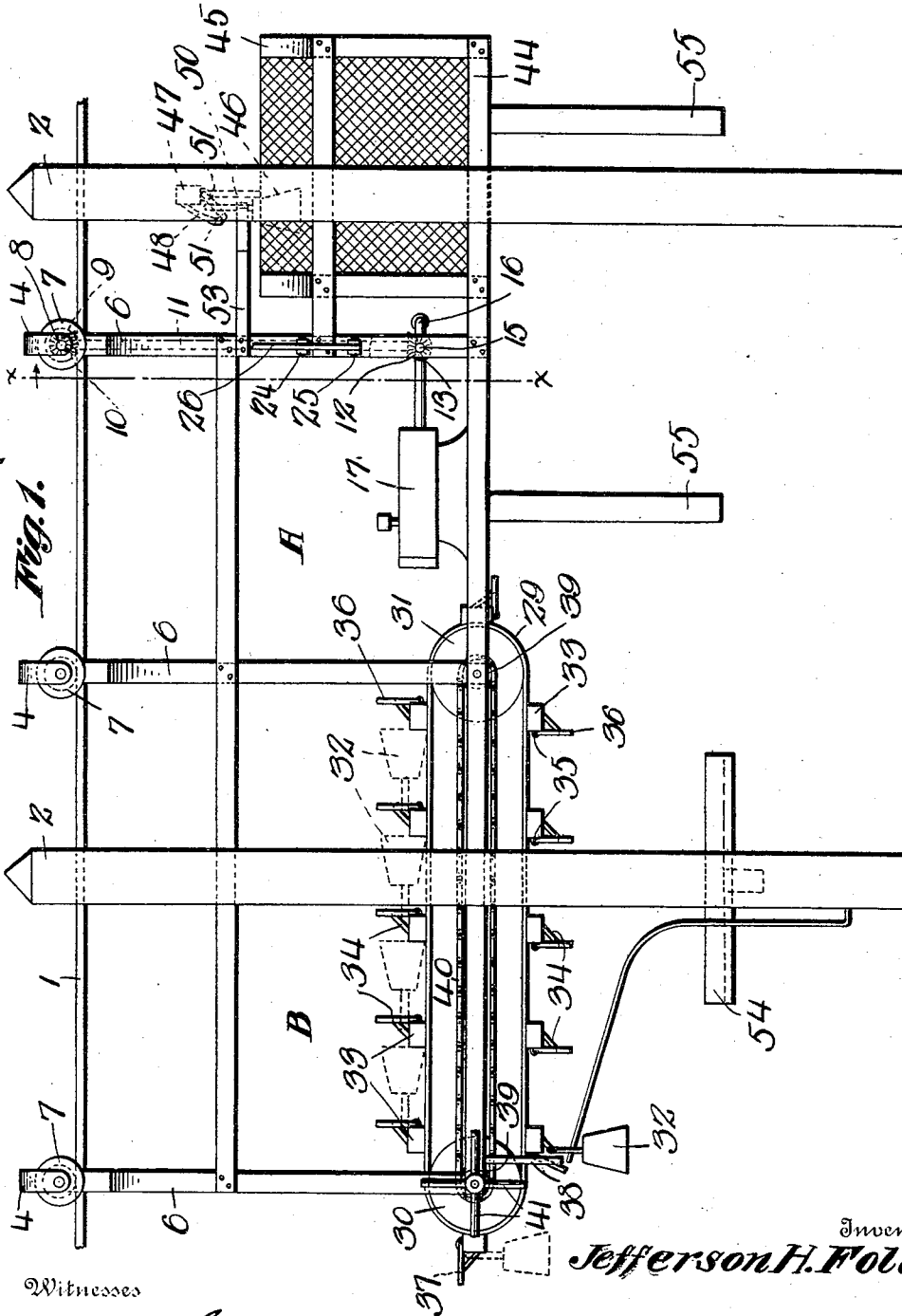


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 AUTOMATIC MAIL DISTRIBUTER AND COLLECTOR.
 APPLICATION FILED AUG. 3, 1909.

968,460.

Patented Aug. 23, 1910.

3 SHEETS—SHEET 1.



Witnesses

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Fig. 2.

