

No. 816,876.

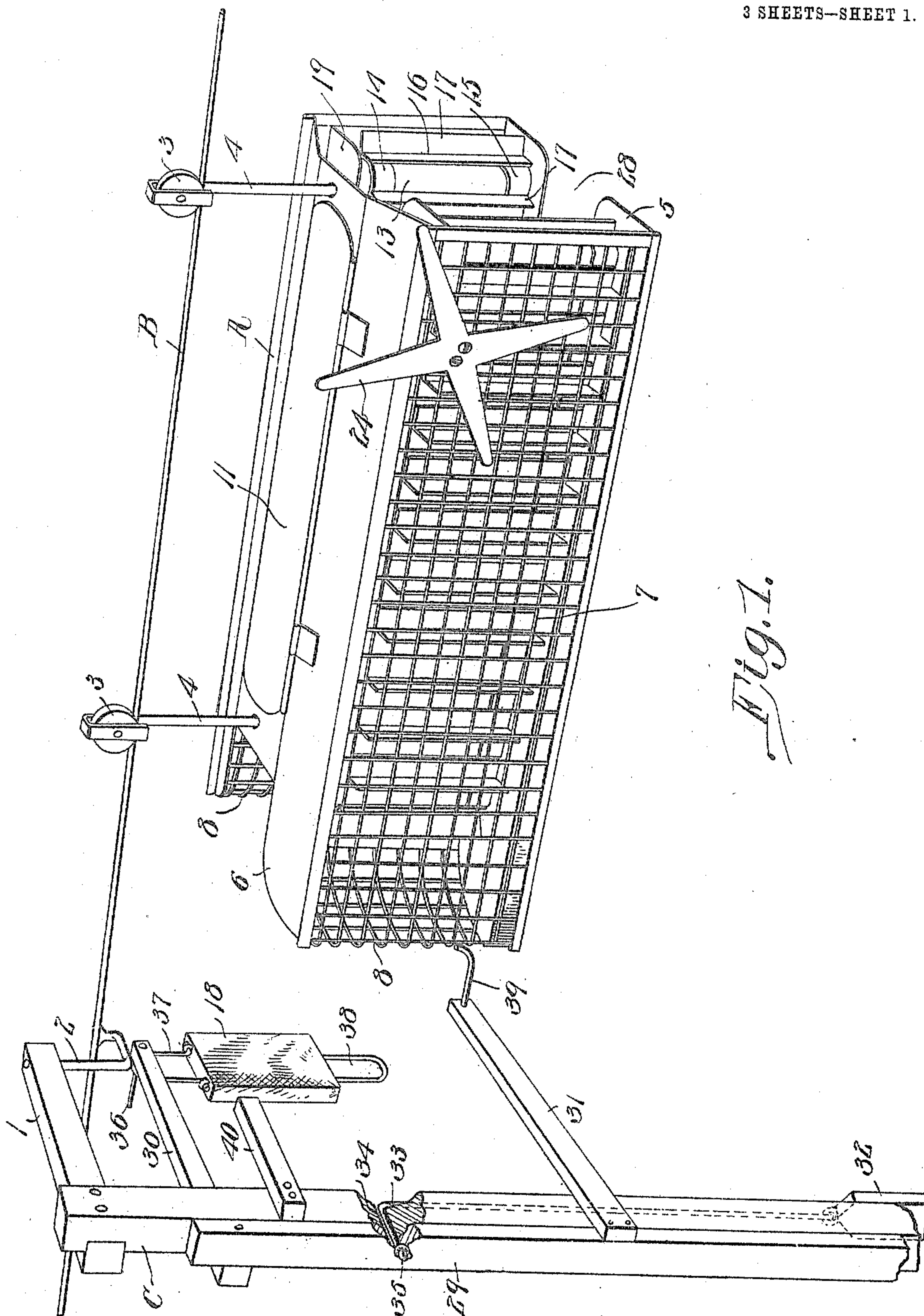
PATENTED APR. 3, 1906.

H. McCABE.

MAIL DELIVERY APPARATUS.

APPLICATION FILED AUG. 30, 1905.