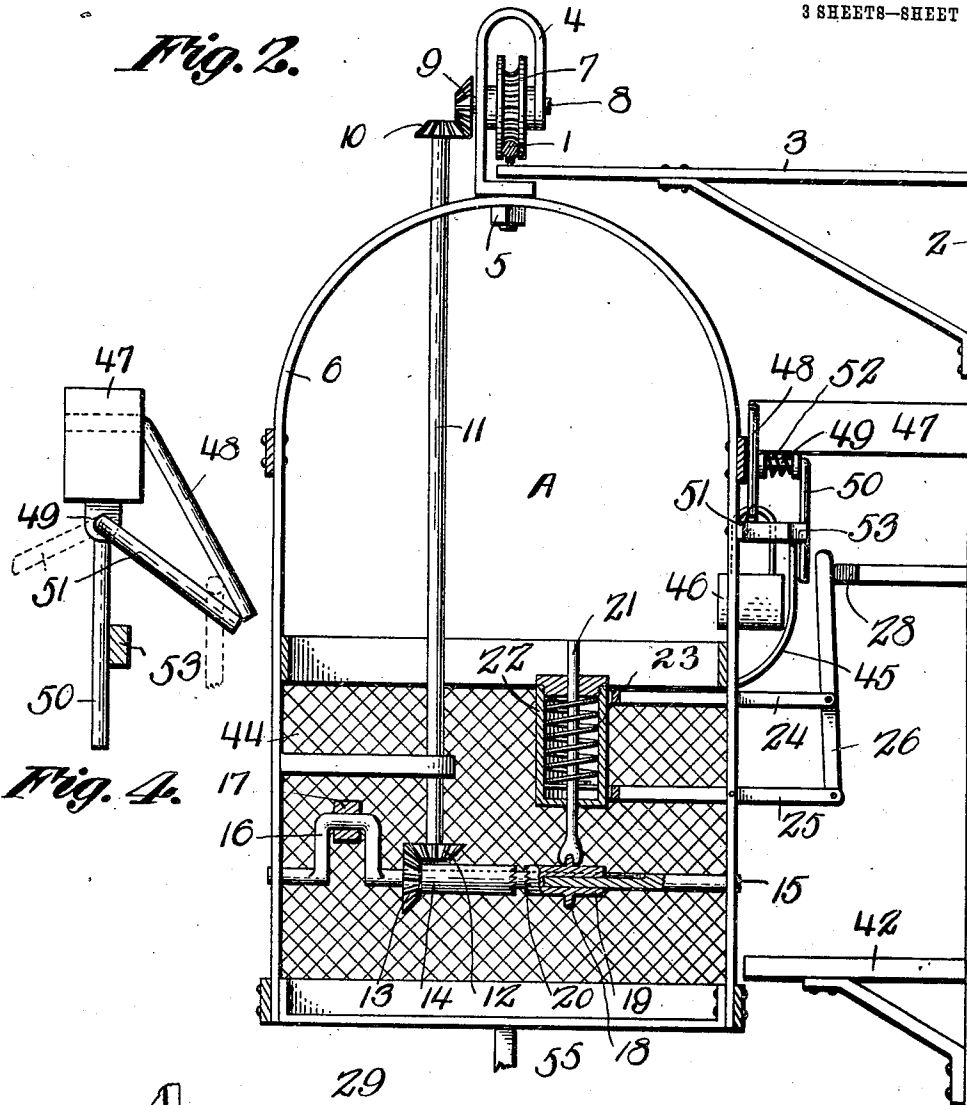


Fig. 4.

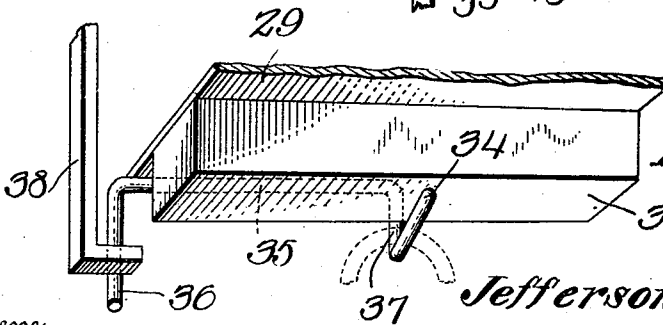


Fig. 5.

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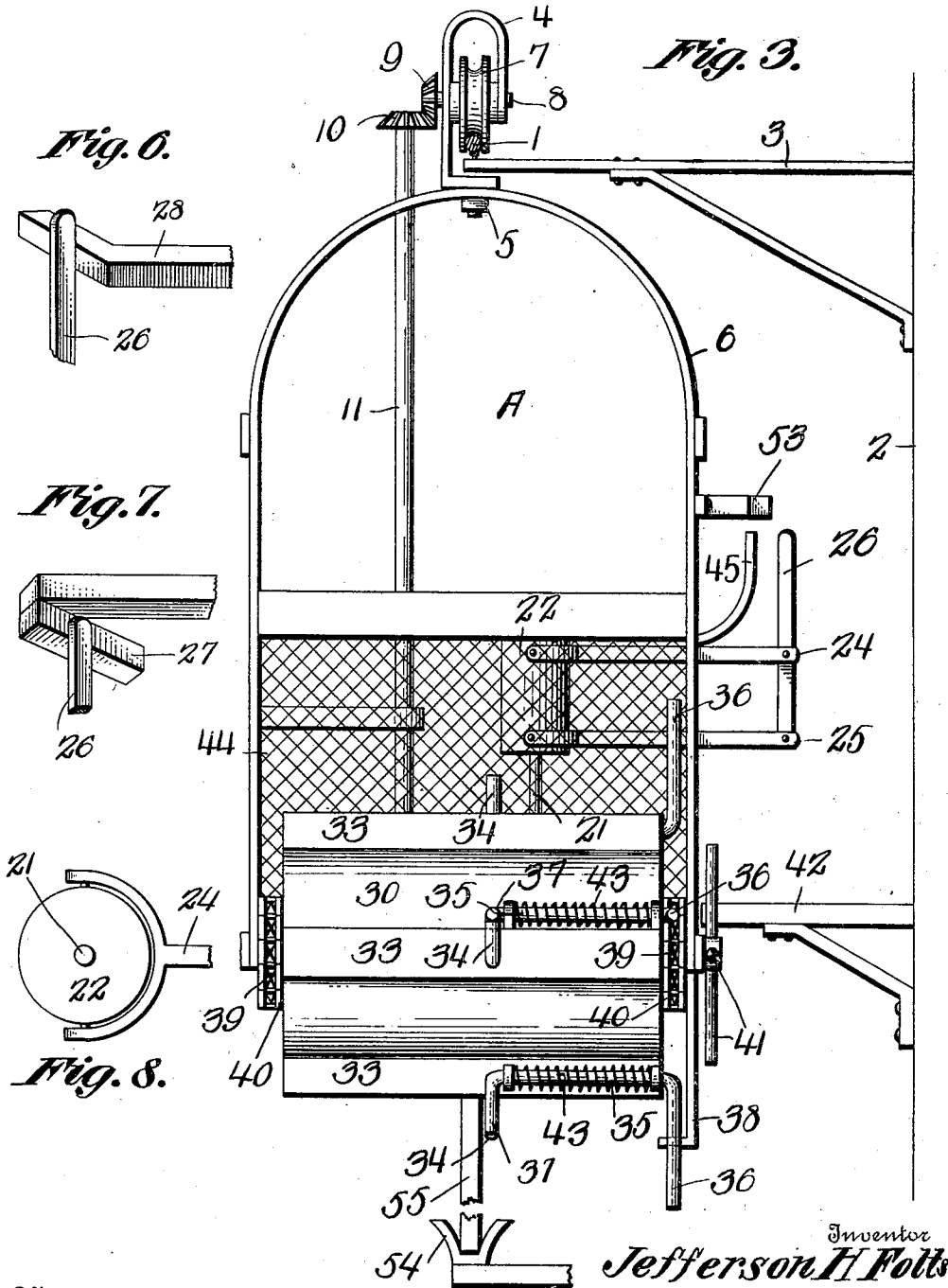
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UNITED STATES PATENT OFFICE.

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AUTOMATIC MAIL DISTRIBUTER AND COLLECTOR.

968,460.

Specification of Letters Patent.

Patented Aug. 23, 1910.

Application filed August 3, 1909. Serial No. 511,044.

To all whom it may concern:

Be it known that I, JEFFERSON H. FOLTS, a citizen of the United States, residing at Plymouth, in the county of Hancock and State of Illinois, have invented new and useful Improvements in Automatic Mail Distributers and Collectors, of which the following is a specification.