3 SHEETS--SHEET 1.



Witnesses

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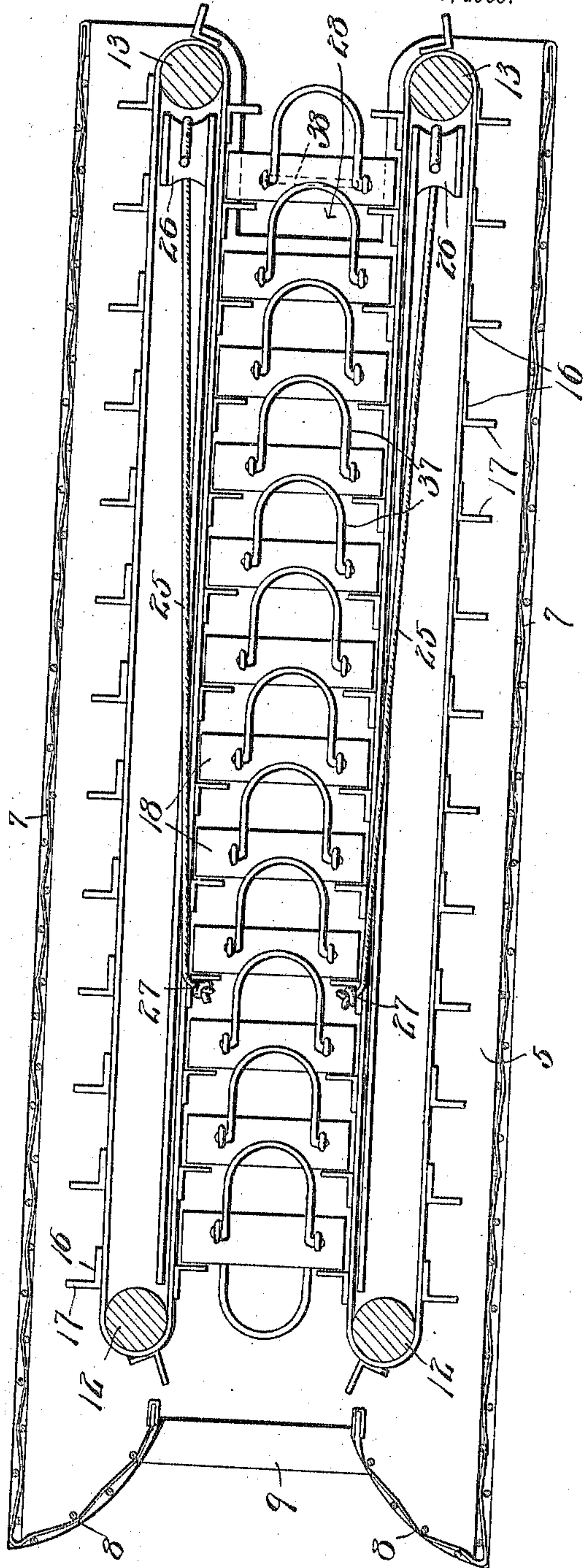
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Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY McCABE, OF ARCOLA, ILLINOIS.

MAIL-DELIVERY APPARATUS.

No. 816,876.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed August 30, 1905. Serial No. 276,426.

To all whom it may concern:

Be it known that I, HENRY McCABE, a citizen of the United States, residing at Arcola, in the county of Douglas and State of Illinois, have invented a new and useful Mail-Delivery Apparatus, of which the following is a specification.

This invention relates to mail-delivery apparatus, and is designed for the transportation of mails, parcels, and the like throughout rural districts, and is arranged to automatically deliver and receive mail-bags and the like at the successive stations along the route.

A further object of the invention is to embody the same in the nature of an overhead-trolley system, so as to prevent interference therewith by passing vehicles and the like, and at the same time to enable the convenient setting of the mail-bags to be taken up by the mail-carrying car and to obtain the mail-bags which have been delivered from the car.

A still further object of the invention is to insure the proper delivery of the mail-bags and to preclude the possibility of delivering more than one bag at each station.

With these and other objects in view the present invention consists in the combination and arrangements of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view of the apparatus of the present invention. Fig. 2 is a view taken transversely through the mail-carrying car just after it has passed a station. Fig. 3 is an enlarged horizontal sectional view taken longitudinally through the car.

Like characters of reference designate corresponding parts in each and every figure of the drawings.

The present apparatus includes in general a mail-carrying car A, which is suspended in an overhead position upon an elevated track or wire B, the latter being supported at suitable intervals by means of a series of posts, one of which has been shown at C. Each post is provided with a cross-arm 1, from the outer end of which depends a substantially

L-shaped hanger 2, which engages the wire or track B upon its under side, so as to support the same with its upper face unobstructed for the passage thereacross of the grooved supporting-wheels 3, carried by the hangers 4, which rise from the top of the car.

The mail-carrying car includes a bottom 5, a roof 6, and sides 7, the latter being formed by gratings or heavy wire fabric. The bottom of the car inclines downwardly and rearwardly and the front and rear ends of the car are open. The front ends of the sides of the car are bowed inwardly between the sides of the car, so as to form guards or fenders 8, and the front edge of the bottom of the car is inclined downwardly and forwardly, as at 9, between the inner ends of the guard members 8. A longitudinal opening 10 extends throughout the greater part of the top of the car, and this opening is normally closed by a hinged lid or cover 11. The purpose of this opening is to give access to the interior of the car throughout practically its entire length for loading the same with the mail-bags at the initial end of the route.