The present invention provides mechanical means for the automatic delivery of packages and most especially mail in rural districts, or sparsely settled sections.

In its structural organization, the mechanism comprises a track arranged to include all the places on a given route where mail or other matter is to be delivered, a car mounted to travel upon said track, means for automatically propelling said car, means for automatically controlling the speed of the car to insure safety in the travel thereof, means for holding the packages or other matter to be delivered in proper order so as to be automatically delivered when the station or proper point is reached, means for effecting the delivery of the mail at the proper station, and means for automatically taking up the mail sacks, containers, or packages to be collected in the travel of the car.

The invention consists of the novel features, details of construction and combination of parts, which hereinafter will be more particularly set forth, illustrated in the accompanying drawings and pointed out in the appended claims.

Referring to the drawings, forming a part of the specification, Figure 1 is a side view of a car and concomitant parts constructed in accordance with and embodying the essential features of the invention. Fig. 2 is a transverse section on the line $x-x$ of Fig. 1, looking in the direction of the arrows showing the parts on a larger scale. Fig. 3 is a rear view of the parts illustrated in Fig. 1 showing the same on a larger scale. Fig. 4 is a detail view of the means for holding a mail bag or like container in position, and also showing the means for effecting the release thereof. Fig. 5 is a perspective view of the portion of the endless apron showing one of the lags or strips supporting the operating means, together with the means for effecting the release of the mail bags. Fig. 6 is a perspective view of the trip for throwing the propelling means out of gear. Fig. 7 is a perspective view of the trip means for

throwing the propelling means into gear. Fig. 8 is a detailed view of the spring barrel receiving the shipper lever, and the connecting arms cooperating therewith.

Corresponding and like parts are referred to, in all the views of the drawings, by the same reference characters.

The mechanism contemplates a track 1 which extends along the route on which are located the places where packages or other matter are to be delivered. The track 1 preferably consists of a wire and is supported by means of posts 2 and arms or brackets 3 projecting outward from the posts 2.

A car is mounted to travel upon the track 1 and may be of any construction. As shown, the car is provided with hangers 4 which are pivotally connected at 5 to bows 6, by means of which the car is suspended from the track 1. The hangers 4 are provided with grooved pulleys 7 which are arranged to travel upon the track 1 and prevent displacement of the car. One of the pulleys 7 constitutes a driver, and is fast to a shaft 8 to which power is applied for driving the pulley to propel the car upon the track. The shaft 8 extends beyond the hanger at one end and is provided with a bevel gear 9 which is in mesh with a companion bevel gear 10 fast to the upper end of a vertical shaft 11, mounted in bearings of the car A. The lower end of the shaft 11 is provided with a bevel gear 12, fast thereto, and in mesh with a bevel gear 13 fast to a sleeve 14, loose upon a horizontal shaft 15. The shaft 15 is adapted to be driven by any suitable power mounted upon the car and, as shown, is provided with a crank 16 to which the piston rod of an engine 17 is connected. The sleeve 14 is provided at one end with a half clutch 18. A sleeve 19, mounted upon a shaft 15, has a limited movement thereon, and is provided at one end with a half clutch 20 adapted to cooperate with the half clutch 18 so as to throw the driving power into and out of gear at the proper time. The sleeve 19 is mounted upon the shaft 15 to turn therewith, but is free to move thereon to throw the clutch members 18 and 20 into or out of gear, as required. A shipper bar 21 has one end in engagement with the sleeve 19 and is mounted in a barrel 22. A spring 23 normally exerts a downward pressure upon the shipper bar 21 to hold it in engagement with the sleeve 19. The spring barrel 22 imparts a movement to the sleeve mem-

ber 19 to bring the clutch members 18 and 20 into and out of gear. Bars 24 and 25 support the spring barrel 22 and are mounted upon the framework of the car in any suitable and substantial way. The bars 24 and 25 occupy a relatively horizontal position and their outer ends are connected by means of a bar 26 which is adapted to cooperate with the trips to throw the propelling mechanism into or out of gear. The trips, co-operating with the bar 26, are indicated at 27 and 28, and are arranged at proper points in the length of the track and are mounted upon posts 2, or other supporting means. It is proposed to locate the trips 27 and 28 at curves so as to moderate the speed of the car. One of the trips, as 28, is located at the beginning of the curve so as to engage with the bar 26 and throw the driving mechanism out of gear. The momentum of the car is ordinarily sufficient to carry it around a curve, but with diminished speed and, prior to the car coming to rest, the bar 26 is engaged by the trip 27, thereby throwing the propelling mechanism into gear so as to positively drive the car. While it is preferred to locate the trips 27 and 28 at curves in the track, nevertheless, said trips may be advantageously disposed at any point where, for any reason, it may be desirable to moderate the speed of the car, when the bar 26 is operated. The spring barrel 22 is inclined vertically, hence the necessity for mounting the shipper bar 21 in the manner stated, so as to maintain it in engagement with the sleeve 19.

The deliverer consists essentially of an endless apron 29, mounted upon pulleys or drums 30 and 31. The apron 29 may be of any construction or material, so long as it provides an endless apron for receiving and sustaining the mail bags or other containers, or packages 32. Lags or strips 33 are secured in any manner to the outer side of the endless apron 29. These lags or strips form mounts for the attaching means of the mail bags or containers 32. Each lag or strip 33 is provided with a finger 34 which inclines with reference to the length of the apron 29 and is adapted to engage with the ring or link of the mail bag or other container 32. A shaft 35 is mounted in bearings applied to each lag or strip 33 and is provided at its ends with arms 36 and 37. The arm 37 touches the finger 34 and retains the ring or link of the mail bag, or container, in proper position. The arm 36 extends into the path of a trip 38, by means of which the shaft 35 is rocked so as to move the arm 37 away from the finger 34 and admit of the ring or link of the mail bag, or container, slipping therefrom, and the mail bag, container or other package discharging at the place of delivery. The pulleys or drums 30 and 31 are provided at their ends with sprocket

wheels 39 which are connected by means of sprocket chains 40, thereby causing both drums or pulleys to positively rotate in unison, so as to diminish the chances for slipping of the drums and the endless apron mounted thereon. One of the drums or pulleys, as 30, has its shaft extended and provided with a series of arms 41 which are adapted to be engaged by means of an arm 42, conveniently placed so as to move the endless apron to bring the next mail bag, or container 32, into position for delivery. It is to be understood that an arm 42 is provided for each delivery so as to insure the proper positioning of the mail bag, or the like, to be discharged at the next point. When the arm 41 is operated by the arm 42, the endless apron is moved a distance to bring the next mail bag, package or container in position for delivery and, when the arm 36 is actuated by the trip 38, the mail bag, in position for delivery, is released and automatically discharged. The spring 43, mounted upon each of the shafts 35, serves normally to hold the shaft and the arms 36 and 37 thereof in given position.

Each car is provided with a catcher or basket 44, which is adapted to receive the matter to be collected. The basket or catcher is provided at one side with a guard 45 which extends upwardly to receive the mail, container or package 46 and direct the same into the basket, after it has been released. At each place, where mail or other matter is to be delivered or collected, an arm or analogous support 47 is located and the same is provided with an inclined finger 48. A shaft 49 is mounted upon the arm or support 47 and is provided at its ends with arms 50 and 51. The arm 51 cooperates with the finger 48 to hold the mail bag or container 46 in suspension. A spring 52, mounted upon the shaft 49, serves normally to hold said shaft and arms 50 and 51 thereof in given position. A trip 53, mounted upon the car, is adapted to engage the arm 50 and move the shaft 49 so as to carry the free end of the arm 51 away from the finger 48 and thereby release the mail bag or package suspended from the bar 47, where it will be engaged by a guard 45 and enter into the catcher or basket.

It is desirable at points in the travel of the car, to steady the same, and, for this purpose, a guide 54 is provided and arranged to cooperate with the arms 55 pendent from the car. The guide 54 may be of any length or construction and, as indicated in Fig. 3, it is of trough form in end view. The arms 55 are of a length to enter the space of the guide 54 and cooperate therewith to prevent lateral swaying of the car. The steadying devices are particularly advantageous at curves, as they prevent the car swinging from the vertical.