Within the body of the car are two spaced longitudinally-disposed conveyers, each conveyer including front and rear upstanding rollers 12 and 13, around which passes an endless flexible belt preferably consisting of upper and lower belt members 14 and 15, which are connected by slats 16, having outwardly-directed longitudinal flanges 17. Each slat is preferably in the nature of an angle-bar with one of its sides suitably secured to the conveyer-belts. As best indicated in Fig. 3 of the drawings, it will be noted that the respective slats of the two conveyers are located opposite one another, so as to form a series of pockets in the space between the two conveyers, each pocket being designed for the reception of a mail-bag 18 or other parcel or package to be carried by and delivered from the car. It will here be noted that the two conveyers are spaced so as to receive a mail-bag or the like through the open front of the car and also to deliver a mail-bag through the open rear end thereof. Each upstanding roller is journaled at its lower end in the bottom of the car, while it has its upper end journaled in a suitable bracket 19, connected to the adjacent side of the car. Extending between each pair of front and rear brackets is a bar 20, having a depending flange 21, constituting a guard or guide for the upper edge of the adjacent con-

veyer. A similar upstanding guard or guide member 22 is carried by the bottom of the car. To provide for operating the conveyer, there is a drum or windlass 23, journaled transversely across the car above the rear end of the conveyer, one end of the drum or windlass being projected externally of the car and provided with a series of crank-arms 24. A rope or cable 25 is wound around each end portion of the drum or windlass from which it extends downwardly and beneath a guide-pulley 26, mounted upon the bottom of the car and between the plies of the adjacent conveyer, from which the rope or cable extends rearwardly and is connected to one of the slats of the conveyer, as shown at 27. By rotating the windlass through manipulation of the crank-arms 24 the cables will be wound upon the drum or windlass, and the conveyers thereby worked rearwardly, so as to carry the mail-bags therewith and successively drop the same through an exit-opening 28, formed in the rear end of the bottom of the car.

At each station of the route there is a post C for the support of the track B, and each of these posts is provided with means for delivering a mail-bag to the car and for receiving a bag from the car. This means consists of an upright bar 29, lying loosely against the back of the post and provided at its upper end and upon what will be termed its "forward side with an arm 30, there being another arm 31 below the arm 30 and carried by the rear side of the bar 29, the arms 30 and 31 lying at opposite sides of the post and constituting a guide for the bar 29 in its up-and-down movements. A weight 32 is carried by the lower end of a rope or cable 33, which passes through a guide-opening 34 in the post and is connected to the bar 29, as at 35, whereby the bar is normally held in an elevated position and may be drawn downwardly against the power of the weight. A mail-bag-supporting member 36 projects forwardly from the outer extremity of the upper arm 30, from which is suspended the bag to be delivered to the car, said bag being provided at its opposite ends with duplicate swinging links or bail-shaped hangers 37 and 38, one of which is engaged around the member 36 to support the bag in the path of the car in position so as to be received within the open front end thereof when the car passes the station. The lower arm 31 is provided at its outer end with a rearwardly-extending mail-bag-catching element 39, which is disposed in such a position as to have the car pass over the top of the member 39 and the arm 31, whereby the element 39 is designed to engage the depending link or hanger of the rearmost mail-bag in the car, and thereby draw the bag out of the car as the latter passes the station. The post is also provided with a horizontally-disposed trip-arm 40, lo-

cated between the arms 30 and 31 and in the path of the upright crank-arm 24 of the windlass, which is carried by the car, so that when the trip-arm strikes one of the cranks of the windlass the latter will be rotated in a direction to move the conveyers simultaneously one step in a rearward direction, thereby moving the rearmost bag across the discharge-opening 28 in the rear of the bottom of the car, whereupon the lowermost link of the bag will drop down in position for engagement by the element 39, and thereby be dragged from the car as the latter passes the station. It will now be understood that provision is made for delivering mail-bags to the car from the station, and also from the car to the station, in a very simple and positive manner. After the car has passed the station the bar 29 is drawn downwardly, as in Fig. 2, so as to bring the lower arm 31 into accessible position for removing therefrom the mail-bag which has been delivered from the car.

Having thus described the invention, what is claimed is—

1. An automatic mail-delivery apparatus comprising a track-supported car which is open at opposite ends, a pair of spaced conveyers working longitudinally within the car and provided with corresponding slats cooperating to form mail-bag-receiving pockets, operating means for actuating the conveyers, and a trip for controlling the operating means.