The endless apron 29 must be of a length and construction to receive all the mail, packages or like to be delivered along a given route. The mail, to be delivered, is
 5 assorted and arranged upon the apron 29 in successive order so as to be properly delivered, as each place along the route is reached. The car is automatically propelled by the engine 17, or other driving member, and its
 10 speed is controlled to a certain extent by means of the trips 28 and 29, in the manner stated, throwing the driving power out of or into gear. The first package, or the like, to be delivered, is placed in proper position
 15 for discharge and, when the car reaches the place, the arm 36 of the shaft holding the package in place is operated by the trip 38 and the package is released. To prevent the package dropping upon the ground, a rod
 20 or bar 56 is provided and secured to the posts 2 and is arranged to extend through the suspending ring or link of the bag or other container 32. The rod or bar 56 is inclined to the horizontal, hence the package received
 25 thereon gravitates toward the supporting post 2. As the car advances, the arm 41 of the drum 30 is engaged by the arm or trip 42 and moved so as to bring the next package or mail bag in position for delivery, and,
 30 when the second station or place of delivery is reached, delivery is effected in the manner herein stated, by the arm 36 of the shaft supporting said package engaging the trip 38, mounted upon the car. The mail bag or
 35 container 46, to be delivered, is supported from the bar 47 and, when the car reaches the point, the trip arm 53 thereof strikes the arm 50 and operates the shaft 49 to effect the release of the package or container 46, which
 40 is received upon the guard 45 and thrown thereby into the basket or catcher 44.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and
 45 of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I
 50 now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims
 55 appended hereto.

Having thus described the invention, what I claim as new is:—

1. In means for receiving or delivering mail, the combination of a support, a fixed
 60 finger mounted upon said support, a shaft mounted upon the support and provided at opposite ends with arms, one of said arms acting jointly with said finger to retain a package containing the matter to be received
 65 or delivered and the other arm adapted to

be engaged by a trip to effect release of said package from the finger and confining arm, and a spring normally exerting a pressure upon the shaft to retain the confining arm thereof in contact with the said finger. 70

2. In means for delivering matter at different stations or points along a prescribed route, the combination of an endless apron, fingers mounted upon the endless apron at intervals in the length thereof and adapted
 75 to receive the packages containing the matter for delivery, shafts mounted upon the endless apron and provided at opposite ends with arms, one of said arms acting jointly with a finger to confine the package suspended from said finger and the other arm adapted to be engaged by a trip, springs exerting a pressure upon the respective shafts to hold the confining arms thereof in contact with the cooperating fingers, and a trip mechanism for moving the endless apron intermittently to bring the package in position for discharge and to effect delivery thereof. 80

3. In combination a car, horizontally spaced pulleys mounted upon the car, connecting means between said pulleys to cause both to move in unison, an endless apron mounted upon the pulleys, package-engaging means mounted upon the endless apron at intervals in the length thereof, each of
 90 said package-engaging means comprising a finger and a confining arm, a trip mounted upon the car to effect release of the packages from the fingers and confining arms in succession, and means for moving the endless apron intermittently at determinate points along the route of travel of said car. 95

4. In combination a car, horizontally spaced pulleys mounted upon the car, connecting means between the pulleys to cause
 100 both to move in unison, an endless apron supported upon the pulleys, lags mounted upon the endless apron at regular intervals in its length, fingers mounted upon the lags and adapted to receive the packages containing the matter to be delivered, shafts mounted upon the lags and provided with pairs of arms, one of the arms serving to confine the package engaged with the cooperating fingers and the other arm adapted to be engaged by a trip, springs exerting a pressure upon the respective shafts to hold the confining arms thereof in contact with the respective fingers, a trip mounted upon the car and adapted to engage an arm
 110 of the several shafts to move the confining arms away from the respective fingers to effect release of the packages, trip arms connected with one of the said pulleys, and trips located at predetermined points along the
 115 route of travel of the car to move the endless apron intermittently. 120

5. In combination a car, a catcher mounted thereon, a guard extending beyond a side of the catcher to engage with and direct mat- 130

ter thereto, supporting arms at predetermined points along the route of travel of the car, package-engaging fingers mounted upon the supports, spring actuated shafts mounted upon the supports and provided with confining and trip arms, the confining arms acting jointly with the fingers to retain the packages in place thereon, and a trip attached to the car and adapted to engage the

other arm of the shafts to effect release of the packages suspended by means of the fingers from the said supports.

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

JEFFERSON H. FOLTS.

Witnesses:

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WALTER HUEY.