2. In a mail-delivery apparatus, the combination of a track-supported car which is open at opposite ends and provided with a longitudinal bifurcation in the rear end of its bottom, a pair of spaced longitudinal conveyers within the car at opposite sides of the bifurcation, means for working the adjacent sides of the conveyers toward the rear of the car, and a trip for controlling the conveyer-operating means.

3. In a mail-delivery apparatus, the combination of a track-supported car which is open at its opposite ends and is provided with a bifurcation in the rear end of its bottom, a pair of spaced longitudinally-disposed conveyers at opposite sides of the bifurcation, a delivery-receptacle adapted to be carried through the car by and between the conveyers and provided at its lower end with a bail capable of depending through the bifurcation in the bottom of the car, means for operating the conveyers, a stationary trip for actuating the conveyer-operating means, and a stationary catcher disposed for engagement with the link of the receptacle when depending through the bifurcation in the bottom of the car.

4. In a mail-delivery apparatus, the combination of a track-supported car which is open at opposite ends, a pair of spaced conveyers within the car, a windlass disposed transversely across the conveyers, cable con-

nections between the windlass and the respective conveyers, a series of crank-arms carried by the windlass externally of the car, and a stationary trip disposed for engaging one of the crank-arms to operate the conveyers.

5. In a mail-delivery apparatus, the combination with a track-supported car, a pair of spaced longitudinally-disposed conveyers within the car, each conveyer comprising front and rear upstanding rollers, a flexible endless belt running around the rollers, upper and lower longitudinally-disposed guides for the inner ply of the conveyer, conveyer-operating means, and a stationary trip for actuating said operating means.

6. In a mail-delivery apparatus, the combination with a track-supported car which is open at opposite ends and is provided with a longitudinal bifurcation in the rear end of its bottom, a pair of spaced longitudinally-disposed conveyers extending from the front to the rear of the car and disposed at opposite sides of the bifurcation, each including upstanding front and rear rollers, an endless flexible belt running around the rollers slats carried transversely by the belt, and upper and lower longitudinal guides for the inner ply of the conveyer, the slats of the two conveyers being disposed in alinement to form pockets between the conveyers, a windlass mounted transversely across the tops of the rear end portions of the conveyers, cable connections between the windlass and the respective conveyers, crank-arms carried by the windlass externally of the car, and a stationary trip located in the path of the crank-arms.

7. In a mail-delivery apparatus, the combination with a track-supported car open at opposite ends, of a support independent of the car, a delivery member carried by the support and provided with means for holding a mail-bag in position to enter the open front of the car when the latter passes the support, and a mail-catching element carried by the support beneath the car in position to catch a bag at the rear end of the car.

8. In a mail-delivery apparatus, the combination with a track-supported car which is open at opposite ends and is provided with a longitudinal bifurcation in the rear end of its bottom, of spaced conveyers working longitudinally within the car at opposite sides of the bifurcation, conveyer-operating means, a stationary trip for actuating the conveyer-

operating means, a series of delivery-receptacles provided at their upper and lower ends with swinging bails and capable of being carried through the car by and between the conveyers, the lower bails capable of dropping through the bifurcation in the bottom of the car, a stationary delivery element having means for supporting one of the delivery devices by its upper bail in position to be received within the open front of the car, and a stationary mail-catcher disposed to engage the bail of a delivery-receptacle which depends through the bifurcation in the bottom of the car.

9. In a mail-delivery apparatus, the combination with a track-supported car, of a stationary support, a vertically-movable carrier mounted upon the support and yieldably held in an elevated position, upper and lower arms mounted upon the carrier and disposed to have the car pass therebetween, one of the arms being provided with a catcher, and the other one being provided with a delivery element.

10. In a mail-delivery apparatus, the combination with a track-supported car, of a stationary support, a vertically-movable carrier mounted upon the support, a counterbalancing-weight connected to the carrier, upper and lower arms connected to the carrier and disposed to have the car travel therebetween, one of the arms being provided with a catcher, and the other having a delivery element.

11. In a mail-delivery apparatus, the combination with a stationary post having a cross-head, of an overhead track supported by the cross-head, a car mounted to travel upon the track and open at opposite ends, a conveyer working in the car from front to rear thereof, conveyer-operating means, a trip carried by the post for actuating the conveyer-operating means, a vertically-movable carrier yieldably supported in an elevated position, upper and lower substantially horizontal arms connected to the carrier and disposed to have the car travel therebetween, a catcher carried by the lower arm, and a delivery element carried by the upper arm.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HENRY McCABE.

Witnesses:

J. E. ALLISON,
ED FINFGELD.